

**INFORMATION TECHNOLOGIES
AND URBAN SPACE
A CASE STUDY ON MASLAK, ISTANBUL**

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**by
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ABSTRACT

INFORMATION TECHNOLOGIES AND URBAN SPACE A CASE STUDY ON MASLAK, ISTANBUL

The subject of the thesis is to examine the urban transformations that have taken place recently in Istanbul due to the dominant use of information technologies (IT) under the globalization process. Technological developments especially in the Information Technology (IT) and the telecommunications sector, influence cities and urban spaces in social, cultural and physical terms. The study focuses on the impact of IT on urban space transformations and processes in Maslak which has emerged as the new central business district for highly intensive IT user firms via a chronologically based data series.

Recently Istanbul is a subject to a new kind of transformation in social, economical and physical structures. There is a new economical system enlarging upon the whole world. The globalized cities, as the capitals of this new economy, form new hinterlands which may not be geographically connected instead, associated via virtual linkages of fiberoptics and satellites of information systems and technologies. As a city strongly influenced by the globalization process which is undeniably armed by IT, Istanbul sticks out in Turkey in the world cities inventory.

The problem of the thesis is constituted along the debates between two urban form theories: deconcentration theory and economic restructuring theory. This research examines two fundamental questions. First, which functions that used to be in the city are dispersed from the center and why? Second, which functions prefer urban space and tend to be together creating new kinds of agglomerations in some new places such as Maslak? Indeed, through the findings of the study, it is evidently observed with the presented data that, in the transformation process of Istanbul CBD, there are various factors accompanying the alterations in the urban space other than IT. IT is added to this process as a sidelong factor.

ÖZET

BİLGİ TEKNOLOJİLERİ VE KENTSEL MEKAN İSTANBUL-MASLAK ÜZERİNE BİR ÇALIŞMA

Tezin konusu, son dönemde İstanbul'da bilişim (bilgi) teknolojileri (BT) ve küreselleşme sürecinin karşılıklı etkileşimiyle oluşan kentsel dönüşümlerin incelenmesidir. Teknolojide, özellikle de bilgi teknolojilerinde ve telekomünikasyon sektörlerindeki gelişmeler kentleri ve kentsel mekanları sosyal, kültürel ve ekonomik açıdan etkilemektedir. Çalışma, bilgi teknolojilerinin kentsel mekan dönüşümleri üzerindeki etkilerini Maslak özelinde inceleme amacını gütmektedir. Bunu da, kronolojik olarak sıralanmış bir seri veriye dayanarak ispatlamaya çalışmaktadır. Çalışma alanı olarak Maslak'ın seçilmesindeki en önemli etken, özellikle bilgi teknolojilerine duyarlı firmaların konumlanması ve planlama kararları ilişkisi içerisinde alanın yeni MİA olarak öne çıkmasıdır.

Son zamanlarda İstanbul sosyal, kültürel ve ekonomik yapısıyla farklı ve yeni bir kentsel dönüşüm süreci içine girmiştir. Giderek bütün dünyayı etkisi altına almakta olan yeni ekonomik eğilimler gündemdedir ve bu yeni ekonomilerin başkentleri de artık küreselleşmiş şehirlerdir. Yeni ekonomi başkentleri coğrafi konum olarak birbirinden bağımsız, fakat fiber optik kablolar ve uydular gibi teknoloji ve bilgi sistemleri ile sanal bağlantılar yoluyla ilişkilendirilmiş yeni art bölgeler tanımlanmaktadır. Türkiye'de ise, bilgi teknolojileri ile donatılmış küreselleşme süreci içerisindeki bir şehir olarak İstanbul, dünya kentleri envanterinde öne çıkmaktadır.

Tezin ele aldığı problem, iki kentsel biçim teorisi arasındaki tartışmalar çerçevesinde tanımlanmaktadır. Söz konusu kentsel biçim teorileri, dağılma teorisi (deconcentration theory) ve ekonomik yeniden yapılanma teorisidir (economic restructuring theory). Araştırma, bu iki teorinin sunduğu kavram ve sınıflandırmalar çerçevesinde İstanbul-Maslak'daki kentsel mekan dönüşümlerine dair iki temel soruya cevap aramaktadır. Öncelikle, kentin içerisindeki hangi fonksiyonlar neden merkezden koptuğu; ve ikinci olarak bunu takiben, hangi fonksiyonların kentsel mekanları tercih ettiği ve neden Maslak gibi yeni bir alanda bir arada olma eğilimi gösterdikleri üzerinde durulmaktadır. Çalışmanın bulguları, İstanbul'da süregelen mekansal dönüşümlerde pek çok etken olduğunu ve bilgi teknolojilerinin sürece yan etkenler olarak sonradan eklendiğini ortaya koymaktadır.

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LIST OF ABBREVIATIONS

AGR	Compound Annual Growth Rate
CBD	Central Business District
EDI	Electronic Data Interchange
EITO	European Information Technology Observatory
ESIS	European Survey of Information Society (EU)
ETO	European Telework Online
F2F	face-to-face
GNP	Gross National Product
ICT	Information and Communications Technology
IDC	International Data Corporation
ISPO	Information Society Project Office (EU)
IT	Information Technology
ITU	International Telecommunication Union
JIT	Just-in-time Just-in-time systems expedite delivery of goods and minimize inventories
LMDS	Local Multipoint Distribution System
MEC	Middle East Communications
MMDS	Multichannel Multipoint Distribution System
ODTR	Office of the Director of Telecommunications Regulation
OECD	Organization for Economic Co-operation and Development
OFTEL	Office of Telecommunications (UK)
SDSL	Symmetric Digital Subscriber Line
Türk Telekom	Turkish Telecommunication
VDSL	Very High bit-rate Digital Subscriber Line A computerized system that integrates manufacturer's shippers and customers into a supply chain , whereby demand is communicated in real time, to all parties, speeding up reaction time and cutting down costs
GIMM	Greater Istanbul Metropolitan Municipality

CHAPTER 1

INTRODUCTION

Technological developments especially in the Information Technology (IT) and the telecommunications sector, influence cities and urban spaces in social, cultural and physical terms. Under the globalization process, following the changes in the economic and political background of any nation and/or a city, the structural formations of society are transformed and IT is one of the most influential components of this process, however, it cannot be interpreted simply as the main factor.

The subject of this study is to elaborate on the transformation process of urban space in Istanbul regarding the penetration of information technologies into daily life. Under globalization, today's cities are continuously affected by the penetration of information technologies into daily life. While this process continues day by day with an increasing acceleration, it surely changes the spatial organization of cities. To be more precise, in fact, IT accomplishes the complex process of globalization

IT refers to telecommunications consisting of telephone, mass media communication tools of radio, television, and video and the latest developments in technology of the Internet and multimedia devices. Indeed, the term telecommunications mainly refers to the last 15-20 years of the Internet and multimedia including its mediums of PC's, laptops, PALMs, even the mobile phones and broadband technologies. Shipley and Fish (1996) state that "although the World Wide Web (www) did not begin until 1993, when a number of academics and online enthusiasts began transversing the Web" (See Wheeler, Aoyama and Warf, 2000: 3). In 1990s there were approximately 44,000 networks and 25 million users connected through 3,2 million computers (Castells 1996). In 2006, the DSL subscribers were over 150 million. In 22 countries, there are over one million subscribers. The leading countries in the ADSL connections are China (over 30 million subscribers), and U.S.A (over 22,2 million subscriber), whilst Turkey is the 15th (over 1,84 million subscribers) (WEB_2, WEB_3). The Internet is the fastest growing factor and continues penetrating to daily life.

In every aspect of daily life, people are getting used to communicate, work and shop through these new mediums. Inevitably, the urban life and thus, urban space transforms itself with the social and cultural impositions of globalization, political

background, infrastructure, sectoral and zone changes, freight management, etc. In this study, the major emphasis is on the spatial transformations in respect with IT and its conceptual and theoretical background.

Lately, the interactions between IT and the built environment are explained by several conceptions such as (i) technological determinism, (ii) urban dissolution, (iii) universal access, (iv) simple substitution of transport by telecommunications, and (v) local powerlessness (Graham 1997). Graham states that these conceptions are the urban myths that are unjustified assumptions (1997: 21). Although the starting point of these myths may seem probable, the latest researches have proved them wrong. The possible future scenarios and opposing debates are elaborated in this section in an effort to construct a contextual frame before going on further chapters.

In the first one, *technological determinism* is simply thought in a direct cause-effect relationship; the excessive use of IT is to transform urban space. It must be noted that especially in Istanbul, although the city may seem to prove this myth, this is not the case. But in reality, in the light of researches during the study indicates the reverse. The spatial changes in Istanbul, Maslak case, IT is only a lateral or a sidelong factor, but definitely not the primary factor (See Chapter 4 for further elaboration). While the death of distance is true to some extent, also as stated by Graham (1997), the assumption or some may even call a prophecy, “telematics” are the “single most important economic force shaping society in the first half of the next century” (Cairncross 1995). More than a decade has passed over this “prophecy”, and the urban space is not to be shaped by telecommunications, especially not in Istanbul scenario.

In fact, the design, application and usage of IT totally depend on social factors; while multi-national corporations and information workers (IW) especially in the world cities have access to these technologies, “the others” have none or far-more less, in technology-wise. In addition to this social access problem, the space is also transformed by political, economical interventions. Although IT has part in transforming the urban space by depending on the political and economic and the social structures of the society, it would be too to presume that IT alone has one way effect on it.

The concept of *urban dissolution* reflects the belief that some time in the near future, the urban environment will dissolve since IT enables the information access from distant locations. According to this argument, face-to-face interactions will no longer occur since all the relations are to be established via networks (Pascal 1987). “Global villages” are to be established (McLuhan 1962, 1964), although today, this term

mostly refers to the Internet and World Wide Web. The global village idea was on the hit for a decade between 1960's and 1970's. Then it started to lose its position for there were strong oppositions (Browne and Fishwick 1999).

To some extent, not the dissolution of cities, but the dissolution of some activities like industrial sector is inevitable. Rather, intensification of new agglomerations within city centers, and face-to-face interactions are more preferred than it may have been ever before, since communications via IT is not trusted by most people, especially the entrepreneurs to conduct business. The social benefits of being together are still important for development of firms and individuals, not to mention the intensification of advanced services within globalized cities. In Istanbul case, there is a clear tendency of dissolving industry. Whilst this dissolving is linked with the use of information technologies both in production and in management (remote management), the main reason is polluted and congested city space where land is expensive and accessibility to raw materials or end-products is not a problem anymore, even if they are located out of national or territorial borders (offshore).

Also the political changes and decisions have a strong influence especially on the industrial sector. During the 1930's with the industrialization compensations, Istanbul was declared as an industrial zone. However, following the 1980's, the main emphasis for Istanbul has focused on the globalization concept with the neo-liberalization policies, the Seventh Five-Year Development Plan, and 1995 Istanbul Greater Municipality Application Plan (Kaya 1999).

The *universal access* is mostly dominated by the Futurists who are generally optimistic and have a general idea as 'the future life will be better than today' (Eubanks 1994); idealistically depending on the belief that 'everybody has equal chance' to use IT by all means. Actually, there are some studies that make this happen. For example Nicholas Negroponte¹ and Microsoft Corporation founder and owner Bill Gates are working on a project to connect the third-world children to the Internet at the cost of 150\$ laptops (Markoff 2006).

Although there are some initiatives dealing with the subject, daily practice proves the reverse, as the polarization between the "haves" and "have-nots" is taken

¹ Nicholas Negroponte is a well-known academician and an architect specialized on Computer Aided Design. He is the founder and director of the project OLPC (One Laptop Per Children), and MIT's Media Lab., Wired Magazine and author of various books and articles (WEB_5, WEB_6).

into consideration but expanding in intra-urban, inter-urban and international scales, especially on the Third World Countries (Graham 1997). In Istanbul, while there is a significant development prevailing in means of information-sensitive sectors, on the other hand the number of low-wage workers is increasing, too. The middle-class starts vanishing and thus, the polarization of groups, both in terms of social edge and electronic space (Graham 1997) increases. It is also possible to trace the same tendency in Maslak case. Whilst on the front row, at the sides of Büyükdere axis, there are luxurious housing settlements and constructions that have taken place, through the back part, low quality and/or slum housing which is continuously growing (such as Zincirlikuyu, Mecidiyeköy), can be observed.

Although as James Martin (1977, 1978) suggested that *transportation* will be replaced by simple substitution of *telecommunications*, it is confirmed in practice that telecommunications have increasing role in transportation than its reducing effects, rather they (telecommunications and transportation) are complementary (Graham and Marvin 2000: 75). Since it became possible to telecommute, people may need to travel for social interaction, recreation, establish or conduct new businesses or partnerships, etc. Due to developments in speed, safety, cost and efficiency relating the different modes of transportation attract more travelers (Graham and Marvin 1996, 2000, Wheeler et al. 2000, Salomon 1996, Mokhtarian 1998, Mokhtarian et al. 1995, Handy and Mokhtarian 1995).

The last conception that refers to urban space in respect to IT is *local powerlessness*. There is a tendency to believe that local governments are growing impotent on policy-making for urban space development, especially with globalization-oriented and neo-liberal economic policies. Admittedly, lately, there have been some interventions using telecommunications by local actors and governments to unite cities with the globalization process. Some examples of these new policies may be exemplified as the *Amsterdam Digital City*, *the city as a hub*, *e-governance*, and *telecities* (See Graham and Marvin 1996; Mitchell 1995). The emphasis is on urban governance instead of urban government (Taşan-Kok 2004). It is proposed that the policy making must be a combination of non-governmental and non-profit organizations, networks of markets and collaboration, private sector and the governments, altogether. But in Turkey, the policy-making has a hierarchical structure from top-to-bottom. One of the reasons is to obstruct the markets from speculation, mainly on land using planning decisions, development, policy and decision-making

processes. The most common partnership in Turkey is the project based public-private entrepreneurships (Taşan-Kok 2004).

These five conceptions pronounce both, *the death of distance* -but not *the death of cities*- as introduced by Frances Cairncross in 1995 in “the Economist” and *digitally connected –or networked- centrality* as brought by Saskia Sassen in her article of “Cities in Global Economy”, in 1997. Distance and geographical locations become unimportant as the world becomes smaller through a computer screen where it does not matter if you are sending a message to the next-door neighbor, or to the other side of the world (Cairncross 2006). Moreover, “the telecommunications systems are influencing the character of activities in cities and metropolitan regions” (Moss and Townsend 2000: 33) and through the activities, the built environment transforms according to the necessities of the telecommunications era, as well.

The excessive use of information technologies effects the information and capital flow throughout the world cities. Capital is the mean to transform the urban space in advanced cities. The more capital is drawn to a city, the more it transforms the urban space according to emerging needs and demands of the entrepreneurs and the inhabitants of the city. Central business districts (CBD), industrial zones, residential areas, recreational and commercial facilities begin to change according to the new media images and the capability of the city to assimilate or absorb the impact of globalization process that the city is in. The CBD expands day by day as the industrial zones shift to suburbs, other cities or even overseas whilst luxurious residential areas and shopping malls rise.

The newly and continuously shaping urban spaces confront advanced technologies primarily in metropolitan areas. The infrastructural demands for the newer technologies to be viable can only be met at city centers, especially in metropolitan areas where anybody can reach the information and services can be gathered faster. The speed of data flowing from one place to the other through the channels of the information and communication technologies affects management of capital.

In this frame, meanwhile the emphasis is on the speed of information transferred from a single place to places; this process surely transforms the new requirements such as infrastructure. Inevitably, it also alters the new space organizations in which knowledge workers will work, and live. In the case of Turkey, alterations in urban space mostly take place in Istanbul, which is considered to be a globalizing city.

Throughout the last decades, it has been argued within the discipline of planning that, with the acceleration of technological development, different formations of urban space have taken place almost in every city. Even if they are within the same national borders, the processes that take place show differences with reference to their localities. These localities may differ in their deregulation decisions or processes, social, cultural and traditional patterns of the society as well as the economic and institutional structures of the nation (Taşan-Kok 2004). Within the globalization process, however, there remains one tendency valid for all the cities, that will be connected to global market and be part of the new economic system.

Although throughout the past few decades, the splintering process of production functions and individuals as to their preferences became possible with the use of IT through telecommuting and remote management of production functions, there is a tendency of the advanced service sector to settle in the metropolitan area. Castells (1996) states that the shares of new jobs created in advanced services are rising both in employment rates and GNP (Gross National Product) throughout the leading metropolitan areas, thus accelerating the investments.

The transformation of the built environment caused by the interaction of IT and globalization takes place mostly in metropolitan areas, since metropolitan areas are more willing to provide necessities of IT for the *spaces of flows* and the *space of places*. Space of flows is a term introduced by Manuel Castells. According to Castells; “the space of flows is the material organization of time-sharing social practices that work through flows” (Castells 1996, 412). In other words, space of flows can be defined as synchronous flow of information through virtual spaces or networks for real-time interaction in different social groups without physical proximity. By the *space of flows*, geographically unrelated places can exchange, process, manage, distill, manipulate, and/or share information. On the other hand, *spaces of places* refer to the physical world of society. According to Castells (1972, 1996), space is a product of relationships with other products, including people whose background posit meanings to form and function of material spaces.

Castells (1996) formulates the concept of *space of flows* as the superimposition of three layers. The first layer consists of the infrastructure for network circuits such as microelectronics, telecommunication, computer processing, broadcasting systems, and even high-speed transportations of freight management, etc. The second layer is composed of nodes and hubs. Although the concept is spaceless in physical terms, it

regulates through electronic network, which must be physically constituted in *space of places*, introducing itself to various (pre-) linked-spaces and people. And finally, the third layer refers to the managerial elites. Although, the space of flows refers to all social groups, it is “enacted, indeed conceived, decided, and implemented by social actors” (Castells 1996: 415) who at the same time dominate the spatial interactions within the urban space.

The terms *space of flows* and *spaces of places* are of utmost importance for this thesis as they are directly linked to IT, globalization and urban space transformations that take place in *spaces of places* via *space of flows*.

The urban settlements in the near past (back to 200 years) which created job opportunities and were subject to an intense population growth, using the advantages of being close to transportation routes and manufacturing cities are no longer welcomed. Today most of the new jobs are created in services; and the high-paying jobs in advanced services, such as marketing, advertising, finance, legal services, accounting, and other business services associated with large corporations, regardless of borders. The point is that all these advanced service employments are increasingly dependent upon new communications technology; and “it is the Internet that has the greatest, most far-reaching, and most permanent impact on the world economy and the transformation of society” (Wheeler et al. 2000: 5).

1.1. Organization of the Chapters

The study has been structured in five chapters, table of abbreviations and an appendix. The introductory chapter illustrates the scope, aim and method of the study, the theoretical framework, objectives and discontents. The hierarchical system of the text is constituted from general concepts of globalization through the theoretical background and the particularities of the case study.

The framing question of the study can be put as *how has Istanbul-Maslak altered with respect to IT?* Thus, it can be formulated as a chart. This chart comprises main arguments of transformation of urban space practice in Istanbul. IT has affected every step of this practice in one way or another. Hence, the chapters organized according to this chart showing the practice observed in Istanbul case.

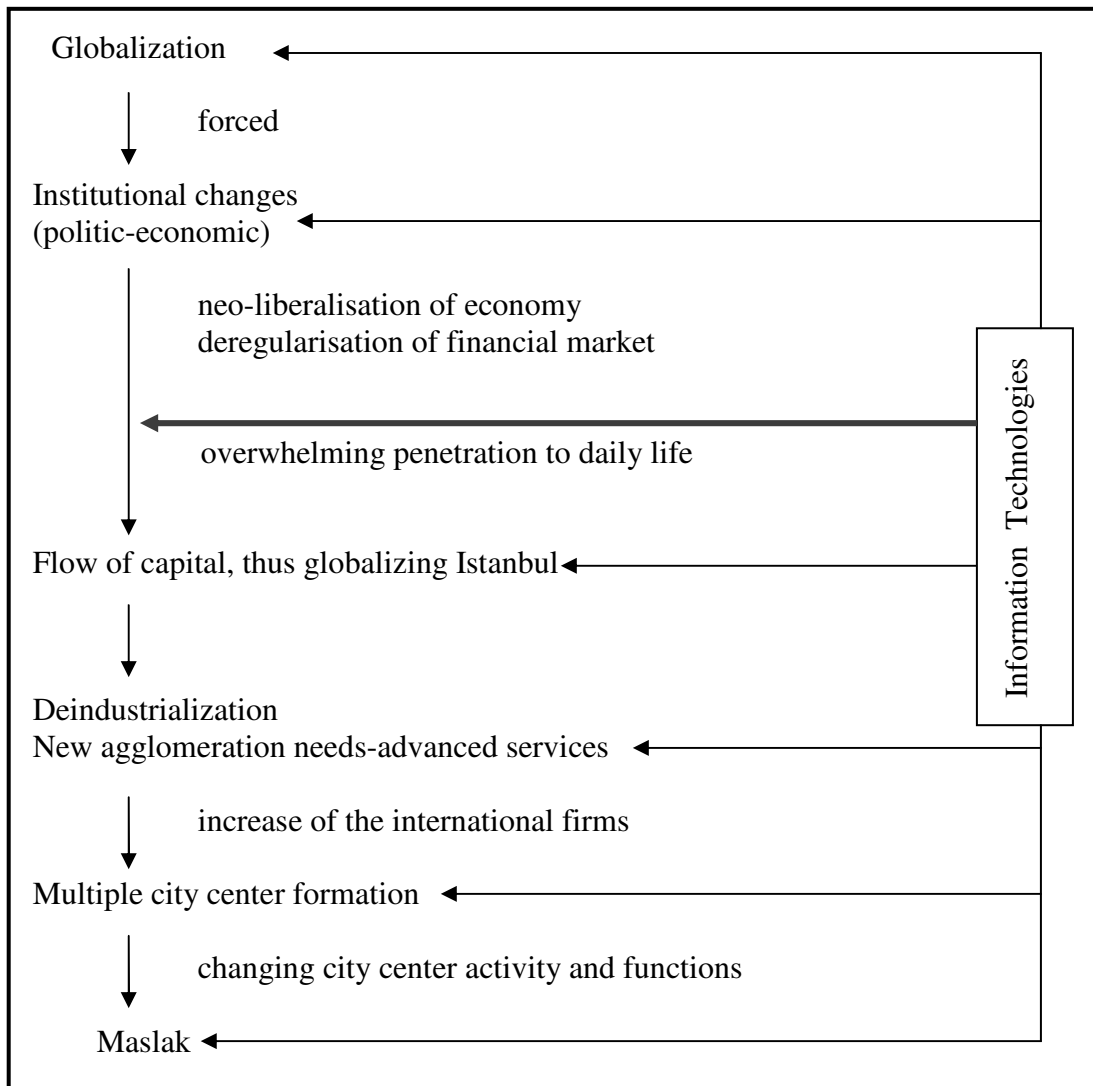


Figure 1.1. IT and Urban Spatial Transformation Process in Istanbul.

The first explanatory chapter (Chapter II) deals with globalization, IT and urban space transformation in Istanbul and its link to the globalization process dominated and accelerated by IT. With the excessive use of IT, the flows of information, goods, people and capital have increased more than ever before in the history of the city. Within these newly constructed networks, there is an intra- and inter-city competition to attract and keep more capital within. Especially following the second half of the 1970s, developments in the telecommunications sector caused multinational firms to seek new markets, cheap labor and production sources and to expand their consumer base to increase their profit.

Here, the point that must be noted is that, although after 1970s, the term globalization had been widely pronounced, in fact, global economy was under

development for some centuries, since the beginning of the colonialism in the 16th century (Short et al. 2000). However, the term globalization that is elaborated in this study is economic globalization ascended during 1960's (according to Sassen, 1991) or 1970's, not cultural or political globalization. Therefore, the term globalization must be taken as economic globalization wherever it is expressed.

Chapter III examines the urban form theories of deconcentration and (economic) restructuring that are inseparable in practice, with different theoretical debates that investigate the impact of IT on urban form. Deconcentration theory bases on sprawl and suburbanization effects of IT that became possible with transportation substitution, thus enabling individuals' preferences of relocating elsewhere. However, (economic) restructuring theory deals with the political and organizational issues of multinational firms which tend to centralize in city centers forming new agglomerations of advanced services.

Chapter IV focuses on the case study of Maslak, Istanbul. The process of urban transformations within Istanbul in respect to globalization, urban form theories and IT relations are examined. As a globalized city, Istanbul is subject to a new urban space restructuring process. Transcribing these formations is the main purpose of the study. The history of urban transformations that took place in Istanbul throughout the last decades especially following the liberalization of economy is one of the main concerns of this study. The urban transformations are elaborated under the economic, political developments and changes in the application plans of Istanbul.

The chapter continues describing the spatial consequences of various political, economic transformations in Istanbul, Maslak. The reasons behind the processes are examined and elaborated by using data of telecommunications embeddedness to the built environment and the time-series plans of Istanbul.

The neo-liberalization policies of 1980s with Turgut Özal as the Prime Minister, had been a milestone in the globalization of Istanbul. The opening of local markets to global bazaars accelerated foreign direct investment to the city space, forcing restructuring of the urban land especially along the Beşiktaş-Maslak axis. Thus, production functions of industrial sector splintered towards the edge cities, to other cities and even offshore. These transformations with IT and globalization can be followed on urban space following 1980s. Therefore, the main emphasis for the case study of urban spatial transformations on Istanbul is put forward following 1980s. However, the transformations along Beşiktaş-Maslak axis begin long before

globalization and IT came into the scene. Although the impact of IT is overwhelming, IT cannot be determined as the main reason of the urban space alterations all by itself. Thus, the period dating back to the establishment of the Republic have been examined to fully transcribe the transformation process of Beşiktaş-Maslak axis.

The findings of the study are summarized in the conclusion chapter. It must be noted that the findings of the study put IT as a secondary factor throughout the spatial transformation of Istanbul, especially in Maslak case. There are other factors that the spatial arrangements had been formed accordingly such as the transportation and accessibility to the site, the zoning policies and the land ownership and speculations.

In the appendix a brief history of mass communications in respect to urban space is presented. In fact, information technology or telecommunications includes the mass communication systems in itself. But regarding the study, since the main subject is based around IT, the mass communications are placed in appendix as a preliminary information chapter for information systems (IS).

1.2. Method

1.2.1. The Subject of the Thesis

The subject of the thesis is to examine the urban transformations that have taken place recently in Istanbul with the interaction of information technologies (IT) under globalization process. Today, especially in the new era of globalization, information technologies play a great role in structuring the city. Information technology (IT) is mainly concerned with the technologies of data and information management, process, transfer and transmission through multiple channels of mass communication systems via computers and networks; either mobile or immobile². Information technologies refer

² Subcategories of Information technology: Computer science - Data management - Information architects - Internet - Technical communication. Subcategories of Computer science: Algorithms - Anti-patterns - Artificial intelligence - Compilers - Computation - Computer scientists - Computer vision - Cryptography - Data compression - Data structures - Information theory - Inter-process communication - Lambda calculus - Logic in computer science - Machine translation - Programming - Theoretical computer science - Type theory Subcategories of Computing: Computer architecture - Computer benchmarks - Bioinformatics - Computer books - Computer companies - Computer conferences - Computing mascots - Data privacy - Computer-aided design - Distributed computing - Embedded systems - Fictional computers - Computer graphics - Computer hardware - Human-computer interaction - Computer humor - Computer languages -

to computer science and technology both hardware and software, concerning all the aspects of “design, development, installation, and implementation of information systems and applications [San Diego State University]” (WEB_ 1).

Today, in most of the functions of industrial production, management and advanced services IT usage is dominated. “Empirical evidence showed and still shows that new information and communication technologies fit into the pattern of flexible production and network organization, permitting the simultaneous centralization and decentralization of activities and population settlements, because different locations can be reunited in their functioning and in their interaction by the new technological system made out of telecommunications, computers, and fast reliable transportations systems, as well as dispatching centers, nodes and hubs” (Castells 2000: 18). The transformation process from industrial production to service sector intensified within the city center with the excessive usage of IT and its penetration into the daily life. Thus, some cities stick out as the command and control centers such as New York, London and Tokyo, facing striking spatial transformations. Correspondingly, all the “world cities” including Istanbul, become subjects to the urban space studies regarding IT. (See Chapter 2 for further elaboration on “world cities”).

The scope of this study is delineated by Istanbul’s spatial transformation process with respect to information technologies using chronologically based data series intensifying on Maslak, which has emerged as the new central business district for IT-sensitive firms. One thing that has to be made clear about Maslak is that although the major focus of this study is on Maslak, it cannot be separated and treated as a totally new segment from the axis that leads from Beşiktaş to Maslak and even Ayazağa.

The criteria of being a world city and the globalization process involve transition from single-cored city center to dual or multi-centered city. Within this process, the sprawl of traditional city center of Istanbul from the Historical Peninsula is accumulated along this axis. The axis from Beşiktaş to Maslak which runs through Barbaros and Büyükdere boulevards is the CBD axis of Istanbul dating back to 1930s till today. Although the recent developments take place in Maslak, the continuous line

Computer law - Legacy systems - Computational linguistics - Computer magazines - Multimedia - Computer networks - Parallel computing - Computing platforms - Retrocomputing - Computer science - Computer security - Software - Software engineering - Computer specialists - Computer stubs - Technical communication - Coding theory - Underground computer conventions - Underground computer groups. (Source: GNU Free Documentation, Information Technology, 2006)

starting from Beşiktaş to Ayazağa cannot be omitted and treated as a separate CBD transformation. Hence, the settlements along the axis formed the sub-centers and connected along the axis forming the new CBD. Therefore whilst the study is based on Maslak, this axis will also be examined in order to contextualize its spatial formation.

1.2.2. The Aim and Problem Definition of the Study

Cities under the process of globalization display spatial transformations in urban space via inevitable influence of IT. Although these cities may provide some hints, each city undergoes different spatial production due to its inner dynamics because of their politic, economic, cultural and social factors. The aim of the study is to reveal the contributing causes and relations via IT, while elaborating on the spatial transformations of Istanbul, Maslak.

Passim its history, Istanbul has always been a command and control center for its hinterland. However, the definition of command and control centers has altered with the globalization process. New economical system throughout globalized cities forms new hinterlands which may not be geographically connected but colligated via virtual linkages of fiber optics and satellites of information systems and technologies. As a city within the globalization process which the IT dominates, Istanbul sticks out in Turkey in the world cities inventory (See Chapter 2 for the World Cities Inventory).

It is intended to illustrate the new urban space transformations and processes via the findings of the study. The problem of the thesis is constituted along the debates between two urban form theories: deconcentration theory and economic restructuring theory. The deconcentration theory focuses on the individual preferences of location choices via IT and substitution of transportation. On the other hand, economic restructuring focuses on the new institutional and organizational transformations based on the new economic agglomerations' tendency to centralize. The spatial processes that these two urban form theories emphasize, indeed, in practice, do not occur as strictly separate phenomena; rather they are complementary. Within this research, the main focus is be to examine and transcribe how these processes have taken place in Maslak, Istanbul.

The research examines two fundamental questions regarding IT and urban space transformation in Maslak, Istanbul. First, which functions that used to be in the city

have dispersed from the center and why? Followed by which functions prefer the cityscape and tend to be together in some new place such as Maslak?

The sub-questions for these two fundamental questions may be transliterated as:

1. if IT allows the dispersal of firms, then why is Maslak emerging as the IT intensive core of multi-international firms;
2. does this have any relation to IT and its infrastructure or are there any reasons behind this process other than the above mentioned?
3. is there a new agglomeration system in the urban space affected by IT?
4. what are the structural elements of this process?
5. how does globalization contribute to this process?

If we put the resources that lead urban transformation as land, capital, human, and technology, the research topics will be mainly based on the investments by both public and private institutions on technology, infrastructures, and their distribution within the city and city parts.

1.2.3. Field Research

To analyze the spatial changes, the following points have been considered in both phenomenal and practical levels in the preliminary chapters of the study before focusing on Istanbul-Maslak case that concurrently forms the focus of the study.

1. What are the urban form theories underlining spatial transformations in respect to IT? What are their hypotheses? How does IT affect these alterations?
2. The relationship between globalization and IT.

The field research related to Turkey and Istanbul are carried mainly in different stages. In the first stage, the transformation of Istanbul CBD from a single nucleus center to multi-centered situation with the sub-center formations and splintering process of the traditional city center along Beşiktaş-Maslak axis is examined in a chronological basis by taking political and economic issues into consideration. The observations, studies, researches on the history of urban transformation of Istanbul, Istanbul Central Business Districts (CBD) and IT embeddedness in Istanbul urban space studies are utilized in these sections of the study. Preliminary plan studies, former application plans, plan notes and reports are analyzed.

The second stage is to investigate the investment topology of Türk Telekom³ in Istanbul Metropolitan Boundaries. The aim of this investigation is to decode the urban space formation and new zoning decisions that lie beneath the information infrastructure. To understand this process, some interviews and discussions with the authorized members of Turk Telekom has been made and also some important data about the IT infrastructure had been collected and updated. The data is mainly based on the TT-net Topography of Turkey and also some statistics referring to IT infrastructure.⁴ This study helped to understand how IT infrastructures affect the locational choices of firms. To elaborate on IT infrastructure, along the studies in Turk Telekom, TTNNet Topography Charts and Statistics, also UlakNet data, Broadband Statistics, Research and Development and Technology Statistics of Telekom and TURKSTAT have been conducted.

The third research is carried on data supplied by Turkish Statistical Institute (TURKSTAT⁵). The statistics considered as of crucial importance to the study are examined. These include census of population and demography, industrial statistics, research and development statistics, production statistics, and so on. The aim of this study is to understand the transformation process of the city by clarifying the changes in supply and demand and the recent changes in consumer preferences in order pull out the data which refer to urban space changes with respect to information technologies. Interviews had been carried out with the heads of departments of the Turkish Statistical Institute in Ankara, and Izmir Headquarters⁶.

In the last stage of the work, the application plans and zoning ordinances following 1980s produced by Istanbul Metropolitan Municipality are examined. Also

³ Turk Telekom: Turkish Telecommunications

⁴ However, there has been a difficulty in collecting data within this process as following the privatization of Türk Telekom, some information could not be updated due to firm policies of the new telecommunication firm that bought the Turk Telekom. The prior data available cannot be updated within the same process of privatization.

⁵ TURKSTAT: Republic of Turkey, Prime Ministry Turkish Statistical Institute (TÜİK formerly known as DİE).

⁶ Some of these departments are Information Networks, Switchboards Stations Department, Projects and Investment Department, Marketing Department, İzmir Headquarters Vice-Presidency of Turkish Telecommunications and from Statistical Institute of Turkey; Industry Statistics, Research and Development Statistics, Labor Force Statistics, Information and Technology Statistics, Population and Development Statistics, Economic and Financial Data Statistics, Use of Information and Communication Technologies by Enterprises Survey, Household Labor Force Survey, Employment and Wage Structure Survey.

studies in Istanbul Greater Municipality Metropolitan Planning and Urban Design Center, Şişli Municipality, Şişli Land Register⁷, Chamber of Commerce Istanbul and Izmir Branches and the Chamber of Industry Istanbul and Izmir Branches and TÜBİTAK⁸ had been carried out. The studies in Tübitak are specialized on Technology Activities and Information Policies and explored the history of Turkey's technology infrastructure.

However, the studies which were to take place at Land Registry Office cannot be conducted because the registries are prohibited to public as a constitutional right. Therefore, instead of land registries, only the maps of registries from Şişli Municipality without the names of the owners are received. The study was meant to transcribe the official land ownership shifts and the dates of the sales. Instead, the maps and other literature and researches conducted by various scholars on subject have been used to fulfill this defect.

In the next chapter, Istanbul within the context of globalization is elaborated. The transformation of the urban space of Istanbul has been influenced by the new economy and its new formations of agglomerations, tendencies and spatial needs in the cities; especially within the CBD with the usage of IT. Although globalization is a common term dating back to 16th century colonization movement, in this study globalization is referred only to economic globalization following 1970s. Therefore, the first explanatory chapter is dedicated to globalization as the background frame, followed by the theoretical formation necessary to explain the impacts of IT on urban space; down to case study of spatial transformations of Istanbul CBD area; Maslak within the context of globalization referring to IT.

⁷ The aim in providing the land-ownership data was to follow the mutation process of land. However, due to the constitutional privacy rights, these data could not be collected.

⁸ TÜBİTAK: The Scientific and Technical Research Council of Turkey

CHAPTER 2

ISTANBUL WITHIN THE CONTEXT OF GLOBALIZATION

Cities may be interpreted as the spatial reflections of socio-economic formations. Marcuse and Kempen (2000: 1) argue relating “spatial patterns of the cities of today and tomorrow which differentiate them from the cities of yesterday”. In return, they face the ‘global cities’ (Sassen 1991, Castells 1996, Graham and Marvin 2001) or ‘world cities’ (GaWC Study Group and Network⁹, 1999) or ‘megacities’ (Marcuse and Kempen 2000) or ‘edge cities’ (Garreau 1991, Castells 1996, Graham and Marvin 2001) etc. The new spatial patterns and “spatial orders” of different cities may vary due to their inner-dynamics, however there is a growing consensus that the significant transformations of cities due to new economic forces under globalization dating back to 1970s (See Marcuse and Kempen 2000). Thus, Sassen (1991) proposes 1960s as the starting point of globalization process with the new economic activities forcing the transformation of the urban space.

Basing on Friedmann’s (See Sassen 1991: 5) global city definition of nodal points for coordination of process; Sassen (1991) also argues that they are also sites of production. This time, the production is not that of the industrial goods, thus, production sites for advanced services for complex organizations in running remote management facilities, industrial activities and sites for production of financial inventions and creating new markets for the flows of capital. “The ‘things’ a global city makes are services and financial goods” (Sassen 1991: 5). These ‘services’ and ‘financial goods’ are produced through a network series of flows within and over borders. “One of the attributes of globalization and the formation of world cities has been the introduction of information technology and the resulting facilitation for almost limitless worldwide flows of information” (Kellerman 2002: 41). IT enhanced the transformation process of cities into constituting globalized and/or world cities.

Recently, the transformations of the urban space in Istanbul, also relate with the globalization process, interacting with IT which makes the global flows possible.

⁹ GaWC Study Group and Networks’ Honorary founders are Peter Hall, Saskia Sassen and Nigel Thrift. It’s contributors are from varied countries. See www.lboro.ac.uk/gawc for more information.

Today, Istanbul is also considered as a world city. Throughout the globalized cities, Istanbul ranks as the 24th within the first 50 global centers and is regarded as a European city (See Table 2.6). In this chapter, Istanbul will be examined as a European city within the context of globalization. The studies of globalization mainly refer to the American experiences, thus they may be insufficient in explaining the spatial processes of European cities. It is important for this study to identify these local differences and traditions in theorizing globalization since Istanbul is treated as a European city. In this chapter, first the globalization concept will be explained briefly to form a frame for the elaboration of Istanbul's spatial transformations with respect to the globalization process and their inter-relations with IT.

Indeed, globalization in process for quite a long time dating back to the colonialism experiences during the 16th century (Short et al. 2000). But the term globalization used in this study refers to the economic globalization which rose five decades ago (Sassen 1991). Following 1970s, all around the cities of the developed New networks of global spaces with the annex of information technologies and advanced transportation systems, especially in metropolitan areas gave speed to the globalization process within cities which countries have commenced to transform with the growing power of globalization. Cities were already in a transforming process including the invention of telephone (Öncü and Weyland 1997); (See A.1, in Appendix). There are also other dimensions in the alterations of the spatial patterns in Istanbul than of globalization during 1970s (Dökmeçi and Berköz 2000). The first changes in urban spatial order of Istanbul lie in the transition from single-nucleus city center to multi-centered city. The reasons underlying this alteration are elaborated in Chapter 4, to put in brief, four main grounds for this process mainly exist:

1. The newly founded corporations favored the first ring¹⁰, since the traditional city center was congested and expensive. The first ring was eligible also due to transportation advantages. These new firms tended to form international relationships.

2. With the Marshall aid, the highways were constructed, thus the means of transportation of goods altered from ports to the highways. The new centers emerged along and at intersections of these new ring roads.

¹⁰ The traditional city center of Istanbul consists of Beyoğlu and Eminönü districts. The first ring consists of Beşiktaş, Eyüp, Fatih, Kadıköy, Şişli, Üsküdar, Zeytinburnu districts and the second ring consists of Adalar, Bakırköy, Beykoz, Gaziosman Paşa, Sarıyer and Kartal districts (Dökmeçi and Berköz, 2000).

3. The new economic transformations during the 1970s caused firms to grow in size, thus the land in the traditional city center was not limited for the construction of new and generally high-rise buildings with adequate land values and spatial organizations.

4. Following the 1980s, with the liberalization of the markets, the need for new business districts occurred and thus, formed along the transportations channels (Dökmeçi and Berköz 2000, Osmay 1998, Yenen et al. 1996); (See Chapter 4 for further elaboration).

These alterations laid the grounds of integration of Istanbul to the globalization process. Thus, it is not mentioned above, penetration of information technologies regarding globalization are inevitable forces underlying the urban space transformations. Especially the new economic policies of neo-liberalization of markets, pioneered back in 1984 with the first elections (which ANAP being a liberal right-wing party, won) after the military regime in 1981, accelerated the transition of Istanbul into global markets (Kocabaş 2005, Taşan-Kok 2004). With the renewal and city beautifying projects of the time, Istanbul became one of ‘them’; “symbolizing the accelerated momentum of globalization are the glossy façades of mega capital which have changed the skyline of major cities around the world” (Öncü and Weyland 1997: 1).

There are different definitions of the term globalization. De La Dehasa (2000) defined globalization as “a dynamic process of growing liberty and world integration in markets for labor, goods, services, technology and capital”. By liberalization and integration into global markets, it is alluded that privatization of markets by governments and diminishing public-works in size are needed so that the capitalist markets could run freely. The pronunciation beneath globalism is the diminishing of the nation-state (Tekeli and İlkin 2000). Thus, in common sense globalization defines an economic process involving the flow of capital through national borders (Taşan-Kok 2004).

Capital is elaborated in four different kinds under globalization as human capital, financial capital, resource capital and power capital. The human capital flow is the circulation of people and may be explained by migration or the flow of labor force from one city or nation to another. Lately a lot of qualified labor-force consisting of executives, advanced service sector members and information workers change places where they are offered much eligible job opportunities and living conditions. Also in

some cases, the non-qualified labor force to work in the construction and personal services like cleaning-houses, baby-sitting etc. is subject to this mobilization.

Financial capital flow is the circulation of money across nations. The money may be in terms of aids, debts, lending and credits or the surplus gained by production or commerce. With the globalization process, capital tends not to stay within the borders of one nation. The capital may be defined as volatile as it may be transferred from one place to another in means of minutes or even seconds with the excessive use of information technologies. More capital is transferred to one city or nation in the globalization process but the important thing is to drive more capital and financial activities and to secure the investment so that the financial capital stays within the borders of the nation and continues to flow in.

Resource capital flow may be put as the circulation of resources, by-products, end-products, goods and services. The long-lasting agglomeration economies of the last centuries have gained a different meaning with the globalization. Firms, which deal with the same type of production, used to cluster in locations close to transportation channels. With the globalization, these agglomeration economies became less accurate with the flow of goods and services. Recently, the choice of establishing a new factory depends upon where a cheap resource and labor-force is available. In some cases, the products are not even transferred to the city or even the country where the main firms are located. For example in the case of textile firms, the goods are produced in China, Taiwan, Turkey, or in some other countries and delivered to final locations where they are to be consumed without even transported to the location of the headquarters of the firms. Mango or Zara (two major textile firms of Spain) may constitute a good example for this process. The orders are given from the headquarters to back offices or alliances in their partnerships for the production of the textile products. These products are merchandised offshore and are transported to its final location where they will be offered to the customers and never need to be transported to Spain where the main firm is located. The other services such as quality management or the tracking of the order are considered via the back offices or consulting agencies or other firms which are willing to take care of such services on their behalf, so there is no need for extra transportation expenses to Spain.

The last one is the flow of power, which is the circulation of the alliances between firms, partnerships and even the military forces. As explained above, some firms may form partnerships or alliances to control and manage the processes that they

are dealing with from different countries or cities. In some cases the firms make arrangements or sign contracts with other institutions to take care of their services offshore. For example a firm, which order some goods or products from an offshore company, may form alliances with another firm to check the quality of job done or simply to monitor the process on their behalf. In some cases there may be some alliances constituted to monitor their own process to increase the productivity and surplus. For example “Price Waterhouse Coopers” (Headquarters in San Clemente, California, USA) or “Arthur Andersen” (Headquarters are in Chicago, USA) are two major consulting firms which have established their back offices in Istanbul. They are consulting companies that perform in and out of Turkey with their alliances. Another form of power capital is the security forces. There are some alliances of nations like NATO or United Nations whose member countries have to act according to the agreements with such institutions.

Globalization is explained by drawing on mainly three concepts (See Figure 2,1). These are:

1. new economy,
2. new geography, and
3. new technologies (Sudgen and Wilson 2001).

The new economy refers directly to globalization and the new market system which is liberated with capitalist and neo-liberalization policies. Of course this process is regulated by the market rather than state (Taşan-Kok 2004). Neo-liberalization promotes the privatization of state institutions and forces to meet the needs of less-developed countries and to unite their economies with the developed countries’ to increase the flow of the new technologies and knowledge that is free of local policies and restraints. Also, the commercial institutions must be privatized and the state and governments must diminish in scale and must only deal with public works, social services and justice (WEB_8).

Globalization can be explained with cross disciplinary conceptions. In globalization two different features may co-exist at the same time (See Figure 2.1). Glocalization is also referred in this new economical system as a concurrent feature of globalization and localization (Sudgen and Wilson 2001). Where globalization is referred to exceeding borders by means of labor, goods, services, capital, and

technology, glocalization is referred to territorial development as how the identity of a city is to be kept and transition to governance instead of government maintaining collaboration of public and private sectors for the enhancement of local opportunities in global markets. “Glocalization is a term used to describe the dialectic interdependence of the local and global dimensions of economic, political, cultural processes” (United Nations Centre for Human Settlements; Habitat. 2001, xxxiii). Glocalization puts forward the local advantages and potentials for national/ territorial development within borders rather than global markets.

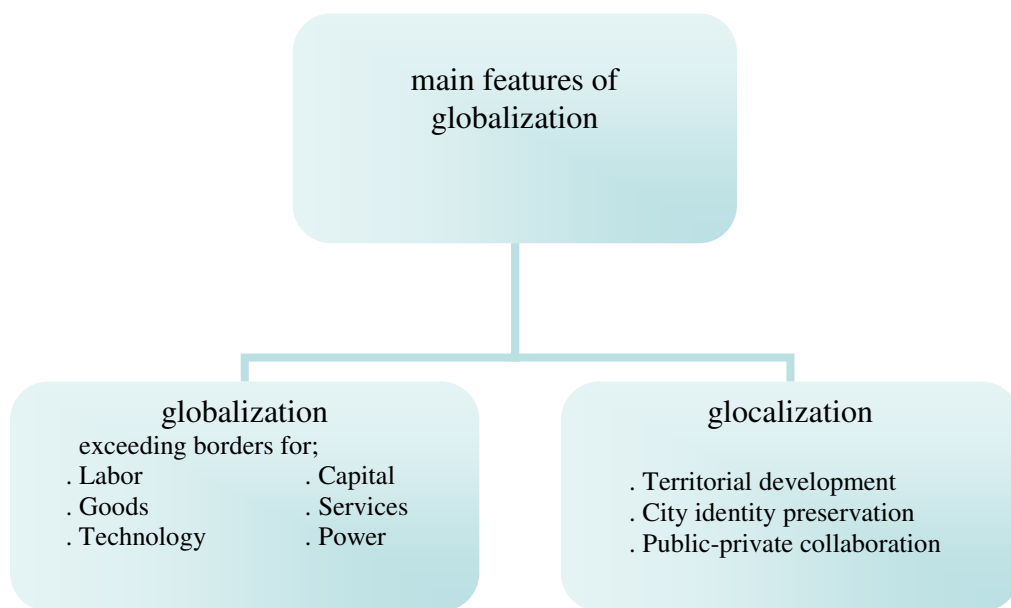


Figure 2.1. Main Features of Globalization.

The characteristics of a city determine the dimensions of its globalization capability such as the degree of its services specifically advanced services and supporting ones, adequate labor force, transforming urban space and infrastructure including technological infrastructure, financial deregulations and institutions, etc. The global operations are centralized vastly in cities, although rural areas are also being affected by the process. Moreover, cities transform rather strikingly through their cultural, social, financial and physical constraints such as employment structure, formation of partnerships between national-international, public-private institutions, construction activities (for new CBD, housing, recreational and commercial facilities, transition to governance etc.) bringing along also the negative effects such as

polarization between communities, fragmentation of city parts, deterioration and corruption of low-wage housing neighborhoods etc.

These are all parts of a new transformation of the globalized world into non-territorial and borderless one. Hence, the geography as we know is assumed to be no longer important in terms of various types of flows. Especially the multi or trans-national companies are engaged in globalized market economies. They establish partnerships, alliances, headquarters and/or back offices in different territories where they form a new economic agglomeration system within the liberal markets. The geographic distribution of goods no longer needs to be transferred from the administrative center of a company since the production facilities are spread to elsewhere or even offshore.

All these processes are linked almost utterly to the new technologies of information and communication. The information technologies made it possible to manage businesses over long distances. While it diminishes the loss of time, it also decreases the transportation costs. With the excessive use of IT, it is possible to splinter production facilities to elsewhere where resources are cheap and easy to attain. Enormous and timeless flow of knowledge from one place to another is the new driven force where other potentials are open to the new market economy all around the “wired-world” (Sudgen and Wilson 2001) of which the production facilities are freed from its localities.

In this sense, globalization may be interpreted with its character of new market economies, its cross-borders geographical interventions and its close linkages to information and communication technologies which enable the flows throughout wired-cities. “The level, frequency and intensity of flows between nodes define their place in the global economy” (Felfenstein et al. 2003). Likewise, Beaverstock et al. (2000) argues that rather than geographical and identical features of cities, places maintain their attributes of globalization with the flows of “capitals¹¹”.

2.1. The World Cities and GaWC Inventory

One of the main functions of contemporary metropolitan city is the confrontation of control, command and administrative mechanisms with its centrality in decision

¹¹ “Capitals” are interpreted as the quaternary classification that had been evaluated at page 17.

making, intellectuality and information intensities. It also has to provide the sufficient urban land and labor force for these activities and to perform the sufficient infrastructure by means of physical, intellectual, and service-vice. It needs spatial and administrative adjustments, gathering all the needs of the world city requirements. “World cities are the geographical entity that appear as the organizing nodes of worldwide networks” (Taylor 1997). The world cities form a new city hierarchy in which the main economical function has transformed to service sector from industrial and production functions. As argued by Friedmann (1986), the “new international division of labor is organized through world cities” (See Beaverstock et al. 2000).

The world city hypothesis, which presumes a handful of cities to be the world’s dominant political-economic centers, has become a leading framework for comparative urban scholarships. Although the extensive world city literature has generated a variety of approaches, the headquarters locations of multinational corporations (MNCs) serve as common empirical measure of the global urban hierarchy. Many argue that the international economy, to a large extend, is controlled by relatively few MNCs, headquartered in the core countries, increasingly extending their corporate reach to countries on the periphery. As a result, the major spatial concentrations of these corporate headquarters constitute global control points and correspond to the upper tier of the urban hierarchy (Godfrey and Zhou 1998: 268).

According to Peter Hall (1966) the functions that need to be fulfilled in a globalized world city are as follows:

- World Cities are the centers for political power.
- There has to be national and international authorities and institutions in the city.
- Commercial Unions and different economic federations; financial center
- Main Industrial Administrative Centers or Offices; headquarters for TNC’s.
- Ports or commercial centers which import and export facilities take place.
- Developed railroad or land transportation nodes
- International Airports
- Administrative facilities of finance and banking activities
- Central Banks of the nation
- Administrative offices of commercial banks

- Insurance companies
- Hospitals and medical research facilities
- Well-known universities, Academic research and technologically constructed institutions, Fine Arts Academies (for the attraction of students and Academicians)
- National Libraries, museums
- Books and periodicals publishers, newspapers, for the attraction of writers and column writers
- National Radio and Television centers
- Densed wealthy population, luxurious shops and shopping malls
- Cultural and entertainment facilities such as operas, theaters, concert halls, restaurants, cinemas, night clubs, etc; enhanced life quality.
- Diversified economical powers
- Varied industries and commercial units according to their design, fashion, talent and special needs of people who are to buy such products
 - With the production of new merchandises, more people are to work for design, finance, production management, exportation of goods, etc...
 - White collar workers (Executives) and their field of work increase; destination for immigrant population

Later researchers have added some different values for identifying the world cities other than command and control functions and those above. They may be indicated as:

- Global competitiveness
- Global connectivity
- Rapid growth of advanced services
- Advanced telecommunications and their infrastructure
- International affairs and cultural centrality (See Stock et al. 2000).

Global city should meet these functions stated above for it is also the place for gathering and distribution of the knowledge. The communication and information technologies and the continuous flow of capital differentiate spaces. This “floating capital” changes the daily life and the urban areas with the penetration of communication and information technologies. Every city has its own differences from

other cities in this transformation process in terms of urban areas and even urban functions.

As argued by Swyngedouw (1989), “throughout the last decades of the 20th century, all the countries (and/or cities) are trying to transform their regulations or deregulate some of them just to stand a change in becoming a world city using their socio-spatial advantages” (Taşan-Kok 2004: 21). As to Turkey’s situation, Istanbul is a city that stands to satisfy socio-spatial¹² needs of a world city.

*Globalization and World Cities Study Group and Network (GaWC)*¹³ works on the classification of world cities based on these terms. The study is based on the general assumption that, during the late 1990s, there is a world cities hierarchy in between the globalized cities, but no empirical evidence or lack of theory based on researches which must be carried on worldwide over a series of years. International statistics do not provide information of trans-national flows considering city-vice data (Taylor 1997). The statistics may provide information in comparing countries, but they lack in comparing cities in terms of flows. Thus, the GaWC group founded their research on data firstly available to get in each county of existing sources rather than generated data, and may refer comparable data (Taylor 1997, Beaverstock et al. 2000). Hence they (GaWC Study Group) introduced a new research profile; basing on a triad of theoretical approaches of;

1. Castells’ (1996) space of flows and immigration profiles throughout world by Friedmann 1996,
2. world city and the division of labor amongst global cities (also by Friedmann 1996),
3. Sassen’s (1991, 1994) global city as the producer and the central nodal point of complex advanced services. (See Beaverstock et al. 2000)

In the studies by GaWC, specifications of a world city have been considered at three levels; networks, nodes (Cities), and sub-nodes (Global service firms) (Taylor et

¹² The socio-spatial advantages are interpreted as the interaction between the globalization and localities of a city. Localities of a city are important in its unification process to the global markets as to what that city has to offer differently than the others.

¹³ Globalization and World Cities Study Group and Network (GaWC): <http://www.lboro.ac.uk/gawc/> ; This study group investigates the globalization of the world cities. It’s honorary founders are Peter Hall, Nigel Thrift and Saskia Sassen, co-directors are Peter Taylor and Jon Beaverstock and there are 216 researchers and contributors to the research programmes and the Study Group.

al. 2002). GaWC gathered information of 100 firms in advanced producer services across 316 cities. Thus, this analysis is based on 123 cities with the highest connectivity. The specialties of these firms are as follows;

Table 2.1. The Specifications of Firms that were Studied Across 316 Cities to Identify Hierarchical Tendencies of World Cities for GaWC Inventory (Source: Taylor et al. 2002)

Firms	No. of Firms Studied
accountancy	18
advertising	15
banking/finance	23
insurance	11
law	16
management	
consultancy	17

These firms were chosen among those that have offices at least in 15 different cities with global location strategies. Every firm has to have at least one office in each of northern America, Western Europe and Pacific Asia (Taylor et al. 2002). The connections between cities were considered in the study at three stages:

- According to sizes and extra-location functions of offices of 100 global service firms across 316 cities.
- According to their service values and the importance of city within a firm's office network ranging from 0-5.
- According to their inter-locking connectivity between cities providing an index of global network connectivity for comparing the position of cities within the world city network of 100 firms within the highest connected 123 cities. These cities have at least one fifth of the connectivity of London (Taylor et al. 2002).

The basic unit is the major corporate service firm which has multi-city, multi-state locations and its geographical location in respect to other world cities. Stanley (2003: 4) argues that all cities have some degree of *worldness*, but the levels of their connectedness is the term to define whether or not the city is global in the world cities

system. By studying firms of this status, a relative hierarchy is driven out in particular services which spans to other cities and firms in the inventory. By doing so, there forms an evaluation of *world-cityness* (Beaverstock et al.1999: 450) of the cities related service firms that they are co-founded.

GaWC gives points ranking from 12 to 1 to all the world cities according to their attributes (12 is the highest score in the rank). Four service sectors are considered in this inventory. These are accountancy, advertising, banking and legal services in 123 cities. Four main groups exist in the inventory.

A. Alpha World Cities: Cities ranked between 12-10 are the global service centers in all sectors which are considered in the inventory. They also have to perform as the prime centers for at least in two different sectors and must be nominated to be a prime sector for the other two.

B. Beta World Cities: Cities ranked between 9-7 are global service centers in three sectors, and in two sectors prime or major centers.

C. Gamma World Cities: The cities ranked between 6-4 are global service centers in two sectors and at least one major service must be provided.

D. Evidence of World City Formation: These are the cities which cannot be called as a world city but have potentials to become one of them or may be used to at an upper level to past but couldn't perform enough during the following stages of the globalization process to become one.

i. Relatively Strong Evidence: The cities ranked as 3.

ii. Some Evidence: The cities ranked as 2.

iii. Minimal Evidence: The cities ranked as 1.

This inventory is of vital importance for the thesis thus, Istanbul has been considered as a world city in terms of GaWC group formulated as to experiencing spatial transformations regarding IT within the globalization process. Although the model of the GaWC is not followed, the importance of the study for the thesis is that it elaborates on Istanbul as a "world city" (as the 24th in rank amongst the 316 cities that the whole research compounds of). Since the terms to define Istanbul as a world city have already been determined, the thesis does not seek for clues in testing this hypothesis; rather it deals the transformations of urban space of Istanbul under the conditions as a global city interacting with IT.

As seen in Table 2.2, Istanbul is in the third group which falls into the gamma world cities in the inventory. This means that Istanbul provides location for global service centers in 2 main and at least 1 major service sectors which are considered in the study of the inventory. There are no world cities in south Asia or Middle East in this section (Istanbul is considered as a European city). But it is obvious that the world city formation is much more immediate in Northern America, Western Europe and Pacific Asia. Therefore the alpha cities may be called as *globalization arenas* (Taylor et al. 2002: 457). The beta cities are the two minor globalization arenas located in Latin America and Eastern Europe (former COMECON¹⁴). However, Budapest, Prague and Warsaw are not counted in the beta world cities as they are ranked as gamma world cities. They are also located in the same geography as the beta world cities. Istanbul is counted as European and Melbourne as Pacific Asia.

The importance of this inventory is that it gives fully geographical information and hierarchy of the major and minor contemporary command centers in the globalized world though globalization is much more than these four advanced service sectors. It also ensures a comparative data about the localization of advanced service firms in the wired-world. This inventory is also valuable in driving attention to other globalized/globalizing cities other than the well-known triad of New York, London and Tokyo.

¹⁴ COMECON is the former economic organization for the socialist countries of Eastern Bloc during 1949-1991. The full name is The Council for Mutual Economic Assistance guarded with the military force agreement of the Warsaw Pact. The member countries were (with their former names) Bulgaria, Czechoslovakia, Estonia, East Germany, Hungary, Poland, Romania, Soviet Union, Cuba, Mongolia, and Vietnam (Free Documentation Software/COMECON, 2006)

Table 2. 2. The GaWC Inventory of World Cities

(Source: Taylor et al. 2002)

Cities are ordered in terms of world city-ness with values ranging from 1- 12.

	WORLD CITY FORMATION CATEGORIES	Points	CITIES
A	ALPHA WORLD CITIES	12	London, Paris, New York, Tokyo
		10	Chicago, Frankfurt, Hong Kong, Los Angeles, Milan, Singapore
B	BETA WORLD CITIES	9	San Francisco, Sydney, Toronto, Zurich
		8	Brussels, Madrid, Mexico City, Sao Paulo
		7	Moscow, Seoul
C	GAMMA WORLD CITIES	6	Amsterdam, Boston, Caracas, Dallas, Dusseldorf, Geneva, Houston, Jakarta, Johannesburg, Melbourne, Osaka, Prague, Santiago, Taipei, Washington
			5
		4	Atlanta, Barcelona, Berlin, Buenos Aires, Budapest, Copenhagen, Hamburg, Istanbul , Kuala Lumpur, Manila, Miami, Minneapolis, Munich, Shanghai
			3
D	EVIDENCE OF WORLD CITY FORMATION	3	Athens, Auckland, Dublin, Helsinki, Luxembourg, Lyon, Mumbai, New Delhi, Philadelphia, Rio de Janeiro, Tel Aviv, Vienna
			2
Dii	Minimal evidence	1	Adelaide, Antwerp, Arhus, Baltimore, Bangalore, Bologna, Brazilia, Calgary, Cape Town, Colombo, Columbus, Dresden, Edinburgh, Genoa, Glasgow, Gothenburg, Guangzhou, Hanoi, Kansas City, Leeds, Lille, Marseille, Richmond, St.Petersburg, Tashkent, Tehran, Tijuana, Turin, Utrecht, Wellington

2.2. Globalization and the European Cities

Globalization is a term used for mostly referring to the triad of the major globalized cities and some second degree nodes such as in the inventory. Also there is a danger of relying too much on one focal point such as “New York-centric approach” (See McNeil 1999). As argued by Sassen (1997: 3), earlier studies have put New York, London and Tokyo as the “empires of capital”. As it has been elaborated through GaWC inventory, global cities do not exist all by themselves but, considered as part of a network of cities that are strategic for the economic processes in between them and the rest of the world (Sassen 1997). Thus, recent studies have also considered the European cities in this context.

Taylor (2002, 2003) focuses on European cities in the world city network basing on city connectivities of different advanced services of banking/finance, media connectivity, NGO interlocking to urban space (See Taylor 2002). “The transformations of finance, banking and business services, combined with the availability of new telecommunications technologies, have led not only to a concentration, but also to a massive decentralization that enables more and more cities and regions to become economic transition spaces in a connected global rather than a national economic system” (Short et al. 2000: 323). Taylor (2003) studied the connectedness of the top 35 European cities in terms of service firms. According to this research, the basic assumption of the service firm connectivities is that the cities which have firms in larger numbers within have more connections than the other cities that have less firms. One of the main flows through world cities is the banking and finance flows that refer to economic capital as a main issue. Thus, Table 2.3 shows the global networks and banking/finance connectivities on top 35 European cities. The connectivities are ranked in-between 0 and 1; 0 being the lowest and 1 being the highest connectivity points (Taylor 2003).

As expected, London has the highest connections in both columns the wannabes stay at lower ranks. The changes in the ranks for different cities for different connections give important insights about the cities. For instance Istanbul is at 14th row for the global network connectivity, hence, 7th in banking/finance connectivity. This indicates the fact that although Istanbul is of a major importance center in banking and finance, however, it is not qualified enough as a service-center. The same tendency is also valid for some

German, Scandinavian and Eastern European cities which are also outer wannabes stay lower in rank for banking/finance. When examined as an outer wannabe city, Istanbul is closer to the globalized cities in global network distances (See Table 2.4).

Table 2.3. Top 35 European Cities for Global Network Connectivities and the Comparison of Banking/Finance Connectivities. (Source: Taylor 2003: 6)

Global network connectivity		Ranks	Banking/finance connectivity	
London	1.00	1	London	1.00
Paris	0.70	2	Paris	0.79
Milan	0.60	3	Frankfurt	0.70
Madrid	0.59	4	Madrid	0.69
Amsterdam	0.59	5	Milan	0.63
Frankfurt	0.57	6	Brussels	0.59
Brussels	0.56	7	Istanbul	0.55
Zurich	0.48	8	Amsterdam	0.54
Stockholm	0.44	9	Warsaw	0.53
Prague	0.43	10	Dusseldorf	0.51
Dublin	0.43	11	Moscow	0.50
Barcelona	0.43	12	Luxembourg	0.49
Moscow	0.42	13	Dublin	0.48
Istanbul	0.42	14	Zurich	0.46
Vienna	0.42	15	Athens	0.46
Warsaw	0.42	16	Berlin	0.45
Lisbon	0.41	17	Prague	0.44
Copenhagen	0.41	18	Hamburg	0.41
Budapest	0.41	19	Budapest	0.41
Hamburg	0.39	20	Munich	0.40
Munich	0.39	21	Geneva	0.40
Dusseldorf	0.39	22	Barcelona	0.35
Berlin	0.36	23	Rome	0.31
Rome	0.36	24	Lisbon	0.30
Athens	0.36	25	Stuttgart	0.28
Luxembourg	0.32	26	Stockholm	0.26
Oslo	0.32	27	Cologne	0.26
Geneva	0.31	28	Kiev	0.24
Helsinki	0.29	29	Bucharest	0.23
Stuttgart	0.27	30	Vienna	0.23
Rotterdam	0.27	31	Antwerp	0.20
Bucharest	0.25	32	St Petersburg	0.19
Cologne	0.24	33	Bilbao	0.19
Lyon	0.24	34	Rotterdam	0.19
Antwerp	0.24	35	Oslo	0.18

Table 2.4. European Cities in the Top 25 Global Connectivities

(Source: Taylor et al. 2003: 7)

Global network connectivity	Bank network connectivity	Media network connectivity	NGO network connectivity
London 1	London 1	London 1	Brussels 2
Paris 4	Paris 6	Paris 3	London 4
Milan 8	Frankfurt 7	Milan 5	Geneva 9
Madrid 11	Madrid 8	Madrid 6	Moscow 10
Amsterdam 12	Milan 11	Amsterdam 7	Rome 18
Frankfurt 14	Brussels 19	Stockholm 9	Copenhagen 24
Brussels 15	Istanbul 21	Copenhagen 10	
Zurich 19	Amsterdam 24	Barcelona 13	
	Warsaw 25	Zurich 14	
		Vienna 15	
		Oslo 16	
		Prague 17	
		Brussels 19	
		Budapest 21	
		Warsaw 22	
		Lisbon 23	

*Numbers refer to world rankings.

The connectedness of European cities varies according to the types of connectivities. Table 2.4 indicates the number of European cities at the highest ranks in different types of connections. European cities accumulate in media connectivities and research network links. It must be noted that most of the cities are determined as outer wannabes. It is highly surprising that German cities (Berlin is not in the list at all) share the same tendency, and Scandinavian cities are even at the higher ranks. Although not in the list, according to Broadband analysis carried by Point Topic (2006), the number of DSL subscribers in Scandinavian cities is more than any other country. Every 38.3 lines out of 100 is connected to DSL. Finland is followed by France, Taiwan and Japan. Turkey stays at the lower ranks by 11-12% of penetration where Finland's penetration is 40% (Tübider 2006, WEB_3). This shows that the connectedness is increasing throughout the wannabes. The numbers of connectivities of NGO's determine the interlocking of cities to other cities in terms of flows (Taylor et al 2002, Taylor 2003). This column represents the same findings of Table 2.3, as there are only six cities

successful in interlocking themselves into the global circuits; the rest are not qualified enough, yet.

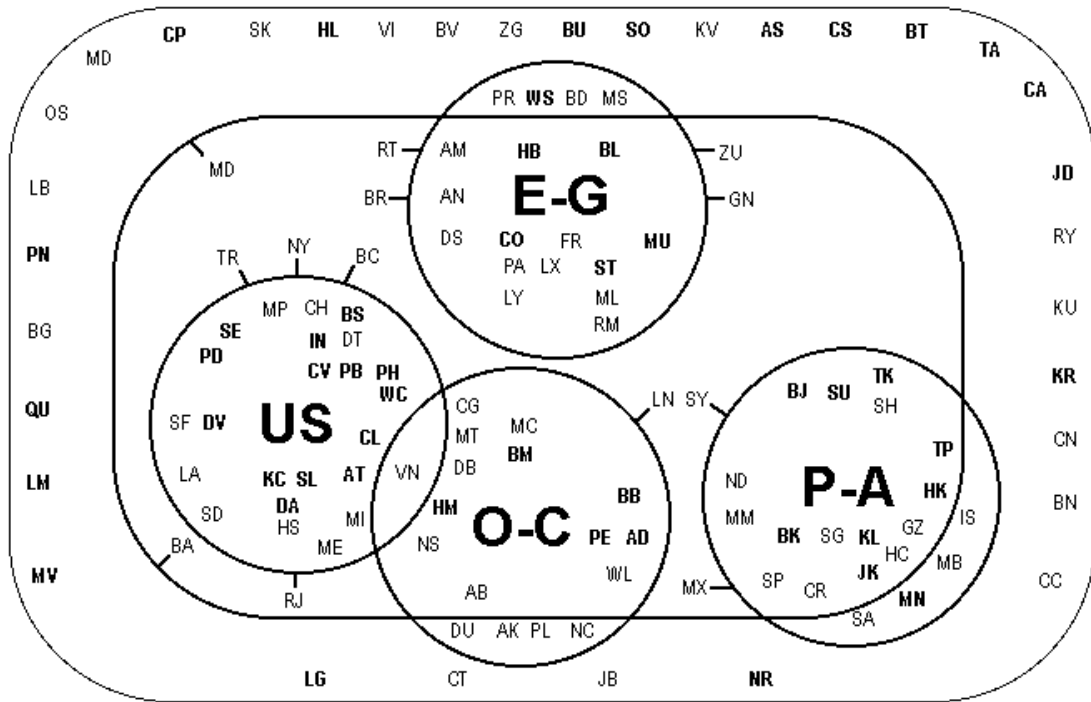


Figure 2.2. Primary Structure of the World City Network¹⁵.
(Source: Taylor et al. 2002, GaWC Study Group Data Sets)

¹⁵ Codes for the cities are as follows:

AB Abu Dubai; AD Adelaide; AK Auckland; AM Amsterdam; AS Athens; AT Atlanta; AN Antwerp; BA Buenos Aires; BB Brisbane; BC Barcelona; BD Budapest; BG Bogota; BJ Beijing; BK Bangkok; BL Berlin; BM Birmingham; BN Bangalore; BR Brussels; BS Boston; BT Beirut; BU Bucharest; BV Bratislava; CA Cairo; CC Calcutta; CG Calgary; CH Chicago; CL Charlotte; CN Chennai; CO Cologne; CP Copenhagen; CR Caracas; CS Casablanca; CT Cape Town; CV Cleveland; DA Dallas; DB Dublin; DS Dusseldorf; DT Detroit; DU Dubai; DV Denver; FR Frankfurt; GN Geneva; GZ Guangzhou; HB Hamburg; HC Ho Chi Minh City; HK Hong Kong; HL Helsinki; HM Hamilton(Bermuda); HS Houston; IN Indianapolis; IS Istanbul; JB Johannesburg; JD Jeddah; JK Jakarta; KC Kansas City; KL Kuala Lumpur; KR Karachi; KU Kuwait; KV Kiev; LA Los Angeles; LB Lisbon; LG Lagos; LM Lima; LN London; LX Luxembourg; LY Lyons; MB Mumbai; MC Manchester; MD Madrid; ME Melbourne; MI Miami; ML Milan; MM Manama; MN Manila; MP Minneapolis; MS Moscow; MT Montreal; MU Munich; MV Montevideo; MX Mexico City; NC Nicosia; ND New Delhi; NR Nairobi; NS Nassau; NY New York; OS Oslo; PA Paris; PB Pittsburg; PD Portland; PE Perth; PH Philadelphia; PN Panama City; PR Prague; QU Quito; RJ Rio de Janeiro; RM Rome; RT Rotterdam; RY Riyadh; SA Santiago; SD San Diego; SE Seattle; SF San Francisco; SG Singapore; SH Shanghai; SK Stockholm; SL St Louis; SO Sofia; SP Sao Paulo; ST Stuttgart; SU Seoul; SY Sydney; TA Tel Aviv; TP Taipei; TR Toronto; VI Vienna; VN Vancouver; WC Washington DC; WL Wellington; WS Warsaw; ZG Zagreb; ZU Zurich

The examples of globalized/globalizing (Wannabes¹⁶) European cities are important for this study in understanding the globalization process in various cities and the differences between Istanbul and the other European countries as Turkey is in the process of uniting into European Union. Reterritorialisation and rescaling of governance are important factors for the flow of capital. One of the major arguments related with globalization is the deregulation of governments to ease capital flow with *Laissez-faire* kind of policies. Hence Short et al. (2000) argues that the nation-state is not death, rather it re-organizes its relations in global and local scales as to enhance national institutions for capital flow in many levels. There is a process of *reterritorialisation* within the European Union (McNeill 1999: 143). As the European Union gets bigger in its territory, it creates new urban hierarchies in different types of flows. Indeed, the European Union diminishes the cultural differences in governance to a simplified level, making way to a competitive city integration to the markets; “the bulk of territorial authority is scaled down to the urban regional level, a process allowed, facilitated, and capsule in the ultimate spatial sovereignty of the national state” (Short et al. 2000: 324).

The European cities display many different patterns of globalization as their traditions, morphology, cultural inheritance and governance differ from the triad of globalization. With the *triad of globalization* as much as regarding to New York, London and Tokyo, it should also be understood the following second rank globalized cities besides those three. These are such as: Los Angeles, Paris, Chicago, Frankfurt, considering alpha ranked cities as well as some of beta cities. Cities of the modernity age under globalization no longer display a closed national economic system of the *Fordist city* of mass production. Their primary target is to attract entrepreneurs for investment and capital accumulation. The triad of globalization, on the other hand, stands as the central and domain cities for new economic transformation of the world. European cities such as Milan, Paris and Frankfurt constitute a sub-node, not a domain in the hierarchy of world cities. They may form “a central node in national

¹⁶ Wannabe cities are studied in two groups as inner wannabees and outer wannabees. Wannabe world cities are of major importance for their territory, hinterland and/or nation, but still have issues to work on to confront the necessities of a “global city”. Outer wannabes are generally the third world cities, eastern Europe which is on the periphery of Western Europe, far south (Mediterranean and Iberian countries) and far north (Scandinavian countries). Inner wannabes are minor US countries and second cities in Western Europe (Manchester, Birmingham, Barcelona, Lyons, Rome, Notterdam), and second cities in associated countries (Montreal, Melbourne, Cape Town, Rio de Janeiro, Abu Dhabi). Taylor et al. (2002) argues that for these cities to be globalized, development in urban space and regulations and changes in the natural hierarchies that exist today must take place (See Taylor et al. 2002, Stanley 2003, Short et al. 2000 for further elaboration on wannabees, city networks and gateway cities).

administrative, financial, commercial and consumption networks, but not the industrial power-house which underpins these networks” (Amin and Thrift 1995: 91) since the industrial production is splintered.

Europe has a different tradition of governance and city-state history. Throughout the history, Europe has always inherited a collective memory of the revival of city-state (Castells 1996). “Within the circumstances created by multinational economic blocs, such as EU and NAFTA, urban areas have experienced dramatic shifts in their vertical and horizontal relations. Political-economical processes are considered to materialize on territories” (Gedikli 2001). European Union is rescaling its governance as nation-states. This rescaling and reterritorialization tend to simplify the “bulk of territorial authority ... to the urban region level, a process allowed, facilitated, and encapsulated in the ultimate spatial sovereignty of the national state” (Short et al. 2000, 330). Thus, the territorial system of the European cities can be interpreted as either EU or nation-state (Taylor 2003).

The European governance is based on social-democratic ideology which performs as an *urban entrepreneurialism* and participation of the public in every level of governance (McNeill 1999: 144). This participation is necessarily an economic one but cultural interventions or alliances between the European cities such as establishing accomplice of cultural inheritance such as Bilboa Guggenheim Museum in Basque-Spain or Expo dating back to 1851 World Fair of London Exposition. Hence, the globalization processes of European cities refer not necessarily to the economic globalization but to cultural globalization. Nonetheless, globalization is inevitable as it forces new market rules of neo-liberalization, embedded neo-liberalization, neo-mercantilism and pan-European social democracy (McNeill 1999).

Another important point in the globalization process of the European cities is the *homogenization* thesis (McNeill 1999). According to this thesis, with the flow of goods over borders, no more variances exist amongst the cities’ spatial organizations. They are standardized and look alike, hence they lose their characteristics by global products or processes. “The new logic of production, employment and distribution has led to changes in land-use pattern and social courses” (See Gedikli 2001). For example following the American process, with the sub-urbanization of central functions and shopping malls, edge cities have lost the historical and traditional life style which means losing the local values of the communities that made them who they are at the first place. Nevertheless, there are some arguments related with the globalization and anti-

localization process that they may expand the urban activity and product diversity. According to Short et.al. (2000: 325) “globalization is a tsunami of change wiping out the uniqueness of localities. However ... city is not simply a passive recipient of global process”. In fact, there is an interaction between the local and the global. This is why the globalization process differs in each city; according to its localities.

Although globalization seems to be a strong force on diminishing the cultural differences, the emphasis must be on the interpretation of globalization for different localities. Thus, in examining opportunities of glocalization, American experience is not necessarily adequate for the European cities. The old models are being replaced with the new ones but the European cities still advocate themselves apart from the New York-centric approach. Many urban theories considering globalization may be examined but the point is that most of these studies are based on American Ecol and may not necessarily be valid for the European cities.

The process to be followed may be putting forward the state-market with global-local dynamics to avoid the Anglo-American dependency (Taylor 2001). The globalization is based on connections and linkages¹⁷ between cities and states crossing over the borders.

(Important as is the role of national states in setting the institutional and policy parameters of all developments within their borders, it is the governance of their cities or, more accurately, of major city-centered regions, that in the final analysis, will be decisive for how well they perform, not only in the global economy geared to capital accumulation but also in providing for the life and livelihood of their inhabitants (Friedmann 1998).

Social, economical and political decisions are no more nation-bordered and the linkages are of vital. Although Europe is used to unification of borders passim its continental history, this time, connection refers to the spaces of flows. The interaction between the spaces of places and spaces of flows is intermediate in examining these connections.

1957 is the most portentous year of the mid-twentieth century. Its dual spatial legacy is first, the supra-national European Union from the Treaty of Rome and its creation of a European Economic Community, and second the trans-national global financial system from the City of London invention of the Eurodollar market. Both are critical components

¹⁷ With the term *linkages* any kind of relationships in-between any two city is referred. They are not only connections (meaning virtual connections by IT), but also political agreements, commercial agreements, unification of the borders as in European Union, etc.

of contemporary globalization but with very different geographies. The former is a coalition of states and hence is essentially territorialist in nature, the latter is a linking of markets and hence is essentially about connections (Taylor 2001).

European cities are important in the world city hierarchy as they have a potential for becoming globalizing cities with their many metropolitan centers. With the penetration of information technologies, the flow of information across borders accelerated the globalization process of the cities. According to Castells (2000b), the space of flows overcomes the space of places of the old world order (before globalization gained significance). Actually, there had been a world city order and process before the recent contemporary globalization. This process is only accelerated by the information technologies but not completely created by it.

Since the 1970s' the globalized cities have been evaluated according to the embeddedness of the trans-national firms into the urban space. The emphasis should be on the services provided by the firms rather than their numbers. Recently, under the contemporary globalization process, the world cities are being ranked by the advanced service sector they enclose within (Taylor 2001). But not necessarily any city in the hierarchy has to get in contact with the above one. For instance, if somebody from Istanbul needs an advanced service from any firm in New York having headquarters in Germany, he does not have to contact with the German headquarters; he can directly contact with the main headquarters in New York. Hence, the hinterland concept is deteriorated with the globalization. Thus, all the globalized cities, which provide the adequate service, become a *hinterworld* (Taylor 2001) itself which is not necessarily a European city for another European city. In this new phase of globalization, they encounter with *interurban competition* (Gedikli 2001). In that case, the first ranked cities (alpha cities) stick out as the main advanced service providers, since they all comprise the mentioned functions.

However, this time, the hierarchy may be followed by the firms using the regional headquarters in any ranked cities (alpha, beta or gamma cities). According to researches conducted by GaWC and Taylor (2001),

In the firms which have offices with clear regional responsibilities only five world cities stand out: London (for Europe, Middle East, Africa), New York (Americas, North America), Hong Kong (East Asia), Singapore (south East Asia), and Miami (Latin America). Note that London (for Middle East and Africa) and Miami are extramural regional centres (Taylor 2001).

Another important factor concerning the linkages between the world cities is that, if any two cities, embellished with the same service sectors of equivalent intensity, are accepted to be closer in distance, they form *corporate service distances* (Taylor 2001). According to this new thesis, a new world map of new regions and hierarchy between them are based on corporate service space.

2.3. Globalization and Istanbul

Amongst European cities, the Western Europe region can be seen clearly from the figure. London and Paris may be considered as the hinterworlds of the region. However, Istanbul and Moscow, as the two extra-ordinary European cities, fall behind Pacific Asia and USA region apart from the other western or eastern European cities as Rome is closer to the western region.

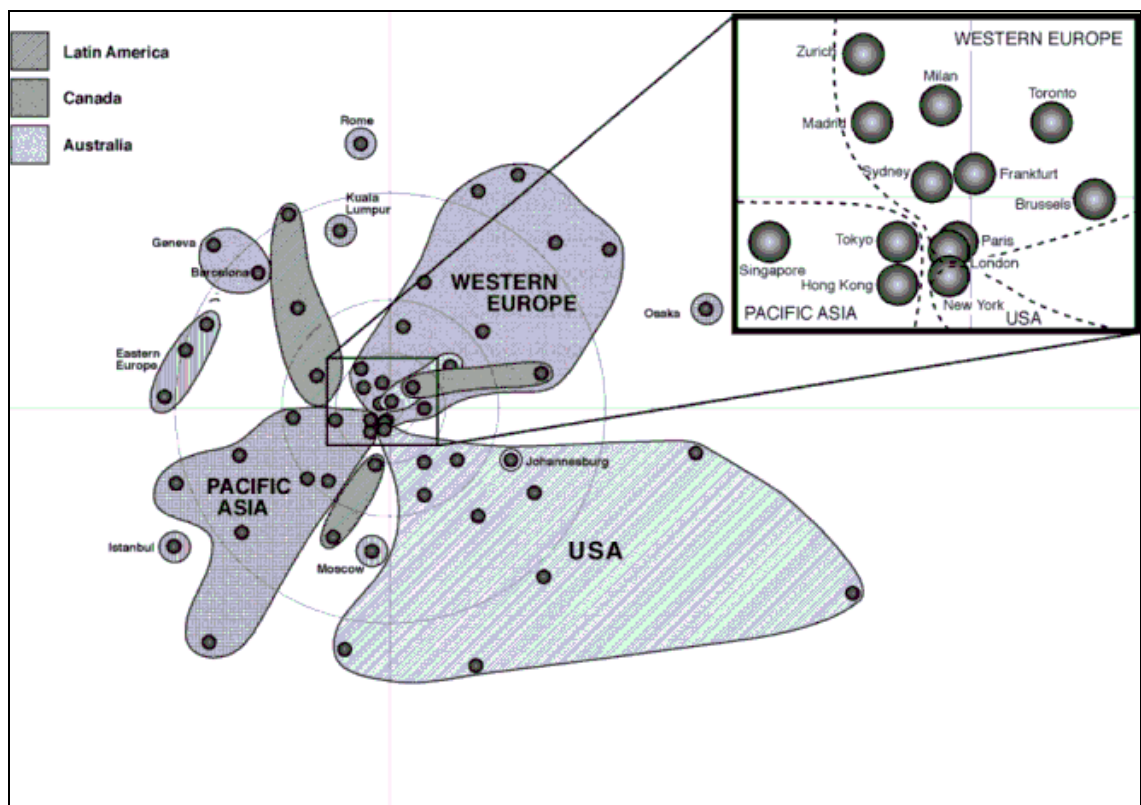


Figure 2.3. Corporate Service Space: A New World Map of (55) Cities
(Source: Taylor 2001)

Throughout the history, Istanbul has always been significant amongst the other Turkish cities. Being a capital for centuries to Roman and Ottoman Empires', the city has always been a command and control center. Following the establishment of the Republic of Turkey and despite the fact that Ankara was chosen as the capital city, it still sustains its central function. Recently, with the globalization process, Istanbul had gained a new function amongst other world cities, but this time, as a global command metropolitan area. The new development modes are emerging in the areas of service sectors attracting global capital and investments (Karaman and Baycan Levent 2001: 1).

In the GaWC Inventory of the world cities, Istanbul is classified as a gamma world city and it fulfills the requirements of a globalized city's advanced service needs and ranked as one (Istanbul as a European City was elaborated in the beginning of Chapter 2). According to another research of ranking the world cities by location of headquarters amongst 50 top-ranked cities, Istanbul is ranked as 24th with 18 headquarters driven out of 100 corporations (Godfrey and Zhou 1999) (See Table 2.5). Stanley (2003) argues that although Istanbul displays strong evidence of "world cities", it still remains at the outer position in terms of linkages with other European cities, as shown in the drawing based on the findings of the GaWC Study Group (See Figure 2.3, Istanbul stays relatively out of the service distances side than the European cities).

Table 2.5. The 50 Top-Ranked Cities, by Locations of Headquarters and First-Level Subsidiaries, among the World's 100 Largest Corporations¹⁸ (Source: Godfrey and Zhou 1999)

Rank	Metropolitan Area, Country	Total Number of headquarters and first-level subsidiaries
1	New York, USA	69
2	Tokyo, Japan	66
3	London, UK	50
4	Hong Kong, China	40
5	Singapore	35
6	Milan, Italy	30
7	Paris, France	29
8	Mexico City, Mexico	28
8	Madrid, Spain	28

(Cont. on next page)

¹⁸ Except for the United States, corporate headquarters locations are listed by metropolitan areas; for the United States, by Consolidated Metropolitan Statistical Areas (CMSAs) are used. When the MNC headquarters and the first level subsidiaries locate in the same city, both are counted. When multiple first level subsidiaries locate in the same city, however, only one is counted.

Table 2.5. cont.

Rank	Metropolitan Area, Country	Total Number of headquarters and first-level subsidiaries
10	Seoul, South Korea	26
11	Sao Paulo, Brazil	25
11	Zurich, Switzerland	25
13	Osaka, Japan	24
14	Beijing, China	23
15	Bangkok, Thailand	22
15	Brussels, Belgium	22
15	Chicago, USA	22
15	Frankfurt, Germany	22
15	Sydney, Australia	22
20	San Francisco, USA	21
21	Los Angeles, USA	20
21	Taipei, Taiwan	20
23	Buenos Aires, Argentina	19
24	Amsterdam, Netherlands	18
24	Caracas, Venezuela	18
24	Istanbul, Turkey	18
24	Toronto, Canada	18
28	Dusseldorf, Germany	17
28	Shanghai, China	17
30	Vienna, Austria	16
31	Bogotá, Colombia	15
31	Jakarta, Indonesia	15
31	Manila, Philippines	15
34	Berlin, Germany	14
34	Houston, USA	14
34	Melbourne, Australia	14
34	Munich, Germany	14
38	Panama City, Panama	13
38	Santiago, Chile	13
40	Dublin, Ireland	12
40	Lisbon, Portugal	12
42	Athens, Greece	11
42	Dallas, USA	11
42	Rome, Italy	11
45	Barcelona, Spain	10
45	Budapest, Hungary	10
45	Guangzhou, China	10
45	Hamburg, Germany	10
45	Kuala Lumpur, Malaysia	10
45	Rio de Janeiro, Brazil	10

The dissolution of the Eastern Bloc in the geography where Turkey is located and Istanbul as the economic capital, may act as a hinterworld for the Balkans and Blacksea region and also Caucasian, Middle East and North Africa, and stands a chance in the globalization process (Sönmez 1995). Especially following the 1980s, with the neo-liberalization policies, Istanbul, as the producer of 22% of the national income, transformed to be a globalized city. The first spatial reflections of the era took place in Istanbul; as the center of capital in Turkey. The majority of foreign direct investments, the cultural, financial, commercial, tourism, services (especially the advanced service sector) and even the industry take place in this biggest metropolitan area of Turkey. The GDP (Gross Domestic Product) of Istanbul is 21.3% (TURKSTAT 2006). As seen from Figure 2.4, Istanbul's distribution of GDP had always been far-much from the other first-two metropolitan areas. Although there had been fluctuations in the GDP distribution, Istanbul's share was never under 20%.

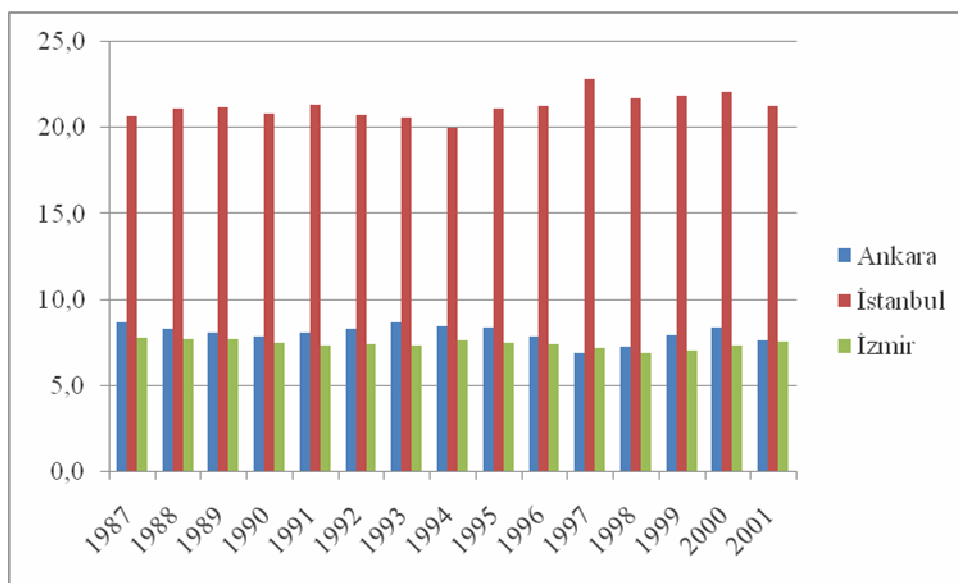


Figure 2.4. GDP distribution percentages for the three major cities of Turkey
(Source: TURKSTAT 2000)

Starting from the 1980s onwards, Turkey has transformed its protectionist economic policies to a market-oriented and import-substitution growth strategy. With these neo-liberal policies, foreign investment had been driven to Turkey. Multinational corporations and foreign entrepreneurs established branches and/or headquarters of their firms and/or formed partnerships. According to a research carried by Tokatlı and Erkip in

1998 “foreign investments in producer services in Turkey indicated that 95% of the producer service firms receiving foreign capital were established after 1984 and almost 75% of them were located in Istanbul” (Erkip 2000: 371).

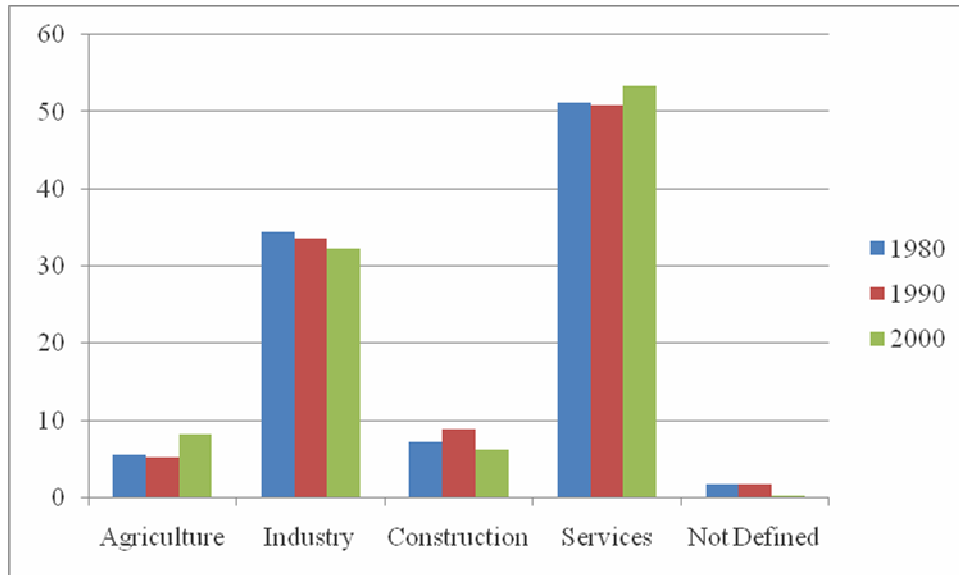
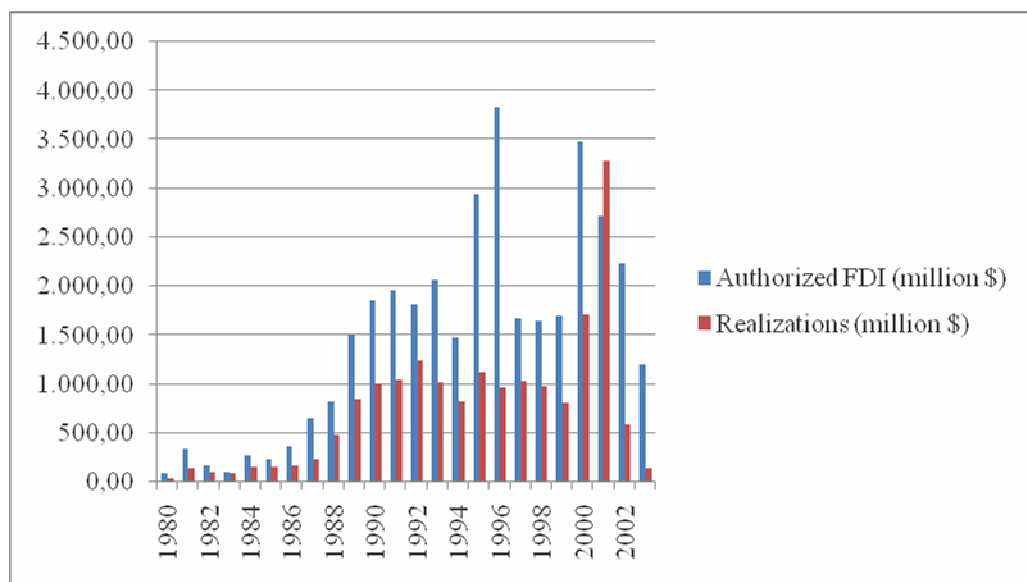


Figure 2.5. The Sectoral Shares in Istanbul
(Source: TURKSTAT, 2000)

The industrial sector, which has been the main job provider of Istanbul, had a fall down starting from the 1970s. As seen in Figure 2.5, industry sector continues this tendency. On the other hand, service sector increases between 1990-2000 whilst, there is a slight decrease during 1980-1990. The industrial compensation policies and the appearance of new industrial areas such as Kocaeli and Tekirdağ are among the reasons for this anti-industrialization process of Istanbul. Furthermore, the land rents raised in the central Istanbul excessively, so the industrial establishments started to splinter. With the rise in the rents in Mecidiyeköy or Levent, the industrial facilities swept of the built environment and were carried to suburbs or even to other cities by leaving the administrative center behind. These administrative centers started to construct new office buildings and plazas. Also, new companies of local or multinational firms started to form new spatial organizations at the same axis of Zincirlikuyu-Mecidiyeköy-Maslak (See Chapter 4). The end result is that Istanbul CBD along this axis became an administrative center for the headquarters of local or international corporations.

The foreign investment in Turkey until the 1980s was directed to manufacturing. However, within the following years this tendency shifted immensely towards the service sector with the neo-liberalization policies. In 1980, the number of firms with foreign direct investment was 78. This number grew almost 23 times bigger in 1990; 1856 and tripled almost in a decade to 4950 in 1999 (Karaman and Baycan Levent, 2001) and by June 2003 the number has reached to 6511 (Undersecretariat of Treasury, 2006). However, this is not a continuous increasing value for there had been fluctuations of investments and realization which can be observed from Figure 2.6). The authorized foreign direct investment which was 97 million dollars in 1980, increased to 120799 million dollars by June 2003, although there had been important fluctuations both in authorizations and in realizations (See Figure 2.6). In 1996, 81% of the foreign investment was oriented in service sector and there were more than 10000 NGOs in Istanbul by 1997 (See Erkip 2000). There are 14511 firms active which were supported with foreign direct investment until the end of October 2006. They are ordered as follows; retail, manufacturing (especially textile), rental and business services. Also the flows of capital are mainly from the European Union countries with 93,1% in October 2006 which decreased from 98,5% in 2005. (Treasury FDI Data Bulletin 2006).

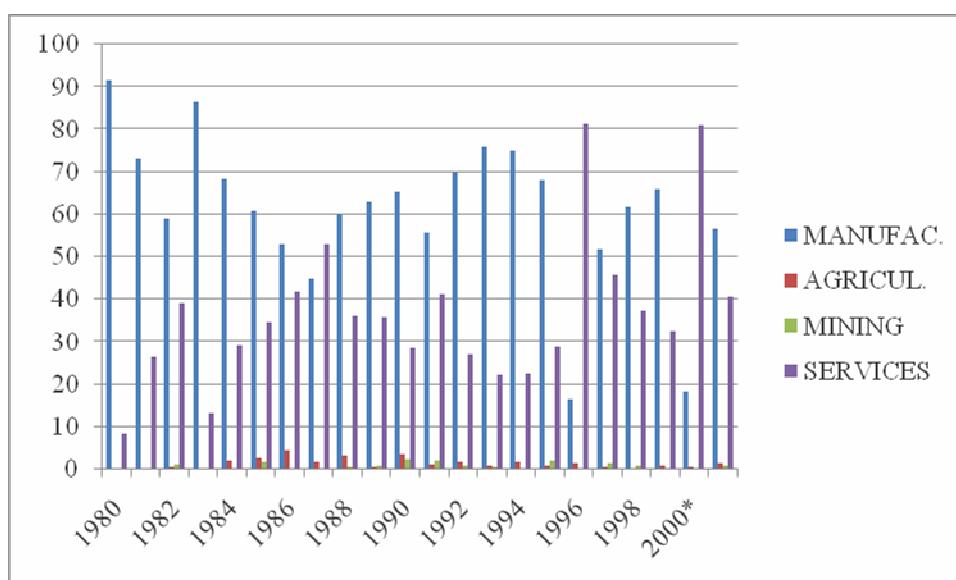


*Note that 2003 numbers are available for the first 6 months, up to June.

Figure 2.6. Authorized and Realizations of Foreign Direct Investments between 1980 and 2002
(Source: Undersecretariat of Treasury, 2000)

It is possible to follow the sectoral distribution of foreign direct investments during the two decades starting from 1980 to 2000 from By the year 2000, the foreign investment firms throughout Turkey were distributed as follows (Undersecretariat of Treasury, 2000);

- Manufacturing 56,70%
- Services 40,80%
- Agriculture 1,48%
- Mining 0,30%



*Note that 2003 numbers are available for the first 6 months, up to June.

Figure 2.7. Sectoral Distribution of FDI, 1980-2000.

(Source: Undersecretariat of Treasury, 2000)

Istanbul's shares to Gross Domestic Product in financial institutions, business and personal services, bank services, social services, non-profit private institutions are notable (See Figure 2.8). While the input of Istanbul to GDP decreases in agriculture sector, it can be observed that, all the other sectors provide important inputs in the total shares. It must be noted that the industrial inputs also decreased. This chart also imply that most of the population in Istanbul is working in non-agricultural facilities and the industrial functions are splintering.

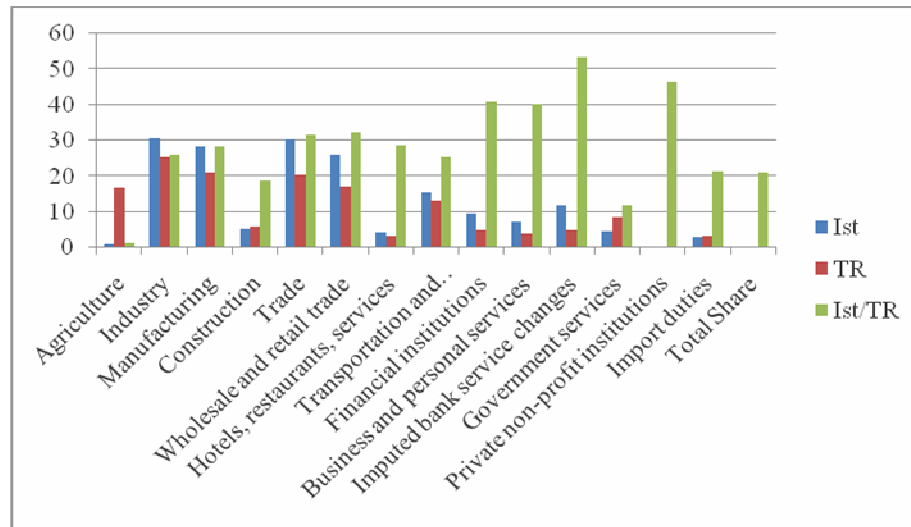


Figure 2.8. GDP by Economic Activity in 1996.

(Source: TURKSTAT 1996, Karaman and Baycan Levent 2001)

The most developed urban area in Turkey is Istanbul with urban population of %91, followed by Ankara; %88, and Izmir; %81 (TURKSTAT 2000). Istanbul has also the third fastest growing population rate. During the decade between 1980-1990, Istanbul faced an accelerated migration process. As seen in Table 2.6, by 1990, every 13 people out of 100 were living in Istanbul, and every 11 economically active people out of 100 were also working in Istanbul (Sönmez 1995: 15).

Istanbul provides the 21.3% of the national economical active population in industry, commerce, transportation and services when agricultural activities are parted, since 54% of Turkish economically active citizens work in agriculture (Sönmez 1995:15). A rise in the participation to economic activity in Istanbul during 1980-1990 decade can be observed on Table 2.7, although the participation rate in general, stay almost the same in the statistics referring to Turkey. It shows that the economically active population rise. As well as the unemployed people, the non-paid house workers (such as housewives, young workers of 12-19) started to work during this decade.

Table 2.6. Population, Active Population and Participation in Economic Activities
(Source: Sönmez 1995: 15, TURKSTAT Census Population Istanbul Statistics 2000)

Years	Active Population (Thousand)	Ist/Tr %	Total Population (Thousand)	Ist/Tr %	Participation Rate ‰
Istanbul					
1970	1,086		3,019	8,5	Not determined
1980	1,564	8,4	4,742	10,6	348
1990	2,540	10,8	7,309	12,9	370
2000	3,471	13,3	10,019	14,8	Not determined
Turkey					
1970	Not determined	-	35,605		Not determined
1980	18,522		44,737		429
1990	23,351		56,473		437
2000	25,997		67,804		Not determined

Transnational migration also took place. The outer-borns were 260,000 in 1980. This number increased to 670,000 in 1990. There are also of-the-record emigrants whom stay in Turkey with tourist visas of 45 days or so (Sönmez 1995).

Most of the emigrants work in industry. Whilst the industrial functions in Istanbul slightly rose, compared to Turkey in general, it regressed within the national economy during 1980-1990 decade. In 1980, every 27 people out of 100 were working in the industrial sector in Istanbul. In 1990 this number has increased to 30. But although the rate of industrial activities in Istanbul rose throughout the nation, as a sector, it regressed in Istanbul from 33,6 to 32,8 (Sönmez 1995: 17).

Although the ratio of Istanbul rose in population and national income, industry had the least input in it. The evolution had not been in the industry but in other sectors. The main accelerated sectors of Istanbul during this decade are commerce, tourism and finance.

The shifts in the economic functions from industry to service sector and the efforts to join the globalized market economy also transform the urban space in Istanbul. Whilst the industrial facilities move out of the city to elsewhere, the service sector forms new city regions or CBDs within the built environment (See Chapter 4 for further elaboration). The most common argument regarding the new spatial formations is the homogenization thesis (See p. 34).

The wind of globalization is blowing with the same effects also in Istanbul, it is extending vertically, high-rising, horizontal depths are establishing with the villa estate sites, creating new worlds, hindering the cohabitation of the rich and poor, reducing the common denominator, creating not face-to-face but back-to-back special worlds, increasing the urban tension, loosing the public, blunting the egalitarian and totalitarian spatial planning that respects the common good, transforms into a piecemeal designed metropolis, totalitarian fabric is corrupting, pieces are prepared as “the global reflection zones”. Environmental, historical and cultural values are being neglected. The north axis of the city is being snapped off its fabric¹⁹ ... (Hacısalıhoğlu 2001, 86-87)

The spatial reflection of globalization in Istanbul can be observed through Beşiktaş-Maslak, Ataşehir-Kozyatağı and Altunizade-Bağlarbaşı axes. Especially with the incremental planning schema, Maslak has transformed into the new CBD of Istanbul with its multinational corporate headquarters, skyscrapers, office towers, hotels, shopping malls, luxurious residence sites, etc... With this piecemeal planning the problems of the infrastructure as traffic congestion, lack of public spaces, etc. increases; as well as forcing the polarization of the communities of its rich ghettos and poor ghettos, on the other hand (Hacısalıhoğlu 2001). At the other face of globalization process of Istanbul, the polarization of social classes took place. With the decentralization of industrial job demand, the unqualified workers forced themselves to marginal jobs²⁰.

The sectoral shifts in industrial sector in Turkey took place during 1980-1990 decade. The first group that has improved in globalization process is the textile sector. In 1983, 35% of the nation-wide textile workers (70,388,000 people) were employed in Istanbul this number increased to 40% (112,381,000 people) in 1990 (Sönmez 1995, 18). Many small and large scale textile firms were established during this period.

The second sector that has decreased within this period was the metal industry. The metal industry varies from production of metal goods to automobile sub-sector, processing of metal and production of machines. Whilst in 1980, every 1 person out of 4 economically active people was working in this sector, this number has decreased to

¹⁹ Translated by the writer.

²⁰ Marginal jobs are carried on by the people who live in poor neighbourhoods and squatter settlements. These jobs do not need to be qualified and they are not economically registered jobs, in other words, off-the-record jobs. . Some of them are shoe-dyers, street vendors, janitors, cleaning ladies, etc...

every 1 person out of 5, in 1990 (Sönmez 1995: 19). The proportional change with the other industrial sectors can be seen in Table 2.7.

Table 2.7. Employment in Manufacturing Industry
(Source: Sönmez 1995: 19)

	1990	%	1980	%
Food	46,669	5,6	48,011	9,1
Weaving	394,115	47,2	166,839	31,7
Forestry	67,429	8,0	43,860	8,7
Paper	36,620	4,4	20,878	4,0
Chemistry	48,317	5,7	43,045	8,0
Stone	27,673	3,3	23,645	4,5
Metal	14,191	1,7	17,120	3,2
Metal Goods	160,759	19,2	137,629	26,2
Other	39,115	4,7	25,463	4,7
Total Industries	834,888	32,8	526,490	33,6
Total	2539,963		1564,000	

The neo-liberalization and new economic policies also encountered the commerce and tourism sectors. During this decade, tourism employees raised to 74% in Turkey. It is known that, tourism facilities also help the commercial activities, especially the retail sales. Since Istanbul is a tourism center as well as a transit node, the commercial activities were enhanced by tourism facilities. In 1990, every 1 person out of 5 was employed in commercial activities which are dependent on tourism such as hotels, restaurants, or entertainment facilities (Sönmez 1995: 19). 38% of the wholesale functions and 44% of the wholesale employees were settled in Istanbul.

The communication employees, who provide the flow of information needed for the transfer of labor force, knowledge, or production of goods (meaning different types of capital), compose 60% of the total 62% of general employment rate in the province (Sönmez 1995: 19). But the land transportation, which used to be very important during the 1960s for Istanbul as it was the main production and delivery center due to the industrial sector, decreased following the de-industrialization policies of the 1970s (See Table 2.8).

The main sector that rose following the 1980s is the finance sector. Finance is one of the advanced service sector which is inevitable for the accumulation of globally flowing capital. In 1980, 83,000 people were working in finance sector covering the

5.23% of the total economically active people in Istanbul. Here is the big turnover; in 1990 this number increased to 180,000 people which count 7%. This means that there has been a 117% of increase in the number of finance sector employee in Istanbul only in one decade. In 1980, every 28 people working in finance sector out of 100, were accommodated in Istanbul. This number increased to every 33 employee in 1990 (Sönmez 1995) (See Table 2.8).

The liberalization policies of the 1980's open economy to foreign entrepreneurs influenced finance sector deeply. With the increasing commercial activities in global markets, the banking and finance functions accelerated as well as insurance and stock exchange markets. The automation and the use of IT in banking services also accelerated the development of the sector and the connectivity to the global markets.

Table 2.8. Sectors and Economically Active Population: Changes During 1980-1990
(Sönmez 1995: 21)

Years	ISTANBUL		TURKEY	
	1980	1990	1980	1990
Total (Thousand)	1,564	2,540	18,522	23,381
Agriculture (%)	5,4	5,1	60,4	53,6
Mining	0,3	0,4	0,7	0,5
Manufacturing	33,6	32,9	10,7	11,8
Electricity-Gas	0,3	0,4	1,7	0,3
Construction	7	9	4,1	4,4
Commerce	18,0	19,2	5,8	7,8
Transportation	6,7	6,4	2,8	3,3
Finance	5,2	7,0	1,6	2,3
Public-Works	21,3	18,0	13,0	13,8
Other	1,7	1,6	0,9	0,6

The labor-intensive service sectors did not increase as expected during 1980-1990. Whilst the general deployment rate of the province is 62%, the labor-intensive services increased only 36%. The public-worker did not rise as it should have been during this decade. While the population was increasing, the employment in public-works did not alter accordingly. In 1980, 1 public-worker was serving to 19 people however in 1990, 1 public worker was serving to 24 people. Another reason behind this

is the decrease of public-workers in the contraction of governments (Sönmez 1995). (See Table 2.9).

Istanbul is also an attractive point for the qualified labor-force. With its increasing job opportunities in the well-paid service sectors, Istanbul is a destination place for brain-drain²¹ also. Since the most of the high-paid jobs settle in Istanbul, it draws the white-collar workers to the urban space. In 1990, it was estimated that the 37% of the university graduates, were working in public services. The following sector, as expected, is the finance sector with the rate of 24%. 15% was active in industry and 14% in commerce sectors (Sönmez 1995: 21). (See Table 2.9)

This trend of hollowization²² increased the wage labor. Whilst in 1990, the ratio of the wage earners was 75% in Istanbul whilst this number was only 40% throughout the nation (Sönmez 1995, 20). Especially the upswing of industry and commerce sectors indicates that the need for the salaried employees were on the uprise because of the large-scaled establishments.

Table 2.9. Wage Labor Distribution in 1990(%)
(Source: Sönmez 1995: 21)

	Istanbul	Turkey
Industry	84	76
Commerce	50	43
Transportation	64	59
Service	91	93

Istanbul is the prime city as the job provider in Turkey as the private sector is much more developed within. The job providers in Istanbul were more than 3 times in Turkey. In 1990, while the job providers were 13 out of 1000 across the country, in Istanbul there were 50 job providers out of 1000, almost three times bigger than the national rate (Sönmez 1995: 21). The ground beneath this development is that, Istanbul also became an administration center with the local holdings such as Koç Holding, Sabancı Holding... etc. and multinational corporations and establishments.

²¹ Brain-drain is a term used for the migration of high skilled labor-force.

²² Hollowization is also used as synonym for brain-drain.

According to the last 20 years' data, small entrepreneurs were also lessened in number. The ratio which was 20% in 1970 fell down to 16% in 1990 (Sönmez 1995: 21). This indicates that some of the job providers which are small-scale entrepreneurs, quit their businesses and became waged workers. Actually, large-scale entrepreneurs comprise important value for Istanbul. The administrative centers for these kinds of establishments ascended after 1980s with the neo-liberalization in the national economic policies.

The articulation to new economical system indicates itself in the general trends of the economic activities. The share of Istanbul is rising both in population and economically active population. Recently, more people started working in Istanbul including immigrants, brain drain, and the tendency of the non-productive population to work.

However, the wage labor is no longer able to find jobs in the industry sector. Large-scale establishments move their production facilities out of Istanbul. This process causes immigrants to swing sharply to marginal works causing polarization of communities. The polarization sharpens with the new high-wage executives and white-collar employees and the labor-oriented work-force whilst the skilled-blue-collar workers incline to service sector such as finance, insurance, commerce, public works, import-export facilities, etc. Hence, the small-entrepreneurship is declining and becoming waged worker class.

The crisis starting from the 1970s pushed Turkey to supra-national finance markets. The debts of the government and euro-dollar and fuel-dollar markets, and the accumulation of capital from developed countries add volume and motion to the finance markets of Turkey. In this situation, after the war period, the nation-states preferred to alienate some of their privacies to the free markets (Tekeli and İlkin 2000). The automation of the banking and finance sector and the increase of the new information technologies accelerated this articulation to globalized market forces. Istanbul has experienced inevitable urban space transformations with this process.

As the biggest urban area of Turkey, Istanbul performs as world city throughout the other globalized cities in terms of urban area population, agglomerations of local and foreign firms and investments, financial flows, advanced services etc. Istanbul produces 26% of the GDP (Karaman and Baycan Levent 2001). The GIMM²³ as the administrative organization, perform in coordinating, organizing and implementing the

²³ GIMM: Greater Istanbul Metropolitan Municipality.

master plans between the district municipalities, as well as private-public relations according to its powers. Therefore GIMM organized a Metropolitan Planning and Urban Design Center employing more than 350 city planners, architects and urban designers to prepare the master plans of Istanbul under globalizing process. The contemporary population of Istanbul is estimated as 12 million and still growing in number. By 2020, population of Istanbul is estimated to grow to 22 million. However, the plans were prepared for 16 million. The aim is to stop the migration to Istanbul when it reaches 16 million for urban sustainability (IMP 2006). The Mayor of GIMM proposes Istanbul to have affects on regional and national scales and even on European countries as a globalized city (Topbaş 2006).

The growth of Istanbul as the major capital center of Turkey leads to underdevelopment of other cities within its hinterland. It risks the urban sustainability and the excessive costs of production and services on the other hand. To eliminate these negative effects, the center focuses on creating and enforcing high quality services (especially financial services) in global scale, increasing competitiveness amongst other globalized cities in means of commercial production and identity preservation in order to sustain a ‘Cultural Capital’ identity, producing sustainable environments for urban development and preventing degeneration and vulnerability for earthquake mitigation, enhancing the quality of life and socio-spatial conditions, producing new CBDs for global flows, advanced transportation systems, urban regeneration, recreational facilities, industry, services and adequate housing opportunities for all classes (IMP 2006). Therefore, the decentralization of other sectors -other than the ones mentioned above- are encouraged and the administrative institutions in Istanbul also reinforce the globalization process enforcing spatial transformations and adequate infrastructure of IT with the master plans. Correspondingly, this decentralization is expected to splinter to its hinterland causing the development of the whole region (IMP 2006).

Globalization installed new spaces of assimilation throughout the world called as “the globalized cities” or “world-cities”. In Turkey, this urban space –following the historical tradition of economic capital- is Istanbul. The built environment of Istanbul is re-formed a lot of articulations and transformations under these conditions. The economic factors behind this process in the globalization context had been investigated in this chapter. The spatial transformations are further elaborated in Chapter 5. the next chapter forms the theoretical background of the study referring to IT and urban special alterations.

CHAPTER 3

INFORMATION TECHNOLOGY (IT) AND URBAN FORM

The new planning practice during the last decades mainly deals with the knowledge economies²⁴. The globalization signifies knowledge economy. The new process of globalization accompanied by information technologies transforms the urban spaces in many ways. Whilst the use of IT alters the individual preferences in locationwise with the substitution of transportation via telecommuting, on the other hand, they also dominate new centralities of multinational firms and different organizational institutions at the city centers. Today's cities are spatial / antispatial, corporeal / incorporeal, focused / fragmented, synchronous / asynchronous, narrowband / broadband, voyeurism / engagement, contiguous / connected turning into *City of Bits* (Mitchell 1996).

Terminology keeps changing and developing with reference to the new structuring models and the future of the cities. Some of these names are such as; *Megalopolises, networked cities, global cities, informational cities, post-industrial cities, technoburbs, edge-cities, postsuburbia*, etc. As to regarding IT, some of these urban space transformations, either refer to urban land or to urban periphery/sprawl formations. In this thesis, the emphasis is on “*new economy cities*” or “*world cities*” regarding IT and will be called as such (See Chapter 2 for the elaboration of world cities).

These formations are the results of the new social and spatial transformations which are dominated by globalization and the excessive use of information technologies. Today, a global city is not at the top of the hierarchy but a “part of a network of cities” (Sassen 1997). In the new economy cities, the traditional spatial organization of the urban core, have lost their production, manufacturing, whole-sale and some other blue-collar functions. The city-center, while becoming fragmented and transforming into a polycentric structure, on the other hand, intensifies the decision-making powers, capital, finance, insurance, trade, transportation, communications, cultural and educational institutions, tourism, and various types of white-collar works (Godfrey 1995).

There are several different arguments about spatial changes within the cities. Urban transformations within any city occur basically at three levels; *place, community*

²⁴ Knowledge Economies refer to the use of knowledge for economic benefits. The phrase “knowledge economy” was introduced by Peter Drucker, 1969.

and *region* (Audirac and Fitzgerald 2003). The intra-city competition between the cities of any nation within the national boundaries, generally, results in only one's favor. The city that leads the competition in the intra-level is the one gathering economic and financial capital and becomes assigned as the management center. Hence, the city gains importance within the nation as an administrative center.

Thereof, the traditions and varieties within the community constitute another important issue, the city has to shelter different people of religions, races, ethnicities, languages, traditions, classes, and so on. To attract information workers to any city, the enhancement of the urban space and the quality of life offered in the built environment are important milestones in the new economy centers. The population of information workers is an important fact. The world cities compete for information and/or knowledge workers. To attract IW, the quality of life must be enhancing as to reaching a certain standard as well as its IT infrastructure. The upper-class needs lower-class people for their daily service needs. For each qualified work-force member, there needs to be three service workers in a globalized city. "Part-time and low-wage jobs generally outnumber the high-skill professional jobs in corporate and business services by a factor of two or three to one" (Graham and Marvin 1996: 142). These service workers may be unqualified or semi-qualified.

The rates of high wage and low-wage jobs create inequality and polarizations between different social groups. Opposition between social groups happens in every world city,

even within the highest-order global cities, a massive set of polarities develops and intensifies, between an information-rich majority and an information-poor minority, between what Robert Reich (1991) calls the symbolic analysts and the casualized service workers; and these multiply, as the information-poor – who also happens to be money-poor – are concentrated into public housing estates where local schools take underprivileged children and in all too many cases, make them more underprivileged still (Hall 1996: 405).

With the globalization process and the use of IT, restructured city cores are dominated by financial and business services which require higher education and advanced skills in knowledge economies beyond high-school level. The "others" who do not qualify as such, are deployed into unregistered jobs in the informal economic facilities. Thus, "the restructured city manifests increasing income inequality, educational disparities, and social problems among individuals outside the formal job market. These socioeconomic divisions are also increasingly evident at the metropolitan

scale” (Godfrey 1995) causing polarization between the communities of different income holders.

The last level of urban transformations to occur is the regional level. The territorial development and the hinterland that city is to be the hinterworld of, likewise play an important role in the city in becoming a world city. While the city serves its nation or county as the main administrative center via which many kinds of flows are controlled and managed, it also serves a territory. The cities, whether inside the national boundaries (inner-city competition) or throughout the other cities in the world cities hierarchy (inter/intra-city competition), compete for the highest rank amongst globalized cities. The more the city is globalized, the more it becomes a command and control center; a hinterworld, within its region which is not geographically but virtually bounded. Thus, reterritorializations (See Section 2.2; McNeill 1999) are nowadays a common fact in the globalization process.

Knowledge-based industries which are not dependent on time and space, disperse the real-product factories outside the city boundaries. Whilst the urban space evacuated by these factories, becomes open to regeneration, on the other hand, it generates more urban sprawl and thus, problems of physical accessibility to both urban or exurban locations. These processes are elaborated through the two major theoretical traditions of deconcentration and restructuring with respect to IT and urban form studies.

While deconcentration theory focuses on the decentralization of the agglomeration economies since traveling is no longer necessary due to the use of IT, restructuring theory argues that there is still a need of human interaction no matter how the IT is developed; there are new forms of centralized activities in social and spatial terms within the urban space. The deconcentration and economic-restructuring traditions “differ in the way they theorize IT and telecommunications, and the level of causality they are willing to assign to consumer choice (deconcentration tradition) vis-à-vis other factors such as state, corporate, and institutional agents (restructuring tradition) (Audirac 2002: 212). The deconcentration theory concentrates on the transformations that take place on the urban space with the use of IT and how transportation systems change with respect to the use of new communications and how it influences the geographical location of cities or regions. On the other hand, restructuring theory deals with mostly the economical impacts of IT, how it influences the production and management facilities, and social context of daily life. Correspondingly, they are both

interested in the splintering and centralization of functions, furthermore, they are complementary to each other.

The deconcentration theory is based on urban sociology, location and land use theories. Furthermore, it deals with the transportation effects of land use decisions and splintering of functions to IT extend. It maintains that the spread process of cities or city regions is the result of the IT embeddness to the urban space. Thus, it advocates that IT ease individuals to vary in their locational preferences of living and working such as part-time jobs, free-lancers, home-offices, etc. Distance is no longer such a big problem for managing economic activities of workers. However, on the other hand, the restructuring theory concentrates on the political issues and economies of cities or regions. This is mostly tributary to globalization and the capital accumulation of the cities. IT-embeddness to the production facilities transform the spatial needs of factories, firms or organizations. Thus, the agglomeration economies change content, so does the space. At the same time, it influences the political decisions of the governments according to the public and private entrepreneurs intelligence for the flow of capital accumulation through capitalist means of production.

To become a world city and being connected to global markets at all times is the primary target for accumulating capital. Entering into the new economy, cities face many processes of IT-embeddedness, traffic congestion and long commuting time between work and residences, urban sprawl, gated communities, loss of public space, environmental issues such as pollution, dilapidation of the traditional urban space, and as in Istanbul case planning problematics caused by the piecemeal planning attitude.

The new spatial formations of 21st century of new economy cities are more dependent upon the connectivity and IT embeddedness with appropriate infrastructure. They are more splintered, and poly-centric; therefore more congested, creating new urban space within the built environment of IT-intensive zones in and at the edge of cities, as well as the social and spatial segregation within the city. There have been disputes concerning the theoretical basis derived from the new economy cities. Whilst some of them corroborated “the death of distance”, the others were concentrated on “technological determinism”. In fact, the theoretical traditions of deconcentration and restructuring are recycling with the new concepts of globalization and IT articulated urban space.

These two theories do not deal with the new spatial formations of IT-intensive production zones such as silicon valleys, innovation milieux like technoparks or

technoburbs, nor the virtual spaces. These theories mostly concentrate on the urban space and the transformation of the built environment under globalization and IT intensive new economies and their processes. The theories are mainly based on the transformation of USA and Western civilization world cities, thus they refer mainly to their urban space transformations.

The main hypothesis behind the deconcentration theory may be summarized as thus: the functions related to residence, working or production can splinter as travel to work can be substituted by IT since telecommuting came into the scene. Hence, the agglomerations of production units are unnecessary, and they can be dispersed from the city center. The emphasis is on the will of individuals or corporations to make their own choices about how and where they can live and work and thus, the location preferences are varied. Furthermore, restructuring hypothesis bases on the new economy agglomerations. The institutions, and individuals as well, tend to stay close within the urban space where they can be a part of the new decision mechanisms of local and global markets and not the production itself, but networks of production which are still centralized activities. Briefly, the deconcentration theory focuses on user preferences of locational choices and behavior practicable by means of IT embeddness and via transportation whereas the restructuring theory underlines the economical and political formations resulting in the spatial transformations dominated by globalization and capital accumulation in respect to entrepreneurships.

In fact these two theoretical traditions are in continuum. The existence of one drags along the other, since the urban form depends on many variables within. In the era where the cities are transformed from production and management centers to electronic information hubs for administrative centers of public and/or private entrepreneurships, and corporations which delegate the means of production to suburbs, edge cities or even offshore, these two theories are reformulated in order to explain the new economy cannot be drawn apart as they complete each other.

Since some functions move out of the city due to the use of IT, improved transportation systems, the location preferences of individuals as well as the production units, areas of urban decline and vacant areas become places of spatial transformation. These city parts and regions fill with the new economy functions and necessities such as entrepreneurs' administrative centers for they prefer where the flow of information through different mediums are more developed in the metropolitan areas. The knowledge which is transferred from one place to another may even be electronic data

processings or new political decisions which have critical and significant importance on capital accumulation. New kinds of agglomeration economies form within the city center densing at the IT-intensive core of the city. IT embeddeness into production units and/or firms makes it possible to formulate new production locations whereby closer to different resources and the remote-management is conceivable. And so forth, the theories of IT embeddness to urban space become complementary (Graham and Marvin 2000; Mitchell 2000).

3.1. Deconcentration

Deconcentration theory is based on the new interpretations of human ecology and the neoclassic theory of economics (Audirac and Fitzgerald 2003). There are contributions from approaches in urban sociology and location decision theories. IT-embeddedness allows individuals to choose their location preferences of residence and/or even workplace to splinter towards suburbs. Besides, production functions and facilities may also be dispersed to suburbs, edge-cities or rural areas or even offshore. Thus, information technologies might reduce real-time travel and costs of commuting and advanced transportation systems. Location theory, which basically tries to minimize transportation costs of products in between the processes of production and manufacturing starting from the source, the production unit/s and the market/s by staying as close as possible to each other and the transportation route (Arkon 2006), is no longer valid to deconcentration theory. By the help of information technologies, through advanced tele-commuting techniques, production can be managed or problems may be solved from a distance. Since there is no need to travel to solve instant problems, firms may disperse to suburbs or outside the city boundaries, thus production is usually separated from the administration.

The dispersal of the production facilities to peripheries or other cities, and even to other countries, generates the need to centralize management activities which prefer metropolitans or new economy cities by means of IT accessibility and faster connections are offered in cities, especially at metropolitan areas. “The more information-intensive organisations become, the more they will seek to minimize their information costs” (Hepworth and Ducatel 1992: 35). There, at the very center of the new economy cities, forms a new kind of agglomeration economy which creates the

basis for restructuring theory. Therefore the *death of the cities*²⁵ (Cairncross 1995, Graham 1997: 21) is not a valid proposition, anymore. As Kolko emphasizes, “telecommunications led to the *death of distance* but not the *death of cities*” (See Moss and Townsend 2000: 34); though it prefigures the poly-centric developments both in city centers and in exurban developments. The increase in exurbanization leads to poly-centric settlement forms both inside the city and in exurban localities. The IT-embeddness to the urban space culminated in the decentralization of production activities but centralization of administrative facilities in a reverse process. Evenso the poly-centric system enhances the commercial and office activities within city centers and increases the traffic congestion which suburbanization imposes as well (Godfrey 1995; Moss and Townsend 2000).

The use of IT and especially telecommuting came into scene as a solution for trip-reducement both in time and transportation costs. “In the mid-1970s, Jack Niles invented the term “telecommuting” to describe home or neighborhood-based working using computers and the telecommunications technology” (See Graham and Marvin 2000: 74). Furthermore, telecommuting is a job description valid for the employed and salaried staff by an established firm who works at home via telecommunications. “The self-employed do not count as teleworkers because they do not substitute teleworking for commuting” (Wheeler et al. 2000: 8). Telework is most appropriate for jobs involving mobile activities or routine information handling such as data entry or directory assistance (See Wheeler et al. 2000: 8). Presumably, “telecommunications would simply substitute electronic flows for the transportation of people and freight along more polluting road, rail, and air networks” (Graham and Marvin 2000: 75).

The basic principle of telecommuting is to minimize costs in two ways. Initially, the firms will cut the cost of office space as more workers can work online from their homes. This process also cuts transportation costs of employees needed for real-time travel and fees. Moreover it might reduce traffic congestion and environmental pollution caused by traffic. The need for office space is also a problem whereas the land is an expensive and limited within city centers. Subsequently, it frees the employees to select the location of their homes as they don't need to go to the office everyday. Hence, telecommuting is supposed to be a traffic decreasing effect. However, during the 1996

²⁵ The death of Cities is a term introduced by Cairncross in 1995, in her article of The Economist Magazine. It refers to the IT embedded to the daily life disperses the city and city functions to other locales causing the city to dissolve. In the future there will be no cities existing as we know.

Federal Highway Administration (FHA) Federal Transit Administration (FTA) conference on telecommuting in 1997, it has been indicated that the reduction of motor vehicle travel effect of overall telecommuting is “no more than 1 percent of total household personal vehicle miles traveled (VMT)” (See Salomon 1996; Mokhtarian et al. 1995, Handy and Mokhtarian 1995). Graham and Marvin (2000) also indicate that according to traffic projections of the UK Department of Environmental, Transport and Regions, it is not foreseen that the traffic demand would reduce since the tendency for mobility is rising. “Overall transport and telecommunications *actually feed off and fuel, more simply substitute for, each other. ... Rather than simply substituting telecoms have highly complementary relationships with physical travel*” (Graham and Marvin 2000: 75).

There is a great possibility that telecommuting may actually increase the volume of demand for transportation. There are quite a range of arguments about the reasons of traffic decreasing effects of IT. Telecommuters might make more car trips for any other reasons such as recreation, shopping, social and cultural activities, etc... for he/she lives far away from the city center. There are basically threefold. First, the telecommuter's weakly commutes are not known, which may cause the total distance of travel to rise because the house is further. Second, travel for recreation and shopping may increase because of having more time. Third, the ones who are inhibited of driving because of decrease in congestion may start driving again (Graham and Marvin 1996). In a latter study, Graham and Marvin (2000) argues that there are 3 kinds of traffic augmentation effects of teleworking.

Initially, as IT and telecommunications play a significant role in the development of transportations by means of complex communications such as online ticketing, control and management systems of transportation means, it reduces the cost of transportation. Graham and Marvin (2000) exemplifies that “a single flight of a 747, for example, has been estimated to generate 50.000 electronic exchanges in booking, maintenance, refueling, airport management, and so on” (Graham and Marvin 2000: 75). Subsequently, being connected to any place in the world via the computer screen creates the will to see the real place that one sees through cyberspace, causing the demand for travel. These travels might take place for business agreements, forming partnerships with foreign or local entrepreneurs, in order to make new engagements of various kinds where still face-to-face (F2F) interaction is still the best way to form new and trustable relationships, or just for recreational activities. These travels are not necessarily to offshore or inter-cities. The ordinary daily needs of individuals might also

create physical transportation demands. Although online shopping is possible via mass media or internet, people prefer to travel for shopping since it is another way of recreation and human interaction for socializing. Telecommuters might move away from the city, but socializing needs of individuals may create more demand for traveling of such kinds.

In the meantime, traffic congestion also increases the demand for IT since “mobile phones may actually help to sustain larger traffic jams because they allow “dead” time to be converted to “live” working time” (Graham and Marvin 2000: 76). Airports, hotel rooms become spaces for conducting business during waiting times or lay-overs. “Virtual offices” are created in hotel rooms, information kiosks (Moss and Townsend 2000: 39), as technologies convert the automobile into an office with mobile phones with internet connections, wireless LANs, GPRS, Palms, Blackberry, navigation computers, etc...

Wireless telephony has transformed transportation and travel across the world, converting the automobile, the hotel room, and even an airport into an information-intensive infrastructure. ... Telecommunications will eventually make the automobile commute into a productive part of the workday. ... Traffic congestion may even intensify in cities and suburbs, as the automobile evolves into a communications as well as transportation device (Moss and Townsend 2000: 38).

Graham and Marvin (2000: 82) cite a study by Telecommunications for Clean Air Initiative program funded by Californian South Coast Air Quality Management District to reduce traffic and real-time travels to workplace. They experienced that normally a public-worker travels 35 miles each way, back and forth, to the main office he/she has been hired for. If instead of telecommuting, these staff was oriented at a vacant office few miles away from home, to use a workstation which is directly connected to their main office, their traveling would be reduced by 88%. In the meantime, telecommuting may produce “rebound” effects (Graham and Marvin 2000: 82). As real-time travel to work may be decreased, other activities may likely create more travel needs because of the choice of housing decisions and social activities as mentioned before.

To sum up, telecommuting by itself might neither causes the death of cities and/or workplaces, nor the death of travel demands in the broad sense. In the end, it “conclude that, far from reducing travel, new communications technology seem, conversely, to be associated with mobility-intensive and spatially dispersed activity

patterns.” (See Wheeler et al. 2000: 15; Gillespie and Richardson 2000). And these activity patterns do not necessarily demand dispersed settlements nor justify such settlement practices.

Deconcentration, although generally based on the individual preferences of location choices attached to flexible transportation means, there are some oppositions to flexible transportation concept. After all, there are also means of transportation not as flexible as others namely, airports. Kasarda (2000) calls this new form of urbanization next to airports as “aerotropolis”. They are formed within a 15 mile radius of the airport. Their major functions are “based on low density, wide lanes, and fast movements fulfilling the demand for fast and agile processing distribution of time-sensitive production and goods” (Kasarda 2000: 3). IT has both centrifugal and centripetal effects with respect to transportation. Centrifugal forces of IT may be summarized as functions like distribution of goods, customer services, back offices, firms, production functions and the distribution of products, by-products, sub-products or end-products, and warehousing. These functions may spread out of the urban core. On the contrary, high-tech productions, advanced service sector, which are still demand face-to-face actions, or knowledge worker and white-collar-laborforce-dependent firms and corporations prefer to centralize in the city centers. The location preferences of such centripetal functions are still the metropolitan areas.

Generally, world cities and metropolitan areas receive the maximum IT infrastructure investments. The inequalities of IT investments create huge gaps in between metropoli and other cities. which have nothing to offer except shrinking in size, or volunteer to serve metropoli as an informational hinterland or service providers. For instance, Rindge Town is only 70 miles away from Boston. To connect to a broadband service, the inhabitants need to install a 26-inch satellite dish and a modem costing several hundreds Dollars and almost twice for connection fee although it cannot reach higher speeds of Boston or anywhere else connected broadband (Belson 2006). Since it is cheap and more profitable to invest in metropolitans, urban space attracts more entrepreneurs and firms in comparison to rural areas. Whilst, 24% of the whole population of England lives in England and South-East district, they hold 39% of the total network cable connections. Likewise, 6% of population lives in New York; they own 35% of the connections. The situation is similar in France and Tokyo (Graham and Marvin 1996). In London, as expected, the higher densities of the IP addresses are distributed in central London. There are two more major sites in the London area. These

are North London where most of the ISP firms headquarters are located, and around Heathrow Airport (Moss and Townsend 2000: 49).

As information technologies alter time and space continuum by means of communication needs mainly for business, cities may dissolve in exurban cities or peripheries, or even to quaternary cities²⁶. On the other hand, face-to-face interaction and communication occurs mostly within the centrality of personal networks. IT has replaced old communication tools such as telegraphs or telephones, with new ones as mobile phones, sms, or e-mail, but not the need for face-to-face interaction. Means of producing and delivering services are conducted via;

- Face-to-face Conversations at Clients' Offices
- Face-to-face Conversations at Establishment Office
- Telephone Conversations
- Video Conferencing
- Computer File Transfer
 - via modem direct
 - via e-mail, Internet
 - via LAN
 - via WAN
 - via mail/courier
- Written/Graphical Documents
 - Face-to-face@client
 - Face-to-face@establishment
 - Mail/courier
 - Fax
- Other: satellite Uplinks
- Other (Beyers 2000: 168)

The production or deliverance the services that take place via face-to-face interactions, telephone, and video-conferencing, include human interaction while doing business. Online management via computers do not involve human interaction on personal basis. The transfers may occur without one even knowing the other's name. Some may suppose that in time face-to-face communications might be replaced by IT communications, but so far people still tend to communicate face-to-face.

This argument brings another important variable consequent to deconcentration theory; that is accessibility. Here, accessibility refers to something other than physical

²⁶ Quaternary sector is mainly based on IT embedded activities such as the transfer of knowledge and data through available mediums. The sectors recently called as advanced service sector likewise finance, media, research and education (Audirac and Fitzgerald, 2003).

distance. The “hybrid” space or virtual accessibility to IT is the main notion (Coucleis and Getis 2000, L. Scott 2000, Janelle and Hodge 2000a). As information technologies draw individuals, corporations, and functions apart from each other physically and geographically, it also delapidates personal relations. Since there is no face-to-face interaction, there is a problem of thrust for corporations to hire somebody via IT. This brings back the importance of transportation as well as the “geography of opportunity²⁷”. It would make less difference if the individuals had the same level of IT-embeddedness which is depend upon the location of the individual. Since IT-embeddedness is more available in metropolitan areas, the individuals who live in exurban settlements or rural areas have less chance in finding high-paying jobs.

In fact Internet or the means of IT are not accessible by those who even live in the city. Accessibility does not only mean having the tools to connect to information producers and dealers, but also mean having the knowledge and the skills to use the tools to access the needed information. To access and profit from the internet, one must know or have the means of IT:

Home access to Internet, with its prerequisites of skills, electricity, space, hardware, software, telephone, modem, Internet account and cash for online and phone charges, is unlikely to be a priority for the large proportion of socioeconomic groups facing poverty, debt, and problems paying for essential bills. This places a premium on supporting access to community IT networks and Internet-based systems in the public spaces of cities (Graham and Marvin 2000: 81).

Afterall, the term of agglomeration economies change context within the new economy of IT. Among three agglomeration economies principles, *-economies of scale, mobility and transportation costs-*, basically transportation costs are of great importance to IT and urban form. The main issue that deconcentration theory argues is, with the development and increase in IT usage, transportation costs can be reduced. This is because

(i) the firms which are doing business with IT, no longer need to travel through the cities or countries in real time and space to solve the contemporary problems of firms or factories,

(ii) all of their management facilities centralize at the core centers.

²⁷ City centers and metropolitan areas attract more IT investment and therefore offer more speed in accessing the information. Since rural areas lack IT investments, the further the individual locates from the city, the less opportunity he/she has to access to adequate information. Thus this process causes the city center to hold more decent and high-paying jobs than rural areas especially because of face-to-face interaction in getting jobs.

Even though telecommuting is the primary aspect in deconcentration, travel costs, traffic congestion, accessibility and networks are also of vital importance. Still, there is a strong stress on reducing travel costs. Thus, according to a general consensus, telecommuting adoption and travel substitution forecasts seem to imply that travel generation effects may be higher than substitution effects.

In particular, deconcentration theory also refers the changes in working hours; such as part-time, flex-time, home-office workers etc. or accessibility to goods, products, services or networks are both, travel substitution and at the same time, travel generation effects of IT.

Briefly, most of the factors that deconcentration theory basis its claims on with reference to work are also factors that may effectively generate travel. The developments in IT based transformation systems may affect the urban form in three ways. It may decrease the costs which may cause more decentralization and sprawl. In fact, this process may even increase the travel needs of people as the need for social activity, face-to-face interaction of various kinds or business relations that are offered within the city are still dominant. And finally the embeddness of IT to all the transportation facilities turns the transportation means into an office therefore causing more traffic congestion. All the same, the substitution effects of telecommuting are not what they were expected to be since researches of practice indicates otherwise (Graham and Marvin 1996, 2000, Wheeler et al. 2000, Salomon 1996, Mokhtarian et al. 1995, Handy and Mokhtarian 1995). Many theoreticians also cautious that there is still time to test the impacts of IT on urban form since more research on telecommuting and intelligent transport systems is needed for it is still vague how much IT may develop and transform the society at the same time.

3.2. Restructuring

The urban form and the built environment transformations take place with regard to the New Economy agglomerations supported by telematics. The outcomes of the new transformation process are twofold. One of them is the *dispersal force* that IT brings forward. Though telecommunication makes it possible to disperse production functions and people, some economies show tendency to centralize in the city centers. Restructuring theory mainly examines this centralization process of the new agglomerations at the core-city regarding information economies. The new city center is a marketplace for the new

agglomerations of the telematics era. Whilst the excessive use of IT disperse individuals and production facilities to fringes, or new locations anywhere within the reach of IT, on the other hand it creates new agglomeration tendencies within city centers. Sassen states that, “In terms of their economic function, cities provide something new can think of as centrality --- agglomeration economies, massive concentrations of information on the latest developments, a marketplaces” (Sassen 1997: 11).

The restructuring theory is based on decision-making including political strategies for economic growth, profit-making and spatial dispersion. The restructuring of urban space and organization are simultaneous. Restructuring theories’ basic fundamental conceptions are *world cities* and *world systems*, *post-fordist and post-industrial cities*, *flexible specialization* and *informationalism/network society* (Castells 1996, 2000, Sassen 1991, 1997, Audirac 2002).

World city refers to cities in the process of globalization. *World system* refers to the powerlessness of the nation-state while multinational firms and corporations rise in decision-making process as political and economic powers. Within the globalization process whilst the production functions and units dissolve, advanced service sectors intensify at the core, instead. This new centralization defines the *post-industrial or post-fordist city*. *Flexible specialization* refers to the new workers of information who are flexible in their location choices in following capital, and independent of national boundaries. The last one, *informational/network society* concept refers to Castells’ space of flows (See Castells 1998).

Although there are varied interpretations on these subjects, in deconcentration theory, the emphasis is on dissolution of the main production functions in urban form and new ways of organizations via means of IT. Since the use of IT makes remote organizations and management possible, it transubstantiates political and economic values of nations. IT helps to reorganize nation-states as a more effective tool for the operations of international capital with neo-liberal policies of globalization, and put the multi-national corporations on hold, where capital accumulation and labor are volatile and flexible.

With the deconcentration and the spread of production functions, rising from the internationalization of production, starting from 1960s only until 1980s, the centralization and the restructuring of city centers as advanced-service providers gain importance in planning theories. The intensification of the center progresses in two stages. The rise of globalization and simultaneous data transfers that nurture multinational

firms' 24-hour-based and uninterrupted production is one of the reasons why centrality accelerates in the urban space since necessary infrastructure can only be fulfilled in central areas. It is followed by the new economical transactions' limitless need for connectivity and the organizational institutions of advanced services (Sassen 1997).

Economic restructuring functions at both national and territorial levels. The more the nation-state delegates its production units, the more capital accumulation can be achieved via liberalization of markets and multi-national corporations. Another important policy of neo-liberal economy is the delegation of authority and command through national to local power vesting, privatization of the production facilities, delegation from nation-state to multi-national corporations and holding companies. These new *Laissez-faire* policies are based on the new economic policies of neo-liberalization, capitalism and globalization, and legitimized by pronouncement of *once capital is accumulated within the national borders, it will be distributed to all other economic sectors as well*. Hence, with the use of IT, the time-space continuum is uninterrupted and the flow of capital is continuous with JIT²⁸ productions.

As a matter of fact, these phenomena are not welcomed by all theoreticians of restructuring. Some find these arguments over-emphasizing the technological determinism. Indeed, they favor institutional and organizational transformations caused by IT and how it is reflected in production and local politics of cities and communities. Cities have always been affected by different production functions and means coming into existence. For example, in the 19th century, cities transformed into the industrial city as a result of Fordist-production. Recently with information technologies, new kinds of transformations are taking place within and outside the city boundaries. This time, the new transformations refer to something more than cities, but *space of flows* and *spaces of places*, also (Audirac 2000).

With the development of IT, new kinds of productions such as information producing, data processing, hardware and software production, etc. have emerged which are inevitable for the flow of information. Capital accumulation is the main aspect for this kind of product range at the first place since flow of capital regardless of borders is

²⁸ JIT: Just-in-time "is an inventory strategy implemented to improve the return on investment of a business by reducing in-process inventory and its associated costs" (Free Documentation Software, 2006). JIT is the management system in a production system. During the process only the needed amount of raw materials is bought at one time and as soon as the raw material is turned into a product it is forwarded to the next place of production or consumption. By this way the stock expenses are minimized in terms of money or warehousing. This process was first established by Ford Motor Company and publicized by Henry Ford's book in 1922; *My Life and Work*. This process is highly dependent upon freight management systems (FMS).

available via means of IT. To attract mobile global capital, which is vast and volatile, to own the means of IT and to have the knowledge to use IT is vital. For economic growth, to keep liquid capital as long as possible within the city is the main target. Whilst mass production units move out of the city, the spaces which these production units leave vacant are filled by new institutions of the advanced sector. The core-city is densely populated with the advanced service sector, its new institutions and organizations, and information workers (IW). The cities which operate according to these bases are called global cities or world cities. (Sassen 1991, GaWC 1997-2006). Hence, “centrality remains a key feature of the global information economy.” (Sassen 1997: 11)

Capital accumulation is spatially distributed into the network of global cities; such as New York, London and Tokyo which remove the real time and space continuum. “As London is going to bed, Tokyo is beginning to trade, and the Wall Street bars start to become populated at the end of a Day’s trading” (Budd 1995: 345).

Global cities offer more advanced infrastructures, as well. In this respect, infrastructure shelters both, physical and social contents. Physical infrastructure is constructed of cables, satellites, hubs, connectors, links, hardware and software, and vice-versa. The social infrastructure refers to labor force that is needed for information flow and data processing such as skilled-labor-force, white-collar workers, executives, information workers, and thus, advanced producer service staff of blue-collar workers, etc. As Audirac states (2000) there can be found contradicting arguments about intensification of physical and social infrastructure does not necessarily provides globalization and that the old location theory of location agglomerations still counts. “Markussen and Gwinsada (1994) reject the manufacturing-dispersing and control-agglomerating roles that Sassen attributes to IT” (Audirac 2000: 219). They argue that the global city must also have close geographical location to manufacturing zones; in that case New York diminishes its’ globality.

On the other hand informationalists argue that there is still production in globalized city. But this production has changed from mass production of goods to information production. Thus, in global cities, the production transforms into information and its management, not the industrial product. The globality of a city is volatile due to the mobility of multinational organizations and the density of knowledge workers.

For instance, Budapest may set an important example in globalization of the Eastern-European cities. Although there are differences between the two cities, in the GaWC inventory, Budapest and Istanbul is at the same rank. In 1989, Hungary changed

its governance from socialism to republican. Since then Hungary, Budapest to be exact, reached to a globalized city status, faster than any opposing city within its territory. The government gave tax seducements to foreign holding companies, had fast privatisation processes, and due to its geographical advantages within Europe, connecting the routes from East Europe to Western countries. As for Istanbul, the changes in the political and economic issues such as Marshall aid during 50's, neo-liberalization of the markets during 80s, progressive planning decisions of Istanbul as the economic capital of Turkey and privatization which is still on the agenda of the governments since then gave rise to globalization.

In Istanbul, there is a wide range of multinational corporations settled within the city center. The main reason behind this process is that throughout its history, Istanbul has always been a command and control center. Nowadays with the new economy throughout the world, Istanbul is the main center for capital accumulation within the national boundaries and its hinterland.

Both global and local issues are of vital importance to economical and spatial transformations of the urban built environment. The vanishing of boundaries is accelerated by information technologies. The more it is possible to communicate through telecommunications, the more, the mode of production differs in the city. The actions and attitude of governments against globalization are important facts that melt the local into global markets. "The local is becoming global with blinding speed" (Soja 1996: 269). To be more precise, world cities do not act via local manufacturing, but the mass production units of multi-national corporations' which are dispersed all over the world in different locations and at the same time, they tend to centralize the administrative functions in the global cities according to the responses of their national economic policies.

The national policies always regarded Istanbul's advanced position with its infrastructure and labor force. During 1930s with the regarded statism policies, Istanbul was set as an industrial area. Although there was no zoning decision for industrial zone in the Prost plan, the plan notes stated that after 500 m. of buffer zone, industrial facilities can be placed. The Marshall aid during 1950s stirred Istanbul at the same direction, too. The planning notes of Prost plan gave way to Goldenhorn to become an industrial site. After the 1966 Industrial plan, the Goldenhorn industrial area was cancelled and the industrial facilities continued to move towards Beşiktaş-Maslak axis (Tuncay 1996). Following 1970s, with the new transportation routes and Bosphorus

Bridge, and globalization and neo-liberalization policies of 1980s, the axis transformed into CBD (See Chapter 4 for further elaborations on the transformation of CBD). Thus, Istanbul became the dominant city for global accumulation of capital, causing Istanbul to become a world city.

World cities are new nodal centers like “analogous to railroads in the industrial era, digital (informational) networks are key New Economy development elements of cities with concomitant urban morphological effects” (Audirac 2000: 219). As Castell states, the new form of management and organizations with use of IT have mainly two consequences: Initially the firms become flexible in production, too. The necessities for any product influences the size of the production unit. It may dwindle in size according to the global markets. After that, there is the situation of flexible workers of self-employment, telecommuters, or casual labor force²⁹. These processes in addition to globalization and the liquefaction of the markets and capital accumulation transform the urban space differently. Each development is unique in its locality and territory. The inter-city competition is dominated amongst the networked cities by the multi-national corporations.

Globalized cities are producers of the advanced services which serve the information workers and have complex networks and infrastructures that make it possible for the city to become a command-and-control center of the new economy. With the management skills, these cities outsource their real-product production facilities to edge cities and offshore. Edge cities, peripheries and quaternary cities function as extensions to global cities which are linked not geographically but, digitally.

Edge cities reorganize their strategies of tax reductions, connectivity, and accessibility. Exurban locations become favorable with their potential in driving the newly restructured digital workplaces. In Istanbul, the exurban locations which were especially the industrial sites are the main urban spatial transformation arenas of such kind. Beşiktaş-Maslak axis is a good example for this kind of restructuring experience. In the last decades, the site (axis) had faced many spatial restructuring, attracting the headquarters of foreign investments as well as domestic firms.

²⁹ The casual labor force may be explained as; blue-collar labor force whom has been hired for a multi-national firm and been educated to fulfill the personnel necessities of such. The main corollary is that if multinational firm shrinks in size and leaves the city -which is very usual in the new economy, such as in IBM-Budapest case- the qualified workers become unemployed. Since they became qualified staff members, they cannot be hired with low salaries and effect the national economy. After the economic recession in Turkey in 1994 named as April 5th, most of the banks shrank in size, leaving hundreds of banking and financial staff unemployed for quite some time.

Whilst deconcentration theory specifies advanced transportation systems via IT and the efficient use of existing transportation routes, the daily practice may confront otherwise. Nijkamp, Pepping and Banister (1996) put it as: “these innovations have met with user resistance and potential negative side effects such as the shifting of traffic to other parts of the road network”. This may cause even more polarization within the community of *haves* and *have-nots* as to restructuring perspective, elaborating on spatial segregation of information workers and blue-collar workers and dualism within the city parts.



Figure 3.1. Plazas at Maslak

(Source: Figure from WEB_11; WEB_12)

Another fact brought about by restructuring issue is that cities also have to confront the spatial needs of information workers who have to live and work in the city and prefer eligible places to live in, so the useless and diminished industrial or residential areas or brown fields³⁰, become subject to regeneration and redevelopment to

³⁰ Brown field is a term used for the old industrial areas which is abandoned or the industrial establishment had moved somewhere else or vanished, is recently vacant, but cannot be used as an agricultural area for it lost its agricultural attributes.

meet the spatial demands of white-collar salaried class and IW³¹ In Beşiktaş-Maslak axis the brown fields where the firms' factory building was placed, was restructured as firms' headquarters or a shopping mall, an office complex, and/or a multi-use buildings. These brown fields became places of regeneration. Many redevelopment projects took place and there are more to come. For example the Profilo White Goods factory was moved out and Profilo Shopping Center is constructed in Mecidiyeköy; Kanyon Shopping Center stands where Eczacıbaşı Medicine Factory used to be. These examples can be multiplied. The Maslak area nowadays is also restructured as CBD where it used to be an industrial site, also (See Figure 3.1).

Restructuring theory deals with new types of occupations such as information workers, part-time workers, data processors, advanced services sector workers, multinational corporations' staff, etc. They also inquire about legislative background of new jobs in the advanced service sector, as much as regulations about information technologies and policies, public-private entrepreneurs such as privatizations, tax-reductions, etc.

In deconcentration theory, the stress is on inhabitant; their preference of where to live and work, the firms' preferences of spatial location, segregation and/or agglomeration. The scope of analysis is as mostly welcomed by theorizations of IT on urban form to be mainly dependent upon the transportation and telecommunications. In restructuring theory, the emphasis is on the local and global strategies of decision makers and institutions that determine spatial structuring and economical hierarchy of cities. The emphasis is on new organizations of production and management; and the flows of people, information and goods both in local and global frames.

Both deconcentration and restructuring theories determine at similar conclusions on impacts of IT on urban form. Initially, the use of IT and the globalization imposed the decentralization of production facilities over borders to different geographical locations; suburbs, edge cities or even offshore. On the other hand, within the urban space, IT caused new spatial transformations in the city centers and city parts as in Istanbul case, the center fragments into poly-nuclei centers and CBDs. Subsequently, with the developments in transportation and IT, telecommuting triggers transformation of job descriptions and labor force into flex-time workers, part-time workers, self-employment and the flexible office-time. With mobile telecommunication systems any

³¹ IW: Information Worker(s)

place can turn out to be a working environment like airports, hotel rooms, even cars. Meanwhile, the mobility issue also influenced the freight management and JIT production systems. Transportation and logistics become inevitably important for the delivery of goods and raw materials. Eventually, the substitution effect of IT and telecommuting creates more need for transportation than ever in the form of business meetings, fairs, transient people (Ryser 2001).

(...) as the transition from “industrial” to “informational” increasingly connotes the socioeconomic transformations associated with global capitalism, the form of the informational metropolis emerges as (1) polycentric and intensely extranetworked by land, air, water, and digital means to global and regional urban systems and (2) deeply digitally and multimodal intranetworked, albeit all the more socioeconomically segregated, physically overextended, and stuck in traffic-conditions emblematic of Castells’ dominance of the “spaces of flows” and the “spaces of places” (Audirac 2002: 220).

In the end, ex-urbanization, geographically spread production facilities and working sites, unlimited need for the flow of people also creates traffic congestion, just the contrary of what was expected from decentralization process.

Although these theories offer explanations belonging to different dimensions, in practice these dimensions work together. They both search for the clues how the urban space transforms, whether centralizing or decentralizing, regarding IT usage in daily life and its effects on transportation of people, goods, data, information and also including daily commuting. Whilst the deconcentration theory focuses on the impacts of IT on location preferences in respect with transportation, thus articulating on the expansion and growth of cities and the splintering process of settlements along the urban fringe, edge cities toward the rural areas that is caused by IT usage in daily life.

Deconcentration theory advocates that since IT makes it possible to reach the data from anywhere and everywhere, work can be replaced with telecommuting, thus decreasing daily commute time and expenses, and avoiding the congested city center and causing the individuals to locate anywhere they want. Restructuring theory, on the other hand, proposes that urban space is a mean to new economy agglomerations by which IT causes. Urban spatial transformations are imposed by globalization, its ways of production, capital accumulation and national policy that influenced by entrepreneurships.

How, when and why an industrial facility is removed from the urban space referring to IT is explained by deconcentration tradition. Whilst the industrial land

becomes brown field, the urban land becomes a mean to restructuring which are likely to be filled with the new economy institutions, creating new forms of agglomerations referring the IT as infrastructure, labor force, services, new living and working spaces etc. The multiplying³² CBD has different functions than of the traditional city center. Mainly the CBD area consists of tourism, entertainment, financial and corporate services and various types of white-collar labor force of that traditional centers manufacturing, shipping, wholesaling and blue-collar labor force (Godfrey 1995).

Restructuring theory also connotes policies of governments, corporations and institutions as the major factors. The main underlying statement referring to governmental issues is the contraction of governments in markets. The diminishing role of the nation-state on market forces allows free flows of capital and labor, thus causing capital accumulation altering the city center as the space of flows.

3.3. How Deconcentration and Restructuring Theories Consider Planning Practice and IT

The more IT-embeddedness is facilitated whether in urban or exurban localities, it causes a more fragmented geography in terms of poly-centric urban settlements or suburbs, CBDs within city regions causing the most welcomed travel mode as the automobile. With the development of transportation systems and telecommuting via IT, settlements sprawl. Although the process of sprawl is put forward by deconcentration theoreticians as a solution for the congested city and for commuting problems, searches (See page 59) indicate that travels are not reduced by telecommuting since the need for face-to-face interaction is may be more than ever for socializing, conducting business, and new business trips to offshore, world fairs or even for recreational facilities.

On the other hand restructuring theory explains this issue with the new organizational modes such as ticketing, road-pricing or planning policies that have been tried in Dutch examples such as city-core proximity, compact city developments or separation of urban settlements from agricultural lands. These trials failed because of three reasons. First, the economical policies to formulate the city as a hub for modern

³² Multiplying CBD is used to determine the transition from single center urban core to multi-centered city center.

transportation facilities with regard to IT infrastructure was expected to cause congestion. The need of connectivity is far more important than the locational proximity to raw materials or goods, while the need for a better living environment and life quality results in suburbanization where the land cheapens getting closer to agricultural lands against the land-use decisions.

Today, in the era of telecommuting and IT-based working, the tendency of face-to-face interactions stays the same or maybe even more than before. It is not found thrustworthy to conduct business via the internet but may be to find the type of production in favor of ones' business. In that case the business trips have to be conducted for collaborating. Also other modes of information flows (via air, electronic data transferring, couriers, etc...) have to be conducted for doing remote business and/or management. But the need for life enhancement (meaning free will of inhabitant for different choices of locations) and connectedness transforms old spatial agglomerations that were dependent upon proximity to transportation routes, nodes or raw material replacing with new ones. New agglomerations are established through connectivity needs of firms which are confronted mainly in the cities. The peripheries of highly connected cities (usually the metropolitan areas) are also places for such localizations offering themselves as new nodes in the multi-nuclei center organization.

There may be two kinds of planning formations encountered in this process. To start with, the metropolitan area may grow as to include the exurban settlement - although governmental management may be different- in the metropolitan area. For example as in the case of Istanbul, the exurban settlements of Mecidiyeköy, Maslak and Ayazağa have been joined to metropolitan city as new city center formations one by one with the development of Beşiktaş-Maslak axis via ring roads continuing through the axis (Büyükdere Avenue, Barbaros Boulevard, E5 and TEM ringroads) and Bosphorus Bridge.

The other formation is that the dispersed industrial production functions surrounding edge cities. The industrial functions that dissolve in the city splinter to edge cities, may still have their administrative centers in the CBD. Management institutions may be at the nearest metropolitan center such as Gebze, İzmit, Bursa as these settlements are main locations for the production units of the holdings, which are removed from the city center of Istanbul CBD.

These new transformations validate freight management systems (FMS). The more freight facilities are agglomerated in a city, more the city stay put in the rank of

world cities as modern freight management, logistics and transportation are becoming more IT-embedded. The new town tradition of the post suburban settlements grows as more IT-embeddedness is achieved. The Smart Growth planning philosophy is based on “building communities that work smarter, not harder” (Audirac 2002: 222). The new town concept also transforms with IT. The emphasis is on the quality of life with secure connectedness for telecommuting where elite workers are deified. In globalized cities, the others stay as the non-qualified service workers besides the IT workers. According to a research made by Johnston, in 1993, in Europe, 50% of the total jobs and 80% of the new jobs are IT based.

But in fact, these cities are also in need of service workers of low-wage. Cities are not only populated by advanced service workers and elites. This upper-income classes need low-wage people to clean their house, to serve in a café or a restaurant, for retail sale and etc. This difference in life style and income causes polarization amongst the society. “Civic life is being shifted to enclosed places, such as American style shopping malls which include entertainment and leisure facilities and may breed the popular cultures of tomorrow” (Ryser 2001). The globalization process witnessed in USA and Western civilizations promote the American style of high-income lives in gated communities, while low-wage workers are driven out to slums and deteriorated built environment where crime rates peak.

Deconcentration theory focuses on IT and urban form around transportation, accessibility and the individual preferences of location for settling whilst the restructuring emphasizes the force of IT in transforming the organization of production, administration, institutions and everyday life. The deconcentration theory is location-based where as its complementary (or the other way round) restructuring theory is economical-based.

Deconcentration theoreticians show interest in the location preferences of firms and individuals and their spreading out process. Restructuring theoreticians, instead, put forward the will of the decision makers to take place in the new organizational institutions and management systems for the capital accumulation to join global markets for the economic growth with neo-liberal economic policies and capitalist mode of production. “If the history of communications shows anything, it is that the demand for connectedness is limitless” (Fallows 2006). The city center as the provider of social interaction will not disappear as some of the futurists presume, but they will surely transform their recent form with further developments of IT.

This chapter forms the theoretical background of the thesis. It elaborates on the theoretical formations and brings explanations to the spatial transformations that take place in the globalizing world cities with the impacts of IT. The transformations of the Istanbul CBD area of Beşiktaş-Maslak axis also show appropriateness with this theoretical background. However, the spatial alterations of the case study area cannot be attributed to only IT and globalization. There are different factors in Istanbul which caused the splintering around the Beşiktaş-Maslak axis at the first place. But the recent transformations following the neo-liberalization policies of the 1980s, the developments point in the same direction with the other globalized cities, making the theoretical formations valid for the spatial context of Istanbul, Maslak.

CHAPTER 4

THE CASE STUDY

The case study chapter elaborates on the spatial transformations of Istanbul, Maslak in chronological time basis which is divided into mainly four periods. The survey begins from the establishment of Turkish Republic to-date. The main reason behind this periodical analysis is to put forward the fact that the urban space transformations in Istanbul, Maslak can not be elaborated only with IT and globalization. There are other factors underlying the restructuring and deconcentration process of the study area. The main transformation process that is attributed to IT and globalization took place following 1980s. Following the transition to the neo-liberal market policies accelerated the globalization of Istanbul in becoming a world city. From this point forward, the impacts of IT on the urban space restructuring can be complied with the theoretical background.

City may be defined as the spatial repercussions of socio-economic structure. This definition shelters city's localities within. Following 1970's, with restructuring of politic and economic structures all around the world and in Turkey, lead to spatial transformations, especially through the globalized world. Although these alterations of urban space differ from city to city bound with its dynamics, they are also manipulated with top level formations such as globalization and IT, as an inevitable part of the days' process.

To construct a general frame of these changes under globalization, Chapter 2 is dedicated to the elaboration of Istanbul within this context. The politic and economic changes in Istanbul may be geared to globalization process. Therefore, to understand the place and importance of Istanbul within the hierarchy of world cities, Istanbul had been elaborated within the GaWC studies of "World Cities Inventory" (See Chapter 2 for World Cities Inventory and the GaWC Study Group).

The following chapter (Chapter 3) explores the two urban form theories with respect to IT. When globalized cities are examined, two theories had been driven out as Deconcentration and (Economic) Restructuring. Both of the theories elaborate on the new spatial transformations stimulating by IT, in and out of urban areas such as new CBDs, suburbs, edge cities, etc.

In this section (Case Study), the compatibility of Istanbul to these theories is examined under conditions of globalization to understand the impacts of IT on urban space. After all, the findings of the study indicate that in fact, both of these theories validate as complementary in Istanbul, Maslak case. Above all, the place of IT within the new spatial transformations in Istanbul is not a determinant for urban space, but performs a collateral structure. In Istanbul, IT did not shape the space; rather it follows the shaping dynamics of the city in many levels.

In this context, to explain alterations in multiple levels and dynamics in shaping new urban space of Istanbul, Maslak, the history of spatial transformations enclosing economic and politic changes in Turkey are elaborated within this section of the study.

4.1. Characteristics of the Study Area

Maslak is a district of Şişli Municipality although there is no physical proximity between the settlements. Maslak is still a part of Ayazağa district, which is also in Şişli Municipality Borders, at present. The site is surrounded by Büyükdere-Şişli Avenue; and Sarıyer at the other side of Büyükdere Avenue from the west, Kemerburgaz and Kağıthane from the east, Fatih Woods at the north. The area continues towards Şişli through Büyükdere Avenue at the south (See Figure 4.1). Towards Ayazağa, both sides of the road belong to military, and there is a small-scale industrial area which consists of car technical services and also Istanbul Technical University Campus Area is settled close to the site (See Map 4. and Map 4.). These are the limitations of the site. Rest of Maslak area was developed as industrial area in continuity of Kağıthane and Ayazağa axes. Emergence of mixed use activities throughout Büyükdere Avenue caused the site to develop accordingly as large-scale office and shopping districts including headquarters, shopping malls, offices, banks, hotels and holding companies starting from 1970s.

Throughout 1960's, Ayazağa was a village with 840 residents. In five years it enlarged to 3,558 (Tümertekin 1993: 469). Slum housing around the industrial areas is the main reason of this rise in the first place. Tendency continued with the emergence of mixed use activities. According to 2000 Census of population, Ayazağa resides 37,042 inhabitants. The important point is that these numbers do not include of working people at the area. The daily labor-force in the area is much bigger than these numbers.

According to 2005 results, Istanbul Metro carries 3,898,864 journeys/month in average, in both ways between Taksim and 4. Levent. If a person is considered to use metro for at least two journeys on the way to work and back, 1,949,432 people/month use this transportation, roughly representing 64,981 people/day (WEB_4). This number is not enough to imagine that people working along Taksim-Maslak Axis since there are alternative mass transportation facilities such as mass transportation buses, shared taxi, taxi, and privately owned cars. The daily journeys on this axis are more than this number hence, much denser in value than their inhabitants.

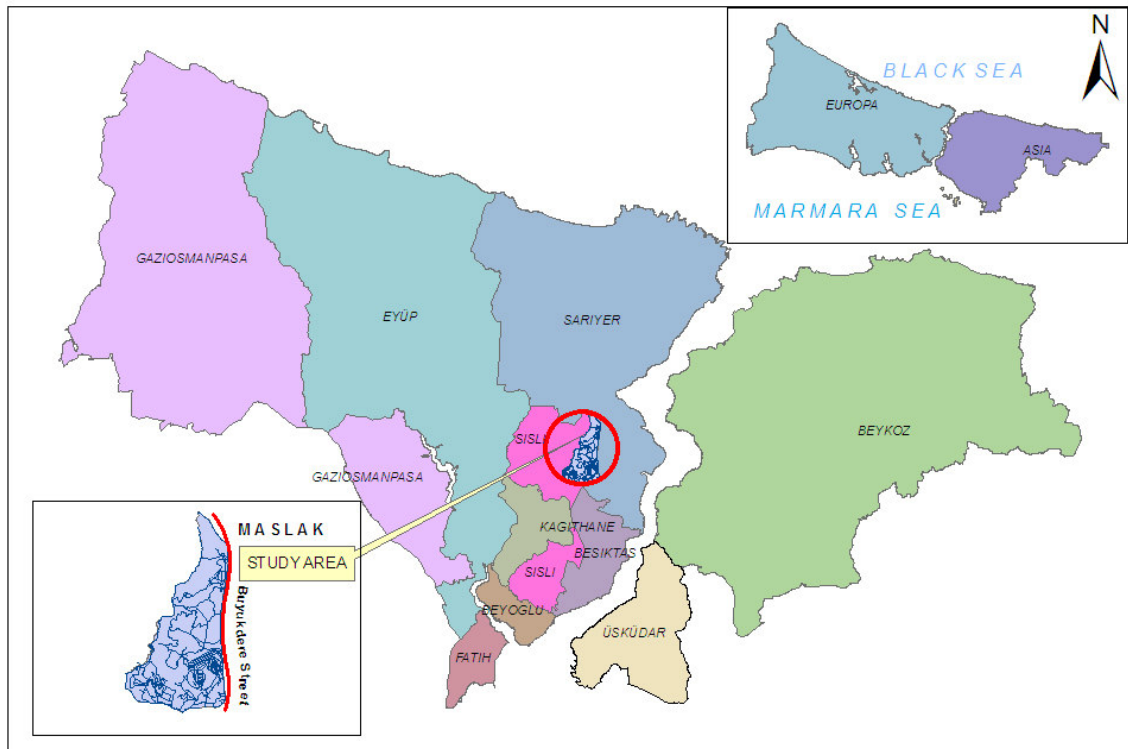


Figure 4.1. The Place of Maslak in Istanbul and Surrounding Municipal Borders.

(Saygın 2006a)

With the political approaches and the new economic transformations throughout the world and in Turkey, Istanbul in general and Maslak in particular, show spatial transformations even before the plans. The application plans neither catch up with the realizations that took place in Beşiktaş-Maslak axis nor able to guide. Moreover, the application plans followed the restructuring process of urban space rather than shaping it. The application plans put into operation were usually trying to control the newly establishments rather than directing it.

One of the problematics considering Beşiktaş-Maslak axis is that there are several different municipalities in charge for planning different sites along Büyükdere Avenue. Furthermore, along the axis, one side of the highway stays within the borders of one municipality, the other side at another. This special occasion made planning more difficult to be united, thus it had been planned piecemeal. In this chapter Maslak is elaborated as the new CBD area of Istanbul and the reasons underlying this development at this particular site and in which ways IT influences these spatial transformations. In order to seek for the clues and answers, history of Istanbul CBD is examined first.



Map 4.1. Borders of Beşiktaş-Maslak Axis

(Source: Base Map from Google Earth, 2006; Cengiz 1995)

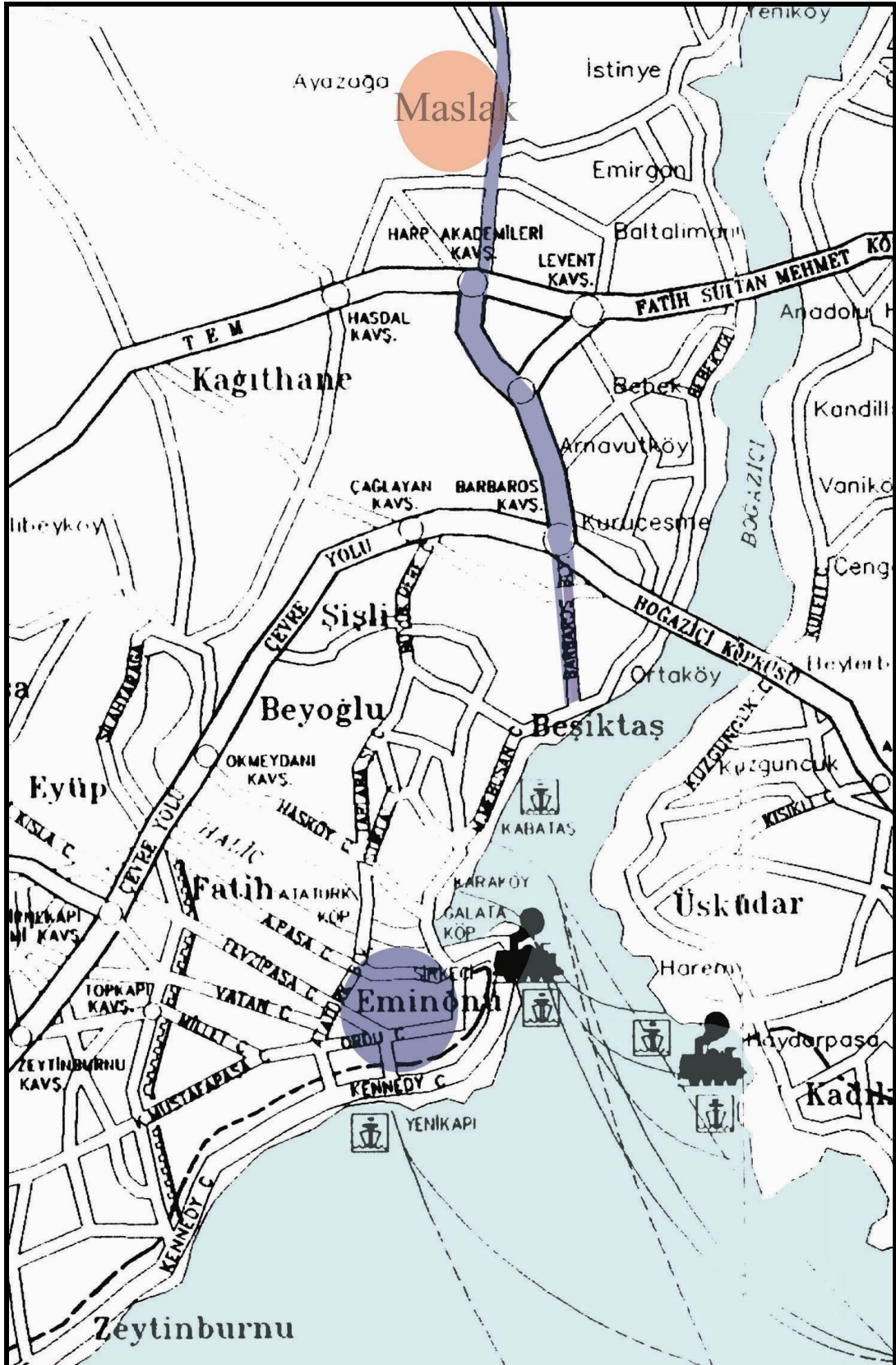


Figure 4.2. Beşiktaş-Maslak Axis, Traditional City Center and Environs

(Source: Base Map from Tekeli 1994)

4.2. Background of IT-Intensive CBD Formation in Istanbul

Throughout the history, Istanbul has always been a commerce and control center depending on its geographical advantage. During the period of Roman and Ottoman Empires, Istanbul had been a capital city for nations at this geography. It had been a command and control center for the trading activities and transportation of goods and products from different parts of the world through its commercial routes with its exquisite military skills for the safety of the merchandises during their journey from far-east to west or vice-versa (See Figure 4.3).

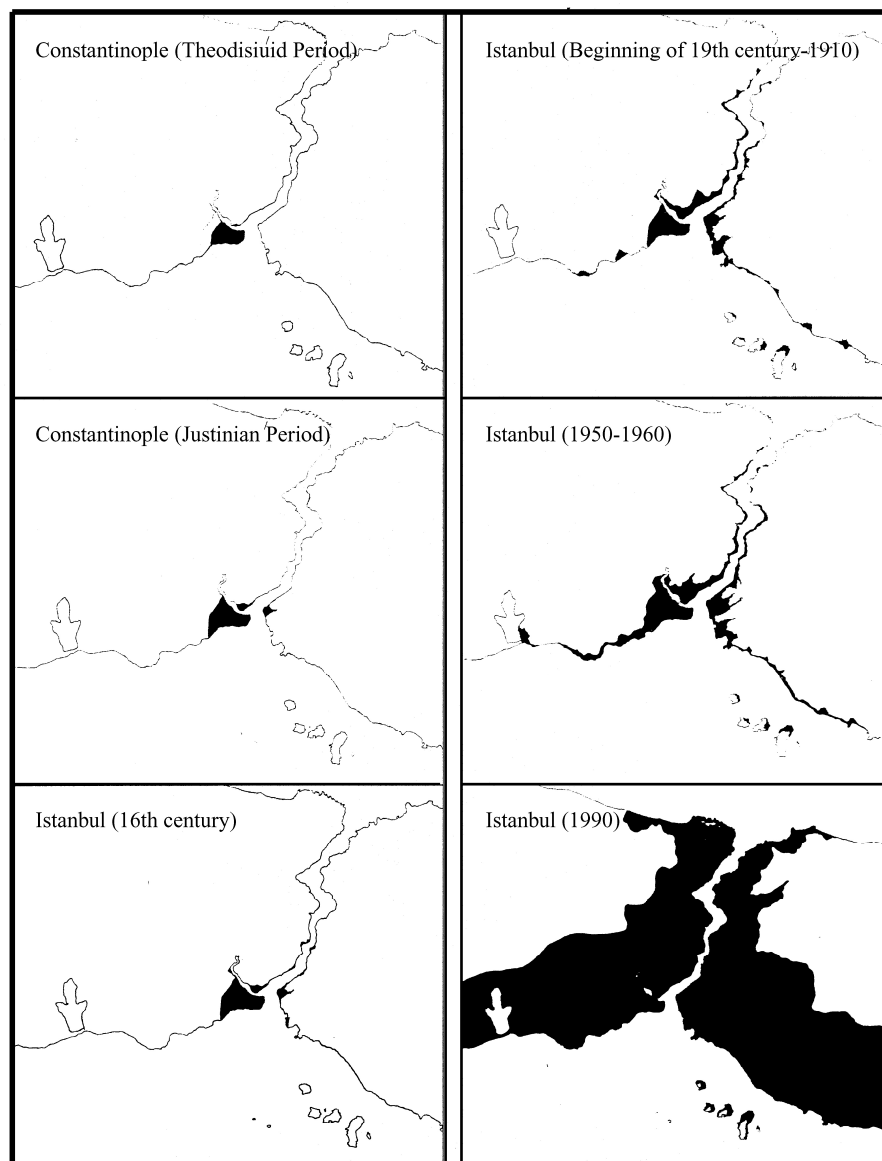


Figure 4.3. Historical Development of Istanbul

(Source: Yücel 1996; 201)

“In the old world order, which depends on the exchange of agricultural production, Istanbul was the first degree metropolitan center” (Keskin and Diren 1992). But with the globalization, there is just not only one market for the products which is local, but also offshore bazaars have also been connected with local and global markets which are freed from their local geographies and national boundaries. The access to global markets had been a process for Turkey. First of all, Turkey was leading a closed-economic system during the 1930s with the Statism Policies. The transition to liberal economies was an important step for the globalization process.

After the collapse of the Soviet Union, Turkey as well as the other nations within this area, was forced to search for new economical possibilities. Integration to the new economical system, which was highlighted by globalization discourses using capitalism as its main tool for the free flow of goods and capital; became the main aspect. In the global economy, some cities serve as the hierarchical command center for the other cities in its hinterland. Istanbul comes forward as an urban command center as a highly developed metropolitan city for the job. The sources and market potentials of Istanbul are far richer than the opposing cities within the nation. The other cities adversary to Istanbul within the national boundaries (Ankara and/or Izmir) stay far behind what it takes to deal with the global markets in terms of infrastructure, financial or labor markets. There is a tendency in each of these cities to become a part of the global market to obtain some of the flowing capital to their site. But in the global markets, there is a race for the information which is the main aspect in controlling the market. Being the financial capital of Turkey, Istanbul offers advantages of adequate infrastructure for the flow of information, data, capital and even the brains with its complex and dynamic structure with its advanced service sector and labor force. Therefore, Istanbul sticks out within the intercity competition across the national borders.

After the war period, two main transformations took place in the cities of the developed countries. The first one is the deindustrialization and the other one is counterurbanization. Deindustrialization is the transformation process of functions of a city from production and manufacturing to other sectors but especially to service sector (which is also a main aspect for the globalization process of any city). Counterurbanization is the shift of residence and industrial areas from the city centers to smaller cities or rural areas (Lever 1991). Since the 1960s, these terms are put forward from time to time to explain the post-industrial cities and/or societies. With the

globalization arguments, these terms gain importance in order to explain the spatial transformations and the changing city structure with respect to IT.

There is a need to track down the spatial dispositions of CBD (Central Business District) area to search for the clues of urban space transformations of Istanbul regarding information technologies. Therefore, the information infrastructure in terms of technical, social and labor force such as Industrial Parks, technoparks, technical institutes, universities, and such as the production and agglomerations of thought, knowledge, cultural activities, fine arts, decision making, etc... (See the GaWC Inventory for further elaboration in Chapter 2) are important within the spatial transformation processes.

Central Business District is the main urban working and administrative area, in which most of the economical and administrative activities take place. Whilst some of the agglomerated functions of the industry sector decentralize from the CBD such as production and manufacturing industries, with the excessive usage of information technologies, it forces the administrative functions to do the other-wise. (centralize) The administrative functions of a firm can be separated from its' production functions which cause to decentralize the industrial activities from the city center towards the suburbs, smaller cities or even out of the country to offshore countries where the sources and labor force are much cheaper.

Although this situation no longer forces the agglomeration economies³³ that it used to be, there is still a tendency of firms -especially the administrative centers of the firms- to locate nearby each other in Istanbul. This process can be observed within the urban space transformations of firms and CBD in Istanbul, especially in Beşiktaş-Maslak axis on Büyükdere Avenue throughout the history.

4.3. Urban Transformations, CBD Development in Istanbul

Recently, the area of Istanbul is 5,512 km² and according to the final results of TURKSTAT³⁴, 2000, the population has been estimated as 10,033,478. In Turkey, following Istanbul, Ankara is the second biggest city with a population of 4,007,860

³³ Economies of Agglomeration is an Urban Economics term which describes the need of the firms of same or related kind of industries producing end or by-products to locate nearby each other.

³⁴ TURKSTAT: Republic of Turkey, Prime Ministry Turkish Statistical Institute

Table 4. 1. Characteristics of the Periods, Planning and Applications to Urban Space in Istanbul

Periods	Characteristics of the Period	Planning and application in Istanbul
1920-1950	<p>1923 Establishment of the Republic Ankara as the Capital City</p> <p>1929 Great Depression; economic crisis throughout the world</p> <p>1930 Statism policies; resistance to imperialism Istanbul lost population</p> <p>Beginning of Marshall Aid</p>	<p>Transportation routes opened connecting the 1st ring to the traditional city center</p> <p>1938 Henri Prost Plan</p> <p>Dual city center formation</p> <p>Beautification of Istanbul destroying some of the Historical Buildings to open Boulevards</p> <p>New Administrative Legislations for Municipalities;</p> <p>1930 Municipalities Act No. 1580; Joint Administration</p> <p>1933 Municipality Banks Law & Building and Road Regulations</p> <p>1934 Municipality Condemnation Law</p>
1950-1970	<p>Marshall Aid</p> <p>Transition to Multy-Party Political System</p> <p>Transition to open-economy system; liberalization of the markets</p> <p>Adnan Menderes as the Prime-Minister</p> <p>Massive internal migration to Istanbul</p> <p>Unexpected rise in Istanbul's Population</p> <p>Accelerated Urbanization Process in Istanbul</p> <p>1971 Military Coup</p> <p>The Will for Integration to Globalization</p> <p>Deconcentration of Industrial facilities in Istanbul</p> <p>Accelerating Growing Service Sector</p>	<p>Decision of Central Government about Istanbul as an Industrial Center</p> <p>Industrial areas established along Mecidiyeköy-Levent-Maslak axis</p> <p>1958 Piccinato Plan</p> <p>Establishment of squatter areas along the industrial areas</p> <p>1963 East Marmara Preliminary Plan by Ministry of Development and Housing</p> <p>Distribution of different functions in different city parts (1963 preliminary plan)</p> <p>Areas out of the municipal borders divided and sold as shared ownership and unlicensed residential areas formed</p>

(Cont. on next page.)

Table 4.1. cont.

Periods	Characteristics of the Period	Planning and application in Istanbul
<p>1970-1984</p>	<p>1980 Military Coup; Abolishment of Municipal Councils, Removal of Mayors The will for integration to Globalization Deconcentration of Industrial Facilities Acceleratingly growing service sector Establishment of foreign firms in Istanbul</p>	<p>The opening of Bosphorus Bridge (1973) Splintering of CBD along Beşiktaş-Maslak axis The announcement of Beşiktaş-Maslak Axis as Tourism Development Area Piecemeal planning along Beşiktaş-Maslak axis for industrial development New Legislations following Military Coup Changes in the Local Administration Changes in the Development Regulations Changes in Housing Policy & Changes in the Duties of Local Administrations Conservation Legislation Specially for The Protection of Bosphorus Area 4 Amnesties for Squatter Areas during 1979-1984</p>
<p>1984-to date</p>	<p>1984 First general election after 1980 Military Coup Neo-liberalization of economy to global markets (Turgut Özal as the Prime Minister) The will for integration to Globalization Deconcentration of Industrial Facilities Acceleratingly growing service sector Establishment of foreign firms in Istanbul Accelerating Increase in Usage of ICT Technologies Istanbul as a world-city in Globalization Development of Beşiktaş-Maslak Axis as the IT-intensive CBD of Istanbul EU accession</p>	<p>Planning and application by different municipalities along Beşiktaş-Maslak axis Accelerating Development of Beşiktaş-Maslak as the new CBD 1/5000-1/1000 Application Plans in Maslak and Şişli Area by Şişli Municipality Establishment of ICT infrastructure to Beşiktaş-Maslak axis by Turkish Telekom The replacement of public works buildings along Beşiktaş-Maslak axis Development of Beşiktaş-Maslak Axis as the IT-intensive CBD of Istanbul 1/50,000 Scaled Istanbul Metropolitan Area Sub-Regional Plan, 1995 1/100,000 Scaled Master Plan, 2006 Special Tourism Act by Ministry of Culture and Tourism</p>

people. As Istanbul is almost three times bigger than the next city in rank, Ankara, whilst its area is (25,706 km²) five times bigger than Istanbul, which means that it is more densely populated within the city center of Istanbul. According to TURKSTAT 2000 data, the population of Istanbul 9,119,315 in the city is and in the rural areas 914,163 people. Total population of Istanbul is 10,033,478 (TURKSTAT 2000). According to the submitted data, 91% of the population of Istanbul accommodate in urban areas.

The major characteristics and planning decisions since the establishment of the republic is given in Table 4.2. This table summarizes the historical development process of Istanbul and Maslak. The following section elaborates urban transformations in Istanbul with regard characteristics of the period and the application plans on operation at the times.

4.3.1. 1920-1950 Period and 1938 Prost Plan

Following the establishment of the Republic, between 1923- 1950 and during the reorganization process of the economy, Istanbul lost its attractiveness as an economic center due to the Statism policies of the 1930's, the efforts to by-pass the economic crisis known as the Great Depression in 1929, the debts of the Ottoman Empire, and the resistance towards the imperialism and selection of Ankara as the capital city. For the first time in its history, Istanbul started to loose population. While at the beginning of the century, it has a population of almost a million people, in 1927, it decreased to 600,000, in 1935, it became 740,000; and then in 1945, it increased to 900,000 people. During these years, the growth rate of Istanbul is far lower than the other cities (C.P.D. 1995)³⁵

All the planning decisions and regulations of the Ottoman Empire period had been revised during the first half of the 1930's. In 1930, Act No 1580 of Municipalities and Law No 1593 of General Hygiene Regulations, in 1933 Municipality Banks Law and Building and Road Regulations, and finally at 1934, Municipality Condemnation Law formed a new frame for the urban governance (Tekeli 1993: 30). With the Acts 1580 and 1593, Joint Administration was brought meaning; the municipalities were assigned to prepare application plans or get them prepared. In this context, the municipality of Istanbul called four well-known planners to enter a competition for the Plan of Istanbul. These planners were Herman Elgötz (German), Alfred Agache, Jack

³⁵ C.P.D.: City Planning Department of Greater Istanbul Metropolitan Municipality

H. Lambert and Henri Prost (French). Henri Prost did not enter the competition and although the winner was Herman Algötz, the municipality did not settle with him and instead they called another German planner, Martin Wagner. Although, the analysis he prepared were considered to be ahead of his time, the municipality was expecting more. Therefore, they called for Henri Prost at 1936 to prepare the plans. The final results of his first works of 1936-1937 resulted in 1/5000 scaled Beyoğlu Application Plan in 1938 (Tekeli 1993).



Figure 4.4. The Counties of Istanbul Metropolitan Area
(Source: Istanbul Greater Municipality Webpage, 2006)

The Prost Plan was prepared at a time when there was a slow population growth rate. In the plan, the port at Sarayburnu was to be removed, a new one to be constructed at Yenikapı, and Haydarpaşa Port at the Anatolia site was to be improved. There weren't any major changes regarding the CBD, no relocation is proposed, but modernization of the center was mentioned (Tekeli, 1994). The roads surrounding the CBD were to be improved and developed. The roads were to be widened and large parking areas were to be placed at the entrances of the center. All the industries

facilities and depots at Bosphorus were to be removed and the Goldenhorn was to be the industrial zone, hence the residential zone was to be removed gradually. The new residential areas were to be established at Taksim-Maçka, Maçka-Beşiktaş, Mecidiyeköy, Kurtuluş and Moda and Marmara coasts at the Anotolia side. The plan was prepared in respect with the car traffic (Tekeli 1993). Other publicworks such as squares, boulevards, esplanades were opened up going along with architectural projects of open-air stadiums, exhibition halls, opera buildings and monuments (Yücel 1996: 199).

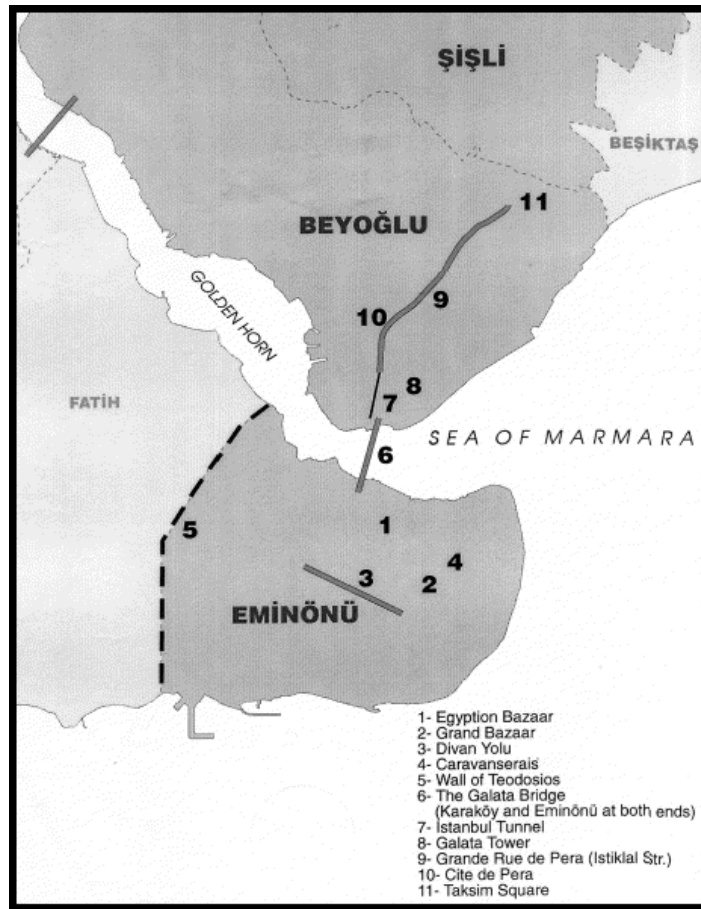


Figure 4.5. Shift of the Commercial Hub to Pera

(Source: Tokatlı and Boyacı 1999;185)

The transportation schema was based on traffic ways. Two roads for transit traffic connecting Taksim and Goldenhorn bridges were suggested. One of them was Atatürk Boulevard connecting Yenikapı port to Unkapanı, in the continuity of Atatürk Bridge to Unkapanı through Şişhane to English Embassy and reaching to Taksim. The second axis was Taksim-Karaköy with the Tunnel. Additionally, two ring roads were

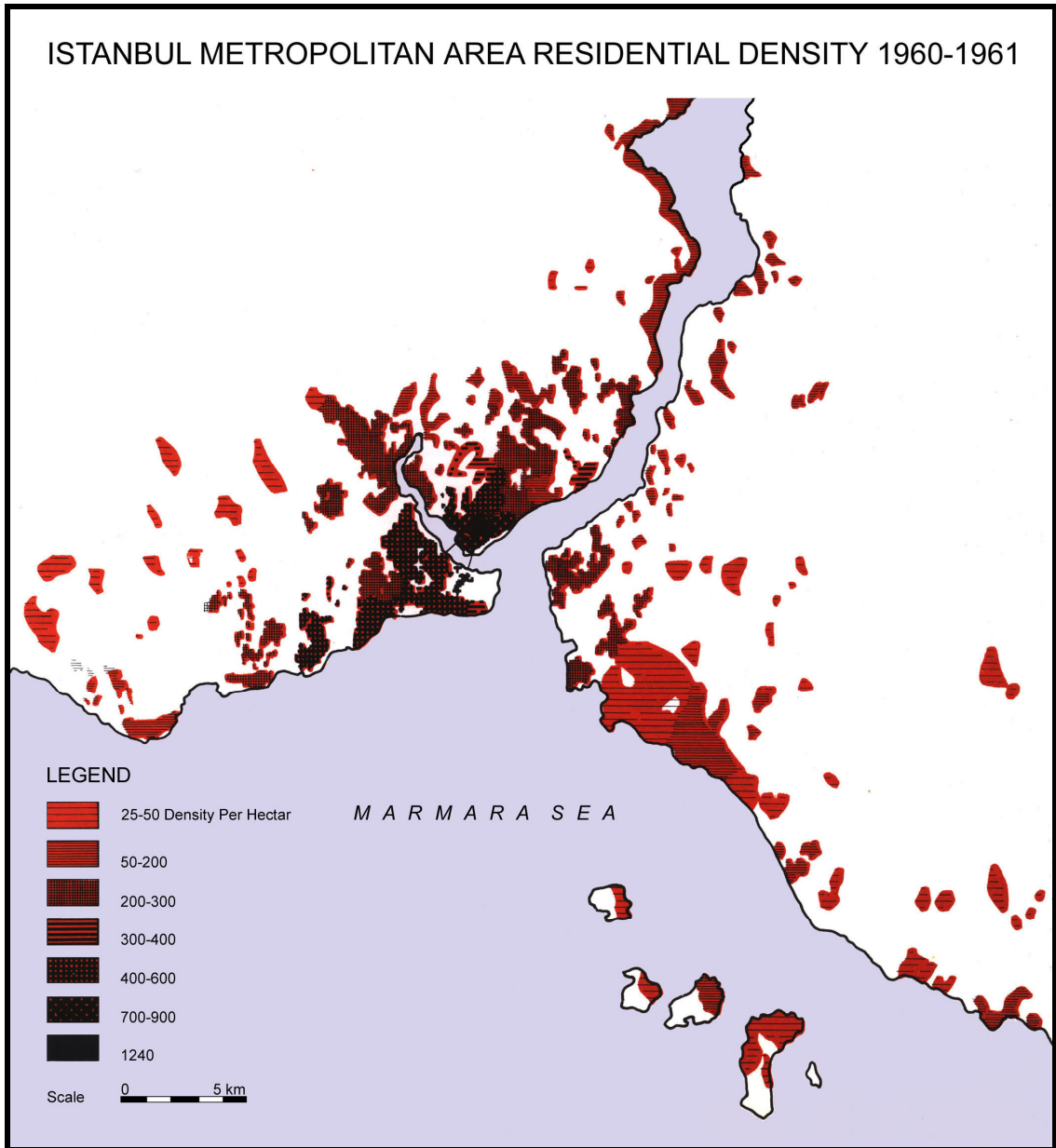
suggested; one of them following the coast line, and the other passing through the hills for Taksim-Bosporus connection. The ring road surrounding the Goldenhorn for the industries was to be connected to Yenikapı Port with the Atatürk Bridge. Vatan Avenue connects Londra-Edirne Highway and Üsküdar Square at the east coast was suggested as a traffic node. The new governor and mayor of the İstanbul Municipality, Lütfi Kırdar, realized most of the planning decisions mentioned above. However, the unexpected rise of the population following the II. World War caused the plan to become insufficient hence the Henri Prost plan was dismissed in 1950.

4.3.2. 1950-1970 Period

The transformation in the political system, the unexpected rise in the population, internal migration accelerating towards İstanbul and especially with Marshall Aid, İstanbul experienced a fast urbanization process during this period. After the 1950's the urbanization process had accelerated (See Table 4.7). There were four important problems accordingly. The residential areas were not enough, so the slum houses have commenced to take place in urban space in this period. The areas in the suburban areas, which are out of the municipality border, have begun to be parceled and sold rapidly creating a land speculation. Industrialization accelerated with the Marshall Plan. Land for the industrial facilities was needed however the plan had no adequate zone for the industry whatsoever. The last problem concerned with the accelerated usage of car, causing traffic congestion within the city. A revision to Henri Prost Plan was needed but it was never really finished. With the growing demands, only Beyoğlu Quarter Application Plan scaled 1/5000 and Industrial Zone Plan scaled 1/10,000 were prepared piecemeal.

With the new role as the economical center, during 1950s and 1960s, important public works had taken place in İstanbul. As soon as the new Development Plan Act (Act No 6785) and Condemnation Act (Act No 6830) were approved in 1956. Adnan Menderes as the prime-minister of the period, had a four-year public works plan considering subjects such as establishing the modern transportation system, opening boulevards, fixing mosques, and making the city beautiful (Kuban 1996). There were three main reasons behind these publicworks. One of them was to release the traffic congestion. Some boulevards were widened leading from a quarter to another such as: Beyazıt to Aksaray, Aksaray to Topkapı, Galata Bridge to Dolmabahçe, Eminönü to

Unkapanı, Karaköy to Azapkapısı, between the two Golden Horn Bridges, Beşiktaş to Zincirlikuyu (Barbaros Boulevard), and Sirkeci to Florya (Kuban 1996).



Map 4.2. Istanbul Metropolitan Area Residential Density 1960-1961
(Source: Ministry of Development and Housing 1963: 101/3)

Eminönü was densely populated as the city center in 1960s (See Map 4.2). The city center became diffused through the new transportation axis through to Millet Avenue, Vatan Avenue and Fevzipaşa Avenue (Yenen et al. 1996). Along with Vatan and Millet Avenues, some other were constructed as well such as; Ordu Avenue

between Beyazıt and Aksaray, Şehzadebaşı-Edirnekapı, Sirkeci-Florya Avenue nearby the sea, Eminönü-Unkapanı, Karaköy-Azapkapı, Karaköy-Dolmabahçe, Kemeraltı Avenue and Barbaros Boulevard.

Thousands of buildings had been knocked down during the implementation of the plan. Many historical buildings suffered from the new constructions. Also some high-rise buildings such as the Municipality Building, Hilton Hotel, and Divan Hotel were constructed; changing the silhouette of Istanbul for good. During this period, Üsküdar and Kadıköy emerged as the 2nd degree administrative centers for the East coast (Berköz 1998).

The city center structure has changed in the 1950s with the physical infrastructure constructions in the cities. The industrial compensations, highway investments, modernization in agriculture with the Marshall Plan³⁶ projects had reflections in Istanbul (Yenen et al. 1996). These economical changes put Istanbul on a fast development process which was slowed down with the closed-economy³⁷ policies of the 1930s. During the liberalization process of the economic system, whilst the emphasis was on the precedence of the individual entrepreneurs and the open economy to national markets, Istanbul was put forward as an industrialization area.

During 1950s and 1960s, Kağıthane and Zeytinburnu were the first squatter areas formed around the industrial areas. During this stage an important political transformation from single-party system to multi-party political system occurred in the second half of 1940s. By 1950, 25 parties were founded. The transition to multi-party political system brought an important problem to the cities and planning as the fostering of the squatter housing which from this point on became a component of the urban system in Turkey (Tekeli, 1994).

³⁶ Marshall Plan was officially known as European Recovery Program (ERP) and originally signed as Truman Doctrine at July 12th, 1946 and consolidated by the name of Marshall Plan in July 4th, 1948. It was a reconstruction plan for helping the European countries to restructure their economies that suffered from the Cold-War era and repelling the socialism, after the II. World War. The main aspect behind the Marshall aid was to reconstruct an economy for the European countries which is independent to USA and forming new trading relationships within Europe. To distribute these aid funds, OECD (Organization for Economic Co-operation and Development) was founded in 1948. OECD was to administer for the economic development and budget of the member countries to receive the Marshall Aid Funds. During the 4-year period, USA paid 11.4 billion \$, and 90% of these money were required. With the Marshall Plan, industrialization accelerated, new highways and railroads constructed, mechanization of agriculture was succeeded.

³⁷ Closed-Economy is an economical term describing the condition that one nation does not trade with the foreign countries Until 1980, Turkey led a closed-economy policy. After the economical policy changed from closed-economy to liberal market policies, foreign trade was supported by government promotions, production was utilized to export oriented industries and the fiscal policies had been revised for improving and restructuring the financial markets (Erçel, 1999).

The actual planning of the industrial sites for the first time realized with 1954 Beyoğlu Application Plan. Kağıthane was planned as an industrial site. Ayazağa followed this development and industrial sites enlarged through Ayazağa because of its proximity to Kağıthane. These industrial areas enlarged towards Maslak along Büyükdere Avenue. In 1955 there had been additions to this plan causing İstinye to join the plan as industrial area, also. In 1957, Istanbul Development and Planning Department (*İstanbul İmar ve Planlama Müdürlüğü*) was formed (C.P.D. 1995). In 1958, Italian architect-urban planner Luigi Piccinato was invited as an advisor to lead the planning studies in Istanbul. Istanbul Metropolitan Macro Landuse plan was formed by Piccinato (Kortan, 2006). On Piccinato's proposal, the borders of the adjacent areas for planning control (*müicavir alan*) was established in 1959. One of the most important contributions of Piccinato is the road system that connects the splintered settlements to the backbone of the city. It was to start from London Highway crossing the Goldenhorn joining the Bosphorus High road. This was a system to connect to Ankara state highway (Tekeli, 1994).

These occasions influenced the CBD in two ways. The CBD splintered to dual-core while its inner dynamics were also transforming. The city center or CBD (Central Business District), as it is called today, was used to be the administrative and service center for supporting facilities basically for both, the agricultural and the non-agricultural activities. Administrative functions, retail and wholesale commerce, individual and institutional services were located at the center (Saraçbaşı 2001). During this stage, a dual center development has emerged in Istanbul in the form of newly developing administrative and service center, and the traditional city center with its historical pattern. These centers may be found side by side or even one within another. There are basically two reasons underlying this fact. One of them is the agglomeration economies brought about by the firms using the same sources or using the end product of other firms as the by-product in production and which, tend to stay close to each other to minimize transportation and other costs, and the other one is the disabilities in communication (Osman 1998). What happened in Istanbul CBD shows similar tendencies.

In Istanbul, CBD expanded to include the sub-centers of the former neighborhood centers. The near-by locations to the traditional city center became part of the new CBD, while on the other hand it splintered towards the sub-centers of different parts of the city, proposing the dual city-center formation. Before this restructuring, the city center consisted of three inter-related parts. These were Eminönü, Sirkeci and Kapalıçarşı at the main core, Karaköy, Perşembe Pazarı (Thursday Bazaar) and

Bankalar Avenue (Banks Avenue) as the second and İstiklal Avenue and Tepebaşı. The former sub-centers which formed the dual core from this point onwards were distributed to Kadıköy, Üsküdar, Beşiktaş, Aksaray (Tekeli 1994).

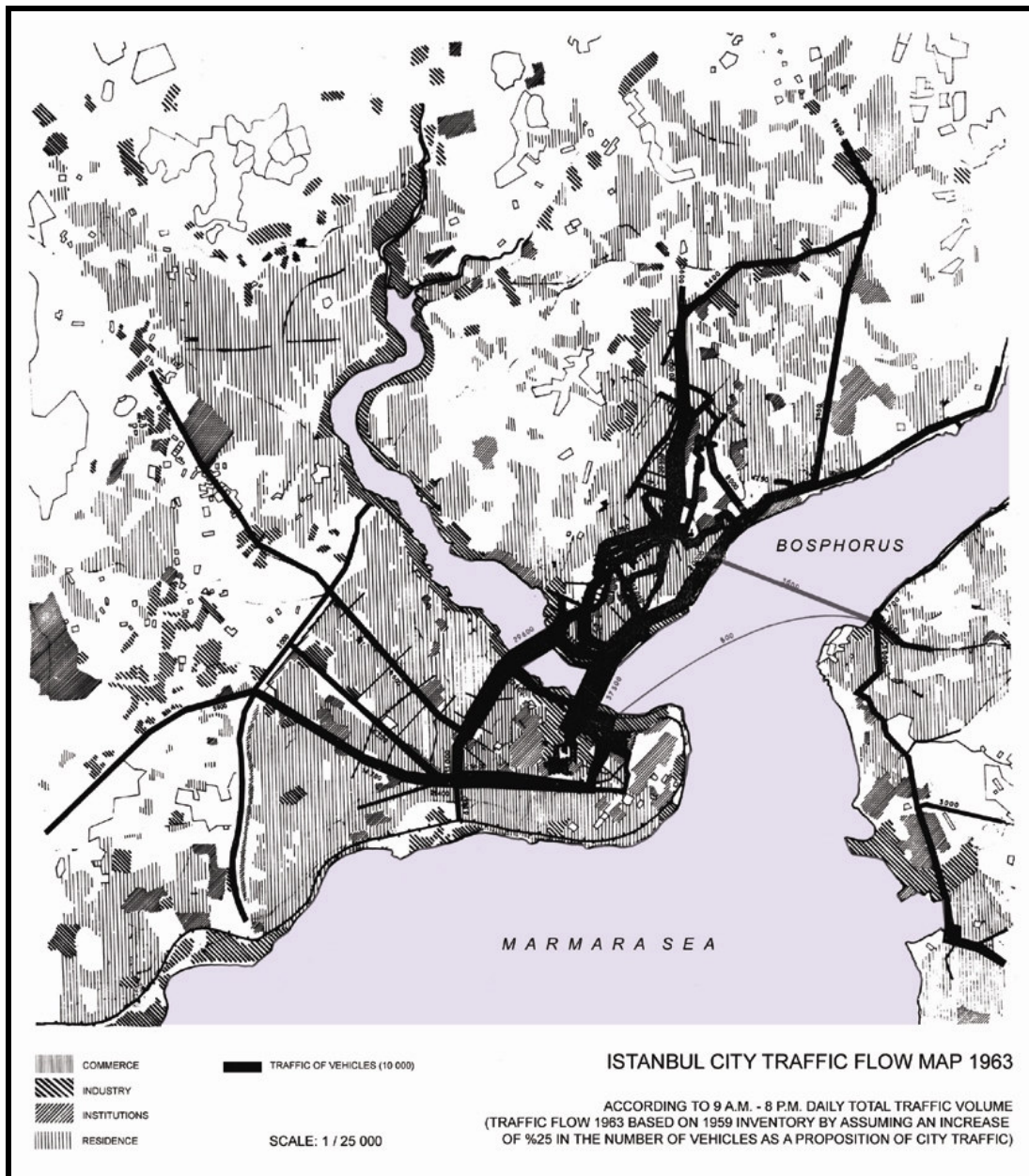
The tendency that can be explained with the agglomeration economies is the inner-core dynamics of the traditional city center. The firms in the main core distributed locally according to their type of specializations

Sultanhamam specialized in banking, business offices and clothing stores, Sirkeci hotels and services such as restaurants, Ankara Avenue and Cağaloğlu in printing and publishing, book stores and stationary, and newspaper administration buildings, the environs of the old Palace of Justice offices were occupied by doctors and finally Mahmutpaşa and its environs specialized in the marketing of clothing and other commodities of low income groups (Tekeli 1994; 139) (See Tekeli 1994 for further examples of specialized firms distribution in the core center).

The development of the Beşiktaş-Maslak axis is the ratiocination of the natural restrictions. The diffusion of the traditional city center was no longer possible because of the limitations towards the Goldenhorn because of the dockyards. Hence, the center grew in the direction of Kabataş, locating the administrative buildings of the firms and banks within. Beşiktaş is on the same axis through Eminönü leading to the north along Bosphorus.

The CBD formation towards the north, draw high income groups towards the axis. Both the residential areas and their workplaces and services such as the private medical firms, hotels and some consumer oriented facilities (Tekeli 1994). The formation of the axis began with these facilities which were mostly oriented towards high income groups at the first place. Hence, the CBD facilities accelerated in Beşiktaş. At the same time a new construction boom was taking place in Istanbul. Private constructors began producing high storey residence, shopping arcades and office buildings (Tekeli 1994).

The large-scale industrial facilities at the CBD splintered towards the suburbs whilst the small-scale firms stayed within. Thus, the small-scale firms were mostly dependent upon the agglomerations and cannot afford not to be in the city center. On the other hand, the large-scale industry was stuck in the traditional city center where the land is limited and founding large-scale enterprises weren't possible due to the current planning schema, lack of space and the rents of the land. Therefore, the large-scale industry splintered towards the suburbs searching for adequate amount of land with strong transportation linkages. The processes of restructuring CBD and splintering of industrial facilities will be elaborated later in this chapter.



Map 4.3. Istanbul City Traffic Flow in 1963

(Source: Ministry of Development and Housing 1963: 127)

After the establishment of Istanbul Development and Planning Department, the municipality started planning Istanbul, in 1961. At the same time Ministry of Housing and Development was studying on a preliminary plan for the development of East Marmara. In 1963, after three years of study, the preliminary plan was published by The Ministry of Development and Housing. Istanbul had been considered separately in this preliminary plan report. The development was considered in three groups. These were settlement, industry and green areas outside the city.

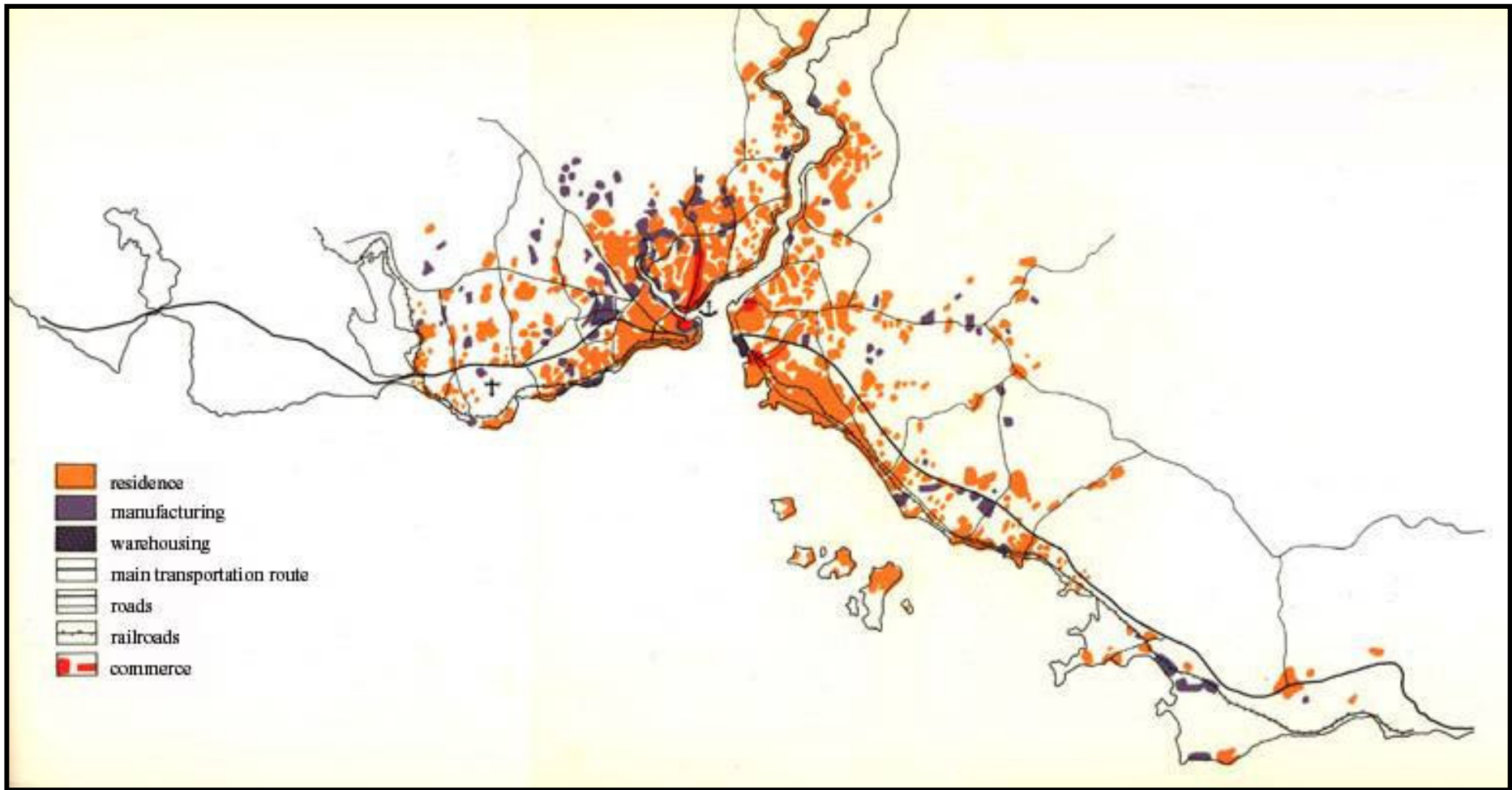
The development was based on the industrial areas that were to be located in Istanbul. So, to attract the entrepreneurs, major importance is attached on the land routes as the industries tend to reach the sources and by-products via highway transportation. Therefore, transportation routes decided with this plan is as follows: In East Marmara, Sapanca-İzmit and Istanbul-Silivri Routes connect east-west axis. İzmit-Yalova, Yalova-Bursa, Tekirdağ-Nation Border routes must be realized and the connections to

1. Ereğli Iron-Steel Factory to İzmit Industrial Park,
2. to Aegean Region for tourism facilities towards the south axis,
3. to Kartal and Gebze for the Industrial Parks to be located through the north of Ankara Route from Ümraniye must be revised.

Although these routes are important in indicating the development plans for Istanbul starting from the 1960s, the inner city development considering CBD is of vital importance to explain the tendencies of decision makers versus entrepreneurs. The road connections or decisions of traffic routes influence the tendencies of the urban sprawl. In this preliminary plan study, precautions for the heavy traffic flow were to distributing various functions to different city parts, separating functions such as CBD, bus terminals, depot areas which create heavy traffic from each other, and locating them on secondary routes instead of main arterials within the city.

One of the most congested city parts of the 1960s was the Karaköy-Eminönü-Sirkeci axis and the Galata and Atatürk Bridges that connect them. To overcome this problem, it was planned to distribute the different functions on different city parts. For example through Karaköy-Levent axis, different land uses exist such as CBD, retail-sale, residence for high income groups, and industrial areas and they are located in the following order through the same channel of transportation route (Ministry of Housing and Development 1963: 128). (See Map 4.2 for the existing Land Use Distribution in 1963.)

The decisions that consider a solution to this problem distribute these functions to different areas, so as to create a road network, to pass the main arterials nearby the centers but through the city center and to built new bridges on Goldenhorn (Haliç) for Karaköy-Eminönü-Sirkeci axis. Also a ring road from Zeytinburnu through Goldenhorn to Levent and even a metro line were considered in order to serve the Levent-Ortaköy axis for the Bosphorus Bridge which was considered to be constructed in the East Marmara Preliminary Plan (See Map 4.3).



Map 4.4. Metropolitan Istanbul Existing Situation in 1963
(Source: Ministry of Development and Housing, 1963, 140/1)



Map 4.5. Highway Traffic Flow Map of 1963
(Source: Ministry of Development and Housing, 1963, 116)

With the Bosphorus Bridge, ideas of new ringroads were considered. To extend the ringroad through Zeytinburnu for the depot facilities, Industrial parks on Edirne highway through the west axis were planned, the sprawl of settlements through Küçükçekmece where a new port for Istanbul was considered and a new settlement at Ümraniye at the Anatolia side was suggested. The new industrial park considered at the north of the Ankara highway after Kadıköy, was forming the new development structure for Istanbul. And the inner development axis of Istanbul was considered as through Edirnekapı-Halkalı at the east and Üsküdar-Şile at the west.

However, the realization of these plans did not take place quite accordingly due to the dynamics of the city. As mentioned before, one of the main problems with the plan was the population estimates. The population estimates were studied according to the growth percentages of the previous years. However, during the 1950s, Istanbul was a mean to internal migration and this process resulted with the imprudent planning practice.

The resources for the urban transformation can be put forward as land, capital, human and technology. Capital influences the urban development on three sides. The investments of public and private institutes are distributed to technology investments, infrastructure and city. The urban infrastructures can be put forward as communication, transportation, technical support and service sector, capital and knowledge worker. These usages of the resources identify the dynamics of the city. But the human factor may be overall the most important input in this process. Although the projections of growth rates may be realized as expected, there is a lack of underestimating the human factor in planning. In some cases as seen in Istanbul, planning decisions may be different than in practice. The investments that are structured within the city may form unexpected developments which cannot be foreseen on the planning scenarios. Land, as a source of urban transformation, may be played on differently by the actors, decision-makers and especially by the landowners. In this context, Istanbul constitutes a good example of this situation.

At the East Marmara Region Preliminary Plan, dated 1963, population estimates were prepared according to a growth and migration rate which accelerated incredibly during the following years. The natural population growth estimates were prepared according to high, medium and low development estimates considering the tendency data of the previous years. The highest estimate rates of the 1935-1980 period are listed in Table 4.2.

Table 4.2. Nationwide Growth Rate Estimates of 1935-80 Period.

(Source: East Marmara Region Preliminary Plan 1963: 18)

1935-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80
14	22	28	29,3	27,9	28,2	30	32,5

Table 4.3. The Growth Rate estimates of Istanbul Metropolitan City regarded to Total Nationwide Growth Rates (Source: East Marmara Region Preliminary Plan 1963: 18)

1960	1965	1970	1975	1980
59	62	60	57	25

The Migration Rates were such as follows:

Table 4.4. The Migration Numbers that were expected to move from towns to cities Nationwide (People/year) (Source: East Marmara Region Preliminary Plan 1963: 18)

1950-60	1960-65	1965-70	1970-75	1975-80
35,000	50,000	70,000	100,000	100,000

According to the projections, the migration rate would be accelerated during the 1950-60 period until 1970 where it would reach 2,500,000 people, and it was expected to decelerate afterwards. So the expected Marmara region migration pattern was such as in Table 4.5.

Table 4.5. The Migration Numbers that were expected to move from towns to Marmara Region (People/year) (Source: East Marmara Region Preliminary Plan 1963: 19)

1950-60	1960-65	1965-70	1970-75	1975-80
35,000	55,000	75,000	90,000	100,000

Table 4.6. The Migration Numbers that were expected to move from towns to Istanbul Metropolitan Area (People/year) (Source: East Marmara Region Preliminary Plan 1963: 19)

1955-60	1960-65	1965-70	1970-75	1975-80
45,000	70,000	75,000	130,000	130,000

The population projections in real numbers for Istanbul -for the highest growing scenario- were determined in Table 4.7.

Table 4.7. High Development Estimate Analysis of Istanbul Metropolitan Area (Thousands)

(Source: East Marmara Region Preliminary Plan 1963: 20)

	1935-40	1940	1940-45	1945	1945-50	1950
Estimate Analysis Percentage	% 7,2		% 7,2		% 14,3	
Estimate Analysis Population				817		929
Migration			62		74	
Total Population		806		879		1,003
	1950-55	1955	1955-60	1960	1960-65	1965
Estimate Analysis Percentage	% 16,2		% 17,3		% 17,2	
Estimate Analysis Population		1,087		1,44		1,824
Migration	234		235		+355	
Total Population		1,321		1,675		2,180
	1965-70	1970	1970-75	1975	1975-80	1980
Estimate Analysis Percentage	% 17,1		% 17,0		% 16,9	
Estimate Analysis Population		2,372		3,12		4,133
Migration	+497		+680		+665	
Total Population		2,869		3,800		4,798

Although, the projections which are prepared by the mentioned study of the Land and Housing Ministry are close to the real population numbers, the studied preliminary plan had failed in many ways in practice. The realized numbers in Istanbul given in Table 4.8.

The aspects of the 1963 East Marmara Preliminary Plan are totally different from the realized Istanbul Application Planning Practice. For instance the industrial sites were located in east-west direction at the 1963 East Marmara Region Preliminary study. But, Maslak is actually a very good example of the dispute between the plans and the realizations in real life. Hence, some decisions may cause unexpected and unpredicted effects on city life and structuring tendencies. Land and land ownership in particular, may cause different formations within the structuring process of the cities. Maslak signifies this kind of structuring, going ahead of the planning.

Table 4.8. Population of Istanbul by Census Year and Annual Increase Rate

(Source: Turkstat 1993)

Years	Population in Census Years	Annual Increase Rate ‰ (2)
1927 (1)	806,863	
		11,36
1935 (1)	883,599	
		22,99
1940	991,237	
		16,86
1945	1,078,399	
		15,7
1950 (1)	1,166,477	
		54,75
1955 (1)	1,533,822	
		40,92
1960 (1)	1,882,092	
		39,57
1965 (1)	2,293,823	
		54,94
1970 (1)	3,019,032	
		51,44
1975 (1)	3,904,588	
		38,86
1980 (1)	4,741,890	
		41,76
1985 (1)	5,842,985	
		44,78
1990 (1)	7,309,190	

(1) Indicates final results of censuses.

(2) Annual intercensal increase: Annual intercensal increase between two consecutive censuses is calculated by natural increase formula $P_n = P_e e^{rn}$ on the basis of results obtained from the two censuses.

The industrial areas continued to grow through Maslak during 1960s from Kağıthane. The west side of Büyükdere Avenue continuing through Şişli to Maslak became an industrial area, bringing along the squatters. The area was enunciated as

Industrial area in 1/5000 scaled “Istanbul Industrial Areas Development Plan” dated 29.04.1966 (Kabarık 1991).

4.3.3. 1970-1984 Period

The most important incident at the beginning of the period is the opening of the Bosphorus Bridge at 30.11.1973, connecting the east and west sides of Istanbul through Beşiktaş-Maslak axis with Büyükdere Avenue and Barbaros Boulevard. Following the opening of the bridge, the sites along these roads became prestigious areas and a subject to land speculation. The land ownership changed swiftly. Today, this area still represents prestige, especially for the firms and establishments within, thus changing the CBD hierarchy of Istanbul Metropolitan Area in its advantage causing other problems for the city³⁸. There are two main urban spatial formations at Maslak axis during the

³⁸ The hierarchy of Istanbul's' CBD Areas

The CBD of Istanbul transformed from a single-centered city to a dual-centered city and then to a multi-centered city over time. The CBD starting from the historical peninsula, scattered along Karaköy, Galata-Beyoğlu, Harbiye, Osmanbey, Şişli, Mecidiyeköy, Zincirlikuyu, Levent, and Maslak. These areas, both in local and international levels, are in charge of administrative, control, coordination, finance, privatized facilities and services and commercial activities (C.P.D. 1995). The sub-center hierarchy of Istanbul which was studied by City Planning Department of Istanbul, Metropolitan Municipality in 1995 in the 1/50,000 Scaled Istanbul Metropolitan Area Sub-Center Region and Development Plan Report, is as follows:

As for the east coast, Kadıköy is developed as the Ist Degree Sub-center, but in the metropolitan scale it refers to a IInd Degree sub-center in terms of its qualifications. As the included its functions cannot reply more than daily needs and stay more than o transportation node instead.

When Kadiköy is taken as the Ist Degree center, Üsküdar is the IInd Degree, and Kartal, Maltepe, Pendik, Ümraniye may be classified as the IIIrd Degree. At the metropolitan scale where Kadiköy is classified as the IInd Degree city center, Kozyatağı although it does not have an existing center, but has the validity in terms of accessibility, residential areas, and shopping malls such as Carrefour and Metro, can be classified as the IIIrd Degree sub-center.

At the West Coast, as the continuity of the Historical Peninsula, Şişli, Mecidiyeköy, Zincirlikuyu, Levent, Maslak axis performs as the Ist Degree City center, Bakırköy as the IInd Degree City center as it serves to a broad hinterland. The sub-centers at the West Coast, which are classified at same level with the ones in the East Coast are; Bayrampaşa, Gaziosmanpaşa, Bağcılar. There are some settlements which cannot be classified as sub-centers as they stay at the hinterlands of bigger sub-centers are as follows: Bağcılar and Güngören in the hinterland of Bakırköy, and Küçükçekmece in the hinterland of Büyükçekmece and Avcılar. Also as they refer to the high incomers' residential necessities as in Küçükçekmece case, and Bağdat Avenue, Kalamış, Caddebostan, Bostancı host entertainment and recreational facilities to their residential zones.

When examined, the Ist and the IInd degree sub-centers of unplanned developments as in Beyazıt, Aksaray, Millet and Vatan Avenues and Fatih settlements, the old city centers enlarge pressing its' environment with its density.

Especially after the 1980s, the rise of “Centers with the infrastructure demand” was experienced which were once used to be simple village settlements, and with the migration and chancing social infrastructure, claiming physical, social and institutional infrastructures and transportation. These settlements are Bayrampaşa, Mahmutbey, Güneşli, and Kocasinan,

1970s; decentralization of the industrial areas began and the new CBD formations took place at the sites of the brown fields (See p. 72 for elaboration on brown fields); (See Map 4. for the diffusion of Istanbul Metropolitan Area throughout the periods).

During this period two military coups took place. The first one is dated back to 12 March 1971, and the second one is dated back to 12 September 1980. Following the second military coup, all mayors were removed from the municipalities. Following 1980, four new legislations and applications for the local governments were introduced. These are (Tekeli 1994; 169);

- (i) Changes in the organization of Local Administrations,
- (ii) Changes in Development Regulations,
- (iii) Changes in Housing Policy and Duties of Local administration and Governments,
- (iv) Conservation Legislation and Special Laws for Preservation of Bosphorus Area

Following 12 September 1980, there had been some precautions taken as abolition of municipal council and termination of the employments of the Mayors (Tekeli, 1994). New legislation for the municipal incomes constituted as 5% of the Governments general budget was to be delivered to the municipalities and 1% of this budget to the province.

Following the new legislations, 22 counties and afterwards, 25 peripheral municipalities were reorganized and dissolved into other Istanbul Municipalities. Thus, the population Istanbul rose from 2.853.000 to 4.741.890 (TURKSTAT, 2000).



Figure 4.6. Bosphorus Bridge in Construction

(Source: WEB_9)

Yenibosna at the West coast and Soğanlık, Yaylalar, Ümraniye at the East Coast. These settlements grow without a plan in means of social or physical infrastructure (C.P.D. 1995).

During this decade another structuring of squatter housing took place. With four amnesty acts between 1979 and 1984, unauthorized buildings were legalized (Tekeli, 1994). These squatter houses were usually constructed around the industrial sites such as Kağıthane, Zeytinburnu, Halkalı, Maltepe, Levent, etc. starting from the 1950s (C.P.D. 1995, Çakılcıoğlu 2004).

The industrial sites considered in 1966 Industrial Master Plan dated 05.06.1966 and the other approved plans between 1966 and 1980 were validated, also. In 1980, 455.149 people were working in industrial sector in Istanbul. According to the 1980 Master plan, this number was estimated to increase to 1.100.000 workers in 1995, thus area of industrial reserved site to be reserved by 1995 was calculated as 1100 ha. (C.P.D. 1995, Çakılcıoğlu 2004). The 1966 Industrial Master Plan was forcefully forbidding the industrial areas within the city center (Bölen et al. 1996). The industrial zones were determined at the east and west parts of the city that caused the city to enlarge in east-west directions.

In the structuring of the city, the existing road system played an important role, the first places gather large amounts of housing units were along these transportation axis. The old city parts were subject to a relatively slow restructuring whilst the newly developing parts were growing in haste without any infrastructure or plan. Rise in the car ownership resulted with congestion and decentralization of the housing units which were used as summer houses, such as: Yeşilköy at the west, Büyükdere and Sarıyer at the north, Suadiye, Bostancı and Adalar at the east. The summer houses and tourism areas shifted to Silivri, Dragos, Bayramoğlu, Yalova and Çınarcık (C.P.D. 1995).

The new microform studies carried out during the 1970s, the residential area supply and demands, and the betterment projects for the transportation caused spatial transformations on the urban built environment. The diffusing city and the insufficient mass transportation system concluded with a new type of mass transportation called as 'shared taxi' (*dolmuş*) mainly with the efforts of private entrepreneurs. The solution was efficient but, at the same time, it increased the traffic congestion much more in the city center (Osman 1998).

Several plans were prepared in 1973, 1978 and 1980 by Istanbul City Planning Office (*Istanbul Nazım Plan Bürosu*), established in 20.07.1969, hence they were subject to the approval of Ministry of Housing and Development. Thus, the plan was approved in 29.07.1980 (C.P.D. 1995; Yüzer and Giritlioğlu, 2003). During the last 5 years of the decade almost no planning had taken place in Istanbul Municipality other

than preparations for realizing decentralization and establishment of new production units which were suffering from the lack of land, to the industrial sites and betterment projects for transportation (Cansever, 1993).

During one decade between 1970 and 1980 Istanbul grew 10km in radius upon existing 50km of radius (C.P.D. 1995). Beginning from this decade onwards, the traditional city center began losing population and Beşiktaş-Maslak axis gain instead. The opening of Bosphorus Bridge and the ringroads connecting different city parts influenced the restructuring process of Beşiktaş-Maslak axis (See Map 4.).

In 1960s, most of the businesses were carried out in the central areas. The mass transportation system was planned to serve these central areas. The local and wide spread office-based areas and commercial activities within the city center brought about a wide range of job opportunities. In 1970s, the spatial changes within the city center were taking place due to the lack of adequate amount of area for the expanding firms, high rents of the central areas, and the traffic congestion. Therefore, the employment and commercial activities located at the first ring of the center, headed towards the sub-centers.

The values in Table 4. show us that even during this period, there is a tendency to splitter from the city center, still attracting some functions may even be replaced by other commercial facilities different from the old ones. So, there may be a shift in the type of the commercial activities. The industrial employment rates in 1985 were 47,1% in the first ring, 39,8% in the second ring and 13,1% in the central area³⁹ (Dökmeci and Berköz 2000); (See Map 4.).

Table 4.9. The Employment Rates Within the CBD Areas During 1970-1985,
(Source: Dökmeci and Berköz 2000)

	1970	1985
Central Area	54,00%	33,10%
First Ring	32,50%	51,40%
Second Ring	13,50%	15,50%

In 1970s, sub-centers were mostly developed as retail commerce centers. Since the city center and CBD have most of the job opportunities, people tend to work in the

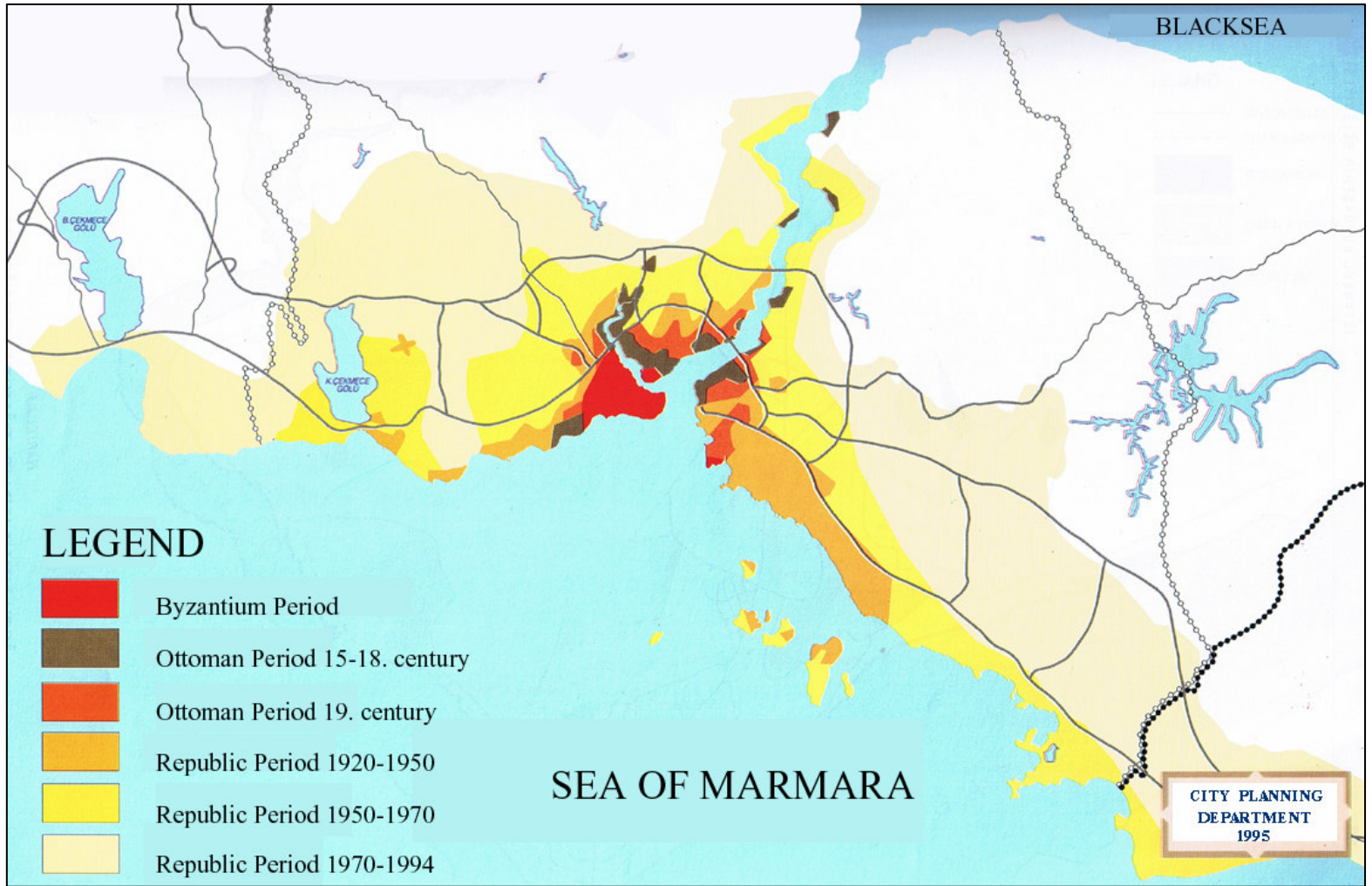
³⁹ The second ring is described by Aysu, 1990. The industrial enterprises were located first on the west side (Bayrampaşa, Gaziosmanpaşa, Alibeyköy) after the 1950s, than at the north axis (Kağıthane, Ayazağa) around the rural settlements, and after the 1970's with the Bosphorus Bridge, at the East Coasts' rural settlements (Kartal, Ümraniye) out of the municipal boundaries.

city center but to shop at the sub-centers (Dökmeci and Berköz 2000). During the same period small scale industrial areas and working estates (*toplu işyeri*) were established. Thus, the city center distributed its production activities to these areas. The only place that is controversial to this situation is Eminönü with its remaining production facilities and even spread to the nearest lands vertically and horizontally (Osman 1998).

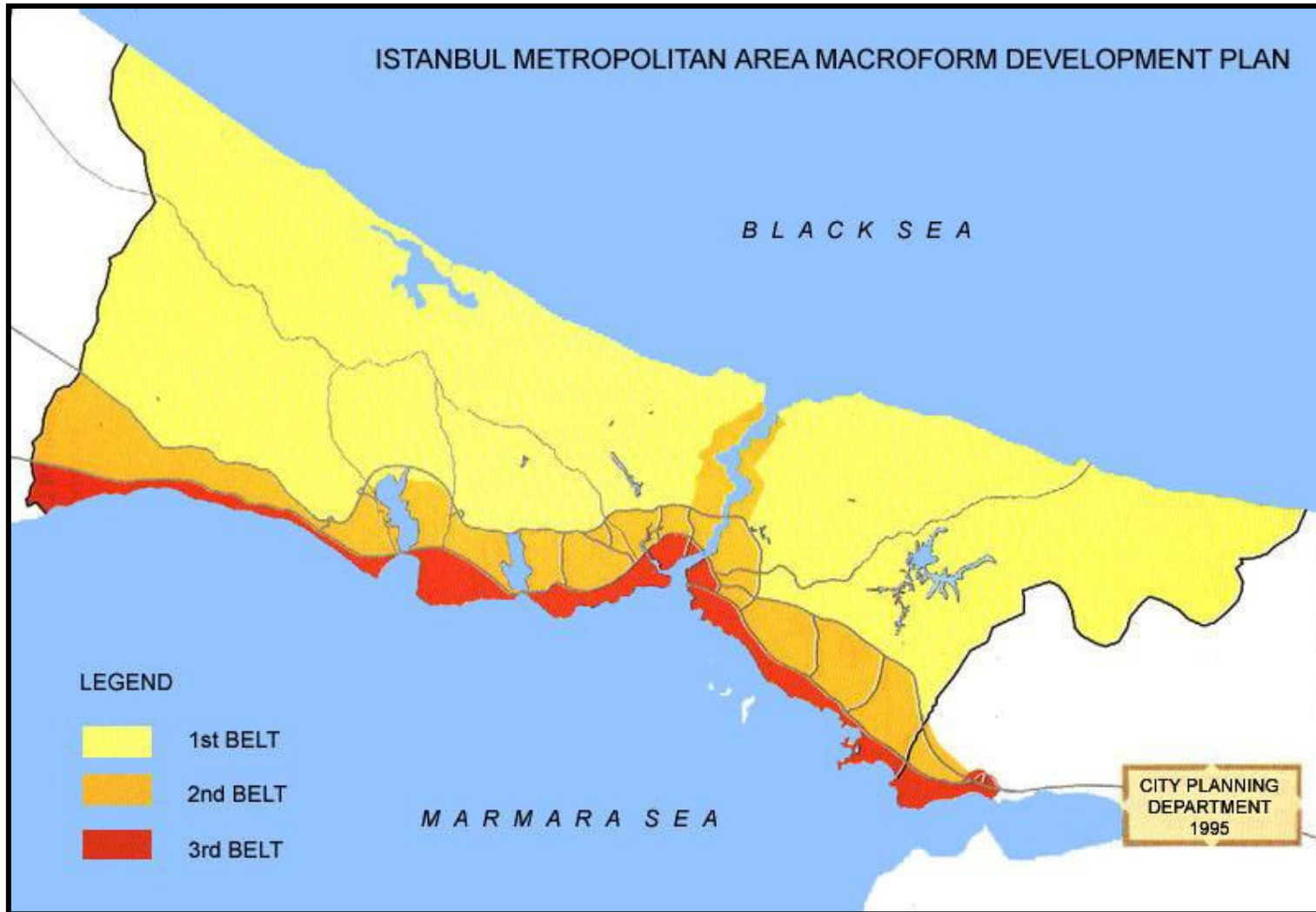
The Bosphorus Bridge, which was opened in 1973, accelerated the development of Kadıköy at the East Coast. Şişli-Beşiktaş axis developed along the ring road and offices moved over these arterials (Berköz 1996). The center, which has once grown from inner dynamics, started to enlarge with the demands along these roads. Mecidiyeköy developed densely during this period (Yenen et al. 1996). According to this diffusion and intensification of the CBD, Şişli-Mecidiyeköy –Beşiktaş axis along the Barbaros Boulevard started to spread through the fringes (Berköz 1996). Following the 1970s, national automobile industry commenced to produce locally manufactured cars and this fact has encouraged this splintering.

Whilst the new transportation routes support the new sub-centralization, these sub-centers are also linked with each other and in some cases they are even unified as one. After the 1980s, especially during the ANAP government during when Turgut Özal was the prime minister, economical reformations such as the liberalization policies, the will for joining the liberal bazaar economies, reinforcements of import and export functions, privatizations, bridging with the European Union and construction of housing and infrastructure meaning the construction sector accelerated the spatial changes in the urban environments. Following the second half of the 1980s, telecommunication technologies started to gain weight in structuring the urban space as it made the suburbanization and splintering possible with the advanced communication technologies. City microforms, centralization and decentralization tendencies of firms and functions introduced new urban areas and shaped the urban space. Especially at the metropolitan cities the CBDs are multiplied (Osman 1998).

Up to this point, the information technologies as it is commonly used nowadays, do not have any interference to the development of the CBD of Istanbul. Rather, the inner dynamics of the city forced the development of CBD. The conditions underlying urban spatial transformation of CBD into multi-nucleus centers in Istanbul mainly bases on threefold. One of the main reasons is the traffic congestion caused by the increasing private car ownership and usage in the city center, where the main concern was directed



Map 4.6. Historical Development of Istanbul
 (Source: C.P.D. 1995; 60)



Map 4.7. Istanbul Metropolitan Area Urban Macroform Development
(Source: Istanbul Metropolitan Municipality, 1995, 329)

towards the pedestrian-based access and mass transportation (See Map 4.3). The other conditions may be explained as follows:

1. New firms were established in the first ring which is the first sprawl point of the center, to minimize their transportation costs and rents of the land. These firms tend to be independent from local bazaars and refer more likely to multi-international bazaars instead. Their linkage to the center was poor. After the II. World War, the development of the highway with the Marshall Plan, decreased the need to the ports and other means of transportation for the delivery of the products. But the need to locate closer to these highway nodes became more important. New centers have emerged where these radial and ring roads crossed each other. Before the construction of the second bridge (Fatih Sultan Mehmet Bridge), the shift of the city center through the Şişli-Mecidiyeköy-Maslak axis on the Barbaros Boulevard. (See Figure 4.2, Figure 4.5)

2. The traditional city center cannot meet the spatial needs of the firms because it is densely populated. The new centers can afford the spatial needs with its vast lands for office complexes offering adequate parking space. (See Map 4.2)

3. Following the 1980s, with the phenomena related to globalization that is, the increasing international affairs, multi-national corporations and the firms in partnerships with the foreign entrepreneurs preferred to locate in these new centers which have the adequate land stocks around the developing highways and ring-roads (Dökmeci and Berköz 2000). (See Map 4.17)

After 1980s, with the neo-liberalization of the economy, increasing will to integrate into globalization process, connections to global markets and the keen interest of the foreign entrepreneurs and investments determined Beşiktaş-Maslak axis which was already in progress as the adequate restructuring urban context. The developments on IT after 1980s accelerated the restructuring process of the cities throughout the globalizing world, and Istanbul-Maslak in Turkey.

4.3.4. 1984 - To Date

“In Istanbul, the pressure of expansion is much bigger than that of the inner extension” (Saraçbaşı 2001). In the globalization process, the increasing job density and turning from the local bazaar towards the international bazaars have formed the base for

the spatial transformations. After the 1980s, under-developed and/or developing countries such as Turkey; –Turkey was considered as a developing country in that period-, had neither the information infrastructure nor the labor, institute or capital to have these technologies. However, some of the cities like Istanbul made it through the globalizing world and the information society. Turkey came to have a threefold economic structure with the insertion of information technologies, and this process caused a shrink in agricultural and industrial sectors. In this basic economic structure, considering the needs of the global economic structure, the development depends on the integration to the information technologies and knowledge sector. Transition from industrial and agricultural facilities to knowledge sector was widely accepted and highly honored with the new economical policies of liberal economic system. This new policy was mainly based on opening to the foreign countries in means of import and export facilities, liberalization of the economy, economical growth with mainly exporting activities and to stable the economy to enter the global markets. Although after the 1980s, these liberal economies were determined, Turkey could not stabilize its economic position almost for the next 20 years. The fiscal instabilities caused inflation and precarious growth rate.

The entrepreneurs to realize this transition of liberal economic policy are the international and multinational firms that act on many countries with a multi-national corporation system. Sabancı Holding is a good example of the kind. The ToyotaSa firm of the Sabancı Holding is a multi-national partnership company. They are experiencing both import and export facilities and also production of the automobiles of Toyota Company in Turkey at the same time. These kind of firms play an important role on the distribution of knowledge and technology which is followed immensely by the capital. The advantages that a city gets depend upon the success of the firms. This fact realizes itself in the urban space of Istanbul in Beşiktaş-Maslak Axis (Cengiz 1995: 117).

Whilst this is the case in Istanbul, the land restrictions in the historical and traditional city center forced the firms in finance and knowledge sector to locate else somewhere with adequate land amount for the construction of new and modern office buildings where also the necessary information and technological infrastructures can be provided and constituted.

Although the preliminary plan studies had been formed since 1960s in Istanbul, there stayed a gap has been formed between the planning practice and the economical policies. The winner plan of the contest prepared by Herman Elgötz for Istanbul has

never been realized and instead Henri Prost was invited to prepare the plans in the last second half of 1930s. Although many aspects of the Prost Plan had been realized, it started to fall behind the needs of the city of in time as the growth rates suddenly accelerated. Although the plan was revised, it failed to match the demands as the plan was originally studied according to a less growth rate. The consequences were the piecemeal daily plans to save the day. The planning studies that were developed by Housing and Estate Ministry of 1963 East Marmara Preliminary Plan have never been realized, either. The scenarios of the study fell behind the real demands of the firms in CBD which were dealing with multi-national companies to enter the global markets. This lack of coordination resulted with the partial plans in Beşiktaş-Maslak axis. Therefore, the development of the new CBD, were built up bit by bit within the piecemeal plans for the tourism areas. Hence, the CBD moved towards the first ring (Dökmeçi and Berköz, 2000). (See Footnote 10 at Page 16 for the rings.)



Figure 4.7. Construction of Barbaros Boulevard from Beşiktaş
(Source: WEB_10)

Dökmeçi and Berköz (2000) state that “CBD comes out of the hierarchy of the functions. The fiscal core of CBD does not move or relocate unless the banks act out of its own inter-dynamics during widening process”. In 1915, banks and offices which were densely populated in Karaköy, Galata and İstiklal Avenue, moved through the new CBD and first and the second ring in 1985. As a result of the economic policies adopted since the

1980s, and the will for the integration to globalization, the need to pursue the financial and technological changes and to create a sufficient environment for the new technological infrastructure led the firms to construct new office buildings which hold the administrative facilities that dispersed in the city altogether. The functions of the firms located in this area mostly deal with the administrative centers of banking and finance, media, and holding companies.

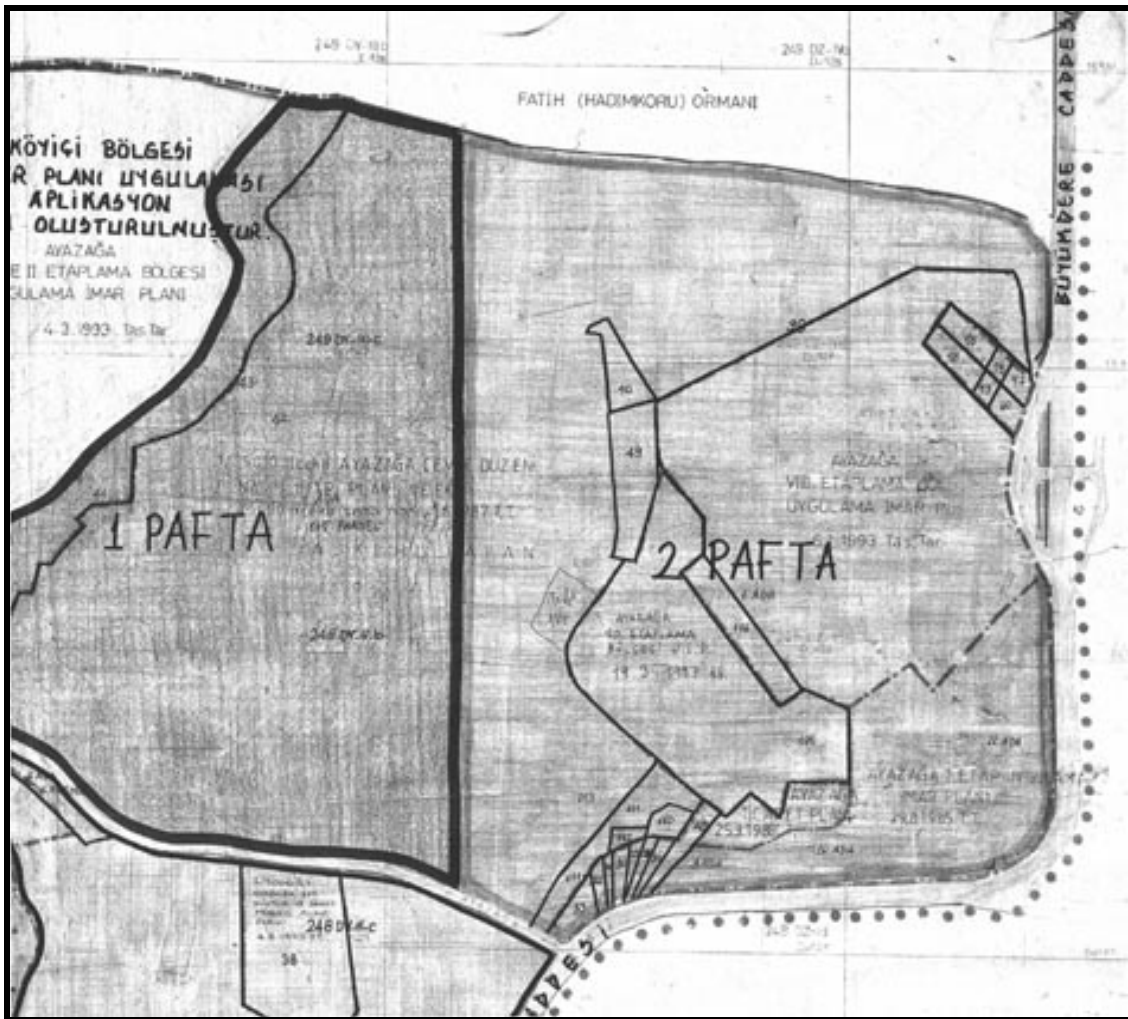
Throughout the development process, some of the public buildings such as municipality, Bureau of Public Roads, Turkish Telecom (Türk Telekom), Istanbul Stock Exchange (not directly on the axis but moved to İstinye, a closer location to the axis in 1995) were relocated at the site. Due to the deficiencies of the traditional CBD, the limited construction applications, plans and its congested environments, it slid towards the Büyükdere Avenue. This axis unites the sub-centers of Taksim, Beşiktaş, Şişli, Mecidiyeköy, Esentepe, Zincirlikuyu, Levent, Maslak into a series of centers lined consecutively. With the bridge, this axis is linked to the sub-centers of Altunizade and Kavacık and with the surrounding ringroads of TEM and E5, and the accessibility is improved.

With the excessive use of communication technologies, production units are separated from management and administration units. The liberal economic policies and the acceleration in extroverted commerce allowed the foreign investment to locate and make investments in Turkey. There are many reasons underlying the willingness of firms to locate in Istanbul, Maslak Area. First of all, it is a common known fact that Istanbul's leading position within the national economy forms an attraction point for multi-national corporations. Also, the need for qualified labor force can be met where there is a good pool of knowledge workers. The service sector is also located more densely in this area.

Another reason is the land ownership. There are two different processes in the land ownership of Maslak axis. The first one is that when the first idea of a new Bosphorus bridge and the ring roads were being argued by the planning agencies, the local holding companies started to buy land in Büyükdere Avenue where the ring roads were proposed. The industrial establishments which were located in this area started to change structure. The production facilities began to remove from the administrative departments which may be placed elsewhere. The use of communication technologies freed the production units within the city where the land is a very limited and an expensive source. These location-free production units splintered to the suburbs, another cities and even offshore. The second process of the land ownership is in close relationship with the first one and

may be defined as the 'new agglomeration economies'. With the holding companies relocating in the area, it acted as force of gravity for the other firms. At the same time, the traditional center was unable to meet the adequate land area with its expensive and speculated land prices and traffic congestion and ill-assorted infrastructure of information and communication technologies.

In Maslak, alterations in the ownerships can be viewed from the cadastral maps opposed to the property maps of Maslak area. Cadastral maps are basically the maps before any process of splitting or construction appliances take place. On the other hand, the ownership maps determine the new parcels which are ready to be constructed. The exact date of the cadastral map of Maslak cannot be determined, however, most of the cadastral maps indicate the former ownerships. First, the cadastral map and property maps are given separately, than the overlapped maps can be followed (See Maps 4.8 - 4.9 - 4.10).



Map 4.8. The Cadastral Map of Maslak

(Source: Şişli Municipality, 2006)



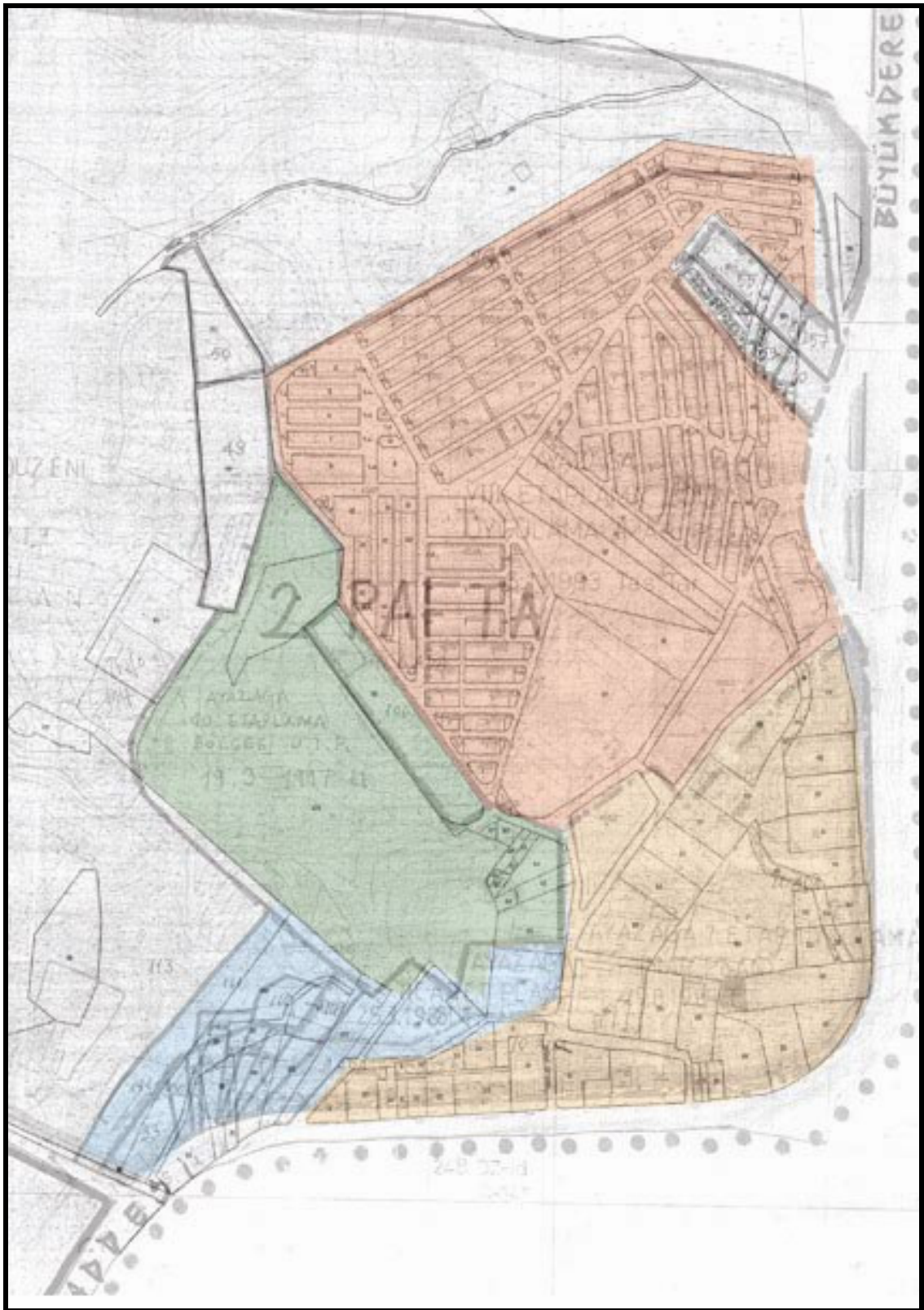
Map 4.9. Property Map of Maslak

(Source: Şişli Municipality, 2006)

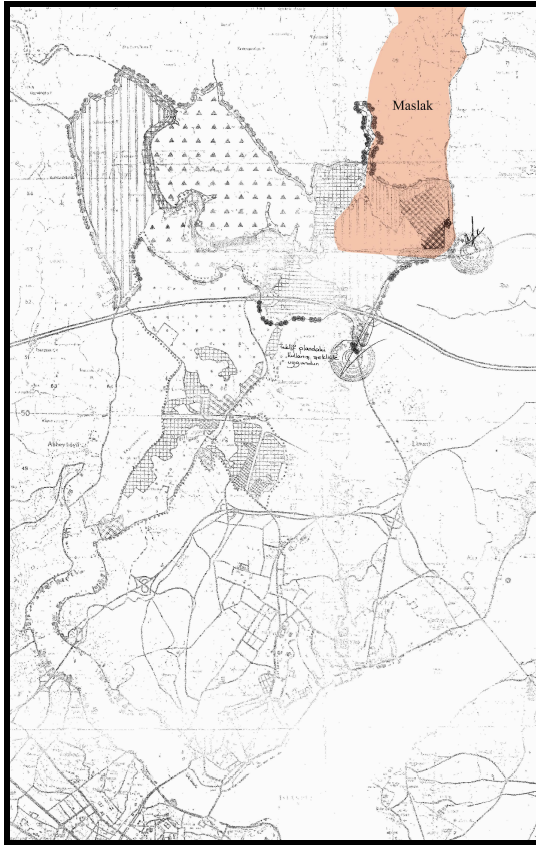
1/1000 scaled Appilicance maps of this site are studied in four pieces at different times. The plots were approved and put into appilicance at different years. Therefore, the site indicates a perfect example of piecemeal planning that occurred along Beşiktaş-Maslak axis.

Table 4.10. The Planing Etapes of Maslak

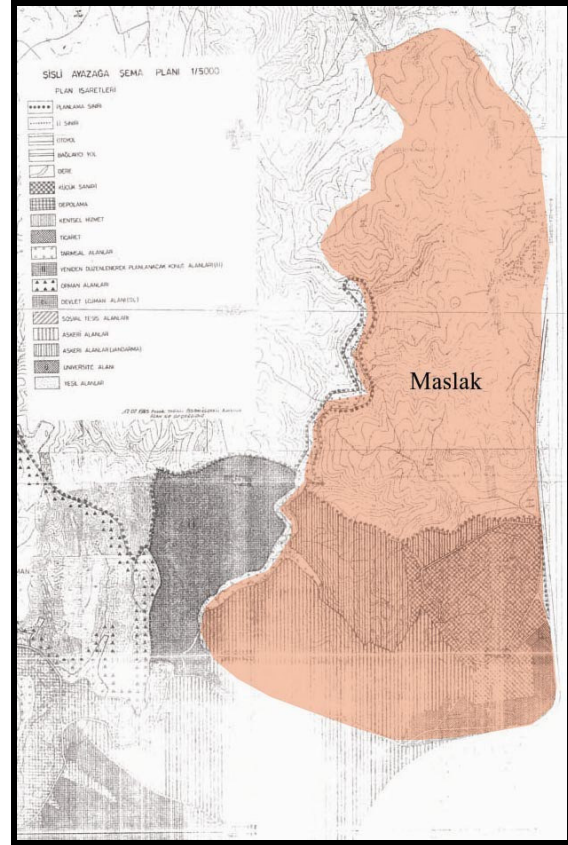
Plots	Name of The Plan	Composition
Orange	Ayazağa VII. Etape 1/1000 Application Plan	Commerce and Services
Blue	Ayazağa Commercial 1/1000 Application Plan	Commerce and Services
Red	Ayazağa VIII. Etape 1/1000 Application Plan	Small-Scale Industry
Green	Ayazağa X. Etape 1/1000 Application Plan	Mixed-Use



Map 4.10. The Overlaid Land Ownership Maps



Map 4.11. 1/25000 Regulatory Plan
Approved in 17.07.1985
(Source: GIMM 2006)



Map 4.12. 1/5000 Master Plan Approval
Dates; 17.07.1985 and 01.06.1987
(Source: GIMM 2006)

The rest of the site is surrounded by woods and belong to Military. Contemporary landuse analysis of the site can be seen in land use map (See Map 4.). It is also possible to assume that the changing of the ownership at the site was also performed in pieces; hence the rest of the axis indicated the same tendency of piecemeal development. The actual situation is a subject to a study of the land ownership changing process at the Land Registration office. Unfortunately, the land ownership informations are strictly prohibited due to the Constitutional Law other than its owners. Thus, the process indicated in this study is a basic assumption based on the interviews of certain people who studied the area such as Murat Diren, and Şişli Municipality Planning Department, Turk Telekom European-Side General Manager Mehmet Beytur, and the supporting literature about the transformation process of CBD (Dökmeci et al. 1993, Özdemir 2000, Cengiz 1995, Dökmeci and Berköz 2000, Aysu 1990, Yücel, 1996 ect.).

Table 4.11. Plans and Approval Dates at Maslak

Scale	Approval Date	File No	Name of Plan	Maps
1/25000	17.07.1985	13/361	1/25000 Ayazağa Regulatory Plan	Map 4.11
1/5000	17.07.1985	13/361	1/5000 Ayazağa Master Plan	Map 4.12
1/25000	01.06.1987	13/422	1/25000 Ayazağa Regulatory Plan	Same as 4.11
1/5000	01.06.1987	13/422	1/5000 Ayazağa Master Plan	Same as 4.12
1/5000	24.01.1991	13/558	1/5000 Ayazağa Master Plan	Map 4.13
1/5000	09.09.1997		1/5000 Ayazağa Master Plan	Map.4.14
1/1000	06.01.1993		1/1000 Ayazağa VIII. Etape Plan	Map 4.15
1/1000	29.08.1995		1/1000 Ayazağa VII. Etape Plan	Map 4.19
1/1000	19.03.1997		1/1000 Ayazağa X. Etape Commercial Plan	Map 4.20

The first plan after 1984 elections is approved in 17.07.1985 by the number 13/361. Following 1985, Istanbul City Planning Office adhered to Istanbul Greater Municipality. This was 1/5000 scaled Master plans studied in respect to 1/25000 Regulatory Plan. This plan also indicates total floor area and total construction area as given below.

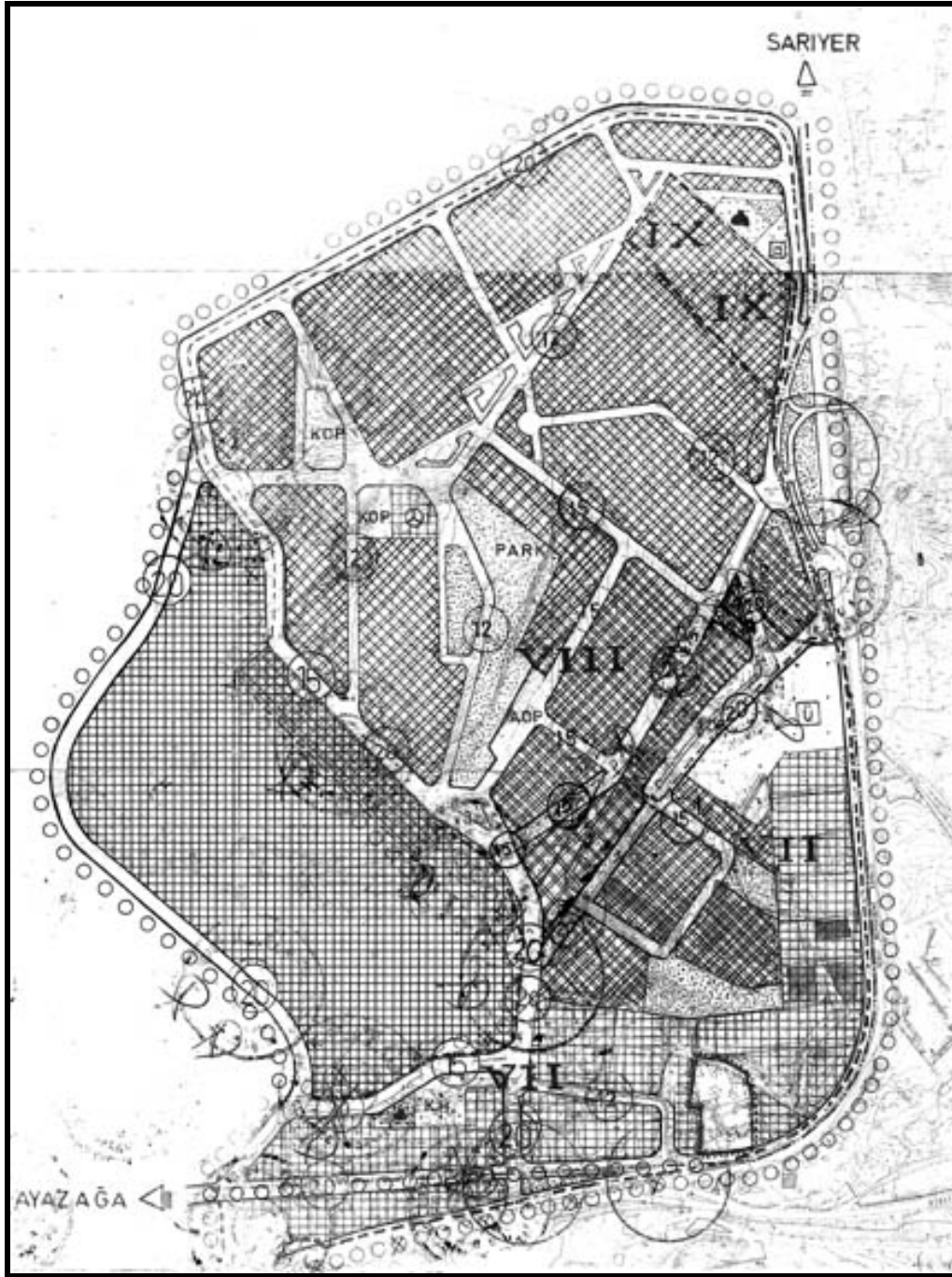
Table 4.12. 1/25000 Scaled Regulatory Plan Notes for Construction approved in 1985 (Source: Istanbul Greater Municipality 2006)

Composition	Total Floor Area	Total Construction Area
Small-Scale Industry	0,40	8,00
Depots	0,50	1,00
Public Services	0,50	1,00
Commercial Areas	0,35	2,00
Agricultural Areas	0,20	hmax: 3,80
Social Services	0,30	0,60

Following this regulatory plan, 1/5000 Master Plans were studied and approved at the same date. The Regulatory plan was introducing mainly four types of area composition for Maslak. These were Military Zone, Small-scale Industry, Commercial areas and Residential areas which would be densed as 250 people/ha. The 1/5000 Master Plan on the other hand, considered only three of them, Military Zone⁴⁰, Small-Scale Industry and Commercial Areas. During the two planning terms 17.07.1985 and 01.06.1987 approved plans Maslak area had no modifications both in 1/25000 and

⁴⁰ The Military zone won't be referred from this point forward, hence the borders and usage cannot be changed.

1/5000 plans. Beşiktaş-Maslak axis at 1/25000 Regulatory plans had no modifications, either. The first 1/1000 implementation plan detailed plan at Maslak was approved in 29.08.1985 known as “Ayazağa VII. Etape Application Plan”. But this plan is not applicance. Instead 29.08.1995 plan is current (See Maps 4.10, 4-11, Table 4.10 for the approved borders and landuse decisions of the plan).



Map 4.13. 1/5000 Master Plan Approval Date 24.01.1991.
(Source: Istanbul Greater Municipality, Şişli Municipality, 2006)



Map 4.14. 1/5000 Ayazağa and Maslak Master Plan Approved at 09.09.1997
(Source: Istanbul Metropolitan Municipality and Şişli Municipality 2006)

One point must be noted that this plan does not indicate any propositions on the axis. The reason is obvious. Throughout the axis, different local authorities were in responsible for planning. There are three different municipalities in charge. Şişli Municipality in which the Maslak belongs, Sarıyer at the other side of Büyükdere Avenue and finally Beşiktaş, at the end of the axis. Only Maslak and Ayazağa remain within the approval borders of Şişli Municipality.

The next 1/5000 Master Plan considering Maslak was approved in 24.01.1992 . This plan was more detailed than the former one. The etapes of the implementation plans were also determined. Small-scale industrial area was placed at north and the commercial areas at the south. In between the industrial and commercial sites, a piece of university campus was placed where the Istanbul Technical University Maslak Campus Area is across the road; on the other side of Büyükdere Avenue. Across the road, Sarıyer Municipality is in charge and the existing plan was approved at 22.07.1983 known as Bosphorus Plan. The plan was the conclusion of new legislation introduced

after the 1980 military coup by the court martial government for the protection of Bosphorus Area (See Table 4.1 and 1970-1984 Period).

This plan is more similar to the current 1/1000 Application Plans of the site. Following this plan, etapes of site have begun to be prepared. The first approved etape of 1/1000 Application plan dated 29.08.1985, hence had processed two modifications, reorganized and approved in 16.06.1995 which is still on application. (See Map 4.). There are mainly three 1/1000 scaled Application plans currently at the site. The northern section which consists of mainly the small-scale industrial areas was approved in 1993, before the 1/50.000 Scaled Istanbul Metropolitan Area Sub-Regional Master Plan (Map 4.).



Map 4.15. 1/1000 Ayazağa VIII. Etape Application Map ; Approval date : 06.01.1993

(Source : Şişli Municipality 2006)

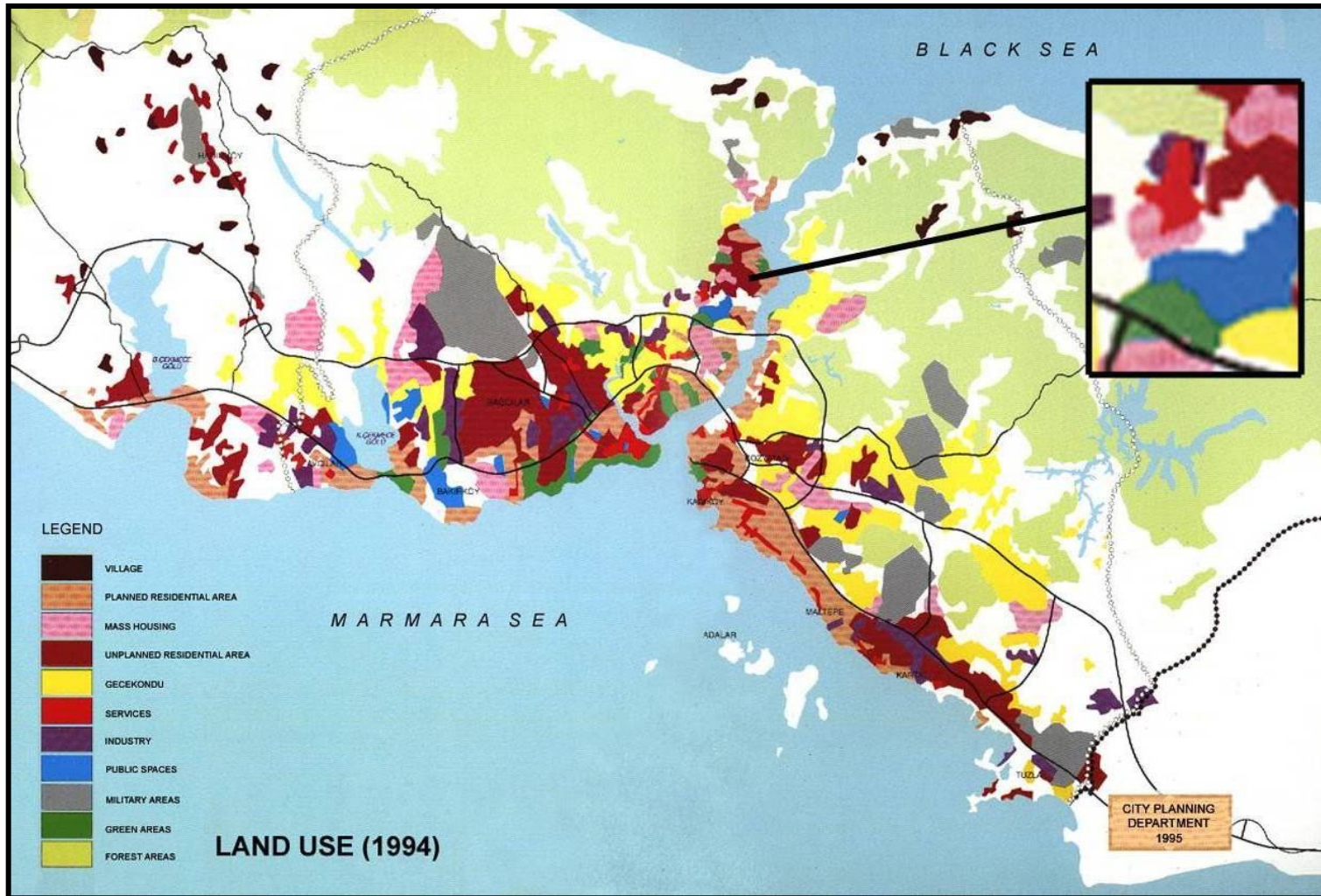
In 1994, 1/50.000 scaled Istanbul Greater City Master Plan was prepared and approved by Istanbul Greater Municipality. After the local elections of 1994, the plan was revised and approved in 1995 known as 1/50.000 Scaled Istanbul Metropolitan Area Sub-Regional Master Plan (Çakılcıoğlu 2004). Until 1994, the developments of the site were organized with piecemeal Tourism Area plans by central government through Culture and Tourism Ministry (Cengiz 1995).

In 1995 plan report, Levent-Maslak region was considered as a 1st Degree zone which reflects the social polarization of the residential areas due to the transportation connections to the site especially with the opening of the second bridge (Fatih Sultan Mehmet Bridge), shift of main CBD area along Büyükdere Avenue, thus attracting the high-level administration and service facilities. The medical factories began splintering during this decade, leaving brown fields for urban space restructuring with the impact of globalisation process and IT. However, the 1995 plan considered to freeze the development along the axis due to heavy traffic congestion problem at Büyükdere axis and the ringroads. Also preservation of the silhouette was another criteria of the planning decisions on the site (C.P.D. 1995). The landuse and the distribution of activities can be followed in Map 4.16 and Map 4.171.

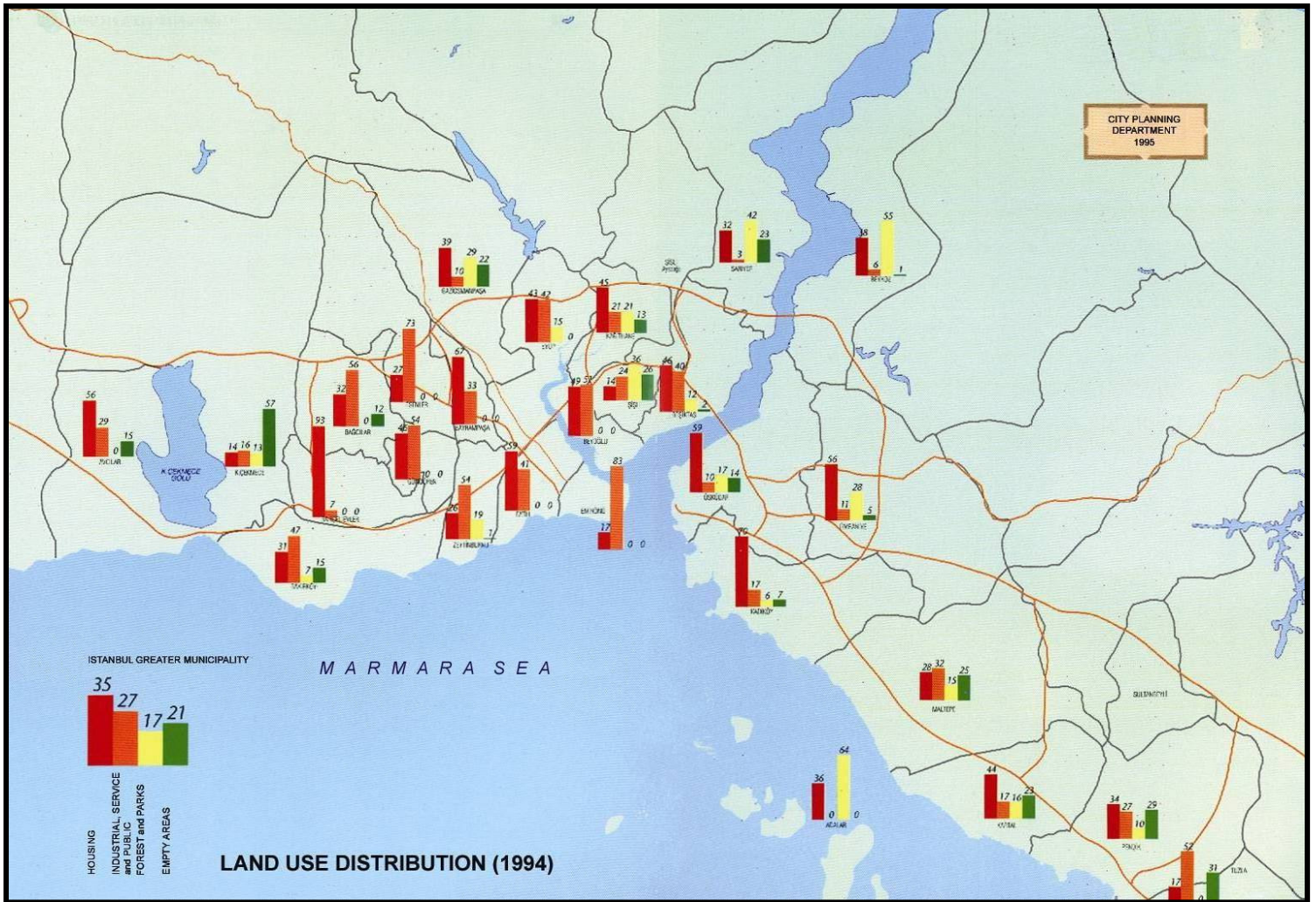
Also in the same report, it is mentioned that the linear development of Istanbul creates overwhelming pressures for the CBS after 30 km. radius. Thus, it was also proposed to splinter CBD into sub-central multi-nuclei form both at the west and east coasts of Bosphorus. Currently this plan has a stay of execution order from the court and thus, it is not in applicance. But the continuing developments along the axis proves that the plan, if applicable, would also fall behind the restructuring process of CBD along the axis.

The 1/1000 scaled application plans following 1995 are Ayazağa Commercial plan approved in 29.08.1995 and X. Etape Application Plan approved at 19.03.1997. In between these two 1/1000 scaled implementation plans, another 1/5000 Ayazağa Master Plan considering Maslak and Ayazağa neighborhoods was approved in 09.09.1997. Some modifications to the plan approved in 08.05.2000 and currently on applicance (See Maps 4.14 - 4.15). This plan is renewed in 21.01.2003 but also because of stay of execution order from the court, 1997 Master Plan is in applicance.

In this plan, a broader region was studied in a detailed manner. The landuse decisions were varied considering publicworks establishments at the site. In this plan, one of the plots at the front-line of Büyükdere Avenue was determined as tourism development area which is currently known as Istanbul Princess Hotel (used to be

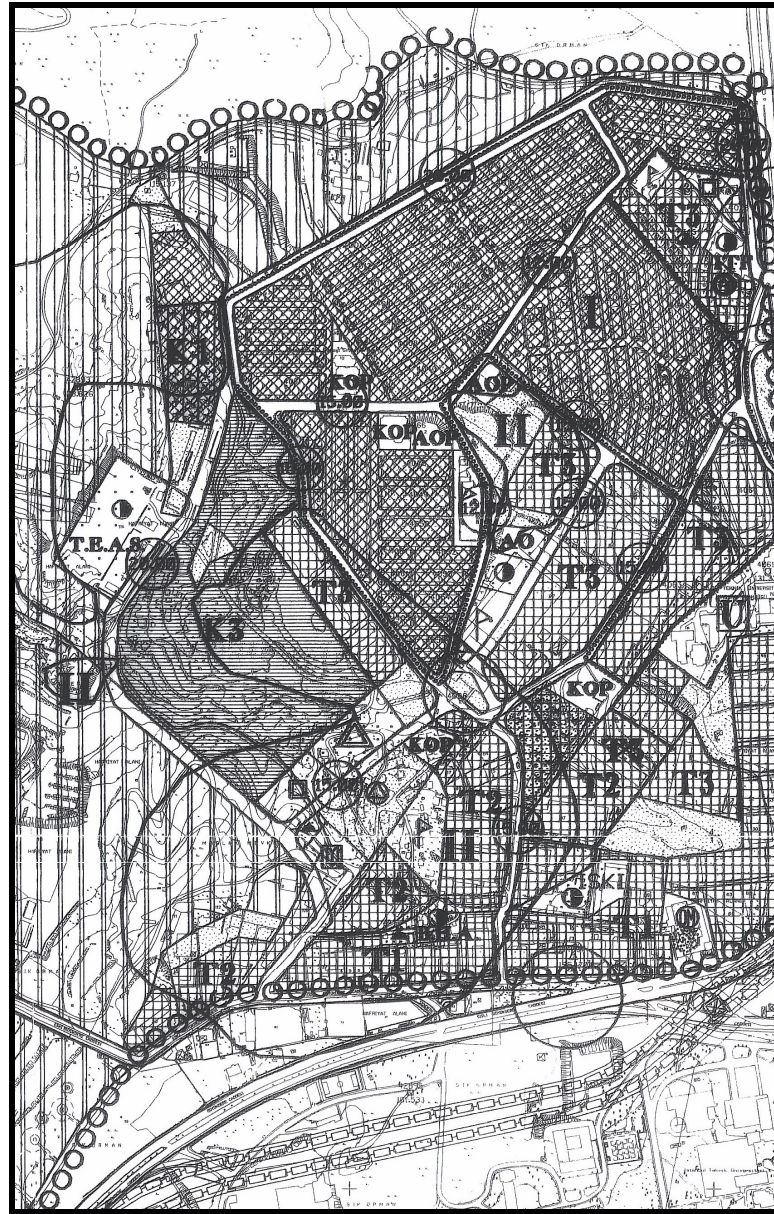


Map 4.16. Istanbul Land Use Analysis 1994
 (Source: Istanbul Metropolitan Municipality, 1995, 309)



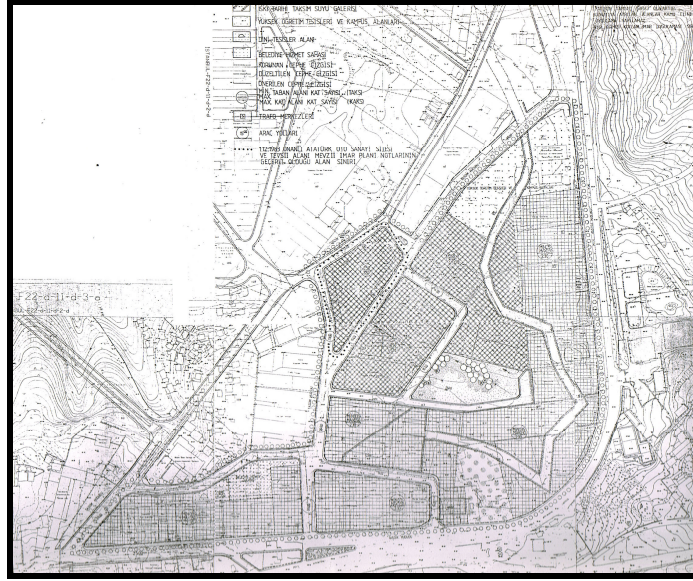
Map 4.17. Istanbul Land Use Distribution 1994
 (Source: Istanbul Metropolitan Municipality, 1995, 311)

Mövenpick Residential Hotel) constructed according to the The Tourism Development Plan of the Ministry of Culture and Tourism (See Map 4.). Following with Municipalities Act no 3030, the special tourism areas are subject to the planning and determination of Ministry of Culture and Tourism (Taşan-Kok, 2004; 2006). This process caused the emergence of piecemeal development of building blocks along the site out of Municipality's control and planning. There are also some other Hotels both in use and in construction in a mixed-use sense at the site such as Mashattan, Princess Hotel, Sun Plaza, Beybigiz Plaza.

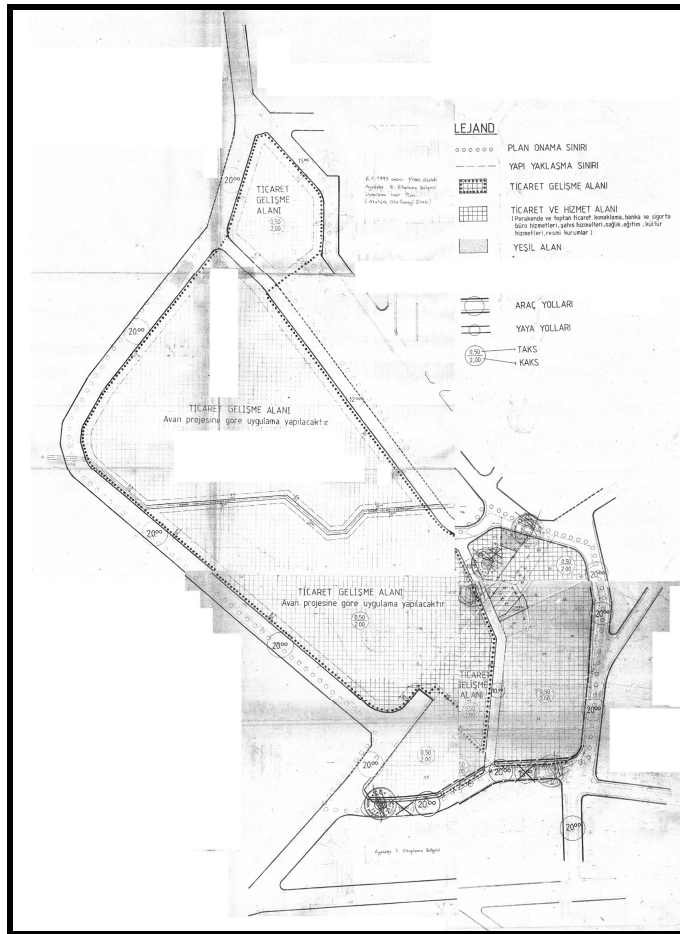


Map 4.18. 1/5000 Master Plan Maslak Area

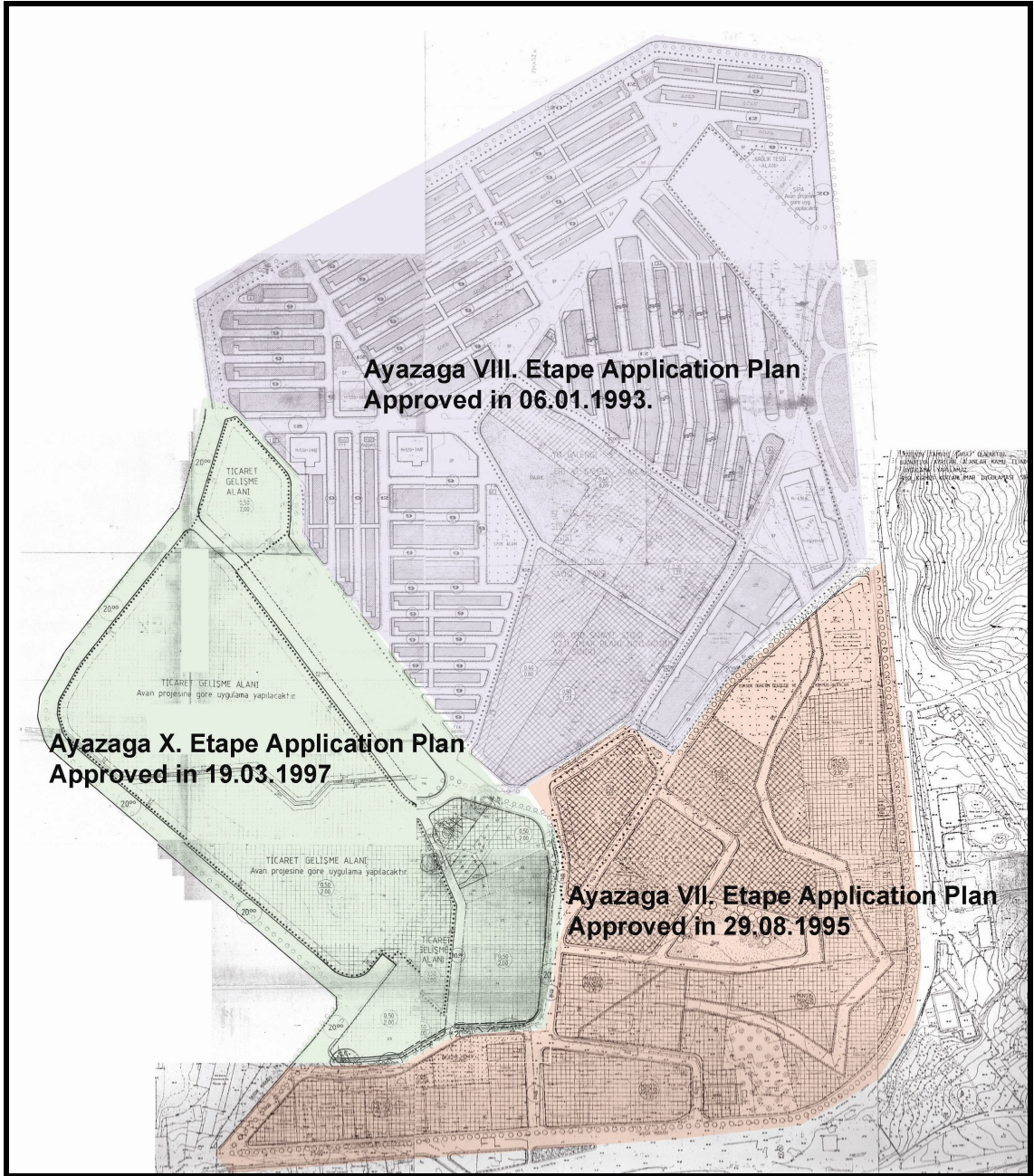
(Source: Istanbul Metropolitan Municipality and Şişli Municipality 2006)



Map 4.19. 1/1000 Ayazağa Commercial Plan Approved at 29.08.1995.
(Source: Şişli Municipality 2006)



Map 4.20. 1/1000 Ayazağa X. Etape Application Plan Approved at 19.03.1997
(Source: Şişli Municipality 2006)

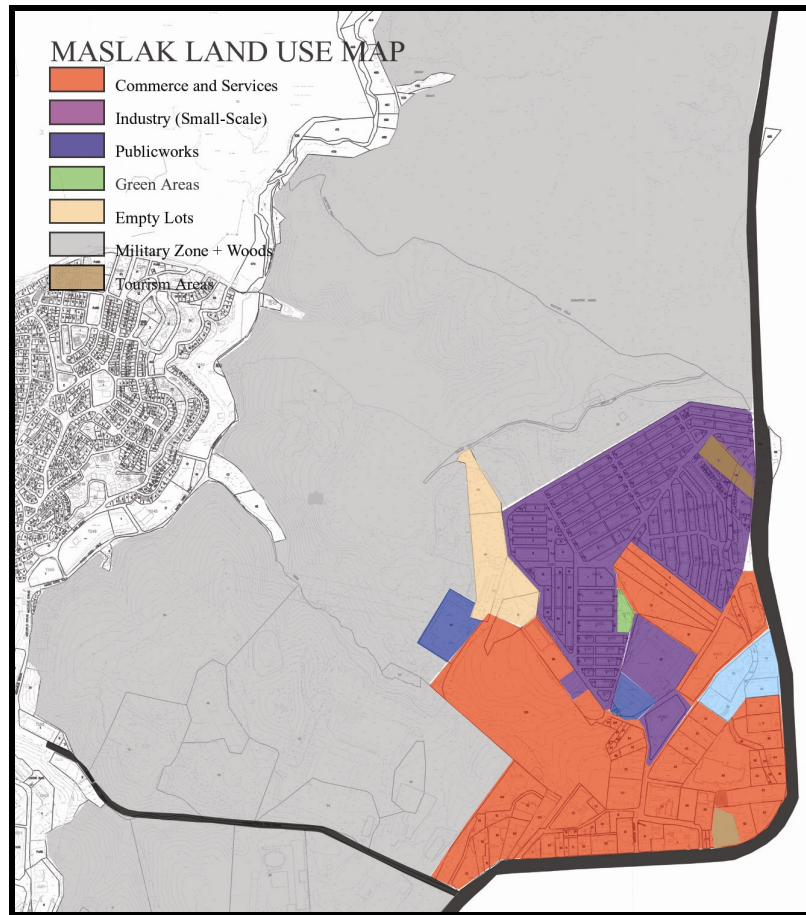


Map 4.21. The Overlapped 1/1000 Plans Currently on Applcance.

1/1000 scaled Ayazağa Commercial Plan and 1/1000 scaled Ayazağa X. Etape Application Plan also show consistency with the land-use decisions of 1997 Master plan (See Maps 4.19 and 4.20). To view the current application plans of Maslak Area, Map 4.21 are composed by overlapping the plans. The existing land use analysis is given in Map 4.22 and Map 4.23. These land use analysis indicate the CBD uses and the

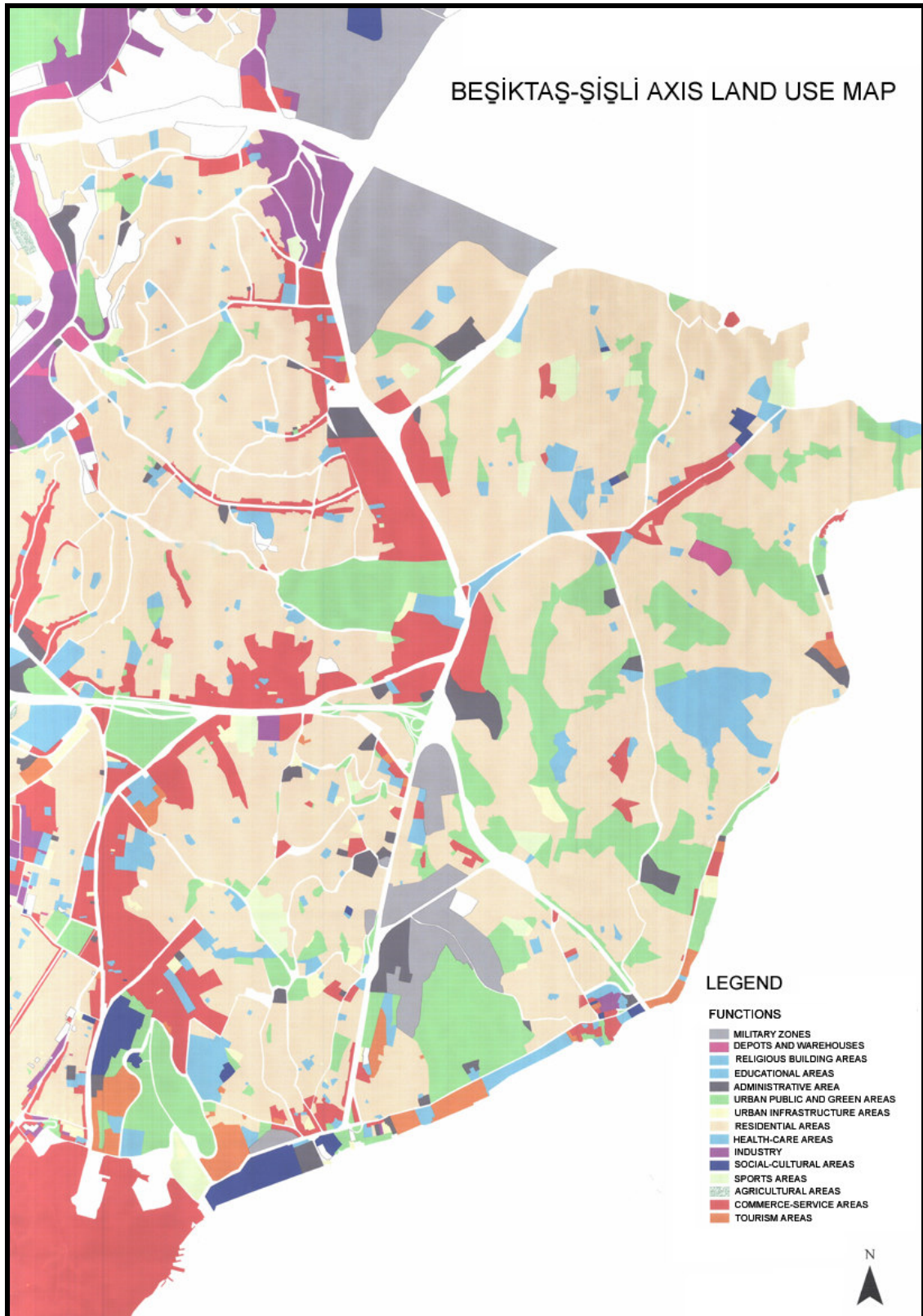
tendencies throughout Beşiktaş-Maslak axis. The restructuring process of CBD of Istanbul as a globalized European city in respect to IT is reflected along the axis.

Finally, in 2006 Istanbul Greater Municipality Metropolitan Planning and Urban Design Center presented 1/100.000 Istanbul Province Environmental Plan. In this plan 1st degree CBD is determined as Beşiktaş-Maslak Axis and environs (See Map 4.24). During the studies of this environmental plan, the sectors are studied carefully. The services sector studies were led by Prof. Dr. Hale Çıracı. 59% of the labor force is currently working at services sector and being expected to increase 80% upto year 2020 (IMP⁴¹ 2006). Thus, qualified workforce is needed to locate in Istanbul. In the globalized cities it is a common process that the labor force at the services sector are bigger than the other sectors. Today, as indicated in New York Times (2006), 89% of the population is working at services in New York.

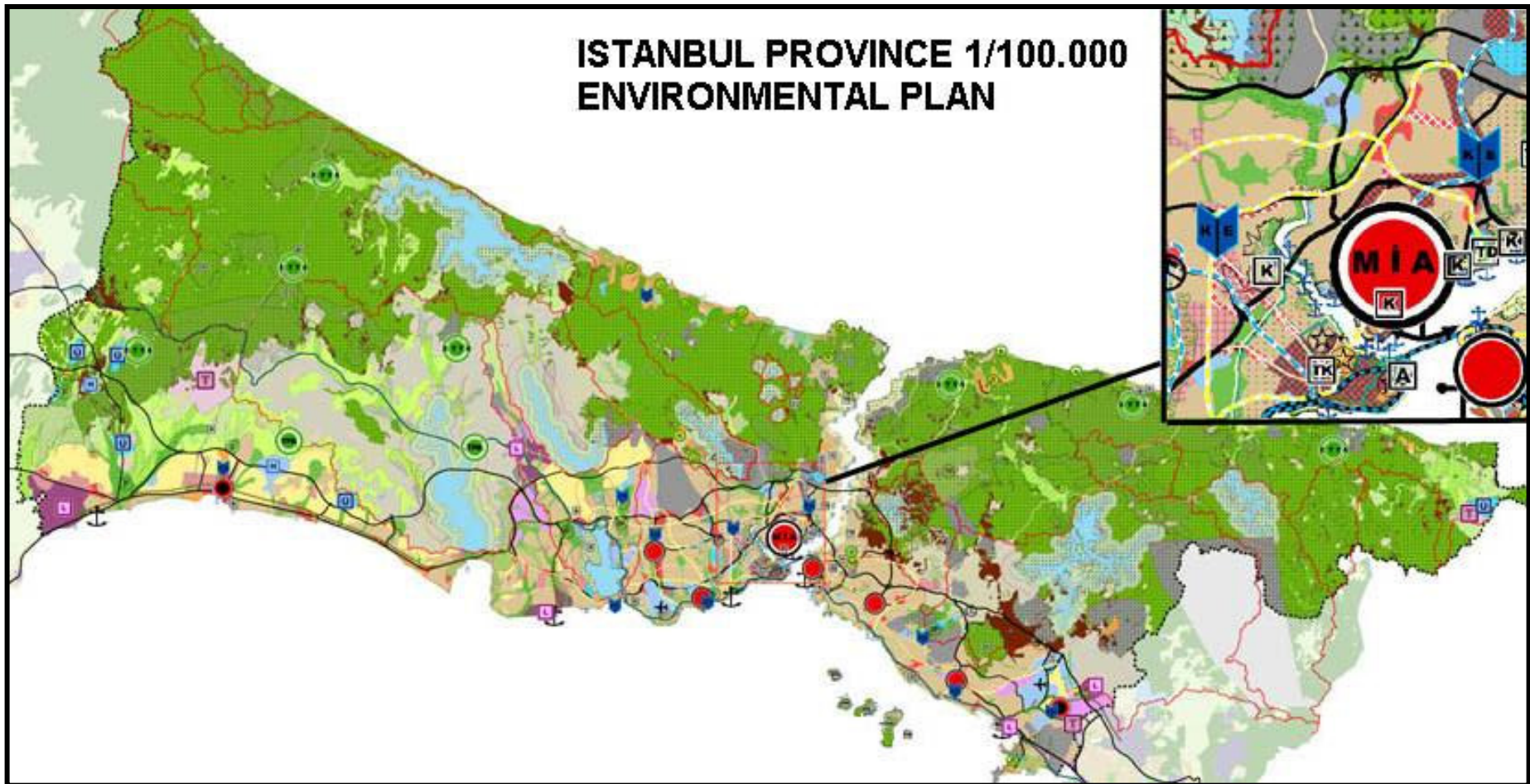


Map 4.22. Maslak Land Use Map, Existing Situation, 2006.

⁴¹ IMP: Istanbul Metropolitan Planning shortened for Istanbul Greater Municipality Metropolitan Planning and Urban Design Center.



Map 4.23. Beşiktaş-Şişli Axis Land Use Map, Existing Situation in 2006.
 (Source: Istanbul Greater Municipality Metropolitan Planning and Urban Design Center 2006)



Map 4.24. Istanbul Province 1/100.000 Environmental Plan, 2006

(Source: Istanbul Greater Municipality Metropolitan Planning and Urban Design Center 2006)

According to the findings of the study, most of the firms are rentals and only 10% of the sector has Research & Development units. The relocating tendencies of the service firms are mostly at the same district. The reasons to relocate on the other hand are determined as (i) need for larger space (especially considered by growing firms, (ii) moving from rental to their own properties, (iii) high rental costs, and (iv) dissolution of the rental contract. On the other hand, finding of the study indicates that the location choice of firms is determined due to the infrastructure opportunities of the site. 32% of the firms are in search for the possibilities of growth. The main technologies of the service firms use technologies in doing the business. Their main technological investments are consisting of IT hardware as computers and internet connection.

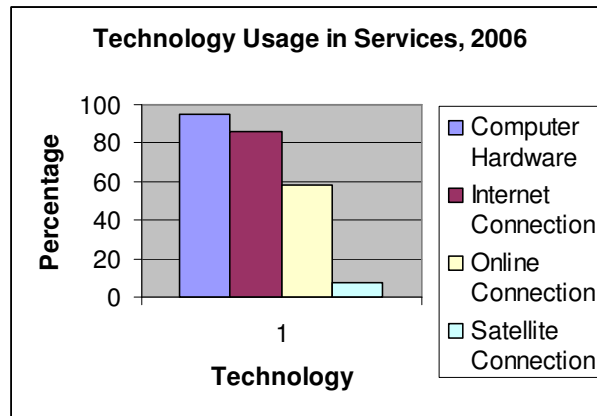


Figure 4.8. Technology Usage in Services Sector⁴², 2006

(Source: Istanbul Greater Municipality Metropolitan Planning and Urban Design Center 2006)

The areas on Büyükdere Avenue through the Mecidiyeköy-Maslak axis that the large scale enterprises gathered during the 1970s, started developing as the Şişli-Mecidiyeköy CBDs' prolongation during the 1980s. This process can be followed in the

⁴² The services sector mainly has 11 sub-categories.

1. Investment and Administration
2. Banking and Finance
3. Insurance
4. Real Estate Councillor
5. Advertising and Advertising Agency Supporting Services
6. Customs Agency
7. Hardware and Software Firms
8. Accounting , Financial Advisor and Business Councillor
9. Architecture and Engineering Firms
10. Law Offices and Firms
11. Distribution Company, General Post Delivery and Couriers Services (IMP, 2006)

study of Cengiz (1995). Between 1980 and 1993, 92 institutions were established through Büyükdere Avenue. These are such as follows;

Table 4.13. Establishments Along Büyükdere Avenue (1980-1995) (Source: Cengiz 1995)

Establishments	Establishments
1 Department of Development and Publicworks	47 Egebank Headquarters
2 Emlak Bank Headquarters	48 Maya
3 Şişe Cam	49 Turkish Secura Bank+ ENKA + Interbank
4 Cevahir and Cihan Group	50 Kentbank Headquarters
5 Dışbank	51 Boğaziçi M.D.A.Ş. + Impexbank
6 Anadolu Insurance (Unilver)	52 İntaş Insurance Headquarters
7 Esentepe High School	53 Demirbank Headquarters
8 Dedeman Business Center	54 Özsezen Business Center
9 Dedeman Hotel	55 Halk Insurance Headquarters
10 Dedeman Office Block	56 İktisat Bank Headquarters
11 Gayrettepe Türk Telekom	57 Bank Mellet
12 Tütünbank Headquarters	58 Renault
13 Türk Boston Bank	59 Eczacıbaşı
14 Yapı Kredi Bank Gayrettepe Division	60 Roche
15 Turkish Commercial Bank (Türk Ticaret Bnk.)	61 IBM
16 Deva Holding	62 IBM + Yapı Kredi Bank
17 Sürmeli Hotel	63 Yapı Kredi Headquarters
18 Pamukbank Headquarters	64 Kalebodur Ceramic
19 Albaraka Türk Bank	65 Tekfen
20 Tekel Liqueur Factory	66 Fako
21 Akabe Commercial Center	67 Akbank
22 Körfezbank	68 Sandoz
23 Türk İmar Bank Headquarters	69 Türk İş Bank+ Şişe Cam Admin. & Business C.
24 Adabank Headquarters	70 Deva Holding
25 Pekintaş + Shell	71 Sela
26 Şişli Culture and Commercial Center	72 Eczacıbaşı
27 Beytemhan	73 APA
28 French Lope Hospital	74 Turkish Central Bank
29 Şişli Business Center	75 Gümüşsuyu
30 Golden Plaza Business Center	76 Özköseoğlu Group
31 Eczacıbaşı	77 Üçem Center
32 Mecidiyeköy Business Center	78 TYT Bank
33 Polat Celil Ağa Office Block	79 Maslak Business Center
34 B.A.K. Office Block	80 Emlak Bank Headquarters
35 Garanti M.K.A.Ş.+ Feniş	81 Plaza Spring GİZ
36 İ. Polat Holding	82 Mövenpick Hotel
37 Vakıfbank Headquarters + Kuveyttürk	83 Noramin Business Center + Shopping Mall
38 Ray Stocks and Shares	84 Hema Hidrolic
39 Ram Koç Investment	85 Paşabahçe
40 Toprakbank Central Branch	86 U.S.O. Center
41 Turkish Educat,on Foundation	87 Jumbo
42 Garanti Bank 2. District Directorate	88 Garanti Bank Headquarters
43 Turk Economy Bank	89 Işıkev Social Institution
44 Finansbank	90 Private Ayazağa Işık High School
45 TATKO	91 Ak Merkez Business and Commercial Center
46 Industrial Investment (Sinai Yatırım) Headquarters	92 Turkish Statistics Institute

Aside from the headquarters of the enterprises, large back-offices were constructed to serve them in communication and coordination activities, parking lots, entertainment centers and shopping malls. These plazas were constructed according to the “smart systems” adequate for the information and communication technologies. These “smart buildings” which offer inner network and simultaneous connection to the world markets, help to ease these time and capital loss with its suitable infrastructure construction for IT such as LAN (Local Area Network), video-conferencing, etc. Most of the companies established in 2001 that is driven from TURKSTAT Statistics on companies, cooperatives and firms were established in Istanbul (See Figure 4.9). The number is thrice the next city in rank; Ankara. It must be noted that more companies were established in Istanbul than the rest of the provinces in Turkey except Ankara and Izmir. These numbers indicate that most of the entrepreneurs prefer to locate in Istanbul. The main reason of this tendency is the integration of Istanbul to global markets.

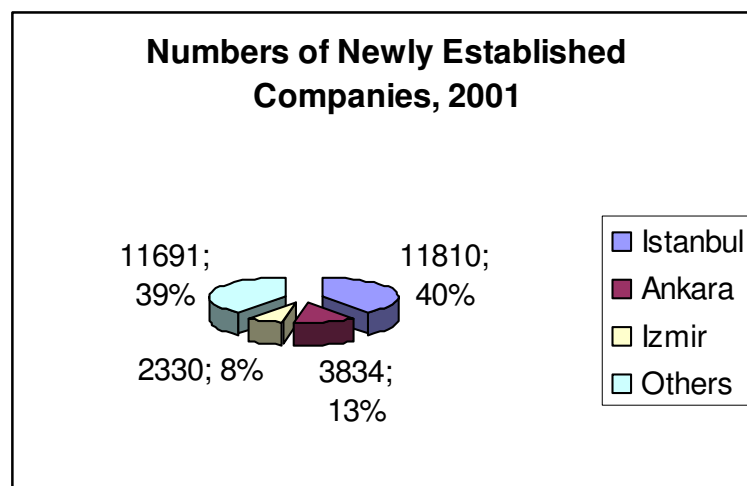


Figure 4.9. Numbers of Newly Established Companies in Turkey During 2001.

(Source: TURKSTAT, 2001)

With the globalization process, the service sector sticks out. All across the world megapols as well as in Turkey and especially in Istanbul, the urban space transformed whilst the industrial sector moved out of the city which is to become the service vendor. In 1960, every 1 person out of 11 was working in the industrial activities, however in 1990, every 1 of 6 people were working for the industrial sector; and every 1 of 5.5 people were working for the service sector. (Yenen et al. 1996). In Figure 4.9, the newly establishing companies in Istanbul are studied according to 2001 numbers. The types of

economic activity distribution indicate the ascending tendency of services and commerce. The service sector in Istanbul is still on the rise; especially the real estate renting and business firms stick out within others.

In this period, as a reflection of changes in IT and transportation which were also on the rise in 2001 (See Figure 4.10), ‘plazas’ came into existence in Istanbul (Osman 1998). Whilst plazas offer adequate office space for administrative facilities for the firms which are entitled to large capital and banks, they are at the same time, a prestigious indicator of the firms’ power and image at the markets. The area itself also became a new media image center of the firms. With the excessive use of information technologies, the world became somehow smaller in distances. The synchronous flow of information made it possible to learn any kind of event over various distances all around the business markets. This process forced holding companies to form new media images in shape of their buildings. Their administrative center buildings were also crucial as an advertisement factor of their power and image. They constructed new headquarters to form a prestigious image throughout the global markets.

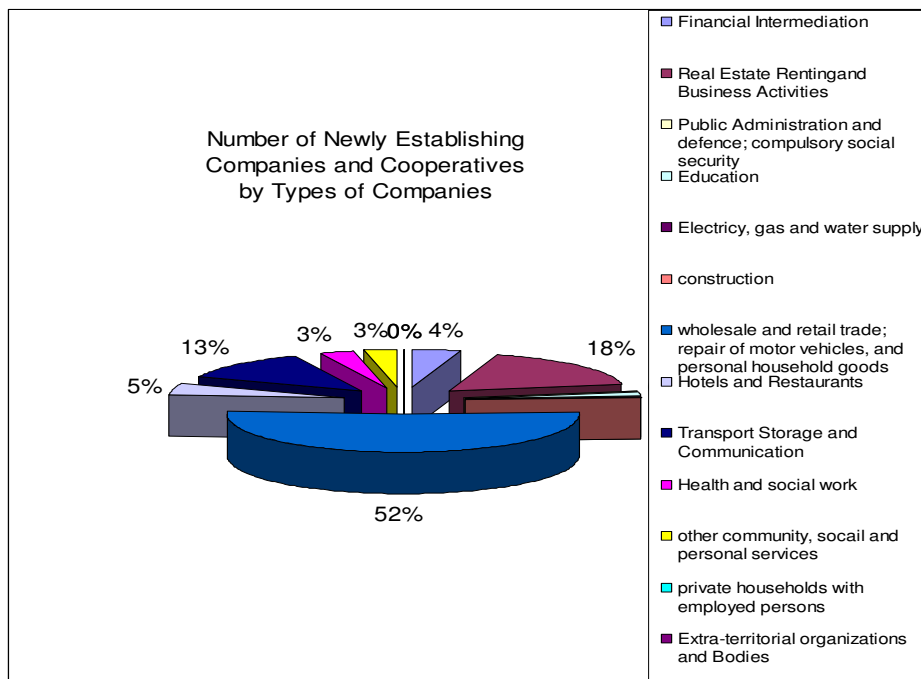


Figure 4.10. Number of Newly Establishing Companies and Cooperatives by Types of Economical Activities in Istanbul Province in 2001. (Source: TURKSTAT, 2001)

Starting back from the 1970s, the development of the establishments at Zincirlikuyu-Ayazağa axis was mostly service-oriented. 59% of the so-called firms are relocated and 27% of the “new corporations” were established in Maslak area along Büyükdere Avenue after the 1980s. From their previous addresses, it is understood that 29% of the firms’ head offices, which are relocated in Maslak area, were at the traditional city center in Eminönü-Karaköy, and 64% at Beyoğlu, Taksim, Şişli, Beşiktaş and along these areas. Area also represents the fiscal core as the CBD of Istanbul. Thus, many financial establishments are located at the site.

The percentage distribution of banking and finance firms in the area was studied by Yaşar Hacısalihoğlu in 2000. According to his findings, 60% of bank headquarters were located in Esentepe. The distribution of the banking and finance firms in the area are as follows;

Table 4.14. The Distribution of Banking and Finance Firms in the Area
(Source: Saraçbaşı 2000)

Banking and Finance Firms	Distribution
Bank Headquarters	30%
Rental Services for Stock Exchange Firms	50%
Loaning Firms	46%
Investment Banking	38,40%
Commercial Companies	30%

Companies with internationally distributed production base and the headquarters of the biggest local Holding Companies are also located in the site, starting especially from Mecidiyeköy continuously through Maslak (Hacısalihoğlu 2000). 27% of these firms are new establishments and 59% of them have moved to Büyükdere axis from other districts. The latter locations and distribution of firms are as follows: 64% of the total relocated firms were situated at Beyoğlu, Taksim, Şişli and Beşiktaş and 29% had moved from the traditional city-center known as Eminönü-Karaköy (Cengiz 1995). The same study by Hüseyin Cengiz (1995) shows the distribution of the Banks’ Headquarters at the site as in Table 4.15. This process proves that the bank buildings – the fiscal core of CBD- relocate due to its inter-dynamics and enlargements.

Table 4.15. The Distribution of the Banks' Headquarters at the Site
(Source: Cengiz 1995)

REGION	BANKS*	%
Levent-Etiler-Şişli-Mecidiyeköy-Esentepe	31	46
Tepebaşı-Taksim	8	12
Karaköy	3	4
Kabataş-Beşiktaş	5	7
Maslak	2	3
Büyükdere Avenue	19	28
TOTAL	68	100
* Except The Central Bank		

According to 2003 data of State Planning Organization⁴³ the bank branches in Istanbul, in 2000, were 2214. Total number of bank branches in Turkey were 7788. Istanbul also ranks as the first province in share of bank deposits, bank credits, industrial commercial and tourism credits (See Table 4.16).

Table 4.16. Fiscal Determinants of Istanbul (2000)
(Source: SPO, 2003)

Fiscal Determinant	Units in	Istanbul	Turkey	Rank in 81 provinces
No. Of Bank Branches	number	2214	7786	1
Bank Deposits/person	YTL	2846	939	2
Share in Total Bank Deposits	%	42,87	100	1
Industrial, Commercial and Tourism Credits/person	YTL	1277	392	1
Share in Gross National Product	%	22,11	100	1
Gross National Product/person	YTL	2750	1837	4

The high level services were determined by OECD (2000) as finance and banking, insurance, stock investment, brokerage, rental and leasing, accountancy, real estate agencies, computer software services, advertising and customs agency which provide services for production activities. It is the most developed service sector during the last two decades (IMP, 2006). Table 4.16 indicates that within the national borders, Istanbul is the main high-level service provider in especially banking and finance sectors.

⁴³ State Planning Organization (SPO): Devlet Planlama Teşkilatı (DPT)

Generally other top-ranking European cities are dominized in services sector with 80% in total services. Industrial sector of the European cities differ from 12% to 16% whilst the agriculture stay less than 2% in most cases (See Table 4.17). It must be noted that Istanbul falls behind at services with 59.9% (IMP, 2006).

Table 4.17. Sectoral Distribution of Labor in European Cities (%)

(Source: IMP 2006, TURKSTAT 2000, Barclay Bank 2001)

Cities	Year Studied	Agriculture	Industry	Services	Not determined
Cenova	2000	1	15	84	0
Stockholm	2001	0	16	80	3
Oslo	2002	0,2	12,5	87,3	0
Frankfurt		2	13,1	86,7	0
Helsinki	2000	0,1	13,5	85,3	1,1
Berlin	2005	0,4	15	84,5	0,1
Istanbul	2000	8,1	31,8	59,9	0,2

The service sector in Istanbul is distributed to the both sides of the province. The European side of the province is more advanced in services sector (See Figure 4.11). This share may be attributed to the intensive service sector along Beşiktaş-Maslak Axis.

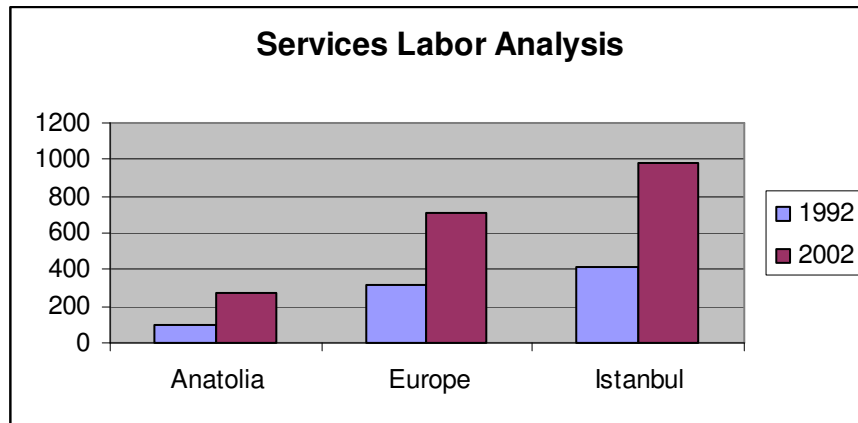


Figure 4.11. Services Labor Analysis According to Settlement Distribution (Thousand)

(Source: IMP 2006, TURKSTAT 2002)

The labor force distribution of the municipal counties proves this tendency (See Figure 4.12). In this distribution Şişli Municipality sticks out as almost 13% of the service labor works in Şişli (IMP 2006). This number also includes Maslak within as Maslak is within the borders of Şişli Municipality. Beşiktaş stays at the third service

labor provider, solidifying the axis as the main service provider of Istanbul. It must be noted that the third municipality along the axis (Sarıyer) does not show similarity of the other two counties. This may be explained with the Bosphorus Protection plan and the existence of Istanbul Technical University Campus area resides in most of the area along the axis.

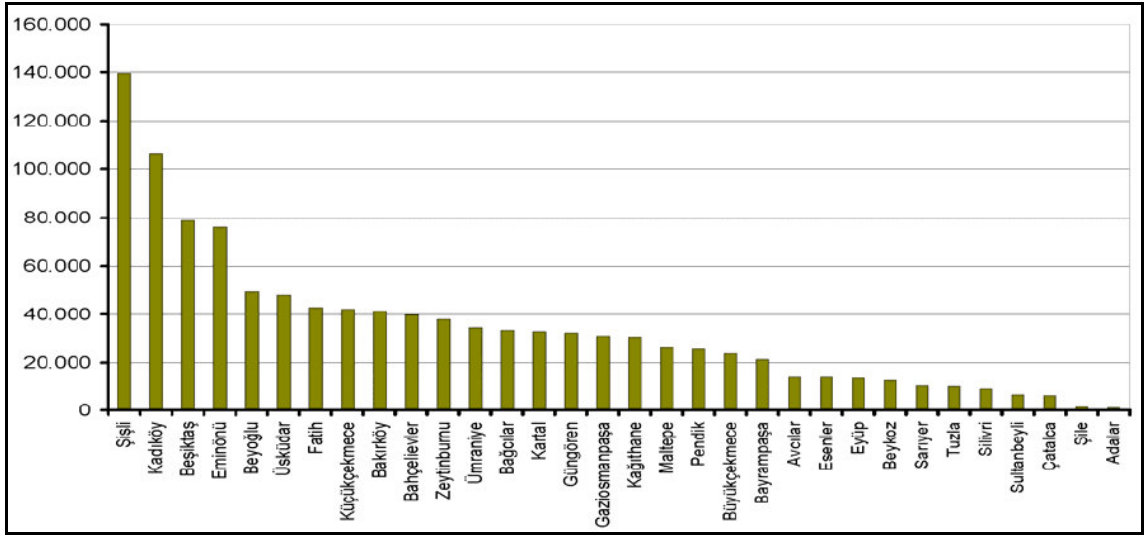


Figure 4.12. Service Labor Distribution in Municipal Counties
(Source: IMP 2006, TURKSTAT 2002)

The service workers in Şişli increased drastically during one decade from 1992 to 2002 (See Figure 4.13).in 1992, Şişli was also the main service labor provider. As followed from the figure, service sector in Şişli expanded more that twice its number. This tendency was also followed by Beşiktaş. Another close enlargement is at the east side of the province in Anatolia. Kadıköy has also enlarged in services more than twice its size. During the same period, productive service businesses are also increased drastically both in European and in Anatolian side. The increase in both sides indicates multi-nuclei city center formation in Istanbul; especially densed around Beşiktaş-Maslak Axis at the European side and Kadıköy at the Anatolian side. But the west side sticks out with 68% of the total service firms. Amongst the total employment rate, Beşiktaş-Maslak axis including Beyoğlu County are the main job provider areas including the industrial workers within (IMP 2006).

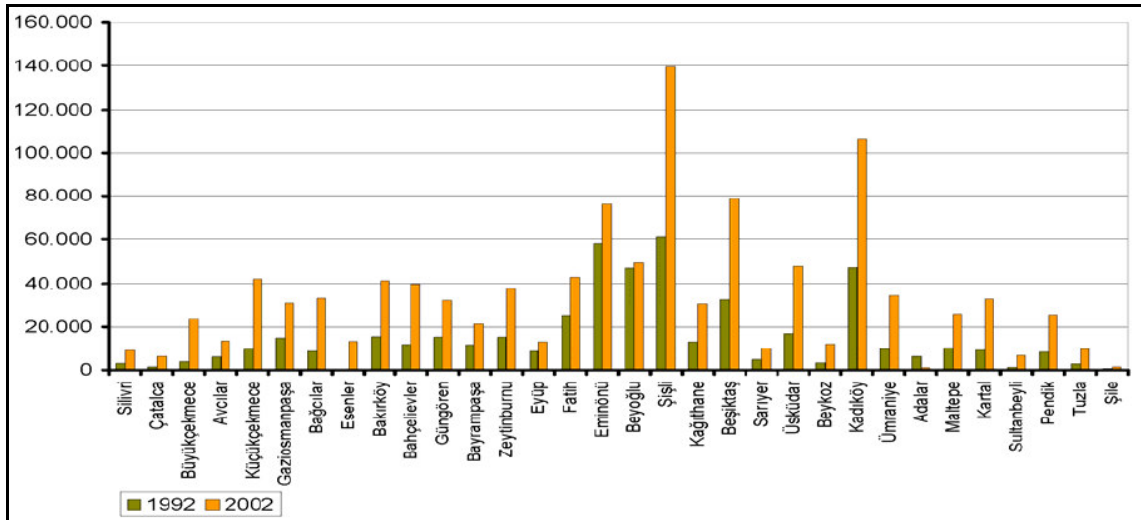


Figure 4.13. Services Workers During 1992-2002

(Source: IMP 2006, TURKSTAT 2002)

Following 1980s, commercial services (such as retail sale) also started to relocate through these sub-centers. Especially places like Kadıköy, in which mostly the high incomers live, with its service sector and easygoing and large pedestrian walkways, restaurants, cafes and shopping facilities were inclination. With the new shopping mall concept at the up rise, the retail facilities slithered towards these sub-centers along the main road where the accessibility is easier such as Cevahir, Profilo, Metrocity shopping malls, etc... These sub-centers which are consist of high-rise office buildings, plazas, shopping malls and residential areas may show a linear development along the highway axis as in Kadıköy-Bakırköy, or may grow in concentric circles such as in Bağdat Avenue. These relatively large suburban settlements draw all kinds of services and retail commerce to their own sub-center, so the urban texture became multi-centered (Dökmeci and Berköz 2000).

Two highways (Barbaros Boulevard and Büyükdere Avenue) leading through the north axis of the metropolitan area accelerated the decentralization process. “As a result of the decentralization of the city through the north axis, the decentralization of CBD continued to develop along the existing main arterials.” (Berköz 1996)

The most valid reason for the presence of these companies is the need for a larger area, better infrastructure and accessibility in means of transportation (Cengiz 1995). The infrastructure of this newly developing site was far more salubrious than the inner city CBD. At the same time accessibility (meaning connectivity) to IT

infrastructure of public works were more important than their internal network within the building, as IT infrastructure was being established by Turk Telecom which used to belong to public sector before its' privatization.

Another important service is the hardware and software services within the globalization process of the cities. Hardware and software services along with the IT infrastructure are the main determinant of IT-embeddness within the urban space. It brings forward the space of flows causing capital accumulation in the city, as the main subject of globalization, with its white-collar workers, IT-workers, executives and other services. Istanbul provides the needed qualified labor-force, and Beşiktaş-Maslak axis provides the working and living environments. Nowadays, IT is the “must” input for capital accumulation.

IT is composed of threefold structure of hardware, software and services including the IT infrastructure. Mainly software makes data transfers possible for different preferences and jobs. It is also one of the main providers of added value since the investment for the software is less than the other sectors such as agriculture, industry or even the services. In the new economy, various kinds of transactions are realized through IT. Following 1970s, the developed cities, which succeeded in globalization process, cope with information and telecommunication technologies. During 1992 and 1999, while the information workers are multiplying in numbers, the mass production workers are decreasing throughout the OECD countries (OECD, 2001).

After the Second World War, the increase in public services and expansion of administrative facilities in all the sectors with the statism policies of 1930s, lead governments to unsolvable problems in lack of services. Following 1980s, the neo-liberalisation of the economy lead to privatization of monopolies in Turkey. As a result of this process, following long studies and debates, Turk Telekom is privatized (See A.5. in Appendix for the history of Turk Telekom.). The privatization of Turk Telekom forced a new establishment for as the determinant agency. With the Act No 4502, Telecommunications Board of Turkey was founded at 27.01.2000. Operating and policy determination functions were distributed. The main duty of the board is to secure the liberalization of telecommunications sector under Ministry of Transport.

Çağiltay (2000) states that the DNS⁴⁴ registered hosts (which are using the domain ending with “.tr”, there were more than 1.000.000 Internet users registered to

⁴⁴ DNS is short for Domain Name Service.

ISP⁴⁵'s in 2000. But he also indicates that this numbers may not be totally accurate because, some of the establishments may choose not to use “.tr” domain in their names and he also admits that there are some organization that use more than one domain. Therefore, the realized number must be taken into consideration (See Table 4.19).

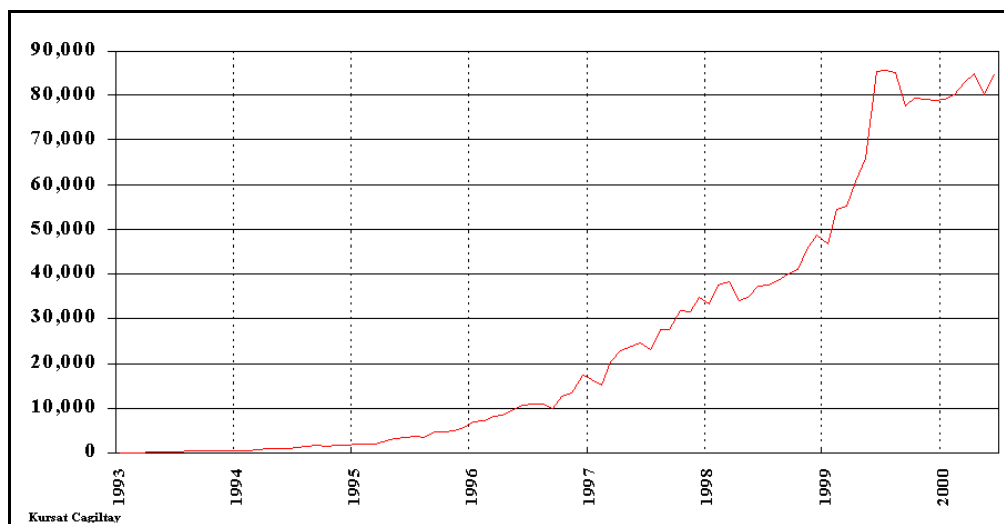


Figure 4.14. DNS Registered Hosts in Turkey (1993-2000)

(Source: Çağiltay, 2000)

According to Türk Telekom 2000 statistics of internet/TTNet subscribers are such as follows;

Table 4.18. Internet/TTNet Subscribers (1996-2000)

(Source: Türk Telekom Telecommunication Statistics 2000)

	1996	1997	1998	1999	2000
Dial-Up	280	803	1329	4000	13093
Frame-Relay				10	2742
ATM					66
ADSL					110
KTV Internet					4167

On the other hand a latter study indicated that in Turkey by 1999 there were 1.500.000 internet users, by 2000 another 500.000 is added and another 500.000 in 2001 (Güngör and Evren 2002).

⁴⁵ ISP: Internet Service Provider

Table 4.19. Internet and PC ownership Distribution (1999-2001)

(Source: Güngör and Evren 2002)

	1999	2000	2001
Internet Users	1,500,000	2,000,000	2,500,000
PC	2,200,000	2,500,000	2,700,000
Hosts	78,878	69,923	106,5
Penetration to Internet	2,3	3,1	3,8
PC number/100 people	3,4	3,8	4,1
Hosts/100 person	0,1	0,1	0,2

TURKSTAT (2004) indicate that 11% of the housing units have computers and 7% have internet connections from homes. It was also indicated that 13% of the population use internet. 41% of the total users have accessibility to internet from workplace, 41% from internet cafes. By 2006, the penetration to internet vastly increased after DSL had been provided by Turk Telekom. DSL⁴⁶ subscribers grew 190% during 2005-2006 (up to April) with 1.840.000 subscribers (Tübider 2006a). Up to July 2006, this number has passed over 2.000.000 subscribers (Tübider 2006b).

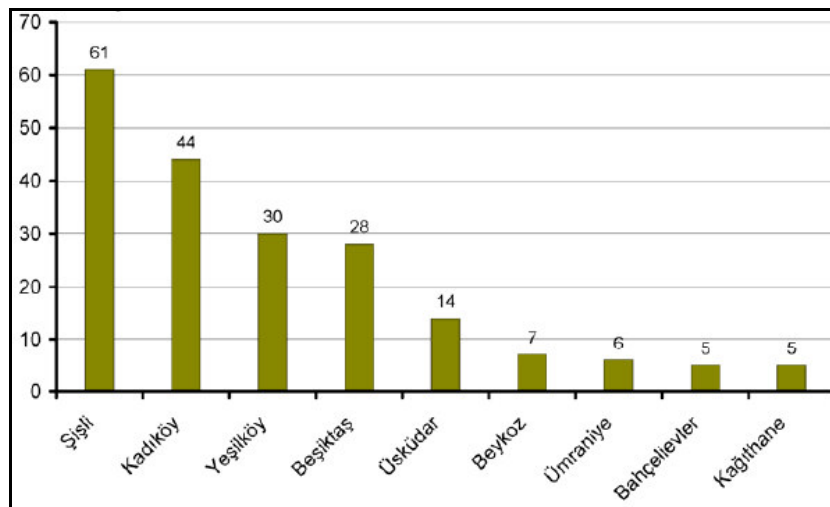


Figure 4.15. Distribution of Software Firms in Istanbul

(Source: IMP 2006)

It is possible to draw the conclusion that internet penetration in Istanbul is more advanced than the other cities of Turkey. The TTNNet topology chart indicates the same conclusion also (See Figure A.1). While there were 220 software firms in Istanbul, only 41 firms in Ankara and 12 firms in İzmir were active (IMP 2006). The software firms

⁴⁶ DSL: Digital Subscriber Line

are densely settled in Istanbul metropolitan region especially in Şişli and Beşiktaş. Therefore the software firms in Istanbul prefer Beşiktaş-Maslak axis to locate (See Figure 4.15). There were 89 software firms settled along the axis. the following county was Kadıköy with 44 firm at the Anatolian side (IMP 2006).

The urban restructuring process of Beşiktaş-Maslak axis as the IT-intensive CBD depends highly upon the IT infrastructure. The main requirement of any city to be globalized is to enter the global markets simultaneously with its opponents. The way to compete with the other firms and cities in attracting capital is to articulate into *space of flows* which was made possible by IT infrastructure.

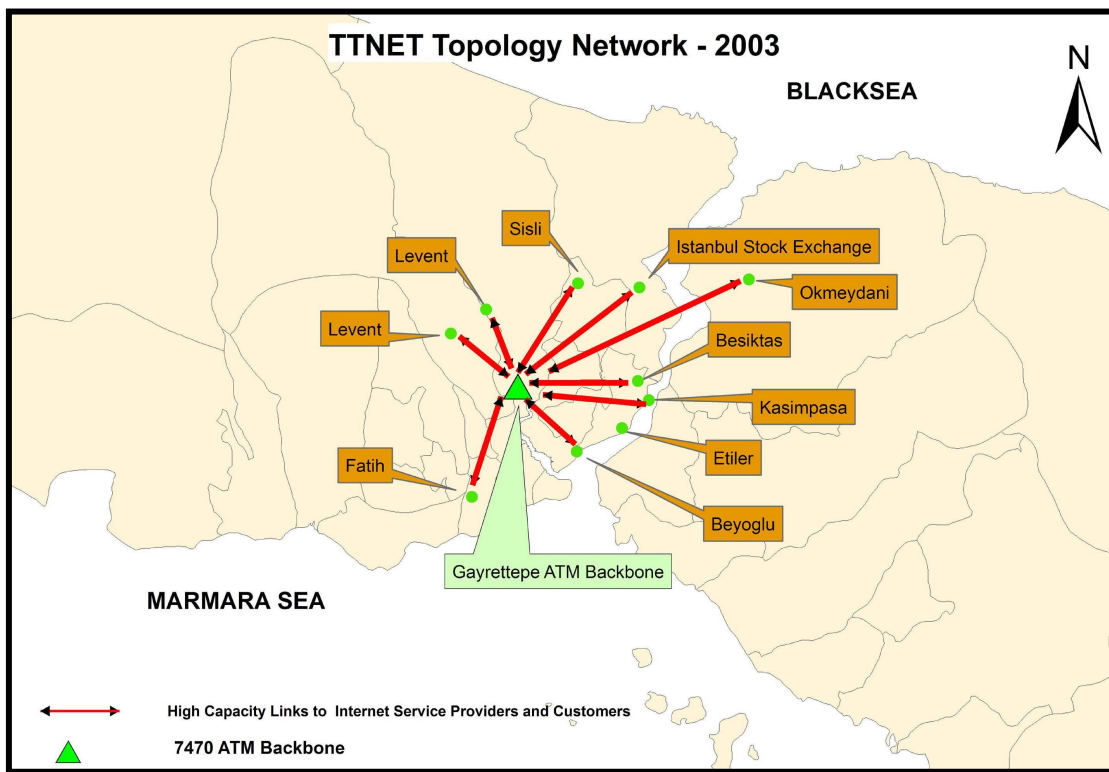


Figure 4.16. The Switches At Beşiktaş-Maslak Axis.
(Source: Saygın 2006b)

According to TTNET National Internet Infrastructure Network Management Topology Chart (2003), there are five main ports on Beşiktaş-Maslak Axis. The main switch is in Gayrettepe. The arterial switches in the area are at Beşiktaş, Şişli, Levent, and Ayazağa. The other important switch is located near Istanbul Stock Exchange Headquarters (See Figure 4.16). These switches are the main links for the international outflows.

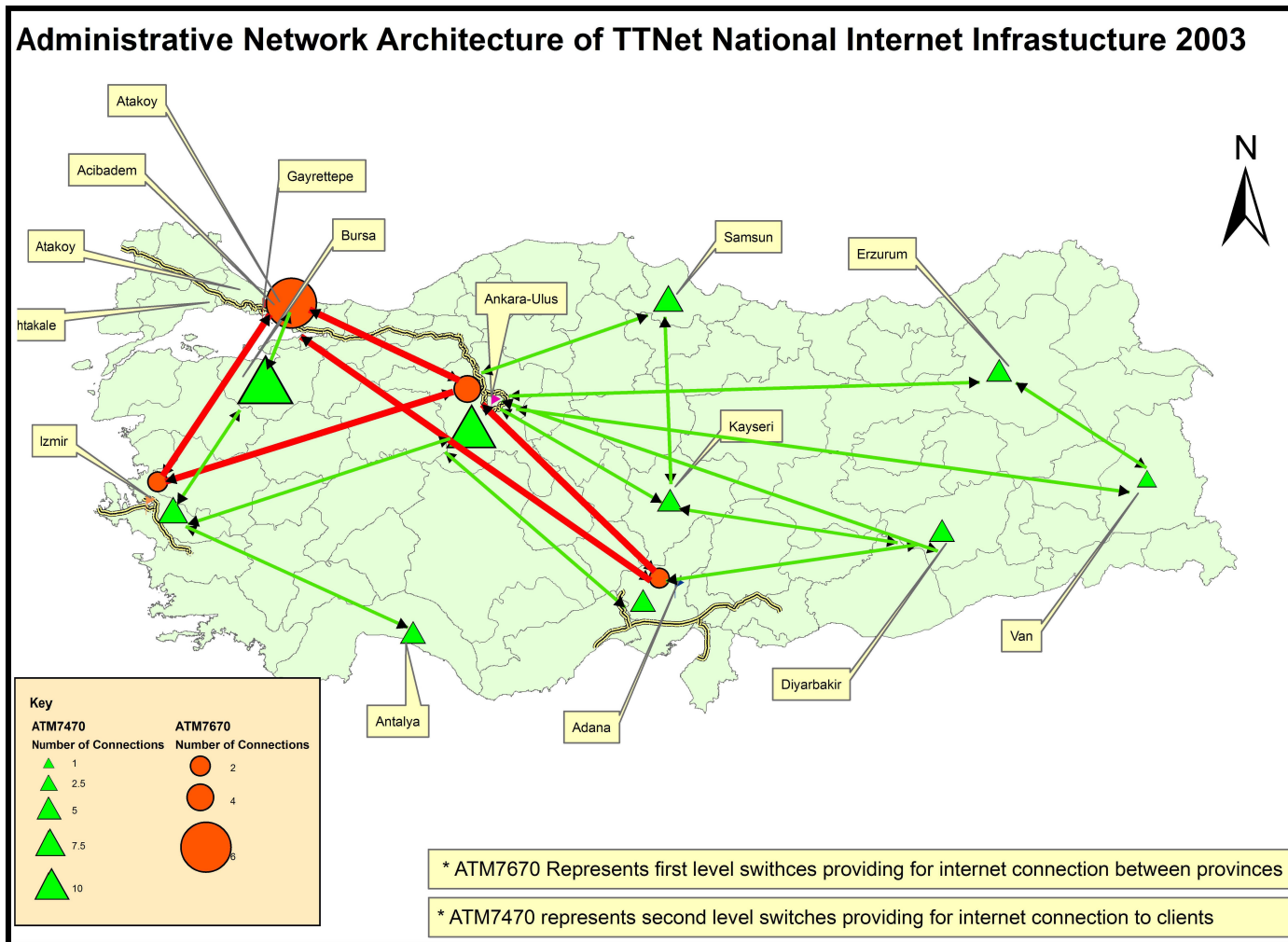


Figure 4.17. Administrative Network Architecture of TNet National Internet Infrastructure, 2003

(Source: Saygın 2006c)

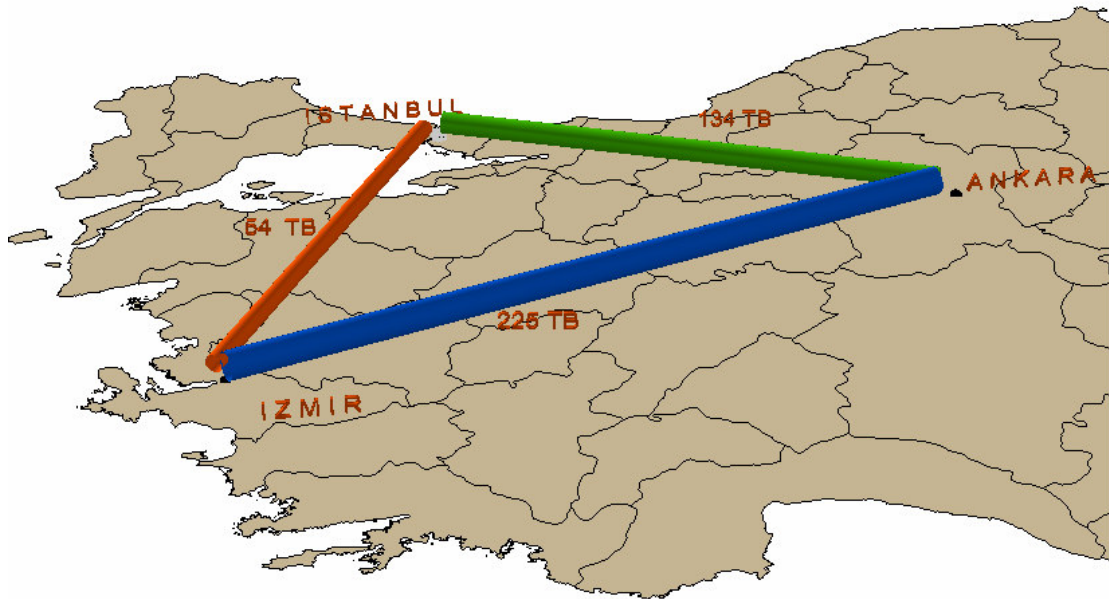


Figure 4.18. Total Connections between Istanbul, Ankara and Izmir According to Ulaknet Data, 2005 (Terrabytes) (Source: Saygın 2007a)

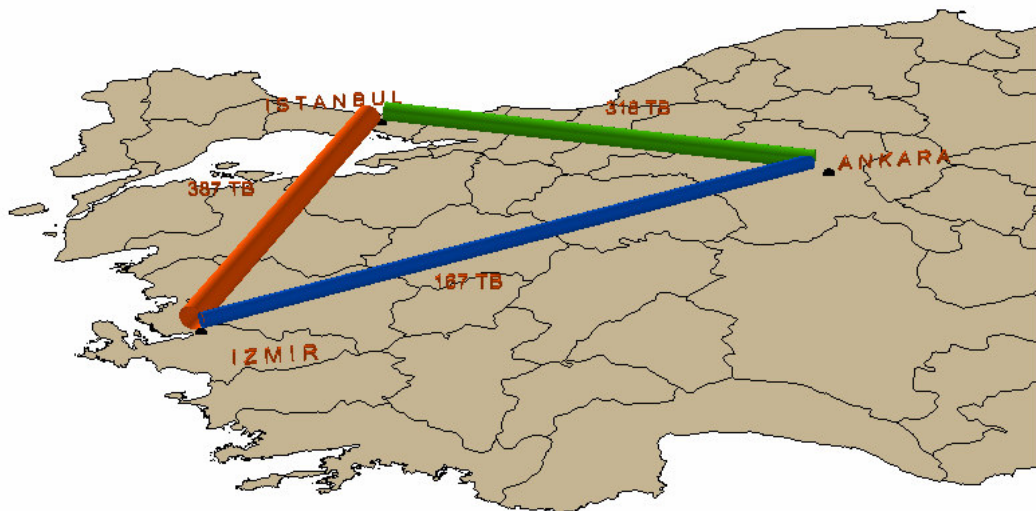


Figure 4.19. Total Connections between Istanbul, Ankara and Izmir According to Ulaknet Data, 2006 (Terrabytes) (Source: Saygın 2007b)

Up to 2003, Turk Telekom was the only IT service provider in Turkey. The establishment of IT infrastructure was and still is, provided by Turk Telekom totally. Until the other firms start to establish their own infrastructure, the company continues to establish and rent services to the other telecommunication firms.

The first broadband network was founded in 1986 by the name of TÜVEKA in cooperation with EARN/BITNET⁴⁷. Another network was soon founded by METU and TUBİTAK. In October 1992, trial connection was established to Netherlands. With the rental line from Postal Services of Turkey, the first international connection was performed by METU in 12.04.1993 with 64 Kbps capacity to National Science Foundation in USA (Bell 2003). The internet services were available for academic uses at the beginning, but soon afterwards internet became a part of the daily life. By 2000, the internet users in Turkey was approximately 2.000.000 (Çağiltay, 2000). 13 years later from the foundation of internet, it is assumed that internet users are almost 15 million and 2.000.000 of these internet users are members to broadband TTNET ADSL services (TÜBİDER, 2006). Most of the internet users are located in Istanbul. The internet usage is indicated in TTNET topology charts and the density of incoming and outgoing links (See Figure A.1).

The main switches and their linkage values in Turkey are shown in Figure 4.17. Istanbul performs more connections than the other provinces. The connections between the three biggest cities of 2005 and 2006 values are shown in Figure 4.18 and Figure 4.19. In 2005, the data transfer to Ankara from Izmir was much denser. On the other hand, in 2006, the connections between Istanbul and Izmir increased intensely (more than 7 times bigger in value) whilst the data transfer between Ankara and Izmir decreased. The data transfer between Ankara and Istanbul are also increased. These connections indicate that doing business with Istanbul has increased during the years 2005-2006.

It is possible to say that the main connections between Istanbul and any other place in the world are much bigger at Beşiktaş-Maslak Axis. The main switch was established in Gayrettepe which is also in Beşiktaş-Maslak axis and the other switches are distributed along the axis as shown in Figure 4.16. It is also determined that the size of the entrepreneurship has parallel tendency to the usage of IT. The usage of IT in the establishments is mostly oriented in banking and finance services (TURKSTAT, 2006).

⁴⁷ TÜVEKA: (Türkiye Üniversiteler ve Araştırma Kurumları Ağı) Turkey Universities and Research Institutions Network
EARN: European Academic and Research Network
BITNET: Because It's Time Network.

Both, the big-scale enterprises and banking and finance services are located in Beşiktaş-Maslak axis. The relationships between the service sector, IT infrastructure are important since they indicate the IT-intensive CBD restructuring along Beşiktaş-Maslak axis. The axis provides advanced and high-level service sector with white-collar, blue-collar and information workers, etc. of total 80.25% of Istanbul's total service employees. Within its territory Istanbul is the only first degree command and control center. Following 1980s, with the neo-liberalization policies of markets and accelerating process of globalization finds its urban spatial reflection in Beşiktaş-Maslak axis.

The deconcentration of the industrial facilities during 1960s, with the new transportation routes and the construction of Bosphorus Bridge started the sprawl process of CBD along the axis. However, the urban space transformations regarding IT can be observed at the last following 1980s (See Table 4.1). Thus, the proposal of the restructuring theory along the axis can be followed in Istanbul, Maslak area.

CHAPTER 5

CONCLUSION

The study focuses on the urban space transformations in Istanbul, Maslak regarding IT within the explanatory frame of deconcentration and economic restructuring traditions. Globalization process is also an important variable within this frame. The most important finding of the thesis is that the urban space transformations in Istanbul did not take place regarding IT. Within the transformation process of Beşiktaş-Maslak axis, IT can only be regarded as a sidelong-factor. On the other hand, the effective variable of this restructuring process is the construction of the Bosphorus Bridge, the new transportation system of ring roads and swiftly changing land ownership. But it is impossible to deny the continuing tendency of locating at Maslak area depends highly on IT and the new agglomerations of the globalization era.

The cities of the era of technology and globalization are affected by new space needs and requirements both in and outside the city boundaries. “Cities have often been defined by their great public spaces, where people meet and share common experiences. ... Telecommunications systems are gradually affecting even the activities and events that occur in those distinctly urban settings” (Moss and Townsend 2000: 38-39).

Recently, with the interplay of IT, globalization processes of the world cities have been accelerated. There are of course still main cores of global cities at the top of the rank as New York, London and Tokyo. But other than this threefold core city formations, especially throughout the last decades, this centralization turned into multi-nuclei cities. Istanbul is also in the top ranked 50 cities with the 24th in the enumeration with Amsterdam, Caracas and Toronto (See Table 2.3).

There are two urban form theories that have been driven out from the transformations within the reshaping process of the “new economy cities”. As elaborated in Chapter 3, these are deconcentration theory, and economic restructuring theory. The main argument of the *deconcentration theory* is that with the excessive use of IT and the simple substitution of transportation with telecommunications, the location preferences of the individuals are varied. This process is to cause urban sprawl and in addition, since face-to-face interactions are to be replaced by

telecommunications, it is unnecessary to travel to work anymore. That considered causing urban dissolution.

However, the practice proved the reverse. Since people are free in their location preferences via telecommuting, they may locate further from the city center. The travel demands are to be multiplied. For instance, the social needs of people like face-to-face interaction, recreation, shopping, or conducting new business arrangements and partnerships and so forth, are not to be structured via a computer screen; rather they cause the need to travel.

However, on the other hand, the relocation of the production functions to suburbs or other cities, even offshore, can be explained by also deconcentration theory. Via telecommunications and IT, the remote management of production functions from administrative centers, which are at totally different locations, had become possible. This theory can be used to explain the splintering of Istanbul. With the use of IT, the production units of the firms are distributed to suburbs such as the new industrial parks at the edge of Istanbul along İzmit, Bursa and Kocaeli axes, to other cities such as Bursa, Kocaeli, İzmit, Gebze to smaller cities, to Anatolia or even to offshore causing alliances with foreign entrepreneurs, where the sources of raw materials and labor force are easier and cheaper to find such as Asia, India, Taiwan, China, Korea, and etc. Also, the suburbanization of the residential areas, shopping malls, and recreational facilities can be followed within the relocation process of urban activities.

The latter one that can be used to explain the urban space transformations in Istanbul is the [*economic*] *restructuring theory*. The restructuring theory focuses on the new organizational and institutional processes of governance, management, administration in the urban centers and the new economic agglomeration tendencies of the firms to centralize. Within the city centers of the globalized cities, while the production functions and activities dissolve, the administrative functions are tending to centralize. The new economy institutions tend to create new economy agglomerations within the urban space.

The new central business district (CBD) formation of Istanbul shows the same agglomeration tendencies in terms of the administrative functions of the firms. The traditional and historical city center of Istanbul cannot confront the new spatial necessities of the multinational, international and intra-national corporations because of its inadequacy in the new spatial needs, physical infrastructure of IT, transportation,

parking lots, expensive and limited land, social infrastructure of recreational and cultural facilities, relative accessibility and so forth.

It is also a common process that in a world city, single center transubstantiates into a multi-centered structure. This is also witnessed in Istanbul, Maslak case. Beşiktaş-Maslak axis is the outcome of this new CBD formation. The historical city center in Eminönü-Karaköy axis was splintered along Büyükdere Avenue and Barbaros Boulevard. Starting from Taksim; Beşiktaş, Gayrettepe, Zincirlikuyu, Şişli, Mecidiyeköy, Levent, and Maslak became city centers along the axis, in fact some of these settlements were sub-centers which in time, uniformed into one along the axis. This is also caused by the piecemeal planning and development structure along Büyükdere Avenue.

After the transition from closed-economic policies to neo-liberal policies during the 1980s, the integration of Istanbul into globalization process has accelerated. With the foreign investments and the embeddedness of the new technologies to urban space became dominant in the daily life. Especially following the second half of the 1990s, internet became available for daily usage. The integration of Turkey to IT technologies in terms of webbased services and hardware increased excessively since then.

In today's modern global economy, metropolitan urban space is an attractive place, that most IT and IT users get tangled in. There are two important stages in the development of IT.

1. software, protocols that support the multi-communication milieu
2. Infrastructure investments and services which support the network communications (Shiode 2000, 107).

Only this way, they may enlarge their space of action. And the cities which already have these IT infrastructure that makes a multi-communication milieu possible has the ability to attract the capital and the necessary labor force of white collar worker (at the top of the necessities list for globalization), and has a chance to introduce itself in the globalization process. "The satellite, cable and microwave greatly enhance this mobility and the leverage it confers, allowing much more sophisticated location policies: mental labor can be separated from production, skilled labor from unskilled, service tasks from manufacturing ones" (Mulgan 1989, 19) So that some of the cities come to the scene as the global management centers which are considered to be the globalized cities such as London, New York, Tokyo, ect., and some as research and development centers and others as production functions. For the globalized cities, there

is a new hinterland which is the whole world. In the second or third tier globalized cities as in Istanbul case, the hinterland may not be the whole world; it is surely larger than its localities and geographical location. While Istanbul has the world, including non-globalized cities, globalized cities and the ones within the same rank, as its hinterland, it is at the same time, a hinterland of the alpha and beta world cities. (See GaWC Inventory in Chapter 2; Table 2.2).

Day-by-day private entrepreneurs voluntare in participating to the infrastructure expenditures, and become mean for the decision-making process for the national politics and decisions. This is a process referred by the *local powerlessness* conceptions of globalization; and it is practiced through the privatization processes of the nation-state foundations of private entrepreneurships. Firms do not prefer to support national monopolies, but are willing to participate in the service infrastructure investments, according to powerlessness arguments. After 1980s, Turkey has also accelerated the privatization of the monopolies and the production utilities. In 2005, the Institution of Turkish Telecommunications, which used to be a monopoly on the telecommunications sector, was also privatized. Although the infrastructure of IT is still dominantly provided by Turk Telekom, there are new corporations willing to participate in this sector and infrastructure.

Another reason why the IT infrastructure prefers urban space is that monopolies left their place to liberal multi-management economical systems being oriented towards the highest rates of profit. All across the world, the basic emphasis is to hold the power –capital and knowledge- in the hands of the cities. Hence the basic assumption of accumulation of capital in one city is that once it is inside the borders, the capital will be distributed to other economic sectors; accelerating the development of the nation. The way to hold the power for the capital accumulation is mainly about reaching the knowledge before anybody else in the world to utilize even the smallest fluctuations of markets. The only place to offer such accessibility and continuous connectivity to knowledge is the metropolitan area with its diverse IT infrastructure.

While the technology developers become metropolitanized, they exclude the “others” who have limited or no accessibility to the knowledge. The more agglomeration of IT supports urban centers, the more it attracts investors. It makes more sense to invest in urban rather than rural areas, which lack of adequate infrastructure. Also the connectivity costs for the rural areas are more expensive than the cities. The IT infrastructure establishment is a pricy process and the profits are low. Thus, the IT

delivering services usually prefer to provide satellite connections for the internet. But this process is also overpriced for the households or the firms. They need to establish a connection via satellite that needs a satellite dish and other hardware to be installed the customer costing a couple hundred \$ at least. Still, the connection is not fast as the broadband technologies (New York Times, 2006).

On the other hand, a broadband connection is cheap and easy to install hence it uses the lines that were already installed within the buildings during construction. An example of such a situation can be found in England. 24% of the population lives in London and South-east district, and they have 39% of all the cable connections. In New York, 6% of the population live in the city, but they have 35% of the connections. The situation is similar in France and Tokyo, too (Graham and Marvin 1996, 133). There are three factors that define the first (New York, London, and Tokyo) and second (Los Angeles, Paris, Hong Kong) core globalized cities:

1. The tendency to centralize and the agglomeration of inter-national management functions,
2. Financial control and supervision knots that the capital may flow without interruptions,
3. Accessibility to insurance, consultant, counselor, marketing and legal services for international pacts (Graham and Marvin 1996: 139).

The incredible acceleration in the development of IT is “turning the city inside out and outside-in at the same time” (Soja 1996, 239). The CBD, residential areas, different zones melt into each other putting together lots of functions (such as; working, sleeping, recreation, etc...) in one place with the common and daily use of IT. All those different activities, which belong to different zones and spaces, become united on a network. Whilst these networks become a dominant factor of our daily lives, the firms, which offer these services or software to log-in the network, at the same time they create, commercial snowball “network effects” (Lohr 2003).

While the traditional production functions move out of the city, the management and control functions show a tendency to locate the urban space. And these control centers are maybe in the city borders but the real border is not geographical, but any point in reach of IT (Moss 1987, 536). This is a continuous process which deconcentration and restructuring theories point out a cycling basis. One causes ground and basis for the other to realize. In practice, these formations cannot be separated from each other rather, they are complimentary (See Chapter 3 for further elaboration on the matter).

As for the outmost important finding of the study, the evidence shows that in Istanbul case, these are not only the result of IT-embeddedness to urban space. Furthermore, the formation of Beşiktaş-Maslak axis began before the globalization process and the neo-liberal economic policy has installed. The prolongation of CBD towards the axis grew out of the inner expansion dynamics of the traditional city center. The city center expansion towards the south was not possible because of natural limitations as the docklands, hence the traditional core expanded towards north along İstiklal Avenue. There was already a sub-center at Beşiktaş, therefore the spill was meaningful. All around the world examples of transition to multi-nuclei city center from a single nucleus type follows the same process. CBD splintered towards the sub-center where they grew to become the new CBD. In cases such as Istanbul, the sub-centers along a determined axis, Beşiktaş-Maslak in this case, unify into one. The former development of CBD in Beşiktaş-Maslak axis had passive relations to IT in the first place. IT does not have direct effects on the CBD formation along the axis, rather it may be counted as a sub-factor to this process.

Other than IT and its adequate infrastructure, the physical disabilities of the traditional city center with its limited accessibility caused by congestion, expensive and limited land and planning restrictions for the size and height of new constructions, the lack of infrastructure and parking lots, narrow roads, moderate public transportation are the main strains for the relocation choices of the firms and corporations in Istanbul. Following 1970s, as it had been hardly pronounced that the new transportation routes starting from Bosphorus Bridge and the ring roads connecting Beşiktaş-Maslak axis to various city parts of Istanbul would have been constructed, the transformation of land ownership along Büyükdere Avenue and Barbaros Boulevard had started. Its relationship to IT is a secondary factor. Since the area was to be constructed newly, and the production facilities are to be distributed to other cities or suburbs, the infrastructure was also to be constructed with regard to the new necessities of the telecommunications era along the pressures of the multinational firms and holding companies within the area.

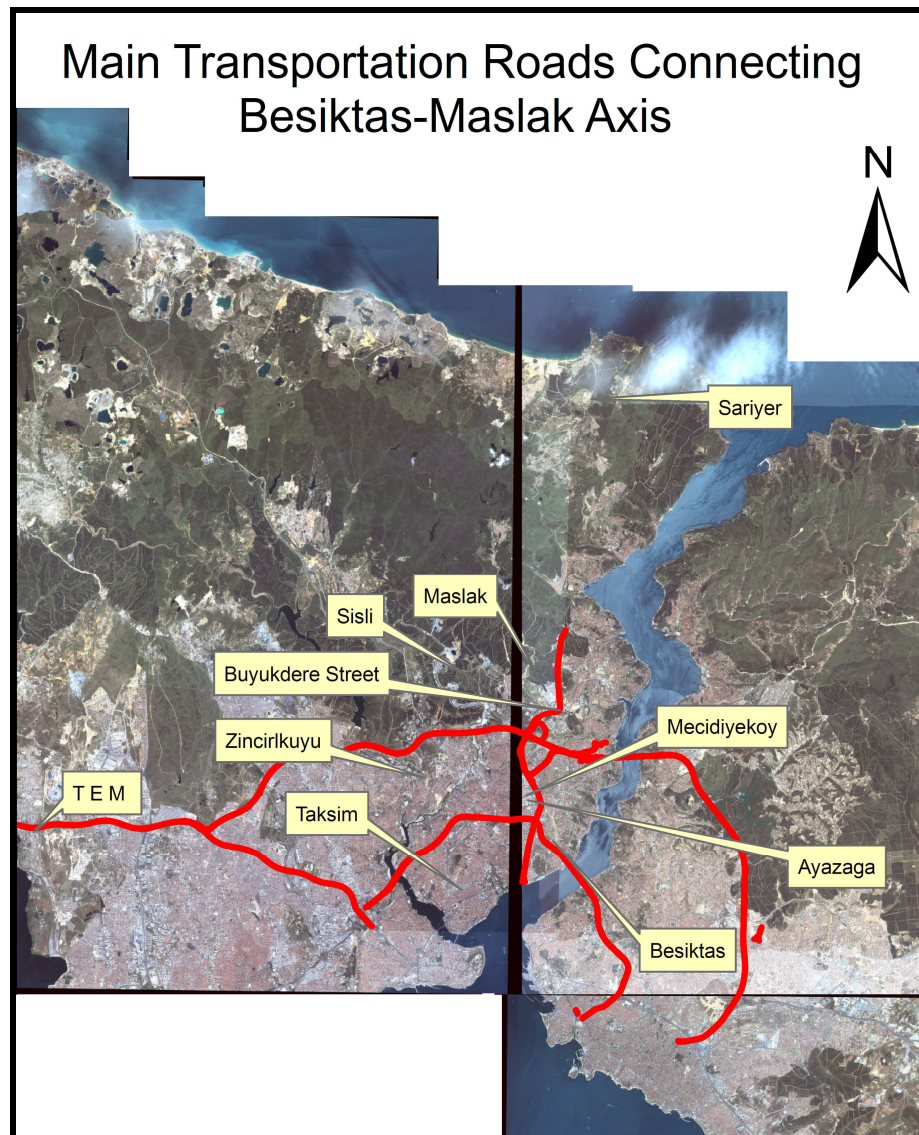
In 1973, Bosphorus Bridge was opened. The studies of the second bridge started in 1988. The application plans which were approved in 1980, was considering the second bridge in the transportation layout. Simultaneously with the opening of the first bridge, CBD moved from the historical peninsula through Büyükdere Avenue, Mecidiyeköy, Zincirlikuyu, Barbaros Boulevard through Maslak. Mecidiyeköy and Gayrettepe are the service points of the hardware and software for IT (such as Eskort

Central Service Center). After the Profilo Shopping Center which used to be Profilo Factory nearby Esentepe, with the cantilevered road to connect to the bridge, 17 administrative buildings of various firms had been constructed. At the end of the 1970's, the preliminary works for the second bridge were on the rise. Although there were still debates about the subject, in 1978, the preparations and plans of the second bridge took place. There were also debates about the prolongation of CBD into that direction, while in time, Maslak was still an industrial area. Especially there were large-scale production units and factories of medicine such as Eczacıbaşı at Gültepe exit, another medicine factory at the site of Metrocity nowadays, in addition to other productive facilities such as Atatürk Industrial Park, Small-scale industrial area at Etiler-Levent, automobile and some other medicine factories at Çeliktepe- Levent-Gültepe, too.

After the construction of the second bridge (Fatih Sultan Mehmet Bridge), there had been transformations from the industrial area and the distribution of the production units into commercial and service sector. In 1988, the application plans were realized. As the industrial sector and the entrepreneurs were well-aware of the restructuring process, they started to buy land from Maslak area. Today's plazas' ownerships like Yapı Kredi Plaza, Akbank, İşbankası Towers were passed through the holding companies and corporations during the late 1970's, particularly in 1977 and 1978. Towards Bosphorus, with the banking facilities and the bank centers, Maslak became a financial center. This process transformed Gayrettepe, either. The urban publicworks of such services as telecom, police department, and passport departments also moved closer to the site, to Gayrettepe. The zoning had changed from industry to service, finance and information sectors whilst the second bridge was opened.

Governmental publicworks such as Şişli Municipality had moved to Maya Center in the 1990s. Only The Regulatory Planning Bureau (*Nazım Plan Bürosu*) stayed in Odakule Center at Tepebaşı which was completed in 1971. The planning studies during the 1970s, the urban lands along the parallel road to the cantilevered road of Mecidiyeköy was occupied by the firms occupied in information sector. But there were no application plans prepared or realized considering IT or IT firms until the globalization started to take place. In the 1994 plan, which was approved after some changes in 1995, considered IT sector zoning objects. To develop IT sector in accordance to the globalization process and as a main target to set Istanbul as the regional center, two main areas were chosen. One of them was at the west of Istanbul;

Silivri and at the south, Gebze Kurtköy. But the main formation of the IT location followed neither the zoning ordinances nor developed in itself, but in fact, followed the CBD of Istanbul through Maslak along the axis, for there was already a transformation of the area appearing as a commercial and service sector from the small industrial zone. In 1990s, Mayor of Şişli Municipality was engaged in the preparations of Maslak district plans as the “Manhattan or silicon valley of Istanbul” for creating an Information Technology center. In 1995 plans, Information Technology Economies were physically planned for the first time in 1/50,000 scale Istanbul Metropolitan Area Sub-Regional Application Plan.



Map 5. 1. The Main Transportation Connections and The Settements on The Axis.

(Source: Saygın 2006d)

Up to date, the plans in applicance indicate a piecemeal planning schema. With the 3030 Municipalities Law, the planning consent about the “Specail Issued Tourism Plans” were delivered to Ministry of Culture and Tourism. This Act brought along the planning by polt splintered along the axis which has examples in Maslak area, also such as Istanbul Princess Hotel (former Mövenpick Residence Hotel), Maslak Park Plaza, etc. The control on the planning schema and efforts to unify the plan failed at this point.

There is also another problem in unifying the plans along Beşiktaş-Maslak axis as there are three municipalities in charge of planning along Büyükdere Avenue and Barbaros Boulevard. The west part of Büyükdere Avenue stays in Şişli Municipality and east side at Sarıyer Municipality borders. The south of the axis remains within Beşiktaş Municipality. Analysis of different plans for the axis and especially Maslak area indicate that each municipality processed planning decisions form 1/25.000 Regulatory plans down to 1/5000 Master and 1/1000 Implementation plans. The studies of Istanbul Greater Municipality of 1/50.000 Environmental plans had a stay of execution from the court, hence the site planning lacks of coordination with its environs. The planning schema used to be determined according to the tendencies of the environs and the demands of the constructors.

The IT-embeddness to study area indicates itself with the increase in the services sector and construction tendencies of the firms along the axis. Beşiktaş-Maslak axis is subject to high-incomer prestigious areas. The construction of administrative centers of firms and luxurious malls and residences proves the inclination. The IT-embeddedness can also be examined with the internet connections along the site and the data transfers. Istanbul perfoms as the main information flow center in Turkey. The data transfers, the switches and the IT-intensive service sector points out that the intense amount of daily internet connections perform in this area. The size and profile of establishments, the IT Infrastructure and data transfer topology charts are the main determinants of this fact.

This process can be defined as the new economic restructuring system of Istanbul of which the main economic activities traversed to service sector from production/industrial sector. Through the globalization via embeddeness of IT into daily life, the world has been a mean to a new representation system of economy. The spatial representation tools are the *world cities* and Istanbul in Turkey case.

Today’s world cities and their urban spaces are transforming under the globalization process dominated by the excessive use of IT. There are many debates and

arguments about the restructuring process of urban spaces regarding IT. But this process cannot be elaborated only by the statement “IT transforms urban space” which reflects *technological determinism*. There are also interactions of social, cultural, economical and political factors. The urban space of any city is a milieu that transform within its own dynamics. These dynamics are determined by its society, national policies and legislation on development and governance, and its capital.

But it is out of context to examine all of them in this study. But they can give clues about the further research areas. These potential study fields may be classified as follows:

1. Restructuring the City Economy

In the new economic era, how the new roles undertaken by cities in the globalization process are to be transformed?

2. Reshaping the City

How the urban space needs and formations are occurring with the interaction of IT to daily life?

3. Transforming People and Community

The endless and continuous transformation of people and community is also another process of the information technologies’ era. How will the community react, and how will it change the social behavior of people?

4. Urban Governance

How the countries in the globalization process will maintain their local and international policy-making decisions? Who is in charge of the new organizations?

The scope of the thesis is determined regarding to the former two questions. The latter two questions may form other fields for various studies, but out of context for this study. Regarding the first two research fields, the globalization process of Istanbul within the context of IT and two urban form theories that may form the basis in understanding the urban space formations of Istanbul are examined.

REFERENCES

- Alexander, C., 1977. *A Pattern Language: Towns, Buildings, Construction*, (Oxford University Press, New York).
- Alexander, C., 1987. *A New Theory of Urban Design*, (Oxford University Press, New York).
- Alfeld, L. E. and Graham, A. K. (Eds.), 1976. *Introduction to Urban Dynamics*, (Wright-Allen Pr., Cambridge, Mass.).
- Amin, A. and Thrift, N. 1995. "Globalisation, Institutional 'Thickness' and the Local Economy"; in *Managing Cities; The New Urban Context* edited by P. Healey, S. Cameron, S. Davoudi, S. Graham and A. Madani-Pour, (John Wiley & Sons, Chichester).
- Anderson, P., 1984. "Modernity and Revolution", *NLR*. Vol. 44, March-April.
- Andranovich, G. D. and Riposa, G., 1993. *Doing Urban Research*, Vol. 33, (Sage Publications, Newbury Park, London, New Delhi).
- Angell, G., 1987. *Winning in the Futures Market*, (2nd ed.), (Doubleday, Garden City, New York).
- Arkon, C. 2006. *Şehir Planlama/Tasarım Sözlüğü*, (Iztech Architecture Faculty, Meta Publications, İzmir)
- Audirac, I. 2002. "Information Technology and Urban Form", *Journal of Planning Literature*. Vol.17, No.2.
- Audirac, I. and Fitzgerald, J. 2003. "Information Technology and Urban Form: An Annotated Bibliography of the Urban Deconcentration and Economic Restructuring Literatures", *Journal of Planning Literature*, Vol. 17 No.4, pp. 480-511.
- Avraham, E. 2000. "Cities and Their New Media Images", *Cities*. Vol.17, No.5, 363-370.
- Aysu, E. 1990. *İstanbul Anakent Alanında Kent İçi Devingenlik Örüntüsü*, (Yıldız University Press, Istanbul)
- Bacon, E. N., 1974. *Design of Cities*, (Penguin Books, New York).
- Bademli, R. 2000. "Azgelişmiş Ülkelerde Kent Merkezleri Nasıl Dönüşüyor?", *İstanbul Dergisi*, Vol. 35, pp. 82-87.
- Balchin, P. N., Isaac, D., and Chen, J., 2000. *Urban Economics: A Global Perspective*, (Basingstoke, Palgrave).
- Beauregard, R. A. and Body-Gendrot, S. (Eds.), 1999. *The Urban Moment: Cosmopolitan Essays on the Late 20th Century City*, (Sage Publications, London).

- Beaverstock, J. V., Taylor, P. J., and Smith, R. G. 1999. "A Roster of World Cities", *Cities*. Vol.16, No.6, 445-458.
- Beaverstock, J.V. Smith, R.G. Taylor, P.J., Walker, D.R.F and Lorimer, H. 2000. "Globalization and World Cities: Some Measurement Methodologies", *Applied Geography*, Vol. 20, No:1, pp: 43-63.
- Beaverstock, J.V. Smith, R.G. and Taylor, P.J. 1999. "A Roster of World Cities", *Cities*, Vol. 16, No: 6, pp:445-458
- Benevolo, L., 1980. *The Origins of Modern Town Planning*, (The MIT Press, Massachusetts).
- Bensaou, B. M. and Earl, B. M., 1996. *Information Technology in Japan: Are There Lessons for The West?*, (INSEAD, Fontainebleau,).
- Berg, L. V. D., Braun, E., and Meer, J. V. D. (Eds.), 1998. *National Urban Policies in the European Union: Responses to Urban Issues in the Fifteen Member States*, (Ashgate Publishing Ltd., Aldershot, Brookefield USA, Singapore, Sydney).
- Berköz Akkal, L. 1994. *İstanbul'da Merkezi İş Alanında Hizmet Sektörü Faaliyetlerinin Yerleşimi Özelliklerinin Saptanması Proje No: 438*, (Istanbul Technical University Research Found, İstanbul)
- Berköz, L. 1997. "Sectoral Clustering in the Istanbul Metropolitan Area", Thirty-Seventh European Congress, Rome, (26-29 August 1997), <http://ersa.org/ersaconfs/ersa97/sessions/paper-t/t9.htm>
- Berköz, L. 1998. "Locational Preferences Of Producer Service Firms in Istanbul", *European Planning Studies*. Vol.6, No.3, 333-349.
- Berköz, L. 2001. "The Interregional Location Of Foreign Investors In Turkey", *European Planning Studies*. Vol.9, No.8, 979-994.
- Berman, M. 1984. "The Sign in the Street: A Response to Perry Anderson", *NLR*. Vol.44, 114-123.
- Berman, M., 1985. *All That Is Solid Melts Into Air: The Experience of Modernity*, (Verso Pub, London).
- Beyers, W.B. 2000. "Cyberspace of Human Space: Wither Cities in the Age of Telecommunications" in *The Telecommunication Age: The Fracturing of Geographies* edited by J.O. Wheeler, Y. Aoyama and B. Warf, (Routledge, New York, London), pp. 161-180.
- Bird, J. (Ed.). 1993. *Mapping the Futures: Local Cultures, Global Change*, (Routledge, London; New York).

- Biswas, R. K. (Ed.). 2000. *Metropolis Now! : Urban Cultures in Global Cities*, (Springer, Wien).
- Blumenfeld, H., 1972. *The Modern Metropolis*, (MIT Press, Cambridge).
- Boyer, M. C., 1994. *Dreaming The Rational City: The Myth of American City Planning*, (MIT Press, Cambridge).
- Bölen, F., Korca, P., Dulger Turkoglu, H. and Yirmibesoglu, F. 1996. “2020 Yılına Doğru İstanbul Kentsel Sisteminin Gelişimi” in Proceedings of Towards Habitat 2020 Symposium, (17-19.04.1996), İstanbul, pp. 219-242.
- Brant, L. E., 2001. *Letter Report*, (National Academy Press, Washington, D.C.).
- Broadbent, G., 1990. *Emerging Concepts in Urban Space Design*, (Van Nostrand Reinhold, London; New York).
- Brokaw, T., 2001. “Into an Unknowable Future”, *The New York Times*. September 28.
- Browne, R. B. and Fishwick, M. W. (Eds.), 1999. *The Global Village: Dead or Alive?*, (Bowling Green State University Popular Press, Bowling Green).
- Budapest Metropolitan Municipality 2004. Structure Plans, *Digital Copy from Budapest Municipality Architect’s Office*. Budapest
- Budapest Development Plans 2005, *Digital Copy from Budapest Municipality Architect’s Office*. Budapest Bureau of the Chief Architect.
- Budd, L., 1995. “Globalization, Territory and Strategic Alliances in Different Financial Centers”, *Urban Studies*, Vol. 32, No. 2, pp. 345-360
- Butler, J. G., 1997. “Information Technology: Converging Strategies and Trends for the 21st Century”, (Computer Technology Research Corp, Charleston, S.C.).
- Cairncross, F. 1995. “The Death of Distance”, in *The Economist*. 30/10/1995.
- Cairncross, F. 2001. *The Death of Distance: How the Telecommunications Revolution is Changing Our Lives*, (Harvard Business School Press, Boston).
- Cairncross, F. 2006. The Death of Distance Website, Trendspotters, June 20th, 2006, <http://www.deathofdistance.com/index.html>
- Calinescu, M., 1999. *Five Faces of Modernity: Modernism, Avant-Garde, Decadence, Kitsch, Postmodernism*, (Duke University Press, Durham).
- Campell, S. (Ed.). 1996. *Readings in Planning Theory*, (Blackwell, Oxford).
- Cansever, T. 1993. “Ülke Ölçeğinde İstanbul’u Planlamak”, *İstanbul Dergisi*, Vol. 4, pp. 48-59.

- Canty, D. (Ed.). 1969. *The New City*, (Frederick A. Praeger, New York).
- Carmody, J., 1993. *Underground Space Design*, (Van Nostrand Reinhold, New York).
- Carr, S., 1992. *Public Space*, (Cambridge University Press, Cambridge).
- Carvin, A., 2001. "The E-rate in America: A Tale of Four Cities" in *The Digital Divide: Facing Crisis or Creating a Myth?* (Cambridge: The MIT Press).
- Carvin, A., Conte, C., and Gilbert, A. 2001. "The E-Rate in America: A Tale of Four Cities", in *The Digital Divide: Facing Crisis or Creating A Myth?*, edited by B. M. Compine (Cambridge: The MIT Press), pp. 223-242.
- Castells, M., 1982. *City, Class, and Power*, (St. Martin's Press, New York).
- Castells, M. and Henderson, J. (Eds.), 1987. *Global Restructuring and Territorial Development*, (Sage Publications, London).
- Castells, M. and Kiselyova, E., 1995. *The Collapse of Soviet Communism : A View from The Information Society*, (International and Area Studies, University of California, Berkeley).
- Castells, M., 1996a. *The Informational city: Information Technology, Economic Restructuring, and The Urban-Regional Process*, (Blackwell Publishers, Oxford).
- Castells, M., 1996b. *The Rise of the Network Society*, (Blackwell Publishers, Oxford).
- Castells, M., 1997a. "Modelling The Post-Industrial City", *Futures*. Vol. 29, No. 4-5, pp: 311-322.
- Castells, M., 1997b. *The Power of Identity*, (Blackwell, Cambridge).
- Castells, M., 1998. *End of Millennium*, (Blackwell Publishers, Oxford).
- Castells, M., 2000a. "Urban Sustainability in the Information Age", *City*. Vol.4, No. 1, pp: 118-122
- Castells, M., 2000b. "Grassrooting the Space of Flows", in *The Telecommunication Age: The Fracturing of Geographies* edited by J.O. Wheeler, Y. Aoyama and B. Warf, (Routledge, New York, London), pp. 18-30.
- Castells, M., 2001. *The Internet Galaxy: Reflections on The Internet, Business, and Society*, (Oxford University Press, Oxford)
- Catanese, A. J. and Synder, J. C. (Eds.), 1988. *Urban Planning*, (McGraw-Hill, New York).
- Cengiz, H. 1995. *İstanbul'un Çağdaş Metropoliten Kent Merkezi Oluşumu Büyükdere Caddesi Aksı*, (Yıldız Technical University Publication No: MF-ŞBP 95,072, İstanbul).
- Ching, F. D. K., 1996. *Architecture: Form, Space, Order*, (Van Nostrand Reinhold, New York).

- Clark, M. A. 2001. "Teleworking in the Countryside. Home Based Working in the Information Society", *Journal of Housing and the Built Environment*. Vol.16, 371-373.
- Coucleis, H. and Getis, A., 2000. "Conceptualizing and Measuring Accessibility within Physical and Virtual Spaces", in *Information Space and Cyberspace* edited by D. G. Janelle and D.C. Hodge, (Springer, New York)
- Committee on Broadband Last Mile Technology, C. S. A. T. B., Division on Engineering and Physical Sciences, National Research Council. 2002. *Broadband: Bringing Home the Bits*, (National Academy Press, Washington, D.C.).
- Committee on Computing and Communications Research to Enable Better Use of Information Technology in Government, Computer Science and Telecommunications Board, Commission on Physical Sciences, Mathematics and Applications, Committee on National Statistics, National Research Council. 2000. *Summary of a Workshop on Information Technology Research for Federal Statistics*, (National Academy Press, Washington, D.C.).
- Committee on Computing and Communications Research to Enable Better Use of Information Technology in Government, Computer Science and Telecommunications Board, Division on Engineering and Physical Sciences, National Research Council. 2002. *Information Technology Research, Innovation, and E-Government*, (National Academy Press, Washington, D.C.).
- Committee on Information Technology Literacy, Computer Science and Telecommunications Board, Commission on Physical Sciences, Mathematics, and Applications National Research Council. 1999. *Being Fluent With Information Technology*, (National Academy Press, Washington, D.C.).
- Committee on Information Technology Research in a Competitive World, Computer Science and Telecommunications Board, Commission on Physical Sciences, Mathematics, and Applications, National Research Council. 2000. *Making IT Better: Expanding Information Technology Research to Meet Society's Needs*, (National Academy Press, Washington, D.C.).
- Committee on Japan, Office of International Affairs, National Research Council (Ed.). 1998. *Global Economy, Global Technology, Global Corporations*, (National Academy Press, Washington, D.C.).
- Committee on Networked Systems of Embedded Computers, Computer Science and Telecommunications Board, Division on Engineering and Physical Sciences, National Research Council. 2001. *Embedded, Everywhere, A Research Agenda for Networked Systems of Embedded Computers*, (National Academy Press, Washington, D.C.).
- Committee on the Internet in the Evolving Information Infrastructure, Computer Science and Telecommunications Board, Commission on Physical Sciences, Mathematics, and Applications, National Research Council. 2001. *Internet's Coming of Age*, (National Academy Press, Washington, D.C.).

- Committee on Utilization of Technologies Developed at Russian Research and Educational Institutions, Office of International Affairs, National Research Council, Russian Academy of Sciences. 1998. *Technology Commercialization: Russian Challenges, American Lessons*, (National Academy Press, Washington, D.C.).
- Committee on Workforce Needs in Information Technology, Computer Science and Telecommunications Board, Board on Testing Assessment, Board on Science, Technology, and Economic Policy, Office of Scientific and Engineering and Personnel, National Research Council. 2001. *Building a Workforce for the Information Economy*, (National Academy Press, Washington, D.C.).
- Committee to Study High Performance Computing and Communications: Status of a Major Initiative, Mathematics, and Applications National Research Council. 1995. *Evolving the High Performance Computing and Communications Initiative to Support the Nation's Information Infrastructure*, (National Academy Press, Washington, D.C.).
- Computer Science and Telecommunications Board Commission on Physical Sciences, M., and Applications, National Research Council. 1995. *Keeping The U.S. Computer and Communications Industry Competitive: Convergence of Computing, Communications, and Entertainment*, (National Academy Press, Washington, D.C.).
- Conway, M. 1999. "Great Cities of the Future", *The Futurist*, Vol. 33, No. 6, pp. 28-33.
- Cooke, P. N., 1990. *Back to the Future*, (Unwin Hyman, London).
- Council of Academies of Engineering and Technological Sciences, 1995. *The Role of Technology in Environmentally Sustainable Development*, (National Academy Press, Washington, D.C.).
- C.P.D. (City Planning Directorate of Istanbul Greater Municipality) 1995. 1/50.000 Ölçekli İstanbul Metropolitan Alan Alt Bölge Nazım Plan Raporu" (1/50.000 Scaled Istanbul Metropolitan Area Sub-Region Development Plan Report), 2. Edition, (Istanbul Greater Municipality, Istanbul)
- Crowe, N., 1997. *Nature and the Idea of a Man-Made World; An Investigation into the Evolutionary Roots of Form and Order in the Built Environment*, (The M.I.T. Press, Cambridge).
- Cybrivsky, R. 1999. "Chancing Patterns of Urban Public Space: Observations and Assessments from the Tokyo and New York Metropolitan Areas", *Cities*. Vol.16, No.4, 223-231.
- Çağiltay, K., 2000. *Turkish Internet Growth*, 15/06/2006, <http://www.metu.edu.tr/~kursat/hosts/eng.htm>
- Çakılcıoğlu, M. 2004. "İstanbul Merkezi İş Alanının Gelişimi/Değişimi", in 28th City Planning Symposium on Değişen-Dönüşen Kent ve Bölge, Ankara, (8-10 November 2004)

- Çiçekoglu, F. (Ed.). 2003. *9/11 New York-Istanbul*, (Homer Press, Istanbul).
- Çubuk, M. 1993. "Geleceğini Arayan Metropol", *İstanbul Dergisi*, Vol. 4, pp. 62-65.
- Dalby, S. 1999. "Against 'Globalization From Above': Critical Geopolitics and the World Order Models Project", *Environmental and Planning D: Society and Space*. Vol.17, 181-200.
- Danielson, M. N., 1985. *The Politics of Rapid Urbanization*, (Holmes and Meier).
- Dede, O. M. 1997. "Gelişen Bilgi Teknolojilerine Paralel Olarak Türkiye'deki Kent Formunun Geleceğinin Delphi Metodu ile Araştırılması", İzmir, 7. Ulusal Bölge Bilimi Kongresi.
- Deelstra, T. and Yanitsky, O. (Eds), 1991. *Cities of Europe: the Public's Role in Shaping the Urban Environment: Essays and Case Studies*, (Meždunarodnye otnošeníâ, Moscow).
- Djankov, S. and Hoekman, B. M., 1998. *Avenues of Technology Transfer: Foreign Investment and Productivity Change in The Czech Republic*, (Centre for Economic Policy Research, London).
- Diren M. 1993. "İstanbulunun Bilinci Belirleyici Olacak", *İstanbul Dergisi*, Vol. 7, pp.40-49
- Dodge, M. and Kitchin, R., 2000. *Mapping Cyberspace*, (Routledge, London).
- Dodge, M. and Kitchin, R., 2001. *Atlas of Cyberspace*, (Addison-Wesley, Edinburg Gate).
- Dökmeci, V. and Berköz, L. 2000. "İstanbul'un Tek Merkezli Çokmerkezli Bir Kente Dönüşümü", *Istanbul Dergisi*, Vol. 35, pp. 88-95
- Dökmeci, V. and Balta, N. 1999. "The Evolution and Distribution of Hotels in Istanbul", *European Planning Studies*. Vol.7, No.1, 99-109.
- Dökmeci, V., Dülgeroğlu, Y., and Akkal, L. B., 1993. *Istanbul Şehir Merkezi Transformasyonu ve Büro Binaları*, (Literatür Yayınları, Istanbul).
- Donnison, D. and Eversley, D. (Eds.), 1974. *London Urban Patterns, Problems, and Policies*, (Heinemann, London).
- Downey, J. and Mcguigan, J. (Eds.), 1999. *Technocities*, (Sage Publications, London).
- Dreyfus, H. L. 2001. *Nihilism; On The Information Highway: Anonymity vs. Commitment in the Present Age in On the Internet*, (London, New York: Roulledge), pp. 127
- Dreyfus, H. L., 2001. *On the Internet*, (Routledge, London)
- Durmusevic, S. 1999. "The Future Of The Underground Space", *Cities*. Vol.16, No.4, pp. 233-245.

- Economist (The). 1998. "Going Digital: How Technology Is Chancing Our Lives", *Economist*. Vol.vii, 157-196.
- Economist (The). 1995-2007. Online Newspaper, <http://www.economist.com>
- Eisner, S., 1993. *The Urban Pattern*, (Van Nostrand Reinhold, New York).
- Ellin, N., 1996. *Postmodern Urbanism*, (Blackwell, Cambridge).
- Engineering, N. A. O. (Ed.). 1995. *Revolution in the U.S. Information Infrastructure*, (National Academy Press, Washington, D.C.).
- Enyedi, G. (Ed.). 1978. *Urban Development in the USA and Hungary*, (Akad. K., Budapest).
- Enyedi, G. (Ed.). 1998. *Social Change and Urban Restructuring in Central Europe*, (Akad. K, Budapest).
- Erçel, G. 1999. "The Relationship Between Inflation and Growth", Central Bank of The Republic of Turkey, (3.10.2006) <http://www.tcmb.gov.tr/yeni/evds/konusma/ing/2000/Inflation.html>
- Erkip, F. 2000. "Global Transformation Versus Local Dynamics in Istanbul: Planning in a Fragmented Metropolis", *Cities*. Vol.17, No.5, 371-377.
- Ernste, H. and Jaeger, C. (Eds.), 1989. *Information Society and Spatial Structure*, (Belhaven Press, London).
- Eubanks, G., (1994). "Moving towards a networked society", *Business and Technology Magazine*, March.
- European Founding for the Improvement of Living and Working Conditions, 1993. *Innovations for the Improvement of the Urban Environment: A European Overview*, (European Foundation for the Improvement of Living and Working Conditions, Bruxelles).
- European Founding for the Improvement of Living and Working Conditions, 1996. *What Future for Urban Environments in Europe: Contribution to Habitat II*, (European Foundation for the Improvement of Living and Working Conditions, Luxembourg).
- Fallows, J. 2006: Working at PC Isn't So Lonely Anymore; in *New York Times Webpage*, Technology Section, 01/01/2006; <http://www.nytimes.com/2006/01/01/business/yourmoney/01techno.html?th&emc=th>
- Faludi, A. (Ed.). 1973. *A Reader in Planning Theory*, (Pergamon Press, Oxford).
- Federal Facilities Council (2001). Emerging Information Technologies for Facility Owners: Research and Practical Applications. Paper presented at the Emerging Information Technologies for Facility Owners: Research and Practical Applications, Washington, D.C.

- Feenberg, A., 1999. *Questioning Technology*, (Routledge, London)
- Felfenstein, D. Schamp E.W. and Shachar A. 2003. "Emerging Nodes in the Global Economy: An Introduction", GaWC Research Bulletin 101, 2005, <http://www.lboro.ac.uk/gawc/rb/rb101.html>
- Fishman, R., 1991. *Urban Utopias in the Twentieth Century*, (The MIT Press, Cambridge).
- Floyd J. Fowler, J., 1993. *Survey Research Methods*, (2 ed. Vol. 1), (Sage Publications, Newbury Park, London, New Delhi).
- Foster, K. A. 1998. "Cities in Our Future: Growth and Form, Environmental Health and Social Equity (book reviews)", *Journal of the American Planning Association*.
- Fowler, E., 1992. *Building Cities That Work*, (McGill-Queen's University Press, Montreal).
- French, R. A., 1995. *Plans, Paradigms and People: The Legacy of Soviet Planning for Today's Cities*, (UCL Press, London).
- Friedman, T. 2001. Civilization and Its Discontents: Simulation, Subjectivity, and Space. Discovering Discs: Transforming Space and Genre ob CD-ROM Retrieved 10.05.2001, 2001, from <http://www.duke.edu/~tlove/civ.htm>
- Friedman, T. (2001, 04.01.1997). Electric Dreams: A Cultural History of Personal Computers In The United States. Retrieved 10.05.2001, 2001, from <http://www.duke.edu/~tlove/abstract.htm>
- Friedmann, J. 1998. "The Common Good: Assessing the Performance of Cities" in *City, Space and Globalization: An International Perspective*, edited by H. C. Dandekar. Michigan: College of Architecture and Urban Planning, University of Michigan, Ann Arbor. pp. 15-22.
- Fujita, M. and Thisse, J.-F., 2002. *Economics of Agglomeration : Cities, Industrial Location, and Regional Growth*, (Cambridge University Press, Cambridge).
- Fujita, M., 1989. *Urban Economic Theory: Landuse and City Size*, (Cambridge University Press, Cambridge).
- Fujita, M., 1999. *The Spatial Economy: Cities, Regions and International Trade*, (MIT Press, Cambridge).
- Gallion, A. B. (Ed.), 1986. *The Urban Pattern: City Planning and Design* (Van Nostrand Reinhold, New York).
- Garreau, J., 1992. *Edge City*, (Anchor Books, New York).
- Garsjens, G. J. and Van Lier, H. N. (Eds.), 2002. *Fragmentation and Land Use Planning: Analysis & Beyond*, (Elsevier Sc, Amsterdam).

- Garza, G. 1999. "Global Economy, Metropolitan Dynamics and Urban Policies in Mexico", *Cities*. Vol.16, No.3, pp.149-170.
- Gasper, J. and Glaeser, E. L., 1996. *Information Technology and the Future of Cities*, (Harvard Institute of Economic Research, Cambridge).
- GaWC, 1997-2007. *Globalization and World Cities-Study Group & Network*, <http://www.lboro.ac.uk/gawc/>
- Geçer, F. (2004a). Interview with Türk Telekom Ankara Headquarter Information Networks Vice-Manager Necati KARA, Ankara.
- Geçer, F. (2004b). Interview with Türk Telekom Ankara Headquarter Marketing Department Manager Ahmet ÖZDEMİR, Ankara.
- Geçer, F. (2004c). Interview with Türk Telekom Ankara Headquarter Survey, Projects and Investments Department Electrical Engineer Seyit ÇANKAYA, Ankara.
- Geçer, F. (2004d). Interview with Türk Telekom Ankara Headquarter Switchboard Stations Department Manager. In M. Kemal ODABAŞIOĞLU, Ankara.
- Geçer, F. (2004e). Interview with Türk Telekom Izmir Headquarter Vice-President Kemal GÜNEYLİ, Izmir.
- Geçer, F. (2006a). Interview with Türk Telekom Istanbul European Side Province Director Dr. Mehmet BEYTUR, Istanbul
- Geçer, F. (2006a). Interview with The Turk Telecom Istanbul European Side Headquarters Business Solutions Department Chief Engineer Suat TÜZİNOĞLU, Istanbul
- Geçer, F. (2006c). Interview with Prof. Dr. Murat Diren, Istanbul Greater Municipality Metropolitan Planning and Urban Design Center, Istanbul.
- Gedikli, B. 2001. "Interurban Competition within the Circumstances Created by Global Capitalism", *Gawc Research Bulletin*, no. 65, 2005, <http://www.lboro.ac.uk/gawc/rb/rb65.html>
- Giaoutzi, M. and Nijkamp, P. (Eds.), 1988. *Informatics and Regional Development*, (Avebury Gower Publishing Company, Aldershot, Brookfield USA).
- Giedion, S., 1982. *Space, Time and Architecture: The Growth of a New Tradition*, (Harvard University Press, Cambridge).
- Giedion, S., 1955. *Mechanization Takes Command*, (Oxford University Press, New York).
- Giedion, S., 1971. *Architecture and the Phenomena of Transition; the Three Space Conceptions in Architecture*, (Harvard University Press, Cambridge).
- Giersch, H. (Ed.). 1995. *Urban Agglomeration and Economic Growth : Papers of A Conference Held in Zurich in 1993*, (Egon-Sohmen-Foundation, Springer, Berlin).

- Gifford, R., 1997. *Environmental Psychology: Principles and Practice*, (Second Edition), (Allyn& Bacon, Boston).
- Gilbert, A., 1992. *Cities, Poverty and Development*, (Oxford University Press, Oxford).
- Gillespie, A. and Richardson, R., 2000. "Teleworking and the City: Myths of Workplace Transcendence and Travel Reduction" in *Cities in The Telecommunication Age: The Fracturing of Geographies* edited by J.O. Wheeler, Y. Aoyama and B. Warf, (Routledge, New York, London), pp. 228-245.
- Girouard, M., 1985. *Cities and People*, (Yale University Press, New Haven).
- Godard, F. 1994. "Cities As Arenas of Accelerated Social Transformations", MOST Seminar, Vienna, (10-12 February 1994), UNESCO, <http://www.unesco.org/most/wien/godard.html>
- Godfrey, J.B., 1995. "Restructuring and Decentralization In A World City", *Geographical Review*, Vol. 85, No. 4, pp. 436-457.
- Godfrey, B. J. and Zhou, Y. 1999. "Ranking World Cities: Multinational Corporations and The Global Urban Hierarchy", *Urban Geography*. Vol.20, No.3, pp. 268-281.
- Gottman, J., 1999. "The Dynamics of City Networks in an Expanding World", in *Ekistics*, Vol. 350, pp. 277-291
- Gottman, J. 1990. *Since Megalopolis: Urban Writings of Jean Gottman*, edited by J. Gottmann and R. Harper (John Hopkins University Press, Baltimore)
- Graham S. 1997. "Telecommunications and the Future of Cities: Debunking The Myths", in *Cities*, Vol. 14, No 1, pp. 21-29
- Graham, S. 2001. "The Spectre of the Splitting Metropolis", *Cities*. Vol.18, No.6, pp.365-368.
- Graham, S. and Marvin, S., 1996. *Telecommunications and The City : Electronic Spaces, Urban Places*, (Routledge, London).
- Graham, S. and Marvin, S., 2000. "Urban Planning and The Technological Future of Cities", in *Cities in The Telecommunication Age: The Fracturing of Geographies* edited by J.O. Wheeler, Y. Aoyama and B. Warf, (Routledge, New York, London), pp. 71-96.
- Graham, S. and Marvin, S., 2001. *Splitting Urbanism: Networked Infrastructures, Technological Mobilities and The Urban Condition*, (Routledge: Taylor And Francis Group, London, New York).
- Greene, S. 1992. "Cityshape; Communicating and Evaluating Community Design", *Journal Of The American Planning Association*, Vol.58, No.2, pp. 177-189.
- Gruen, V. (Ed.), 1973. *Centers for the Urban Environment*, (Van Nostrand Reinhold, New York).

- Gugler, J. (Ed.), 1996. *The Urban Transformations of The Developing World*, (Oxford University Press, Oxford).
- Guile, B. R. (Ed.), 1985. *Information Technologies and Social Transformation*, (National Academy Press, Washington, D.C.).
- Gutierrez, F. and Daltabuit, E. 1998. "Mexican Cities in Cyberspace", *Cities*. Vol.16, No.1, 19-31.
- GURU. 2001-2007. *Global Urban Research Uni*, Newcastle University, Newcastle, <http://www.ncl.ac.uk/guru/home.htm>
- Gutkind, E. A., 1970. *International History of City Development*, (Free Pr., New York).
- Güngör, M. and Evren, G. (2002). *İnternet Sektörü ve Türkiye İncelemeleri*. Ankara: T.C. Telekomünikasyon Kurumu Tarifeler Dairesi Başkanlığı.
- Güven, N. E., İnalkoç, T., Şimpek, S., Reyhan, M., and Gür, A. (1993). *Birleşmiş Milletler Tüm Ekonomik Faaliyetlerin Uluslararası Standart Sanayi Sınıflaması; Üçüncü Revizyon, New York, 1990*. (State Institute Of Statistics Prime Ministry Republic Of Turkey Ankara).
- Habermas, J., 1998. *İdeoloji Olarak Teknik ve Bilim*, (M. Tüzel, trans.), (Cogito, İstanbul).
- Hacısalıhoğlu, İ.Y. 2001a. "Küreselleşmenin Gerçek Yüzü ve İstanbul", *Mimarist*, Vol. 3, pp. 86-89
- Hacısalıhoğlu, İ.Y. 2001b. "Küresel Rüzgar, İstanbul ve Gece", *İstanbul Dergisi*, Vol. 38, pp. 67-68
- Hall, P. 1996. *Cities of Tomorrow*, (Blackwell Publishers Ltd Inc., USA)
- Hall, P. and Pfeiffer, U., 2000. *Urban Future 21: A Global Agenda for Twenty-First Century Cities*, (Spon Press, London, New York).
- Hall, P. G. and Hay, D., 1980. *Growth Centres in the European Urban System*, (Heinemann Educational, London).
- Hall, P. G., 1994. *Innovation, Economics and Evolution : Theoretical Perspectives on Changing Technology in Economic Systems*, (Harvester Wheatsheaf, New York).
- Hall, P. G., 1996. *Cities of Tomorrow*, (Blackwell Publishers Ltd, New York).
- Handy S.L. and Mokhtarian P.L., 1996. "The Future of Telecommuting", in *Futures*, Vol.28, No. 3, pp. 227-240
- Harvard University Program on Technology and Society Research Review No.5, 1970. *Technology and the City*, (Harvard University, Cambridge).

- Harvey, D., 1989. *The Postmodern Condition; An Enquiry into the Origins of Cultural Change*, (Blackwell Pub, London).
- Harvey, D., 1989. *The Urban Experience*, (Johns Hopkins University Press, Baltimore, Md.).
- Harvey, D., 2001. *Spaces of Capital : Towards A Critical Geography*, (Edinburgh University Press, Edinburgh).
- Headquareters, I. T. (2004). Izmir Telecom Headquareters. 2004, <http://www.ttizmir.telekom.gov.tr/hizmet/tarihce.htm>
- Hepworth, M. and Ducatel, K. 1992. *Transport in the Information Age: Wheels and Wires*, (Belhaven, London).
- Himanen, P. and Castells, M., 2002. *The Information Society and The Welfare State : The Finnish Model*, (Oxford University Press, Oxford).
- Holmes, D. (Ed.), 2001. *Virtual Globalization: Virtual Spaces/Tourist Spaces*, (Routledge, London New York).
- Horrocks, R. J., 1993. *Future Trends in Telecommunications*, (John Wiley and Sons, New York).
- Howland, M. and Linsday, F. E. 1997. "Where Do Tenants Come From? Using a Geographic Information System to Study the Demand For New Office Space", *Journal Of American Planning Association*, Vol.63, No.3, pp. 356-364.
- Istanbul Greater Municipality Metropolitan Planning and Urban Design Center, 2006. *IMP, in the City Where the Sun, Water and Air Meet...*, (Istanbul Metropolitan Planning, Istanbul)
- Integrating Telecommunications into Urban Planning", *Town Planning Review*. Vol.70, No.1, pp. 84-114.
- Isdale, J. (1993, Oct 7, 1998). "What Is Virtual Reality? A Homebrew Introduction And Information Resource List." 10.05.2001, <http://vr.isdale.com/WhatIsVR.html>
- Istanbul Greater Municipality Metropolitan Planning and Urban Desing Center, 2006. *Istanbul Province 1/100.000 Scaled Environmental Planning and Plan Report*, (Istanbul Greater Municipality, Istanbul)
- Jacobs, J., 1994. *The Death and Life of Great American Cities*, (Penguin Books, London).
- Jameson, F. 2003. "Geleceğin Kenti", *New Left Review Türkiye Seckisi*, (Agora Kitaplığı, Istanbul)
- Janelle, D.C. and Hodge D.C., 2000a. "Information, Place and Accessibility", in *Information Space and Cyberspace* edited by D. G. Janelle and D.C. Hodge, (Springer, New York)

- Janelle, D.C. and Hodge D.C., (eds.) 2000b. *Information Space and Cyberspace*, (Springer, New York)
- Jencks, C., 1993. *Heteropolis: Los Angeles, the Riots and the Strange Beauty of Hetero-Architecture*, (Academy Editions Ernst & Shon, London Berlin).
- Jencks, C. (Ed.). 1992. *The Post-Modern Reader*, (Academy Editions, London).
- Jencks, C., 1990. *The New Moderns: From Late to Neomodernism*, (Academy Editions, London).
- Jewson, N. and Macgregor, S. (Eds.), 1997. *Transforming Cities: Contested Governance And New Spatial Divisions*, (Routledge, London, New York).
- Jonathan, Z., 1999. *Americanization and Its Limits : Reworking US Technology and Management in Postwar Europe and Japan*, (European University Institute, Florence).
- Jordan, T., 2001. *Cyberpower: The Culture And Politics Of Cyberspace And The Internet*, (Routledge, Taylor and Francis Group, London, New York).
- Joshi, H. (Ed.). 1976. *Abidjan Urban Development and Employment in the Ivory Coast*, (ILO, Geneva).
- Juppenlatz, M. (Ed.). 1970. *Cities in Transformation*, (Univ. of Queensland Pr., St. Lucia).
- Kabarık, Y. 1991. *İstanbul'da Yüksek Binalar ve Beşiktaş-Levent-Maslak Örneği*, (Unpublished Master Thesis, ITU, Istanbul).
- Karaman A., Baycan Levent T. 2001. *Globalization and Development Strategies for Istanbul*, 30 August 2001, GaWC Study Group Web Publications, <http://www.lboro.ac.uk/gawc/rb/rb53.html>
- Kasarda, J.D., 2000. *New Logistics Technologies and Infrastructure for the Digital Economy*, (Chapel Hill, NC: Kenan Institute of Private Enterprise, Univrity of North Carolina)
- Kaya, G., 1999. *Küreselleşme Sürecinde Mekanın Rölü: Bir Metod Denemesi*, (unpublished, Mimar Sinan Fine Arts University)
- Kazemian, A. R., 1991. *Urban Renewal Planning Versus Local Values : A Study of Modern Urban Policy and Renewal Processes and of Their Impact on A Local Community*, (CTH, Göteborg).
- Kellerman, A., 2002. *The Internet On Earth: A Geography of Information*, (John Wiley & Sons, Chichester).
- Keskin, A., 1993. "Planlama Çalışmalarının Sorunları", *İstanbul Dergisi*, Vol. 4, pp. 38-46

- Keskin, A. and Diren, M. 1992. "İstanbul Büyükşehir Planlama Çalışmaları", 16th Colloquium of World Town Planning Days in Turkey, Urban Development Problems of Istanbul and European Metropolitan Cities 1, Istanbul (1994)
- Kitchin, R., 1998. *Cyberspace: The World In The Wires*, (John Wiley & Sons, New York).
- Knight, R. V. 1995. "Knowledge-based development: policy and planning implications for cities", *Urban Studies*. Vol.32 no:2 (Special Issue: Cities, Enterprises and Society at the Eve of the 21st Century) pp. 225-260
- Kocabaş, A. 2005. "The Emergence of Istanbul's Fifth Urban Planning Period: A Transition to Planning for Sustainable Regeneration?", *Journal of Urban Technology*, Vol. 12, No. 2, 27-48
- Koolhaas, R., 1994. *Delirious New York: A Retroactive Manifesto*, (Monacelli Press, New York).
- Kostof, S., 1992. *The City Assembled: The Elements of Urban Form Through History*, (Thames and Hudson, London).
- Kostof, S., 1991. *The City Shaped: Urban Patterns and Meanings Through History*, (Little Brown, Boston).
- Krier, L. 2001. "On The Future of Cities." 09.05.2001, <http://www.area.progetto-ed.it/AR28/E/AR28ETE1.TXT>
- Krier, R., 1979. *Urban Space*, (Academy Editions, London).
- Kroker, A. and Kroker, M. (Eds.), 1997. *Digital Delirium*, (St.Martin's Press, New York).
- Kuban, D. 1996. *İstanbul Bir Kent Tarihi*, (History Foundation Publications, Istanbul).
- Laurie, N. and Marvin, S. 1999. "Globalization, Neoliberalism, and Negotiated Development In The Andes: Water projects and Regional Identity in Cochabamba, Bolivia", *Environment and Planning A*. Vol.31, pp. 1401-1415.
- Leary, P. 2001. "Book Review: Civilizing the Urban: Popular Culture and Public Space in Merthyr by Andy Croll", *English Historical Review*, November 01, pp.1291-1292
- Lefebvre, H., 2003. *The Urban Revolution*, (University of Minnesota Press, Minneapolis).
- Lefebvre, H., 1997. *Writings On Cities*, (E. Kofman & E. Lebas, trans.), (Blackwell Publishers, Oxford, Massachusetts).
- Legates, R. T. and Stout, F. (Eds.), 2003. *The City Reader*, (Routledge, London).
- Lever, P., 1991. "Developing an Automotive System Level Electromagnetic Susceptibility Test" ISATA Conference Proceedings

- Lieb, I. C., 1991. *Past, Present and Future: a Philosophical Essay About Time*, (University of Illinois Press, Urbana).
- Lo, F.C. and Yeung, Y.M. (Eds.), 1998. *Globalization And The World Of Large Cities*, (United Nations University Press, Tokyo, New York, Paris).
- Locsmandi, G., 1975. *Urban Development And Planning*, (s.n., Budapest).
- Logan, J. R. and Swanstrom, T. (Eds.), 1990. *Beyond The City Limits: Urfban Policy And Economic Restructuring In Comperative Perspective*, (Temple University Press, Philadelphia).
- Lohr, S. (2003). "The Ascent of Software Civilization" *The New York Times*, 09.06.2003.
- Lynch, K., 1994. *Good City Form*, (The MIT Press, Cambridge).
- Lynch, K., 1993. *The Image Of The City*, (MIT Press, Cambridge).
- Lynch, K., Banerjee, T., and Southworth, M. (Eds.), 1990. *City Sense and City Design: Writings and Projects of Kevin Lynch*, (The MIT Press, Cambridge).
- Maeng, D.-M. and Nedovic-Budic, Z. 2004. "Chicago and Seoul: A Comperative Study of the Impact of Information Technologies on Urban Land Use and Regulation", *Journal of Urban Technology*. Vol.11, No.2, pp. 61-92.
- Mahizhnan, A. 1999. "Smart Cities The Singapore Case", *Cities*. Vol.16, No.1, 13-18.
- Marcotullio, P. J. 2001. "Asian Urban Sustainability In The Era Of Globalization", *Science Direct Web Editions: Habitat International*. Vol.25, No.4, 577-598.
- Marcuse, P. and Kempen, R. V. (Eds.), 2000. *Globalizing Cities: A New Spatial Order?*, (Blackwell Publications, Oxford, Massachusetts).
- Markoff, J., 2006. "For \$150, Third-World Laptop Stirs a Big Debate", *New York Times*, November 30, 2006, Business/Financial Desk.
- Markussen, A. and Gwiasda, V., 1994. "Multipolarity and the Layering of Functions in World Cities: New YORK City's Struggle to Stay on Top", *Journal of Urban and Regional Research*, Vol. 18, No. 2, pp. 167-194.
- Martin, J., 1977. *Future Developments in Telecommunication*, (NJ: Prentice-Hall, Englewood Cliffs).
- McLuhan, M., 1962. *The Gutenberg Galaxy; The Making of Typographic Man*, (Toronto Press, Toronto)
- McLuhan, M., and Powers, B.R., 1989. *The Global Village; Transformations In The Worldlife and Media In The 21st Century*, (New York, Oxford University Press)

- McLuhan, M., 1964. *Understanding Media; The Extention of Man*, (Signet Book, New York)
- McNeill, D. 1999. "Globalization and the European City", *Cities*. Vol.16, No. 3, pp. 143-147.
- Miles, M., Hall, T., and Borden, I. (Eds.), 2000. *The City Cultures Reader*, (Routledge, London).
- Ministry of Housing and Development 1963. *Doğu Marmara Ön Planı*, (Karaca Ofset Basimevi, Istanbul).
- Mirabelli, P. (2001). "Public Cyberspace Planning and Design: Architect's Role In The Construction Of The Virtual City. Architectural Information Management" 2001, from <http://www.arch.uniroma3.it/mirabelli>
- Mitchell, W. J., 1994. *The Reconfigured Eye : Visual Truth in The Post-Photographic Era*, (MIT Press, Cambridge).
- Mitchell, W. J., 1996. *City Of Bits: Space, Place, and The Infobahn*, (The MIT Press, Massachusetts).
- Mitchell, W. J., 2000. *E-topia: "Urban Life, Jim-But Not As WeKnow It"*, (The MIT Press, Cambridge, London).
- Mitchell, W. J., Sanyal, B., and Schön, D. A. (Eds.), 1999. *High Technology and Low-Income Communities : Prospects for The Positive Use of Advanced Information Technology*, (MIT Press, Cambridge).
- Mitchell, W., 1995. *City of Bits*, (MIT Press, Massachusetts).
- Moholy-Nagy, S. (Ed.), 1968. *Matrix of Man*, (Pall Mall Press, London).
- Mokhtarian, P.L., 1998. An Empirical Evaluation of the Travel Impacts of Teleconferencing, *Transportation Research Part A: General*, Vol. 22, Issue 4, pp 283-289.
- Mokhtarian, P.L., Handy, S.L. and Salomon I., 1995. "Methodological Issues in the Estimation of the Travel, Energy and Air Quality Impacts of Telecommuting", in *Transportation Research Part A*, Vol. 29, No. 4, pp. 283-302.
- Moseley, M. J. (Ed.), 1974. *Growth Centres in Spatial Planning*, (Pergamon Pr., Oxford).
- Moss, M. L., 2001. "New York Isn't Just New York Anymore", 04.05.2001, <http://www.mitchellmoss.com/articles/newyork.html>
- Moss, M.L and Townsend, A.M. 2000. How Telecommunications Systems are Transforming Urban Spaces in *Cities in The Telecommunication Age: The Fracturing of Geographies* edited by J.O. Wheeler, Y. Aoyama and B. Warf, (Routledge, New York, London), pp. 31-41

- Moss, M. L. 1998. "Technology and Cities", *Cityscape: A Journal of Policy Development and Research*. Vol.3, No.3.
- Moss, M. L. 1996. *Telecommunications Policy and Cities*. (Taub Research Center, New York)
- Moss, M.L. 1987. "Telecommunications, World Cities, and Urban Policy",. *Urban Studies* Vol. 24, No.6, pp: 534-546.
- Mulgan, R. G., 1989. *A Tale of New Cities: Marksizm Today*
- Muller, P. O., 1996. "The Government of World Cities: The Future of the Metro Model (book reviews)", *The Geographical Review*.
- Mumford, L., 1991. *The City in History: Its Origins, Its Transformations, and Its Prospects*, (Penguin Books, London).
- Mumford, L., 1970. *The Culture of Cities*, (Harcourt Brace, San Diego).
- Munt, S. R. (Ed.). 2001. *Technospaces: Inside The New Media*, (Continuum, London, New York).
- N.U.R.E.C. (Network on Urban Research in the European Community). 1994. *Atlas of Agglomerations in The European Union: Part of An Integrated Observation System*, (N.U.R.E.C., Duisburg).
- National Research Council, Committee on Urban Technology, 1970. *Long-Range Planning for Urban Research and Development*, (NRC, Washington, D.C.).
- National Research Council Policy Division, 1996. *Linking Science and Technology to Society's Environmental Goals*, (National Academy Press, Washington, D.C.).
- Newman, P. and Thornley, A., 2002. *Urban Planning In Europe: International Competition, National Systems And Planning Projects*, (Routledge, London, New York).
- New York Times, 2000-2007, Online Newspaper, Technology, World, Prototype, and Business Sections, www.nytimes.com
- NII 2000 Steering Committee, Computer Science and Telecommunications Board, Commission on Physical Sciences, Mathematics, and Applications, National Research Council, 1996. *The Unpredictable Certainty: Information Infrastructure Through 2000*, (National Academy Press, Washington, D.C.).
- Norman, D. A., 1993. *Things That Make us Smart : Defending Human Attributes in The Age of The Machine*, (Perseus Books, Cambridge).
- Nrenaissance Committee, National Research Council, 1994. *Realizing The Information Future: The Internet and Beyond*, (National Academy Press, Washington, D.C.).

- Nunberg, G. (2003).: “The Nation: Search Engine Society; As Google Goes, So Goes the Nation” in *The New York Times*, 18/05/2003.
- O’Donnell, J. J., 1998. *Avatars of the Word: from Papyrus to Cyberspace*, (Harvard University Press, Cambridge).
- OECD, 2001. “The New Economy: Beyond the Hype/Final Report on the OECD Growth Project” in *Meeting of the OECD Council at Ministerial Level*, Paris.
- OECD, 2000. *The Service Economy*, <http://www.oecd.org/dataoecd/10/33/2090561.pdf>
- OECD, 1992. *Urban Land Markets Policies for The 1990s*, (Organisation for Economic Co-operation and Development, Paris).
- OECD, 1987. *Revitalising Urban Economies*, (Organisation for Economic Co-operation and Development, Paris, Paris).
- Ohkawara, T., 1995. *An Econometric Analysis of The Spatial Urban Structure of The Tokyo Metropolitan Area*, (Central Research Institute of Electrical Power Industry, Tokyo).
- Orishimo, I., Hewings, G. J. D., and Nijkamp, P. (Eds.),1986. *Information Technology: Social and Spatial Perspectives*, (Springer-Verlag, Tokyo).
- Orman, L. V., 1991. *Elements of Information Systems: Components and Architecture*, (Macmillan, New York).
- Osmay, S. 1998. “1923’den Bugüne Kent Merkezlerinin Dönüşümü”, in *75 Yılda Değişen Kent ve Mimarlık*, edited by Y. Sey and D. Özkan, (Turkish History Foundation Publications, Istanbul), pp. 139-154.
- Ott, T. 2001. "From Concentration to De-Concentration- Migration Patterns in the Post-socialist City", *Cities*, Vol.18, No.1, pp. 403-412.
- Ould-Mey, M. 1999. "The New Global Economy", *Environmental and Planning D: Society and Space*. Vol.17, pp. 155-180.
- Öncü, A. E. and Weyland, P., 1997. *Space, Culture and Power: New Identities in Globalizing Cities*, (Zed Books Ltd., London, New Jersey).
- Özbeyoğlu, E. 1993. “1009 İmar Planı”, *İstanbul Dergisi*, Vol. 4. pp. 72-79.
- Özdemir, A. D. 2000. “Yabancı Sermayenin İstanbul Haritası”, *İstanbul Dergisi*, Vol. 35, pp. 96-104.
- Özdeş, G. 1993. “Planın Ömrü Sınırlıdır”, *İstanbul Dergisi*, Vol. 4, pp. 66-71.
- Pacione, M., 2002. *Urban Geography : A Global Perspective*, (Routledge, London).
- Paddison, R., Money, J., and Lever, B. (Eds.), 1995. *International Perspective in Urban Studies*, (Jessica Kingsley, London).

- Palen, J. J. (Ed.), 1987. *The Urban World*, (McGraw-Hill, New York).
- Parker, S. 2000. "Sustainability and the Information City; A Conference Report", *City*. Vol.4, No.1, pp. 123-135.
- Pascal, A., 1987. "The Vanishing City", *Urban Studies*, Vol. 24, pp. 597-603.
- Pawley, M., 1993. *Future Systems: The Story of Tomorrow*, (Phaidon Press, London).
- Payzin, E. (2002). "Dünyada ve Türkiye'de BİT (ICT) Pazarı". Paper presented at the Vizyon 2023 BIT Paneli, Ankara.
- Peek, R. (2000). "Information Today ASIS Summit 2000: Defining Information Architecture". 30.10.2002, http://www.findarticles.com/cf_0/m3336/6_17/62599180/print.jhtml
- Pfeiffer, U. and Hall, P., 2000. *Urban Future 21: A Global Agenda for Twenty-first Century Cities*, (E & FN Spon, London).
- Pohjola, M., 2001. *Information Technology, Productivity, and Economic Growth: International Evidence and Implications for Economic Development*, (Oxford University Press, New York).
- Pollowy, A.-M. (Ed.), 1977. *The Urban Nest*, (Dowden, Hutchinson & Ross, Stroudsburg, Pa.).
- Point Topic Broadband Analysis, 2005-2007, Point Topic Webpage; Webservice on DSL and Broadband, <http://point-topic.com/>
- Portes, A., Benton, L. A., and Castells, M. (Eds.), 1989. *The Informal Economy : Studies in Advanced and Less Developed Countries*, (Johns Hopkins University Press, Baltimore).
- Postman, N., 1993. *Technopoly: The Surrender of Culture to Technology*, (Vintage books, New York).
- Pred, A. R. (Ed.). 1973. *Urban Growth and the Circulation of Information*, (Harvard University Press, Cambridge, Mass.).
- Rapoport, A., 1990. *The Meaning of the Built Environment*, (The University of Arizona Press, Tuscon).
- Report of an International Symposium, (1998). *National Science and Technology Strategies in a Global Context*, Washington, D.C.
- Richards, D. J., Allenby, B. R., and Compton, W. D. (Eds.), 2001. *Information Systems and the Environment*, (National Academy Press, Washington, D.C.).
- Richtel, M., (2003). "Technology; The son of a 'Jetsons' creator works on a wireless future" in *The New York Times*, 21/05/2003.

- Ristola, K. (Ed.), 1980. *Helsinki University of Technology, Institute for Urban Planning Prospectus of the Institute for Urban Planning*, (Helsinki Univ. of Techn., Espoo).
- Roberts, G. K. (Ed.). 1999. *The American Cities and The Technology Reader: Wilderness to Wired City*, (Routledge, London)
- Robins, K. and Webster, F. (1999). "Prospects Of A Virtual Space" in *Times of the Technoculture: From the Information Society to the Virtual Life*, (Routledge, London). pp.221-260.
- Robins, K., 1999. *Times of the Technoculture: From the Information Society to the Virtual Life*, (Routledge, London).
- Rodgers, G. (Ed.). 1989. *Access to Jobs and Incomes in Asian and Latin American Cities*, (ILO, Geneva).
- Rowe, C., 1993. *Collage City*, (MIT Press, Cambridge).
- Rybczynski, W., 1995. *City Life: Urban Expectations in a New World*, (Scribner, New York).
- Ryser, J. 2001. "Future Cities" (2001) <http://www2.rudi.net/ej/udq/73/topic7.html>
- Rystead, B. (Ed.). 1987. *Land-use Information in Sweden: Applications of New Technology in Urban and Regional Planning and in the Management of National Resources*, (SCBR, Stockholm).
- Saarinen, E., 1949. *The City: Its Growth, Its Decay, Its Future*, (Reinhold, New York).
- Salomon, I., 1996. "Telecommunications, Cities, and Technological Opportunism", in *Annals of Regional Science*, Vol. 3, No. 1, p. 75-9.
- Sandercock, L., 2003. *Towards Cosmopolis*, (John Wiley & Sons, New York).
- Sanyal B. 2000. "From Dirt Road to Information Superhighway: Advanced Information Technology (AIT) and the Future of the Urban Poor" in *The Telecommunication Age: The Fracturing of Geographies* edited by J.O. Wheeler, Y. Aoyama and B. Warf, (Routledge, New York, London), pp. 143-157
- Saraçbaşı, E., 2001. *Küreselleşme ve Çokuluslu Yapılanma Sürecinde New York ve İstanbul Merkezi İş Alanlarının Karşılaştırmalı Analizi*, (Istanbul Technical University, Istanbul)
- Sarin, M. (Ed.). 1982. *Urban Planning in the Third World*, (Mansell, London).
- Sassen, S., 1991. *The Global City: New York, London, Tokyo*, (Princeton University Press, Princeton, New Jersey).
- Sassen, S. 1997. "Cities in the Global Economy", in *International Journal of Urban Sciences*, Vol 1 No. 2, pp. 11-31.
- Sassen, S., 1998. *Globalization and its Discontents*, (New Press, New York).

- Sassen, S. (ed.), 2002. *Global Networks Linked Cities*, (Routledge, New York, London)
- Savitch, H. V., 1988. *Post-Industrial Cities: Politics And Planning In New York, Paris, and London*, (Princeton University Press, New Jersey).
- Saygı, N. (2002). *Telekomünikasyon ve Bilgi Teknolojileri Pazarı Mevcut Durum ve 10 Yell Bir Perspektif Çalışma*. Telekomünikasyon Kurumu, Ankara.
- Saygın, Ö. (2006a). *The Place of Maslak in Istanbul and Surrounding Municipal Borders Figure*, İzmir.
- Saygın, Ö. (2006b). *The Switches at Beşiktaş-Maslak Axis Figure*, based on TTnet Internet Infrastructure Network Management Topology Chart 2003, İzmir.
- Saygın, Ö. (2006c). *Administrative Network architecture of TTNNet National Infrastructure, 2003 Figure*, based on TTnet Internet Infrastructure Network Management Topology Chart 2003, İzmir.
- Saygın, Ö. (2006d). *The Main Transportation Connections and The Settlements on the Axis Map*, on base map from Istanbul Greater Municipality City Planning and Urban Design Center, 2006, İzmir.
- Saygın, Ö. (2007a). *Total Connections between Istanbul, Ankara and İzmir According to Ulaknet Data, 2005 (Terrabytes) Figure*, based on Ulaknet Backbone Statistics 2007, İzmir.
- Saygın, Ö. (2007b). *Total Connections between Istanbul, Ankara and İzmir According to Ulaknet Data, 2006 (Terrabytes) Figure*, based on Ulaknet Backbone Statistics 2007, İzmir.
- Schneider, F. B., 1999. *Trust in Cyberspace*, (National Academy Press, Washington, D.C.).
- Schon, D. A., Sanyal, B., and Mitchell, W. J. (1998). "High Technology and Low-Income Communities". 1998, <http://web.mit.edu/sap/www/colloquium96/papers/>
- Scott, L.M., 2000. "Evaluating Intra-Metropolitan Accessibility in thnformation Age: Operational Issues, Objectives, and Implementation", *Information Space and Cyberspace* edited by D. G. Janelle and D.C. Hodge, (Springer, New York)
- Schweitzer, G. E., 2000. *Swords into Market Shares: Technology, Economics, and Security in the New Russia*, (Joseph Henry Press, Washington, D.C.).
- Sewell, J. W., Tucker, S. K., and Castells, M., 1988. *Growth, Exports & Jobs in a Changing World Economy--Agenda 1988*, (Transaction Books, New Brunswick).
- Shengkai, Z. and Chiwai, C. (1995, October 12-14, 1995). *The 2nd International conference on information, systems, and urban management*. Paper presented at the 2nd International conference on information, systems, and urban management, Osaka.

- Shiode, N. 2000. "Urban Planning, Information Technology, and Cyberspace", *Journal of Urban Technology*, Vol.7 , No.2, pp.105-126.
- Shipley , C. And Fish, M. 1996. *How the World Wide Web Works*, (MacMillan Computer Publishing, New York).
- Short, J.R., Breitbach, C., Buckman S. And Essex J. 2000. "From World Cities to Gateway Cities", in *City*, Vol 4 Issue 3, pp. 317-340.
- Sikiaridi, E. and Vogelaar, F. (2000). *The Use Of Space In The Information/ Telecommunication Age- Processing The Unplannable* (Issuepaper). Amsterdam: Workshop Ruimtegebruik.
- Simpson, D. M. 2001. "Virtual Reality and Urban Simulation in Planning: A Literature Review and Topical Bibliography", *Journal of Planning Literature*. Vol.15, No.3, pp.359-376.
- Slevin, J., 2002. *The Internet and Society*, (Blackwell Publishers Ltd., Oxford,).
- Smith, M. P., 2001. *Transnational Urbanism: Locating Globalization*, (Blackwell Publishers, Oxford, Massachusetts).
- Smith, R. S. and Marx, L. (Eds.), 1994. *Does Technology Drive History?: The Dilemma of Technological Determinism*, (The MIT Press, Cambridge).
- Soen, D. (Ed.). 1979. *New Trends in Urban Planning*, (Pergamon Pr., Oxford).
- Soja, E., 1996. *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places* (Blackwell Publishers, Cambridge, Massachusetts)
- Sönmez, M. 1995. "Küreselleşmenin İstanbul'a Etkileri", *İstanbul Dergisi* Vol. 15, pp. 13-22
- Sönmez, M. 2000. "İstanbul'da Kuzey-Güney Kutuplaşması ve Rantlar", *İstanbul Dergisi* Vol. 35, pp. 105-108.
- Stanley, B. 2003. "Going Global and Wannabe World Cities: (Re)Conceptualizing Regionalism in the Middle East", *Emerging Issues in the 21st Century World-System Vol I Crisis and Resistance in the 21st Century World-System*, pp. 151-170. (CN: Praeger, Westport)
- Statistics Hungary (2004). *Introducing Hungary*, (Budapest: Statistics Hungary).
- Stead, D. 2000. "Sustainable Development and the Future of Cities (book review)", *Urban Studies*. Vol.37, No.4, pp. 811-828
- Steering Committee on Research Opportunities Relating to Economic and Social Impacts of Computing and Communications, Computer Science and Telecommunications Board, Commission on Physical Sciences, Mathematics, and Applications, National Research Council, 1998. *Fostering Research on the Economic and Social Impacts of Information Technology; Report of a Workshop*, (National Academy Press, Washington, D.C.).

- Steffey, D. L. and Bradburn, N. M., 1994. *Counting People in the Information Age*, (National Academy Press, Washington, D.C.).
- Stein, J. M. (Ed.). 1995. *Classical Readings in Urban Planning: An Introduction*, (McGraw-Hill, New York).
- Strohmayr, U. 2000. "Comparative Urban Modernities", *Journal of Urban History*. Vol.26, No.6, 815-822.
- Sucharov, L. and Bidini, G. (1997). *Urban transport and the environment for the 21st century III : third international conference on urban transport and the environment for the 21st century /UT 97*. Paper presented at the International conference on urban transport and the environment for the 21st century, Southampton.
- Sudgen, R. and Wilson, J.R. 2001. "Globalization, the New Economy and Regionalization", *GaWC Research Bulletin*, No 70, 2005, <http://www.lboro.ac.uk/gawc/rb/rb70.html>
- Susser, I. (Ed.). 2002. *The Castells Reader on Cities and Social Theory*, (Blackwell, Malden).
- Sywengedouw, E. 1989. "The Heart of Place: The Resurrection of Locality in an Age of Hyperspace", in *Geografiska Annaler*, Vol. 71, No. 1, pp. 31-42.
- Taşan-Kok, T. (2004). *Budapest, Istanbul, and Warsaw: Institutional and Spatial Change*. Unpublished PHD, Utrecht University, Utrecht.
- Taşan-Kok, T. 2006. "Küresel Bütünleşme Sürecinde Kurumsal ve Mekanısal Değişim: Budapeşte, İstanbul ve Varşova Örnekleri", *Değişen Mekan: Mekansal Süreçlere İlişkin Tartışma ve Araştırmalara Toplu Bakış: 1923-2003*, edited by A. Eraydın, (Dost Publications, İstanbul)
- Taylor, N., 2001. *Urban Planning Theory Since 1945*, (Sage Publications, London, Thousand Oaks, New Delhi).
- Taylor, P.J. 1997. "Hierarchical Tendencies amongst World Cities: A Global Research Proposal", *Cities*, Vol. 14, No 6, pp.323-332.
- Taylor, P.J. 2003. "European Cities in the World City Network" in *The European Metropolis 1920-2000*, edited by H. van Dijk, (Erasmus Universiteit, Rotterdam)
- Taylor, P.J., Catalano, G. and Walker, D.R.F 2002. "Exploratory Analysis of the World City Network", *Urban Studies*, Vol 39, No 13, pp. 2377-2394.
- Taylor, P.J., 2001 "Regionality within Globalization: What Does it Mean for Europe?"; in *Regional Policies in Europe: Key Opportunities for Regions in the 21st Century*, edited by F.M. Zimmermann and S. Janschitz, (Leykam: Graz)
- Team, G. U. S., 1999. *The Urban Condition: Space, Community, and Self in The Contemporary Metropolis*, (010 Publishers, Rotterdam).

- Teich, A. H. (Ed.). 1992. *Technology and the Future*, (St.Martin's Press, New York).
- Tekeli, İ. 1993. "İcabında Plan...", *İstanbul Dergisi*, Issue 4, 26-37
- Tekeli, İ. 1994. *The Development of the Istanbul Metropolitan Area: Urban Administration and Planning*, (International Union of Local Authorities in collaboratim with Yıldız Technical University, Istanbul)
- Tekeli, İ. and İlkin, S. 2000. "Küreselleşme Ulus-Devlet Etkileşimi Bağlamında AB-Türkiye İlişkilerinin Yorumlanması", *Doğu-Batı*, pp.113-138.
- Tekeli, İ. 2001. "Dünya Kenti Olma Süreci İçinde Akımlar Mekânını Yeniden Biçimlendiren İstanbul", *İstanbul*. Vol.37, pp. 88-93.
- Telecommunications Authority Telecommunications Board. 2002. *2001-2002 Yılı PTNS Verileri: Türk Telekomünikasyon A.Ş'nin. 2002 Yılı Aboneleri Bölgesel Dağılımı*, Ankara.
- Telecommunications Authority Telecommunications Board, 2002. *Telekomünikasyon Kurumu 2001 Yılı Faaliyet Raporu*. Ankara.
- Telecommunications Authority Telecommunications Board, 2003. *Telekomünikasyon Kurumu 2002 Yılı Faaliyet Raporu*. Ankara.
- Thompson, F. (1999). *Bringing Home The Gods (The Japanese Perception of Urban Space)*.Sept.1999,http://www.findarticles.com/cf_0/m3575/1231_206/57041499/p1/article.jhtml?tem=%22information+technologies%22%2Burban+space
- Thwaites, T. 1996. "Sim cities. (Urban Planning for Environmental Efficiency)", *UN Chronicle*. Vol.33, No.1.
- Topbaş, K., 2006. Opening Article, in *IMP, in the City Where the Sun, Water and Air Meet...*, (Istanbul Metropolitan Planning, Istanbul)
- Toward Every-Citizen Interface to the Nation's Information Technology Infrastructure Steering Committee, C. S. A. T. B., Commission on Physical Sciences, Mathematics, and Applications, National Research Council, 1997. *More Than Screen Deep*, (National Academy Press, Washington, D.C.).
- Trancik, R., 1986. *Finding Lost Space: Theories of Urban Design*, (Van Nostrand Reinhold, New York).
- Tuncay, M. 1996. "İstanbul Örneğinde Büyükşehir-Sanayi-Devlet", Proceedings of Habitat II, Istanbul, (3-12 June 1996), Vol. 2, pp. 157-165.
- Turkish Telecommunications Webpage (2003). History. 2003-, http://www.telekom.gov.tr/webtech/eng_default.asp?sayfa_id=30

- TURKSTAT, 1993. Ekonomik Faaliyetlerin Uluslararası Standart Sanayii Sınıflamasına Dayalı İmalat Sanayii Madde Sınıflaması; İsic Rev. 2'nin Rev. 3'e Çevirimi. State Institute Of Statistics Prime Ministry Republic Of Turkey, Ankara..
- TURKSTAT, 1995. *Public Institutions Research&Development Survey (Survey Report)*, State Institute Of Statistics Prime Ministry Republic Of Turkey, Ankara..
- TURKSTAT, 1996. *Technology And Employment (Report Book)*. State Institute Of Statistics Prime Ministry Republic Of Turkey, Ankara..
- TURKSTAT, 2001. *Year 2001 Statistics On Companies, Cooperatives, And Firms*. State Institute Of Statistics Prime Ministry Republic Of Turkey Ankara..
- TURKSTAT, 2003. *Year 2000 Annual Manufacturing Industry Statistics*. State Institute Of Statistics Prime Ministry Republic Of Turkey, Ankara..
- Tübitak (The Scientific and Technologic Council of Turkey), 2003. *Bilgi ve İletişim Teknolojileri (BIT) Paneli Son Rapor*. Ankara.
- Tübider Bilişim Dergisi, 2006-2007. <http://www.tubiderbd.com/>
- Tübider Bilişim Dergisi, 2006a. *DSL'de Türkiye bir yılda yüzde 190 büyüdü*, 28/06/2006, http://www.tubiderbd.com/index.php?module=news&news_id=5210&cat_id=1
- Tübider Bilişim Dergisi, 2006b. *ADSL abone sayısı 2 milyonu geçti*, 19/06/2006, http://www.tubiderbd.com/index.php?module=news&news_id=5175&cat_id=33
- Tümertekin, E. (1993). “Ayazağa” in *Dünden Bugüne İstanbul Ansiklopedisi V.1* edited by Tekeli, İ., Akbayar, N., Işın, E., Sakaoğlu, N., Baydar, O., Tanman, B., Koz, M.S., Aksoy, B., and Batur, A. (Ministry of Culture and History Foundation Colloective Publication, İstanbul)
- Türk Telekom (2003). *TTnet International Infrastructure Network Management System Architecture*, Ankara: Türk Telekom Ankara Headquarter Informatics Network Department.
- Undersecretariat of Treasury, 2000. *Foreign Direct Investment Data Bulletin*, Ankara.
- Undersecretariat of Treasury, 2006. *Foreign Direct Investment Data Bulletin*, Ankara.
- United Nations Centre for Human Settlements (Habitat), 2001. *Cities in A Globalizing World: Global Report on Human Settlements 2001*, (Earthscan, London, Sterling).
- United Nations, 1991. *World Urbanization Prospects 1990: Estimates and Projections of Urban and Rural Populations and of Urban Agglomerations*, (United Nations, New York).
- Waldie, D. J., 2001). “Catching The Urban Wave”, The New York Times, Nov. 27, 2001.

- Wann, D., 1996. *Deep Design: Pathways to a Livable Future*, (Island Press, Washington D.C.).
- WEB_1. Interoperability Clearinghouse. 2006. Interoperability Clearinghouse Glossary of Terms [Hhttp://www.ichnet.org/glossary.htm](http://www.ichnet.org/glossary.htm) , June 20th, 2006.
- WEB_ 2, 2006. Tübider Bilişim Dünyası Newsletter website, 28/06/2006.
http://mailevreka.com/click_mail.php?campaign=1636&link_id=12676&member_id=700614
- WEB_ 3, 2006. Point Topic BroadBand User Service’s website, 28/06/2006.
<http://www.point-topic.com/home/bbus/>
- WEB_ 4, 2006. İstanbul Ulaşım San.ve Tic. A.ş., 05/12/2006. http://www.istanbul-ulasim.com.tr/default.asp?menu_id=3&sayfa_id=1
- WEB_ 5, 2006. Nicholas Negroponte, 10/12/2006. <http://web.media.mit.edu/~nicholas/>
- WEB_ 6, 2006. About Nicholas Negroponte, the Author of Being Digital, 10/12/2006.
<http://archives.obs-us.com/obs/english/books/nn/nnbio.htm>
- WEB_ 7, 2003. Tübitak Vision 2023 Webpage.; 2003. <http://www.tubitak.gov.tr>
- WEB_ 8, 2006. DeLong’s Home page, 26/03/2006. http://www.j-bradford-delong.net/movable_type/archives/001275.html
- WEB_9, 2006. Nostalgia Pictures Webpage; 30/09/2006.
<http://www.34tr.com/index.php?template=Eski%20Istanbul%20Resimleri>
- WEB_10, 2006. İstanbul Şehir Rehberi Webpage; 30/09/2006. www.istanbul.net.tr
- WEB_11, 2006. Sun Plaza Webpage; 30/09/2006. www.sunplaza.com.tr
- WEB_12, 2006. Architectural Guide to Istanbul Webpage;
<http://www.e-harita.com.tr/istarchguide/>
- Webster, F., 1995. *Theories of the Information Society*, (Routledge, London).
- Weeks, J. R., 1998. *Information Technology in A Culture of Complaint : Derogation, and The Appropriation of Organizational Transformation*, (INSEAD, Fontainebleau, France).
- Wertheimer, R., 2001. “A Backyard That Belongs to No One and Everyone” The New York Times, Dec. 3, 2001.
- Wheeler, J. O., Aoyama, Y., and Warf, B. (Eds.), 2000. *Cities in The Telecommunications Age : The Fracturing of Geographies*, (Routledge, New York).
- Whitelegg, J., 1993., (John Wiley and Sons, New York).

- Winner, L., 1988. *The Whale and the Reactor*, (University of Chicago Press, Chicago).
- Wolcott, P. and Çalıttay, K., 2001. "Telecommunications, Liberalization, and the Growth of Internet in Turkey", in *The Information Society*, Vol. 17., pp. 133-141.
- Woods, L. (1996). "The Question of Space" in Aronowitz et al. (Eds.), *Technoscience and Cyberculture*, (Routledge, New York).
- Woods, L. (1996). The Question Of Space. In S. ARONOWÝTZ, B. MARTINSONS, M. MENSER & J. RICH (Eds.), *Technoscience And Cyberculture* (pp. 276-316). London, New York: Routledge.
- Wynn, M., 1985. *Planning Games: Case Study Simulations*, (E. &F. N. Spon, London).
- Yates, J. and Van Maanen, J., 2001. *Information Technology and Organizational Transformation: History, Rhetoric, and Practice*, (Sage Publications, Thousand Oaks, California).
- Yenen, Z., Dinçer, İ., Şengezer, Yakar, H. and Dikçınar, B. 1996. "İstanbul Metropolitan Alanında Merkez Gelişimi ve Tarihi Yarımada'nın Değişen Rolü" (*Development of Center of Istanbul Metropolitan Area and The Chancing Role of Historical Peninsula*), Proceedings of Towards Habitat 2020 Symposium, (17-19.04.1996), Istanbul, pp. 285-302.
- Yücel, A. (1996) "Republican Period Istanbul" translated by Kıcıman, E. in *Istanbul-World City, Istanbul Habitat II* edited by Batur, A. (History Foundation Publications, Istanbul)
- Yüzer, A.S. and Giritliđlu, C. 2003. "Sanayi Alanları Yeni Düzenleme Stratejileri-İstanbul Örneđi", *İTÜ Dergisi/a Mimarlık, Planlama, Tasarım*, Vol. 2, No: 1, pp. 119-127.
- Zaldivar, C. A. and Castells, M., 1982. *Spain Beyond Myths*, (Alianza Editorial, Madrid).
- Zimmermann, S., 1995. *Urban Space and Identity in the European City 1890-1930s*, (CEU Budapest College, Budapest).
- Zukin, S., 1989. *Loft Living*, (Rutgers University Press, New Brunswick, N.J.).

APPENDIX A

HISTORY OF INFORMATION TECHNOLOGIES IN DAILY LIFE

Since the invention of the alphabet, written and visual media are constantly developing with a growing acceleration. By the time television had been invented, the communal changes have also accelerated. Another technological development close to the invention of TV is the *Super-text* and *Meta-Language*⁴⁸ which consist of written, oral and visual context in themselves which all together form the *Information Superhighway*. The “reality” which we acquire is no more the reality itself but the reality that is offered by the media. This situation transforms the cultures and lifestyles.

This appendix is included within the content of the study for understanding the transformation process of the community and the cityscape in an historical perspective. Especially following the invention and widespread of television, the term *mass media* came into existence. So, first thing to be searched for this subject is the formation process of mass media. This way, with the Internet coming into form and the Information Technologies, changing process of community and cityscape can be totally understood.

In the first section of the chapter, not the spatial setup but the social needs underlying the need of internet have been examined. A chronological summary is presented in means of understanding some of the terms related with especially mass media devices such as telephone, radio, television and computer.

A.1. Telephone

Throughout the 20th century, with the emergence of the telecommunications technologies, huge industrial cities came into existence. Following the Second World War, communication technology has become a very important input – almost as much as transportation - for the dispersion and sprawl of the city and its periphery. In the first half of the century, without the telephone, it was impossible to have the dense Central Business Districts which have office and control functions or even the skyscrapers

⁴⁸ Super-Text and Meta Language: in a global network in real or following time, a system of texts, sounds and images which are linked in many ways at the same time.

(Graham and Marvin, 1996). It has become possible and cheaper to solve any problems within work place without traveling down there. Whilst it reduces travel costs, it also has another positive effect in time-wise. “The telephone helped to make the city bigger, better, more exciting” (Gottman, 1990: 198).

The globalized cities are the far-most frequent users of the telephone. For example according to the 1995 statistics, Tokyo used telephone thrice as much as the African Continental of 500 million populations, although the population was only 23 million (Graham and Marvin, 1996).

A.2. Mass Media Communication Tools (Radio, Television, Video)

Any system which is dominated by television can be easily characterized as a mass media system (Castells, 1996). In television, the message is received by millions of people at the same time. But this message has to be as simple as possible for everybody to perceive. Throughout the world – especially before the end of 1980’s – the broadcasting was realized by the government. The proposition of community who receives the message, supposed to have a tendency of being homogeneous was very strong. The concept of mass media was produced from the mass community concept which was intended to minimize the personal differences of thought and perception. From this point of view, mass media can be taken as a widespread propaganda medium for governments. But more than this, what people find in television is the domination of a new communication system that is enhanced by continuous images flowing one by another without interruption, which requires no education at all, and an easier medium to follow up, besides written media. Also, by referring to a low definition image (a TV image narrates 3 million dots per second) makes audience fill the gaps in between which creates inter-connection within its audience. Marshall McLuhan’s “medium is the message” idiom can be related directly to this inter-connection within the audience.

Most popular use of television is for entertainment. Television is an inevitable part of our lives as a virtual reality simulation of the time. According to a research carried out in the USA during the 1980s’, television is on for 7,5 hours and being watched for 4 hours per day in a typical American family. Radio is listened for 2 hours most of which is listened during travel time by car. Reading newspaper is chancing from 18 to 49 hours and magazines 6 to 30 minutes including school work. In this case,

exposure of an adult to mass media has a time limit of average 6,43 minutes, excluding computer and the Internet. In 1992, in Japan, average exposure to television is 8 to 17 hours per week. In France, this proportion is down to 3 hours per day (Castells, 1996) compared to the U.S. But it must be kept in mind that during watching television, people conduct multiple activities such as eating, housework, etc. but still, watching TV is the second dominant activity after working. This leads us to Castells' proposition of "We live with the media and by the media" (Castells, 1996, 331).

Today hearing and visual media became a communication tool which we react almost as a reflex. Although the TV offers 3600 images per second, human brain can only react to only one image consciously from a million stimulations. These stimulations are being used in the advertising sector such as inserting one image of a drink inside a movie, which is impossible to be understood consciously during the flow of continuous images. But the sub-conscious gets the message and directly leads to consume that product. This example shows us the power of mass media on people. This is why politicians prefer to appear on visual media, for audience to perceive many messages that cannot be given orally by using body language. Today, media has become the stimulating power for transforming cultures.

By the 1980s' there had been another boom in the mass media devices. Following privatized radio channels started broadcasting for 24 hours a day, first VCR (Video Tape Recorder) came into existence. VCR stroked the TV broadcasting which was still in governments' hands. Possibility of recording the chosen programs or even recording real life with the camera changed people's habits for the second time. With increase in local broadcasting television channels and developments in cable and satellite systems, it became possible to watch anything that is been broadcasting over great distances. These new networks caused governments to loose their control over media, and privatized channels increased. The number of private channels in the USA during 1980s' increased from 62 to 330 (Castells, 1996). According to a search carried out by UNESCO in 1992, there are more than one trillion televisions all around the world, which is of the total; 35% in Europe, 32% in Asia, 20% in North America, 8% in Latin America, 4% in Middle East, and 1% in Africa (Castells, 1996).

With chancing context of mass media, it became depoliticized and more segmented according to the audience preferences. As mass media is globalized, people tended to use it for the purpose of entertainment rather than for transfer of knowledge.

A.3. First Internet Experiences (MINITEL, ARPANET)

In 1978, a program called Minitel was prepared by the French Telephone Company and been published in 1984. Minitel was used as an international telephone guide. In 1990s' every one of three adults was using the program. It had 23,000 services through 6,5 million terminals. There were two reasons underlying the success of Minitel: Continuous support of government and simplicity of its usage. The first services were such as unknown numbers, weather reports, and transportation. However it made its biggest profit ever with services such as telephone banking, online-sales, and especially specialized services like the 900 lines in Turkey. They were using simple video and transfer technologies but, wide terminals instead of PC.⁴⁹ However the capacity was limited and usage of Minitel decreased with emergence of new technologies and the Internet, and thus, continued to serve only for bureaucratic information.

Main reason behind Arpanet; the avatar of the Internet; was the need of a continuous communication for army, during a possible nuclear attack as a military tactic which was developed by DARPA⁵⁰. In late 1950s' DARPA cooperated with some firms to develop strategies for military. The first idea was founded by Paul Baran from RAND Corporation. He had two important ideas as building a network and data transferring which is later to be called packet switching (Griffin, 1999). The aim of the project was to build a messaging system which is independent from main control and command centers and can be reached from any point that is connected to the network (Castells, 1996). With later developments of digital technologies in voice, image and data transfer, control center was dispersed totally.

Today, the Internet forms the basis of computer mediated communications (CMC). In 1990s' there were approximately 44,000 networks and 25 million users connected through 3,2 million computers (Castells, 1996). First LAN⁵¹ was established under the name ARPANET in 1969 (Shiode, 2000). In a little while, the usage fell behind its causes of military. In 1983, aparting from ARPANET, military founded its new network as MILNET, and ARPANET continued as scientific and communicational

⁴⁹ PC: Personal Computer

⁵⁰ DARPA: US Defense Department's Advanced Research Projects Agency

⁵¹ LAN: Local Area Network

outline. In 1980s', The National Science Foundation established CSNET and IBM established BITNET; both of which were still using the original ARPANET software. Soon afterwards, ARPA-INTERNET, which was still supported by the Department of Defense, shortened to be called INTERNET.

The Internet was not fast enough for global usage still, as data transfer proportions were 56,000 bytes/sec in 1970s'; 1,500,000 bytes/sec in 1987; 45,000,000 bytes/sec in 1992. After UNIX and TCP/IP protocols were written in 1969 and became largely available by BELL in 1983, and modem created by two students; Warc Christensen and Randy Suess, the Internet network became available globally. With UNIX protocol developed by another three students in 1979, it became possible to transfer data over telephone lines.

In 1989, another system called BBS⁵² became available first in the USA, then throughout the whole world. This system replaced complicated computers with PCs, modems and telephone lines (Castells, 1996). By the late 1980s, some e-mail and communication networks were established but they were still a small proportion of universities and their partnership firms. Xerox Park was among these firms also famous for inventing the Ethernet (Shiode, 2000).

Today, there are thousands of micro-networks integrated with each other. By the mid-1990s, most of the internet users were already logged on to these nets. According to a research in 1993, 67% of the internet users are male and more than half of them are at the 18-34 years range. The annual income of these users differs from \$50,000-\$75,000 and the general job profile falls under the education, sales, and engineering sectors (Castells, 1996). The usage reason is mostly for work and work-related activities.

Nowadays, internet and e-mail replace telephone calls which are being interrupted by pagers or answering machines. The number of internet users was more than 76,000,000 in January 2000. The number of commercial firms estimated as 9,000 in 1991, increased to 21,700 in 1994 (Castells, 1996). According to a research conducted by Online Computer Library Center in June 1999, there were 4,882,000 Web sites which have an average of 129 pages/site with a development rate of 50% and an update rate of 70%. According to Net Names research, applications for web site names were approximately 15,000,000 in January 2000 (Shiode, 2000).

⁵² BBS: Bulletin Board Systems

Especially web search engines such as Yahoo, Google, MSN, AltaVista, Netbul, Arabul, Metacrawler, AOL, etc. available for internet users to find web sites in any kind of knowledge are also increasing⁵³. There are also some search engines such as Copernic, Zoom Search, WebFerret, GeoWhere, Cyberfetch etc. which makes simultaneous searches in multiple search engines altogether. There are also many web sites that one can download softwares with or without any fee such as cnet, download, superonline, yükler, rapidshare, Kazaa, Torrent, eMule, etc. are available in the Internet. But 55% of searches are conducted through Google which has access over 16,000,000 pages (Nunberg, 2003).

A.4. Multimedia

In the second half of 1990s', mass media and CMC⁵⁴ formed a new electronic communication tool; multimedia. The aim was to force electronic communication into home, recreation, entertainment, work and in every aspect of life and to form the 21st century's modern "Information Society". But reaching information society brought many expenses together. Only for America, guessed infrastructure expense was more than \$400 trillions. It was impossible for governments to compensate costs (Castells, 1996). But private firms were willing to contribute to these expenses in order to have an advantage within new bazaar. This bazaar was unfortunately not information society but instead, it dominated an electronic entertainment system.

The new life style created by multimedia tools may be defined to be individuality and home-based. The advertising slogan of the services offered by firms through multimedia tools, were connecting to the world for knowledge, entertainment, and shopping within the safety and comfort of one's house. Findings of the researches proved this life style as in 1990s', the ratio of staying at home was increasing. Another contribution of multimedia tools related with the daily life was the increase in security systems of houses.

⁵³ The preferences of search engines also differ from country to country. For instance, in Taiwan, the most used search engine is Hyweb, whereas in Argentina, Ahijuna; in China, Baidu and in Hungary, Heureka is more frequently used. Turkish people tend to use Google as search engine, and MSN for instant messaging. In spite of Google, as a Turkish search engine Aramanet is on the rise (Tübider 2006).

⁵⁴ CMC: Computer-mediated Communication

Tropo's Networks Inc in the USA is one of the firms working on wireless systems. With this technology, mobile computers or even the mobile phones, and tablets can log in to the Internet within a limited area which has Wi-Fi⁵⁵ system transferring data through radio waves. In 2003, in California, a wireless network was available within a 1 mile square area (Richtel, 2003). Day by day, newspapers publish this or that city had started wireless services such as Central Park in New York, etc.

With developing communication technologies, nowadays it is possible to log on to the Internet from anyplace that is within reach of a network, and firms are still in an effort to make inventions and developments for improving their services. Endless expenditures for IT investments have just one reason; to reach the information as fast as possible, as this is the only way to track financial changes in seconds and become a power in the market; -holding the capital-, which is fluent all over the world. Increase in data transfer rates decrease risks in the markets.

In the next section, a brief layout is given on the Turkish experience of telecommunications in order to understand the difference of process and conditions which is important for the study.

A.5. History of Turk Telekom

Since April 24, 1995, Turk Telekom provides telecommunication requirements apart from the postal services. Turk Telekom was a monopolistic institution up to January 1, 2004 (WEB_ 2). In 2004, 75 licenses for providing telecommunication services of all kinds had been distributed (Günaylı, 2004). Turk Telekom, still serving under the same name, was privatized and 55% of Turk Telekom is sold to Oger Telecommunications Consortium.

Since the last decade, Turk Telekom started providing image, data and knowledge transmission as well as voice (Günaylı, 2004). Description of the institution is such as: "It manages all nationwide public telecommunication exchanges, urban and long distance telecommunication networks, all national and international transmission facilities, automatic and leased data networks, national internet infrastructures and international connections, paging and analog mobile telephone systems (NMT), terrestrial and maritime cable systems, satellite communication systems, coastal stations

⁵⁵ Wi-Fi: Wireless Fidelity

and cable TV systems. It further provides GSM service via Aycell Communication (united with Aria, formerly known as Avea) and Marketing Services INC. whose total capital derives from Turk Telekom. (...) Turk Telekom also offers Private Service Numbers, Paging, Telex, Teletext, 0 522 NMT Mobile Telephony, Cable TV, Leased Lines, ISDN (Integrated Services Digital Network), ATM (Asynchronous Transfer Mode), Satellite, Internet, Turpak (Turkey Package Switching Data Network), ADSL (Asymmetric Digital Subscriber Line), Frame Relay, Maritime Communication, Telecard, Payphones, etc.” (WEB_ 3).

In Turkey, all the Internet service providers and users are using the Turk Telekom infrastructure. Special institutions or private investors (such as e-kolay, superonline, kablonet as internet service providers, banks, call centers etc.) are allowed to rent circuits or lines. Turk Telekom uses different broadband technologies to provide these services. The most common service to our daily life and knowledge is the internet service. Construction process of implementing fiber optics is started on April 10, 1985. In June 28, 1984, first e-mail service started between Ankara, Istanbul, Izmir and Adana (WEB_ 4).

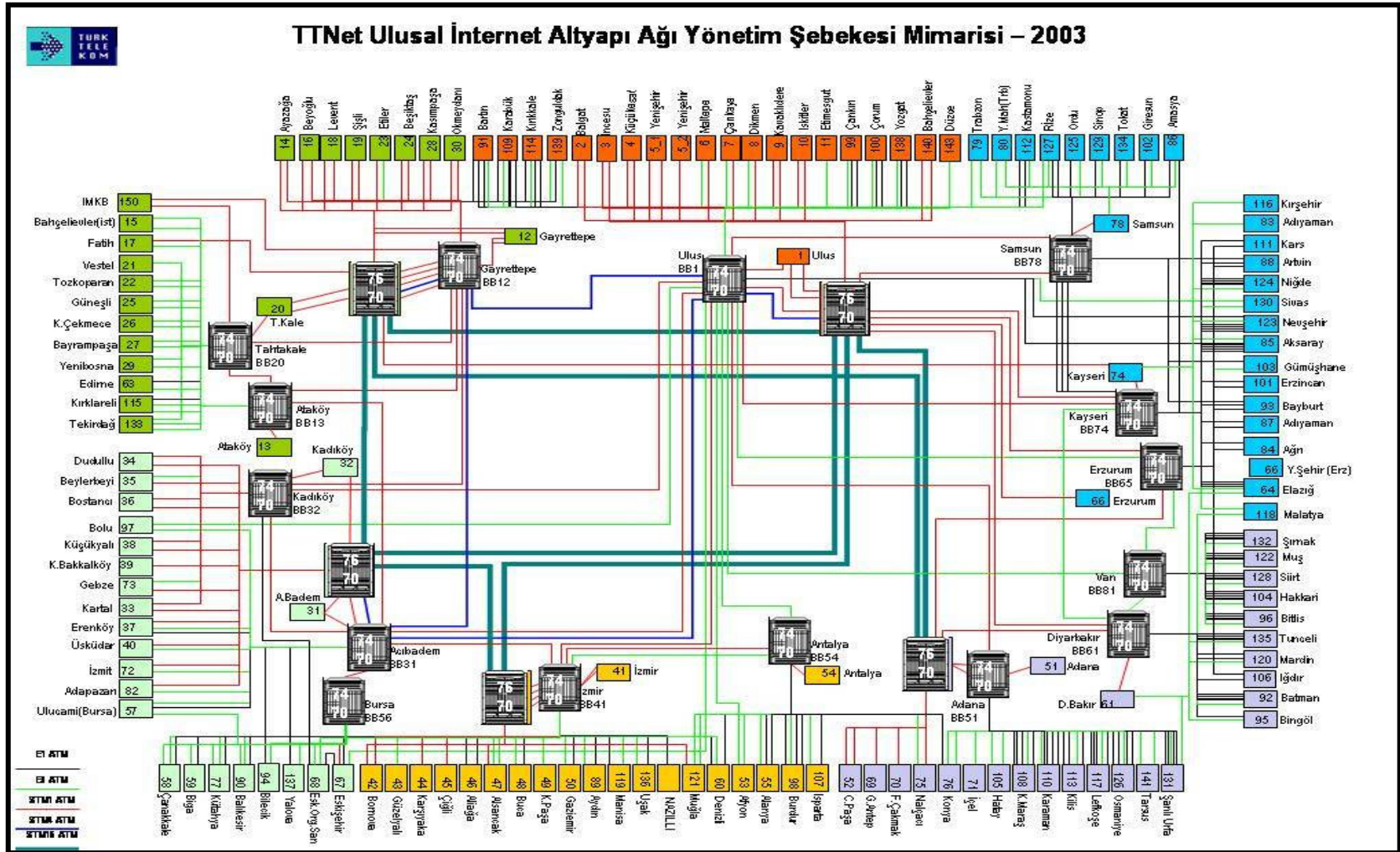
Most of the internet service providing is transferred through fiber optic cables. Whilst constructing infrastructure, Turk Telekom (TT) always reserves 10% of the needed amount of fiber optic cables, including international lines. Turkey’s total transfer rate of international lines is 2.2 GB/sec at January 2004 and the proposed speed for international lines is 5 GB/sec at the end of 2005 (Özdemir, 2004). From April 16, 2004, the total international lines are increased to 4.350/4.040 Mbps (WEB_ 5).

There are two kinds of investment criteria of TT;

1. On the appliances of firm or specialized institution. The firm applies to TT. They provide infrastructure as the firm pays the costs. The applicant may be a firm, an institution, or an individual.

2. On the need that is determined by TT, itself. Intense agglomeration of firms in special urban textures, commercial areas that are available for development, etc. (Çankaya, 2004).

These needs are determined through conversations with municipalities, existing applications, transfer applications, existing user potential etc. Modules are increased in case of needs and density of users and applicants. It is also possible to increase data transfer of any fiber optic cables that are already in use. Telephone traffic flow helps to detect the needs. If there is a decrease in returning calls, capacity is to be decreased by the provider; TT. The emphasis is on production of continuous and safe communication service.



90% of Call Centers' infrastructure is also provided by TT. Call centers are rented from TT. Location of powerhouses and switchboard and network planning is the most important stage. Determination of the center of gravity consists 60% of planning stage. If existing infrastructure is insufficient, 70% of the investment is to be constructed underground (Odabaşioğlu, 2004).

The ISP's (Internet Service Providers) prefer close locations to TT. In Turkey, the international exit lines are mainly based on four switch powers. These are Gayrettepe (in Istanbul-Europe side), Acıbadem (in Istanbul-Anatolia side), Ulus (in Ankara), and Konak (in Izmir). All the other switchboards are linked to these four main switchboards as shown in the TTnet International Infrastructure Network Management System chart (Figure A.1).

In Figure A.1 topology map of Turkey's Internet connections can be explored. Numbers in the boxes refer to international lines connection speeds. Every box is connected to other switchboard which refers an upper level in connections. Main switchboards of international exit lines are in Gayrettepe, Acıbadem, Ulus and Konak, as mentioned above. The boxes which are same color, represents linkages between main and latter switchboards.

The customer potentials in Istanbul mainly indicate three counties. These are Gayrettepe, Maslak and Şişli (Kara, 2004). As to zones, customer potentials are mainly placed at industry zones, commercial areas, academic units, public works services and institutions, tourism zones, health-care facilities areas. But although customer potentials rest in Maslak and Şişli, in the topology chart, there are no switchboards. These may be fed by other switchboards or they may be seen in 2004 topology charts, but there is still lack knowledge for it is forbidden by Turk Telecom to examine and publish as a firm policy. But other researches had been done for the replacement of this knowledge. (See Chapter 4 for further elaboration on the matter). The reason behind this implied research is to read the tendency of information technologies on urban space distribution in Istanbul.

VITA

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