A HISTORICAL AND SOCIAL ANALYSIS OF AN URBAN TRANSFORMATION: AKAY JUNCTION IN ANKARA

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FOR

THE DEGREE OF MASTER OF ARCHITECTURE

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Approval of the Graduate School of Natural and Applied Sciences

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I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Architecture.

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This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Architecture.

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Çağlayan Sönmez

ABSTRACT

A HISTORICAL AND SOCIAL ANALYSIS OF AN URBAN TRANSFORMATION: AKAY JUNCTION IN ANKARA

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This thesis explores the ways in which the concept of "city junction" has been considered as an element of the urban image within the network of circulation. The aim of this study is to make an historical analysis of urban transformation in Inönü Square at Ankara, instigated by the respect to recent traffic problem-centered nodal interventions in the area.

Akay Junction, which is thought as 1930's representative space also having historical power as well as being a node where two significant axis intersect, is studied in its social, cultural and political context, through written and visual historical sources, with its relevant physical spatial components and relations to space and its nearby environment. Presenting the interactions within the historical

process and considering the traffic based physical transformation, the role of the concept of city junction in the formation of urban public space in terms of architecture is questioned.

Based on the material research the thesis presents the existing and the possible alternative models together with a proposal, regarding the further possible transformations especially with the extension planned for the underground rail transport to the area. The alternatives indicate the qualitatively different results that will be got with respect to providing a viable urban public space as such a node.

Keywords: urban transformation, urban transportation, urban public space, urban junction, Ankara Akay Junction

ÖZ

KENTSEL DÖNÜŞÜMÜN TARİHSEL VE SOSYAL ANALİZİ:
ANKARA AKAY KAVŞAĞI

Sönmez, Çağlayan
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Bu tez dolaşım ağı içerisinde "kentsel kavşak" kavramının, kentsel bir imaj olarak nasıl ele alındığını araştırmaktadır. Bu tezin amacı, Ankara İnönü Meydanında gerçekleşen kentsel dönüşümün, Başkent Ankara'da son dönemlerde gerçekleşen trafik sorunu merkezli noktasal müdahalelere ilişkin tarihsel çözümlemesidir.

Akay Kavşağı uygulaması kapsamında, 1930'ların temsil mekanı olarak düşünülen, tarihsel güce sahip, aynı zamanda iki önemli aksın kesiştiği alanın, nasıl bir kentsel kavşağa dönüştüğünü, sosyal, kültürel ve politik bağlamda, bütün bileşenleri, yazılı ve görsel tarihsel belgeler ile alan ile ilişkileri kapsamında, yakın çevresi ile beraber ele almayı öngörür. Tarihsel süreç içerisindeki

etkileşimleri ortaya konularak, mekandaki trafik bazlı fiziksel değişime bağlı olarak, kamusal mekan kurgusunda, kentsel kavşak kavramının mimari anlamda nasıl bir rol üstlendiği sorgulanacaktır.

Bu tez, araştırmalar baz alarak, mevcut durumu ve özellikle yer altı raylı ulaşım sistemlerinin etkisiyle, gelecekteki olası dönüşümleri içeren alternatif model önerilerini sunar. Alternatif modeller, böyle bir kentsel kavşak noktasında önerilecek nitel olarak faklı kentsel kamusal mekanları göstermektedir.

Anahtar kelimeler: kentsel dönüşüm, kentsel ulaşım, kentsel mekan, kentsel kavşak, Ankara Akay Kavşağı

T O M Y FAMILY

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LIST OF ABBREVIATIONS

ABB: "Ankara Büyük Şehir Belediyesi" (TR)
Municipality of Greater Ankara

ANAMP: "Ankara Nazım Alan Metropoliten Planı" (TR)
Ankara Metropolitan Plan

AMANPB: "Ankara Metropoliten Alan Nazım Plan Bürosu" (TR)
Ankara Metropolitan Planning Bureau

ANPB: "Ankara Nazım Plan Bürosu" (TR)
Ankara Master Plan Bureau

ATTIS: Ankara Traffic and Transportation Improvement Study

DIE: "Devlet İstatistik Enstitüsü" (TR)
State Institute of Statistics

DMO: "Devlet Malzeme Ofisi" (TR)
State Supply Office

DSI: "Devlet Su İşleri" (TR)
State Hydraulic Works

ECMT: European Conference of Ministers of Transport

EER: Electronic Equipment Room

EGO GM: "EGO- Genel Müdürlüğü" (TR)
General Directorate of Electricity, Gas and Bus of the Municipality of Greater Ankara

KIK: "Kamu İhale Kurumu" (TR)
Public Tender Legal Administration

METU: Middle East Technical University

MIA: "Merkezi İş Alanı" (TR)
Central Business District (CBD)

NIP: "Nazım İmar Planı" (TR)
The City Structure Plan

PCU: Passenger Car Units

UPRSD: "Ulaşım Planlama Raylı Sistem Dairesi" (TR)
Transportation Planning and Rail System Department of EGO

SCS: Switch Control Systems

TBM: Tunnel Boring Machines

TCK: "Türkiye Cumhuriyeti Karayolları" (TR)
Turkish Republic State Highways

TCDD: "Türkiye Cumhuriyeti Devlet Demir Yolları" (TR)
Turkish Republic State Railways

TEK: "Türk Elektrik Kurumu" (TR)
Turkish Electricity Authority

TBMM: "Türkiye Büyük Millet Meclisi" (TR)
Turkish Grand National Assembly

TMMOB: "Türk Mühendis ve Mimarlar Odalar Birliği" (TR)
Union of Turkish Chambers of Engineers and Architects

UAP: "Ulaşım Ana Planı" (TR)
Transportation Master Plan

UKOME: "Ankara Ulaşım Koordinasyon Merkezi" (TR)
Ankara Transportation and Coordination Center

YÖK: "Yüksek Öğretim Kurumu" (TR)
Higher Education Council

CHAPTER 1

INTRODUCTION

This chapter begins with a rationale for choosing the Akay Multi-Level Junction as a case under investigation. After the thesis statement and the research questions are stated, the methods of this study are described. Finally, the content of the study is given with reference to the following chapters.

1.1 The scope and the aim of the study: The thesis statement

This study examines the historical and the social development of the Akay Multi-Level Junction, in Inönü Square (named recently as the Atatürk Square) (see Figure 1.1). It highlights the city development and how this development was influenced by the transportation focused approach.

Two different definitions will be used for the same place in order to figure out the two different situations. The Inönü Square (Atatürk Square) as a node and the Akay Multi-Level Junction as a traffic junction were chosen as the units of analysis to illustrate the case. The terms often used throughout the study are "transformation in urban space," "junction as an element of urban space," and "transportation policies of a city."

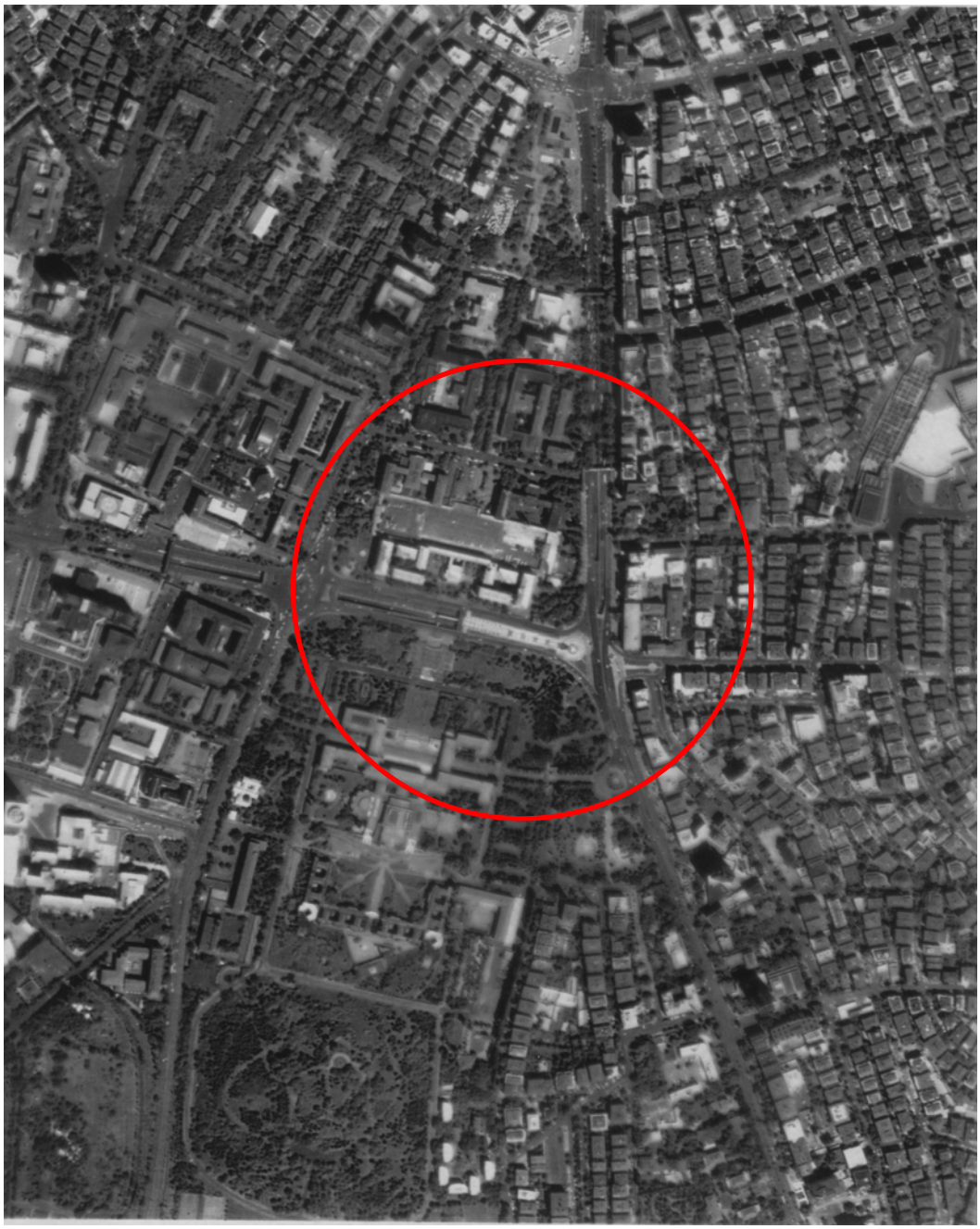

Figure 1.1 Aerial Photograph of the Inönü Square (Atatürk Square) in the Bakanlıklar District
(TMMOB Mimarlar Odası Ankara Şubesi)

The main argument is that: the problem of transportation is not a natural problem which needs to be solved without considering the political, economical, cultural, and design related circumstances. Indeed, it is a problem that needs to be addressed with regards to the aforementioned circumstances and their

interrelations. The solution provided by the current authorities is an alienating one for the urban citizens, while it is not an ultimate solution for the transportation problem.

This study seeks for an answer to the question whether it is possible to consider the Akay Multi-Level Junction as an urban public space element in the city circulation system. In general, junctions are still perceived as a traffic problem. However, they have a great potential in a new urban form.

This study aims to consider not only the structure of junctions, but also the important role in an urban environment or in a city form. The present situation, the Akay Multi-Level Junction, can be described as a solution addressing not the pedestrian, but the vehicular traffic. Throughout this study, it is argued that the vehicular traffic is not necessarily a problem, which should be solved immediately; rather it is a dynamic and an organic parameter that has political, cultural, and economic dimensions.

The Inönü Square has regenerated as a place and point of reference in time, rather than designed as a symbolic entity. It is significant as a "node," located on the intersection of the major north-south axis, Atatürk Boulevard (connecting Ulus-Kızılay-Çankaya) and the Eskişehir Road to the west. Nodes are strategic points within the city to or from which the observer travels. They may be crossings or convergences of paths, junctions, place where one changes from one mode of transport to another.[1] (Lynch, 1979:47-48). In addition, the Inönü Square opens up to The Grand National Assembly (TBMM) and the ministries precinct[2] (TBMM Anıtlar Dizisi-Ön Fikir Araştırması I.Toplantı: Bildiriler ve Tutanaklar, 1976: 39-42). It concerns the citizens of Ankara from the perspectives of physical planning and urban quality of life as an urban space that encompasses many user types.

The Inönü Square was originally planned to be a civic ceremonial space in Jansen Plan, but slowly shrunk due to the demands and problems of car traffic. With the recent changes, the square became pronounced as a traffic junction. The Akay

Multi-Level Junction, which was supposed to provide a non-stop traffic, is now accepted as a junction by the society[3]. However, the Inönü Square is no more considered as a public space. Considering the Inönü Square as primarily a transportation area has changed its meaning. This study aims to address the design principles of the City of Ankara and discuss how these principles had an impact on the architectural harmony related to the problem area on a table given in the end of Chapter Three.

Altaban[4] (2002) maintained the *square* and the *plaza* as being the two major components of a city design. The best locations for public and commercial buildings are the squares and the plazas. Tankut[5] (1998:20-21) asserted that in Jansen plan there was no square but there were junctions. Buildings surround a square or a plaza[6] (Altaban, 2002). The square is designed in such a way that it will represent the buildings surrounding the square. The square and the surrounding buildings construct the public space.

> A building territory has an important effect on the use of public open space. The extension and subdivision of space possesses yet another dimension, where ambiguity of spatial reading in terms of forms and land use encourages the development activity settings[7] (Schumacher, 1986: 34-136-145).

The proponents of a square can be handled by methods, namely; by the function and the form. An absence of any of these elements causes the square to lose its properties. Activities in a square create an attraction[8] (Rubenstein, 1992:1). It is important to consider the activities as a whole. In addition to the disturbance at present, the latest construction on the Akay Multi-Level Junction has shown that the transportation planning of the City of Ankara has been relegated to a policy of constructing multi-level intersections throughout the city.

From another perspective, this study investigates the two states; the visual objects seen by pedestrians and the objects seen from a traveling car. This study will illustrate these urban images with visual materials.

“Road” is the liveliest environmental object of the social life. People and vehicles move along the roads. Indeed, there is a similarity between this movement and the city roads considered as the areas of transportation and communication. Furthermore, the roads determining the basic characteristics of cities are not merely the physical spaces where the movements take place. Roads define the societies’ cultural and social lives. For a citizen, the road provides access to the city, but as a concept, the road is not only a place of transportation but also a way of communication. Alternative means of transportation for pedestrians, cars, and buses bring about traffic congestion and put a heavy load on roads. Consequently, the Inönü Square went through several phases until its present situation, the Akay Multi-Level Junction. Besides, the systems proposed as a type of solution and the application of junction with visual material will be described.

This study argues that there was not any radical solution to the problems of rapid urbanization of our cities since 1950. Cities have always encountered the urban transformation process. As a consequence of the increasing transportation needs in a city, traffic in the axes and the roads become serious and caused a heavy vehicular traffic. Thus, it must be kept in mind that the cities do not only belong to the existing public, but also belong to the next generations.

The priority must be given to the dynamics of transportation in the city centers. Otherwise, attempts to solve the transportation problem in the center will destroy the historical objects and the topography. The transportation dynamics of a city center must be taken not only as a matter of engineering which views the problem as a construction of junctions, but also as a matter of the economical and social structures of the city as a whole.

This study will also report the different perspectives. The social actors, who have decided on the design of the city, are of significance. This research will exhibit clearly that the position of such actors is a great determiner in the latest existing

situation related to the local and the central administrations, the civil social organizations and also the designers.

A similar problem with its proposals and alternatives, which will have an effect on the city's architecture, should be discussed beforehand. It must be admitted that the city is growing and expanding but there must be clues about how the growth or the expansion of the city should be. Consequently, it can be stated that the Akay Multi-Level Junction will be evaluated in terms of movement, land-use activity, city aesthetics, city memory, and urban lands in regards to the transformation, the spatial, aesthetic, urban design and symbolism.

This research focuses to the following issues:

(1) urban transformation
(2) urban transportation
(3) planning and design of an urban public space
(4) The Case Study: The Akay Junction

The research questions are as follows:

(1) How can the Inönü Square be conceptualized as an urban public space?
(2) To what extent can the Inönü Square be regarded as an urban public space?
(3) What is the idea behind the environmental design proposed for the problem area?
(4) How did the Akay Junction affect the connection between the TBMM and the Ministries?

This is not an argumentative or a pedantic study. It rather describes the historical and the cultural circumstances of the selected area with a narrative. This thesis is organized according to the scheme in Figure 1.2.

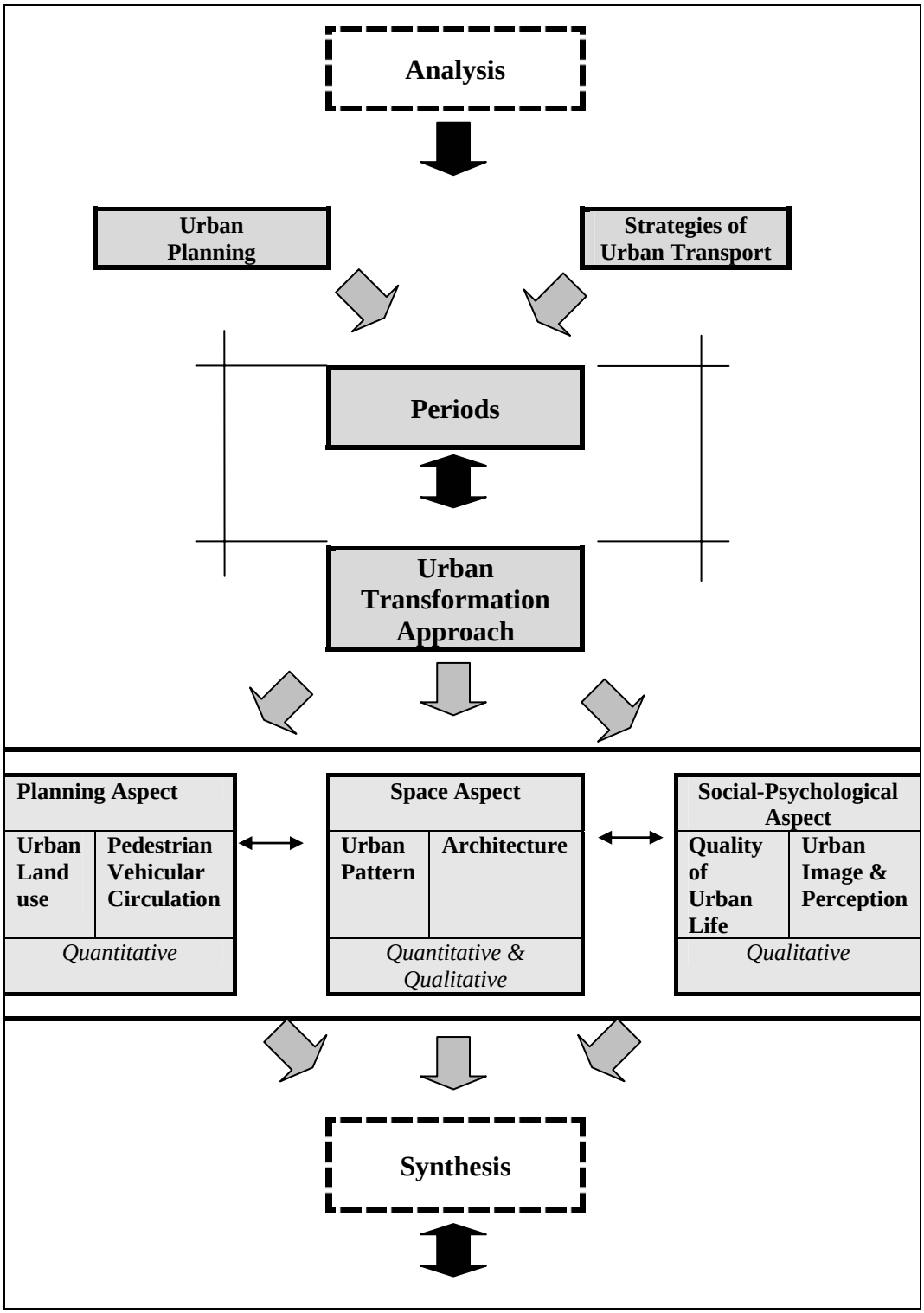

Figure 1.2 Organizational Scheme of the Study.

1.2 The content of the study: Chapters

Chapter Two emphasizes the literature review of the concept of urban transformation. In this chapter, transportation policies are analyzed and discussed in order to demonstrate the various theoretical frameworks on the concept of urban transportation.

Chapter Three is an attempt to depict the history for the problem area and its development in time. In this chapter, the area will be divided in periods according to the nature of the urban transformation. In this paper, the urban transformation terms, experienced since the declaration of the Republic with the reasons, the types of decisions, the projects involved, and the legal basis for the change from urban open spaces into urban junctions, will be depicted within a table.

In Chapter Four, the concept of urban transformation and the re-designing and planning of junctions are examined with explanations of the different stages in the treatment of public spaces and the architectural alterations. Therefore, the case study is focused to the Ankara Atatürk Square. Hence, the Akay Multi-Level Junction case is scrutinized in order to explain how urban transformation process is achieved by an urban transportation politics.

In Chapter Five, urban transformation is evaluated with respect to planning, special, and social-psychological aspects. After assessing the area use, different future and possible public space models will be produced. Finally, the importance of the re-production of public space will be emphasized.

Endnotes

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CHAPTER 2

RE–PLANNING OF TRAFFIC JUNCTIONS AS URBAN PUBLIC SPACES

In this chapter, the concept of urban transformation will be explained, and the urban transformation model concerning transportation systems will be questioned. The qualities and transformation of urban spaces created through urban intervention and re-planning decisions will be researched. The re-planning of junctions as urban public spaces will also be discussed within this chapter.

2.1 Urban Growth and Urban Transformation

In the wake of globalization and liberalization of the world economic order, the cities are undergoing a rapid transformation. Hence, urban transformation is a natural response to the urban growth.

Cities are the areas of transformation affected by change. This process is seen in the form of urban revitalization of historic urban spaces, and urban rehabilitation of squatter settlement areas. The main reasons for the transformation are a) the rapid and unstoppable development of information and communication technologies, b) globalization due to the growth of world trade, new forms of production, and changes in geo-political strategies.

2.2 Transportation and Urban Transformation

> "According to the First Report: Europe's Containable Cites by the European Union Urban Environment Experts Group, "The flight of the population and workforce from central cities, sub urbanization, the rise in demand for personal transportation due to the separation of the home and the workplace, the depletion of spaces on the outskirts of cities, the decline of city centers due to desertion, the dangers to the historical city centers and the decline in the urban environment, and in more general terms, the decrease in the quality of life are interrelated phenomenon" [1] (Avrupa Birliği Kentsel Çevre Uzmanlar Grubu, 1994).

Urban transformation may appear as a physical intervention based on planning, however this transformation also includes social, cultural, and economical dimensions, and these dimensions must also be taken into account. The rapid urbanization process observed currently brings transformation and change, and the increase in urban population has affected the physical size of cities.

> "In modern cities with historical backgrounds, the rapid urbanization process has affected to outskirts more than the city centers. Urban development due to physical growth in city centers has ended, and urban change and transformation triggered by multi-dimensional factors in the centers of big cities are prevalent" [2] (Gürler, 2004).

In the context described above the re-shaping of the urban transportation infrastructure plays an important role in urban transformation.

> Transformation of the architectural fabric of the city is inextricably linked with traffic calming. The historic center is being redesigned / transformed in such a way that it becomes possible to appreciate the city's really remarkable composition of open spaces, streets and squares. *Marienplatz Street of Ravensburg's* City can give as an example of such a same application. In order to enable Ravensburg's citizens to enjoy the hearth of their city, traffic was rerouted around the city, and the main street, Marienplatz was turned in to a pedestrian zone. Beneath is a four level parking garage accommodating 400 cars was constructed. This handsome curved street lined by historic buildings is now a lively meeting place of all ages[3] (Lennard, 1995:199) (see Figures 2.1-2.2-2.3).

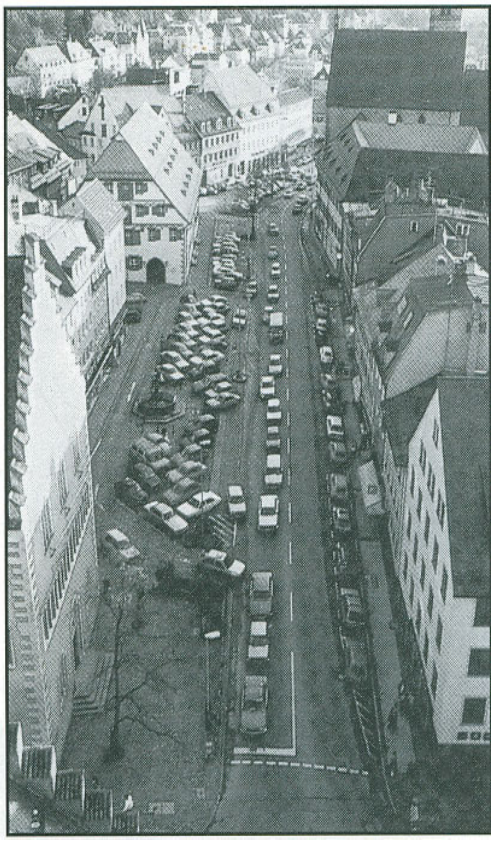

Figure 2.1 The City of Ravensburg: Marienplatz Street before Pedestrianization.

Figure 2.2 The City of Ravensburg: Marienplatz Street after Pedestrianization.

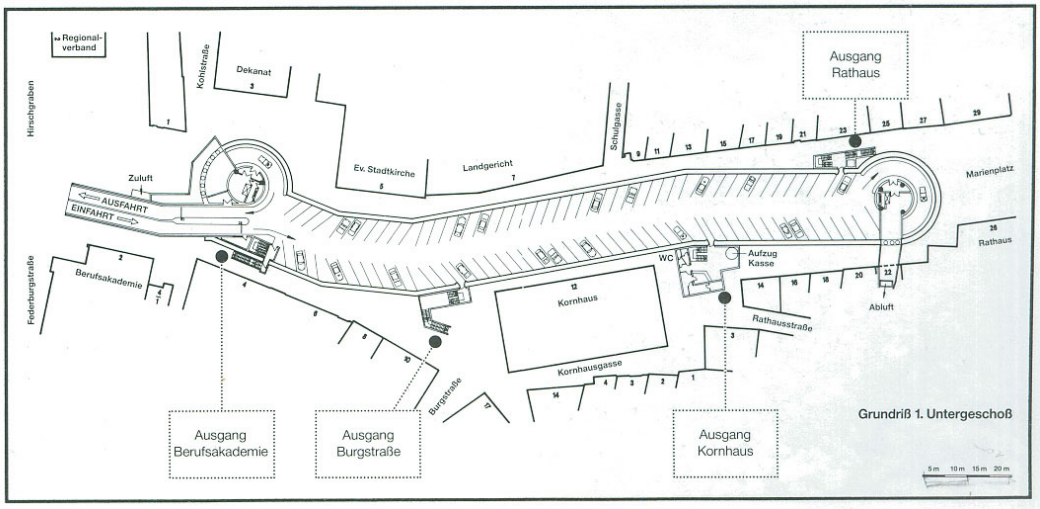

Figure 2.3 Plan of the Parking Space Created under the Pedestrianized Marienplatz Street.

The urban change and transformation process caused by infrastructural intervention concerning existing urban textures in urban spaces is always planned and organized by a political decision mechanism in the public sphere.

It is necessary to outline the content of transportation policies for modern cities. According to Türel (1996), the development of transportation policies in the European and the U.S.A. cities occurred in three phases. Phase one; private traffic was not preferred, and planning was carried out with public transportation and pedestrians in mind. Phase two; involved a decrease in funding for public transportation with an increase in demand for private transportation. Phase three; saw the revitalization of public transportation due to the problems caused by increasing private traffic, and the search for methods of limiting private traffic[4] (Türel, 1996: 20-25). For Turkey, we can say that our major cities have reached the third phase in transportation, except for one factor. In contrast to Western societies, public transportation in Turkey is not prioritized and not implemented as much as it should be.

It is known that transportation policies may affect the urban texture in positive or negative ways. Planning policies made and used in various periods have had spatial effects on the urban texture.

In the first years of the republic, policies concerning construction on both sides of existing roads, construction of new and wide roads, the separation of building plots with roads perpendicular to the main arterial roads, and as Bilsel says (2004), the construction of boulevards aimed at observing and being observed, were created[5]. Walkways for pedestrians that spanned the length of the boulevards were present until the road widening operations of the 1950's[6] (Bilsel, 2004). Such a policy gives priority to pedestrians in the use of urban spaces was an important policy in the change and transformation of urban texture and life.

The spaces with the traffic signs, landscape arrangements and pedestrian crossings were the first signs of the difference between the city and the citizen

stemming from the divide between pedestrians and vehicles. Boulevards that were rich in appearance, and were kept alive up until this point, were slowly divided with increasing number of junctions (see Figure 2.4).

Figure 2.4 Atatürk Boulevard in 1930.
(TMMOB Mimarlar Odası Ankara Şubesi)

The increase in the number of junctions, the amount of vehicular traffic flowing through the city centers showed a vast increase. Traffic junctions built on the same level were not sufficient to handle the amount of traffic, and were replaced with multi-level junctions. This brought various disadvantages for the urban spaces and urban aesthetics. The initiation of underpass construction as a solution to the urban traffic problems in Ankara occurred in this way. The Akay Multi-Level junction is examined in Chapter Four as the case under investigation. Speedways constructed in the scope of junction projects constituted physical rifts for the city, and the loss of visual connection for the citizens. Apart from multi level junctions, which encourage the use of private vehicles, the initiation of the metro line project in 1980 was an important step forward in public transportation systems.

With an increase in population needs grew, and the people living in the newly founded suburban areas formed a majority preferring to use their private vehicles for transportation. Physical growth stemming from this increase required faster transportation in the city center. According to Teber (2004), with an increase in the speed of traffic in big cities, the individuals in the society will be demoted to be a part of the transported mass, and will transform into being part of "the majority passing through" [7] (Teber, 2004:20-36).

The city center has become caught between the bourgeoisie, among which the demand to the city center had decreased, and those living on the outskirts, whose demand is shifting from Ulus to the Kızılay area. The Kızılay district is made up of commercial buildings and public institutions, and is going through a transformation process due to the demand caused by the conflict between the two groups. As the district is a traditional zone for the bourgeoisie, the transportation infrastructure is changing to provide for the increase in private vehicle use. However, this approach is a reflection of traditional transportation policies, and must be replaced by modern transportation policies which gives priority to public transport. The area is now a dispersion – transition point for residents and employees to leave and return to their homes. In addition, pedestrian trips in problem area are mostly depending on a specific function, such as going to reach somewhere else-passing- or spending leisure time sitting.

Another effect of this situation on urban spaces is, as how Bilsel (2004) states, groups of citizens living in closed areas are forming gated communities in the form of limited access streets. These new spaces are not open to the general public and do not constitute public spaces. The urban texture of the republic period, where street arrangements and residencies with many owners is eroding, to be replaced by new arrangements where even the streets are under control. This shows that the city of Ankara has adopted a policy which is far from focusing on the public space element of urban development[8] (Bilsel, 2004).

Public spaces are urban streets, squares, parks, open spaces, and areas vitalized by citizens, and where citizens reside, and form relationships with the area and the city. Squares are among the most important elements of urban design. Squares are also important in the placement and design of public and commercial buildings. A square is surrounded by buildings, and the square is arrange to display the buildings in the best way possible. The square and the surrounding structures form a public space. Pedestrian and vehicular traffic solutions are developed for this area as a whole. Function and/or form are used to classify squares. If one of these aspects is neglected, or is unsuccessful, we cannot speak of the quality of that space. The activity of a public space brings both vitality and visual attraction[9] (Altaban, 2002). In light of the above elements, the qualities of Atatürk Square will be discussed in detail in Chapter Four.

In a design process of transportation in a city, we need to put the best solutions that will generate the forms as being elements in an urban space. A sophisticated model can be designed by studying new techniques for urban aesthetics and qualities of movement through space. The study will follow a definition of what we mean by urban space.

Colquhoun (1989)[10] defines the term urban space in two parts: social space and built space. On the other hand, Lefebvre (1991)[11] identifies a triad of perceived, conceived and lived spaces as the "three moments of social space.'' These moments have dialectical interrelationships. The first moment is spatial practice and refers to processes that secrete society's space. This space is a production of relations between objects and products. The second moment is representations of space and refers to relations such as ideological, linguistic, and symbolic, between lived space and a conceptual framework. The third moment is representational spaces and refers to spaces lived through associated images and symbols. This space is the lived, emerging from a relation between spatial practice and representations of space.

Urban space covers both similar and different territories claimed by many disciplines, such as architecture, urban planning, geography, sociology, political science, philosophy, and real estate. Consequently, this study will be discussed through the lenses of several disciplines.

> The philosopher H. Arent likens the public space to a table which people congregate around in his book, "The Human Condition" This table causes people to be separated (by making them stand apart from each other), but relates them as they are sitting around the table. This physical metaphor is easily related to public urban spaces. The public space as an abstract concept is related to physical space, because public and social life takes place in a space. Bilsel defines the public space as a space of sharing and freedom: It is a place of sharing, because, as Arent says, it is a world composed of human structures produced, created, used and shared together by people. It is also an area of freedom, because it belongs to all individuals forming the society. The public space is an area where people exist separated from their identities, and are anonymous[12] (Arent, 1998: 199-230; quoted in Bilsel, 2004).

Shortly, the transformation and change of the main urban arteries, the junctions, the city outskirts and public spaces is not idiosyncratic, but affected by policies that determine the framework of physical change.

2.2.1 Urban Transportation – Problems and Methods of Solution

As in many developed and developing countries, the rapid population growth in Turkey, alongside developments in the urban and industrial areas have aggravated the problem of transportation, and the effects of transportation infrastructural solutions are felt, especially in the big cities.

> "Le Corbusier's argued for major functional transformation contains traffic developments .The means of transportation must be provided appropriate to exact nature of vehicles employed. Traffic thus regulated becomes a steady function, which puts no constraint on the structure of either habitation/home or places to work"[13] (Le Corbusier, 1973: 98).

Transportation policies were initially formed focusing on pedestrian traffic when private vehicle use was not extensive, and generally distances between the home and the workplace were negotiable on foot. As private vehicle ownership increased, the transportation infrastructure was developed, including the construction of new roads, increasing the capacities of existing roads and bringing new traffic arrangements. Not only did the new roads constructed to relieve the pressure on existing roads that were continuously congested affect the aesthetics of the city, but also increased the traffic load.

The increase in the use of private vehicles also brought problems like the wasting of energy resources, pollution, parking space problems, traffic accidents, and many others. The most effective solution is to increase the demand for public transportation, and set limitations for the use of private vehicles. The petroleum crises in Europe and the U.S.A. between 1973-1974 and in 1979 affected traffic and encouraged the use of public transport[14] (Appleyard, 1981: 154).

The Transportation Policy report printed in England in 1977 stated that the continuation of an effective public transport policy and the effective management of traffic will contribute to solving energy and environmental problems[15] (Renda, 1996:20-26).

> "Traditional policies aiming for the relief of traffic pressures through the creation of extra capacity proved useless as vehicle use increased rapidly. These policies were abandoned in developed countries starting in the 1960's; Management policies were adopted instead. In the 1970's, the principle of "the transportation of people, not vehicles" was adopted, and public transport was prioritized. Also, the allocation of various areas in city centers to pedestrian use, limiting the vehicular traffic, and the 'transportation demand methods' first adopted in the 1980's have become widespread. In this way, the transportation infrastructure and vehicles are managed more efficiently, fairly, and in a way that is least harmful to the environment with the minimal amount of investment. The development of public transport, the limitation of car use and the increase of pedestrian areas are the main principles of this approach"[16] (Acar, 1992: 16-18; Elker, 1997: 38-40, quoted in Kızılay Kent Merkezi Çalışma Grubu, 2004:18).

The use of private vehicles has no positive contribution to transportation besides giving a feeling of independence to the driver and providing flexibility.

> Conceiving of car use as a symbol of personal freedom, and as a form of personal expression fuelled increasing dependence on car[17] (Lennard, 1995:69).

The main way to decrease the use of private vehicles in the city is to maintain a well-organized public transportation system.

2.2.2 Urban Transportation – Planning Policies & Design Principles

The issue raised by traditional transportation policies, emphasizing nodal solutions, is the problem of how the car traffic mode of individual transportation, can flow faster with less obstructions. However, modern transportation policies are built around the arrangement of pedestrian traffic, not merely or primarily the vehicular traffic. This main principle is in effect in many developed countries today, and solutions concerning public transport are being developed[18] (Gülgeç, 2004: 30-31).

> In Part 4 "The Increasing of Fluidity of Urban Transportation" of the "European Transportation Policy: The Main Points of the White Book Policies" (2001) document published by the European Union points out that the main reason behind urban traffic congestion is the excessive use of private vehicles. The preventive measures prescribed are as follow:
> - "Increasing the attractiveness of public transport
> - Decreasing parking capacity in the city centers
> - The use of special lanes for public transport (buses)
> - The provision for public transport costs by employers
> - Car sharing
> - Applying fees for road use for private vehicles
> - The use of income from these sources in public transportation financing"[19] (Elker, 2004: 38-40).

In Turkey today, new measures such as those given above are being used in the scope of the "European Union Harmonization Process".

2.3 Transportation Infrastructure – Current Issues

Current practices concerning the city of Ankara in recent times have give priority to vehicular traffic over pedestrian traffic, with the successive design and construction of many underpasses and multi level junctions. Especially in recent years, transportation projects have been on the agenda of many municipal councils and other non governmental organizations.

For the City of Ankara, the "Ankara Transportation and Traffic Project" financed with World Bank funds in 1998 is not in practice (see for more detail in Chapter Three). Current debates revolve around the fact that many underpass and multi level junction projects that do not feature in the "Ankara Transportation and Traffic Project" have been constructed somewhat rapidly. Multi-level junctions do not only affect the urban spaces in which they are built, but also cause physical changes in the surrounding urban spaces.

The arrangements made in existing junctions in the city center according to traditional transportation policies have increased the traffic density in the city center. All junctions in the city work in conjunction with each other. For this reason, traffic flow solutions brought for one junction will cause congestion in surrounding junctions, and make new "junction" solutions unavoidable.

> **"**Vehicles passing through the Opera junction dating from the 1970's jammed at the Hasırcılar junction; the Hasırcılar junction was converted to a multi level junction in the 1970's, spreading the congestion problem to the Hıfzısıhha junction; when the Hıfzısıhha junction was altered in the 1980's, the bottom levels of this junction, and the Yenişehir Pazarı, Kolej and Kurtuluş junctions became congested**"**[20] (Öncü, 1995:84-85).

The point we are at today shows that the Akay junction project did not solve the congestion problem along the whole axis, and other junction projects have been carried out on the Eskişehir Road (see Figure 2.5). A solution to the "*Genel Kurmay*" Junction congestion has been sought in the Akay Multi-Level junction

for the Akay direction, and the DSI and Balgat-Bahçelievler junctions for the DSI direction. According to the report on Multi-Level Junction Project for the City of Ankara (1995), congestion issues cannot be solved by constructing underpasses in every single boulevard and street in the city, so avoiding congestion and traffic jams at certain points will only carry the problem on to the next junction. The solution lies in traffic management planning. With the junction projects completed on the Eskişehir Road, a speedway has been formed. However, multi level junctions are usually used in traffic solutions outside of the cities.

For urban spaces, solutions that give priority to pedestrian traffic over vehicular traffic should be found. The Akay Multi-Level Junction Project, completed in the junction of Atatürk Boulevard and Inönü Square caused congestion to spread to the other junctions in Kızılay. A while, Kızılay was closed to pedestrians to avoid congestion, and the effects on the physical space were debated for days, until the barriers placed at pedestrian crossings were removed with the efforts of the public and non governmental organizations (see Figures 2.6-2.7).

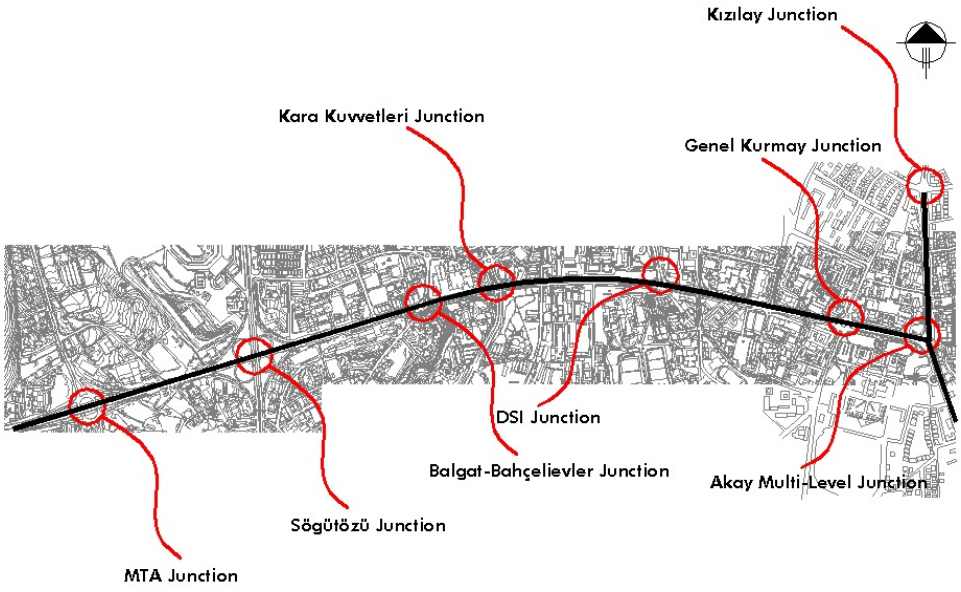

Figure 2.5 Junctions on Eskişehir Road.
(ABB- *EGO -UPDRSB*)

Figure 2.6 The Barriers Placed at Pedestrian Crossing.
(TMMOB Mimarlar Odası Ankara Şubesi)

Figure 2.7 Pedestrian and Vehicle Conflict.
(TMMOB Mimarlar Odası Ankara Şubesi)

This solution seemed to be a good policy to increase the flow of vehicular traffic, but in reality was a striking example of the limitation of the public space, as it aimed to restrict pedestrian access to the traffic zone (for more detailed information see Chapter Four).

2.3.1 Urban Transportation Planning – Image of the city

The city and citizen become a coerced part of the urban network through urban planning decisions made by municipal councils. The perceivable city has become a space of closed spaces, speedways, and pedestrian bridges and subways developed as a result. Teber (2004) makes the following comments on the situation:

> "Traveling spaces have assumed the quality of " non-spaces". This situation brings the need for extra channels and roads, and in turn, the increase in speed brings the increase in urban expansion, and the saturation of the new channels in a short space of time. Most of the new roads cause travel to occur in a narrow corridor, severing visual ties with the city during the trip"[21] (Teber, 2004: 20-36) (see Figure 2.8-2.9).

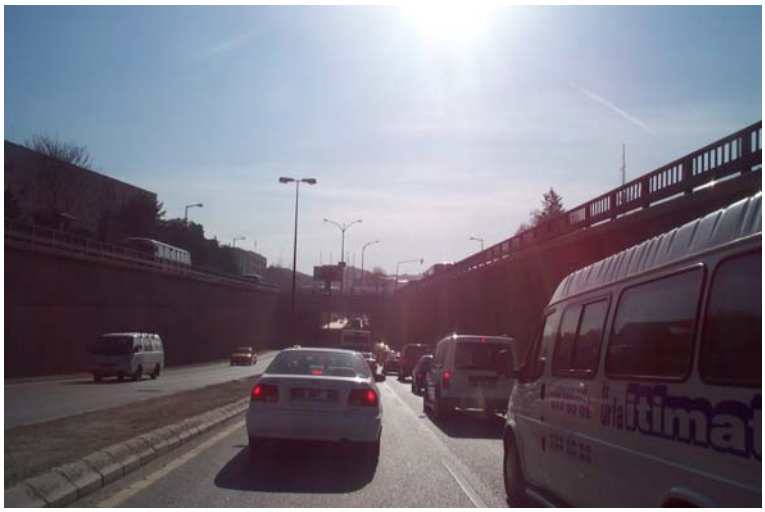

Figure 2.8 A View Taken from a Car Exiting the Akay Junction Under-pass.
(Photograph by Erhan Öncü)

Figure 2.9 A View of the Two Ends of the Akay Junction Under-pass.
(Photograph by Erhan Öncü)

As municipal officials focus on traffic flow solutions instead of the quality or users of the urban spaces, and because of their political aims and the complications of legal processes they do not think of the area in three dimensional terms. This generally causes contradictions between municipal project goals and outcomes. The cities may only be continued and existent following modern and scientific principles. According to Gülgeç (2004) traffic is the source of the greatest urban problem. Transportation planning and urban

development planning form a whole. The aim of transportation planning is not just to provide high quality transportation, but develop the urban quality of life [22] (Gülgeç, 2004:30-31).

> "If traffic flows in transition from one method of transportation to another, this will affect the urban structure and its future development. Detroit in the U.S.A. is a perfect example. Between 1930 and 1960 Detroit transformed from a city of tram transportation to a city of motor vehicles, and this change was followed by fundamental changes in the population structure, residential structure, placement of commercial buildings, real estate prices and consumption structure. On these grounds, we can say that transportation planning and urban planning are one and the same. The selection of traffic and transportation systems are related to the urban structure, or, in more general terms, the desired urban lifestyle expectations of the construction and management officials of society."[23] (Thompson, 1977,quoted in Avrupa Mimarlar Konseyi, 1995: 7).

2.3.2 Transportation Planning – Urban Texture

The "inherited" viable urban texture is disrupted and with pedestrian crossings being replaced with subways due to multi level junctions and other infrastructural projects, the increase in vehicle use causes noise and air pollution, and parking and transportation cost problems are ever present. Such transportation infrastructure planning causes specific changes and transformation in the city.

In the third phase of planning policies, as outlined in the European Council Parliamentary Assembly Report of 2003, various practices and creative policy solutions to decrease the amount of vehicular traffic, such as congestion fees, limitation of vehicle access to the city center, public transport priorities, the use of bio-fuel, car sharing, and the construction of parking facilities near public transport stops are prescribed[24] (Elker, 2004: 38-40).

> The undebatable attitude concerning urban transportation can be supported with the documentation of international associations such as the OECD or European Economical

> Commission. This approach, stemming from environmental, energy, continuation, and social equilibrium concerns has become a major guide for urban transportation since the 1970's. The main points of this approach are as follows: Effective use of the existing infrastructure instead of new investments (capacity increase is not a solution; the increasing demand will never be satisfied; the construction of new roads, and new junctions does not provide a solution in the long run, as the demand is constantly increasing. Also, cities are being filled with ugly structures). The development of public transport (the service level of all forms of public transport must be developed, rail developments alone are not sufficient; as the traffic level will decrease with the use of public transport, the existing roads and facilities will be usable for a longer time) (Elker, 2004:38-40).

The policy of constructing new roads and multi-level junctions to relieve the pressure on roads and streets that are congested has been adopted. This situation encourages the increase of car uses. The new roads increase noise and environmental pollution, and damage urban continuity and aesthetics. The solution is to develop public transport and decrease the need for private vehicles. For example; we may look at the policy of Jaime Lerner, mayor for Curitiba, home to 150,000 people, in the province of Parana, Brasil. In the 1989-1992 term, he aimed to make bus transport the preferred form of travel, instead of embarking on a metro line project that would take years to complete. Firstly, many buses were combined to form vehicles with a capacity of 270 people. Special bus lanes were made, with traffic priority radically from the center out, and new bus stop designs were implemented. The bus stops, designed by Lerner himself, were special tubes, elevated from the teller to the bus level.

The design aimed to minimize time in which people got on the bus and paid their fare. Minimizing the time the bus stayed at the stop increased the speed of the whole system[25] (Saner, 2004: 34-36) (see Figure 2.10).

> Dissuasive measures for car use for one person to travel the same distance by car instead of by bus, 5 times more energy and 10 times more money is spent, and 120 times more pollution is created[26] (Saner, 2004: 34-36).

Figure 2.10 The Bus Stops, Designed by Jaime Lerner.
(www.mariokaplan.com/lib/mkbrcuc158.jpg/ www.ihana.com/…/2002/12/images/bus-tube A.jpg/ http://www.marionkaplan.com/lib/mkbrcuc160.jpg)

In accordance with this perspective, in the last 20-30 years, many methods were used to dissuade private vehicle use and develop public transport. One apparent example, from the beginning of 2003, is collection of a congestion fee from cars entering the city center, in order to decrease the demand for car use, and the proceeds were used in the development of public transport[27] (Elker, 200:38-40).

> A coefficient called the Passenger Car Unit-PCU is used in traffic engineering to measure private car use. The coefficient for cars is "1.00", while the number for 1.2-1.5 for minibuses, 1.5 for trucks, 3 for buses, and 4 for articulated buses. Therefore, one passenger on a 60 passenger bus, takes up 3x1/60 = 0.0005 of the space that is used by a car passenger. In other words, the amount of transportation infrastructure space used by a bus passenger is 20 times less than that of a car passenger. Fuel consumption ratios yield similar results. From this perspective, we can say that cars play the lead role in traffic congestion[28] (Renda, 1996: 20-26).

2.3.3 The Current Transportation Policy for The City of Ankara: The Traditional Approach

The system used in Ankara today is focused on nodal solutions which do not take the entire city into account. This current system is part of the "traditional approach," abandoned by the big European cities a long time ago. Multi-level junctions provide for traffic flows at the junction, though they cause congestion at the next junction.

> The traditional transportation policies applied encourage vehicle use, and cause further congestion, travel time and cost issues, environmental and noise pollution, and other spatial issues. The traditional transportation policy takes congested vehicular traffic as the only data necessary to begin to look for a solution, and aims to solve the problem with nodal solutions (multi-level junctions, road expansions, new road construction etc.). However, the "solution" reached in this manner creates new demand for car use, congestion at surrounding junctions and in general the old situation springs back in a short time. Despite developed techniques and huge investments, the traditional transportation policy does not bring solutions, but encourages car use and transforms the city into an inhospitable place[29] (Atak, 2001: 28-30 and quoted in Kızılay Kent Merkezi Çalışma Grubu, 2004:18).

2.4 Final Comment

Junctions in the urban circulation system are an element of the urban image. How urban interventions in this specific junction is taken and what happened is important from the urban infrastructural strategies point of view. The transportation infrastructural change, recommended for the area, has been the main factor in the transformation while created the junction quality today.

The differences in urban plans and transportation strategy practices illustrate the approaches to urban transformation. The process experienced in the Akay Multi-Level Junction must be considered together with the urban texture, urban use, vehicular and pedestrian traffic differentiation, and urban quality of life. The Ankara Atatürk Square as an area of representation and aesthetical quality, and the Akay Multi-Level Junction will be discussed in the following chapters.

Answers will be tried to be found to the following questions:

> Is the area a square?
> Does it include any elements of public life, apart from representation?
> How will this area be understood as a "public space" while it retains "*square*" = "*urban junction*" quality with the underground traffic junction?

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CHAPTER 3

THE HISTORICAL PAST AND DEVELOPMENT OF THE PROBLEM AREA LOOKED THROUGH THE PLANS FOR THE CITY OF ANKARA

In this chapter, the study tries to depict the history of the problem area and its development in time; the urban transformation terms it has experienced since the declaration of the Republic and the reasons, the types of decisions, the projects involved and the legal basis for the change into urban junctions. This section ends with a table that explains the relations between the problem area and the plans considering the time periods. The problem posed in this study is not only a design problem; it is also have planning, political, and conceptual approaches. We cannot separate design and planning from each other. It is essential to start looking at the year in which the development of the city of Ankara was initiated. So, the retrospective analysis begins from the year 1884.

3.1 The Development Commission Report of 1884

The first development plans for the City of Ankara, did not include specific information concerning the area, but frequently mentioned the subject of "roads" so much as to provide a basis for the future change of the area in question.

It is known that subjects such as "widening of roads, building of large parks" were touched upon in The Development Commission Report of 1884[1] (Kızılay Kent Merkezi Çalışma Grubu, 2004:67).

3.2 The Şehremaneti Map of 1924

This plan provides clues to the transportation infrastructure of the City of Ankara. The Şehremaneti Map of 1924 constitutes the foundation for the situation and maintenance of the existing roads and streets, the opening of new routes and the urban blocks according to the development of new ones.

It is obvious how quickly the appearance of the roads changed between the years of 1922, when the roads situation was quite bad, and the 1930's when the roads were described as:

> "As he walked along he was in open awe of the road. Two wide, parallel roads, with the wide pavement in the middle, two sidewalks surrounded the roads. The endless road zigzagged its way to Çankaya" [2] (Farrere, 1999: 62, quoted in Cengizkan, 2002: 116-132).

3.3 The Lörcher Plan, 1924

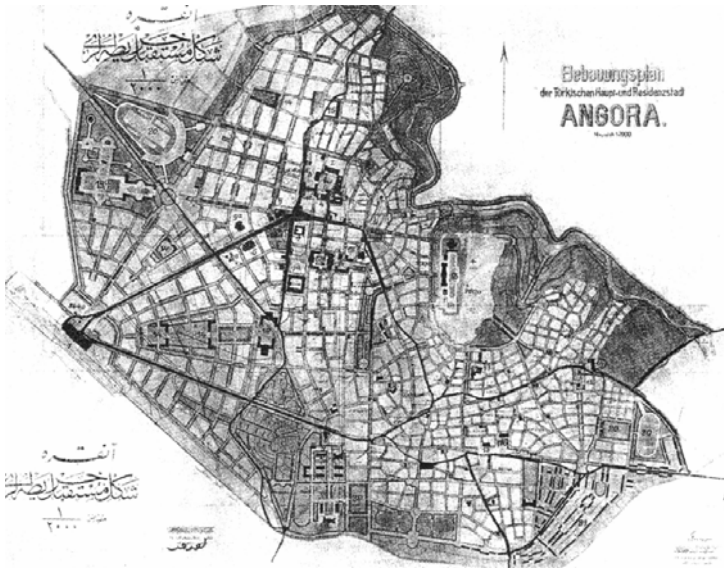


Figure 3.1 The Lörcher Plan.

("Bebauungsplan der Türkischen Haupt und Residenzstadt Angora" Türklerin Başkenti ve Konut Yerleşimi Ankara için Yapılaşma Planı. 1/2000; Aufgestellt im Auftrage der Tischen Regierung von C.Ch. Lörcher (1925) "Der Neue Bebauungsplan für Angora", Wasmuths Monatshefte für Baukunst, n: 9, Heft 1, (1925): 25, quoted in Cengizkan, 2002:117)

The Lörcher Plan, that is accepted as the first plan showing the new formation of residential areas and the infrastructure of the City of Ankara, shows even if only widely set, roads for pedestrian and car use. The first forming of today's Kızılay Square is set out in the Lörcher Plan (see Figure 3.1).

> The difference between the plan as "the picture of that yet to become apparent (the city to be)" and the map that may be accepted as "the picture of the city that is" becomes apparent, as the plan firstly deals with the tracing of roads (and routes); and as the development planning concept becomes one with that of cartography; although there is a stage in planning where one may take the place of the other[3] (Cengizkan, 2002:151-117).

3.4 The Jansen Plan, 1927

The first appearance of the problem area in the city planning of Ankara is in the Jansen Plan. Jansen enhanced his own plan while conserving the general texture of the Lörcher Plan. The Jansen plan emphasized urban aesthetics, economics, health, area usage, transportation, and in addition to all of these an extra area for the development of city.

The triangular area, including Güvenpark and the Atatürk Boulevard ending at the southern with the Presidential House was drawn out in the Jansen Plan (1928-1932). According to the plan the axis began with Güvenpark and ended in the grounds of the Grand National Assembly (TBMM). The building for first ministries and TBMM were designed by Prof. Holzmeister. The Atatürk Boulevard dating back to the Jansen Plan is still an important axis and is considered the backbone of the city.

In the book, titled "Çankaya", Atay (1999) mentions that the Jansen Plan and its principles were not thoroughly understood and utilized because of many speculations and inconsistent management.

In the process of planning the city center for Ankara, Jansen met with Atatürk. Jansen deleted most of the roads, which were connected to the major road in the proposed planned designed by the municipal of that time. Jansen's proposed plan helped to gain extra spaces that were previously used for roads. Jansen explained the steps of his proposed plan:

> As you know, European cities were constructed before the motor was invented. The invention of motor changed the old traditions and trends. Previously, it was usual to build hotels, monumental, and state buildings next to the main streets. Atatürk Boulevard is for the automobiles. The side roads will cross this street only in each half-kilometer and will never cross cut. The corner of each side road will be left open. Buildings will be constructed back to the street and none of the entrance of these buildings will face to the road. There would be no pedestrian road next to that main road. All the side roads will connect the main road to a block. You will drive with a speed of 100 kilometer per hour. Similar to how a train approaches to the station and slowdown; you will slow down when you approach to the side road entrance. The car you travel will enter to the side road; stop by in front of the entrance to the building you go and circle in the block to go back to the main road[4] (Atay, 1999: 92-96).

The plan brought all the public buildings together on Atatürk Boulevard and it would have ended with TBMM. However it was ended with The Building of Ministry of Internal Affairs, thus TBMM, which is a monument, situated back with a closed entrance. For this reason Atay (1999) stated that one-day the future generations would pull down this building[5]. In the early years of the Republic, two-way construction took place on wide roads such as Atatürk Boulevard. The buildings have been separated in the basis of blocks and parcels and by this way, streets crossing the main road at a right angle were established.

This study also attempts to explain how Inönü Square evolved on Atatürk Boulevard throughout the years. For the Jansen Plan is to insistently stress that Atatürk Boulevard is the main axis of the city of Ankara. The objective in constructing the boulevard in Ankara was to facilitate the intra-city transportation system.

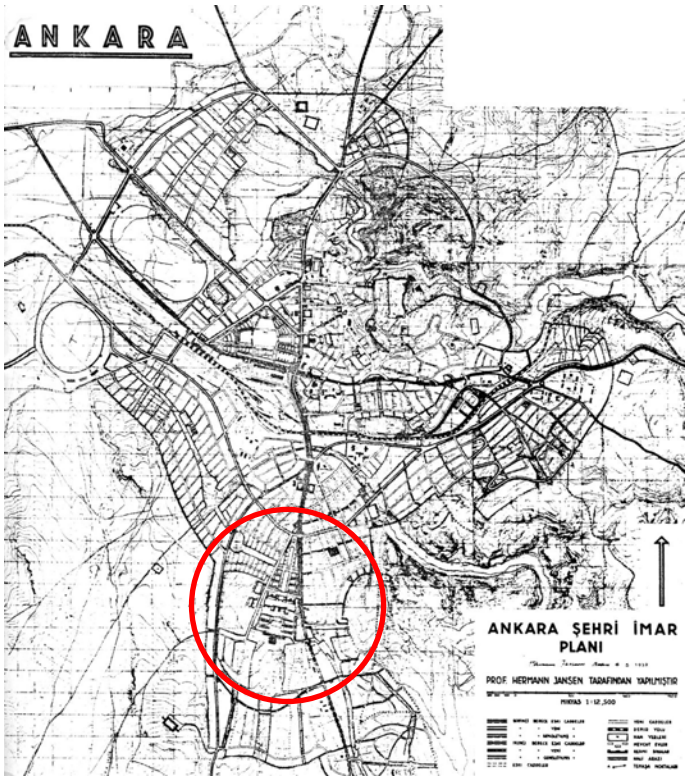


Figure 3.2 The Jansen Plan.
(ABB- *İmar Daire Başkanlığı*)

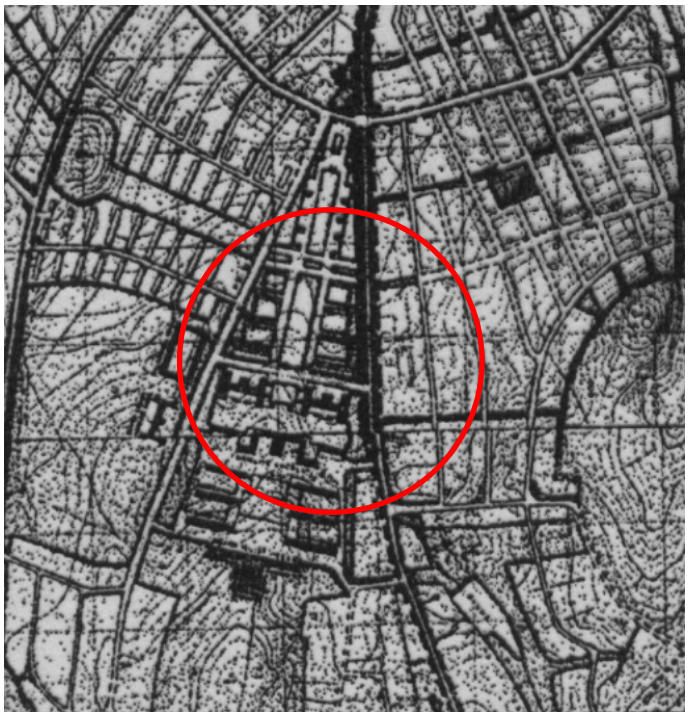


Figure 3.3 The Study Area in the Jansen Plan.
(ABB- *İmar Daire Başkanlığı*)

In the documented Jansen plan (see Figures 3.2-3.3) designed in 1932, the city center was Ulus and its surroundings. One of the important aspects of the plan was the location of the ministry buildings and TBMM in Yenişehir. However, these significant buildings of those years affected neither the importance of Ulus nor the macro form of the city[6] (Bademli, 1987:151-167). But the essence of analyzing Jansen plan is because it is initiated this area in terms of its macroform. The plan did not consider Kızılay as a city center. The developments, especially throughout World War II, changed the status of Kızılay. Since it was close to the ministry buildings, the spread of new residential areas led Kızılay to become sub-center with the economic and serving functions for the middle and upper classes especially of bureaucrats of the period.

This spread demanded certain commodities and services for Kızılay, which did not exist in Ulus at that time. This was the beginning of division of functions and specialization between these two centers, which can still be observed today. The expansion of the city center was not only in the increase of the built environment but also in change of social movements. Throughout the years, the center developed around Atatürk Boulevard.

According to Tekeli (1980)[7] the 1930s are the most influential years for the planning structure of Turkey. That structure was developed by the directives between the years 1930 and 1936. The first is the Law of Municipalities, act number 1580. Subsequently, the act number 1593 and the fourth item indicate that the social and medical aids should be left to the local governments. Tekeli (1980), strongly mentions that the act number 2290, Municipal Transportation Act dated June 1933 had to be implemented.

There is a difficulty in predicting the future tendency movements in the city. There are several parameters that may affect these movements. It can be an emerging population or a strategic decision that changes the appearance of the city. Some architects approach that issue from different perspectives. For instance, Tankut (1998)[8] claims that one of the drawbacks of Jansen plan was that it did not foresee the era of traffic and that it lacked urban squares. This argument

is taken as a reference for the problem area described by this study. Since other structural problems necessary for a planned progress had not been solved, the plan did not direct the development of the city of Ankara but the growth directed the development. The significance of the area appears at this point. This study will attempt to exhibit the tendency that is dominant at present.

3.5 Nihat Yücel and Rasit Uybadin's Plan, 1957

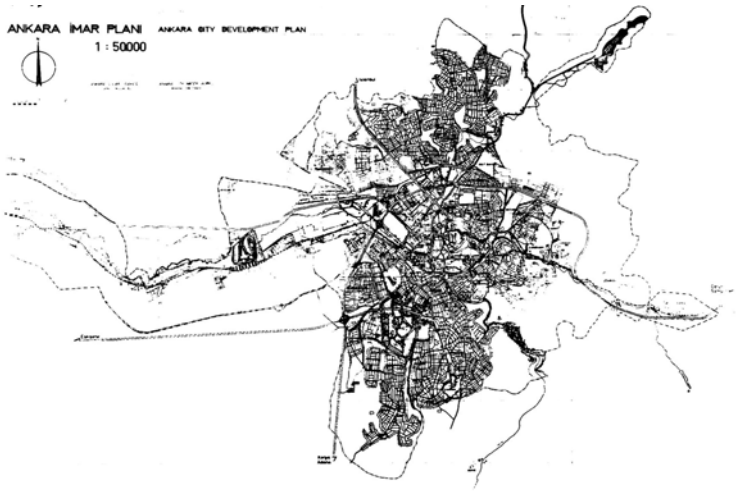


Figure 3.4 Nihat Yücel and Raşit Uybadin's Plan.
(ABB. *EGO GM.)*

The capital of the city had been growing rapidly. Jansen Plan was not adequate around the 1950s. It brought the validity of its use into doubt. Therefore, in 1955 a new competition was organized, and Nihat Yücel and Raşit Uybadin's project was selected to be implemented (see Figures 3.4-3.5). The limiting approach in the design of this plan was that it had to be in keeping with the municipality's boundaries, while the City of Ankara continued its development within an elliptical shape in a north to south direction.

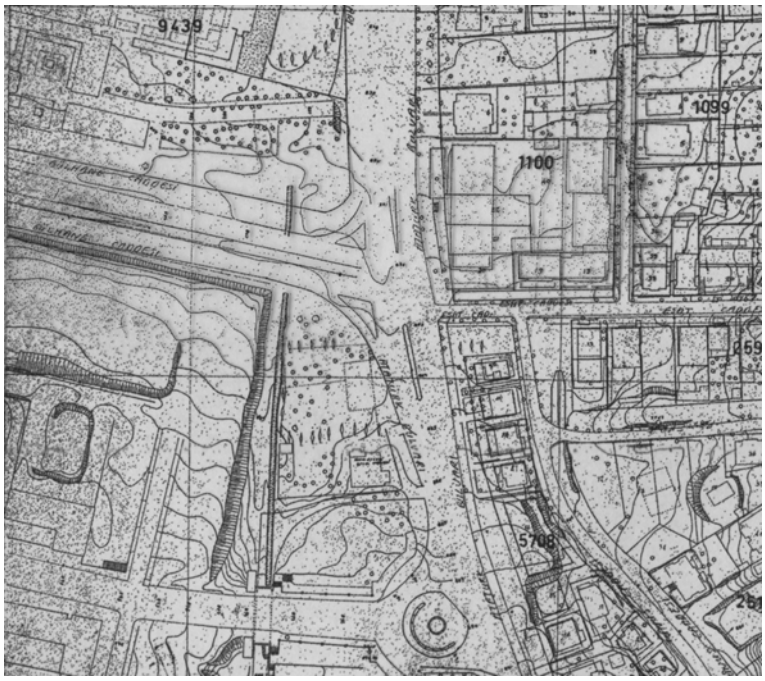


Figure 3.5 Nihat Yücel and Raşit Uybadin's Plan, 1955.
(ABB- *İmar Daire Başkanlığı*)

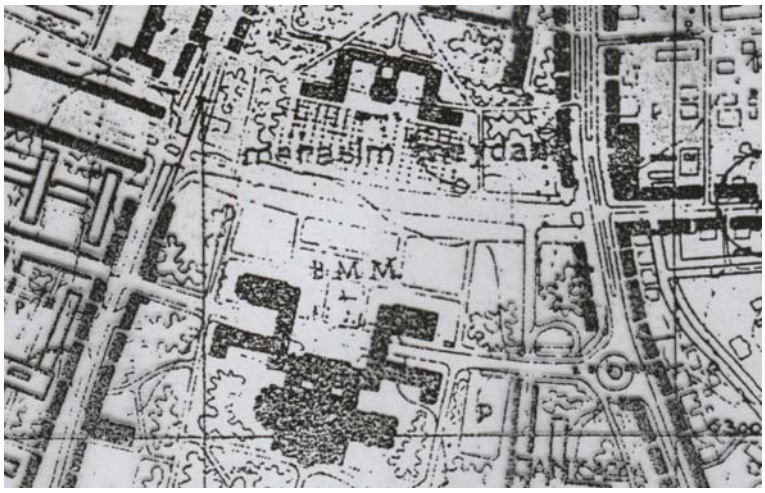


Figure 3.6 Nihat Yücel and Raşit Uybadin's Plan, 1955.
(TBMM Binası ve Bahçesinde Kurulacak Anıtlar ve Sanat Yapıları Ön Fikir Araştırması, TBMM Matbaası, 1975)

According to the project, the ceremony field will be relocated in front of the Ministry of Internal Affairs building. The State Road number 68 (former name was Cumhuriyet Street and today it is Eskişehir road) becomes closer to The

Grand National Assembly[9] (see Figure 3.6) (TBMM Binası ve Bahçesinde Kurulacak Anıtlar ve Sanat Yapıları Ön Fikir Araştırması, 1975).

3.6 Prof. Holzmeister's Conspectus

The Site of Ministries has been projected in order to express the government of nation and parliament, which is the symbol of the state founded by Atatürk, as a monument. It is desired to symbolize the idea of continuity and eternity of Turkish Nation, from Güven Monument, which has the epigram "Türk! Proud, Work and Trust" on it, to TBMM.

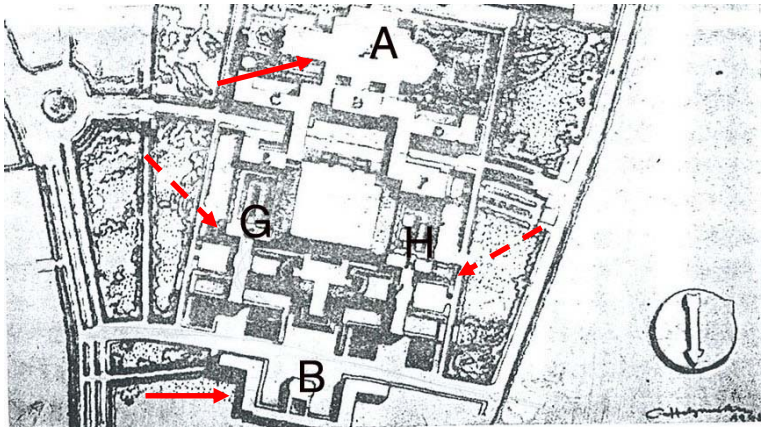


Figure 3.7 Prof. Holzmeister's Plan, 1946.
(TBMM Binası ve Bahçesinde Kurulacak Anıtlar ve Sanat Yapıları Ön Fikir Araştırması, TBMM Matbaası, 1975)

The Republican Staff considered the new architecture as a tool to reflect the political radicalism. The governors were highly involved in the problems of Construction[10] (Bozdoğan. 1998: 118-135). One example was that Mustafa Kemal decided on the proposals that put forward the building of TBMM. A law issued on 11th January 1937 decided that the TBMM (A) should be built. Of the fourteen projects competing, among the final three was Holzmeister's project. According to Atatürk's wish, this project was applied between the dates 1938 and 1960. In addition, the road in front of the Ministry of Internal Affairs (B) was

narrow and there were several buildings such as the buildings of the Ministry of Foreign Affairs (G) and Prime Minister's Office (H) in between. It is obvious that the cross- section of Atatürk Boulevard was not given enough importance[11] (see Figure 3.7) (TBMM Anıtlar Dizisi-Ön Fikir Araştırması I.Toplantı: Bildiriler ve Tutanaklar, 1976: 39-42).

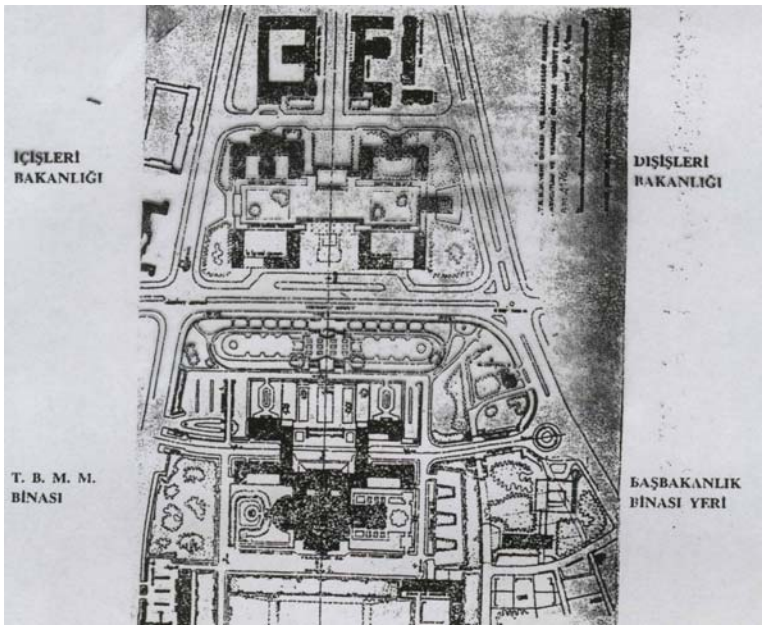


Figure 3.8 Prof. Holzmeister's and Ziya Payzın Plan, 1959-1961.
(TBMM Binası ve Bahçesinde Kurulacak Anıtlar ve Sanat Yapıları Ön Fikir Araştırması, TBMM Matbaası, 1975)

In 1959, Prof. Holzmeister and Ziya Payzın made a plan suggesting the removal of the Buildings of the Foreign Affairs and the Prime Minister's Office in front of The Grand National Assembly. It was decided that the Building of the Prime Minister Office would be placed in the area, which was going to be expropriated from The Embassy of Soviet Union, and that the Building of Foreign Affairs Ministry would be built as connected to the Building of Internal Affairs (see Figure 3.8). It is officially asked for permission from Adnan Menderes, the Minister of the period, in order to use the evacuated area as Public Park. With Menderes' permission Assembly's garden has been organized and then, -

formerly-Cumhuriyet Street was directed to the north, this enlarges the road. Besides this, in 1966 Assoc. Prof. Yüksel Öztan's project has been chosen in a contest, based on the project of Prof. C. Holzmeister and Ziya Payzın, for garden plantation of TBMM [12] (see Figures 3.9-3.10) (TBMM Binası ve Bahçesinde Kurulacak Anıtlar ve Sanat Yapıları Ön Fikir Araştırması, 1975: 9).

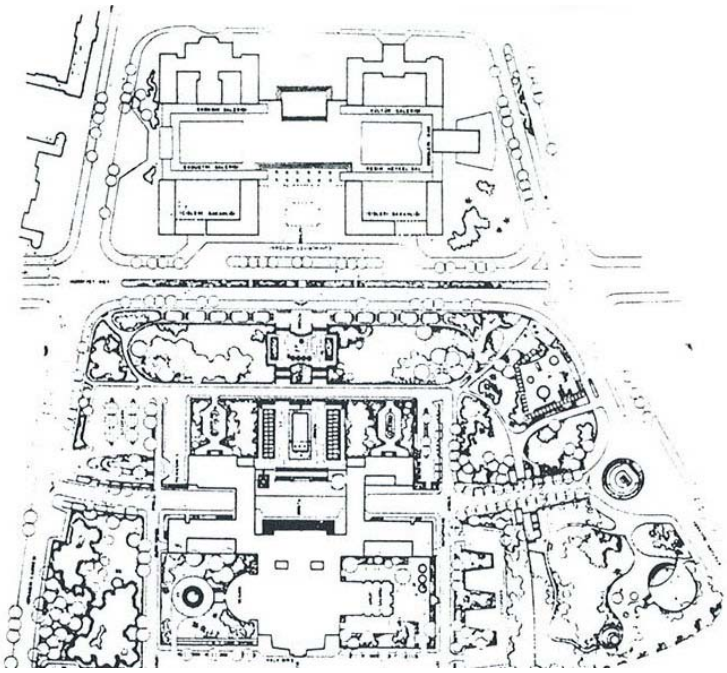


Figure 3.9 Landscape Project of TBMM Prepared by Yüksel Öztan.
(TBMM Binası ve Bahçesinde Kurulacak Anıtlar ve Sanat Yapıları Ön Fikir Araştırması, TBMM Matbaası, 1975)

Figure 3.10 The Perspective of TBMM Main Entrance.
(TBMM Binası ve Bahçesinde Kurulacak Anıtlar ve Sanat Yapıları Ön Fikir Araştırması, TBMM Matbaası, 1975)

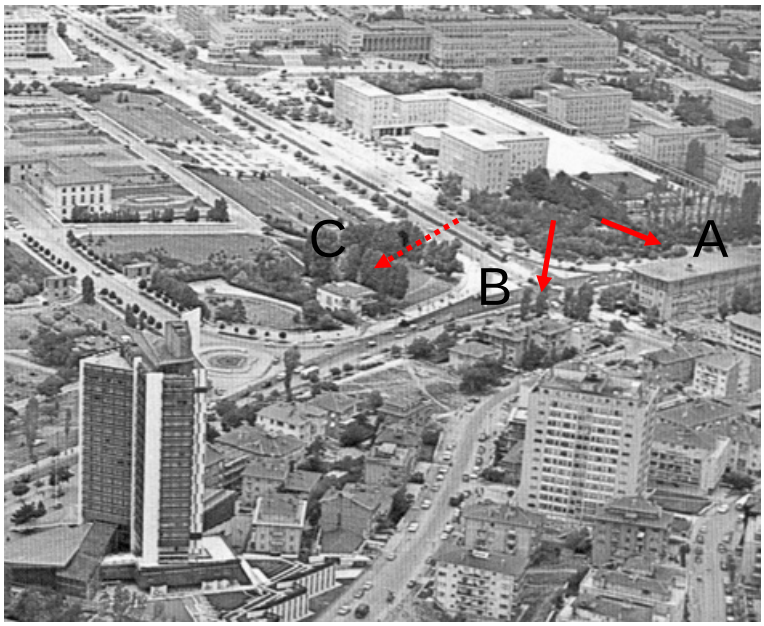


Figure 3.11 The Photograph of the Buildings in the Area, 1955.
(Photograph by Behzat Miser)

The Ministry of Agriculture (A) building was constructed in the years 1944-1949. In 1960, a new floor was added in accordance with the projects of Architect. Kemal Bilgin. The construction of the initial parts of the TESK (B) building was begun by Özhan Sökmen in 1966-1968. The Residence of Parliament Chairman (C) was used as *Halkevi* for a period, and then it was destroyed.

Briefly, in the period between the years 1923 and 1927, governmental and public buildings were constructed in Ulus center and along the way to Yenisehir. A second period came after the Jansen plan of 1928. Later with the construction of the ministries and the TBMM building, the focus of state buildings shifted to Yenişehir (see Figure 3.11). In the first design of Jansen plan, the Grand National Assembly building was thought to be located in Yenişehir. A third period came about. In 1960s, especially with the five-year development plans that started in 1963, in the city of Ankara, around Eskişehir Road, some of the state institutions have expropriated land owned by the state were given to institutions. On the southern part of the Eskişehir Road, the area given to Middle East Technical University (METU), which is 4.900 hectares, was expropriated between 1952 and 1956. The first construction took place in 1962. Following that date, along the

Eskisehir Road on the west side of Ministries, a series of state buildings started with the construction of the Prime Ministry State Institute of Statistics (DIE), Turkish Republic State Highways (TCK), General Directorate of State Hydraulic Works (DSI) and State Supply Office (DMO) buildings. This development took place during the same time as the implementation of Yücel-Uybadın plan. After 1967, new areas were searched for state buildings needed. Twenty hectares of land between the Military Academy and Inönü Boulevard were considered to be opened for development. Owned by the military, required permission for the use of this land was not given.

3.7 Metropolitan Planning Bureau

Parallel to the increase in population between the years 1950 – 1960, issues such as physical and social development, transportation, infrastructure and urbanization arose. In 1969 the Ankara Metropolitan Area City Planning Bureau (ANAMP) was established, in order to create solutions for these issues. A radical decision had to be made, so, in accordance with the Yücel – Uybadın plan and bound by the natural situation, the city hemmed in with mountain ranges on the north, south and east sides, the urban development was channeled away from the mountains into the western corridor.

The issue of Kızılay center has been solved in the City Plan and it is seen that tendency to fringe towards the south could be avoided with an organization of potentially usable areas towards the north of the city. The decentralization of the Ministries - Eskişehir Road was also one of the important inputs of the plan in terms of development of the city center [13] (Kızılay Kent Merkezi Çalışma Grubu, 2004:12).

To clarify the subject, Alatan (1997)[14] says that as the city plan for Ankara was prepared as a mixture of corridors and linear schema, the west corridor gained importance. Bearing in mind that the north, the south and the east of the city are

mountainous, the area around Eskişehir Road and Çayyolu was chosen and planned to develop as a residential area (see Figure 3.12).

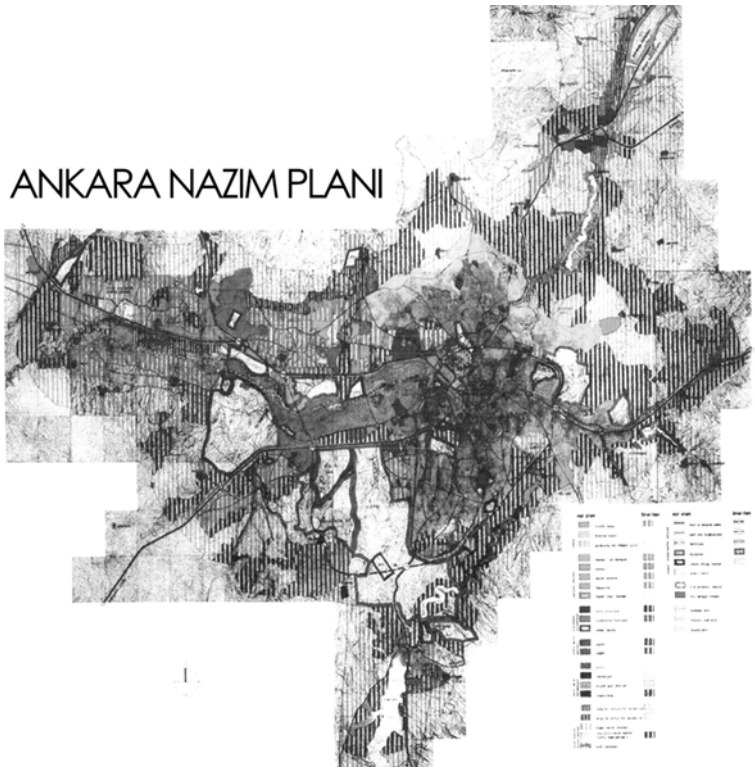


Figure 3.12 Ankara Metropolitan Plan.
(ABB- *EGO GM.*)

The alterations of the means of transportation in the city center caused a transformation in the city form. The widespread use of private cars was a major impact for change. Thus, how could we achieve the basic design, operation, and maintenance of a safe and efficient transportation system both for automobiles and pedestrians? In 1975, the individual transportation equaled to public transportation basically done by the General Directorate of Electricity, Gas and Bus of the Municipality of Greater Ankara (EGO). However, pedestrian transportation is also important in a city center. The public transportation is important because of the pedestrians.

3.8 2015 Structural Plan Proposal for Ankara, 1985

During this period Ankara Municipality was in need for a Transportation Plan, therefore a macroform proposal for Ankara in 2015, including population, work force and employment balances, was prepared by a work group from Middle East Technical University (METU).

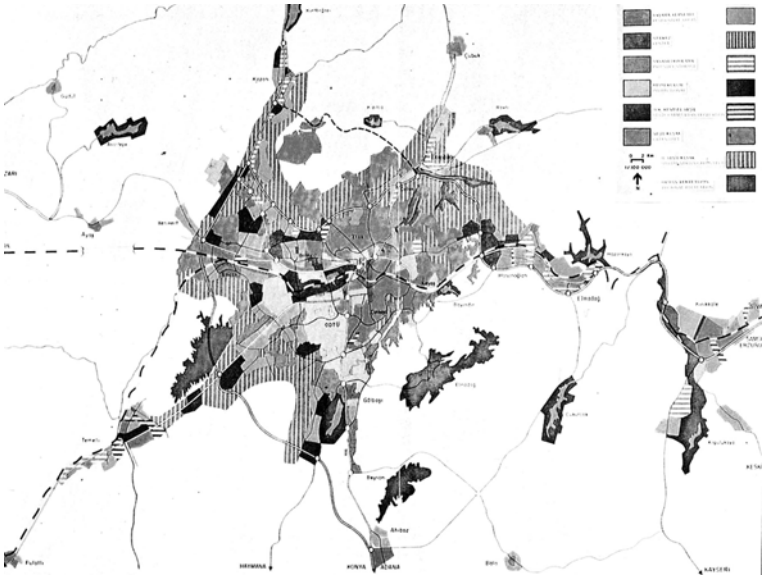


Figure 3.13 2015 Structural Plan Proposal for Ankara.
(ABB-*EGO GM.*)

As the city expanded, it became essential to consider the population of the city center. As the population in the city centers grows, the residential density increases causing several environmental problems. City centers do not adequately respond to the emerging population growth. Thus, the city center explodes its outer circle.

The road and transportation systems demonstrate that the city's traffic is almost exclusively oriented towards the center. In this respect the study deals with Ankara's 2015 structural plan (see Figure 3.13).

Increases in population require the re-structuring of the city transportation systems, such as, organizing and enlarging the streets. Hence, transportation becomes a serious argument to discuss. The best transportation techniques and communication are not only among the most difficult things to achieve; they are also basic necessities for the city to survive.

Crossing Ankara's main axis of prestige near the ministries and western corridor -Eskişehir Road- also were formulated as a junction. The density at the city center decreased and an immediate spread towards the outer city started, like the west corridor in Ankara.

3.9 The 1984-1993 Period

The period following 1984 was one that saw the foundation of the city municipal corporations with the Law no 3030, and the greater authority to prepare, approve and apply plans given to the local governments. AMAPB was closed down and made into a unit of the Ankara Municipality Metropolitan Planning Bureau.

Similarly, the Ankara Directorate of Planning was made a unit of the Ankara Municipality. Instead of the 1990 City Plan drawn on scales of 1/50 000 and 1/25 000 and the 2015 aim Structural Plan, the point based solutions were applied; the application of 1/5000 and 1/1000 scale point based plans had an effect on the macroform schema and the transportation in the City of Ankara. As a result of these, work is being carried out by the Ankara Municipality Development Directorate to prepare a new macroform proposal for the year 2025[15] (ABB. EGO GM., 1995:36).

Simultaneously, a work on the Ankara Transportation Study was being carried out on these dates.

3.10 Ankara Urban Transportation Study, (1985-1987)

The Ankara Urban Transportation Study was unable to be legalized as the study, based on the Construction Project, prepared by EGO-Canada Consortium – Kutlutaş did not receive the necessary approval. Although this study did not include specific information for the problem area, by the year 1985 the information and calibration needed for a transportation plan were in hand.

3.11 Development of a Transportation Master Plan

The Ankara Municipality' Transportation Planning Unit began a revision plan study in the year 1992; the new 1992 – Transportation Master Plan (UAP) was prepared in keeping with the main points of the original plan and approved by the Ankara Transportation and Coordination Center (UKOME) dated 10.03.1994 and with approval number 94/3 (see Figure 3.14). The sticking point about our problem area is that there is no decision in Transportation Master Plan suggesting multi-level intersections for the central areas of town and the roads surrounding[16] (Kızılay Kent Merkezi Çalışma Grubu, 2004:10).

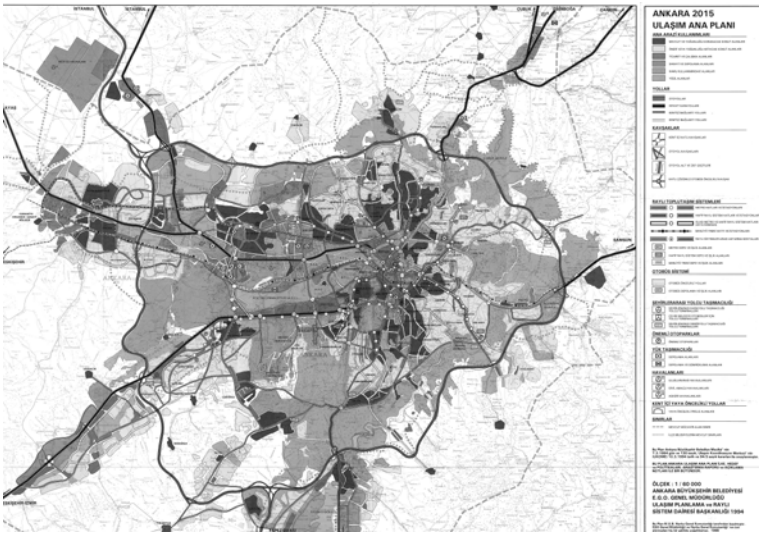


Figure 3.14 Development of a Transportation Master Plan.
(ABB- *EGO -UPDRSB*)

> Objectives and policies pertaining to transportation types in the Transportation Master Plan are built upon eight main thematic lines, as follows:
>
> - Systems capacities conformance to travel demands.
> - Integration with urban development plan
> - Accessibility to City center.
> - Compatibility to urban expansion and to un-expected developments.
> - Size of the area of influence of the system.
> - Achievement of an efficient operation.
> - Low Construction and operating and financial and economic feasibility assessment.
> - Minimum construction and operation cost [17] (ABB EGO GM., 1995:7).

As the Transportation Master Plan's emphasis is on pedestrians rather than vehicles, among the many different policies established for the city center, the main strategies deemed pedestrians and public transport of greatest importance. From this point, any multi-level junction built would encourage the use of private vehicles, therefore is against the main point of the plan. On the other hand, even though split ground level mutli-level junctions were not included in the master plan, this approach would not encourage the development of public transport. The aim of the Transportation Master Plan is that the social-economic-cultural structure and urban transportation systems are considered as a whole while assigning areas. The effects of transportation from the city center and outskirts should both be considered.

> The rail system network recommended here in shall intersect with 15 each not at grade junction connected to the in the design of the points at which where the not at grade highway junctions cross with the rail system, particularly the technical requirements of the rail system shall be met. Plans of the structures to be built in such areas shall not be approved without the positive view of UKOME[18] (ABB EGO GM., 1995:29).

3.12 Ankara's Transportation and Traffic Improvement Study, 1998

Upon the increase of transportation issues in the city center, in 1998 a string of analyses and suggestions for the management of traffic were developed for the

city center under the name of the Ankara Transportation and Traffic Study (ABB-Parsons Brinckerhoff Int. Inc 1998) and using grant provided by the World Bank. With this study, traffic flow to the city center was limited and drivers were encouraged not to use their cars. To ensure control over the number of cars entering the city center, a "Central Ring Road" and "Main Road Surrounding the City Center" were determined and while use of personal vehicles in this area was restricted, strategies for use of parking areas were brought up, bus lanes were introduced, and the signalization system was arranged for the maximum benefit or public transport and pedestrians[19] (Kızılay Kent Merkezi Çalışma Grubu, 204:15) (see Figure 3.15).

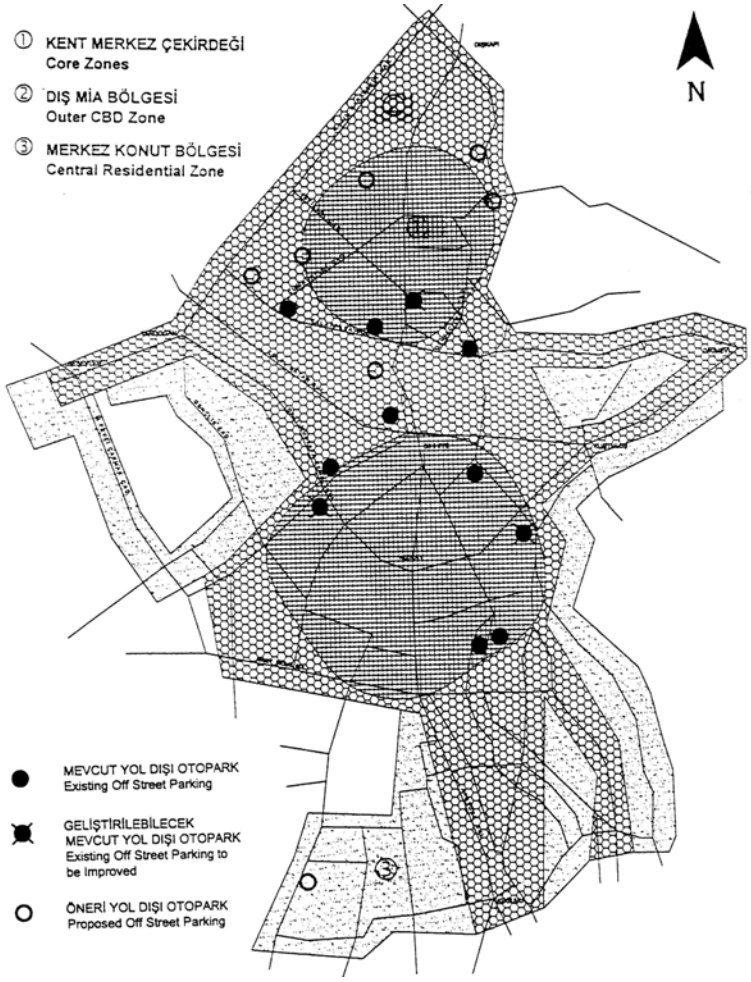


Figure 3.15 Parking Lots and CBD Proposal.
(ABB. EGO GM., Ankara Trafik ve Ulaşım İyileştirme Etüdü.
Yeni Bilgi Toplam ve Analiz Sonuçları)

3.13 The Approach of Local Authorities to the Transportation System: The Importance of Multi-Level Junction to Urban Planning[20]

In spite of all plans drawn up and studies, issues in the city of Ankara today are being solved with solutions suited to each isolated point. It seen that the area is continuously exposed to transportation based infrastructural development. During the period between 1970 and 1980 roundabout junctions were suggested for crossroads such as the Akay Junction (see Figure 3.16).

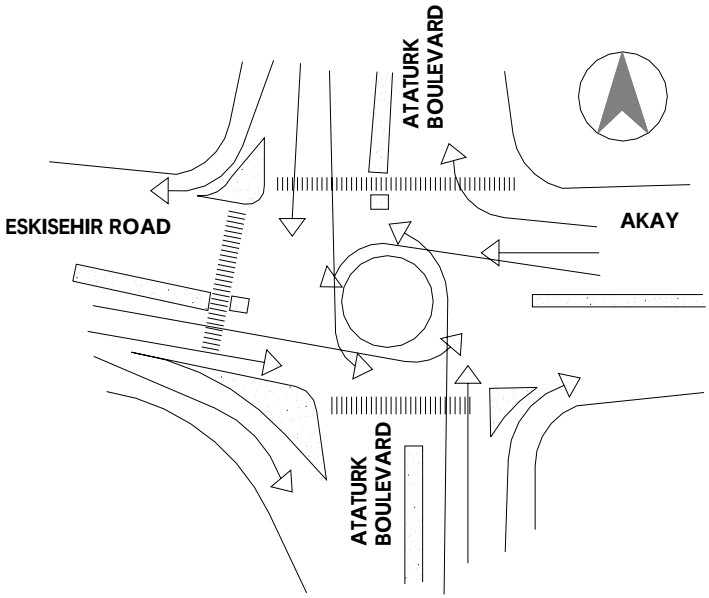


Figure 3.16 Akay Roundabout Junction, 1971.

> A roundabout is a form of canalized junction in which vehicles are guided onto a one-way circulatory road about a central island. Entry to the junction is controlled by Give Way markings and priority is now given to vehicles circulating in the roundabout[21] (O' Flaherty, 1997:369).

This type of junction system can only operate under lower traffic volumes. At junctions such as this, vehicles wishing to make a turn must wait at the roundabout, check the oncoming traffic and turn when possible, so the road can produce optimum efficiency. With the increase in traffic flow a signalized rotary system was introduced in the area.

Although signalized rotary system provides safety for both pedestrian and vehicles, the system poses losses for the capacity of the junction.

> Junctions under traffic signal control operate on the basis that separate time periods are allotted to conflicting traffic movements and they are usually installed only at at-grade junctions in built up areas. Kevin Lynch (1984) stated that traffic signals, by alternately stopping opposing movements, reduce the number of conflicts[22] (Lynch, & Hack, 1984:377).

With this application, the signalization at the crossroads made work at two phases; consequently this prevents turnings interrupting the traffic. Since, making a left turn at Akay intersection takes too much time, in the period of 1980-1990, the circle has been removed and has become "left turn" junction. Thus junction becomes narrower. Even so, as a result of this change, the three phase signalization system made it more difficult for pedestrians to cross at the junction (see Figures 3.17-3.18).

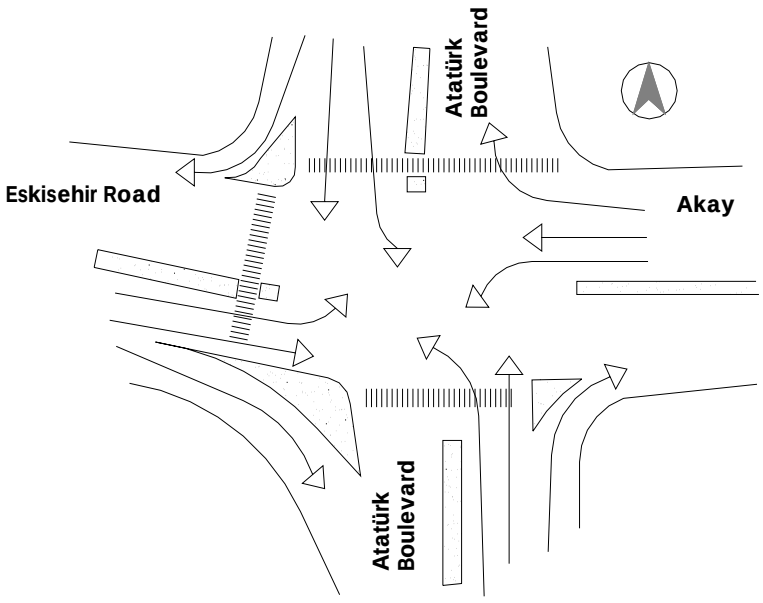


Figure 3.17 Akay Left Turn Junction.

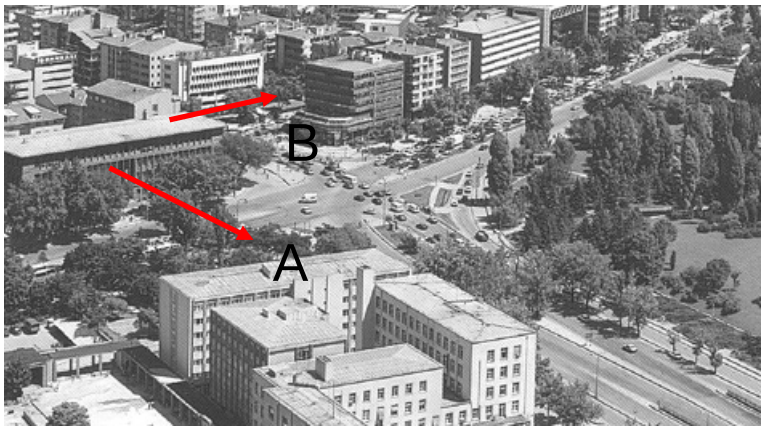


Figure 3.18 Akay Left Turn Junction, 1995.
(Photograph by Behzat Miser)

The additional buildings of Ministry of Internal Affairs, the buildings of General Command of Gendarme and General Police Headquarters (A) were also attained through contest projects. In the course of application, the buildings were constructed with an additional floor. In 1968, Metin Hepgülergil prepared the draft projects of TESK (B) but the buildings were not completed. However, Yalçın Oğuz managed to complete them.

> **"**In the design of junctions and signalization systems much more detailed calculations are necessary including the consideration of such parameters as left-turns, right turns, green amber light phase, road geometry, position of transit stops and land-use characteristics**"** [23] (ABB-EGO GM., 1987: 195,).

As the area became incapable of dealing with the increasing traffic flow, a multi-level junction was built to solve the problem. The application is discussed at length in chapter four.

The multi-level intersection is applied to solve the traffic problem of the place. Since it is thought that such a junction may lead to cause technical problems in the construction of metro line second stage, in the Transportation Master Plan there is no multi-level junction at Inönü Square. However, insistence of local

authorities reflects their desire to get short-term solutions. Still these short-term solutions are not enough to solve long term problems.

> The city centers and accessibility are important. The axis that runs along Ulus-Kızılay-Çankaya is an important backbone of the city, and also a protocol road for the capital city of Ankara. Even so, the center of town is mostly based on a pedestrian movement. To deal with the traffic problems, "public transport methods" and "vehicles" are brought into practice[24] (Altaban, 2002).

The Transportation Master Plan aimed to increase usage of public transport and pedestrian access by development of public transport systems. Also, Ankara's Transportation and Traffic Improvement Studies plan to develop public transport and lower the number of private vehicles on the road.

3.14 Future Oriented Applications

This subheading includes the project for the Akay Multi-Level Junction that is in use today and its relationship to underground projects that will be used in the future. It will also explain the benefits the area will receive from the future oriented space based construction, while outlining the main aims that the planning strategy and architectural vision is based on.

Another concern about the Akay Junction is the doubt that the systems could be used in coordination with public transport. As a result area based issues arose.

> Construction of a "downtown highway", consists of a tunnel and multi-level intersections, has been started between Ministry of Transportation and DSI**.** Aside from the fact that the building of such a road would be divergent with the plan, it is also a political dilemma as it would facilitate private vehicles in an area where it would prove most difficult to carry on with the building of the underground system, therefore adding extra costs to the building. Actually the most important of these issues arose during the construction of the *"Genel*

Kurmay" Junction: these junctions invade the under ground space that is needed for trains to pass[25] (Elker, 2004: 38-40).

The benefits of the start of underground construction for our problem area and future applications will be discussed in the following passages.

3.14.1 The Third Stage of the Underground Project[26]

The theoretical starting point of the Municipality's Transportation Master Plan is to establish macro policies for the 2025 aim City Master Plan, based on the principle of unity of transportation and land use. According to this plan it was foreseen that the Ankara underground system should be opened to the public in 1997 (see Figure 3.19).

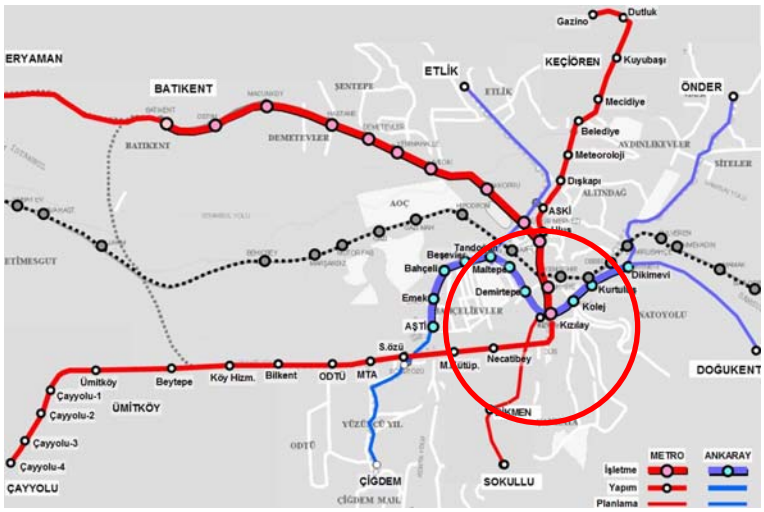


Figure 3.19 Ankaray-Metro Line Alignment Project.
(http://www.ego.gov.tr/uprs/uprs.asp)

Since the introduction of the Transportation Master Plan in 1994, the Ankara Municipality EGO Headquarters prepared a feasibility study for the whole city and for the developments and changes that were to take place on the Eskişehir Road (see Figure 3.20).

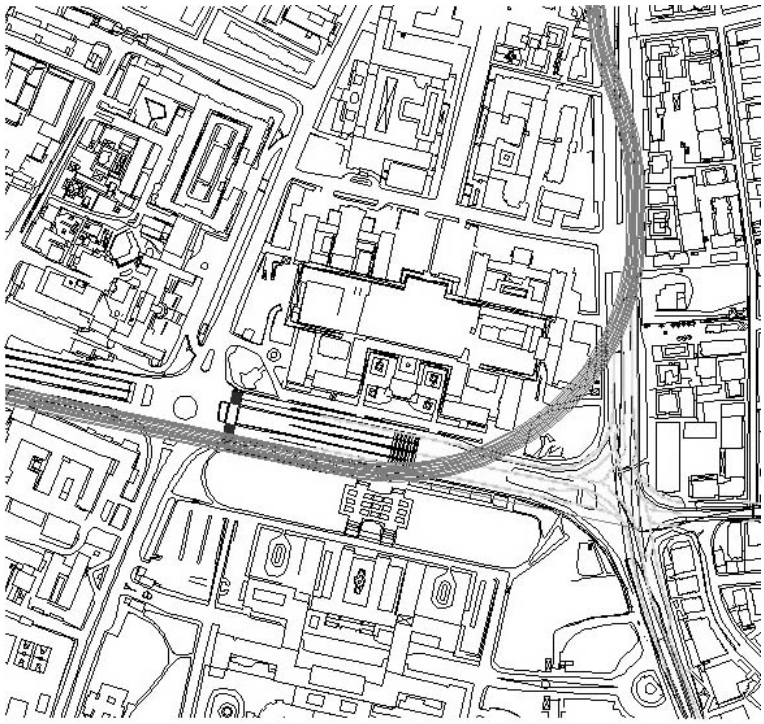


Figure 3.20 Kızılay –Söğütözü Metro Line Alignment Project.
(ABB- *EGO -UPDRSB*)

This feasibility study also included a versatile evaluation of the foreseen Kızılay-Çayyolu underground (M2) (see Figure 3.20). This line starts on the existent Batıkent-Kızılay underground line (M1) at the Kızılay station, then travels underground south across Atatürk Boulevard, pass the Akay Junction, then east to one of the city's main transportation routes, the Eskişehir Road. The line, which reaches the Inönü Boulevard, will play an important part in the development of the city to the west, and is designated to serve the universities and state institutions on this western corridor.

In this study, much data are obtained from the Ankara Transportation Plan (UAP), approved 07.03.1993 and still in operative effect, and used as a basis for calculations. Accordingly prediction of population growth has been discussed. According to the Transportation Master Plan the population of the city, 4.083.750 in 2005, is expected to reach of 5.162.750 in the year 2015. The population growth between 1995 and 2000, the data from the last DIE census was used by

the Municipality to produce a new value as the estimated population (see Table-3.1). To calculate the revised population growth, it is accepted that the population growth rate is constant at % 0.21 between the years 2000 and 2005 and will decrease after 2005.

Table 3.1 Population Development for Journey Demand Prediction.
(ABB- *EGO -UPDRSB*)

Years	Census	UAP Estimation (1994)	Municipality Estimation	Working Area Estimation	Difference
1980	1.877.755				
1985	2.235.035				
1990	2.583.963				
1995	2.873.687	3.181.850			308.163
2000	3.203.362	3.632.800			429.438
2005		4.083.750	3.554.231	3.706.231	377.519
2010		4.623.250	3.885.837	4.057.837	565.413
2015		5.162.750	4.248.381	4.440.381	722.369
2020			4.599.302	4.811.302	
2025			4.930.395	5.162.395	
2030			5.243.404	5.503.404	

> When compared with the true values, it is shown that the population was over-estimated in the Transportation Master Plan by 308.000 people in 1995 and 429.000 people in 2000. Assuming that development will be parallel to the progress already made, and taking into account one by one the city's urban areas and the areas not currently developed but open for development according to the plan, it is estimated that the population of the city will be 3.706.231 in 2005 and 4.057.837 in 2010 and is the year the plan is aimed to finish i.e. 2015 the estimated population is 4.440.381, for the year that this study is aimed at i.e. 2005 the estimate is 5.162.395, these values are used to design a model. According to the table above the UAP will be realized 10 years later, in 2025[27] (ABB EGO GM., 2003: 9-10).

According to the strategies assumed by the Ankara City Plan in 1990, the Eskişehir Road is accepted as the most important axis for the future development of the City of Ankara towards the west (see Figure 3.21).

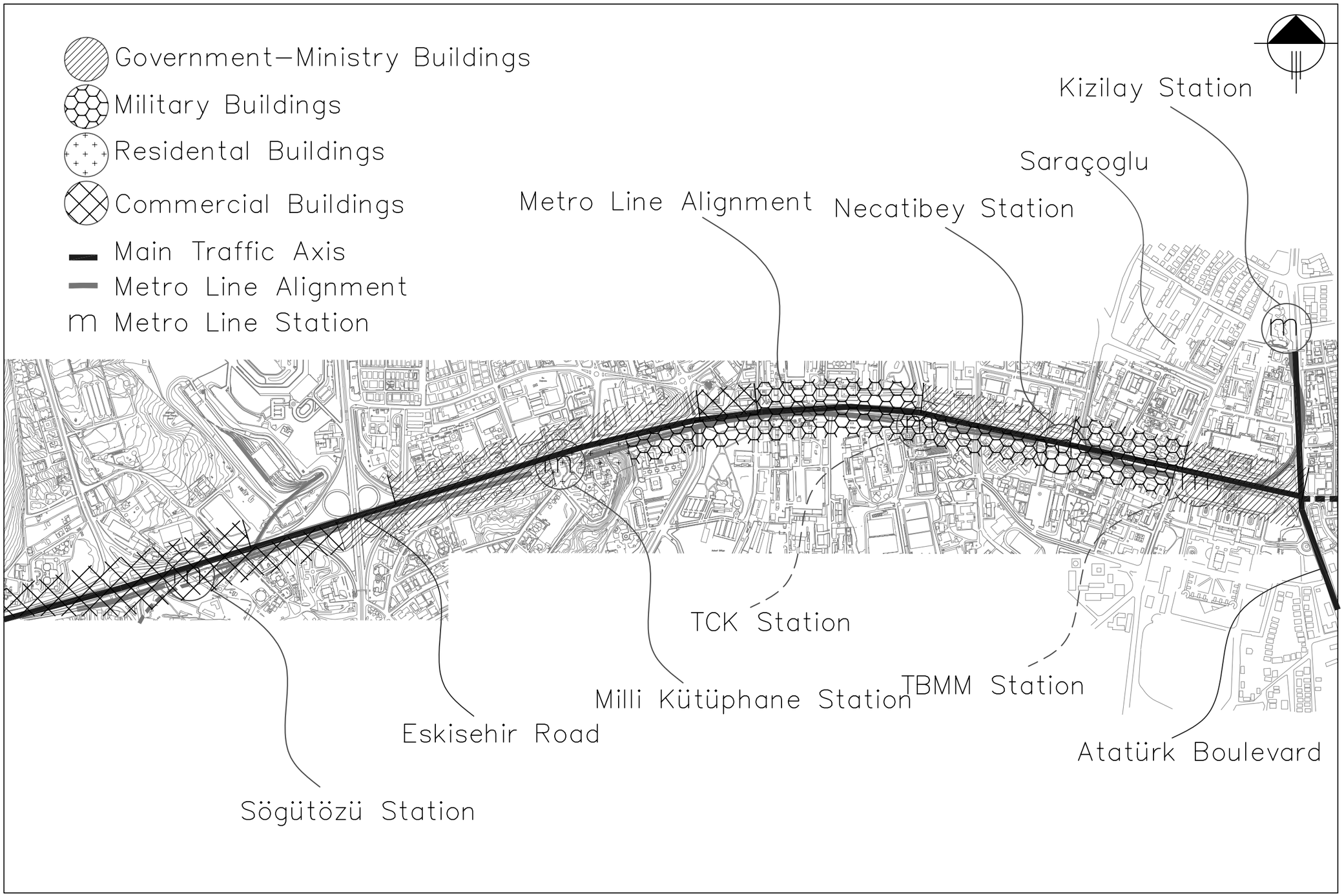


Figure 3.21 Development of the City of Ankara towards the Eskisehir Road.

> Kızılay – Kavaklıdere backbone of the city is the center of modern life and trade in Ankara, while the Eskişehir Road has the area needed to divert this backbone towards the west; it also accommodates the state area to ensure the official center between Kızılay and the Ministries towards the west. The growing number of private and state institutions in the area of the corridor turns the Kızılay-Ümitköy line into an area of importance for employment (see Table 3.2) [28] (ABB EGO GM., 1995:7-8).

Beysukent, Konutkent, Çayyolu and Ümitköy residential areas play an important part in the development of the urban population in the western corridor. The Traffic Hospital, the Bayındır Hospital, the Mesa Hospital and the Etimesgut Air Force Hospital that are still under construction, also large shopping centers such as Armada, Arcadium in Ümitköy, Galeria, Real and Praktiker at Bilkent are important places in the corridor that are visited on daily basis.

> In addition to the still developing areas, when the Çayyolu II. Stage containing many residential buildings, is completed, a large percentage of the member of the upper- upper-middle classes will be living in the residential area of the corridor. Apart from the work, trade and executive center activity, five of the main universities in the city have their campus on this axis therefore creating a attractive investment area. The advanced technology center that will be added on to the METU campus is almost finished, the other university campuses that carry on their development such as Bilkent, Beykent, Başkent and Çankaya are the most important factors that will cause higher transport needs to the corridor[29] (ABB EGO GM., 1995: 7-13).

Regardless of the size of residential employment areas, in the period where the plan was taking shape, only small sub-neighborhoods with a limited size and capacity were taken into account, therefore city dwellers are drawn to the fields of business activity and universities on the corridor.

> Although, residential areas such as 100. yıl, Çiğdem, Etimesgut and the military barracks are not directly on the corridor, it plays an important part as their link to the city[30] (ABB EGO GM., 1995: 7-13).

Table 3.2 Major Traffic Generators and Attractors on the Eskişehir Road.
(ABB- *EGO -UPDRSB*)

	Landuse in Corridor	Transportation users in Corridor	Developing Areas
Residential Areas	Konutkent1-2, Çayyolu, Ümitköy,Bilkent, Beysukent	100.Yıl, Çiğdem,Etimesgut, Military Houses, Balgat, Emek, Bahçelievler	
Commercial Centers	Work Places & Business Centers (Galeria, Mesa Plaza, Bilkent Center, Yimpaş, Armada, Arcadium)		
Services	Transportation, Automobile sale/service (Tofaş, Renault, Ford,Varan, Ulusoy, Halk Bank,TPOA)		
Public/ Management	MTA, ATO, Labor Unions, Şap Institute, City of Prosperity Directorate Industry and Commercial Ministry, EIE, SPK, Taek, Ministry of Agriculture and Village Works, Ministry of Environment, OSYM, TOKI, General Directorate of Disaster Affairs, TEK, DSI, TCK		The Presidency of Religious Affairs, The Prime Ministers
Educational	METU, Hacettepe-Beytepe, Bilkent, Çankaya, Başkent		TOBB Faculty
Health	Bayındır Hospital, Traffic Hospital. Etimesgut Air Force Hospital.		Mesa Hospital
Military	MGK General Secretary, Gendarme Commandership, Force Commandership	Armored Unions Training Center, Air Logistics Support Commandership	

Parallel to the economic standards of the inhabitants of the residential area of the corridor, vehicle ownership rates are very high, also as a high capacity, fast, and comfortable method of transport such as a metro line system is still only being built, a great number of cars from the area cause high levels of traffic[31] (ABB EGO GM., 1995: 7-13).

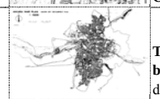
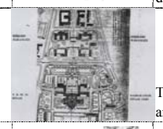
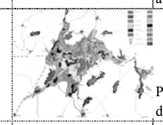
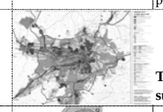
The buildings on the Eskişehir Road are used for three main purposes; state and private foundations, residential buildings and schools and universities. In the current state public transport vehicles (EGO buses, private buses and minibuses) service buses for state foundations and universities provide most of transportation facilities[32] (ABB EGO GM., 1995: 7-13).

The Metro Line Project (for more detailed information see Appendix A) suggested in the Transportation Master Plan (UAP) was designated according to future plans and developments. Therefore, such as effective public transport service in the corridor and the drivers of private vehicles using this system should contribute to a decrease in the number of vehicles in the center of town.

3.15 Final Comment

This chapter discusses the historical analysis and planning approach of the Akay Junction according to "urban growth and differentiation" throughout the years since 1884 (see Table 3.3). It makes analyses of judgments, interventions and applications concerning area have been made. This chapter also includes suggestions concerning the plan already in effect, explaining the urban transformation from a functional and imagery viewpoint and the real reasons behind these transformations.

Table 3.3 A Chronological List of Plans for Ankara Referred for the Study Area.

Plan Name		Explanation	Time Period																												
			1880 1885	1885 1890	1890 1895	1895 1900	1900 1905	1905 1910	1910 1915	1915 1920	1920 1925	1925 1930	1930 1935	1935 1940	1940 1945	1945 1950	1950 1955	1955 1960	1960 1965	1965 1970	1970 1975	1975 1980	1980 1985	1985 1990	1990 1995	1995 2000	2000 2005	2005 2010
The Development Commission Report of 1884		Report did not include specific information concerning the problemarea. It mentioned the subject of "**roads**" so much as to provide a basis for the future change the area in question.	●																												
The Şehremaneti Map of 1924		Map did not include specific information concerning the problem area. Map provides clues to the **transportation infrastructure of the City of Ankara**									●																				
The Lörcher Plan, 1924		Plan did not include specific information concerning the problem area. It is the first plan showing **the new formation of residential areas** and **the infrastructure of the City of Ankara.**									●																				
The Jansen Plan 1928-1932		Plan suggested **representative urban space**. The triangular area, including Güvenpark and the Atatürk Boulevard ending at the Presidential House was drawn out in the Jansen Plan.**According to the plan the axis began with Güvenpark and ended in the grounds of the TBMM**.										●	●																			
Nihat Yücel and Rasit Uybadin's Project, 1955		**The limiting approach in the design of this plan was that it had to be in keeping with the municipality's boundaries**, while the City of Ankara continued its development within an elliptical shape in a north to south direction. The density increased in Atatürk Boulevard.																●													
Prof. Holzmeister's Conspectus, 1946-69		The ***Site of Ministries*** has been projected by the Holzmeister design. Alternative design proposals between TBMM and Ministry of Internal Affairs were proposed.														●	●	●	●	●											
Metropolitan Planning Bureau, 1969-84		A radical decision had to be made so, in accordance with the Yücel – Uybadın plan and bound by the natural situation, the city hemmed in with mountain ranges on the north, south and east sides, **the urban development was channeled** away from the mountains into **the western corridor.**																		●	●	●	●								
2015 Structural Plan Proposal for Ankara, 1985		Plan did not include specific information concerning the problem area. The road and transportation systems demonstrate that the city's traffic is almost exclusively oriented towards the center.																						●							
Ankara Urban Transportation Study, (1985-1987)		Although this study did not include specific information for the problematic area, by the year 1985 the information and calibration needed for a transportation plan were in hand. Macroform proposal for Ankara in 2015-, including population, work force and employment balances, was prepared by a work group from METU.																						●							
Development of a Transportation Master Plan, 1992		**The sticking point about the Transportation Master Plan is that the problem area was not dealt with by suggesting multi-level intersections for the central areas of town and the roads surrounding.**																							●						
Ankara's Transportation and Traffic Improvement Study, 1998		After the strategies and the policies put forward in the Ankara's Transportation and Traffic Improvement Studies were rejected, **the questioned area was encircled and the area included in this study was left aside**. The aim of the study was , "**a center hard to get though but easily accessible**".																								●					
1970 and 1980		Roundabout Junction & Signalized Rotary.																			●	●									
1980 and 1990		Left Turn Junction.																					●	●							
1990 and 2005		Multi-Level Junction & The Third Stage of The Metro Line Project (Kızılay-Söğütözü).																							●	●	●	●			

Endnotes

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[13] Kızılay Kent Merkezi Çalışma Grubu. Kızılay'da yayalar ve Yaya Ulaşımı: Sorunlar, Sebepler ve Süreçler. TMMOB -Mimarlar Odası Ankara Şubesi, Şehir Plancıları Ankara Şubesi Yayınları, Ankara, (2004): 12.
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[28] ibid.p.7-8.
[29] ibid.p.7-13.
[30] ibid.p.7-13.
[31] ibid.p.7-13.
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CHAPTER 4

INÖNÜ SQUARE IN RETROSPECT

In this chapter, the differences occurring from the application of the Akay Multi-Level Junction project and the changes in urban image are discussed at length, explaining the transformation of this area and emphasizing the main idea behind urban area. This chapter contains two different approaches. As part of the first approach the Akay Multi-Level Junction project is evaluated as well as the urban transportation policies and transportation infrastructure. The second approach includes discussions concerning the urban design that is taking place above ground, an assessment of the quality of public space and the vehicle and environmental capacity that the area has.

4.1 The Design of a Junction

The design of a junction concerns the regulation of a crossroad for motor vehicles. Lynch stated that junctions are designed to ease conflicting manoeuvres by reducing the confrontation or by separation in time or space[1] (Lynch & Hack, 1984: 444).

> O' Flaherty (1997) stated that junctions, where two or more roads meet, are points of potential vehicle conflict. Junctions can be divide into the basic forms shown in Figure 4.1. From a design aspect junctions can also be divided according to whether they are uncontrolled, priority controlled (i.e. stop, give way), space sharing (i.e. roundabouts), time-sharing, (i.e.

traffic signal controlled), or grade –separated (i.e. including interchanges)[2] (O' Flaherty, 1997: 356).

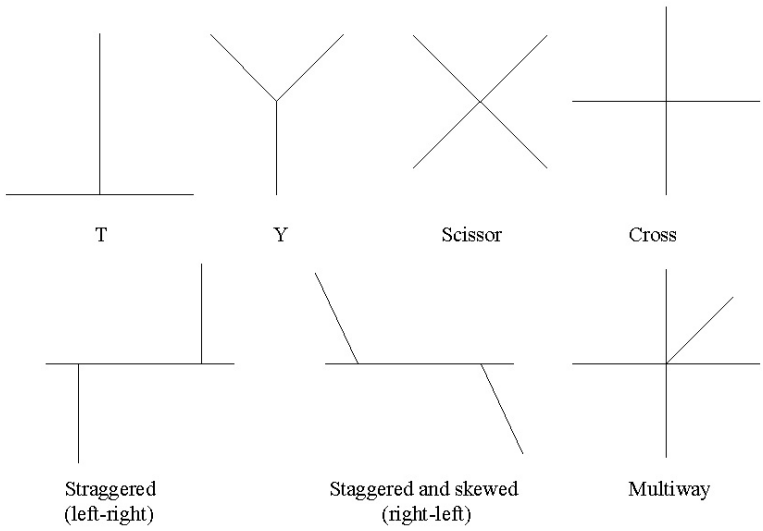

Figure 4.1 Basic Junction Forms.

Although the Akay Junction Area is considered as a "Cross Junction", the area is work as a "T Shaped Junction". Before the transformation in question occurred, issues on the traffic artery were solved using traffic signalization (for more detailed information see Chapter Three).

4.2 The Evaluation of the Akay Junction

Parallel to the increase in use of vehicles in the area, there are many different plans and decision processes, as the area becomes a major traffic artery. New residence areas are situated around the outskirts of the city. Even so, as there are no plans for sub-centers as commerce and activity areas in the residential areas, the inhabitants of these areas must travel to the center of the city for professional, social and commerce purposes. Also, parallel to the increase in vehicle ownership and usage, the number of vehicles entering the city center has increased. This situation puts emphasis on the two major arteries from Çayyolu, especially from

the south, OR-AN from Yıldız, the perimeter of the Eskişehir Road in the southwest, the main junction point being Inönü Square.

The Inönü Boulevard, described as the axis of development for the city, that intersects the Atatürk Boulevard on an east-west direction, is now insufficient for the amount of traffic; the Akay – Atatürk Boulevard junction has now become a major traffic problem. The Akay Multi-Level Junction Project was suggested by the Ankara Municipality to ease the traffic in the center of the city.

Surveys carried out between 1996-1998 show the increase of traffic load on the junction of Atatürk Boulevard and Inönü Boulevard. It was decided that Akay Junction be built, since the original road did not have the capacity to deal with the traffic flow and the public petitioned the local authorities to solve the traffic issues. Before Akay Multi-Level Junction application traffic volumes were measured in order to gather data about the turning movement of vehicles, average daily traffic volumes, peak hour traffic volumes-morning and afternoon and also turning movement count at all junctions (for more detailed information see Appendices B-C).

The Akay Junction does not appear in the Transportation Master Plan (UAP) accepted by the Ankara City Municipality in 1994 (for more detailed information see Chapter Three). The City Structure Plan (NIP) was changed for only one junction; the Akay Junction. It was decided that the Akay Multi-Level Junction and the Traffic Regulation Area should be applied, according to the City Structure Plan drawn on a 1/5000 scale and the traffic plan drawn on a 1/500 scale, by clauses 6/A, a, c, o and p of law Number 3030 (see Appendix D).

- The traffic duty function of Local authorities established in law number 2918 of the Main Road Traffic Law
- Clauses 6/A a, c, o and p of Law Number 3030 of City Municipality Authority
- By laws for the application of articles a, b and c of clause 13 Law Number 3030 about City Municipality

Authority in Transportation and Traffic, Roads and Squares.

- The first part, clauses 20 of fourth and fifth parts of Building Law number 3194.
- Akay Junction Law Suits (see Appendix E)
- Reports of the expert commission (see Appendix F)
- The number 4009 decision of the T.C. Ministry of Culture, The Council for the Conservation of the Cultural and Natural Assets of Ankara issued on 12.06.1995 are given in the Appendix A.4.5 to establish the decision process, no interpretation is made of legal processes (see Appendix G).

The Akay Junction, in its current state, provides free traffic flow for vehicles coming from all directions. The decision for Akay Multi-Level Junction application to be built was made based on the traffic flow at peak hour in the morning. In light of this data, the main traffic flow appears to be from Çankaya turning left toward Bahçelievler (1) and continuing to Kızılay (2) (see Figures 4.2-4.3).

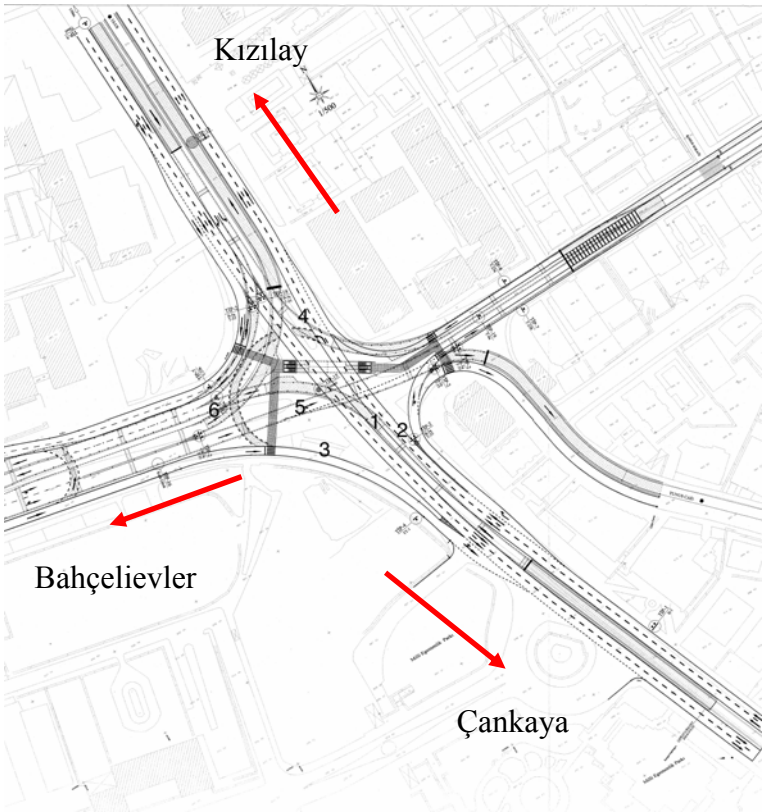

Figure 4.2 General Traffic Circulation Diagram.
(ABB-*Fen İşleri Daire Başkanlığı*)

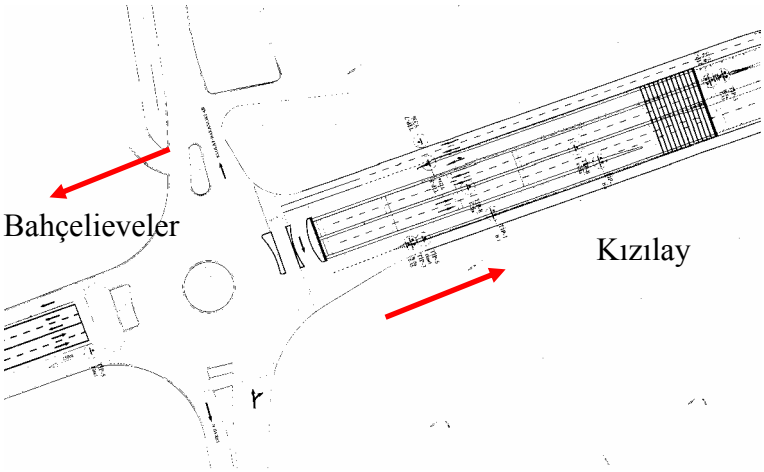

Figure 4.3 General Traffic Circulation Diagram.
(ABB-*Fen İşleri Daire Başkanlığı*)

The Bahçelievler-Çankaya (3) flow is next in density. The Çankaya-Kızılay and the Çankaya-Bahçelievler flows are continuous. A tunnel should be built to contain and join the Bahçelievler-Çankaya flow, the Kızılay-Akay (4) flow and the Bahçelievler-Akay (5) flow. As there is no signalization control on the junction, it is inevitable that the flows should meet and intersect. A weaving solution would be sufficient to solve the problem for the Kızılay-Bahçelievler (6) and Çankaya-Bahçelievler flows.

Figure 4.4 Vehicle Conflict
(Photograph by Erhan Öncü)

Figure 4.5 Vehicle Conflict
(Photograph by Erhan Öncü)

Joining traffic flows on the Inönü Boulevard headed for Bahçelievler does not pose any problem. Even so, for the Bahçelievler-Çankaya, Bahçelievler-Akay and Kızılay-Akay flows for intersect and re-disperse on a vertical or horizontal curb in the tunnel is potentially dangerous[3] (Ankara Kent Konseyi Girişimi, 1998) (see Figures 4-4-4.5-4.6).

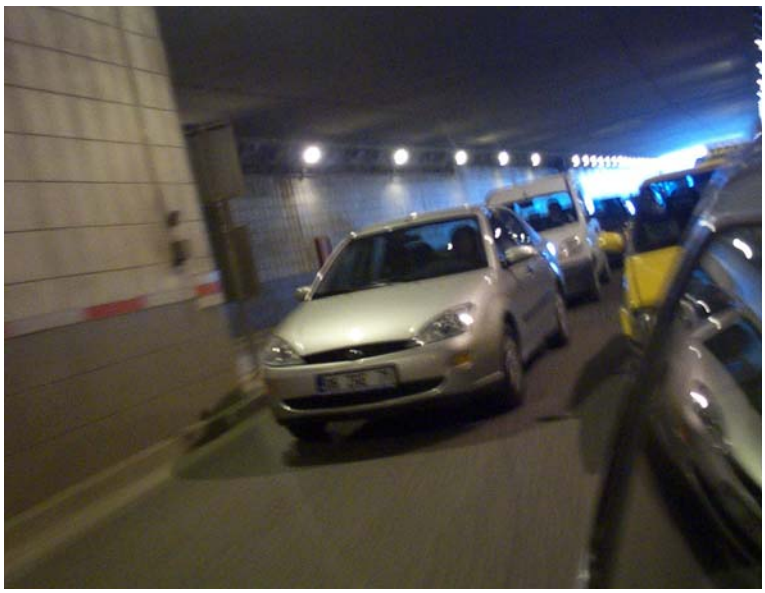

Figure 4.6 Vertical Curb in the Tunnel.
(Photograph by Erhan Öncü)

> The environmental capacity of a road is a term that is most usually applied to road improvements that affect historic and residential areas. Traffic capacity of a road has been defined as the maximum hourly rate at which vehicles can reasonably be expected to traverse a point or uniform section of a road or lane during a given time period under the prevailing roadway, traffic and control conditions[4] (O' Flaherty, 1997:281) (see Appendix H).

The dwellers of the city were asked to evaluate the area in comparison to its previous situation (see Appendix I). It is obvious from the feedback received that the drivers of motor vehicles are pleased with the situation today. Also while pedestrians are aware of landscaping work being carried out on ground level, they believe that the aim of the transformation is to provide multiple uses for the area. Prior to the application, the area in question was a main artery for pedestrian use. The same goes for the present situation.

> The fact that it allows pedestrian traffic to flow uninhibited from north to south and that it is arranged on ground level and below are the positive qualities attributed to this project. In addition, cracks 8-10 meters deep and tunnels that have occurred in areas where the ground is suitable cause an unsightly view for pedestrians and passengers in vehicles. This drawback becomes even more apparent at the start of the narrower Akay and Tunus roads[5] (TMMOB Mimarlar Odası Ankara Şube Görüşü, 1998).

The Ankara Municipality encourages the use of private vehicles rather than pedestrian and public transportation and Akay Multi-Level Junction and similar applications which have high costs and do not depend on total traffic study and planning criteria.

At the junction points within the city, it should be appropriated low-cost traffic administration oriented attitudes which are related to each other as well as traffic flow and directions. Traffic may be managed with two-way, integrated signalization programs, restriction of movement as some junctions and the right placement of horizontal and vertical signs. All transportation infrastructures must be planned according to current or future underground system projects.

Multi-Level Junction solutions; cause crossing and interweaving at junction points, therefore making them high cost applications. While they are no hindrance to pedestrians they destroy city squares. Also, the deep cracks that appear in the roads cause visual pollution in the city.

For all the reasons stated above, instead of using junctions to solve traffic problems, local authorities should choose system solutions (for more detailed information see Chapter Two) that consider urban transportation as a whole.

4.2.1 The Proposal by an Architect: Şevki Vanlı[6]

The first project suggested for the Akay Junction, implies that the junction should be three levels as the underground (II) line passes beneath. Above ground project was rejected by the Council for the Conservation of Cultural and Natural Assets on the basis that it would spoil the silhouette of the TBMM and the Ministry of Internal Affairs.

> The municipality is only trying to solve the problem of transportation by constructing roads in the center of the city. The area of Atatürk Boulevard and Inönü Square is a huge traffic junction. The name of the road coming from the corner of TBMM opposite is "Akay" the name of subject is "Akay Junction". The area is the place where the cars stop.[7] (Vanlı, 2000: 236-238).

In a modern country, an issue with its proposals and alternatives, which will have an effect on the city's architecture, is discussed beforehand. In primitive countries illiterate people treat this as a traffic problem. Being aware that the concept was also an issue of traffic, the previous Council for the Preservation of Cultural and Natural Assets asked Ankara Municipality to apply architects. Then, the Municipality applied to Şevki Vanlı, Turgut Cansever, Ilhami Ural. But Municipality was unable to form a way of taken proposals. Şevki Vanlı prepared a project. The Council for the Conservation of Cultural and Natural Assets and Municipality agreed on the project and accepted.

Figure 4.7 Şevki Vanlı's Project.

The main feature of the project prepared by Şevki Vanlı provides on non-stop traffic on Atatürk Boulevard with a green surrounding[8] (Vanlı, 2000:236-238) (see Figures 4.7-4.8-4.9).

> Projects sent to municipality of Çankaya to approve them according to the law and rules. Çankaya Municipality opposed projects as they were against "a spot solution". As a result of this opposition the area is left to personal transport policies of Ankara Municipality[9] (Vanlı, 2000:236-237).

Three main crises points accepted as data in the application proposal of Akay-Junction, which was prepared by Şevki Vanlı under C. Günal's consultancy. The first one is Çankaya- Atatürk Boulevard and Eskişehir Road-Akay Junction connection point. The second one is the connection between Eskişehir Road-Atatürk Boulevard and Atatürk Boulevard-Akay Junction. And the third one is Atatürk Boulevard- Eskişehir Road and Akay Junction-Çankaya connection point.

While the project is handled, garden limits of TBMM are also considered and included in the proposal. Vehicular traffic is moved from the area which is today known as Ankara Atatürk Square to below ground level. Ground plan organized according to present level is given in the figure.

Some negative implications of the project are given below:

- The transfer of vehicular traffic to underground (-5.00 level) and the negative effect of this transfer on drivers.
- In definability of the end of underground plane.
- No allowance of pedestrian area to any user.
- Possibility of many problems in traffic accidents and breakdowns.
- Non-existence of pedestrian exit.

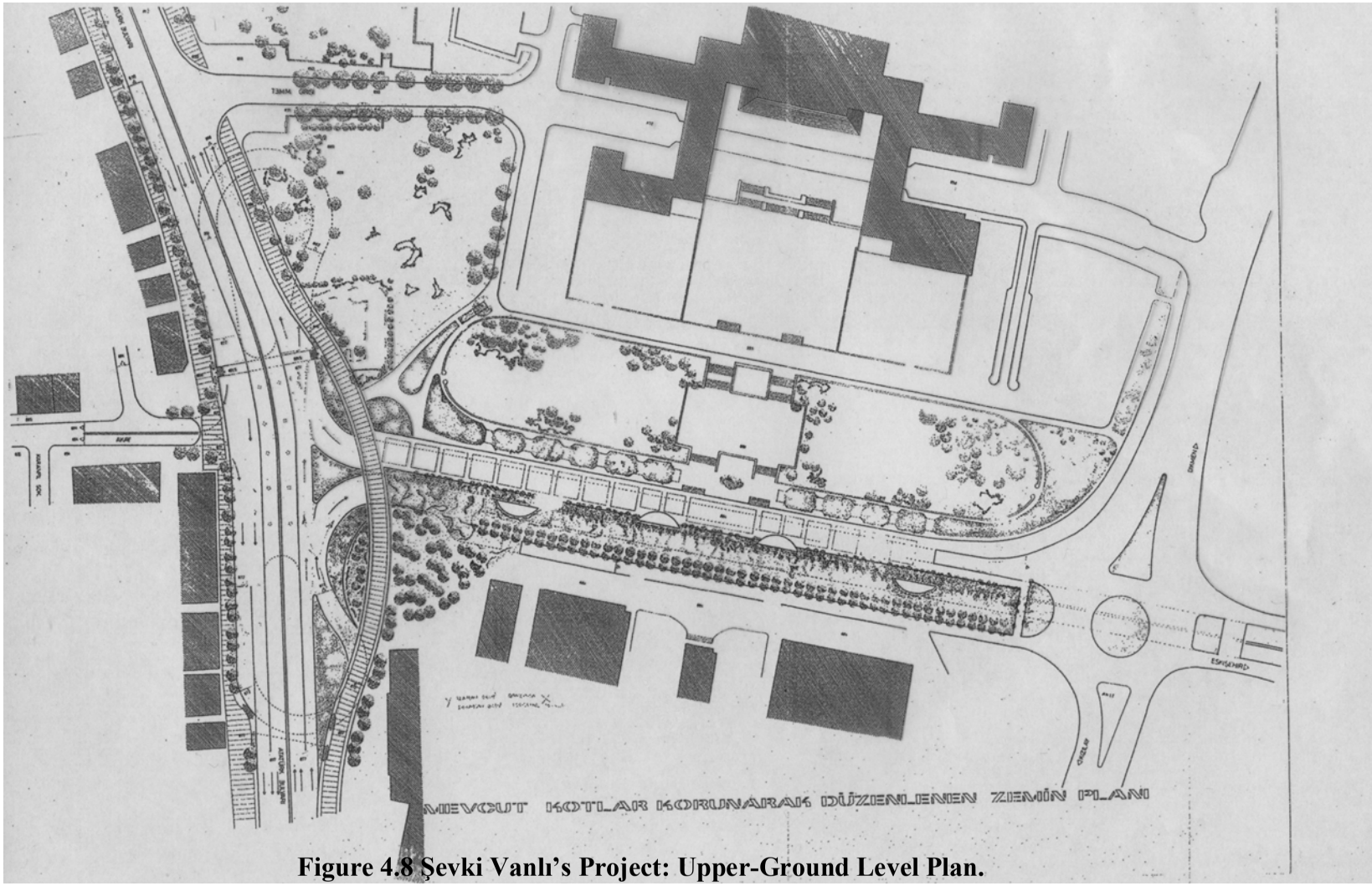

Figure 4.8 Şevki Vanlı's Project: Upper-Ground Level Plan.

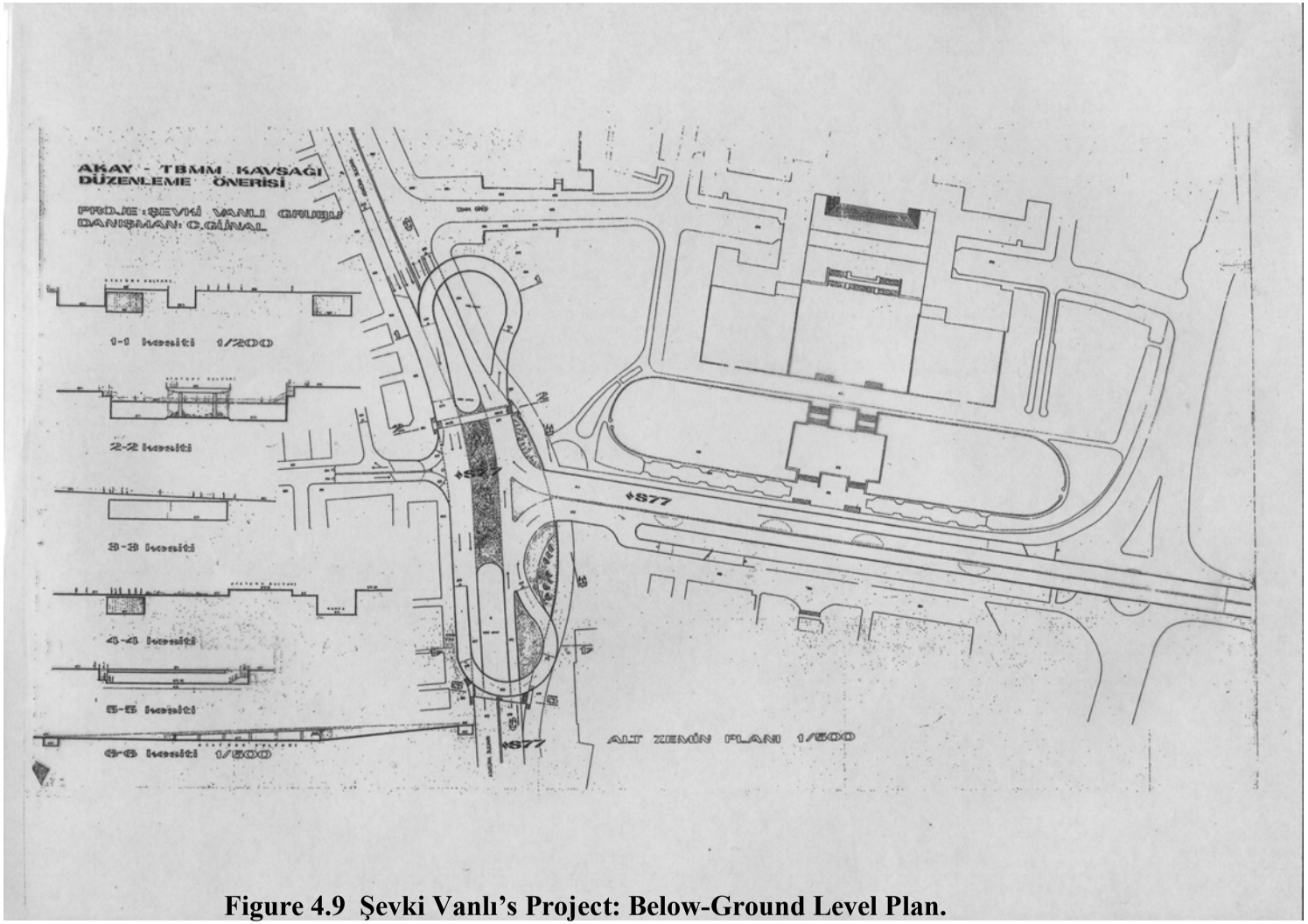

Figure 4.9 Şevki Vanlı's Project: Below-Ground Level Plan.

4.3 The Multi Level Junction – Public Space Dichotomy

The area in which Akay Multi-Level Junction is an area to where historical, cultural, architectural and natural values of Ankara City are totally reflected. For the Atatürk Square, we may say that a traffic artery was evacuated for use as a public space. If we look back at the concept of the public space, we may see that it is political, representative and interesting. How may the Ankara Atatürk Square be understood in the light of the above? The following debate concerning three public spaces may give us clues about the Atatürk Square.

The construction of Güvenpark and the symbolic expression present in the Güvenpark with its monument was started with the Jansen Plan. Güvenpark has the monument representing the confidence of the Turkish people. In the triangle with its base at the TBMM building, and its apex at the Kızılay Square, we can define three different kinds of public spaces (see Figure 4.10):

1) We see Güvenpark, starting at the apex of the triangle, as a public space is conceptualized as a representative space. Güvenpark today is an important public space where all kinds of people sit, meet and use in their daily lives. In spite of this, a public space with strong representative power has been invaded by bus and minibus stops, and the confusion of urban furniture. Sellers open their stalls where and when they want, and the local government have put an information desk on the main artery.

The area has become an uncontrolled space where anybody can do anything they want, however the space still is the living city center, and is vitalized from the social point of view[10] (Bilsel, 2004).

Evaluation: Güvenpark is home to a vitalized social life with the trading activities of peddlers and booths. But is it really a public space? How is the space claimed by which section of society, and for what aim? Has the Ankara urbanization model, as an example of planned modernization been abandoned to

a part of society? Or is that part claiming the space of its own accord. As the space is claimed, it is also transformed according to the structure of society and the group claiming it. This is what happens when security precautions are not taken[11] (Bilsel, 2004).

2) Here we find the forecourts of governmental buildings (i.e., ministries) and the pedestrian and vehicular arteries connecting them. Recently, due to security reasons these have become public space closed to the public. At the South edge of this belt there is the large outdoor exhibition area behind the Ministry of Internal Affairs which is public, but not fully utilized.

Evaluation: This area is far from being a public space, as it is hard even to take photographs. This is due to the security precautions, and the area is not accessible to the general public. This space is a perfect example of a public space closed to the public, as outlined by Bilsel in a panel (2004).

3) This is the area limited not only by the heavy traffic flows, but also by abstract borders, existing in representative publicness. The Ankara Atatürk Square is a space open to the public between the Ministry of Internal Affairs and the green park of the TBMM. We mean open to the people when we say public. However, the area is not claimed or occupied by the public. The area is also related to urban aesthetics, however, it is not alive in the sense that it is not supported with activities that enrich the public space in daily life. At this point we see that the situation satisfies the aim in the construction of the space. This is exemplified in the statement of the team that designed the area:

> In the era that urban central areas regained importance, and urban arrangements are questioned, the main criteria for the design of the project area was not for basic rest and collectivity functions, but to create "abstractions" that stretch and enlarge the imagination of the human being, forming arrangements that increase visual experiences and a design understanding leaning towards "visual-informative" activities. This gives the square a monumental identity, and the "abstract, visual and informative" design is a part of the modern design concept[12] (Demiralp, Kubin, 2003).

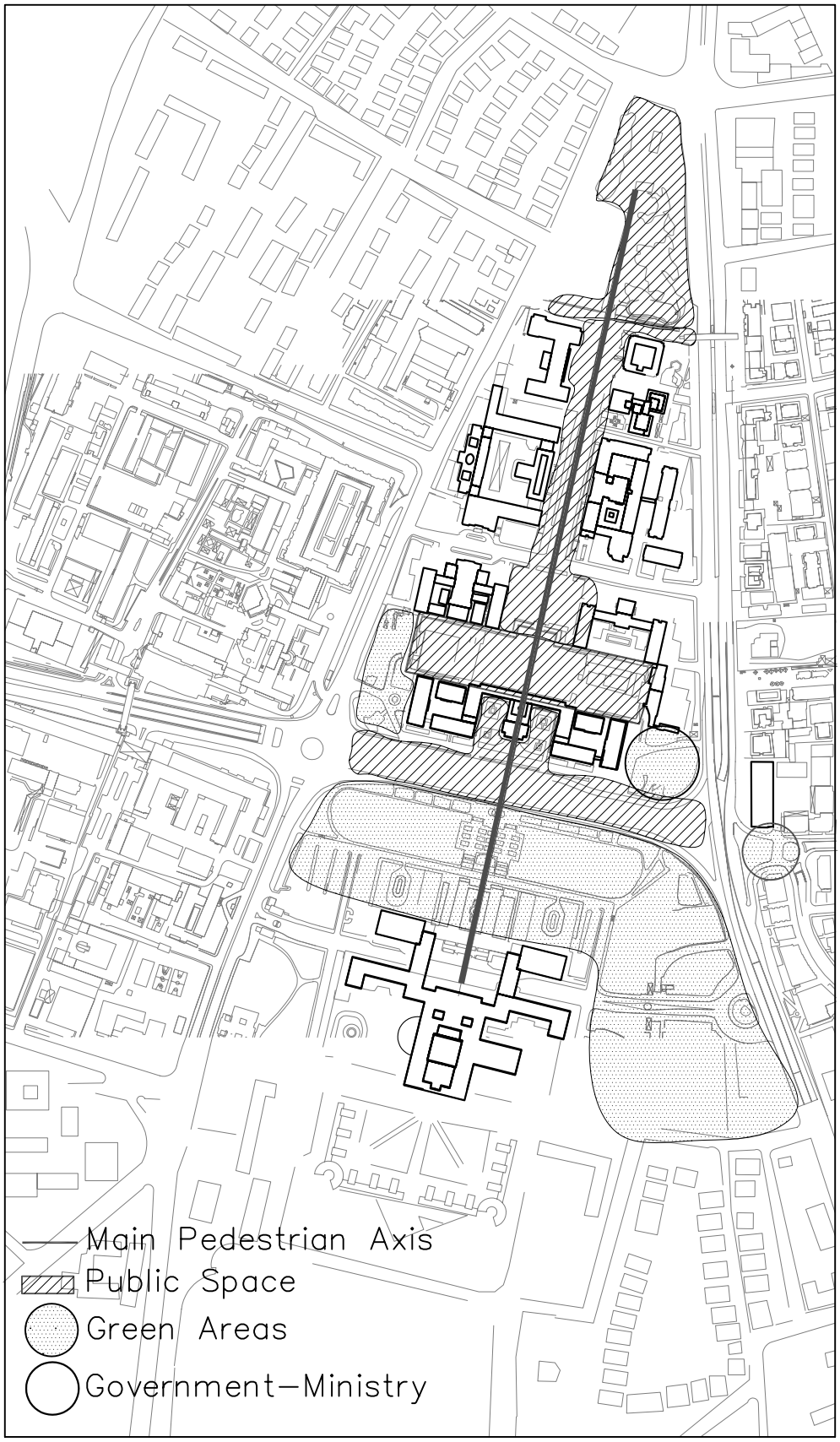

Figure 4.10 There Different Kinds of Public Spaces.

Evaluation: This example shows a situation where the space does not satisfy the basic recreational area and representative needs, and does not focus on the requirements of daily life. The area is not vitalized, in spite of it being a pure public space. Citizens may not accept the space as a public space, as the area is engraved in the mind of the citizen as a traffic artery. Even as security precautions are not intensive, as the area is surrounded by the Military Headquarters and Gendarmerie Headquarters, the limitations (such as the prohibition of the use of cameras) prevent the area from being perceived as a public space. This area seems to be a semi-open, semi-closed space forming the "controlled open space" of the official institutions of the areas.

4.4 Analysis of the Factors in The Development of Akay Junction Area

> Site Data collected typically include topography, land usage, drainage and related physical features (natural and manufactured), public and private utility services (above and below ground), items of special interest (e.g. environmental, cultural and historical features), horizontal and vertical alignments of junction roads (existing and future), sight distance (and physical features which limit them), and adjacent (necessary) access[13] (O' Flaherty, 1997: 357).

This part analyzes all the factors –physical, cultural, natural, socioeconomic, funding, political, and legal- that influence the development of this area as well as the decision with Atatürk Square and Akay Junction as to evaluate these applications in order to urban transformation.

> Image has been classified into five elements, which are paths, edges, districts, nodes and landmarks[14] (Lynch, 1979:46).

Paths are the circulation routes such as streets which people move. As Lynch says, we observe the city as we are moving through it and for many people, the paths themselves, and those elements of the city they perceive as they move along them predominate in their images of the city. They have directional quality, as Lynch put it "coordinate axes". Atatürk Square with its rectangular shape

should be read a path. Circulation of traffic ways seemed to be dominant, which was read as a path, too, and reinforced to be an edge at the same time.

> Paths are the channels along which the observer customarily, occasionally or potentially moves. They may be streets, walkways, transit lines, canals, and railroads[15] (Lynch, 1979:47).

For Lynch edges are linear elements, which people do not use as paths. They perceive them, rather, as linear breaks or boundaries such as walls, pavements, elevated roads, railway cuttings, canals, shorelines, or they may simply be boundaries between adjacent developments. Edges are that distinguish one area from another. The path surrounded by a traffic road edge. And also traffic roads are surrounded by public buildings pavements and entrances too.

> Edges may be barriers, more or less penetrable, which close one region off from another; or they may be seams, lines along which two region are related and joined together. [16] (Lynch, 1979:47).

A district is an area of a city with which people identify and which generally has a name, such as Ministry or West Corridor.

> Districts are “medium to large sections of the city, conceived of as having two dimensional extent, which the observer mentally enters “inside of”, and which are recognizable as having some common, identifying character. Most people structure their city to some extent in this way, with individual differences as to whether paths or districts are the dominant elements[17] (Lynch, 1979:47).

Area was accepted as a node which is structurally vital but which didn’t seem to easy think without its role of strategic traffic interchange. In other words, there is limited pedestrian entrance because of traffic circulation and in addition major military space land uses.

> Nodes are points, the strategic spots in a city into which an observer can enter, and which are the intensive foci to and from he is traveling[18] (Lynch, 1979:47-48).

Nodes are at the junctions or crossing of paths such as squares. They may also be places of transportation mode activity such as bus, or subway stations. The construction of an underground stop in front of the TBMM building, as debated in Ankara for a while will encourage use of the area and therefore, the area will become a node.

> The subway stations, strung along their invisible path systems, are strategic junction nodes[19] (Lynch, 1979:74).

At the space there is a landmark that is a physical object such as fountain sign, which is typically seen from many angles and distances used to take impression.

> Location at a junction involving path decisions strengthens a landmark [20] (Lynch, 1979:81).

At the urban scale the details of elements in the street may be as important as buildings in determining the aesthetic visual quality. The architecture of the existing buildings -condition, height, architectural character -surrounding the area has provided a sense of scale to the urban environment (see Figure 4.11).

> The experience of a place is dictated by the design of both streets and buildings. The length of the blocks, the width of the pavement and whether its surface is of brick or concrete shape our experience of the street. In addition, the placement, age, and type of trees planted along the pavement will dramatically affect our perception of the environment[21] (Davies, 1982).

A good public space should be accessible to all senses. But in the area traffic arterial is cutting pedestrian accessibility through the square. Without the ability

to enter or to move within it, to receive and transmit information both by mental or by physically, space is of no value.

> Access is the prerequisite to using any space. Without the ability to enter or to move within it, to receive and transmit information, space is of no value, however vast or rich in resources. It is possible to consider the layout of roads and walks first and then to refine this layout by a study of the other components of circulation[22] (Lynch& Hack, 1984:193-194).

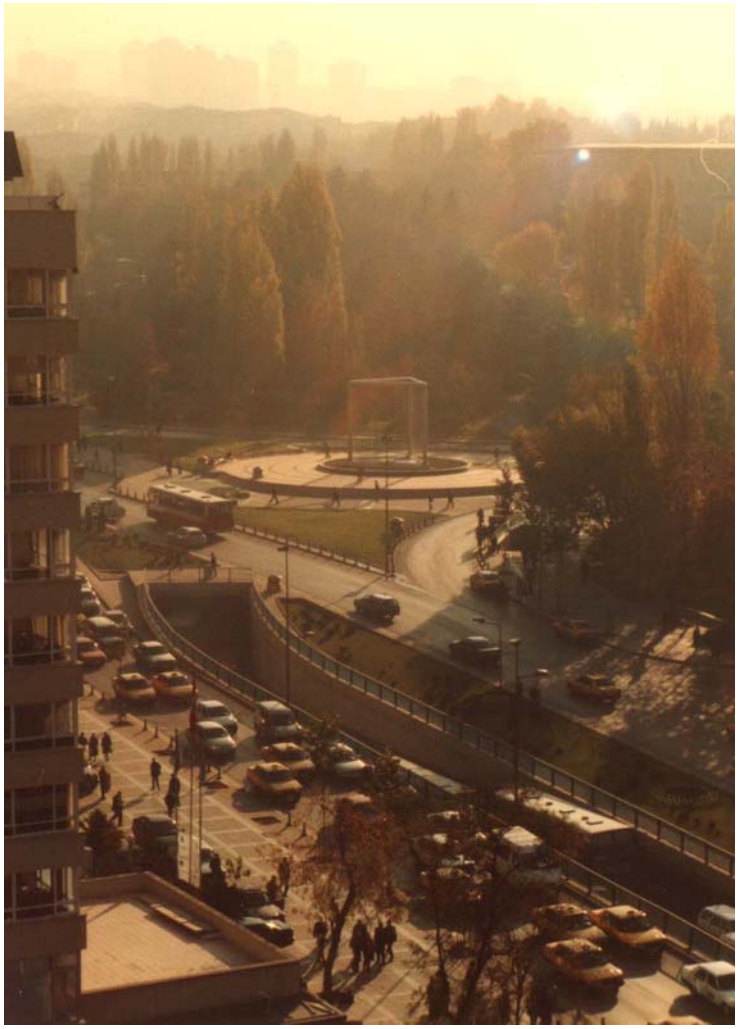

Figure 4.11 A View of the Akay Multi-Level Junction with the Traffic Underpass on the Atatürk Boulevard.
(TMMOB Mimarlar Odası Ankara Şubesi)

4.5 Applied Project: "Ankara Atatürk Square" Urban Design Project

To examine in depth the design features and development strategies of Ankara Atatürk Square, detailed case study is presented in this chapter (see Figure 4.12).

Figure 4.12 A View of the Akay Node and the Atatürk Square with its Extension on the Eskişehir Road.

The Urban Design Project carried by *Promim Çevre Düzenleme Kentsel Tasarım Ltd. Şti.* comprised the Atatürk Square area, and 1300 meters of tunneling at 6 and 12 meter depths, and 700 meters of open space.

The project area is situated on one of the most important axis' in Ankara, the junction of the West corridor and Atatürk Boulevard. The project was carried out in phases, the first phase being opened on the 10th September 2000, the second on 22nd December 2000, and the last phase, including the Atatürk Square area, on the 23rd April 2001. The entire project took three months to complete (see Figures 4.13-4.14-4.15).

"…the abstract side of the project, its modernity and diversity in a non- rhetorical way, is embodied in the New Millennium through which the square is constructed and lived in; the use of steel underlines the idea *of the infinity or* immensity of, say, Turkey's historical traditions; water representing enthusiasm stands, most likely, for the new republic, light and color invoke change or democracy (at lest the struggle to attain democracy); the steel cables and their inherent strength and resistance stand for loyalty and obedience to the institutions. The large transparent prism, five foundations (five like the number of national congresses) and trees: everything has a very definite meaning…"[23] (Demiralp, 2002: 80-81).

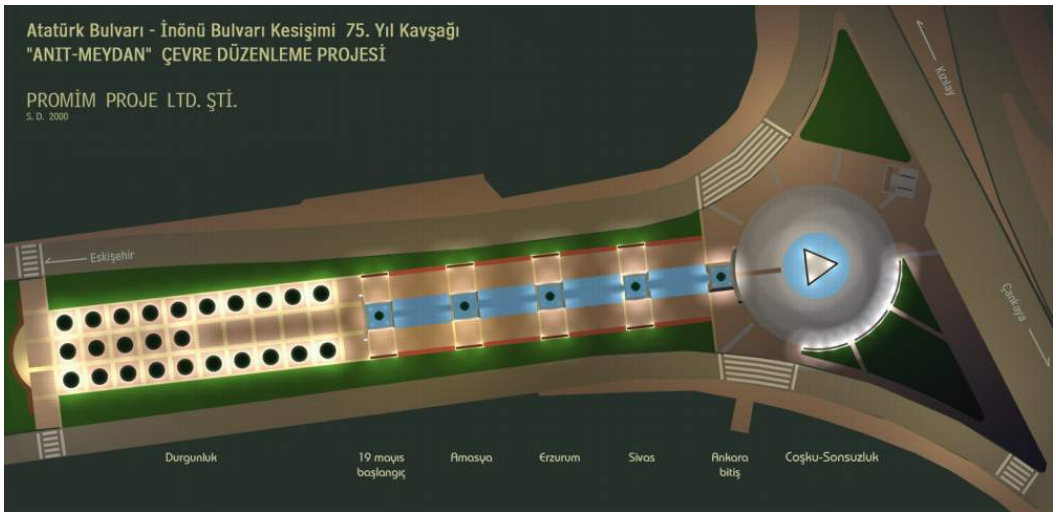

Figure 4.13 Promim's Project for the Atatürk Square Extending on the Wide Refuge between the Roads.

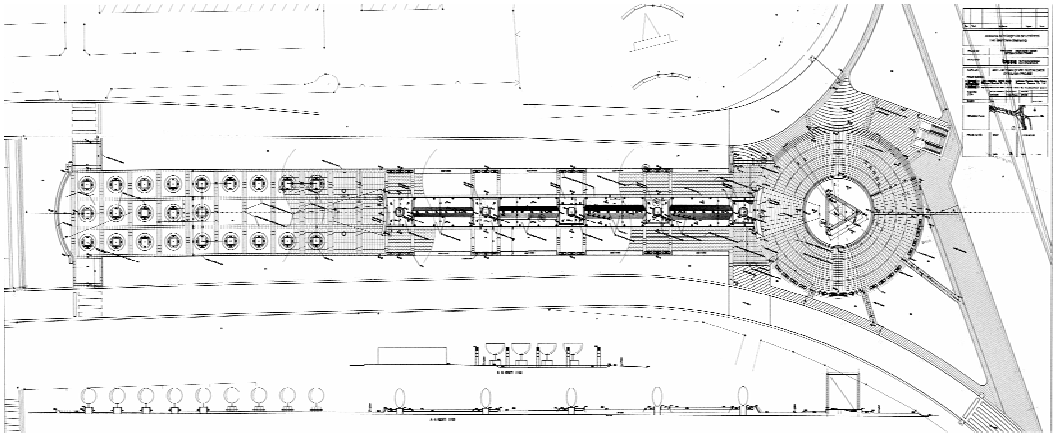

Figure 4.14 Promim's Project: Ground Plan.

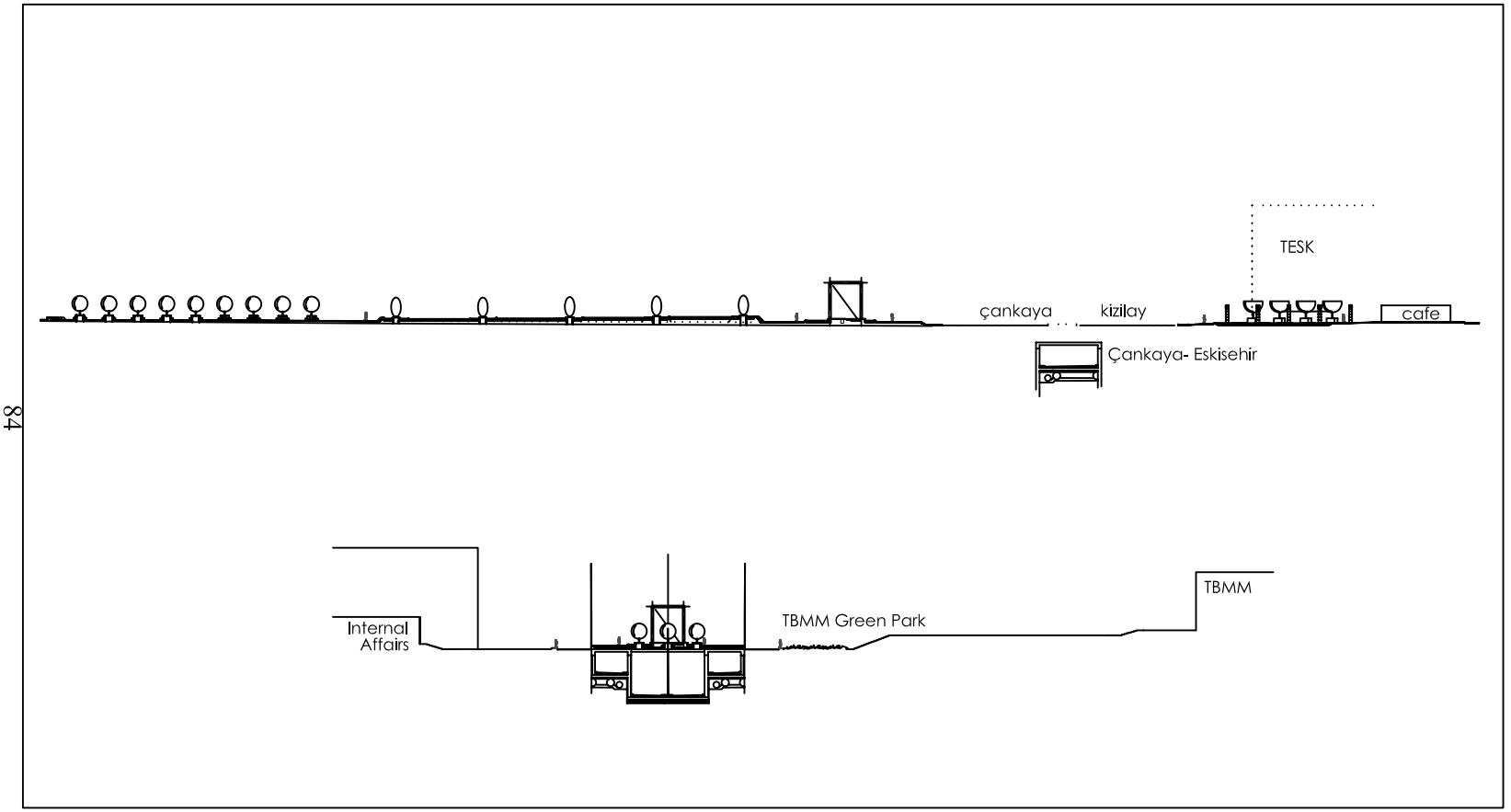

Figure 4.15 Promim's Project: Sections.

The reason the Akay Junction project, situated at the junction of the Atatürk Boulevard, Inönü Boulevard and Akay Street is a striking example of planned intervention in transportation policies causing urban change is that a symbolic area was constructed. The planning of the 12,000 m^2 space was carried out at the same time as the traffic arrangement.

The Akay junction, one of the most important squares in Ankara, neighbours with the TBMM building in the South, the ministries in the North, commercial area in the East and North-East, and the most important residential and public corridor in Ankara in the West. The area is also the starting and ending point for the Western corridor at the point that it intersects with the North – South axis. The proximity with the TBMM also gives the area symbolic importance (see Figure 4.16).

Figure 4.16 Promim's Project: Perspective.

Demiralp (2003) points out that the importance of the project area lies in the fact that it encourages "continuity" and "transformation" in "the multitude of potential uses" and "application limitations"[24] (Demiralp&Kubin, 2003).

> The green texture stemming from the South of the area, and the termination of the area in a park in the North means that the area is situated between two green textures, forming a mass-void relationship. Due to the dense growth on each side of the area, the open space and square characteristics are emphasized in the design. The basic limiting factors are, the authority and responsibility of the "Monuments Higher Committee", three dimensional structure limitations and the limitations concerning levels that would limit the view, and the use of subterranean concrete tunnels meaning that excavation is impossible. In conclusion, the main aim in the design is to allow the city to have a "symbolic area, and question and initiate change in the arrangement design concepts of "urban central areas" [25] (Demiralp, 2001: 1-2).

In the project phase of the application, the design included the abstract extension of the axis upon which the Akay junction is situated, to be terminated in a cafeteria. However, the local government preferred the solution that we see today. Socio-economic factors such as market of business can be taken place in the area in order to see crowded of people. But actually this was offered for Akay turn but not realized. There can be still organized events or programs, purchasing benefit by the augmentation of people population.

4.6 Qualities required for the Inner-City Junctions

> A site includes a lot of man-made details. Think of the normal furniture of any urban are: seats, traffic signals, signs, utility poles, lights poles, meters, trash cans, wires, lights, plant containers, bollards, bus shelters, notice boards-the list goes on. The texture of the floor, the shape of the steps, or the design of a bench affects the user because of being in a direct contact with them[26] (Lynch& Hack, 1984:187).

Furnishing-signs, lights, street furniture, benches, flowerpots and maintenance should be reviewed to determine the feasibility of a proposed application. Quality, fountains, sculpture, shaded areas in which to sit and view other people, and appealing activities all help create this environment (see Figures 4.17-4.18-4.19).

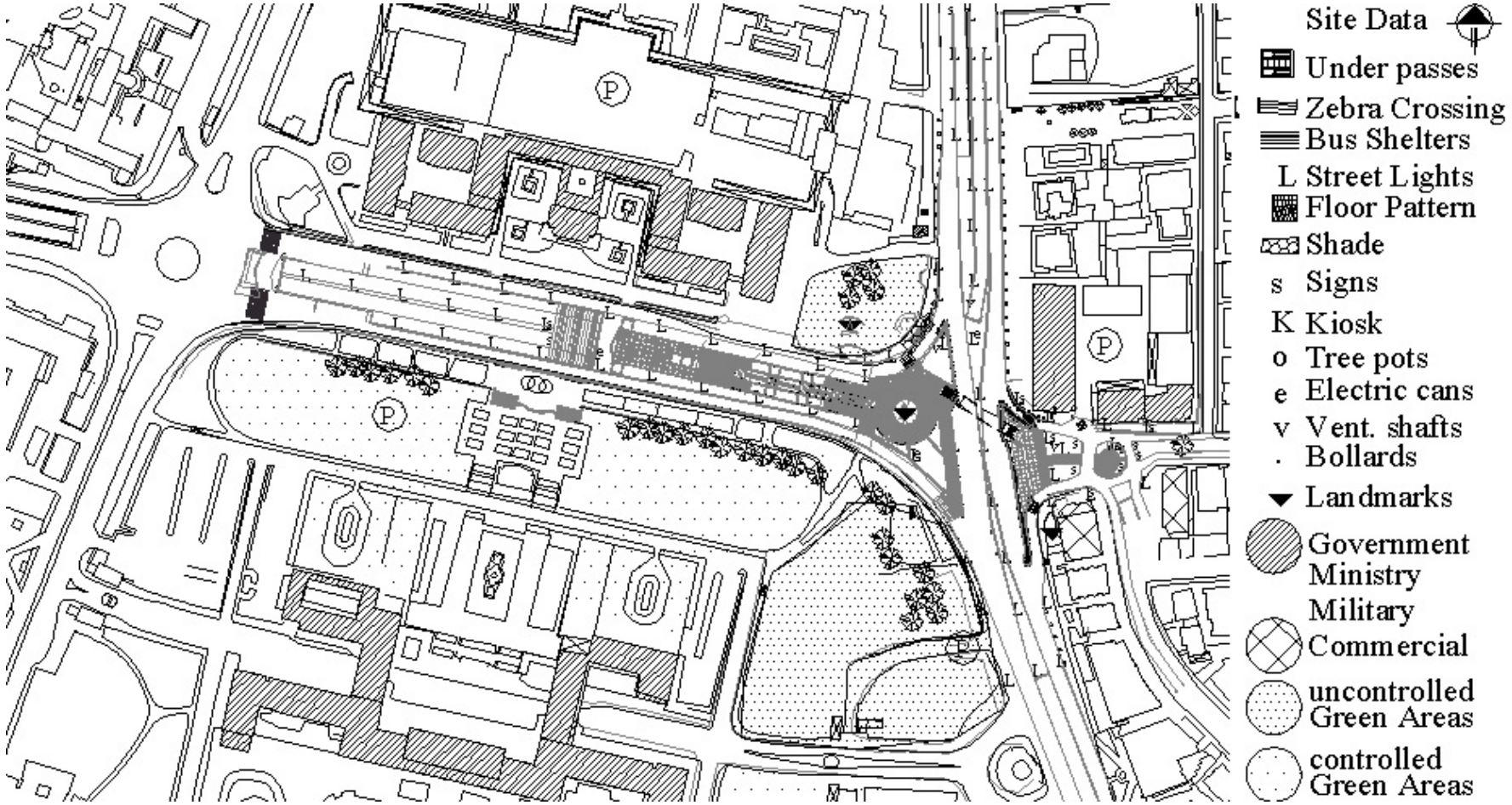

Figure 4.17 Atatürk Square: Site Plan.

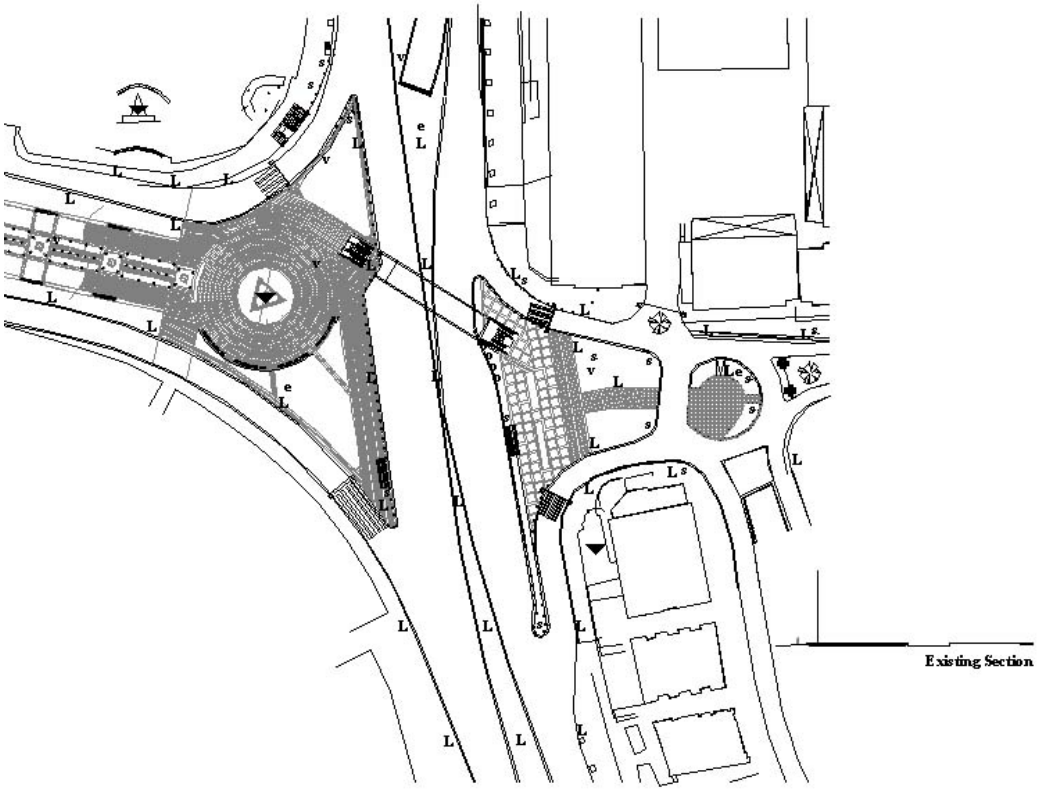

Figure 4.18 Present State of the Akay-Tunus Junction.

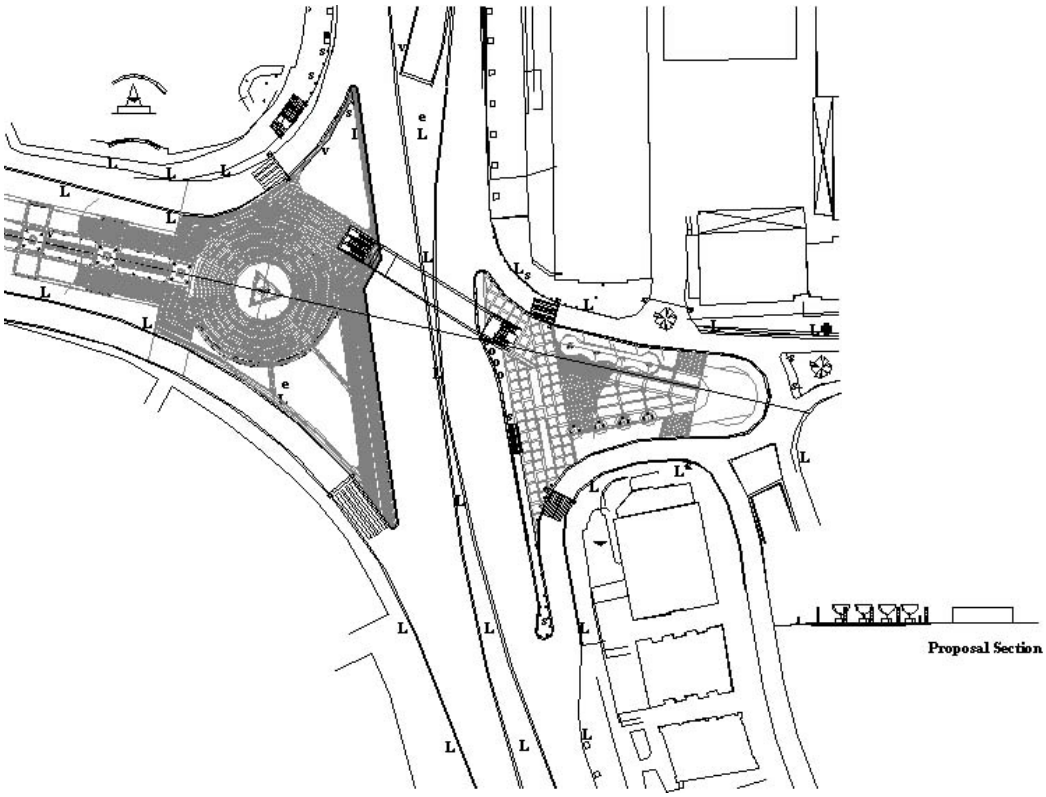

Figure 4.19 Proposal for the Akay-Tunus Junction by Promim.

Urban roadways are dotted with strong symbols. Traffic signs, advertisement boards, bus and underground stops are important elements of urban roadways. One way of achieving totality in a space is to repeat various elements. The rhythm of the repeating elements is an important factor in the quality of the space. Continuity is provided by a serious of coherent parts, which may be related by keeping a common scale, form, texture or color for a space or area. Sequence, is continuity in the perception of space or objects arranged to provide a succession of visual change. Repetition is the simplest kind of sequence, for example streetlights. Rhythm is a sequence of repetitive elements interrupted at specific intervals. Shape gives quality to the relative form of an object. The shape of our space is rectilinear. Motion is a process of moving or changing time or position season of the year (see Figures 4.20-4.21-4.22).

Figure 4.20 The Fountain with Water Frozen on the Vertical Guide Lines.

The quality of any streetscape experience will be dramatically transformed by changes in atmospheric conditions. The time of the year affects the patterns of sun and shade, as well as the quality of light, which all work together to transform the appearance of a street. Understanding the interaction of the environment with design contributes to creating places that are both attractive and functional[27] (Richard, 1998: 58).

Figure 4.21 Granite and Stone Paving Pattern and Iron Bollards Defining the Area Providing Rhythm in its Design.

Figure 4.22 A View of the Traffic Way with the Trees Planted and Advertisement Kiosk.

Bus routes and stops evaluated in transit systems. Transparent bus shelters have been installed on the Atatürk Boulevard (see Figures 4.23-4.24).

> Bus shelters, to provide weather protection for transit users may also be required, depending on the prevailing length of waiting time and the amount of protection from the elements offered on the street[28] (Lynch& Hack, 1984:187).

Figure 4.23 Bus Shelters Provided along the Transit Way.

Reducing conflicts between pedestrian and vehicles are achieved by the use of under-passes or zebra crossing. During preparation of the area project, sales kiosks that were not included in the necessity plans are evaluated separately. One of these kiosks was placed on a pavement, after the general application, the other on the ground level at the exit of the Tunus tunnel, in the center of a main traffic artery (see Figures 4.25-4.26-4.27-4.28).

Figure 4.24 View of Streetscape Elements Including Bollards, Tree Pots and Bus-Stop Signs.

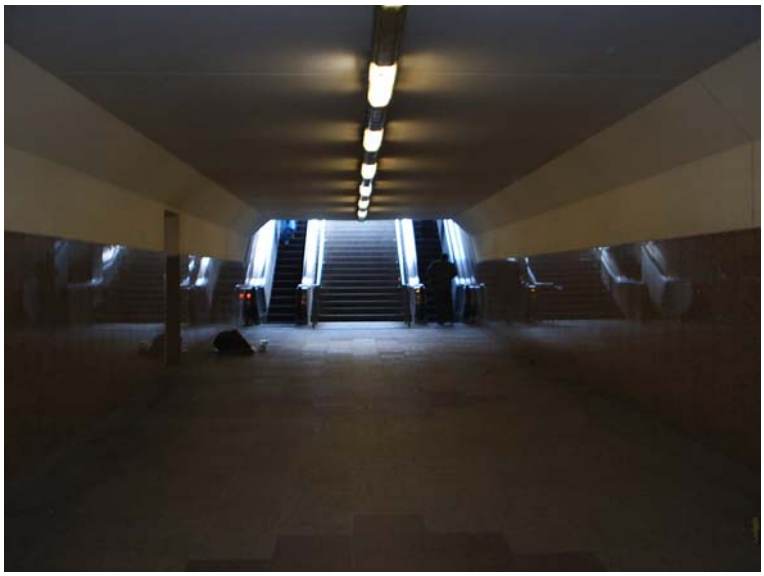

Figure 4.25 Space Separation Achieved by the Use of Under-pass.

Figure 4.26 Kiosk at the Center of Pedestrian and Vehicle Conflict.

Figure 4.27 Kiosk at the Center of Pedestrian and Vehicle Conflict.

Figure 4.28 Pedestrian and Vehicle Conflict.

Non-Shade trees were planted in the area of the square compelled through the ground floor heights. However shade trees could be having the most exposure to the sun. Since people enjoy sitting shaded areas that provide protection from the sun, benches might be added in these areas, such as Emniyet Park (see Figures 4.29-4.30-4.31).

Figure 4.29 Non-Shade Trees.

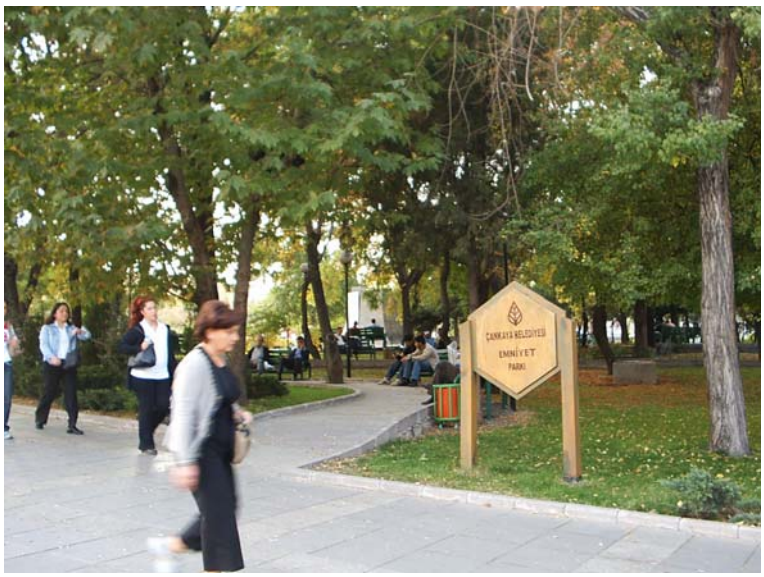

Figure 4.30 Trees with Shade.

Figure 4.31 Signs.

The general design of the base level of the Akay Multi-Level Junction Project comprised horizontal solutions, clean grass areas, base lighting and a transparent monument locked in the third dimension. This landmark, such a transparent sculpture, is a physical object, may vary in scale, may be close or distant, and sometimes may be seen only from specific approaches, as from the junction along a path. This landmark may be reference points to observers that give them cues so

that they may make a choice, for example, as to which turn in a road junction to take (see Figure 4.32).

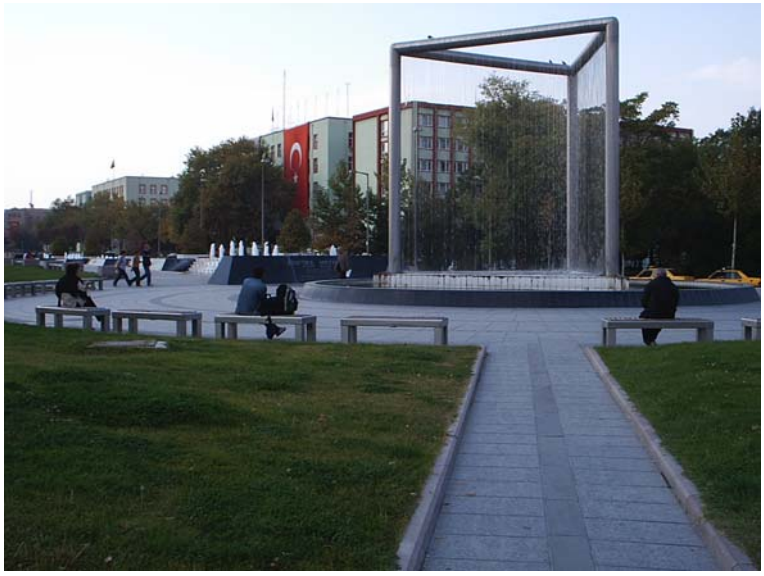

Figure 4.32 Fountain Sequence with Sculpture.

As the Akay Multi-Level Junction project was carried out, all subterranean infrastructure systems were left intact or renewed through one conduit. During the urban design application the tunnel concrete was accepted as ±0.00 as the square level was elevated to +0.70, and the highest point was planned to be +1.90cm.

Two types of materials were used in the project; stainless steel and natural stone. Grey andesite was used in the square and hard base areas, and black granite marble was used in the stepped pools. A contrast was accomplished by the use of white marble in the pool interiors.

The concepts of “inertia”, “beginning and end”, “life”, “infinity and enthusiasm”, and “progress” are depicted in the area. For the depiction of “inertia”, andesite

materials were used. Sitting spaces were designed to be made from wood, and were lighted from underneath (see Figure 4.33).

Figure 4.33 Tree with Built in Seating and Lighting.

> Tree grates are used to give wider expanse to walk areas, to allow air and water to reach the roots of a tree, and to limit maintenance of the open areas trees paved areas. Tree grates also add interest in scale, pattern, color, and texture to the urban environment[29] (Rubenstein, 1992: 62).

"Polished black granite marble" was used on the exteriors of the square shaped pools depicting "beginning and end". The sides were decorated with English and Turkish texts emphasizing the historical importance. Wood was used in the pools

to represent “life”. The stepped pools were made of “white block marble”, and the increase of units in each step represented “progress”(see Figure 4.34).

> Fountains and pools are often the focal elements of a plaza or square. Water a natural element, has many unique qualities when used in fountains. Fountains often have sculptural elements. Many factors are involved in the design of fountains[30] (Rubenstein, 1992: 72).

Figure 4.34 A View of Dominantly Arranged Series of Fountains.

There is also a monument in which “infinity and enthusiasm” are depicted. The monument is made of 40 cm diameter stainless steel poles, and the highest point is +9.00 m., with the shape being a triangle prism with 7.50 m. axes. A “water curtain” has been formed by the expulsion of water on to vertical wires, through special nozzles. The monument is lighted from the inside with “color transition system synchronized spotlights” to protect the visual effect at night. In the square, the “black granite marble” used in the pools has been used in the floor of the square to emphasize continuity. The sitting spaces on the edge of the area were produced using stainless steel, and were lighted from underneath, to achieve material compatibility throughout the area (see Figure 4.35).

> The type and the placement of sitting areas are important to how a mall functions. Generally, areas should also have protection from the sun a people prefer to sit in shaded areas. Benches are made of wood, metal concrete or stone[31] (Rubenstein, 1992: 81).

Figure 4.35 Seating with Rows of Wooden Benches on Steel Frame.

> The character of the street furniture, including light poles, benches and kiosks I all add to the definition of the street scene [32] (Davies, 1982, quoted in Evenson, 1989)

The aim of the urban design project is not the continued use of the area, but the emphasizing of the visual aspects and grandeur, the scope and size of the parliament building. The fact that the area is on the junction of the largest traffic axis in the city is a great disadvantage. The Jansen plan prescribed that the Güvenpark axis should end in the Atatürk square area, and be closed to public use for security reasons. This plan was not applied, and the current arrangement does not provide for a meaningful continuity. One other disadvantage of the Akay Multi-Level Junction project is that drivers and passengers using the underpass are cut off from the perception of urban spaces. The relationship formed by a citizen using the underpass will be different from the relationship formed by a citizen on ground level.

> The modern car interposes a filter between the driver and the world he is moving through. Sounds, smells, sensations of touch and weather are all diluted in comparison with what the pedestrian experiences. Vision is framed and limited; the driver is relatively inactive. He has less opportunity to stop, to explore, or choose his path than he does the man on foot. Only the speed, scale, and grace of his movement can compensate for these limitations[33] (Appleyard, 1966:4).

The pedestrian and vehicular traffic speeds affect the details perceived. The table 4.1 indicates the major visual factors that should be important to the driving task[34] (Institute of Transportation Engineers, 1992:4)

Table 4.1 The Major Visual Factors that should be Important to the Driving Task.
(Institute of Transportation Engineers, 1992:4)

Visual Factors	Definition	Related Driving Tasks
Accommodation	Change in the shape of the lens to bring images into focus	Changing focus from dashboard displays to the roadway
Static Visual acuity	Ability to see small details clearly	Reading distant traffic signs
Adaptation	Change in sensitivity to different levels of light	Adjusting to changes in the light upon entering a tunnel in daylight
Angular Movement	Seeing objects moving across the field of view	Judging speed of cars crossing the path of travel
Movement in dept	Detecting changes in size of the image on the eye	Judging speed of an approaching vehicle
Color	Discrimination of different colors	Identification of colors of signals
Contrast sensitivity	Seeing objects that are similar in brightness to their background	Detection of dark clothed pedestrians at night
Depth perception	Judgment of the distance of objects	Passing on two lane roads with oncoming traffic
Dynamic visual acuity	Ability to see objects that are in motion relative to us	Reading traffic signs while moving
Eye movement	Changing the direction of gaze of the eyes	Scanning the road environment for hazards
Glare sensitivity	Ability too resist and recover from the effects of glare	Reduction in visual performance due to headlight glare
Peripheral vision	Detection of objects at the side of the visual field	Seeing a bicycle or motorcycle from the left
Vergence	The angle between the lines of sight of two eyes	Change from looking at the dashboard to the looking at the road

> Not only is vision directed forward, but it is also attracted to the immediate environs of the right-of-way- the near and apparently "moving" objects, rather than the larger number of distant, seemingly "stable" ones. Again, on one route, two-thirds of the impressions noted were caused by things in or adjacent to the road itself. The color and texture of the road surface, the shape and rhythm of the objects at the shoulder (signs, guard rails, retaining walls) set the visual tone. In the forward view of the multi -lane highway, most of the visual field is filled by the pavement and the sky. The differentiation of lanes, shoulders and the medians by texture, color, and width will articulate and enliven this scene[35] (Appleyard, 1966:6).

The Akay Junction and Atatürk Square exemplify that every new application defines the time in spatial changes in the urban texture. Time, as new junction is added to an urban area they can be related to older structures by the use of materials, proportion of architectural elements, texture and color. Continuity with past heritage or may be not.

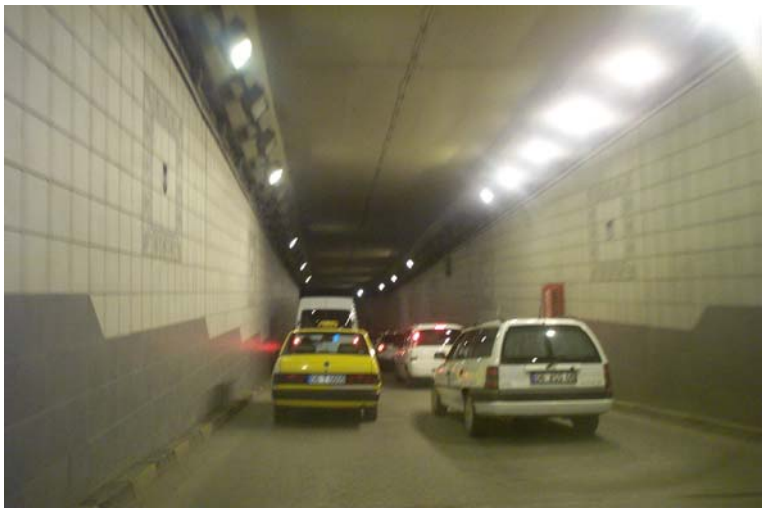

Figure 4.36 Visual Pollution.
(Photograph by Erhan Öncü)

Traffic in urban centers produces noise levels comparable to the noise in a factory, with peaks classified as deafening, the man made equivalent of thunder. Visual pollution is another environmental factor (see Figures 4.36-4.37). Whether moving or stationary, the automobile dominates every street. Due to the fact that the Akay Junction is subterranean, the exhaust fumes at peak hours in the

junction may cause environmental hazards for the Atatürk Square. The areas reserved for pedestrian use are constantly permeated by the fumes. In the previous chapters, we said that one of the aims in the arrangement for vehicular traffic is to decrease the level of environmental pollution. In this example we see that environmental pollution is being caused by the arrangement. The "Ankara Atatürk Square" is not effective in the achievement of a "center of gravity" for the "urban identity".

Figure 4.37 Ventilation Shafts.

4.7 Project Proposal: The Ankara City Council Press Center Design[36]

Of the sections below, gives detailed information about how the empty spaces that result from the level differences in multi level junction projects are to be used by the Ankara City Council Press Centers.

On the application plans for the Akay Multi Level Junction project to be carried out on the junction between the Inönü Boulevard and Atatürk Boulevards on 06.06.2000, on +875.92 level, there is an empty space of 1628.58 m^2, that is to

be used as a exhibition center, and the main entrance and service entrances have been laid out according to this plan (see Figure 4.38). This project is to be carried out by *Artı Tasarım Uygulama Ltd. Şti.*

Figure 4.38 Entrance to the Underground Press Center.

In 2003, as a result of requests by the Mayor and Press Office Director tender was opened concerning "The Construction of the Ankara City Council Press Center at Akay Junction"(see Figure 4.39).

The general thoughts about the space were considered in the light of the recommended needs program, which formed the project as it is today. The application project was commenced in September 2003, and the construction work was completed within four months.

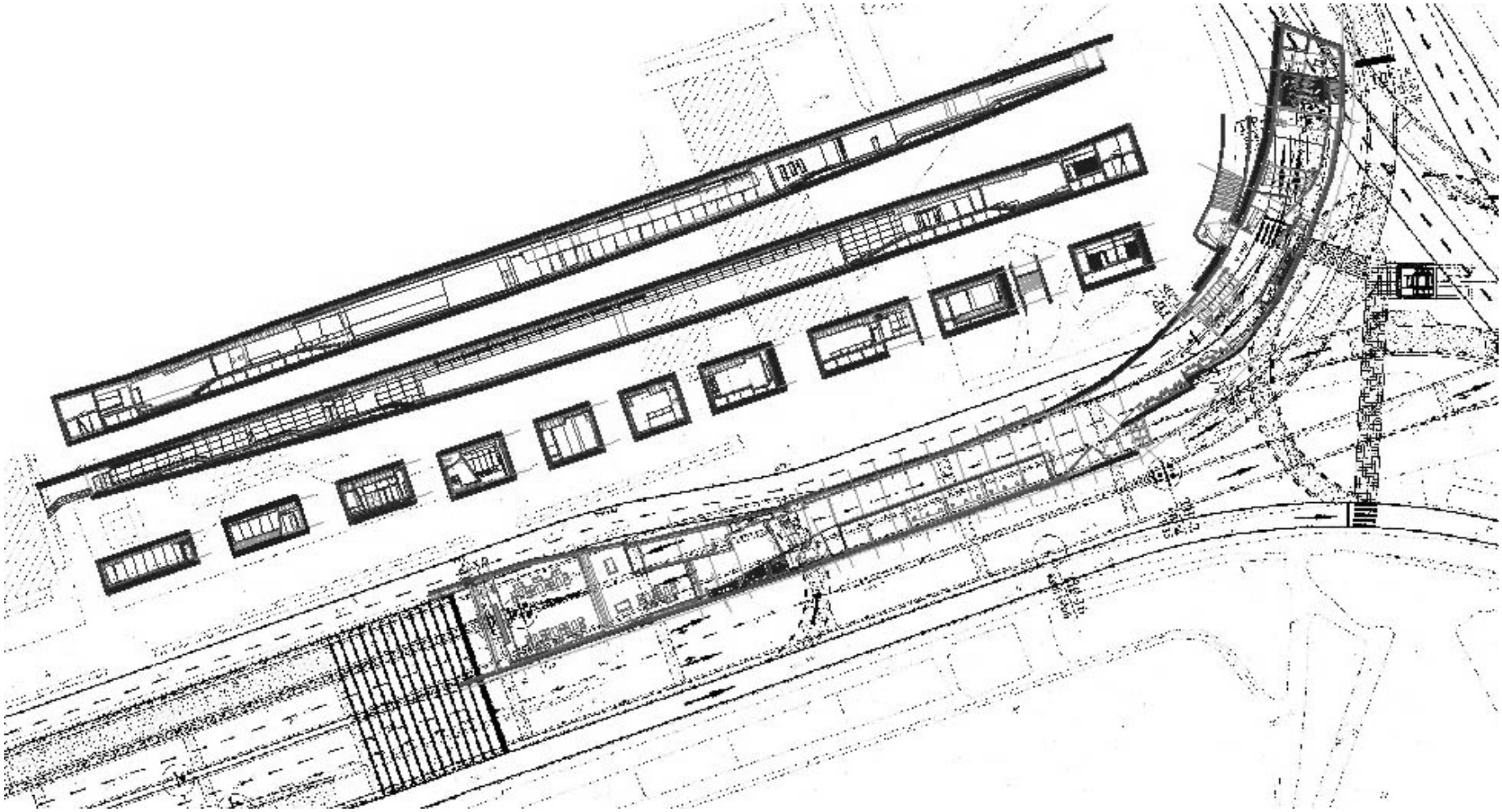

Figure 4.39 Plan and Sections of the Underground Press Center.

The area is roughly 160m. long and 8-12 m. wide. The inclination of both the ceiling and ground area (roadways over and underneath), the variation of the ceiling height from 3.5-6 m. and the lack of an even base are the problems concerning the project. For the gallery section of the press center, that is situated at the far end of the structure, and faces directly on to the roadway, a double glazed window system has been designed to eliminate unwanted noise. For use in emergency situations, the tunnel pedestrian pavement will be used as an exit.

All lighting and ventilation in the area will be provided for with mechanical systems. The entire tunnel has been isolated for sound and vibration damping. As the area is not intended for use on a full time basis, uses such as short duration meetings, Internet, local, and display and exhibition areas, press conference halls, library use, workstations for the use of council and private press personnel etc. are recommended.

As the area is beside the Parliament building, and therefore a strategic point for the city council, the use of the area will be more specialized. The area has been solved for specific uses due to the introverted structure. The area will only be open for public use at various times, and only to a certain user profile. The application will have a limited effect on urban transformation. Use of the area is restricted because “a space so near to the houses of parliament may be risky for use by the entire population”.

4.7 Final Comment

In this chapter area is accepted as a whole with design, landscape and details of usage, therefore questioning public urban areas. Following, in the conclusion part of the thesis, different urban public models are suggested for the same area, and the possible outcomes discussed.

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CHAPTER 5

CONCLUSION

In this study, urban transformation is evaluated in reference to its planning, use of space, and social-psychological aspects. While the planning aspect refers to the use of urban area and pedestrian – vehicular traffic, the use of space is considered with architectural design and urban texture, and the social -psychological aspects are related to the quality of urban life, the urban image, and the urban perception. After an assessment of the use of area, possible public space models are proposed for the future. Finally, the importance of the re-production of public space is emphasized.

5.1 Assessment of Existing Situation

In the thesis Akay Multi-Level Junction in Inönü Square was analyzed from the planning, spatial, and social-psychological aspects. It was claimed that with a short-term action plan the area was transformed by a individual construction plan that was totally independent from the Ankara's Transportation Master Plan. This strategic approach aimed to develop solutions for the vehicular traffic.

In the first chapter, the basis of the study was set with the concepts of urban growth and urban transformation. In the second chapter, urban planning and urban transportation strategies, the characteristics of the urban areas created, and the effects on transformation were discussed. The impact of transportation policies on urban transformation in public spaces was discussed. The third

chapter discussed planning decisions made during planning periods and the transformation of potential public zones to urban junctions. In the fourth chapter, where the idea of urban image was discussed, the relationships between this urban junctions, the architectural environment and the public space were explained.

Public spaces are accessible areas where pedestrians have the priority. For this reason, vehicle transportation cannot be an aim in itself. During the planning stage, the area must be evaluated for both pedestrian and vehicular traffic.

Urban texture, the living environment in the city, continuity, the capacity to create magnetism, and the architecture are all very important factors. As the private vehicle use in the city center increases, the oil consumption, energy use, air and noise pollution, traffic accidents, transportation costs, and parking problems decrease the quality in urban life.

The junctions together with the limitation of public transport and pedestrian movement will lower the quality of urban experience day by day. The Transportation Master Plan (UAP) needs to be updated in light of the Ankara City Plan and the strategic development. Specific points in the Plan should be evaluated as parts of the whole urban system.

It is obvious that the current planning approach seen as viable for Ankara is an approach that was also applied in other countries in the 1950's and 60's, but later abandoned for being point or corridor based. Instead of regulatory projects, investment based projects for junctions were implemented.

Solutions are being created from an engineering point of view. Akay Multi-Level Junction has taken shape with in the context of such an approach. Instead, as suggested in the Ankara's Transportation and Traffic Improvement Study which suggest that, a "center hard to get through but easily accessible" [1] (ABB. EGO GM., 1998:26) should be created with alternative routes; diverting the traffic in

different directions. The Akay Multi-Level Junction could be solved by diverting the traffic to a different route instead of directly aiming at the area, or having to pass through it.

The significant points on Akay Multi-Level Junction are as follows:

- Nodal intervention contradictory to the contemporary policies--without determining contemporary policies for vehicular traffic of city center-- is applied in the city center of Ankara.
- Planning should be considered as a whole. The transportation projects, alone, cannot solve all the city problems.
- A livable city can only be established through urban spaces.
- The application of metro line project, which is a public transportation system, should be considered in relation to space.
- After the application of Akay Multi-Level Junction, it has been noticed that the part named Akay Junction was lost and then Ankara Atatürk Square was arranged in the Inönü Boulevard.
- Underground levels are used to solve the traffic problem in the urban junction, however the space above the ground level cannot be transformed as a public space for the use of pedestrians.
- The traffic is continued without interruption in north-south direction through the Atatürk Boulevard. The situation of pedestrians was forgotten, thus pedestrians have to use the underground.

Three alternative models can be proposed for gaining public space for the city (see Table 5.1). Simultaneously it is necessary to find the answer to the following question: “if a different approach with emphasis on pedestrian and public transportation was adopted, what kind of public space would we have?”

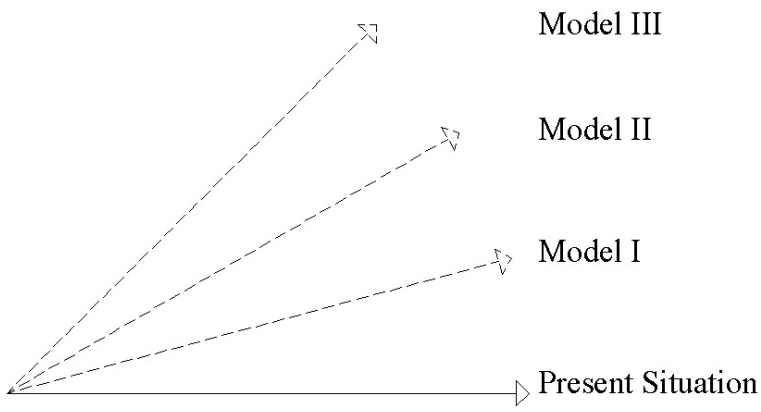

Figure 5.1 Three Alternative Models.

5.2 Alternative Models

Different approaches are considered as models with their possible suggestions and implications for the area. The first model reflects the planning approach of the current authorities. The first aspect of the plan is that it aims to solve the traffic problems in urban public spaces proposing junctions, while a second aspect suggests a development of public transport by completing the metro system. After the strategies and the policies put forward in the Ankara's Transportation and Traffic Improvement Studies were rejected, the questioned area was encircled and the area included in this study was left aside.

In the second model, public spaces are defined based on the pre-mentioned strategies and policies. The aim of the model is to deal with the managing the demand by providing pedestrian walkways and bus lanes to decrease the amount of traffic, rather than building multi-level junctions (for more detailed information see Chapter Two).

The third model aims to develop pedestrian oriented and public transport instead of the building junction.

5.2.1 Model I: Public Space Designed for Vehicular Priority

Accepting the present situation, the following question needs to be answered: traffic jams occur in spite of the junction, what can be done to solve the traffic problem? One answer to this question is to develop the public transport system to respond to the need for transportation instead of private vehicles. The very same local authority, which allowed the Akay Multi-Level Junction to be built, must have reached the same answer to the question, as the work underway for the third stage of the metro line system shows. This model stands for a public space partly occupied with vehicular traffic that has no regard for the pedestrian. The planning, spatial development and social – psychological aspect for this model, where issues such as urban territory and vehicle-pedestrian traffic including planning dimension; architectural design and urban texture including spatial dimension; the quality of urban life, urban image and urban perception including the social – psychological aspect are taken into hand in detail in the fourth chapter of this study.

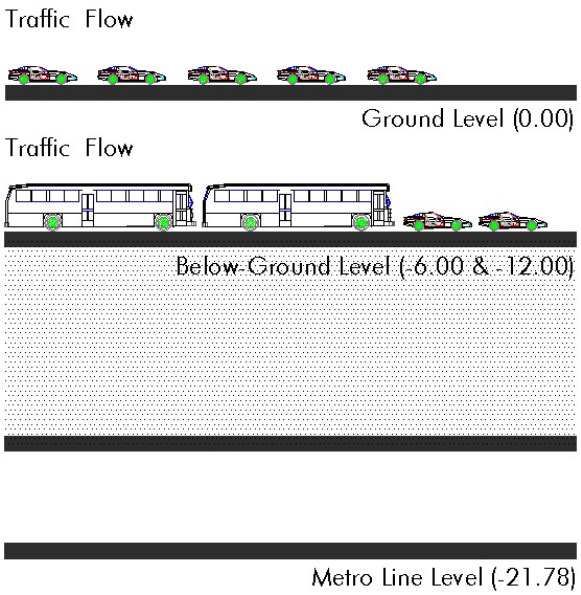

Figure 5.2 Section Showing the Designation of Vehicular Priority at Different Levels in the Area.

The junction was planned to provide a solution to the growing number of vehicles, independently from creating and gaining urban public spaces. Therefore, there are still two standing issues, the area continues to have the image of a main traffic artery and it is not perceptible as a public urban area (see Figure 5.2).

5.2.2 Model II: Public Space with Restricted Traffic Flow

This model suggests a more radical approach. To solve the traffic problem and deal with demand, it emphasizes bus lanes and pedestrian oriented transportation as an alternative to the Akay Multi-Level Junction. The first model assumes that the traffic flow will increase even more in the near future. Therefore, regardless of the policies dealing with the problem for while, a construction for the junction would be a waste of money and resources. Hence, the traffic flow underground would be removed completely and new suggestions would be made. It is planned to use tunnels closed to vehicular traffic as transfer center for buses. The model brings precautions limiting vehicle movement at the center and proposes revision of transportation web for the center.

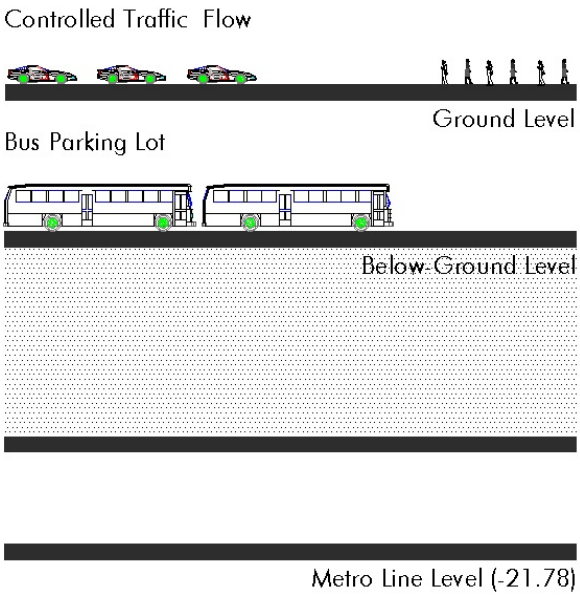

Figure 5.3 Section Indicating Restricted Traffic Flow at Different Levels.

As suggested in the Ankara's Transportation and Traffic Improvement Study in 1998, vehicles could be parked in parking lots outside the city center[2] (ABB. EGO GM., 1998:26). In addition, to decrease the moving traffic, it was suggested to charge the vehicles entering the city center. Suggestions could be made to decrease the demand for vehicles in the central. For example, it is possible to revise the transportation network: Junctions, as the TRT Junction, could be re-designed to ease the traffic flow from east to west[1]. This model suggests a public space accessible to both pedestrians and vehicles with a controlled traffic flow (see Figure 5.3).

5.2.3 Model III: Pedestrian Oriented Public space

Opposed to the second model, with the movement of traffic underground, the continuity put forward in the Jansen plan could regain meaning. According to the Jansen Plan, the area was arranged as a representative space can; therefore, again become a public space to the city. The conclusion intensifies on this model. This model suggests a completely pedestrian oriented public space (see Figure 5.4).

The reason for making a detailed explanation of this plan is to bring a new perspective to the building of the third stage of the Metro Line System. During the building of the third stage Metro Line, it was decided that the above ground station outside the TBMM was given up. In years to come, the realization of a Dikmen Metro Line System is to be expected. It does not yet known when the system will be built or where the nearest station to the area on this line will be. Nevertheless, the station will not be near to the *Genel Kurmay* Junction, for safety reasons. As a result, the Kızılay station will have to deal with the passenger load from Çayyolu, Söğütözü, Batıkent and Sincan. The Kızılay Station must act as transfer point for thousands of passengers traveling to other parts of the city, as well as being a point for people to join the city center. In order not to create such a situation and relieve such a load, this chapter suggests alternatives.

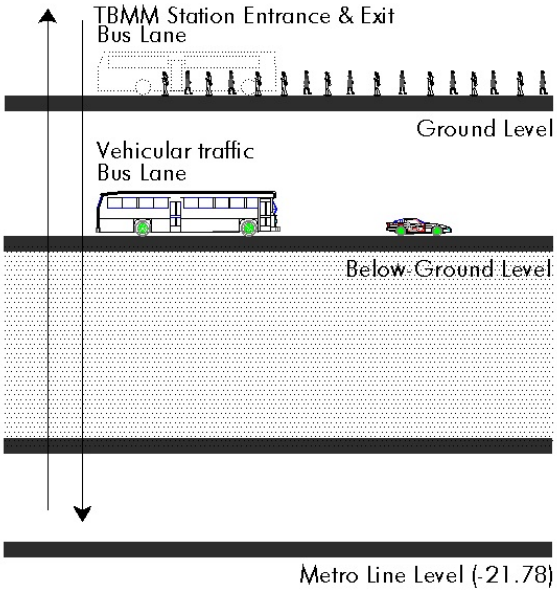

Figure 5.4 Section as the Result of Pedestrian Oriented Alternative.

5.2.3.1 Alternative Model III Scenario: Pedestrian Oriented Public space

Below are assumptions made to redefine the area.

Assumptions concerning the planning aspect:

- Moving the traffic below ground level for the area in question
- Using the place between Kızılay and Akay Junction at the Atatürk Boulevard as a transfer center for public transportation and pedestrians
- Bringing financial and physical restrictions for private vehicle entrance to the space between Kızılay and Akay Junction. And opening it only to public transportation at peak hours
- Directing private vehicle and taxi intensity to Dikmen route
- Changing the quality of Akay Junction point
- Proposing two lines for public buses, one will be used immensely and located at the below ground level and the other will not be used extensively

- Thinking downward private vehicular traffic with restrictions
- Projects for a bus lane below ground level and designing special bus stops
- Design for a new station for Metro Line with entrance & exit in the area of the current TBMM parking lot
- Design of a station Metro Line on the Dikmen artery, as near to the area as it is possible.

Assumptions concerning the urban spatial aspect:

- The redesigning and opening to the public of the pedestrian artery reaching from Güvenpark to the Atatürk Square, originally designed in the Jansen Plan and Prof. Holzmeister's Conspectus
- Re-opening the Vilayetler Square to public use as a public space including continuously or temporarily exhibition.
- Giving entrance to the Vilayetler Square from pedestrian alley of Güvenpark axis, Emniyet Square, and green spaces that will be located symmetrically to Emniyet Square.
- The urban design for Ankara Atatürk Square to reflect the magnificence of the TBMM
- Re-functioning the buildings at the Atatürk Boulevard. At one side there will be business centers with offices above and at the other side there will be public buildings with public relation offices.
- Relating the below ground level space organizing to surface and re-thinking the function of it.
- Designing ventilation shafts as a part of urban design.

Assumptions concerning the social-psychological aspect:

- The design of the project aims to liven up social life
- Designing a project aimed at building squares and pedestrian walkways at ground level to reinforce urban perception

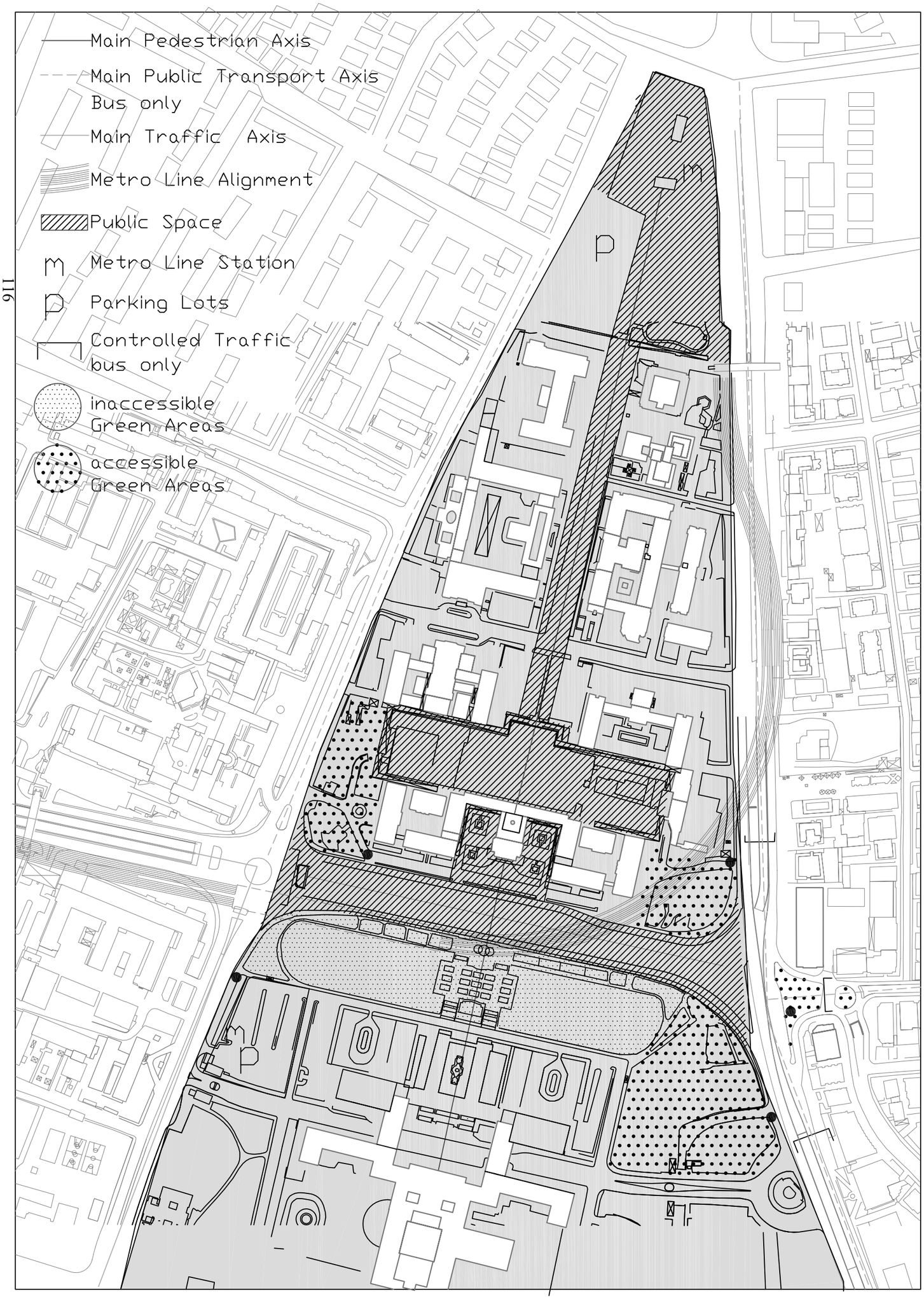

Figure 5.5 Pedestrian Oriented Public Space.

If an assumption is made to fit all three aspects, a new and more successful public space will be created for the City of Ankara. The Republic's square that lives through history, commerce, social and cultural life, will be a home to the activities similar to the squares in the European countries. At this point the terms *public, which* carries a meaning of the people, are lived and shared in public spaces.

It is important to define the character of Ankara Atatürk Square in terms of its relation to the limits and spaces around it. It is asserted that public spaces can be considered as a sign of civil and/or official publicity as long as public space is well-theorized.

5.2.3.2 The Assessment of the Planning Aspect of the Model

The use of urban area is designed to provide priority for pedestrians. All traffic issues will be solved below ground level. The area will be designed to give priority entrances for public transport systems. The bus and metro line systems must be accessible by all city dwellers.

5.2.3.3 The Assessment of the Spatial Aspect of the Model

This model that enforces the use of area by pedestrians includes roads closed to traffic, and redesigned with special bus stops (for more detailed information see Chapter Two). The pedestrian lanes that transform into physical areas, will transform into urban public spaces as they will include the social life of the city.

We expect a difference in the material used to build the roads that creates a different urban texture. The material as being hard or soft, or textured or untextured will create differences in the area. Natural elements such as water and greenery could be used on the horizontal plane. Kiosks, designed to spice up the

commercial and cultural aspects of the pedestrian area, become a landmark in the urban texture.

Architectural designs should be aligned with the public buildings surrounding the area; hence, they keep the environmental details in regard to the transportation and living conditions of the pedestrian area.

In short, public urban areas, that are shaped by the modern design scales, are constituted of many elements such as, pavements and pedestrian walkway, ramps, signals at the points where the bus lanes and pedestrian walk ways cross, well placed stops for public transport, urban furnishings, building materials, lighting applications, shading applications, signalization elements, kiosks, telephone boxes, water surfaces, fountains, flower boxes, and natural landscaping materials[3] (Kızılay Kent Merkezi Çalışma Grubu, 2004: 34-47).

5.2.3.4 The Assessment of the Social-Psychological Aspect of the Model

The area will appear as a public space with it holds the position of the entrance – exit to the city of Ankara. This chapter defines the relationship between the door and the people going in and out of it, as Arent defined the metaphorical relationship between the table and the people sitting around it, in the second chapter[4] (Arent, 1998: 199-230).

A person entering through the door joins the circle and she establishes a public relationship with the area. As the person leaves through the door, this relationship ends and the public life changes its shape. This metaphor is interpreted as the door being open to anyone; therefore, usable by all city dwellers. If an in the city dwellers (users) is considered in area dimensions, the urban image will change, enforcing the urban perception. In this model, the area is no longer considered a major traffic artery, but an area specifically designed for pedestrian use.

5.3 Final Comment

It should not be forgotten that urban areas are living spaces. The urban transformation issues that occur in these areas affect all of us[5] (Kılınçaslan, 1996: 81-86). An outcome of every urban application that aims to increase the quality of life in a city should be evaluated in advance. All possible scenarios are important and should be addressed because they have the potential to help predict the outcome for the city.

All urban interventions are of significant for the urban planning. Keeping this in mind, if the transportation infrastructure is replaced with the alternative models and scenarios, the area will transform into a more desirable public space. This newly transformed area, as a node (Lynch: 1979:47-48) will not only function as a key point in the transportation web, but it also becomes an urban image and it will be equally shared by the all city residents[6]. Consequently, the residents begin to feel that the area belongs to them and it welcomes their participation. This belonging and mutual engagement will re-define the area in terms of an urban concept.

Endnotes

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3. Interview with Mehmet Nuri (ABB – Head of 'SW') on "general planning issues of urban growth and change in Ankara " in June 2002.

4. Interview with Şemsettin Yenersoy (ABB – Head of 'SW') on "Akay Junction Application in Ankara " in June 2002.

5. Interview with Recep Bahar (Ortana) on "the issue of Akay junction electric and electronic configuration and camera phantoms system" in February 2003.

6. Interview with Yalçın Oğuz (Architect) on "The National Ministry Additional Buildings Competition" in January 2003.

7. Interview with Selami Demiralp (Landscape Architect) and Can Kubin (Urban Planer) on "Atatürk Square Project in August 2003.

8. Interview with Gül Yılmaz (ABB – Head of 'SW') on "Great City Municipality Press Center" in September 2004.

9. Interview with Haluk Alatan (Architect) on "Metropolitan Planning Bureau works, 1969" in September 2004.

10. Interview with Cüneyt Elker (Architect) on "the issue of urban regeneration and transportation" in October 2004.

11. Interview with Hüseyin Bütüner (Landscape Architect) and Hilmi Güner (Urban Planer) on "Great City Municipality Press Center" in November 2004.

12. Interview with Erhan Öncü (Architect) on "Ankara's Transportation and Traffic Improvement Study, 1998" in November 2004.

13. Interview with Faik Dikmen (Mechanical Engineer), EDO UPRDB, on "The 3rd Stage of the Underground Project" in November 2004.

14. Interview with Adnan Aslan (Urban Planner), Directorate of Traffic Departmant, on "The applications between 1970 –1990 Period" in November 2004.

INDIVIDUAL STUDIES

Some Attended Conversation, Courses and Student Research Papers

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Appendix A

Ankara Metro Line Project Third Stage: Detailed Information about Kızılay –Söğütözü Metro Line Project[1]

The contractor of the Batıkent – Sincan Metro Line Project was given the job of drilling the tunnel from the Söğütözü station to the Necatibey station and the building of the National Library station across to the National Library, under the rules of the previous tender, with a 30% increase in work load. The construction of the line between Kızılay and Necatibey stations will be put out for tender. The projects and their specifications, currently being prepared, can be submitted for tender at least 45 days after the approval of the Public Tender Legal Committee (KIK). After the project contractor is determined and the technical negotiations are made, the project foundations could be laid down.

As the Necktie station will be built as part of the Project tender, and according to the new Public Tendering Law for all buildings an application project must be submitted before tender. With a total of thirteen stations being planned, the second stage of the Metro Line System (Kızılay – Çayyolu) will run between Kızılay and Söğütözü and of the stations mentioned in the transportation study, TBMM and TCK stations will be joined and renamed Necatibey, as will the Balgat and National Library stations are joined and renamed National Library.

The tunnel starting from the Kızılay station, which is built as part of the first stage of the Ankara Metro Line Project, a bored tunnel will be added, following the route of the Atatürk Boulevard and going under the following areas; The Supreme Court, The Ministry of Public Works, The Police Office Headquarters, and the Gendarme Command Headquarters, finally reaching the Inönü Boulevard. Due to the risk of underground water, a certain distance will be left at the Kızılay-Söğütözü metro line and it will be connected when the route ends. The first station on the line after Kızılay, is the Necatibey station. The Necatibey station is on the south of the Eskişehir Road in front of the Naval Forces zone, across to the DSI. Building of the Söğütözü – Kızılay bored tunnel,

[1] Interview with Faik Dikmen (Mechanical Engineer) on "The 3rd Stage of the Metro Line Project" in November 2004.

otherwise known as the third stage of the Ankara Metro Line Project commenced January 2004. The cost table is represented below (see Table- A.1).

Table A.1 Ankara Metro Line Project Third Stage.

(ABB- *EGO –UPDRSB*. Numbers are based on examples taken from the First stage Metro Line Project and Ankaray)

Kızılay-Söğütözü	**Value**	**Unit**	**Cost**	**Unit**	**Total**
Total Line Length	4,7	km.			
Total Station Length	0,42	km.			
Bored Tunnel Two Way (42.00 Pre Fabricated Segments included)	4,1	km.	10.000.000	$	41.000.000
Number of Stations	3	adet	8.000.000	$	24.000.000
Length of Cut&Cover Tunnels	0,17	km.	5.000.000	$	850.000
Electro Magnetic	4,7	km.	9.000.000	$	42.300.000
Number of Carriages necessary for (4,1km) of rail (estimated for 2015)	60	adet	1.000.000	$	60.000.000
				Total	**168.150.000**

In the tunnel opening, special drilling equipment is used. At where the Second Stage Metro Line Project --Line A-- starts, an area of 20m x 80m will be cleared up in Güvenpark and rails that the Tunnel Boring Machines (TBM) can travel on will be put down and the TBM will attach to the rails. To bore a tunnel using a TBM; reinforced concrete slabs cut out from a cross section of the drilling area are placed in the tunnel using the TBM. Rings of prefabricated segments are formed using six segments with 26 cm thickness. After a 1.20 m long cross section of the tunnel are made, the hydraulic pistons of the tunnel-drilling machine will be used to put pressure on the rings, for pushing the head of the machine forward and boring it into the ground.

The excavation materials are moved on a band to the back of the machine and they are removed from the tunnel by the use of a winch system. When the machine is moved far enough into the tunnel, more segments are secured in the tunnel, as soon as there are adequate rings inside the tunnel; the gaps between the segments are filled with concrete using an injection system. To ensure that the segments are waterproof, they are joined together using specially designed seals. In this way, as the machine moves through the tunnel, the tunnel will be build. The TBM works on an upward slope. Incidentally, for the Necatibey line level, the tunnel must be approximately 26.22 meters below the ground at the point of the Akay Multi-Level Junction At this point it is impossible to examine the Akay Multi-Level Junction singularly (see Figure A.1). Communication was carried out with the relevant companies concerning water pipes, drains, sewage, telephone and

electricity cables, and natural gas lines, either in use or in plans to use later, along the route. It has been decided by the relevant institutions that the infrastructure facilities need to be moved during the building period, shall be moved prior to the construction and then replaced afterward [2] (ABB EGO GM., 1995: 28-30).

The Akay Multi-Level Junction is on the Kızılay – Söğütözü line and a tunnel must be build to compensate the traffic flow. There are two methods available to carry out this task. One, is the "cut and cover" method, the other is "a bored tunnel" method. Because, the cost of building an open-close tunnel grows as the depth of the tunnel increases, a bored tunnel was built. It is also important to provide a quick solution with the least disturbance to the traffic flow for the problematic areas of the Atatürk Boulevard – Eskişehir Road. Using this method, the metro line construction was carried out along the Eskişehir Road as far as the Necatibey station, without any disruption to the up-going traffic on the surface. Also, the National Library Junction was scheduled to be build at the same time, that would eventually save time and money. It is planned for the Söğütözü – Ümitköy line to be completed in May 2005. The construction of the Kızılay – Söğütözü stations and half of the line are still underway. As all electro-mechanical systems and carriage purchases for these systems will be simultaneous, it is planned for all systems to be available to the public all together (see Figures A.2-A.3).

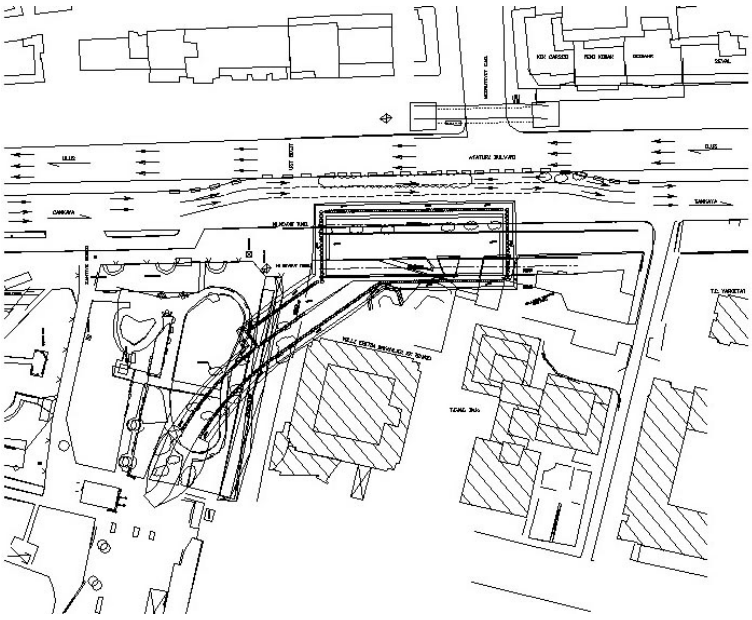

Figure A.1 The Entrance of Shaft in Kızılay.
(ABB- *EGO -UPDRSB*)

[2] ABB.EGO GM., Ankaray III. Aşama Aşti-Çayyolu 1.Etap Raylı Sistem, Kızılay- Çayyolu Metro Hattı Fizibilite Etüdü, Ankara, (2003): 28-30.

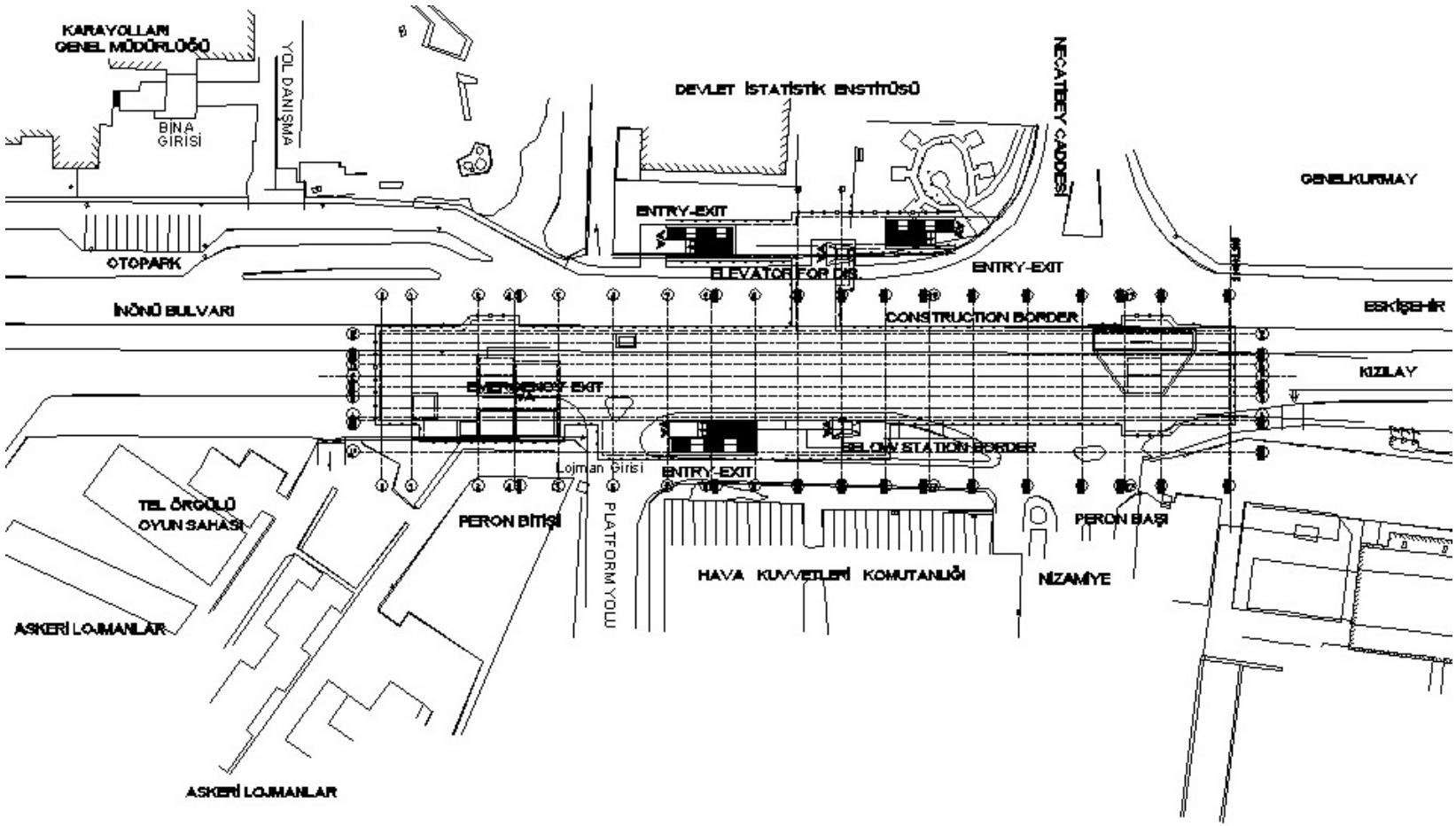

Figure A.2 Necatibey Station.
(ABB- *EGO -UPDRSB*)

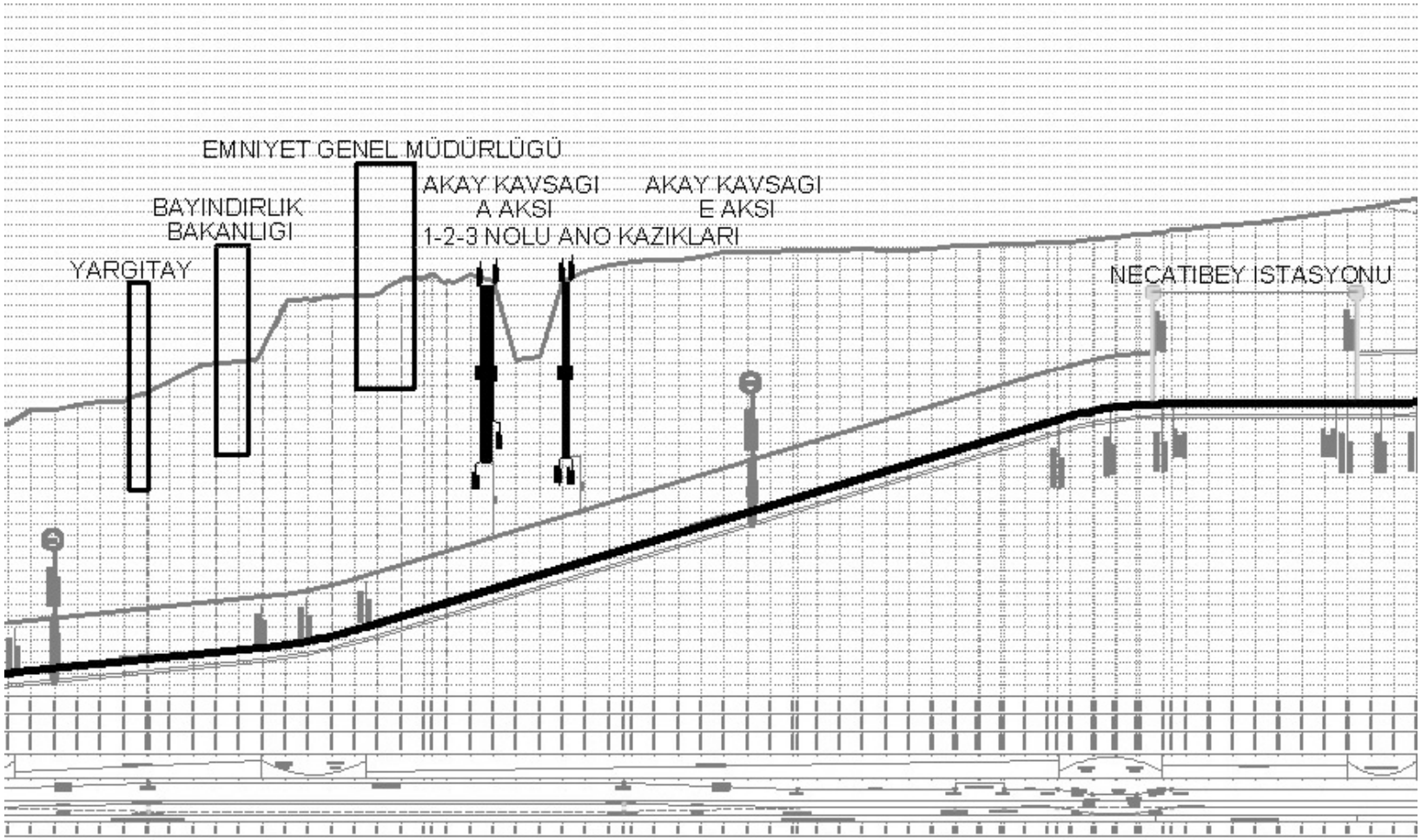

Figure A.3 Kızılay –Söğütözü Metro Line Project Section.
(ABB- ***EGO -UPDRSB***)

Appendix B

Traffic Loads on the Akay Junction[3]

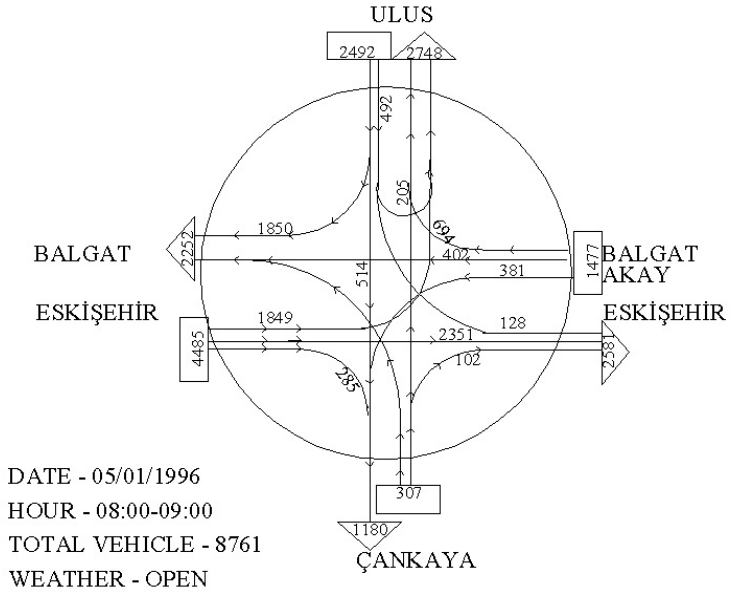

Figure B.1 Traffic Loads on Akay Junction, 1996.
(ABB- *Trafik Şube Müdürlüğü*)

Traffic data gathered for the design purposes normally include peak period traffic volume, turning movements, and composition for the design year, vehicle operating speeds, on the junction roads, pedestrian and bicycle movements, (these affect the layout/traffic control design), public transport needs (e.g., bus priority measures and bus stop locations affect the layout/traffic control design), special needs of oversize vehicles (the selected design may have to cope with the occasional heavily loaded commercial vehicle with a wide turning path), accident experience (if an existing junction is being upgraded), and parking practices (especially in built-up areas) [4] (O' Flaherty, 1997: 357).

[3] Ankara Büyükşehir Belediyesi Trafik Şube Müdürlüğü.
[4] O'Flaherty, C.A.. " Junction Design and Capacity ". Transport Planning and Traffic Engineering, John Wiley & Sons Inc., 605 Third Avenue, New York. © (1997): 357.

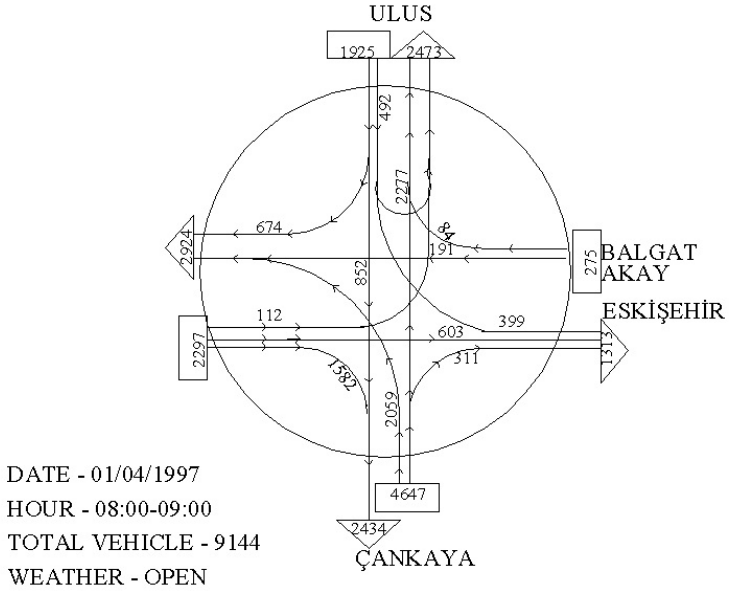

Figure B.2 Traffic Loads on Akay Junction, 1997.
(ABB- *Trafik Şube Müdürlüğü*)

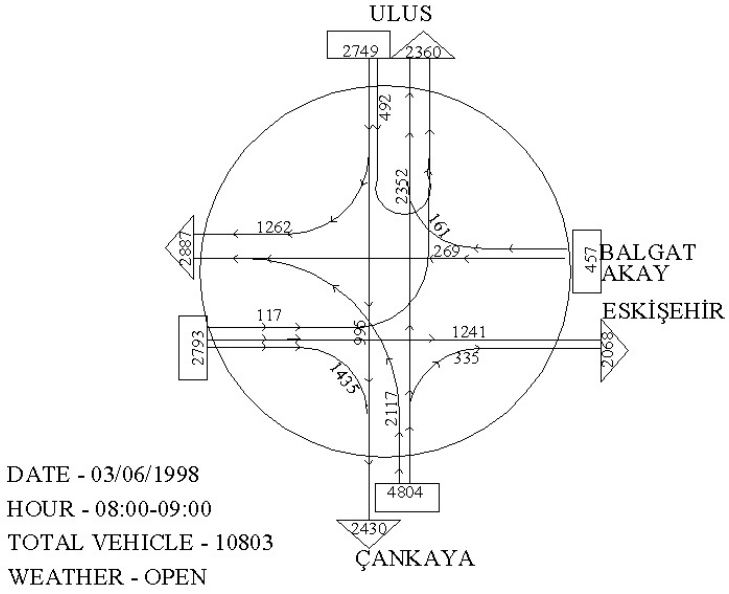

Figure B.3 Traffic Loads on Akay Junction, 1998.
(ABB- *Trafik Şube Müdürlüğü*)

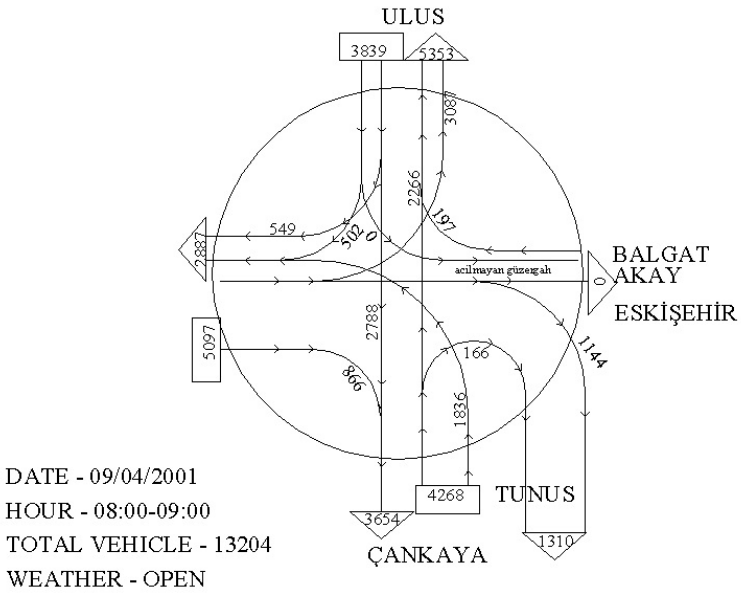

Figure B.4 Traffic Loads on Akay Junction, 2001.
(ABB- *Trafik Şube Müdürlüğü*)

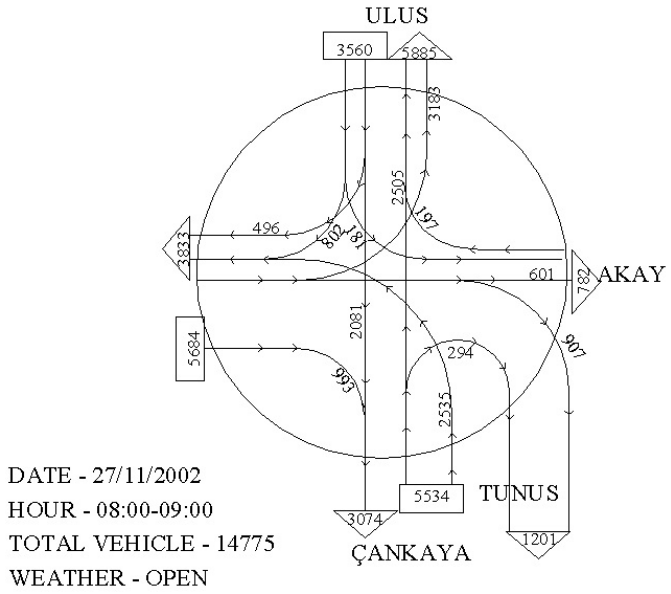

Figure B.5 Traffic Loads on Akay Junction, 2002.
(ABB- *Trafik Şube Müdürlüğü*)

Appendix C

The Traffic Capacity Analysis of the Akay Junction[5]

Table C.1 Section and Traffic Flows.

(ABB-*Fen İşleri Daire Başkanlığı*)

	YEAR 1997 TRAFFIC COUNTING		YEAR 2007 TRAFFIC COUNTING		YEAR 2017 TRAFFIC COUNTING		PROJECT PROPOSAL SECTION NUMBER
	EXISTING	SECTION	10th YEAR	SECTION	20th YEAR	SECTION	
ÇANKAYA DIRECTION							
ÇANKAYA-ULUS	2277	2	3709	2-3	6042	4	2
ÇANKAYA -TUNUS	311	1	507	1	826	1	1
ÇANKAYA-ESKIŞEHIR	2059	2	3354	2	5463	3-4	2
1.SECTION	2434	2	3965	2-3	6458	4	2
ULUS DIRECTION							
ULUS-AKAY	399	1	650	1	1058	1	2
ULUS-ÇANKAYA	852	1	1388	1	2261	2	2
ULUS-ESKIŞEHIR	337	1	549	1	894	1	2
ULUS-BALGAT	337	1	549	1	894	1	1
2.SECTION	1189	1	1937	1-2	3155	2	5
5.SECTION	2389	1-2	3891	2-3	6339	4	5
ESKIŞEHIR DIRECTION							
ESKIŞEHIR -AKAY	603	1	982	1	1600	1	2
ESKIŞEHIR -ULUS	112	1	182	1	297	1	2
ESKIŞEHIR -ÇANKAYA	1582	1	2577	1-2	4198	3	1
3.SECTION	715	1	1165	1	1897	1-2	2
4.SECTION	2396	2	3902	2-3	6357	4	2

The counting at the junction traffic survey dated January 04, 1997 was taken as a reference for the assessment of the proposed Junction Project according to the present state, and

[5]ABB.*Fen İşleri Daire Başkanlığı*.

the 10th year and the 20th year projections. The counting values were assumed as the equivalent of the cars. The annual average car equivalent coefficient has been taken as 5 %.

The "HIGHWAY CAPACITY MANUAL" was used for the capacity analysis. The service level "D" in the junction capacity calculation was considered as Msf = 1600 (pchhpl).

The results obtained in the framework of these principles are depicted in Table A.4.1. The cross-section and the traffic flows given in Table A.4.1 are shown in Figure A.4.1, Figure A.4.2, and Figure A.4.3.

As it is evident in Table A.4.1., the maximum values proposed according to the directions in the project are in conjunction with the present time traffic values and the next 10th year particularly when the existing traffic flows are taken into consideration.

When the 20th year and the required number of lanes in the Çankaya–Ulus direction and the Çankaya–Eskişehir direction at the cross-section number 1 (4 lanes) are taken into consideration, the junction operation system will be apparently confronted with the problems resulting from the number of the lanes in the project (2 lanes). Furthermore, it can be seen that the required number of lanes in the Eskişehir–Çankaya direction at the cross-section 4 will be insufficient.

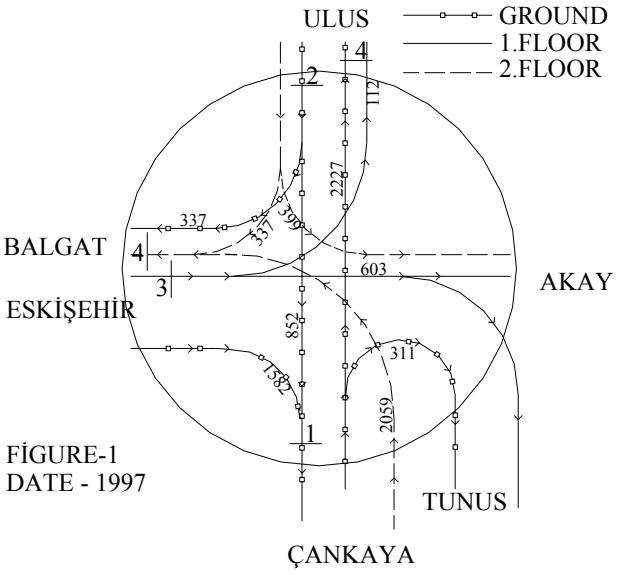

Figure C.1 Section and Traffic Flows, 1997.
(ABB-*Fen İşleri Daire Başkanlığı*)

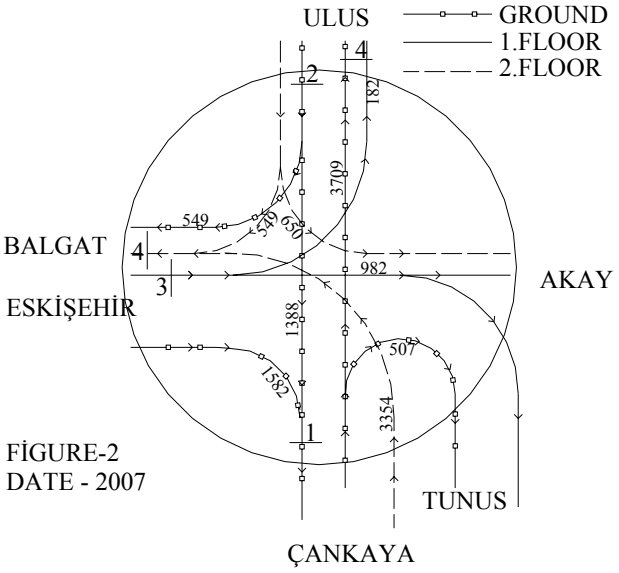

Figure C.2 Section and Traffic Flows, 2007.
(ABB-*Fen İşleri Daire Başkanlığı*)

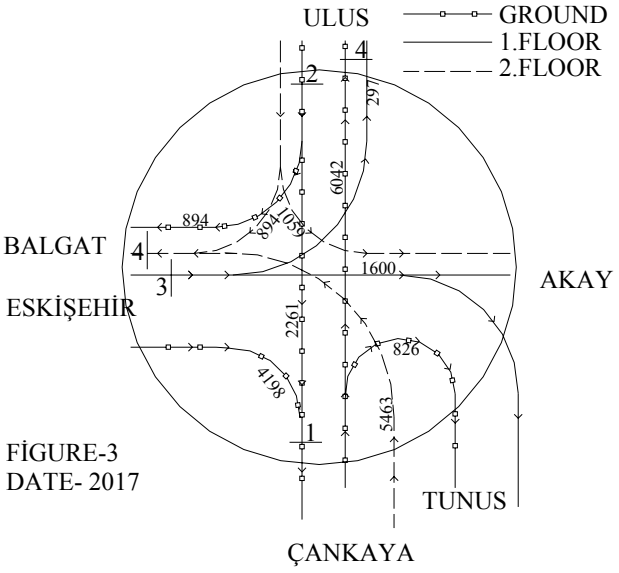

Figure C.3 Section and Traffic Flows, 2017.
(ABB-*Fen İşleri Daire Başkanlığı*)

Appendix D

Related Articles

Article 10, clause b of Motorways Traffic Law no: 2918, concerning duties and powers of municipalities related to traffic[6]:

> To furnish in-town traffic flow programs in relation with the traffic regulations and in accordance with the decisions of Province and District Traffic Commissions; to organize, furnish with signalization and mark as necessary.

6/A a, c, o and p clauses of Law no: 3030 concerning Administration of Metropolitan Municipalities[7]:

> A.a) To make Metropolitan Municipality investment plans and schedules,
>
> A.c) To construct squares, avenues, streets, roads, and main motorways within metropolises, to have the same constructed, to provide for their maintenance and servicing, and to carry out all tasks necessitated by traffic organization as assigned by the law,
>
> A.o) To facilitate the implementation of services requiring joint funds and investments within the metropolis,
>
> A.p) To carry out our municipal policing and other municipality services and licensing services at sites administrated by metropolitan municipality.

Article 13 establishing the duties of Metropolitan Municipalities concerning Transportation and Traffic, Roads and Squares, clause a, b and c of legislation on application of Law no: 3030[8]:

> a) To keep the in-town road structure be able to provide traffic order and safety,
>
> b) To organize, provide with signalization and mark roads and junctions as necessary,

[6] Posted on the web: http://www.geocities.com/bilgityasa/yasa/2918-karayollari_trafik_kanunu.html.
[7] Posted on the web: http://www.ibb.gov.tr/ibbtr/115/11501/11501/1150101index.htm.
[8] Posted on the web: http://www.ankara-bel.gov.tr/mahalli/11.htm.

c) To construct and commence, open or enclosed parking spaces, to have the same constructed and commenced,

Article 5 of Part One and Article 20 of Part Four of Public Improvements Law 3194[9]:

Part One
Article 5

Comprehensive Public Improvement Plan; is a plan designed on existing maps in conformity with the site arrangement plans, if any, with cadastral statuses shown, if any, complete with its detailed report containing points like general use, principle zone types, future population densities, construction densities, when necessary, of plot area zones with expansion directions and rates, and principles, transportation systems of various settlement areas and solutions to their problems and providing basis for application of public improvement plans.

Application of Public Improvement Plan; Is a plan drawn on approved existing maps with cadastral statuses stated, if any, and in accordance with the comprehensive public improvement plan detailing building blocks, their densities and arrangements, roads of various plot areas and application steps and other information used as basis to public improvement application programs necessary for the application.

Building; fixed and mobile, private or official installations constructed on land or sea, as permanent or temporary subterranean or surface set-ups and their modifications and repair.

Part Four

Article 20 – Building may be constructed in accordance with the public improvement plan, regulations, licenses, and appendices:

By organizations or persons on plot areas, fields or parcels with titles owned,

b) by organizations or persons with no titles owned but with documents of access rights assigned by public organizations and institutions

are given as definitions.

[9] Posted on the web: http://www.ankara-bel.gov.tr/mahalli/47.htm.

Appendix E

Akay Junction Law Suits[10]

ABB has first furnished 1/5000-scaled Comprehensive Public Improvement Plan Modification at 30.5.1995 concerning the Akay Junction at District of Çankaya, Ankara, and traffic organization of the same. As a result of a court action called by Chamber of Architects Ankara Section against this modification, Ankara 3rd Administrative Court has annulled the plan for non-conformity with city planning principles and public improvement regulations, and this decree was ratified by 6th State Council Department. In return, ABB has furnished adjustments by 1/2000 scaled Comprehensive Public Improvement Plan Modification based on the council decree numbered 187 and dated April 25, 1997 which has been annulled by the decree of Ankara 2nd Administrative Court, dated March 26, 1998. Justification for these legal decisions is, in brief, that these modifications to plans have been made in relation with only one angle; that they are not making any structural changes in essence; that they are used in the modification of only one motorway, a single junction in the city without any regard to plot utilization decisions and metro system propositions made as long term solutions; that these modifications to plans are not comprehensive public improvement plans but application public improvement plans for they involve only one element; that it will not solve the traffic problems in the city to produce temporary solutions; that they are found to be erroneous both theoretically and with regard to definitions made in Law no 3194. Following decisions, ABB has implemented a new operation as to application of 1/500-scaled Akay Junction Project which has been put forward independent of comprehensive and application public improvement plan. Against this operation, Ankara Section of Chamber of Architects and Çankaya Municipality have filed separate actions. This operation has been repealed for non-conformity with public improvements legislation and public interest by Ankara 4th Administrative Court decision of April 4, 2003. Defendant, ABB, has appealed for non-action. State Council 6th Department has declined the non-action appeal with August 28, 2003 dated decision. Appeal request is still in effect.

[10] TMMOB Mimarlar Odası Ankara Şubesi "Mimarlar Odası Ankara Şubesi Dava Özetleri : Akay Kavşağı". *TMMOB Mimarlar Odası Ankara Şubesi Bülten*.(17), (2004):60-61.

Appendix F

Experts Commission Report Summary[11]

Experts Commission Committee members were Assoc. Prof. Dr. Baykan Günay, Assoc. Prof. Dr. Numan Tuna, and Assist. Prof. Dr. Oğuz Işık.

Case Documents were reviewed and with the action requests dated September 11, 1995 and Defense Letter of "*ABB*" dated November 3, 1995 were examined.

- Institutional relationship between Comprehensive Public Improvement Plan and Application Plan
- Transport Systems and their social relations
- Transportation Planning Principles of the Akay Junction and Traffic Arrangement: Inönü Square, TCK, DMO, Bahçelievler and Balgat Junctions Traffic Arrangements and Kavaklıdere Junction and Traffic Arrangements Comprehensive Public Improvement Plans
- City, city populace and junctions problem, have been taken into account when considering the Akay Junction, and also the Akay Junction has been evaluated in relation with historical site conservation and;

For reasons detailed in the report, 1/5000 scaled the Akay Junction and Traffic Arrangement Comprehensive Public Improvement Plan accepted by "*ABB*" council decree of May 30, 1995 no 406 was found unacceptable as per current public improvement plan, principles of city planning and promotion of public interest.

[11]Ankara Kent Konseyi Girişimi, Akav Kavşağı Dosyası, TMMOB Mimarlar Odası Ankara Şubesi, TMMOB İnşaat Mühendisleri Odası Ankara Şubesi, Çağdaş Hukukçular Derneği, Ankara, 1998.

Appendix G

The Republic of Turkey, Ministry of Culture
Decision of Ankara Council for the Preservation of Cultural and Natural Assets dated June 12, 1995, no: 4009[12]

According to the decision of the Board for the Conservaion of the Cultural and Natural Assets of Ankara, the Republic of Turkey, Ministry of Culture dated June 12, 1995 with the number 4009: the Board of Monuments of the Municipality of the Great City Ankara respects the Project of the Junction with Bridge, of which the construction at the Inönü Square is planned with the aim of relieving the deteriorating traffic congestion of Ankara. However, we would like to emphasize that it is absolutely necessary to draw up a master plan that encompasses the traffic problem of the capitol in its entirety.

It was stated that the traffic issue, which is without doubt of great significance for the capitol, is being dealt with as a series of consecutive junctions in piecemeal fashion without being questioned in its entirety. And it goes on, the problem of the traffic junctions of the large cities in our country has been handled for a long time with an intertwine mechanical understanding in the framework of the cloverleaf junctions of the intercity roads. Unfortunately, this kind of arrangement has wiped out the city squares together with the historical value of the city centers and has, in addition to this, shattered the life and the transportation means of the pedestrians. Istanbul and Bursa are in this respect gloomy examples of this understanding that have totally lost their historical qualities within the framework of the multi-layer junctions.

Furthermore, these junctions that were useful for the surrounding intercity roads are now in the middle of the city and they lost their value. The Ankara-Eskişehir-Konya-Adana cloverleaf in the capitol is congested in every mornings and every evenings. Besides, since the definitive solution of the traffic problem of a city depends on the public transportation, the effectiveness of these junctions that are highly expensive will be the subject of a controversy. Based on this elucidation, the preliminary design for the junction to be constructed in front of the Parliament proposed by the Municipality of the

[12]Ankara Kültür ve Tabiat Varlıklarını Koruma Kurulunun 19.06.1998 gün 5803 sayılı kararı ile onana proje eki.

Great City of Ankara to the Board of Monuments is considered as unfavorable and inauspicious in every aspect.

The construction of the junction in front of the parliament that is a typical city crossing in line with the contemporary principles would be appropriate. Similar to the situation between Bostancı and Fenerbahçe on the Bağdat Boulevard in Istanbul, the traffic should flow uninterruptedly at a certain speed (40-50 km/h) without transferring the load to the next junction by controlling the signalization (green light at each junction). In addition to this, the evaluation of the traffic lanes according to the changing traffic load in time should be taken into consideration.

In the case that a multi-layer passage is to be constructed, the decision will be in favor of a subterranean passage in the direction of Çankaya-Eskişehir and Akay and of the requirement for the conservation of the historical values of the Kızılay-Bakanlıklar-Parliament axis.

According to the decision dated May 6, 1996 with the number 4592 by the Board for the Conservation of the Cultural and Natural Assets of Ankara, the Ministry of Culture, the Republic of Turkey, the preliminary project submitted to the board was examined. It was decided that the project that was submitted to the Board did show all details.

The flow of the traffic should be re-evaluated by considering the Eskişehir Road–Akay, the visual level at the Ankara approach of the protocol road should be preserved, the relationships between the important buildings in the vicinity and the other entrances should be clearly exhibited with a 1/1000 scale map that encompasses the area in question between Kızılay and Iş Bank junction beginning from Akay Junction. In addition, the presentation of the cross-sections of the length and width with a scale of 1/500 and 1/200 plans and map sections are requested. These maps must be submitted to the Board.

The Development Department of the Municipality of Ankara Great City on the one side, the Department of Technical Affairs of the Municipality of Ankara on the other side are trying their best to ensure that the Board of Conservation will make an unfavorable decision as soon as possible while the Chambers and the Çankaya Municipality are continuing their work in order to have the situation be cancelled.

The Board for the Conservation of Cultural and Natural Assets of Ankara, the Ministry of Culture, the Republic of Turkey has concluded with its decision dated April 11, 1997 with the number 5124 that the multi-layer passage at the Akay-Parliament junction can be constructed in such that in the future all projects and phases of the projects will be subject to the approval of the Board.

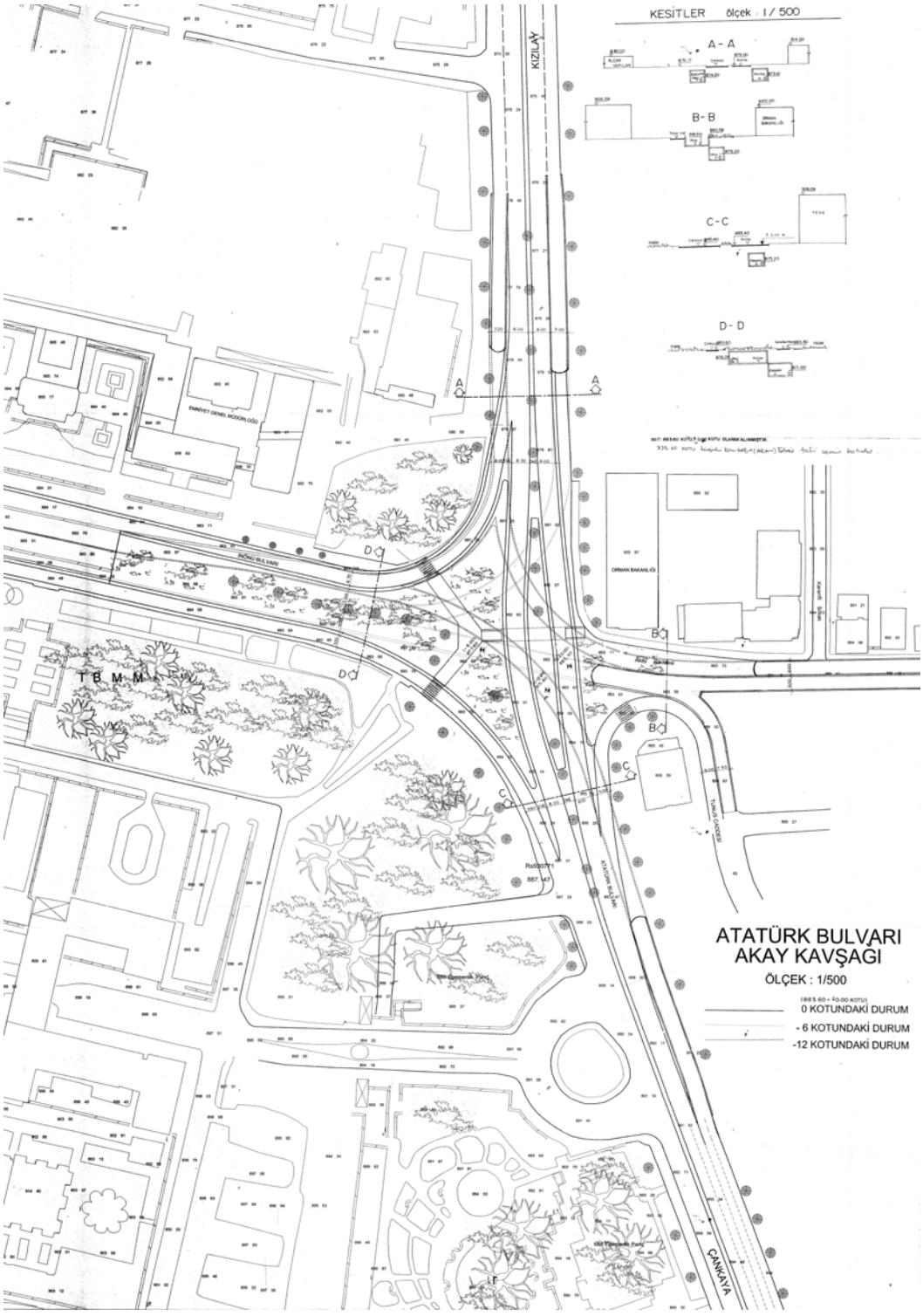

Figure G.1 Atatürk Boulevard-Akay Multi-Level Junction Project.

Appendix H

The traffic direction program for the Akay Junction[13]

The traffic direction program for the Akay Junction was prepared by "*Ortana*". Although traffic surveys were carried out in following years, the officials of the Traffic Division did not carry out any surveys in the area after the year 2000. Today, computer system, daily logs containing details concerning vehicle traffic, accidents, drainage, problems in air conditioning or traffic jams are reported immediately to the system control room on level -12.00. With the help of this system, giant screens are place at the entrance and exits of the tunnels and current figures are related to drivers (i.e. driver information system-with lettering, layout, symbols, color, sitting, support posts-in order to instructions, warnings). In addition daily logs from traffic surveys can be used to determine the density and acceleration values of the flow of traffic at certain times in the year and of the day.

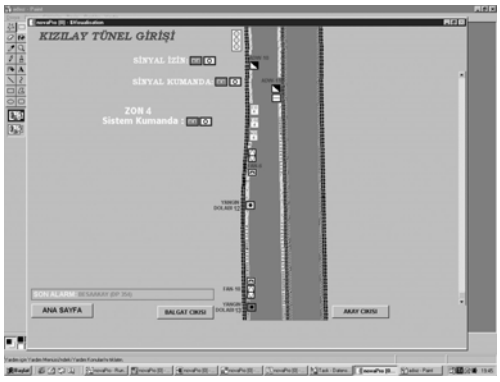

Figure H.1 Kızılay&Balgat Tunnel Entrances.

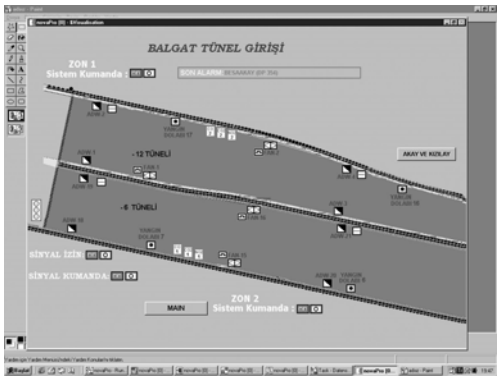

Figure H.2 Kızılay&Balgat Tunnel Entrances.

[13]Interview with Recep Bahar (Ortana) on "the issue of Akay junction electric and electronic configuration and camera phantoms system" in February 2003. Images are taken from the Archieve of System Control.

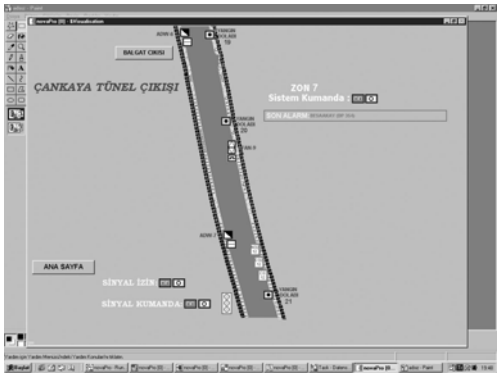

Figure H.3 Çankaya&Tunus & Akay Tunnel Exits.

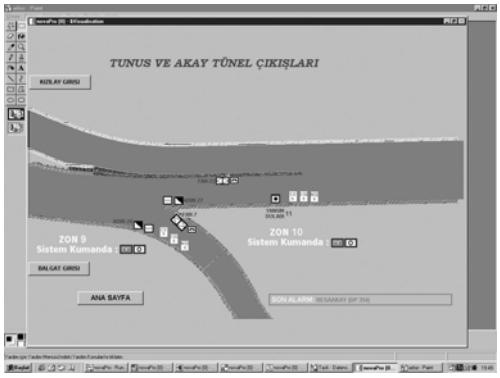

Figure H.4 Çankaya&Tunus & Akay Tunnel Exits.

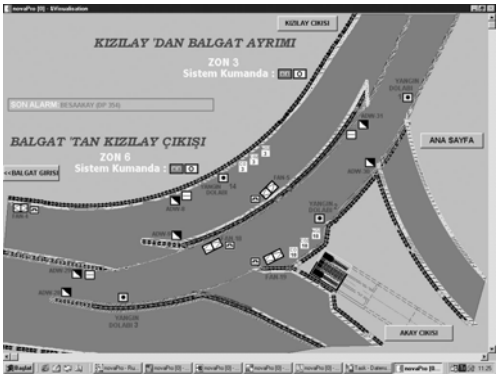

Figure H.5 Kızılay&Balgat Sequence.

Figure H.6 Kızılay&Balgat Sequence.

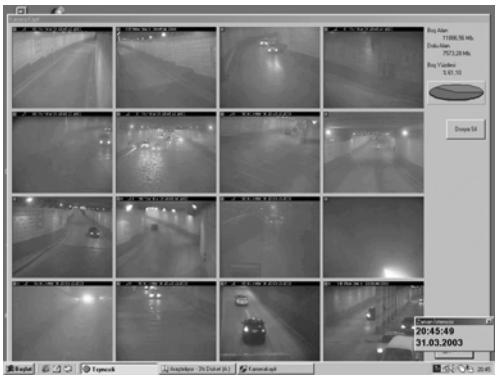

Figure H.7 Camera Images.

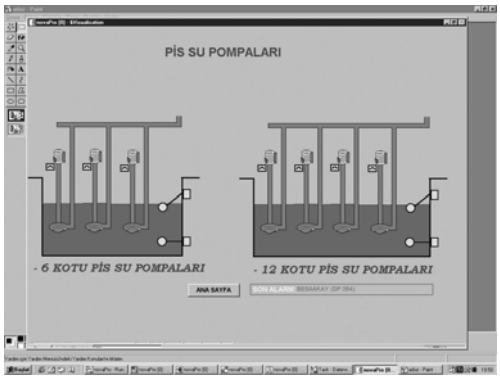

Figure H.8 Drainage Solutions.

Appendix I

Interviews

Table I.1: A summary of Interview Participants' Responses.

Traffic					
"Looking back to five years from now, do you think vehicular traffic on this junction point has improved, gotten worse, or stayed pretty much the same?"					
Number of participants responded	Improved at a great deal	Improved some what	Stayed the same	Gotten some-what worse	Gotten worse at a great deal
45	65%	15%	-	7%	13%

Traffic					
"Looking back to five years from now, do you think pedestrian traffic on this junction point has improved, gotten worse, or stayed pretty much the same?"					
Number of participants responded	Improved at a great deal	Improved some what	Stayed the same	Gotten some-what worse	Gotten a worse at a great deal
45	15%	15%	40%	17%	13%