A CRITICAL SURVEY

ON THE FORMATION OF URBAN PHYSICAL ENVIRONMENT IN TURKEY

Case Study: Architectural Consequences in the Urban Lot 1163/10-19 of Kızılay/Ankara

A MASTER'S THESIS

in

Architecture

Middle East Technical University

by

Akif Saner ERGÜLEÇ

JULY 1991

Approval of the Graduate School of Natural and Applied Sciences.

Prof. Dr. Alpay Ankara

Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science in Architectural Department.

Prof. Dr. Vacit Imamoglu

Chairman of the Department

We 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 Science.

Inst. Ali Cengizkan

Supervisor

Examining Commitee in Charge:

Prof. Dr. Gönül Evyapan

Inst. Özcan Altaban

Inst. Ali Cengizkan

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Dedicated to my Parents

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ABSTRACT

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ERGÜLEÇ, Akif Saner

Master in Architecture

Supervisor: Inst. Ali CENGİZKAN

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The presented study is a critical survey on the formation of urban physical environment in Turkey. In order to evaluate and criticize the formation of urban physical environment, a conceptual framework is introduced by contributions of legitimate and administrative tools. Three interdependent processes of planning-design-construction procedure is another focus point of the study which defines the negative and positive impacts of legislations and administration on urban physical environment and architecture. Finally, a case study is prepared in a urban lot of Kızılay/Ankara to illustrate qualitative and quantitative architectural consequences and their relation with the formation of urban environment.

Keywords: urban physical environment, urbanization, quality, quantity, building codes, administration, legislation

Science Code: 601.01.02

ÖZET

TÜRKİYE'DE KENTSEL FİZİKSEL ÇEVRENİN OLUŞUMU ÜZERİNE ELEŞTİREL BİR ARAŞTIRMA

ERGÜLEÇ, Akif Saner

Yüksek Lisans Tezi, Mimarlık Bölümü

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Sunulan çalışma, Türkiye'de kentsel fiziksel çevrenin oluşumu üzerine eleştirel bir araştırmadır. Kentsel fiziksel çevrenin oluşumunu değerlendirmek ve eleştirmek için yasal ve yönetsel araçların da yardımıyla kavramsal bir çerçeve oluşturulmuştur. Yasalar ve yönetimin kentsel fiziksel çevre ve mimari üzerindeki olumlu ve olumsuz etkilerini tanımlayan yapı üretim sureci calışmanın bir diger odak noktasıdır. Çalışmanın sonunda, Kızılay/Ankara'da yer alan bir kentsel adada yapılan araştırma ile nitelik ve niceliksel mimari sonuçlar elde edilerek, kentsel fiziksel çevrenin oluşumuyla ilgisi incelenmiştir.

Anahtar Sözcükler: Kentsel fiziksel çevre, kentleşme, nitelik nicelik, imar kanunu, yönetim, yasa

Sayısal Bilim Kodu: 601.01.02

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1. INTRODUCTION

The fundamental property of human beings, as individuals, is to protect themselves, in order to survive, from the harm and danger that might be coming from nature and other human beings. After they provide their 'well-being', they want to live in associations, to meet with new individuals and learn about their environment. In time, this interaction between individuals gains continuity and 'society' comes into existence. In fact, the keystone in the existence of 'society' is the agreement of individuals on certain type of relations that will determine the **continuity** and **permanence** of the society. Unless this agreement in the society is strong, continuous and permanent, the society can not survive. The laws and regulations are the ways through which human beings look for agreement. In other words, the society is organized on the basis of a group of laws established to guide people in their own conduct. The overriding purpose is to guarantee and protect liberty and justice for all.[1]

After the establishment of society the necessity of a space to protect human beings from harm and danger becomes more convenient compared with the previous period. As time passes, the society gets larger and new settlements are constructed. The number and density of these settlements increase and due to high rate of urbanization, some problems come into the scene. Today, we see the cities scarred by congestion and

decay, speculation of land and ugliness. It is not the desire of people that cities should be so built. Rather their ambition is to create fine cities.[2]

To find solutions to some of the problems mentioned above, it is necessary to establish the forces which have direct effect on the shaping of cities, such as social, political, economical factors which have exerted influence on their development. Besides the stated factors, 'the vehicle of law' is one of the determinants of space and form which is rarely discussed though it has a profound impact upon the formation and shaping of the city. In fact, it has more influence on the city than is commonly believed, so it is a force which must be better understood.

The aim of this study is to search the effects of the laws and regulations about planning and construction - which are the factors that are rarely given serious consideration but having positive/negative impact on the formation and development of urban physical space. The limitations and the flexibilities that these legal arrangements bring to the formation of the urban physical space is the interest of this study. The search for the conditions and occasions that cause the establishment of these legal arrangements is another interest of this study. Therefore, the laws and regulations will be the keystones of the study during the analysis and evaluation of selected cases.

As a consequence, this study is divided into three parts. In the first part we will try to determine the reasons and consequences of urbanization, and their impacts on the formation and development of urban physical environment.

The main interest of the second part will be the legitimate and administrative formation of urban physical environment and architecture in Turkey in relation to general results of the urbanization mentioned in the first part. This part will be concluded by the discussion of formation of architecture despite the limitations and flexibilities of legal arrangements in force.

The third part will be focused on the positive/negative impacts of legal prescriptions about the formation and development of urban physical environment. To strengthen these impacts and to put them into the world of reality, a case study will be carried out on Kızılay which is Central Business District of Ankara. Intensity of building fabric with its impacts on urban physical environment and realization of architecture observed in Kızılay (CBD) during the urban transformation and growth of Ankara will be the basis of this part. In other words, this part will hold the main focus of discussion in the study stating the problems of the urban physical environment referring to the existing cases.

Finally, in order to make concrete the discussion in the

previous part, the conclusion part will be an illustration of the impacts of building codes and planning-design-construction procedure on the formation of urban physical environment and architecture in the city.

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PART I REASONS AND CONSEQUENCES OF URBANIZATION IN TURKEY

2. URBANIZATION

Beginning from the 19th century, cities all over the world entered a period of transformation, which continued till today; **urbanization.**

When men began to live together, the physical environment they created was to face several environmental problems. When eventually these problems increased, the physical environment degenerated. In this part, we will concentrate on the consequences of urbanization, after implying the reasons and factors that affected and accelerated urbanization.

2.1. REASONS OF URBANIZATION

There are many reasons and factors that are directly or indirectly related with the movement of urbanization. Some of these factors can be directly related with the improvements in technology and economic life of the country, whereas, the movement of urbanization and increase of population at a higher level can be observed even in countries that reach a certain level of technological and economic development. Therefore, the factors that cause, affect and accelerate this movement can be classified into two groups.[1]

1. The factors preparing urbanization and having historical characteristics can be named as the **pre-conditions of urbanization.**

2. Factors affecting and accelerating urbanization directly or indirectly can be named as the **special factors of urbanization.**

2.1.1. SPECIAL FACTORS OF URBANIZATION

It will be a mistake to evaluate urbanization in terms of urban-rural dichotomy, because it is a process which is directly related with the political, social and economic levels of the countries. In fact, these are the factors affecting and accelerating urbanization and, are directly or indirectly related with the formation and organization of the life of the people settling on.

2.1.1.1. ECONOMICAL FACTORS

It is better to see the process of urbanization as affecting and being affected by both **the pull of the city and the push from the countryside.**[2]

The economic development plans prepared by the authorities are usually more concerned with industrialization rather than increasing agricultural productivity. It is obvious that today modern agricultural technology produces more food with less workers. Therefore, the mechanization introduced by agricultural technology, the economic policies of the authorities and the higher rate of population, give birth to unemployment in the rural areas which results with the migration to the cities to find opportunities of employment.[3]

Tendency of industrialization observed in cities create employment opportunities for people in different sectors than the rural areas offer. Besides, by the economical improvements and by the increase of the income of people, the demand for the goods produced by the workers in the

cities increased compared to the demand to agricultural yield produced in rural areas.[4] This demand causes specialization and division of different types of labor which are the sources that **pull people to the cities.**

2.1.1.2. POLITICAL FACTORS

The political decisions of the governors may be the reasons of urbanization. Sometimes, these decisions become the determining factors of urban transformation and urban growth, whereas, sometimes guides to the urbanization realized in the countries. The development plans prepared by D.P.T. (Devlet Planlama Teskilati) planning organization in Turkey are the illustrations of the decisions that directly effect the formation of cities and the urbanization during the specified five years.[5]

In fact, most of the time, policies affect urbanization indirectly. Wars and political disagreements, even the economical and commercial agreements sometimes become the most influencing factor for urbanization. It is observed that in England,during the 2nd world war, 5 to 6 million villagers migrated to cities from rural areas for protection, whereas, during the same period in Turkey many people left the cities in Trakya for the same purpose.[6]

Consequently, the influence of politics on urbanization is general by the development plans, whereas, the political occasions of periods can be considered as indirectly influencing factors for urbanization.

2.1.1.3. SOCIAL FACTORS

Cultural and social opportunities big cities possess and the public services that they offer, seem to be attractive for the people living in rural areas. Besides, modern means of communication create artifical needs among the rural population showing the cities as symbols of comfortable houses, electric light, automobiles and fine clothes.[7] So, in the light of these attractions of cities, people expect to find more permanent employment in the city, better housing and health conditions and education for their children.

Though its attraction created many problems for the newcomers, it will be one of the factors that cause urbanization in the future.

2.2. CONSEQUENCES OF URBANIZATION IN THE MAKING OF URBAN FABRIC

Nowadays, all through the world, it is observed that urban settlements are in trouble due to the problems they are subjected to. In order to solve these problems, their sources must be determined.

According to a point of view, the 'existence of cities' is the main source of creating problems, whereas, for another, it is the 'process of urbanization'. In fact, both of these opinions have the positive and/or negative impact on the development of cities in terms of reason-consequence relationship.

The main concern of this part of the study is the economic,

politic, social and physical impacts of urbanization - which are at the same time the problems of the urban settlements of today - to the development of urban settlements.

2.2.1. ECONOMICAL IMPACTS OF URBANIZATION ON THE CITY MACROFORM

The most important negative impact of the urbanization process on the economy is to produce unbalance between regions or to increase the existing regional unbalance.[8]

The improvement observed in regions, sometimes, prevent the improvement of another region. So, between two different regions a gap occurs in terms of economy. Moreover if an unplanned and uncontrolled urbanization policy is handled, the improvement of a region may form 'backwash effect' for the other region.[9]

A growth of population in urban settlements, which has greater magnitude than the growth of economic resources in the same settlement, results in an increase in unemployment. Moreover, the process encourages an increase in land and building prices. People speculate on land. Thus, the planned investments of people depended on the development plans shifted to another field which can be unproductive for the country's economic development.[10]

2.2.2. IMPACTS OF URBANIZATION ON THE CITY ADMINISTRATION

Urbanization influences the city administration in respect to two points; causing undefined authority boundaries for public services and creating a variety of costs determined by the

changing services.

As the services frequently demanded by the habitants, complexity in terms of authority can be observed in the administrators of the cities, because of the undetermined authority boundaries. On the other hand, the cost of public services changes depending partially on the population and partially on the content, place and transportation inputs.[11]

2.2.3. SOCIAL IMPACTS OF URBANIZATION ON THE CITIES

The changes in social structure of city and the complexity in living conditions cause adaptation problems among the people migrating from rural to urban centers.[12]

The workers migrating to the cities due to urbanization process can not adapt; firstly with the new environment they are entering; secondly with the technology coming by industrialization and finally with the new relationships. Therefore housing problems, lack of public services, unemployment and transmution of formation[13] and function of family and the increase in the crime rate in the cities[14] are some of the social problems created by the combination of urbanization and insufficient working opportunities of the industrialization.

2.2.4. IMPACTS OF URBANIZATION ON THE STRUCTURE OF PHYSICAL ENVIRONMENT

Urbanization and growth of cities are the two interdependent and also the most confusing processes that the cities are subjected to.In fact, urban growth is one of the consequences

of urbanization which can be classified into two groups as; the planned growth of cities and unplanned expansion.

The first group, the planned growth depending on physical planning of the city, intends to obey the natural growth of the city as it is decided by the plan. Besides, to prevent personal choices and decisions can be realized only by obeying to city plans done by the planners.

The second case, unplanned expansion of the city without an order, causes more problems to be solved by the planner compared to the problems that occur due to urbanization. The results of unplanned growth are generally the spread out, unconnected settlements which are opened to speculation.

Though, it may vary from country to country, in the developing countries, three different kinds of settlements exist. The first type is for the people leading commercial and administrative activities. The second can be named as the "old city" where the historical values of the city are preserved. The third type of settlement is the squatter housing both in and around the city. The last type of the settlement is the example of unplanned growth and development of the city. As mentioned in social impacts of urbanization, the people living in those settlements cannot adapt to city life in terms of psychological, economical and social values.

Due to the impacts of urbanization stated in this part of the

study and the problems that occurred in the growth of cities, the physical environment we live in, degenerates. To prevent future degeneration and to find solutions for the present situation,laws and regulations come into force. To define the administrative and legitimate formation of urban physical space are the ways of determining the sources of problems of the urban space which is the main topic of the following section.

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3. YAVUZ, F., KELES, R., GERAY, C., Sehircilik Sorunlari - Uygulama Politika, S.B.F. Yayinlari, A.U. Basimevi, Ankara, 1978, pp. 33

4. KELES, Rusen, Sehir ve Bolge Planlamasi Bakimindan Sehirlesme Hareketleri, S.B.F. Yayinlari, Ajans Turk, Ankara, 1961, pp. 91

5. YAVUZ, F., KELES, R., GERAY, C., Sehircilik Sorunlari - Uygulama Politika, S.B.F. Yayinlari, A.U. Basimevi, Ankara, 1978, pp. 33

6. KELES, Rusen, Sehir ve Bolge Planlamasi Bakimindan Sehirlesme Hareketleri, S.B.F. Yayinlari, Ajans Turk, Ankara, 1961, pp. 136

7. YAVUZ, F., Sehircilik, S.B.F. Yayinlari, Sevinc Matbaasi, Ankara, 1962, pp. 39

8. KELES, Rusen, Sehir ve Bolge Planlamasi Bakimindan Sehirlesme Hareketleri, S.B.F. Yayinlari, Ajans Turk, Ankara, 1961, pp. 142

9. YAVUZ, F., Sehircilik, S.B.F. Yayinlari, Sevinc Matbaasi, Ankara, 1962, pp. 37

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11. KELES, Rusen, Sehir ve Bolge Planlamasi Bakimindan Sehirlesme Hareketleri, S.B.F. Yayinlari, Ajans Turk, Ankara, 1961, pp. 136

12. UZEL, A., Imara Iliskin Bagislamalarin Gelisimi ve Degerlendirilmesi, Batikent Konut Uretim Yapi Kooperatifi Birligi, Ankar, 1986, pp. 36

13. YAVUZ, F., Sehircilik, S.B.F. Yayinlari, Sevinc Matbaasi, Ankara, 1962, pp. 37

14. KELES, Rusen, Sehir ve Bolge Planlamasi Bakimindan Sehirlesme Hareketleri, S.B.F. Yayinlari, Ajans Turk, Ankara, 1961, pp. 142

3. ADMINISTRATIVE AND LEGITIMATE FORMATION OF URBAN PHYSICAL ENVIRONMENT

The problems of urban physical environment we are living in can be classified into two groups as; problems which are the outcome of urbanization and its consequences and problems which are related with planned and unplanned growth of the cities.

In the Fifth Five Year-Development Plan 1985-1989 the impact of urbanization process to the urban physical environment is stated as;[1]

> "... urbanization, even if at a lower rate is expected to continue because of developments in the socio-economic structure and increase in population ... The rapid completion and disciplined implementation of city masterplans according to the requisites of modern urbanization is basic ..."

Moreover, growth of cities either planned or unplanned and their effect on formation of physical environment is another subject mentioned in the plan.[2]

> "... to handle environmental problems in a comprehensive and coordinated way; to prevent deterioration and to secure the development of natural and man-made environments. Measures will be adapted to remove or reduce to the minimum ... Programmes and projects will rapidly be drawn up and put into execution ..."

As a consequence, first statement about urbanization proposes preparation of 'city masterplans', whereas, second offers 'measures and projects' to prevent the deterioration of physical environment. The common sense observed in both them is the introduction of legitimate and administrative precautions to find solutions to the problems of urban physical environment.

The administrative and legitimate formation of urban physical environment can be inspected in two distinct groups. The first group consists of legal procedure defining the formation of urban physical environment either by **master plans** or **plan modifications**, where also the second group is the legalization of the constructed physical environment without a confirmed plan & control of authorities. These are by-laws either in terms of **amnesty laws** or allocation of **title-deed**.

3.1. LEGAL FORMATION OF URBAN PHYSICAL ENVIRONMENT IN TURKEY

Due to the rapid urbanization and growth of cities, urban physical environment faced with many sided problems. To overcome these problems or to minimize their impact on the formation of physical environment, **'urban planning process'**, is required.

'Urban planning process' is, in fact, one of the legal documentation determining the relationships between physical structures located on urban centers before they are constructed. The rules and ways of formation and construction of urban physical environment are determined and controlled by the proposals mentioned in the **urban development plan.**

Further developments and improvements observed in cities, and social, political and economical conjecture in the country sometimes prevent construction of physical structures according to the plan. Therefore, the plan must be modified

depending on these new inputs. The second legal procedure we are dealing with is the 'plan modification'.

3.1.1. PLANNING

'Master plan' (Nazim Plan) or **'Implementation plan'** (Imar Uygulama Plani) is the process of plan specifying physical growth and formation of the cities by inspecting their problems. To shape the formation of physical environment and to give direction to city life, **'plan'** must have a legal framework & it must also reflect administrative and legitimate structure of country and relations between local governments.

The main objectives of **'plan'** carrying impersonal, general, arranging and ordering characteristics can be stated as:[3]

1. To develop and improve the urban physical environment where the activities are realized by the city people.
2. To prevent the benefit of a certain group or individual on the urban land.
3. To determine the policies about the development of urban physical environment in democratic ways and to provide the application of the policies.
4. To control administrative, political and technical equality in the development and improvement in the urban physical environment.
5. To present political and administrative inputs to authorities about the developments and improvements planned for the urban physical environment.

Planning controls are the ways of applying these 5 main objectives into the world of reality.

3.1.2. PLANNING CONTROLS

Planning controls are classified into 4 distinct groups such as:

1. **'Zoning control'** is the first legal planning tool aims to divide the city into different groups in respect to density, height and function.

2. The **control of land division and annexation** (Compulsory Re-plotting) according to the implementation plan is the second legal tool of 'development'.

3. **'Building prohibitions'** is the third legal planning tool bringing limitations for urban lands reserved to public services and institutions.

4. The fourth legal tool of the 'urban plan' is the **'building permission'** and **'control of building construction'** by the related local by-laws regulations.

3.1.2.1. ZONING

Zoning is one of the significant legal tools of 'plan' allocating different urban activities and functions to the certain place defined by the 'master plan'.[4] Function of the buildings, density, height of the buildings, the size of the building plot and architecture are the inputs of **zoning** which effect the architecture directly.

The main rule of this **legal tool** defining the structure of the city is to forbid the activities other than pre-determined activities in the **zone**.

'Zoning' as mentioned above, controls also the density of population, by the decisions about height of the building and by the floor ratio the building lot. The height of a 'zone' differs depending on **function, location of land** and **dimension of street located on the zone**. Determining height of a building also limits volume of the building and therefore, indicates the density of population in vertical manner. To control the density in horizontal manner, similar limitations

can be applied to 'urban land' which can be explained in three different ways. The first one is to determine **minimum parcel dimensions.**[5] As it is indicated in regulations; parcel is the plot of land where a single or more buildings can be constructed depending on the 'urban plan'. The second one is to **limit the parcel dimensions** by determining the width and depth of the parcel, whereas, the third one is to **indicate the construction area of the building** in plot of land and to define set-back distances to find its location on site.

3.1.2.2. LAND ANNEXATION AND DIVISION (LOT AND PARCEL FORMATION)

To execute the building construction according to the planning process and to realize the expansion and improvement of the cities as planned, it is sufficient to control arrangements made in urban land in terms of **annexation, division, distribution.**

The smallest plot of land indicating minimum ownership and land piece is the **'cadastral parcel'**, whereas,**'development parcel'** shows the plot of land on which building can construct according to 'master plan'.[6] Parcelization process is the transformation of **'cadastral parcel'** into **'reconstruction parcel'** by **division, annexation and distribution of land. Parcelization process** must be parallel with **'parcelization plan'** and it must arranged in connection with the dimensions stated in regulations. Besides, to construct a building, **'cadastral parcel'** must be changed to **'development parcel'.**[7]

3.1.2.3. BUILDING PROHIBITIONS

To avoid building construction on plot of land where it is not permitted by 'urban plan', some regulations are executed to prevent unexpected consequences of illegal building constructions. The function of '**building prohibitions**' are to contribute realization of 'urban plan' in the formation of urban physical environment.

The construction process can be **prohibited** (i.e. permission is stopped for a certain period) on urban lands till the preparation of new 'urban development plan'. Therefore, the building constructions which prevent planned improvement of city, can be controlled by this third legal tool of the 'urban development plan'.

3.1.2.4. BUILDING CONTROL AND PERMISSION

'**Building control and permission**' is the last **legal tool** aiming to stop building construction before it comes into force. The necessity of taking permission to construct a building is the first step of searching suitability of physical structure to the physical environment. Whereas building control is the second step determining the appropriateness of the built physical structure to the physical environment.

3.1.3. PLAN MODIFICATION

'**Plan modification**' is another determining factor of urban physical environment which is formed. To control convenience

of the changes affecting the structure of urban physical environment, 'urban development plan' must be revised to adapt itself to new conditions.[8]

'Urban plan' prepared with regard to the development and improvement policies of the city must adapt itself to the continuous changes observed in the city. Planning must follow both the continuous improvements which force to make evaluations of these improvements and also must provide flexible solutions to the problems that can not be predicted during planning process.

According to a point of view, after **'plan'** comes into act, it must not change so often and the proposal for **'plan modification'** must be voted and then confirmed; whereas, for another point of view, it must be a legal procedure in which the decision about urban physical environment can not arranged and changed unless it is so significant for the development and improvement urban physical environment. The general framework of urban policies is drawn by the flexible plan understanding. The last point of view is the combination of the other two. The 'plan' must be a legal prescription that should be obeyed after it is confirmed but **'plan modification'** can be made if it is considered necessary. Besides, execution of **'plan modification'** must be according to the regulations mentioned in law.[9]

3.2. LEGALIZATION OF URBAN PHYSICAL ENVIRONMENT IN TURKEY

Urban physical environment formed without plan and without

control of authorities leads urban settlements into problems.

To bring solutions to mentioned problems and to prevent further illegal constructions and developments in certain parts of the city, legal precautions are taken in forms of **amnesty laws** (Imar Affi) and **allocation of title-deed** (Tapu tahsis).

To inspect the problems,to rehabilitate unhealthy environment and to prepare basis for 'urban plan' of those areas are some of the aims of **'amnesty laws'**, whereas, to distribute public land having no proper improvement plan to the individuals is just for provision of **'certificate of title-deed'** (Tapu tahsis belgesi).

The physical environment formed without a plan and without control of authorities but legalized afterwards are the topics of this part.

3.2.1. LAWS OF AMNESTY

A way of legalization of physical environment without a plan is the **'law of amnesties'** about physical environment and building. To prepare plans for rehabilitation of physical environment constructed without permission and dismissal of unpermitted buildings are same objectives of **'law of amnesty'**.

Formation of urban physical environment was either without planned or illegal. The solution proposed by the laws of amnesties was to solve the quantity of the physical

environment,not the quality. Though, it contains decisions about the rehabilitation of the environment in a short time, execution of them are not realized. Therefore, to bring these decisions into the realization is generally impossible and governments prefer dismissal of buildings without permission.

3.2.2. ALLOCATION OF TITLE-DEED

'Allocation of title-deed' is one of the latest operations of governments aiming to provide legal status for the illegally formed physical environment.

This latest operation of government is to give temporary 'title-deed' to people who constructed buildings on public land whose 'urban development plan' is not prepared. These kind of places are situated on the outer skirts of cities where 'squatter housing' district were located.

Basically, **'allocation of title-deed'** is a political act preferred by governments to protect the right of landowners in areas where no plan process is executed.

Footnotes:

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2. Ibid., pp. 220

3. YAVUZ, F., Sehircilik, S.B.F. Yayinlari, Sevinc Matbaasi, Ankara, 1962, pp. 331

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7. EKSIOGLU, K., Imar ve Kadastro Mevzuati, Yasa Yayinlari, Istanbul, 1989, pp. 182

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4. LEGITIMATE AND ADMINISTRATIVE FORMATION OF ARCHITECTURE IN URBAN PHYSICAL ENVIRONMENT

To create conscious formation of physical environment, to control the aesthetic of city, to prevent illegal and unpermitted construction of buildings and to achieve construction of buildings worth living in, **administrative and legitimate control of architecture** is necessary.

It is obvious that to **standardize** or to **limit the measures of art and architecture** is impossible. Moreover, to decide the quality of products of artists by forming associations and even voting for them by the same professionals is also not acceptable. For these reasons, professionals dealing with art and architecture mostly reject the overall control of products of architecture. They think that it is a threat for their professional domain and regard any control element as a restriction. On the other hand, people can conform with the consensus of artists of art and architecture on the main principles of control of architecture in urban physical environment considering aesthetics of city and building. Therefore, the main aim of **architectural control** can be stated within three main topics;

1. To protect unmovable properties in settlements.
2. To provide the equality of public right.
3. To prevent urban anarchy and to prevent loss of formal and morphological environmental qualities of cities.

The rules and regulations about the physical environment are the legitimate and administrative tools that can realize the **control of architecture.** In connection with the confirmation of 'urban plan' by municipalities the dimensions of building lot-and-parcel is determined, which will form a guide for building mass and height. Besides the quantitative inputs mentioned above to control the formation of architecture, the articles 'in laws and regulations about the planning and reconstruction' defines the qualitative inputs of control of architecture. In this section, we are going to concentrate on qualitative and quantitative characteristics of legitimate and administrative control of architecture.

4.1.REGULATIONS ABOUT BUILDING LOT AND PARCEL

The first **legal tool** controling the formation of architecture in urban physical environment is the definitions about dimensions of building lot and parcel which will be the basis of building location on site.

The dimensions of building lot and parcel can be defined by two distinct ways. 'Urban plan' which is a legal prescription indicates the dimensions of building lot and parcel referring to the functional 'zoning' in the plan. 'Parceling plan' prepared responding to 'urban plan' defines the width and depth of the parcel in which building is going to be situated.[1] The first way of determining dimensions is 'urban plan', whereas, the regulations about the depth and width of

parcels during combination, division and distribution of urban land is the second way. By the regulations according to different functions located in different functional zones, the maximum and minimum depth and width of parcels are determined. In regulation of reconstruction in Istanbul, the width of parcels in residential, commercial, official and recreational building zones varies from 10 m. to 20 m. in respect to number of floors. As an example, the width of a housing parcel can be 12.00 m. if a building having 5-6 floor can be constructed.[2]

As a consequence, the determinance of dimensions of building lot and parcel is a way of finding out the location of building in a parcel. Therefore, it is one of the keystones of controlling and guiding the formation of architecture in urban physical environment.

4.2. REGULATIONS ABOUT BUILDING MASS AND HEIGHT

The second factor determining quantities about architectural act is the regulation about building mass and height depending on the dimensions of building lots and parcels.

The building mass and volume can be limited by two different methods;[3]

1. **TAKS** (Taban Alanı Kat Sayısı- total built up area to the parcel area ratio) and **KAKS** (Kat Alanları Kat Sayısı- floor area to the parcel area ratio) values that limit building volume but not building form and shape.

2. Decisions about order of building, distances between neighborhood parcels, height of the building to determine volume and shape of the building.

4.2.1. TAKS AND KAKS DECISIONS

TAKS and **KAKS** values are the coefficients implying both building volume and maximum area for building construction on a building lot or parcel.

KAKS value is the ratio of maximum total construction area to the area of building parcel. KAKS values, in fact, are the decisions given by authorities to determine and control density of built environment, moreover to arrange the urban pattern and to order the formation of built environment. The other hand, they are the decisions to control the shaping of built environment, on the contrary, KAKS values aim to give freedom to urban planner and urban designer during design process by only controlling density of urban physical environment.

TAKS is the ratio of ground floor area of building construction to the area of whole land. Similar to KAKS values, TAKS values determine the density of construction area in a parcel, therefore, protect freedom of shaping built environment.

In general, to control the density of an area,especially huge housing improvement zones by TAKS and KAKS values contribute freedom in shaping built environment during design process. Different arrangements of buildings on site become possible by determining volumes of buildings by KAKS values.[4] The main aim of TAKS and KAKS values is to permit the forming and

shaping of order in the physical environment not only by dimensioning building lots and parcel in 'urban plan' but also considering the expectations and goals of users during the preparation of a architectural project.

As a consequence, the freedom of shaping the built environment is the common opinion put forward by these two values.

4.2.2. DECISIONS ABOUT ORDER OF BUILDING IN URBAN PHYSICAL ENVIRONMENT

On the contrary to TAKS and KAKS decisions, the legal arrangements executed to order the physical built environment aim to dictate the formation of architecture by the help of **'tip yönetmelik'** (Typical regulations that are valid for most of the cases). Though decisions about **order of building** take into consideration the inputs belong to city structure and density of built environment, the consequences of these arrangements limit the freedom of formation of architecture in urban physical environment.

Order of building in urban physical environment can be determined either by plan notes indicated on 'urban plan' or articles belonging to 'tip yönetmelik' prepared by the municipalities. The plan notes written on 'urban plan' determine the basis of principles of architecture for **order of building**, otherwise, the articles belong to regulations are applied for the conditions that are not mentioned in plan notes.

The significance of plan notes in determining **order of buildings** and freedom of shaping of architecture is the decisions specially given for specific conditions concerning many inputs. Specific decisions for specific conditions of architecture concerning the inputs of parcels can only be determined by plan notes indicated on 'urban plan'. The static and inflexible articles of regulations are usually applied to the formation of architecture of every type of building without considering the inputs of site and goals of the users.

4.3. REGULATIONS ABOUT AESTHETICS OF PHYSICAL ENVIRONMENT

Beyond the problems related with the limitations of volume of building, laws and regulations affect the appearance of physical environment in terms of determining minimum dimensions of rooms, heights of floor, shaping of staircases, roof shapes, dimensions of bay-windows, doors and windows, etc..

The idea underlying these limitations, in some cases, is to maintain healthy and secure formation of physical environment for the inhabitants, whereas for other cases, it is to limit the maximum right of inhabitants on the built environment.The common point for both cases is their positive and negative impact on the appearance of physical environment and therefore the formation of architecture in urban physical environment. Unfortunately, they are not flexible and not

conform with varying demands of each specific site. So, **qualitative attempts** are restricted with **quantitative definitions** and an **average quality** is taken for granted to avoid unjust, inhuman, unhealthy formations in the urban physical environment.

The limitations about the elements of facades of physical environment such as building height, width and elevation, dimensions of window, door and roof in regulations give many inputs for architecture. The maximum length of building facades and in connection to it the maximum depth of building are indicated by the articles of regulations, whereas in another article, the height of the buildings are determined by their relation to vehicular roads. The articles about the dimensions of windows and doors, the floor heights and roof slops are the other significant inputs for the morphology of city and the urban aesthetics of architecture.

Though all these inputs of architecture exist for some other reasons mentioned before like the control of building area by limiting the length of building facade or control of external forces by limiting the surface of window and door or roof slope etc., they all take a role to determine the external rooms, outdoor spaces of cities. Unfortunately, the limitations, as the outcome of general decisions about the architecture in regulations, applied to every building type in every distinct plot of land which is ending up with repetitive, unfamiliar, similar building blocks like having

the same dress with very small differences. As a consequence, as the articles in regulation are applied to every building type without referring to their own specific problems and conditions, the morphology of physical urban environment will be similar to the present conditions.

4.4. REGULATIONS AFFECTING THE DETAILING OF ARCHITECTURE

Another legal tool controlling formation of architecture is the specifications giving inputs to architecture about dimensions of staircases, elevators, balustrades and the specifications of heating and ventilation. Though they do not have direct impact on morphology of cities, they can be considered the most significant factors affecting the formation of architecture in terms of their application in detailing of architecture.

These limitations about the detailing of architecture can be observed in various ways. The regulations about heating and ventilation limits the dimensions and structure of wall cross section and total surface area of windows, whereas, the dimensions of staircase mentioned in regulation help the determinance of width of circulation area, entrance hall or even the axis of construction system. All the direct and indirect limitations contribute to the development of architecture during design and detailing process. As a consequence, these limitations in form of articles of regulations are the secondary determinance factor of architecture for the application of physical construction into the world of reality.

Footnotes:

1. YAVUZ, F., Sehircilik, S.B.F. Yayinlari, Sevinc Matbaasi, Ankara, 1962, pp. 380

2. EKSIOGLU, K., "Istanbul Imar Yonetmeligi", Imar ve Kadastro Mevzuati, Yasa Yayinlari, Istanbul, 1989, pp. 239

3. AKCURA, T., Imar Kurumu Konusunda Gozlemler, ODTU, Ankara 1982, pp. 83

4. Ibid., pp. 85

5. PLANNING-DESIGN-CONSTRUCTION PROCEDURE REALIZED ON THE FORMATION OF URBAN PHYSICAL ENVIRONMENT IN TURKEY

The decisions given by the authorities for the growth and development of the urban environment can be realized after filtering from a procedure which we named **planning-design-construction procedure**. The urban fabric, we are living in, is the combination of the separate activity fields producing the procedure. Any objectives referring to failures in the urban physical environment find their roots in one of these activity fields.

To illustrate;

1. impacts of laws and regulations to the procedure,
2. failures happening in one of the activity fields,
3. reflection of failures (take place in any of them) to the other activity fields,
4. impacts of failures meet during the procedure to the final outcome as urban physical environment,

we will segregate **planning-design-construction procedure** into three parts.

P L A N N I N G - D E S I G N - C O N S T R U C T I O N
P R O C E D U R E

planning design construction

The planning decisions influencing the morphology of cities can be realized only by the formation of architecture in the light of planning. The uncorrelated, disintegrated and disinterested decisions given during planning procedure sum up with unidentified, dissolved urban cities and therefore

cities. The **planning procedure** leading to architectural design procedure but most of the time missing the qualitative aspect of space is the first file we will concentrate on.

Architecture and several disciplines in connection with architecture aim to create healthy, secure physical environments worth living in. Architecture, as an art of creating physical entities in urban physical environment act in paralel to planning decisions and try to interpret these decisions for the benefit of public. The second file will focus on the struggle between customer and architect/ architectural association on the interpretation of planning decisions concerning the maximum right of building for the benefit of customer during **architectural design procedure**.

Finally, the significance of **construction procedure** will be argued, as it symbolizes the product of the other two procedures. The arguments coming from the public against the formation of physical environment always limited by the physical entities that are sensed by them. In other words, all the arguments consider the product as the main target to be attacked. Unfortunately, as the product is the reflection of realization of procedure into the world of reality, the arguments stated to the product neither give references to the roots of problem nor prepare proposals to the problems. Therefore, the whole procedure will be analyzed in order to indicate reasons and to propose solutions.

5.1. GENERAL FRAMEWORK: MATRIX A

The segregation of planning-design-construction procedure into three pieces (regarding the integration of whole) give us the chance of illustrating the problems realized in each of the differing procedures. To construct the framework of the study and to sum up with proper outputs that will be the inputs of the following parts, a **matrix** system consisted of three rows and three columns is created. Planning, design and construction are the elements of the row of matrix, whereas, organization model, process and product are the elements of column.

	planning	design	construction
organization			
process			
product			

In every distinct activity field of the procedure we will search the subjects stated in the column of the matrix (organization model, process and product). The consequence will indicate either the reasons of the problem or the nature of the procedure. Moreover, the outputs filling the matrix will be an input to state the problems of urban physical environment.

As a consequence, the aim of this part of the study is to determine the failures of **planning - design - construction**

procedure by examining them individually. The outcome of this part will be the results of the matching row and column (organization model of design or construction process etc.). In other words, we will aim fill the rows and columns of the matrix for the following part.

5.2. PLANNING PROCEDURE IN TURKEY

Today, most of the people in Turkey prefer to live in urban areas, and consequently development mostly takes place in these areas. Before indicating the variables (related to planning) of matrix, the difference between urban planning (kent planlaması) and development-reconstruction planning (imar planlaması) must be clearly identified in terms of their area of interest. As Grimm mentioned in his book "Physical Urban Planning"[1];

> "The initial stage of urban development, which precedes and culminates in a policy decision opening the way to action, may be called **urban planning**. It is coordinated sum-total of physical, economic, social and other planning, carried on within the sphere of their respective predominant factors."

On the other hand, our aim is to determine the interdependent relationship between planning procedure and its reflection on urban physical environment, we are concerned and interested in development and reconstruction planning which is indeed a part of urban planning.

5.2.1. URBAN PLANNING VERSUS RECONSTRUCTION - DEVELOPMENT PLANNING

Due to reasons and consequences of urbanization mentioned in previous parts, Turkey enters a period of urban

transformation. Problems related with social, economical, political and physical values of urban life increased geometrically during this transformation period. High rate of population migrating to cities due to the attraction of cities differs the structure of settlement of cities. **Urban planning**, in this transformation, must adapt its functions to the inputs of the new situation. Inadequacy of physical planning alone in solving the problems of a complex urban architecture is a significant problem for us as a member of urban society.[2]

The solution of urban problems is closely related with realization of **urban planning process**. In this respect, the interest fields of **urban planning** and **reconstruction - development planning** must clearly be identified in order to avoid confusions.

The fundamental difference between them can be find in their field of interest. The main interest of **reconstruction and development planning** is directly related with the physical problems observed in the city structure. In other words, the content of this way of planning is limited with the arrangements realized in physical spaces.[3] **Reconstruction and development planning** guides to the physical entities of urban life such as the way and direction of expansion of cities, land-use decisions, density of population, building order, width of pedestrian and vehicular roads, location of changing occupations and etc. Unfortunately, the problems

that necessitate social, economical and institutional arrangements can not be solved by **reconstruction and development planning** only considering the physical problems of urban society.[4]

As the city is not a physical entity, the problems that belong to the urban society are multi-variable. The approach including social, economic, political, institutional and technical planning decisions may be the solution of multi-variable urban problems. As the aim of **urban planning** is to avoid the increasing urban problems considering all inputs belong to urban society, the content of **urban planning** includes these different considerations of the approach mentioned above. In fact, **reconstruction and development planning** is a sub-group of **urban planning** trying to deal with the problems of physical environment. In other words, reconstruction and development planning is a part of urban planning but insufficient to build framework for urban planning.[5] Therefore boundaries of **urban planning** are limited with all the problem (including social, political, economical and physical) belong to city and inhabitants of city, whereas, **reconstruction and development planning** is limited with the problems of physical environment.

As a consequence, the aim of the thesis is to illustrate the attitude of **reconstruction and development planning** and **building codes** to the physical problems of urban physical environment. Therefore, in our study as our focus is physical

problems of urban environment , we are more interested in **reconstruction and development planning** rather than urban planning.

5.2.2. ORGANIZATION MODEL OF RECONSTRUCTION - DEVELOPMENT PLANNING

To begin with, in this part we do not aim to make arguments on the formation and union of the organization,but on the contrary, we are intending to discuss the problems faced in the organization during planning procedure by differing individuals and/or associations related with planning activity.

It is clear that any failure taking place in the organization step will reflect to other steps of planning procedure and therefore, prepare insufficient datas for design procedure. In general, we are faced with two different organization models in the planning process;

1. planning activity held by municipality, governorship.
2. private planning handled by individuals and associations.

Planning operation that lead to public decisions in regard to public improvements differ from those destined to govern private decisions in respect to private undertakens.[6] For this reason, we must make a clear distinction between considerations of public planning and those of private planning.

5.2.2.1. PUBLIC AND PRIVATE PLANNING

Private planning includes planning of private land for private purposes in which the land itself is the object of planning.

Private plans,in fact,have to be subjected to public control. The objectives of the public must be clearly stated so that the private planner can produce private plans which indicate the objectives of the regulations. The significant role of the planner in this process is to meet the objectives of regulations which specify certain ways for the benefit of owner and developer (how much planning of their own can be realized?)

Private Planning is actually site planning, in other words, planning of land which remains under single ownership during the public planning. Whereas, it is essential to coordinate public and private planner, when private planning interest in large commercial, industrial and housing facilities.

It seems that government and especially municipalities are authorized institutions in preparation of public planning. To transform the private undertakings of the public into a **public planning** in respect to goals, objectives and expectations of individuals can be realized either by the authority itself or by the control mechanism of the authority. The first model (which is) the preparation of **public planning** by the authorities - such as municipalities

and governorship- is preferred in the realization of public planning. Rarely, by the support and control of authorities public plans can be prepared by private planners or planning associations. This preparation act can be either in form of competition or destinating the planning activity to the planner or planning association.

The fundamental problem in ordering the preparation of public plan to an association other than authorities focuses on 'control mechanism' of authorities on checking the benefit of the public. In comparison with the public plans as an outcome competitions, authorities must be conscious on checking the appropriateness of plans supplied in terms of destinating to associations.

The main approach on supplying private plans is based on the private organizations. As private planning is the object of public planning, inputs of private planning will be produced by the public planning. In other words, the limitations and flexibilities determined by the public plans for private lands are further developed by the private planner. The main attitude preferred to supply this kind of plans originate on private planner and associations. Compared to public planning, the control mechanism of authorities is processing relatively easy for private planning for checking the benefit of public.

P L A N N I N G

URBAN PLANNING

RECONSTRUCTION AND DEVELOPMENT PLANNING

Public Planning

Private Planning

governorship
municipality

private planner
planning ass.

private planner
planning ass.

competition

destinating

5.2.3. PLANNING PROCESS

To supply private and public plans that will answer the goals, objectives, expectations of public and moreover, to prepare the inputs of design procedure is significant targets of planning process.

It is a common sense of developers and builders to extend their right of building to the maximum limits defined by the laws and regulations. The idea underlying this approach is to increase their own individual benefit without thinking its reflection on public benefit. Therefore, their goals and objectives during the preparation of **public plan** coincide with the objectives of planner. As the planner works for the realization of public benefit, the wishes coming from developers and construction companies for their own individual benefit is the significant problem faced by the planners during the planning process. The strength of the struggle increase, whereas, the probability of gaining individual benefits decrease during the transition period between public planning to private planning process, as

public planning defines the variables and limits of private planning.

The time spent for the realization of both public and private plans is the other point argued by both companies and public. The organization model preferred by the municipalities can not give opportunity to prepare 'public and private plans' in a certain time expected by the developers. 'Bureaucracy' mechanism and hierarchic order of professionals working on planning in municipalities avoid the continuity of the planning process. Though, the hierarchic order of professionals are valid for the private planning organization, the time spent to prepare 'public or private plan' is relatively short. Therefore, developer prefer to work with private planning bureaus or planning associations. Another factor causing the shift of planning process from the government to any other private organization is the 'bureaucracy' mechanism. The time spent to fulfill the necessities of a plan is depended on the activities realized during the planning process. The research done to obtain datas leading to the 'plan', or the travels done to the site and even the drawing process of the final 'plan' prepared are difficult due to the operation of 'bureaucracy' mechanism.[7]

Confirmation of plan by the municipality assembly and the time spent during this process is another important point that must be mentioned. As time passes in each step of the planning process, the integration of plan decisions with

improvement and development of the existing situation become far away. Therefore, the preparation and confirmation of planning process must be as short as possible in order to overlap the plan decisions with the situation that necessitates the preparation of 'plan'.

5.2.4. PRODUCT

Final outcome of the planning process is the **plan** which is a legal prescription indicating the ownership of public on urban land. The decisions given to solve the problems defined by the authorities in terms of **urban and private plan**, refer to the future growth of urban environment. It is obvious that decisions must somehow be indicated in either written or drawn form.

The decisions put forward during the planning period in many different scales are put into reality by **plan.** In other words, **plan** is the image of decisions about the future developments and improvements on to the paper which is a legal prescription that should be followed during forming the morphology of urban physical environment. Though it is claimed that 'plan decisions' are directly followed by the planning decisions, mostly they lack the **qualitative** inputs guiding the formation of urban physical environment and architecture in this environment. This is the initial point where the arguments come from authorities, professionals and public.

According to planning theory, main objective of planning is to prepare the guideline and basis of application. In other words, the priority given to planning activity is major than priority of application. In fact, the degree of priority given to both of them are subjected to change in connection to their relationship between each other. Three different approaches are existed to illustrate the relationship between planning and application activities.

According to the first approach, **planning** and **application** are two separate process. In this respect, planning is a decision making process, whereas, application is the process directly under the control of decisions given during planning procedure.[8]

For the second approach, planning and its application are two separate activities, but, differing from first one, **application** is the continuation of **planning**. The general plan decisions given during **planning procedure** became more comprehensive by the inputs gain during the **application process.**[9]

In accordance with the final approach, **planning** and **application** are the integrated parts of the same procedure. In this approach, the role of planning is not to decide how a decision became rational for urban life, but to help the decisions given for how the application activity becomes more qualitative.

The second argument point focuses on the dichotomy of 'planning' and 'application'. Besides different approaches of planning theory, it seems the prepared 'plans' are far away from the conditions that necessitate their application. This is because of the preparation and representation of plan. Due to the time spent during the planning and confirmation of plan, the final product become slowly far away from its origin. When the two-dimensional expression of ideas and decisions about the morphology and formation of urban physical environment reflected on the paper as a written form, the difficulties that will be faced during the application process is clearly illustrated.

As a consequence, the main arguments to the **product** of planning procedure can be summarized as;

. the arguments related with the **lack of qualitative** values belonging to urban physical environment during the planning procedure

. the arguments related with the **dichotomy of planning and application**

5.3. DESIGN PROCEDURE IN TURKEY

'Urban planning decisions' in connection with 'urban planning procedure' and 'building codes' dealing with the building designing and construction are the two main legal inputs of **architectural designing procedure.** The plan decisions are the first legal input limiting the freedom of architecture in urban physical environment. Though 'plan decisions' aims to introduce unity and harmony through the physical environment, lack of 'qualitative' aspects of space during the planning procedure sum up with 'similar' architectural environments in city structure. Moreover, when the 'building codes' act similar to with the 'planning decisions' (in other words, when the lack of 'qualitative' aspects of space observed also in the 'building codes') problems belonging to 'similar' architectural environments are increased 'geometrically'. Therefore, **architectural designing procedure** takes an important role in the study where the concrete impact of both legal tools mentioned above are observed on designing architectural objects of city structure.

5.3.1. ORGANIZATION MODEL

To convert the 'plan decisions' to the physical entities in urban environment can be realized only by the professionals dealing with design activity. The key point in this process is based on the true interpretation of 'plan notes' considering public benefit. In our society, this

interpretation activity can be realized by;

. individual designers (architects),
. architectural associations,
. design groups of institutions and companies,

which are the authorized organizations in preparation of architectural design procedure.

The physical entities of urban environment are the consequence of these three groups and especially the first two. Projects of all scales from the design of a villa to the design of a trade center are developed either by architects or architectural associations. On the other hand, private - public institutions and companies dealing with construction activity prefer to establish design groups as their branches.

To control the 'designed' product rather than 'to design' it is the main aim of organizing design groups. Therefore, the contribution of these groups to urban life shift from 'being productive' to the 'controlling mechanism'.

As a consequence, architects and architecture associations are the organizations taking role on the designing of physical entities of urban environments.

5.3.2. DESIGN PROCESS

To provide architectural solutions to the complex problems of urban physical environment considering the goals and expectations of people and authorities and to bridge the gab between planning and construction procedure is the main

concentration points of design process.

To extend the right of building to the maximum limits defined by the laws and regulations is the main wishes of developers and builders. For the people having this kind of approach, to obtain maximum profit can be realized only by using maximum right of building. Therefore, the architectural solutions expected by them are also limited with the same kind of approach. (The walls of the building must follow the neighborhood distance, whereas, the height of the building must be as similar as defined in the regulations. Therefore, the maximum floor area, that will be the indicator of income, can be determined).

If we approach the mentioned situation objectively (to obtain maximum profit), we are faced with a contradiction. As an architect, to realize the wishes of customers without neglecting the public benefit and architectural values of urban environment is our primary targets. Designer claims that he can design buildings not using the maximum right of building but satisfying all the wishes of customer, whereas, customer argues that maximum profit can be obtained only by the application of maximum building rights. Therefore, the struggle between designer and customer is focused on this contradiction.

It is obvious that for a developer or constructor, priority given to **qualitative** aspect of urban physical environment is

generally minor compared to the profit of the construction. A professional working to satisfy the necessitates of a project is always limited with the unidirectional thinking system.

Consequence of struggle (physical entities in urban environment) is changing according to the dialogue between designer and customer. Designer capable of convince ends up with a 'design' considering both the **qualitative** aspect of urban environment and the wishes of customer.

Besides the contradiction between designer and customer, another struggle can be identified between the designer and planner. The reason of this struggle can be found in the difference of their points of view. Though, both of the professionals claim to create physical environments worth living in, the 'quantitative solution' proposed by the planner is always a subject discussed by the designer as; merely introducing 'qualitative solutions'.

The lack of 'qualitative' aspects during planning procedure reflects also to the 'product' which will be a source for design procedure. 'Building codes' and 'plan notes' are the two legal tools determining the inputs of architectural design procedure. Therefore, the preparation of architectural project is limited within the flexibilities determined by them. Unfortunately, 'building codes' are far away from indicating the 'qualitative' aspects of physical environment.

When 'plan decisions' act the same role as the 'building codes', the efforts of designers to create healthy, secure physical environments are prevented.

As a consequence, the unidirectional wishes and plan notes (lacking 'qualitative' aspect of space) bringing limitations to the freedom of design process are the main responsibles of unhealthy, insecure and degenerated urban physical environment. As the contradiction between designer and customer is eliminated, and as the plan decisions give both quantitative and qualitative inputs to the design process, the responsibility will be shared by both of them.

5.3.3. PRODUCT

To obtain written documents that will be the sources of application of ideas into the world of reality is possible by the product of design process which is the **project.**

The term **project** includes all the project parts prepared by different profession groups in order to obtain the necessary inputs which will introduce solutions to possible problems faced during the construction procedure.

As it can be understood from the definition, the final outcome of design process can be obtained by the cooperation of multi distinct disciplines. The role of 'architect' in this process, is the conductor of orchestra contained of different instruments. Similarly, architectural design

project is the keystone determining the inputs of other projects such as structural design, electric and sanitary installation projects. Except the problems occured due to the interpretation of plan notes, any failures happened during the architectural design process will end up with short-circuit in the network. Therefore, those professional arguing the time spend during the planning process are faced with another problem.

The time spend during the confirmation of the product of design procedure by the municipality or governorship is the other complaint coming from customers. Though, this argument is subjected to the final outcome which is the projects, the origin of them must be the control mechanism and bureaucracy of government. As the general approach of customers is to obtain 'projects' as soon as possible, they include the time spend during the confirmation process to the whole design procedure, the time left to make design became shorter.

Therefore, the product is criticized by professionals and public due to;

. failures take place during the cooperation of distinct professional taking role in the design process,

. the time spent during the confirmation of project (as customer includes this time to the design procedure).

5.4. CONSTRUCTION PROCEDURE IN TURKEY

The effect of 'building codes' on the **building construction**

procedure is the main concentration point of this last section. The effect and control of legal tools during the building construction is another determinant of formation of architecture in urban fabric and therefore, the morphology of the city. Under the strong and concrete impact of legal tools examined in the previous section, 'planning' and 'design' loose their strength during the **construction procedure.**

As the realization of a project is closely related with the construction of it, the control of the construction process is directly related with the final outcome. Therefore, the lack of control during **construction procedure** ends up with architectural objects that are not favored, liked and even hated by the inhabitants of urban environment. Even 'planning' and 'architectural' procedure of the project is handled in a success, the final outcome (as architectural objects in city structure) might not be acceptable for urban physical environment.

5.4.1. ORGANIZATION MODEL

Construction procedure is the last step which converts the consequences of the last two steps (planning and design procedure) into the architectural objects in the urban environment. These physical entities in the city structure can be built and reconstructed by the activities realized during this procedure. In general,[9] the construction activity is realized by the following organization models;

. construction activity held by individual contractors,
. construction activity held by construction companies.

Projects in smaller scales (single building or building groups) are constructed by the first group, whereas, the urban projects and projects relatively in larger scales (building complex or urban centers) are realized by the second group. The dichotomy living in the organization of construction procedure may be represented by the benefit expected by the constructor, as, the 'qualitative' expectancies of the public from the building construction activity.

Briefly, contractors and construction companies are the organizations shaping the physical entities in urban physical environment.

5.4.2. CONSTRUCTION PROCESS

The significance of these organizations for the urban life is concentrated on their approach to the construction process. Contractors and construction companies aim to obtain speculative income from the construction they are doing. To increase this income, both of the organizations prefer to use maximum right of building defined by the codes and projects. For them, the easiest way of increasing the mentioned income is either by plan revisions or by project revisions.

The revisions done (in parallel to the wishes of constructor and without considering their impacts on city structure)

usually end up with the unwanted physical entities which are the sources of individual income. In fact, the bureaucracy and control mechanism of organizations dealing with planning activity prevent most of the applications coming from contractors. Very few of them who have interdependent relationship with the authorities (relatives, political relationship, economic relationship, ...) manage to obtain plan revisions. On the other hand, the construction companies are more effective on plan revisions. Since, they are interested in urban projects, building complex and housing projects, their relationships with the authorities are more comprehensive. When the mentioned relationship is used both for the income of organization and 'qualitative' aspect of public, the outcome will be satisfactory for both of them. As an example, the connection of several parcels into a building lot provides more healthy, secure and satisfactory environments.

The changes done by the constructor during the construction process necessitates 'project revision'. The buildings constructed without regarding the projects creates problems during and after the construction process. During the construction, due to lack of material or in order to increase the income some changes are done. As these changes are not evaluated during the 'design process', the solutions must be produced during construction. Therefore 'project revision' is needed. Moreover, all the changes must be indicated after the

construction finished, in order to prepare the inputs for future developments. In other words, after construction process completed, 'as built projects' must be prepared.

As a consequence, the consequence of construction process must contain both the economical income of constructor and the qualitative aspect of public.

5.4.3. PRODUCT

Buildings (which are the consequence of planning-design-construction procedure and especially the construction procedure) are the physical entities shaping the structure of urban environment. In other words, 'building' is the product of construction process. This product, unfortunately, subjected to all the arguments coming from the public, as they are the consequence of whole procedure.

The changes done, considering the intention of increasing the individual benefit, reflected similarly to the product. So, any changes done against public benefit sum up with urban physical environment we are living in. Though, building codes and regulations belong strong legal tools in their content, the level of intensity of the tools seem to loose their strength in construction procedure. Therefore, the product of whole procedure is not the consequence of constructors, but also the authorities that are permitting to construct such physical entities.

In fact, the municipality and governorship have strong legal

tools controlling both the preparation of projects and construction of buildings. In our country, to begin a construction, 'projects' (defined in the previous part) must be prepared. The **building licence** which is a legal prescription indicates the approval of 'projects' by the authorities (following a long time of control by municipality and governorship). The main aim of 'building licence' is to control the projects of physical objects (buildings) before they will constructed. Whereas, to avoid the changes and to force the construction convenient to 'projects' **licence for settlement** is given by the authorities. The licence can be taken if and only if the construction process is realized in parallel to 'projects' prepared and convenient to the articles of 'building codes' related with the construction of building. Towards the lightning of these explanations, a question might be come our mind; 'If the authorities have these kind of legal tools in their hands why we are living in an urban environment full of unwanted, similar physical entities?'

The answer of question is related with the relationship in the society, such as political, social and economic relationships. When the looseness in the organization and lack of coordination between the parts of the organization combine with the mentioned relationship types, the constructor (contractor, construction company and even the individuals) can realize whatever they are intending to do

(either for the benefit of public or their own income). This kind of approach to the construction process is valid not only Turkey, but rest of the world, also. 'Balance' between them (relationship, organization) are the keystone causing the change of physical environment from one to another. Therefore, if a true 'balance' exists between them, the urban physical environment is worth living in.

Footnotes:

1. GRIMM, S., Physical Urban Planning, Syracuse University, Syracuse, New York, 1961, pp. 6

2. AMANPB Ozet Calisma Raporlari, Yuksek Teknik Ogretmen Okulu Matbaa Atelyesi, 1977, pp. 62

3. BADEMLI, R., "Imar Planlamasinda Yabancilasmanin Boyutlari" Kent Planlamada Kuram ve Kilgi, ODTU, S.B.P., Ankara, 1980, pp. 8

4. BADEMLI, R., "Yeni Bir Kent Planlama Cercevesi Arayisi", Turkiye'de Imar Planlamasi, ODTU, S.B.P., Ankara, 1980, pp. 235

5. Ibid., pp. 249

6. GRIMM, S., Physical Urban Planning, Syracuse University, Syracuse, New York, 1961, pp. 6

7. CETINER, A., Turkiye'de Imar Planlama Eylemleri ve Dayanmasi Gereken Bilimsel Kurallar, ITU Universite Matbaasi, Gumussuyu, 1965, pp. 96

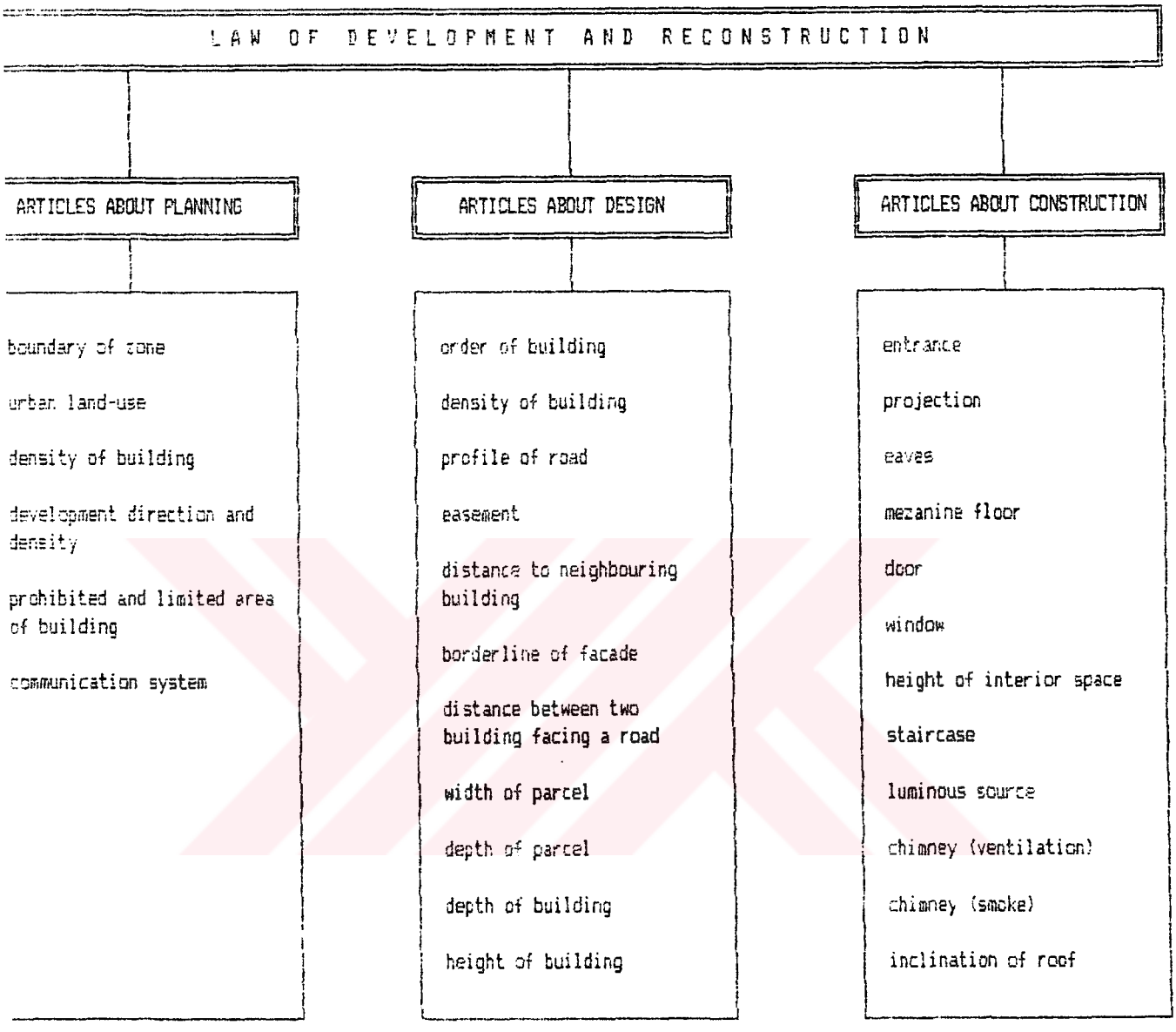
8. TEKELI, I., "Planlamada Uygulamada Kuram ve Kuram Kurucu Uygulama", Kent Planlamada Kuram ve Kilgi, ODTU, S.B.P., Ankara, 1980, pp. 3

9. Ibid., pp. 3

10. Ibid., pp. 3

	PLANNING	DESIGN	CONSTRUCTION
ORGANIZATION	planning activity held by; governorship municipality individual planner planning assoc.	architectural design held by; individual designers architectural associations design groups of companies and institutions	construction activity is held by; contractors construction companies
PROCESS	planner versus developer public benefit individual benefit planner versus developer due to time passes during preparation and approval of plan	designer versus customer qualitative aspect of space maximum right of building designer versus planner due to convert quantitative plan notes to qualitative entities	constructor versus public individual benefit public benefit constructor versus professionals due to increase individual income, wish of plan and project revisions
PRODUCT	PLAN	PROJECT	BUILDING

MATRIX A1 ELEMENTS OF PLANNING-DESIGN-CONSTRUCTION PROCEDURE



BLE 5.1) ARTICLES OF LAW OF DEVELOPMENT AND RECONSTRUCTION ABOUT PLANNING-DESIGN-CONSTRUCTION

LAW OF DEVELOPMENT AND RECONSTRUCTION

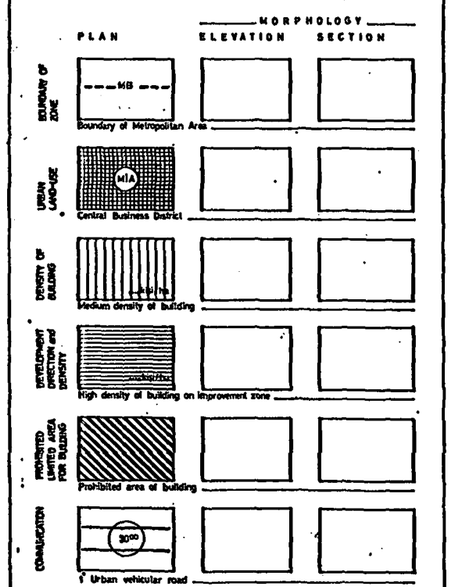
THE LAW NUMBER 3194
İMAR KANUNU

9 MAYIS 1985 TARİHLİ (18749 S.R.G.) İMAR KANUNU
2 KASIM 1985 TARİHLİ (18916 S.R.G.) İMAR YÖNETMELİKLERİ

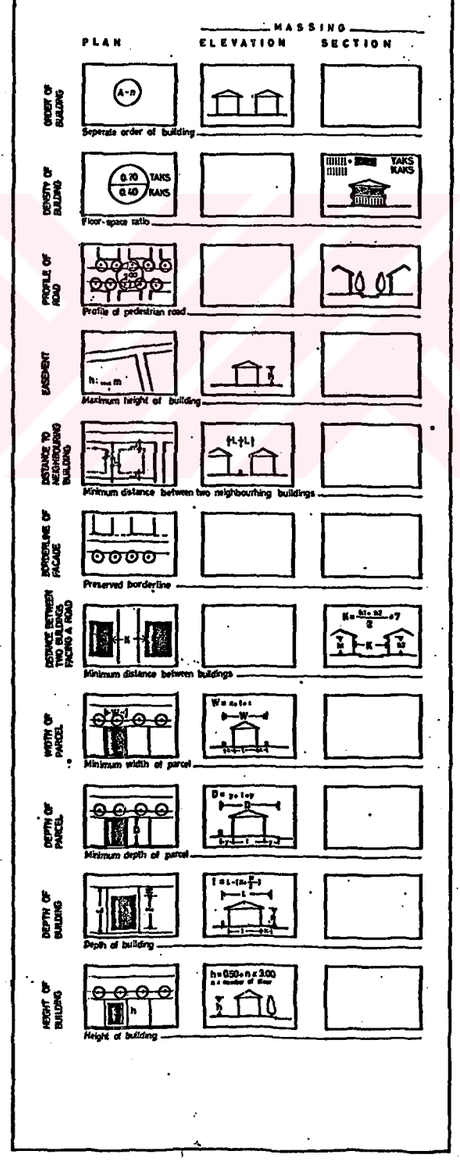
THE LAW NUMBER 3030
İMAR YÖNETMELİĞİ

BÜYÜK ŞEHİR BELEDİYELERİNİN
YÖNETİMİ HAKKINDAKİ KANUN ve YÖNETMELİK

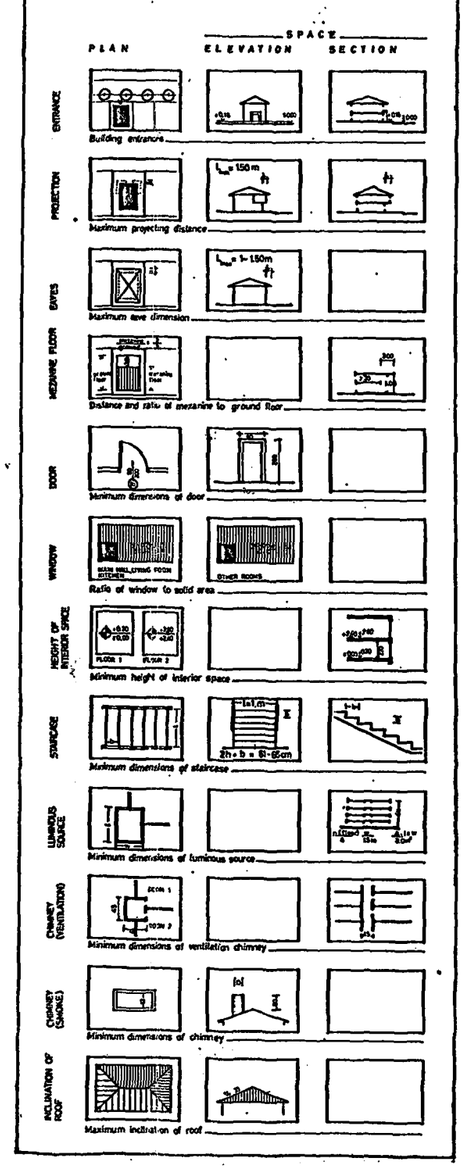
ARTICLES ABOUT PLANNING



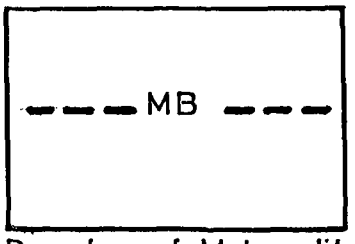
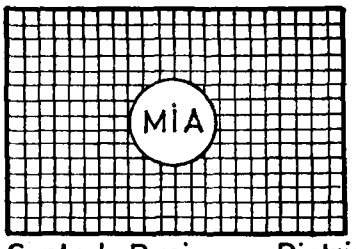
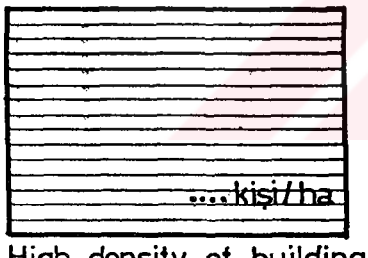
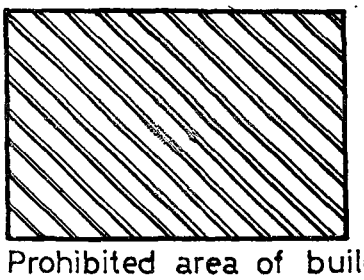
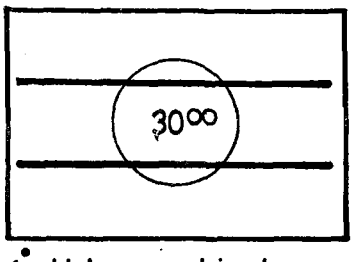
ARTICLES ABOUT DESIGN



ARTICLES ABOUT CONSTRUCTION

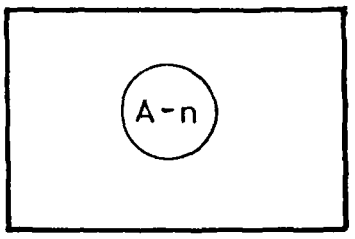


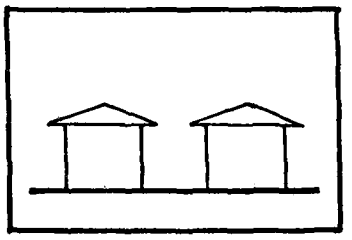
MORPHOLOGY

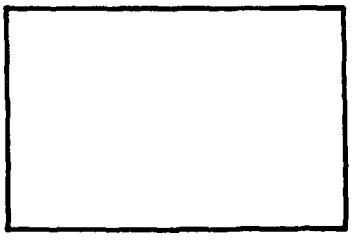
PLAN	ELEVATION	SECTION
		
Boundary of Metropolitan Area		
		
Central Business District		
		
Medium density of building		
		
High density of building on improvement zone		
		
Prohibited area of building		
		
1• Urban vehicular road		

MASSING

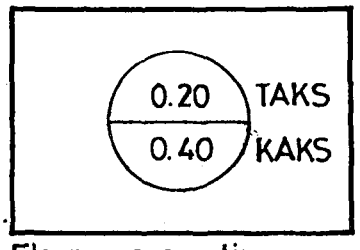
PLAN ELEVATION SECTION

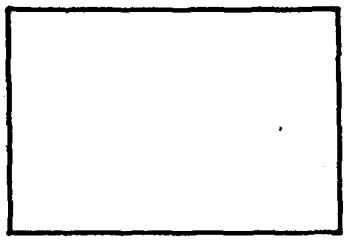


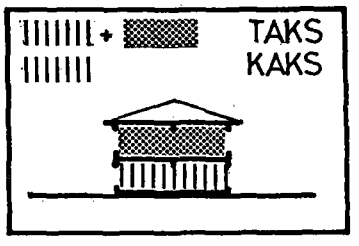




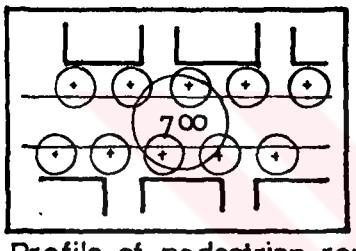
Seperate order of building

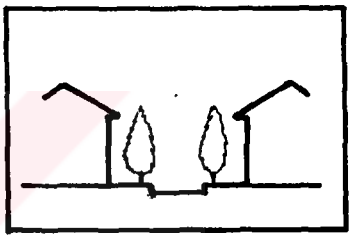




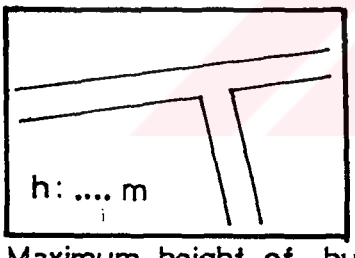


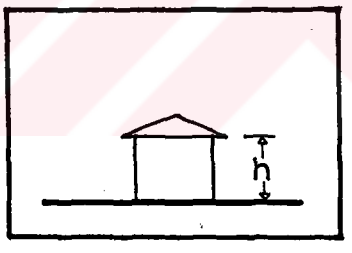
Floor-space ratio

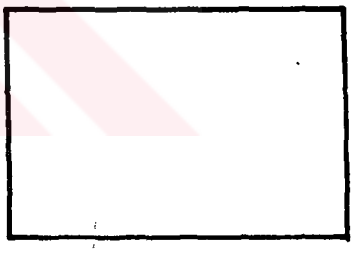




Profile of pedestrian road

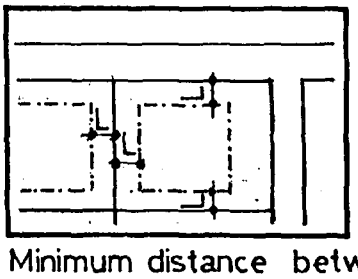


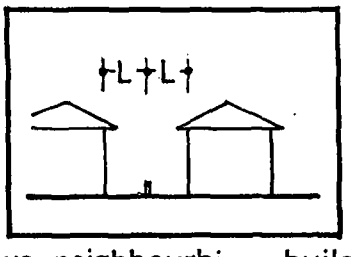


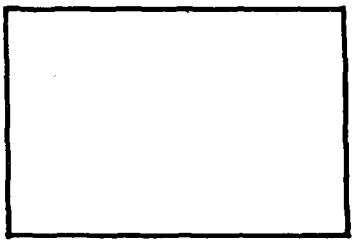


Maximum height of building

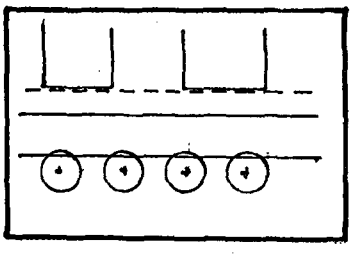
BUILDING

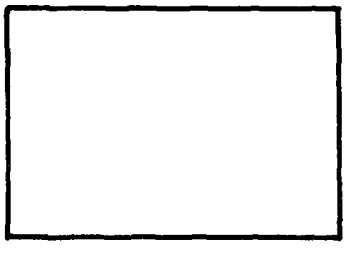






Minimum distance between two neighbourhing buildings



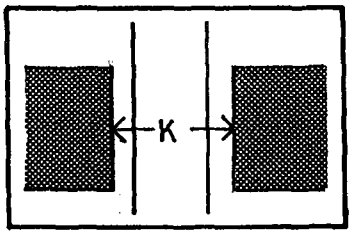


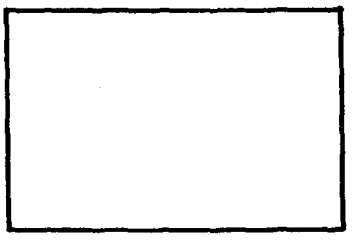
Preserved borderline

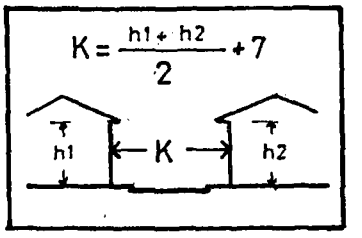
MASSING

PLAN | ELEVATION | SECTION

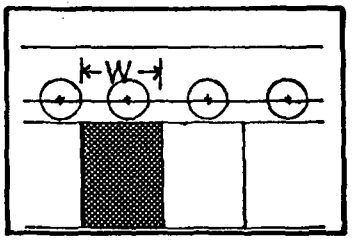
FACING A ROAD

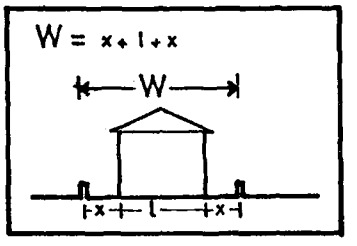


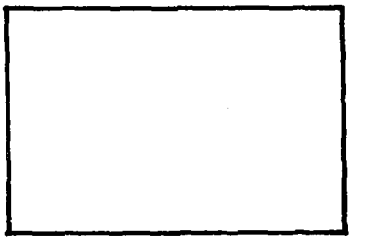




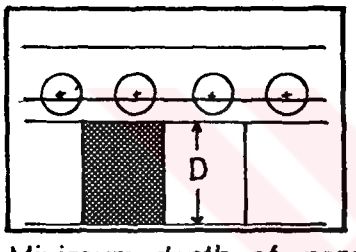
Minimum distance between buildings

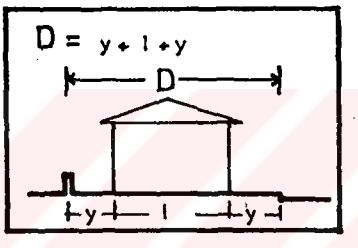


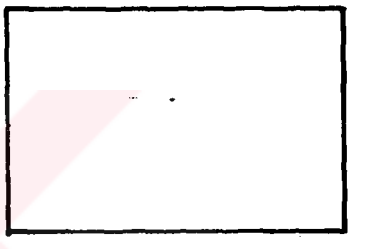




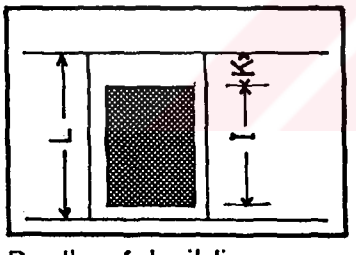
Minimum width of parcel

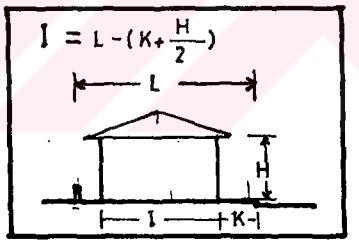


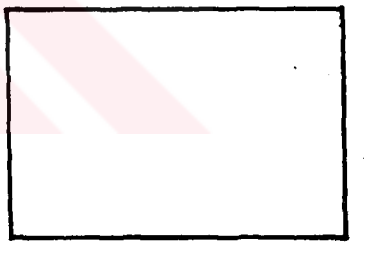




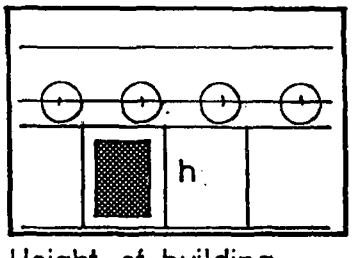
Minimum depth of parcel

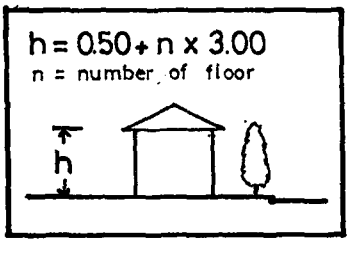


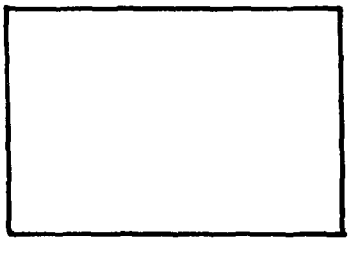




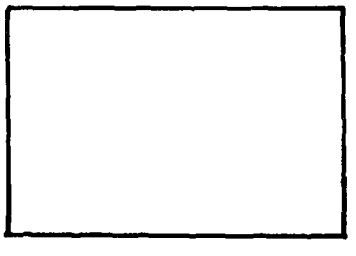
Depth of building

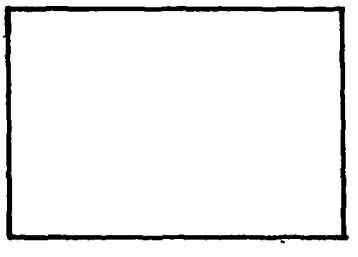


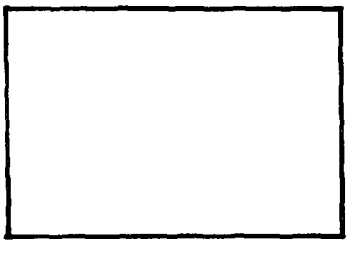




Height of building

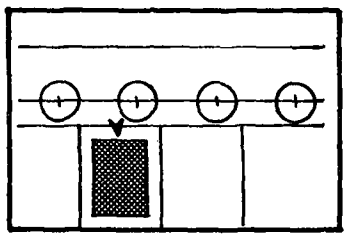


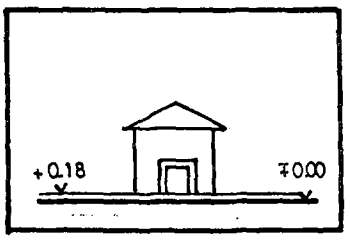


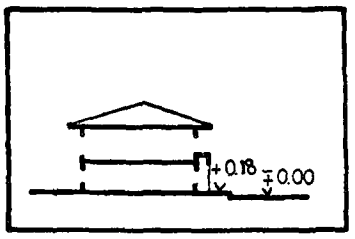


SPACE

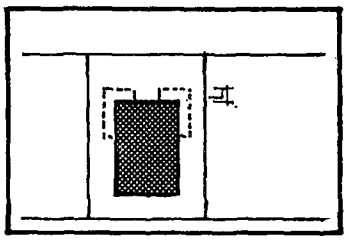
PLAN | ELEVATION | SECTION

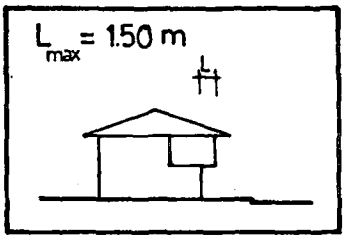


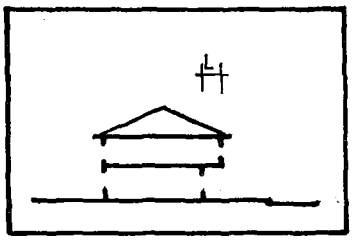




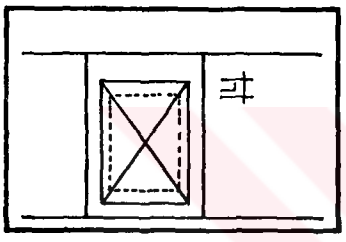
Building entrances

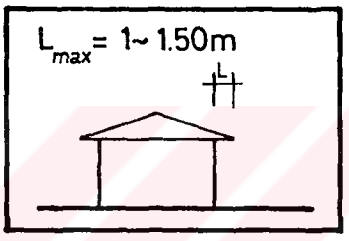




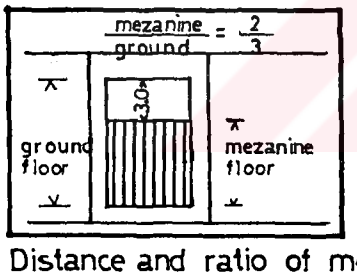


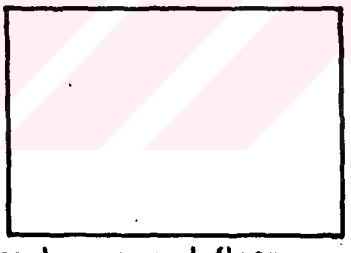
Maximum projecting distance

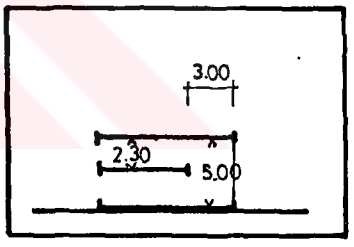




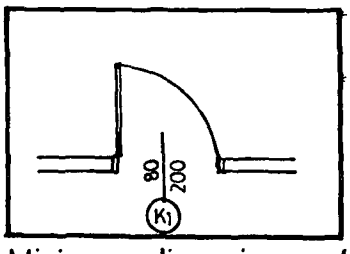
Maximum eave dimension

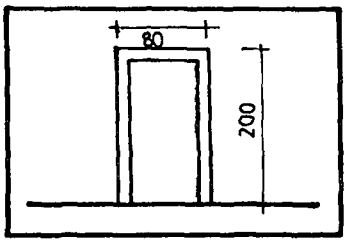




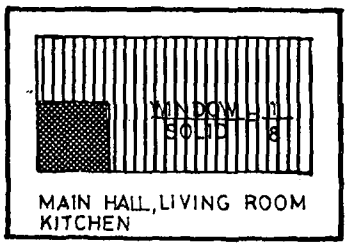


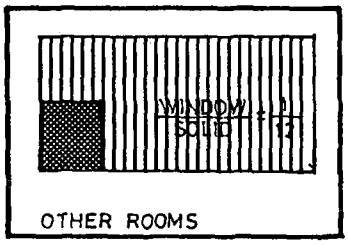
Distance and ratio of mezanine to ground floor





Minimum dimensions of door

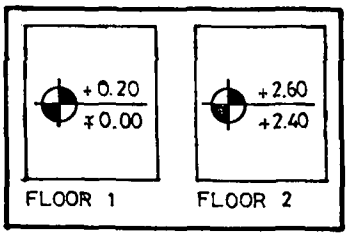


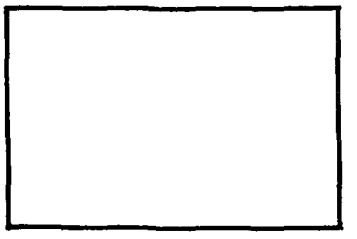


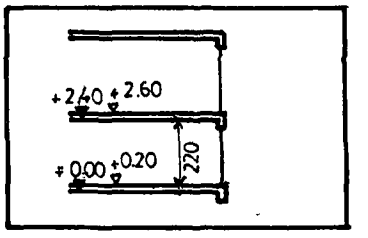
Ratio of window to solid area

SPACE

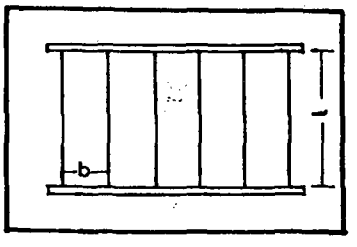
PLAN ELEVATION SECTION

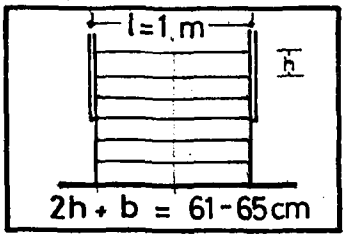


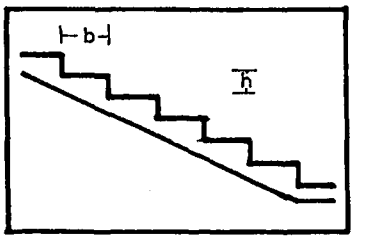




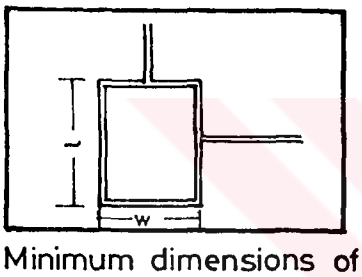
Minimum height of interior space

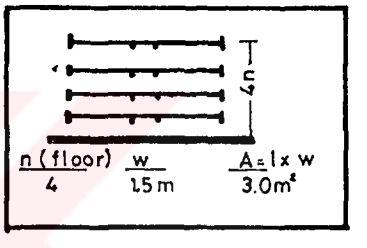




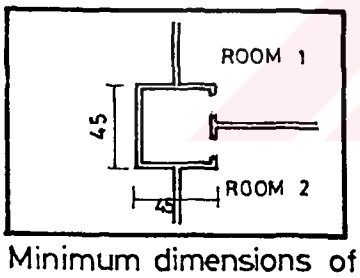


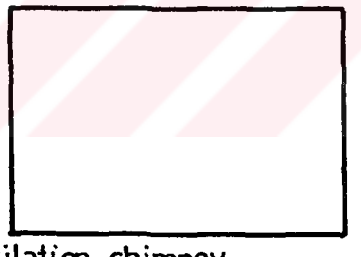
Minimum dimensions of staircase

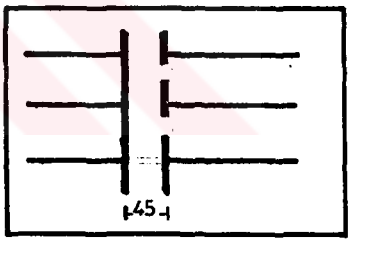




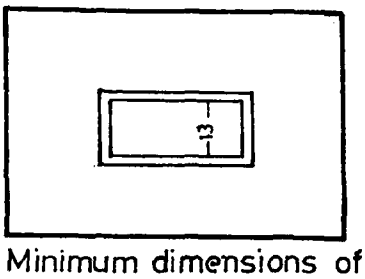
Minimum dimensions of luminous source

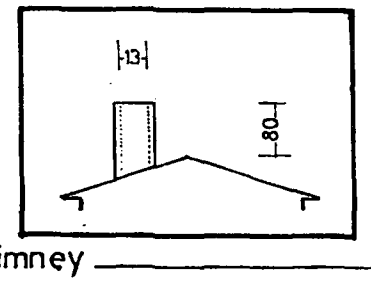


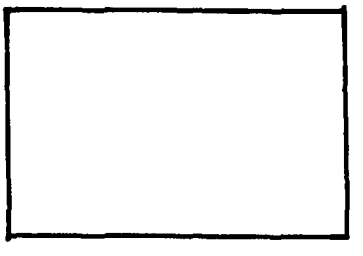




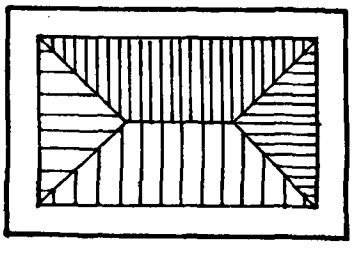
Minimum dimensions of ventilation chimney

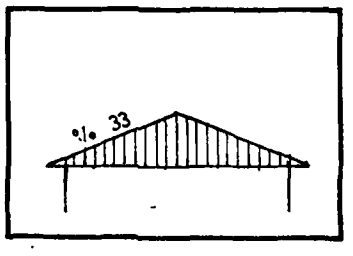


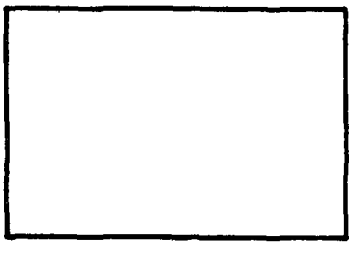




Minimum dimensions of chimney







Maximum inclination of roof

PART III CASE STUDY: ARCHITECTURAL CONSEQUENCES IN THE URBAN LOT 1163/10-19 OF KIZILAY/ANKARA

6. INTENSITY OF URBAN FABRIC

Inflation observed on intensity of building fabric, either by demolishing the existing low-rise building and rebuilding a relatively high-rise one (vertical expansion) or by expanding onto relatively larger areas (horizontal expansion) defined by the laws and regulations, is one of the consequences of urban development and growth having impacts on morphology of urban physical environment and architecture of the city. Due to the limited and valuable urban areas in big cities, vertical expansion is the alternative preferred and applied in the cities having millions of population. Ankara, as the capital of Republic of Turkey is subjected to this inflation till the establishment of republic in 1923.

The demand for urban land, which is valuable and limited with a certain metersquare, is accelerated by the urban growth. To provide the required urban area considering the mentioned inputs, the intensity of building fabric is increased by the laws and regulations. The initial step considered to increase the intensity is to add new building portions (constructing new floor) on top of the existing building.[1] In other words, required area to accomodate new activities can be balanced by adding these building portions, unless it is saturated in

terms of structural system.

The second step realized to increase the intensity of building fabric is to reconstruct new building by demolishing the existing. The structural capacity of the building can accommodate the mentioned addition of new building portions upto a certain limit. When the structural capacity reaches the saturation point, to demolish the existing and reconstruct a new one is the alternative remining to satisfy the demand to urban land.[2]

The reasons underlying the demand towards the change of intensity of building fabric can be stated as:

- wrong decisions given in the planning stage,
- demand of more urban area for urban growth,
- high rate of inflation on the value of urban land as the consequence of urban growth (speculation),
- lack of urban land to expand the urban activities due to geomorphological conditions (topography),
- other reasons (political, social, economical decisions taken by the authorities).

By the influence of these factors, Ankara is subjected to a change in the intensity of building fabric, where the reflection of this change on urban physical environment and architecture of the city is mostly negative. Some of these negative reflections can be summarized as:

- the change in the morphology and architecture of the city (due to addition of new building portions),
- functional transformation (housing district replaced by business district due to urban transformation),
- technical and economical loss on urban environment (demolishing the existing building and reconstructing new one),

- inadequacy of urban services serving to the urban environment due to planless developments and urban growth,
- air pollution,
- traffic jam,
- increase in the intensity of noise.

In the light of the mentioned negative impacts, the change of intensity in terms of vertical expansion, sum up with physical entities full of differing architectural elements of several periods. To add building sections (constructing new floors) by the lightning of urban plans and limitations of building codes of different periods is concluded with buildings constructed according to different geometrical relationship of architectural elements belong to those periods. Unfortunately, when the variety of this urban growth combined with the attitude of public 'to gain more square meters to occupy', the **qualitative aspect of space** is lacked. Moreover, the content of building codes containing **quantitative aspect of space** is another factor pushing urban physical environment and architecture of city into chaos.

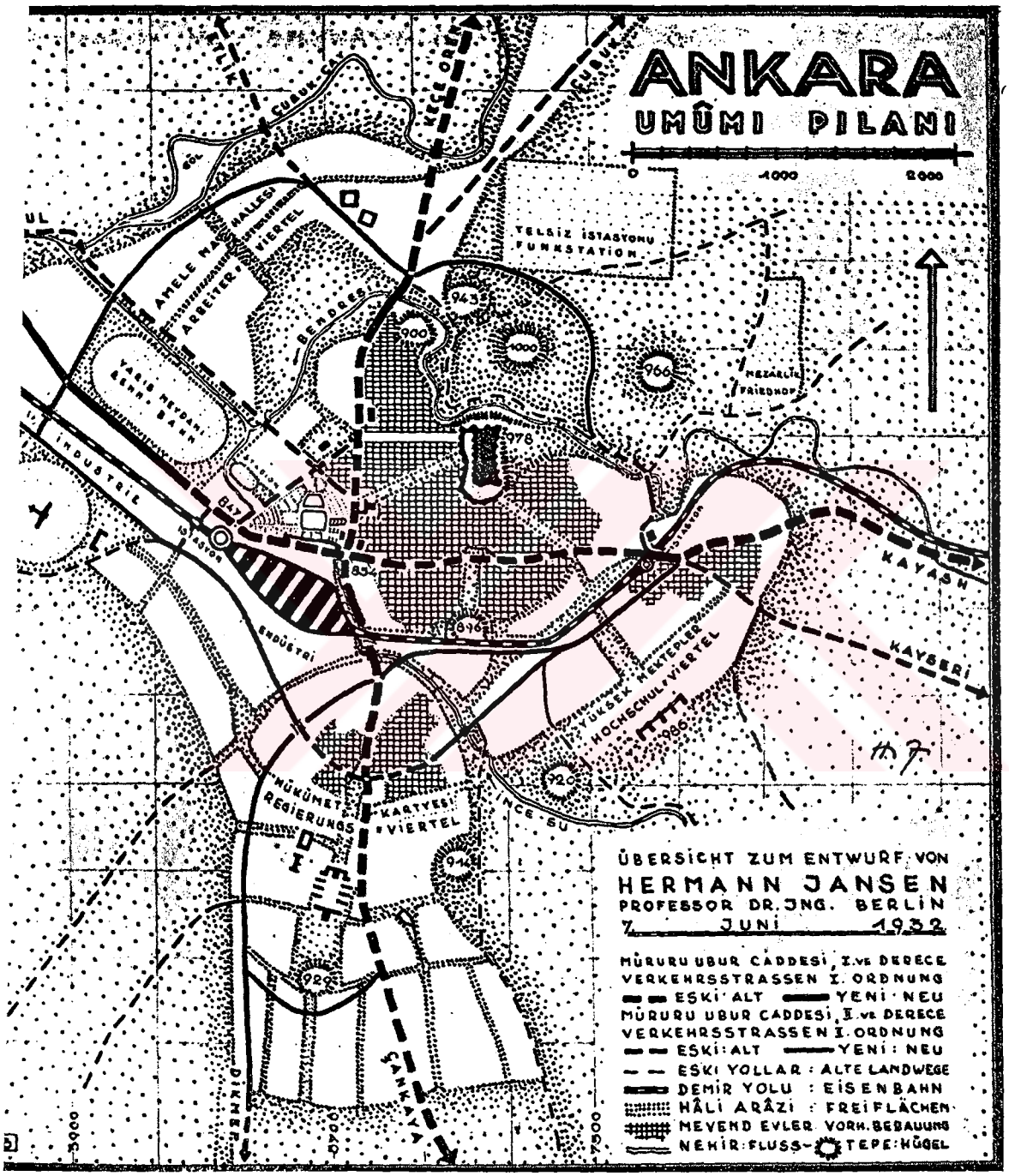
In a city like Ankara, where the urban land is limited and invaluable, 'additional new floorspace on top of the existing urban fabric' becomes inadequate to accommodate the required square meter in terms of technical and structural capacity of building. In this case, it is clear that the existing use-value of building is lower compared to the market value of the urban plot it occupies. In other words, the existing building and its lot provide reserve urban land for future development. To increase the total floor space within a

limited plot causes to the increase of intensity of urban fabric. Therefore, public prefer to construct maximum building area on to the limited parcel area with spending minimum money in minimum interval of time without considering the 'qualitative aspects of space' reflected to urban environment.

As a consequence, 'intensity of building fabric' is one of the factors effecting urban life and urban architecture in several layers. Our aim in case study is to illustrate the impacts of intensity of building on Kizilay which is one of the CBD (Central Business District) of Ankara. Kizilay is specially selected as case study area considering its activity field and number of change faced. It is clear that the change of intensity of building fabric can be sensed at higher level on the business districts. Kizilay, planned as the new settlement area of Ankara during Jansen Plan, changed its initial character by the later developments observed in the society. To illustrate the functional transformation, impacts on urban physical environment and formation of architecture, we do concentrate on urban growth and transformation of Kizilay within a chronological order.

6.1. HISTORICAL EVOLUTION AND FUNCTIONAL TRANSFORMATION OF KIZILAY FROM HOUSING TO CBD

The initial information about Kizilay district can be obtained from the plan done by Jansen. Ankara, as the capital of Turkey, entered a period of urban transformation and growth following the establishment of Republic of Turkey. So, the necessity of an 'urban plan' came into scene. The first plan prepared for Ankara after the republic was realized by German city planner Herman Jansen. In his plan, the Castle of Ankara was the crown of the city, whereas, Cankaya (the peaks at South) were arranged for the accommodation of Ataturk. The boulevard beginning from the north of the city 'Ulus' reaches Cankaya passing through the new housing district 'Yenisehir' and 'Bakanliklar Sitesi' (Ministry Complex) named 'Ataturk Boulevard'[3]. Jansen, in both sides of this boulevard located housing districts. Kizilay is one of this housing districts of that period (Fig.6.1). Unfortunately, the population estimated by Jansen for the 1980's of Turkey (which was 300.000 people) had been reached by the end of 1951. This new situation forced authorities to take precautions in order to bridge the gap. By the wrong estimation done and due to urban transformation, it is clear that buildings constructed till 1951 could not answer the required capacity of building such as housing, commercial, trade buildings in Ankara. As mentioned before, the solution of the problem is either to concentrate or diffuse the intensity. The first precaution was taken by the decision



(Fig. 6.1) Ankara Urban Plan by Jansen
[Source : Ankara Imar Plani, pp. 18]

number 308 dated October 20, 1951. This decision given by the Ministry offer an opportunity or permission to construct one more floor as an extension to the existing. Following to the decision, in May 15, 1952, Municipality of Ankara asked Ministry of Reconstructions' point of view about the maximum number of floor that might be constructed on Kumrular street, Gazi Mustafa Kemal Boulevard, between Opera-Dikimevi and Kizilay Dikimevi(where proposed number of floors is 4) across Ataturk Boulevard (where proposed number of floor is 5). The approval coming from the Ministry in June 6, 1952 stated that the proposal was not within the interest field of authorities of ministry, but the proposed could be said to be 'convenient'.[5]

The year 1954 is another milestone for the planning of Ankara. The international competition was organized at that time to obtain a new 'urban plan' for Ankara. The 'urban plan' prepared by Nihat Yucel and Rasit Uybadin won the competition. The population estimated for the future 20 years was 750.000 people. In a short time period, it was observed that 'urban plan' and 'plan decisions' were far apart from their objectives and aims. Therefore, public began to force authorities with the wish of change.[6] In this plan, Kizilay was still the housing district of that time. Infact, the initial marks of the functional transformation began during the end of 1930's in Ankara. Jansen plan approved in 1932 did not consider a CBD in its content, but the functional zoning

done during the planning process indicated Ulus as the CBD of new Ankara.[7] By the beginning of 1950's Ulus and near surrounding, especially Anafartalar Street was the CBD of Ankara accommodating commerce, because of its location and importance for Ankara.[8] By the end of II. World War, it was observed that, Kizilay and Bakanliklar were the alternative districts forming another sub-center to accommodate CBD functions.[9] In other words, these two districts entered an unestimated urban growth which was not expected by Jansen plan. As it can be easily understand from the urban plan, in 1954, Ulus accommodate % 65 of commerce, whereas, Kizilay accommodate % 35, which is a very significant number that must be considered during the planning process.[10] Another message that was given by this ratio is the shift in the location of CBD in Ankara from Ulus towards Kizilay. R. Bademli, in his article about 'urban growth of CBD in Ankara' explains the reasons of the shift as:[11]

> "By the period of 1945-46, urbanization realized in Ankara accelerated rapidly by migration from rural area. These newcomers prefer to live and habituate on Ulus and near surrounding. At the same time, South of the city (Yenisehir, Kizilay, Bakanliklar and Cankaya district) began to accommodate Presidence, Ministries, Embassies and Universities. The prestige offered by these institutions pull higher income groups and central functions to South. Therefore, accommodation of lower income group in Ulus and general approach of higher income group to live in South of city became the fundamental and significant reason of the shift. In connection to urban growth, Ankara expanded towards Cankaya and governor, developer, tradesman, higher income group shifted their interest area and developments towards south. Kizilay was one of these centers accommodating commerce and CBD functions."

During the end of 1940's and beginnings of 1950's CBD functions in Ankara shifted from Ulus to Kizilay due to high rate of urbanization, movements of habitants and geography of Ankara. As a consequence, before the preparation of Uybadin-Yucel plan, Kizilay was the most significant alternative of new CBD of Ankara.

Unfortunately, Uybadin-Yucel plan approved in 1957 did not consider this future urban transformation in the urban life of Ankara. Though, in plan notes, the increase in the intensity of building fabric was mentioned, planners did not expected the shift of the most CBD functions to Kizilay. In their explanation report;[12]

> "The commercial center activity of Ankara has been focused on Anafartalar Avenue which is the avenue between Ulus square and Samanpazari district. Towards Yildirim Beyazit district from Ulus, small commercial shops and offices are located. Yildirim Beyazit district will be the new development district for the mentioned activities. Except Ulus, in the recent years Kizilay and surrounding begin to be loaded by business-commercial activities. In Kizilay, an activity change can be observed. Kizilay, which is planned as housing district transform this function to commerce and business. Therefore, houses turn to offices and shops. By the time, Kizilay will be a place full of offices, gastronomic and entertainment functions, parks. Ulus will not change its initial character and will continue to be the CBD of Ankara and will develop accordingly."

It is strange to feel that the planners are not aware of development and urban growth of Ankara during the preparation of urban plans. In a very short time interval after the approval of plan, it was observed that Kizilay became more significant than the Uybadin and Yucel mentioned in their explanation report.[13]

High rate of demand to Kizilay brought speculation on urban land which can be the fundamental problem of big cities. As Uybadin and Yucel did not consider Kizilay as CBD, the decisions about the intensity of building fabric was thought of relatively lower considering the existing situation. To guess the consequence of the situation is not so difficult. Thus, the first objective came from Dilaver Argun who was the governor of that period, in December 1959. Due to the wishes and objectives of public, a proposal given to Ministry to increase 'one more floor' to the existing building fabric. The Ministry rejected the proposal stating that proposal will sum up with more negativism for the urban physical environment and architecture of the city.[14]

In August 1960, 9 months later, the same demand once more presented to Ministry in a more comprehensive way as; "to construct one more floor to existing building fabric except houses of 2-3 floor height at Etlik-Cankaya-Kecioren-Yenimahalle-Dikmen-Balkiraz districts. Answer coming from the Ministry stated that the presented proposal can be approved, but firstly, the idea and viewpoint of planner Nihat Yucel was asked to determine a scientific report indicating the affect of proposal to the urban life in Ankara.

According to the report of Nihat Yucel in October 18, 1960, the intensity of buildings in Ankara was highly over the urban standards. Several urban problems, such as urban services, parking, recreational and entertainment problems,

air pollution, traffic jam were affecting the urban life and physical environment. The main points of the report can be summarized;

1. During Jansen Plan the decisions about the skyline of building (template) were determined considering every detail, measurement and their reflection on morphology and architecture of city in mind.

2. The decisions about the skyline of buildings belong to the period of 1936-1955 concluded with 'problem of basement'. The new floor 'basement' accommodated more square meter and it means more activity areas. Therefore, the consequence of 'basement' caused the increase of intensity of building fabric that were estimated previously.

3. Population density of Ankara depending on number of floor;

number of floor	density (people/hectare)
2	240
3	360
4	520
5	650

Those rates of population was highly above the urban standards. If the proposed plan approved, the population rate for 6 floor will be 739 people/hectare.

4. As a conclusion, the balance between the intensity of building and urban services given to the city are shifted towards the intensity of building. Therefore, the social and cultural services, parks, carparking, infrastructure etc. planned according to certain standards can not balance the high rate of intensity and population.

In the light of the explanation report given by Nihat Yucel, in December 1960, Ministry approved the proposal of municipality by making correction to prevent the increase of intensity considering the 'new floor construction' on some

15

significant avenues of Ankara. The proposal put into application in 1961 created enormous construction capacity which postponed the general approach of construction to the later years.

In July 1968, the latest increase in the intensity of building fabric realized by the change in the regulations.[16] The attic floor constructed upto this time prohibited due to;

- attic floor was an unaesthetic architectural element for the morphology of the city,
- it was not convenient for the microclimatic conditions of Ankara,
- it did not match with the structural system of the existing building,
- it did not match with the plumbing of existing building.

Therefore, once more, 'one floor addition' process to the existing building fabric was permitted unless it was attic. From this date on, except the decision of Imar Idare Heyeti number 559 dated September 11, 1973, we can observe no right given to public to increase the building capacity or number of floors in Ankara. The fundamental reason of avoiding further increase was the interdependent relation between the rate of intensity of building fabric and its reflection on air pollution.

In 1970, Ulus and the surrounding of Ulus were still accommodating the central business functions. On the other hand, Kizilay CBD grew rapidly and became another significant CBD for Ankara. According to the studies done by AMANPB (Ankara Metropolitan Alan Nazim Plan Burosu) to compare Ulus and Kizilay CBD, it was concluded that Kizilay CBD is relatively larger in terms of 'total CBD area' and 'total CBD floor area ratio' compared to the Ulus CBD, but 'floor space area ratio' accommodating commerce, business, production activities and services given is twice in Ulus CBD compared

to Kizilay CBD. In other words, Kizilay CBD is larger than Ulus CBD in total area, but as it contains larger military, settlement, and institutional areas, AMANPB considered Ulus district carrying more CBD character than Kizilay.[17] The survey carried out by planning bureau in 1970 about the number of working places located in Ankara, illustrated and supported this general view. According to the results of survey, 17140 working places were existing in built-up area of Ankara, % 32 of the total located in Ulus, whereas % 14 in Kizilay CBD.[18] Another result of the statistic is; though it seems Ulus accommodate two times more working places than in Kizilay, the average annual endorsement and average service given by the working places in Kizilay is twice of Ulus.

Briefly, in 1970's the urban transformation in CBD of Ankara has been concluded. A second CBD originated and developed quickly which is Kizilay. By the following years, new CBD functions oriented towards Kizilay. In connection to the functional shift, Ulus lost prestige and significance slowly and became a center for the lower income group and newcomers. Moreover, by the displacement of National Assembly from Ulus to Kizilay, the intensity of the shift towards Kizilay accelerated.

Coming to the 1980's, the common approach of 1970's which was the shift of CBD function from Ulus to Kizilay has been stiffened. The latest variables related to central business districts of Ankara was the study done by the department of

Regional and City Planning in METU in 1985.[19] The study is strengthening the role of Kizilay as CBD. According to another output, the specification of functions related with CBD is stiffened in Kizilay more than in Ulus.[20] Moreover, business centers, prestige, commerce and elite services located in Kizilay, whereas, Ulus became a CBD for lower income group serving to the rural area and wholesale trade.

As a summary, towards the end of 1980's, the expected approaches of 1970's are realized. Kizilay CBD goes beyond to Ulus for the CBD functions accommodating within itself, but, the building fabric in Kizilay reached to a saturation point in a short period of time. Therefore, the institutions, developers, national and international companies preferred Cankaya and Gazi Osman Pasa axis for their future developments and prestigious services. In other words, Ankara is searching for another place to locate new CBD functions as Kizilay reached to the saturation point in terms of intensity of building fabric. Nowadays, compared to Kizilay District, Ulus has the chance to expand in northwest direction 'Iskitler direction' due to topography of the district.[21] Moreover, it is observed that the rate of new construction that take place in Kizilay district is very low. As a consequence, Cankaya and Gazi Osman Pasa axis became the district where public and developers concentrated on for future developments and central business activities. Considering the strong, concrete impact of building codes,

planning-design-construction procedure and market conditions on morphology and architecture of the city, and thinking that the similar situations can occur in the future CBD areas, Kizilay CBD area is selected as the case study area. In addition to this, urban transformation and growth that has been realized beginning from Jansen plan to 1985 urban plan in Kizilay is another significant point for the selection of this district. In every step of the transformation, the significant impact of building codes and planning-design-construction procedure can be sensed by the morphology and architecture of the city.

Building codes, planning-design-construction procedure and market conditions are the three factors guiding to the realization of architecture and formation of urban physical environment. From these factors, building by-laws can be said the most significant factor influencing morphology and architecture of the city. In addition to this, the planning-design-construction procedure is the reflection of building codes which contains quantitative values about the mass and space. Therefore, the guidelines imposed by building codes combining with the quantitative decisions of market conditions sum up with unaesthetic, undetermined and without controlled formation of urban physical environment. In other words, building codes containing guidelines acting against 'plan decisions', became a tool legalizing the illegal goals of public, such as the increase of intensity of building

fabric. On the other hand, the building codes encouraging the legalization of these goals left remarks that can not be repaired on social, economic and physical values of urban life.

The most interesting example of these remarks on social, economic and physical structure of the city can be observed in Ankara in Kizilay CBD. The high rate of inflation of building observed in Kizilay during 1940-80's sum up with degenerated, unfamiliar, similar architectural objects that were damaging the morphology and aesthetic of the city. Moreover, the urban growth independent of urban plan realized in Kizilay sum up with urban environment full of social, physical and economical problems. Air pollution realized till the recent years was one of the fundamental problem of Ankara created by the gab between 'more' building construction and 'lack' of urban services and infrastructure convenient to these urban growth. Other social problems growing with the increase of intensity are noise, traffic jam, transportation, parking lot etc., which have strong influence on urban life.

As a consequence, though the reasons of all the mentioned problems are not directly related with the building codes or planning-design-construction procedure,they have contribution and influence on city problems due to wrong policies the authorities lead. In this case study, we prefer to concentrate on guidelines of building codes that contribute to the wrong urban growth and transformation, either in terms

of the flexibilities defined by the guidelines or the problems occurred due to the same guidelines. Kizilay is the proper case-study area containing both negative and positive illustrations of these guidelines within itself.

Footnotes:

1. BILSEL, G., "Ankara'nin Kentsel Gelismesinde Yikilip Yeniden Yapilma Yoluyla Yukselip Yogunlasma Olgusu ve Yayginlasma Secenegi", Mimarlik Dergisi, 1977/3, pp.5

2. CAKAR, C., OKCUOGLU, Y., " Ankara'da Imarli Alanda Yogunluk Sorunu" Mimarlik Dergisi, 1977/3, pp.45

3. Ankara Imar Plani, Alaeddin Kiral Basimevi, Istanbul,1937 pp. 18

4. CAKAR, C., OKCUOGLU, Y., " Ankara'da Imarli Alanda Yogunluk Sorunu" Mimarlik Dergisi, 1977/3, pp.42

5. Ibid., pp. 43

6. Ibid., pp. 43

7. BADEMLI, R., "Ankara Merkezi Is Alaninin Gelisimi", Ankara 1985'den 2015'e, 1987, Ajans Iletisim, pp. 154

8. The CBD of Ankara during that time was divided into two separate sub-centers. From this sub-centers, Samanpazari and Kale onu was the 'traditional center', whereas, Iskitler, Diskapi and Hergelen Meydani was relatively the 'new' business district.

9. Ibid., pp. 154

10. Ibid., pp. 155

11. Ibid., pp. 155

12. UYBADIN, R., YUCEL, N., "Ankara Imar Plani Izah Notu", Rapor, Ankara, 1957, pp. 8-9

13. The common point of both plans 'Jansen Plan and Uybadin-Yucel Plan' is the determinance of urban growth and transformation not by the 'plan decisions' but by the political, social forces and moreover, by market conditions. In other words, the main determinator of urban growth is depended on dynamics of urban life but also influenced by the rise of intensity of building fabric, improved transformation systems or proposed industry district. An illustration of this forces indirectly affecting the urban growth and transformation can be: the nearness and accessibility of Eskisehir vehicular road and surrounding roads to Kizilay, support the activities held in this area.

14. CAKAR, C., OKCUOGLU, Y., " Ankara'da Imarli Alanda Yogunluk Sorunu" Mimarlik Dergisi, 1977/3, pp.43

15. Kizilay, which is facing on Ataturk Boulevard was one of those avenues, where the right of one floor construction was given.

16. TEKELI, I., GUVENC, M., "Ankara Kenti Yogunluk Yuzeyleri" Ankara 1985'den 2015'e, Ankara, Ajans Iletisim, 1987, pp. 150

17. AMANPB, Ankara Nazim Plan Semasi Raporu, 1970-1990, Ankara, AMANPB YAY. no:5, 1977, pp. 324

18. BADEMLI, R., "Ankara Merkezi Is Alaninin Gelisimi", Ankara 1985'den 2015'e, 1987, Ajans Iletisim, pp. 154

19. Ibid., pp. 156

20. Ibid., pp. 157

21. It was proposed in 1990 plan that 'Ulus' has the chance to expand in northwest direction 'Iskitler direction'.

6.2. QUALITATIVE AND QUANTITATIVE TRANSFORMATION OBSERVED IN KIZILAY

The development observed in city, due to urban growth and transformation influenced by building codes and planning-design-construction procedure is resulted with unhealthy, insecure, unfamiliar and similar objects in the physical environment. Selected case study district 'Kizilay CBD' is a significant example illustrating lack of both 'qualitative' and 'quantitative' aspect of space due to increase observed in the intensity of building fabric and change of function.

The parcels number 10-11-12-13(22)-14-15-16-17-18-19 belong to building lot number 1163 facing through Ataturk Boulevard in Kizilay is the district where the case study will be realized. Building lot number 1163, which was the new housing district of Ankara for Jansen Plan remained same in terms of its boundaries,limits,areas, whereas the total building area continuously accelerated and became the new CBD of Ankara in 1970's. On the other hand, it is obvious that the capacity of Kizilay -in terms of structural system, infrastructure, urban services, social and economic development- to accommodate this sudden urban growth is not adequate.

The inputs that should be taken into consideration during the analysis of case study can be stated as;

1. The parcels number 10-11-12-13-14-15-16-17-18-19 belong to building lot number 1163 are selected considering;

a. The impacts of public, building codes and planning-design-construction procedure are sensed at higher level in Kizilay.
b. The specific parcels selected from the building lot 1163 are considered as a 'sample of urban fabric' taken from the city. The qualitative and quantitative values obtain from Kizilay will sum up with either similar or same values obtained from any urban building lot.

2. The case study contains 'urban growth' realized in Ankara beginning from republican period till today. Therefore,Jansen Plan (1928), Yucel-Uybadin Plan (1955) and Urban Planning studies realized by AMANPB (Ankara Metropolitan Alan Nazim Plan Burosu) in 1970 are in the content of the study.[1]

3. To illustrate the urban growth and transformation observed within Kizilay in a chronological order, 3 time sections are determined. Each time section will be presented by a table indicating 'quantitative' values about the physical environment. Moreover, to observe the formation of urban physical environment and architecture in the case study area, site plan, section crossing Ataturk Boulevard and elevation facing to Ataturk Boulevard will also be presented.

4. The time sections will be taken from 1945, 1975 and 1991. The selected dates indicate the reflection of each Urban Plans to the physical environment and architecture of that time.

5. The time section 1945 is considered as the consequence of

Jansen Plan and the guidelines of the building codes valid for that time. Though the architectural projects belong to these parcels were prepared during 1934-1936, but the construction of buildings were completed till the beginnings of 1940's. So the time-section of 1945 will cover the final position of these buildings.

The general inputs related with the case study area dependent on the guidelines of building codes and decisions of Imar Idare Heyeti[2] can be stated;

a. Area of Parcels: In the development and reconstruction plan prepared in 1/1000 scale, the areas of parcels vary from 399.5 m2 to 690 m2 (TABLE 1).

b. Dimensions of parcels: Depth and width of parcels vary dependent on the development and reconstruction plan in 1/1000 scale (SITE PLAN 1945).

c. Dimensions of construction area: The depth of the building construction is limited with 15 m, whereas, the width differs from 11 m to 18 m (TABLE 1).

d. Order of building construction: Attached Building Blocks

e. Borderline of facades: (SITE PLAN 1945)

f. Height of building: 12.50 m and 15.50m (SECTION 1945)

g. Maximum number of floors permitted: 4 floor + 1 mezzanine

h. Dimensions of projection: 1.00 m (maximum).

The quantitative and qualitative values of that time continued till 1957. The mentioned guidelines and decisions were subjected to change due to the changes observed in building codes and the urban plan realized by Uybadin-Yucel. These quantitative changes also reflected to physical environment and realization of architecture.

6. The second time section passes through 1975 , in order to observe the impacts of new building codes , decisions of Imar Idare Heyeti and Uybadin-Yucel urban plan on urban physical environment. Though, both Uybadin-Yucel Plan (1955) and new building codes (1957) were realized during 1955-1957, their approaches on formation of architecture in urban physical environment were in parallel with the 1945 time section. So, the quantitative and qualitative outputs of 1945 survived till the beginnings of 1960's, except some modifications done within the buildings.

The district plan indicating the number of floor which was approved on August 22, 1968,[3] accelerated the increase of intensity and therefore, demolishing the existing and constructing the new buildings. The qualitative and quantitative inputs of 1945 time-section that were valid up to 1968 changed rapidly. The initial reflections of this change can be observed in urban physical environment in the beginnings of 1970.

The guidelines of building codes and the decisions of Imar Idare Heyeti related with the case study area - following to the changes done in 1968 in respect to the building codes number 1351, 6785[4] - can be stated as;

a. Area of Parcels: The areas of parcels varying from 399.5 m2 to 690 m2 still remains same (TABLE 2).

b. Dimensions of parcels: Depth and width of parcels still remains same (SITE PLAN 1975).

c. Dimensions of construction area: The depth of the building construction which was limited with 15 m change as 20 m for parcels number 17, 18, 19 and as 18.90 m for parcels number 10, 11. The width of parcels remain same, as differing from 11 m to 18 m (TABLE 2).

d. Order of building construction: Attached Building Blocks

e. Borderline of facades: (SITE PLAN 1975)

f. Height of building: 30.50 m and 33.50m (SECTION 1974)

g. Maximum number of floors permitted: 10 floor + 1 mezannine

h. Dimensions of projection: Projection on front facade was prohibited by the decision number 116 of Imar Idare Heyeti on February 23, 1965.

7. The final time section will be taken from 1991 in order to illustrate the final situation of change mentioned in previous part. The new building codes number 3194 prepared in 1985 doesnot contain any guidelines about the case-study area in terms of causing any further change in the area (TABLE 3).

LE 5.13 QUANTITATIVE VALUES ABOUT DIMENSIONS OF BUILT ENVIRONMENT IN KIZILAY IN 1945

sel	depth of building (m)	width of building (m)	ground floor area (m^2)	total floor area (m^2)	parcel area (m^2)	intensity of building	number of floor	easement (m)	date of architectural project	architect
)	15	14	210	880	530	1.66	4	12.50	07/04/1934	Mimar Halim
!	15	18	270	1116	655	1.70	4	12.50	04/05/1936	Mimar Halim
?	15	13	195	812	640.3	1.30	4+m	15.50	23/03/1936	Mimar Halim
22	15	15	225	1060	433.5	2.40	4+m	15.50	04/12/1934	Mimar Halim
4	15	13	195	915	399.75	2.29	4+m	15.50	19/08/1934	N. Sunget
5	15	13	195	915	423.6	2.16	4+m	15.50	04/12/1934	N. Sunget
6	15	13	195	806	497.4	1.62	4	15.50	04/07/1934	Mimar Halim
7	15	11	165	780	512	1.52	4+m	15.50	29/08/1936	Saffet Yalcin
8	15	11	165	780	602	1.29	4+m	15.50	1936	Saffet Yalcin
9	15	11	165	738	690	1.06	4+m	15.50	20/08/1936	Bekir Ihsan

ce: Ankara Metropolitan Municipality Archieve
File numbers: 1163/10-11-12-13-14-15-16-17-18-19-22

E 6.22 QUANTITATIVE VALUES ABOUT DIMENSIONS OF BUILT ENVIRONMENT IN KIZILAY IN 1975

el	depth of building (m)	width of building (m)	ground floor area (m^2)	total floor area (m^2)	parcel area (m^2)	intensity of building	number of floor	easement (m)	date of architectural project	architect
	15	14	210	880	530	1.66	4	12.50	07/04/1934	Mimar Halim
	15	18	270	1116	655	1.70	4	12.50	04/05/1936	Mimar Halim
	17	13	221	2353	640.3	3.70	10+m	33.50	08/06/1970	Ahsen Yapanar
2	15	15	225	1060	433.5	2.40	4+m	15.50	04/12/1934	Mimar Halim
	15	13	195	915	399.75	2.29	4+m	15.50	19/08/1934	N. Sunget
	15	13	195	915	423.6	2.16	4+m	15.50	04/12/1934	N. Sunget
	15	13	195	2067	497.4	4.15	10+m	33.50	31/01/1975	Can Bizet
	15	11	165	780	512	1.52	4+m	15.50	29/08/1936	Saffet Yalcin
	15	11	165	780	602	1.29	4+m	15.50	1936	Saffet Yalcin
	15	11	165	738	690	1.06	4+m	15.50	20/08/1936	Bekir Ihsan

s: Ankara Metropolitan Municipality, Archieve
File numbers: 1163/10-11-12-13-14-15-16-17-18-19-22

LE 6.33 QUANTITATIVE VALUES ABOUT DIMENSIONS OF BUILT ENVIRONMENT IN KIZILAY IN 1991

cel	depth of building (m)	width of building (m)	ground floor area (m^2)	total floor area (m^2)	parcel area (m^2)	intensity of building	number of floor	easement (m)	date of architectural project	architect
0	18.9	14	264.6	2826.6	530	5.30	10+m	33.50	03/10/1973	Kaya Gonencen
1	18.9	18	340.2	3634.2	655	5.50	10+m	33.50	27/10/1980	Umut Inan
2	17	13	221	2353	640.3	3.70	10+m	33.50	08/06/1970	Ahsen Yapanar
22	15	15	225	1060	433.5	2.40	4+m	15.50	04/12/1934	Mimar Halim
4	15	13	195	2072	399.75	5.18	10+m	33.50	19/04/1983	Mehmet Tezel
5	15	13	195	915	423.6	2.16	4+m	15.50	04/12/1934	N. Sunget
6	15	13	195	2067	497.4	4.15	10+m	33.50	31/01/1975	Can Bizet
7	15	11	165	780	512	1.52	4+m	15.50	29/08/1936	Saffet Yalcin
8	15	11	165	780	602	1.29	4+m	15.50	1936	Saffet Yalcin
9	20	11	220	2312	690	3.35	10+m	33.50	29/04/1977	Altan Ersoy

e: Ankara Metropolitan Municipality Archieve
File numbers: 1163/10-11-12-13-14-15-16-17-18-19-22

6.3. EVALUATION AND CONCLUSION OF THE CASE STUDY

The outputs of case-study held on Kizilay CBD referring to the morphology of city, formation of urban physical environment and architecture in this environment can be summarized as;

1. The increase of intensity of building in urban physical environment is directly related with the urban growth and time (TABLE 4).

1.a. As time passes and intensity of building increases, total ground floor area increases slightly compared to the total floor area (DIAGRAM 1).

1.b. The increase of total floor area is directly related with time (DIAGRAM 2).

1.c. The areas of parcels remain same , as time passes (DIAGRAM 3).

1.d. Urban growth realized within years is directly related with the increase of intensity of buildings (DIAGRAM 4).

2. Consequence of the increase of intensity - within time by the influence of growth - on urban physical environment is the expansion of building fabric. As the land is limited within certain dimensions and as the economic value of the land is very expensive, vertical expansion is preferred rather than horizontal expansion.

2.a. As the intensity of building fabric increases within time, the realization of horizontal expansion of buildings

are rare compared to the realization of vertical expansion (DIAGRAM 5).

2.b. The vertical expansion of building is directly related with the increase in intensity within time (DIAGRAM 6).

2.c. The increase observed in number of floor is directly related with the passing years (DIAGRAM 7).

2.d. The increase in the height of the buildings is directly related with the increase in the intensity of building and the passing years (DIAGRAM 8).

3. The demand for more area to accommodate new CBD functions sum up with demolishing the existing building and constructing the new one. The general approach to expand the buildings in vertical direction can not be realized from a certain number of floor due to technical reasons (such as structural system and plumbing of existing buildings). Therefore, demolishing-construction process come into the scene.

3.a. It is observed that due to the reasons stated above, as the intensity of building increases within time, number of demolishing - construction process increases (DIAGRAM 9).

3.b. The increase observed in height of the buildings is directly related with the increase in number of demolishing - construction process (DIAGRAM 10).

4. Demolishing-construction process, which is one of the result of rise of intensity of building due to urban growth, realizing in different time intervals damages the unity and

continuity of architecture within urban physical environment The variety observed in the skyline of the case study area is an illustration of discontinuity in architecture .(ELEVATION, SECTION 1945-1975-1991) (DIAGRAM 11).

5. The functional transformation of Kizilay and buildings in Kizilay is directly related with urban growth realized and increase of intensity of building.

5.a. The areal increase observed on accommodation of CBD functions is directly related with the increase of intensity within time (DIAGRAM 12).

5.b. The increase of intensity of building fabric within time is indirectly related with the areal increase observed on accommodating housing function (DIAGRAM 13).

6. The functional transformation and rise of intensity affect the formation of architecture (PLAN, SECTION, ELEVATION 1945-1975-1991).

6.a. Due to functional transformation within time, formation of architecture is subjected to a change. Up to a certain time (the approval of district plan in 1968), public forced architecture to accommodate the new CBD functions within itself. Therefore, till 1968, the increase in number of revisions realized on projects is directly related with the passing years. Whereas, after 1968, by the beginning of demolishing -construction process, the number of revisions decrease by the time (TABLE 5) (DIAGRAM 14).

7. Another consequence of intensity of building and functional transformation is the increase in the problems of urban physical environment.

7.a. Noise is one of these problems occurring with the change of function and rise of intensity of building. According to a study done by Ilhan Tekeli[5], the intensity of sound in Kizilay is above the average values. The intensity of noise which is 66-68 dB during day time become 80 db in rush hours.

7.b. Air pollution and smoke is another problem occurring due to rise of intensity as well as topography of Ankara. According to a study done in 1985[6], the average annual smoke value is 77.96 Mg/mn in Kizilay which is the peak value of Ankara at that time (MAP 1).

7.c. Lack of urban services and green areas are the other outcome of rise of intensity in urban physical environment. The only study done about the lack of urban services in Ankara was realized in 1970. According to the study, the values related with urban services given to Kizilay and Ankara is under the required values. The numerical values are illustrating the gap between the required and existing situations in Ankara. The required value for urban services in Ankara is 16.30 m2/people, whereas, the existing value is 1.76 m2/people[7]. Another illustration of the lack of urban services is the decrease observed in green area for inhabitants of Ankara. The ratio of green area per capita decreases with in time. The ratio of green area to individual which was 5.1 m2 in 1951, 2.4 m2 in 1965 decreased to 1.8 m2

in 1970.[8] As the intensity of building rises due to urban growth, it seems this gap increases geometrically unless some precautions are taken.

8. **Continuity, unity** and **harmony** are the three important factors related with the quality of an urban physical environment. Unfortunately, the outcome of the case study indicated that in time, these three factors lost their positive impact on the urban physical environment.

8.1. The urban room created by the buildings on both side of Ataturk Boulevard lost its morphological quality in time. The vertical dimensions of this urban room which was in **human scale** in 1945 time-section, became a wall like fortification in 1991 time-section which is far away from human scale. In other words, as the height of buildings increased on the both sides of the Ataturk Boulevard, the effect of these buildings to urban room in urban physical environment turned into a **wall** constructed out of human scale, which is lacks the morphological quality of any city.

8.2. The **unity** and **identity** of urban space in Kizilay in 1945 time-section became a disunited and degenerated urban environment in 1991. The continuity of the skyline, the balance of solid and void relationship on the facades, the harmony of windows and balconies, the projections on facades are the elements that are uniting and identifying the urban physical environment. Unfortunately, both the guidelines of building codes and decisions given by the authorities,

mentioned architectural tools that existed in 1945 time-section demolished in 1991 time-section.

By the prohibition of making projections on facades of building, the three dimensionality on facades were also prevented. During case study,it is observed that; the prohibition of projection followed by the increase in intensity of building fabric, the qualitative values related with the facades of buildings turned into quantitative values. In other words, by the prohibition of making projections, architecture was forced to find solutions to the two-dimensionality of the facades. Therefore, the variety on facades are tried to be reached by the compositions of massive and transparent surfaces by the architectural treatments, which leads to similar ordinary buildings having no identity. In addition to these, the proportion of void parts to solid parts of the building which is controlled by guidelines of building codes, prevents the continuity,harmony and balance of the solid to the void, and therefore, unity of urban physical environment is disturbed. Moreover, the discontinuity of skyline in 1991 time-section also implies the lack of unity and harmony in that region.

As a consequence, though it seems that the qualitative values of urban physical environment increase within time, in Kizilay case study area, we observed that the quantitative values related with unity, harmony and continuity of Kizilay urban physical environment in 1945 is more than the case in

1991. Therefore, within time, a continuous decrease is observed in Kizilay in terms of qualitative values.

9. Another way of forming **continuity, unity** and **harmony** in the urban physical environment is underlying in the building codes.

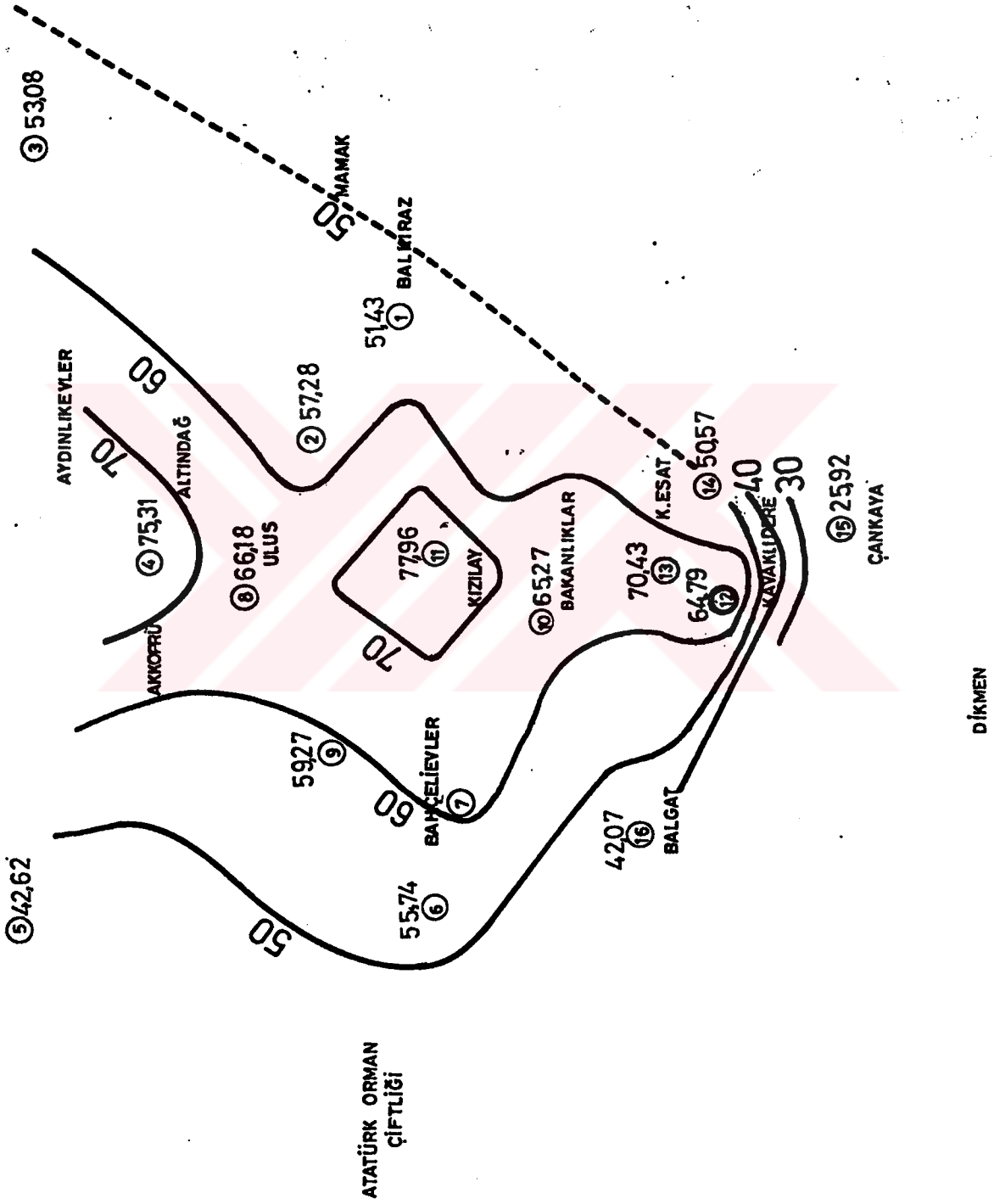
It is observed that the same guidelines of building codes are applied on the buildings in the case study area. The similarity observed both on the plans, sections and elevations of the buildings are the consequences of guidelines of building codes. On the other hand, these guidelines do not contain any qualitative values that can form **continuity, harmony** and **unity** in the urban physical environment.

The case study done in 10 different parcels of the same plot of land indicate that; the same guidelines of building codes sum up with similar buildings in terms of their plans, sections and elevations (PLAN, ELEVATION 1945-1975-1991). Moreover, except 1945 time section, it is difficult to say the continuity, harmony and unity of urban physical environment exist in case study area in the 1975 and 1991 time sections.

10. In general, the facades of architectural objects are the reflection of the function of space located behind them. Commercial activities located on the ground floor of buildings expands to upper floors in time due to urban

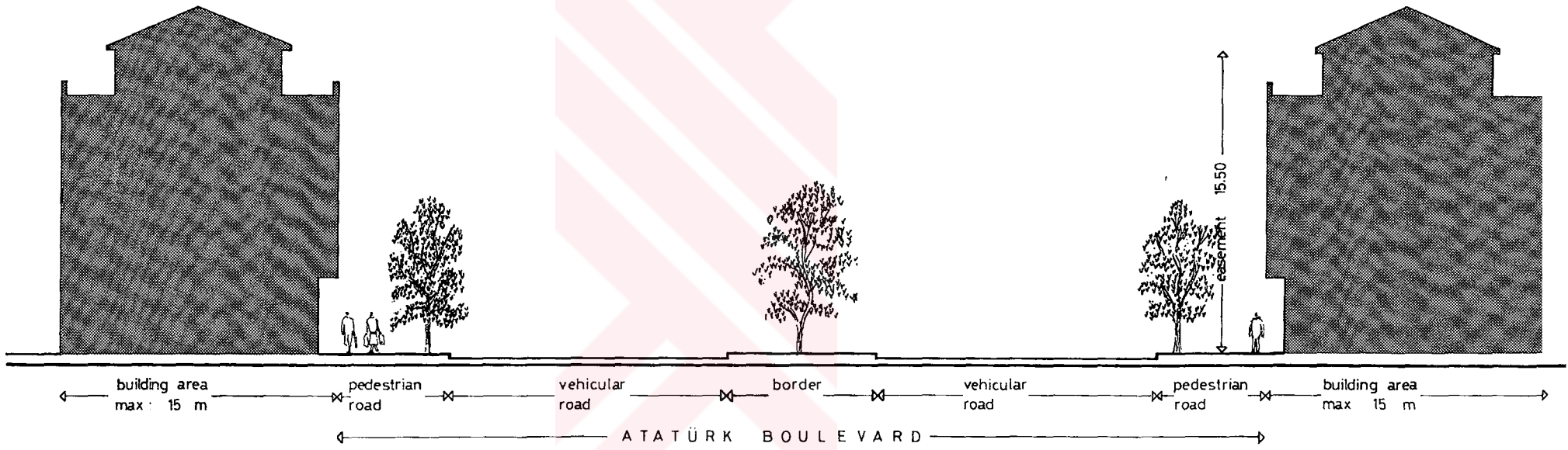
growth. Therefore, the function transformation of space realized within time influence positively and/or negatively the formation of architecture.

A similar situation can be seen in the case study. The commercial activities located in ground floor of buildings in 1945, expanded to upper two floors and basements in time. Finally, in 1991, the first four floors and basements of buildings are occupied with commercial activities. Therefore, formation of architecture in time is directly related with functional transformation. In Kizilay, in the 1991 time interval, it is observed that the repetitive pattern followed by office floors of buildings are replaced by another pattern on commercial and shopping floors.



(Map 6.1) Annual Smoke Value in Ankara
[Source : Ankara 1985'den 2015'e, pp: 177]

ELEVATION 1945



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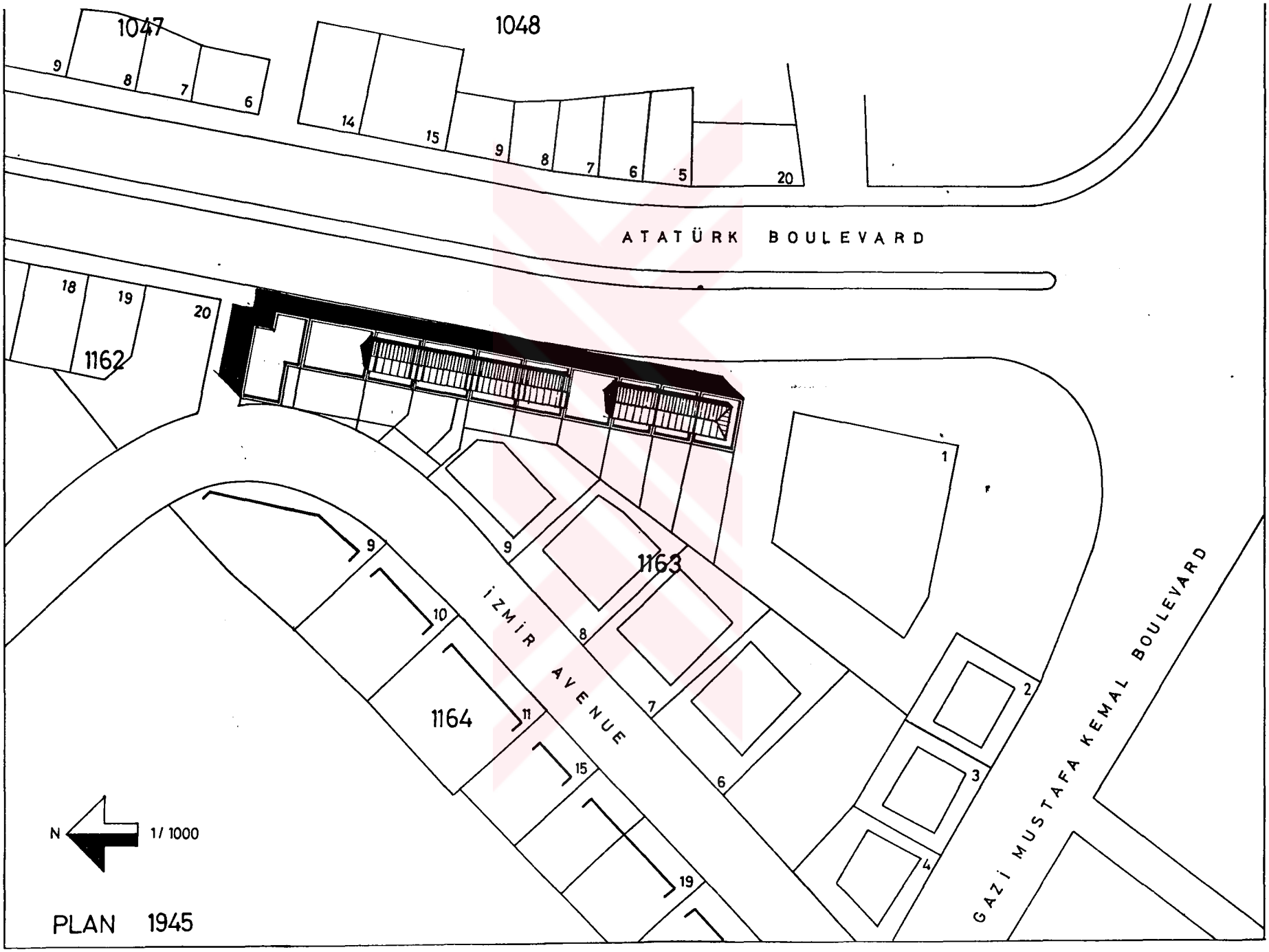
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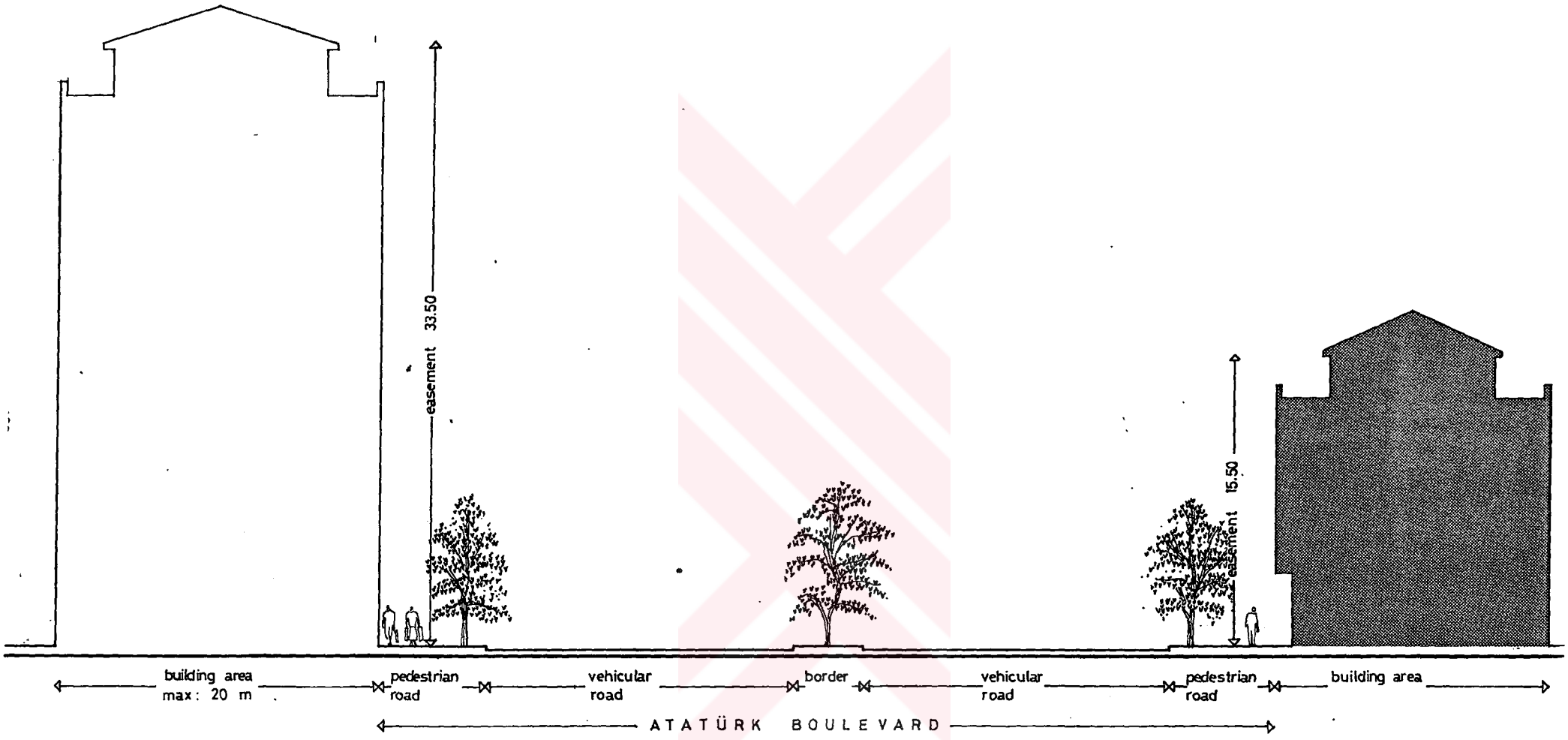
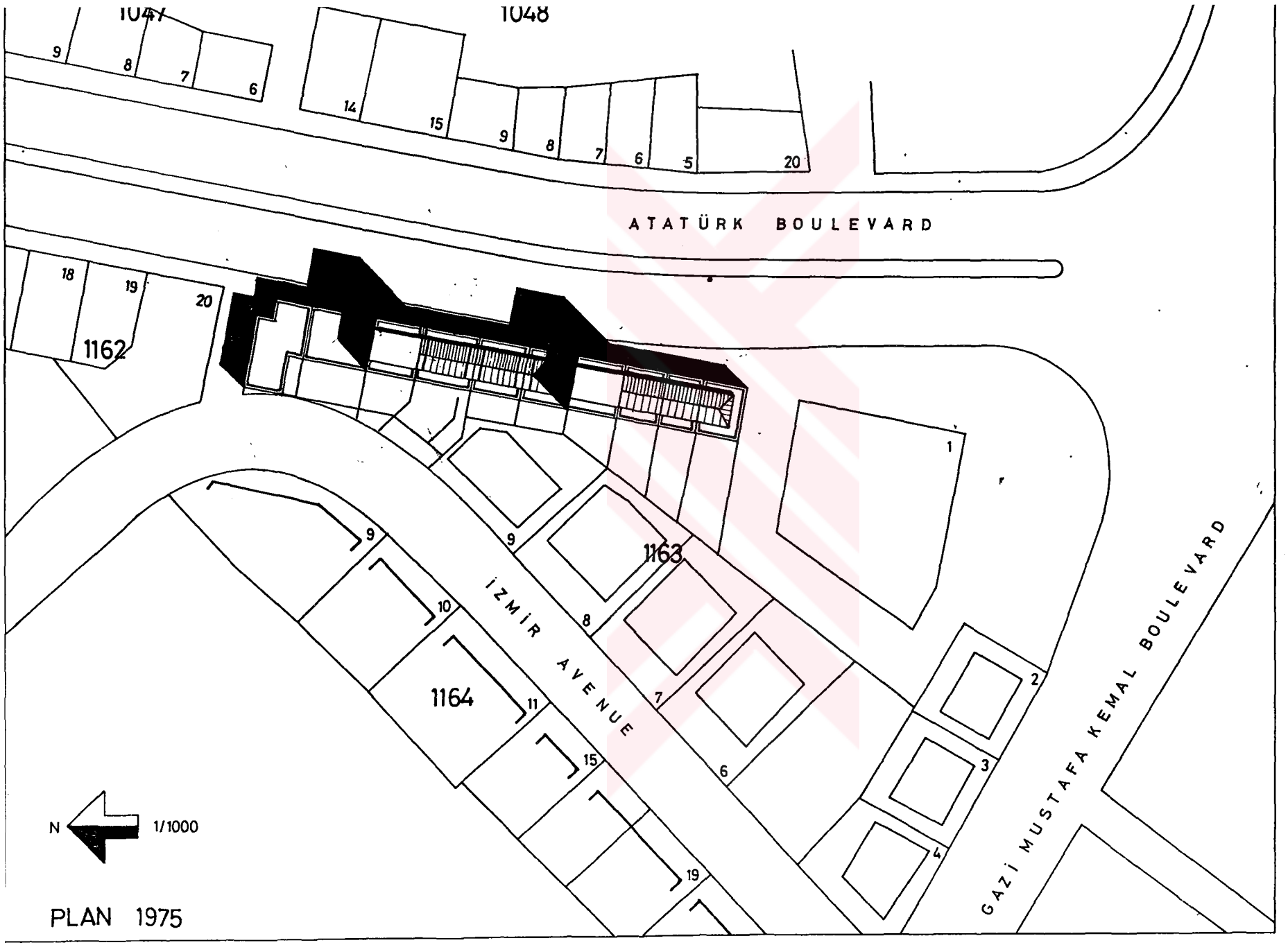
PLAN 1945

ELEVATION 1975



SECTION 1975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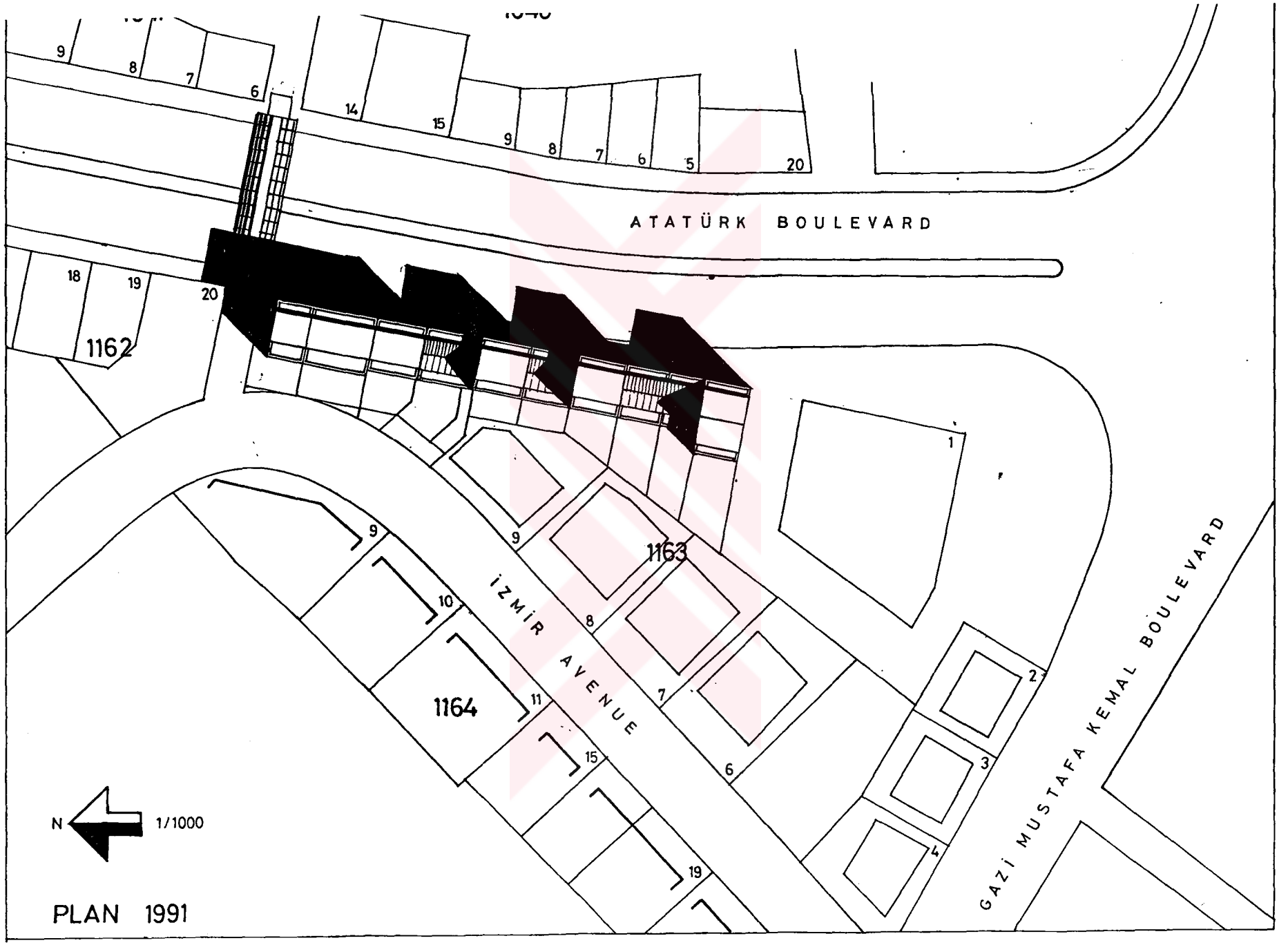
PLAN 1975

ÉLEVATION 1991

SECTION 1991


ATATÜRK BOULEVARD
İZMİR AVENUE
GAZİ MUSTAFA KEMAL BOULEVARD
1162
1163
1164
N
1/1000
PLAN 1991

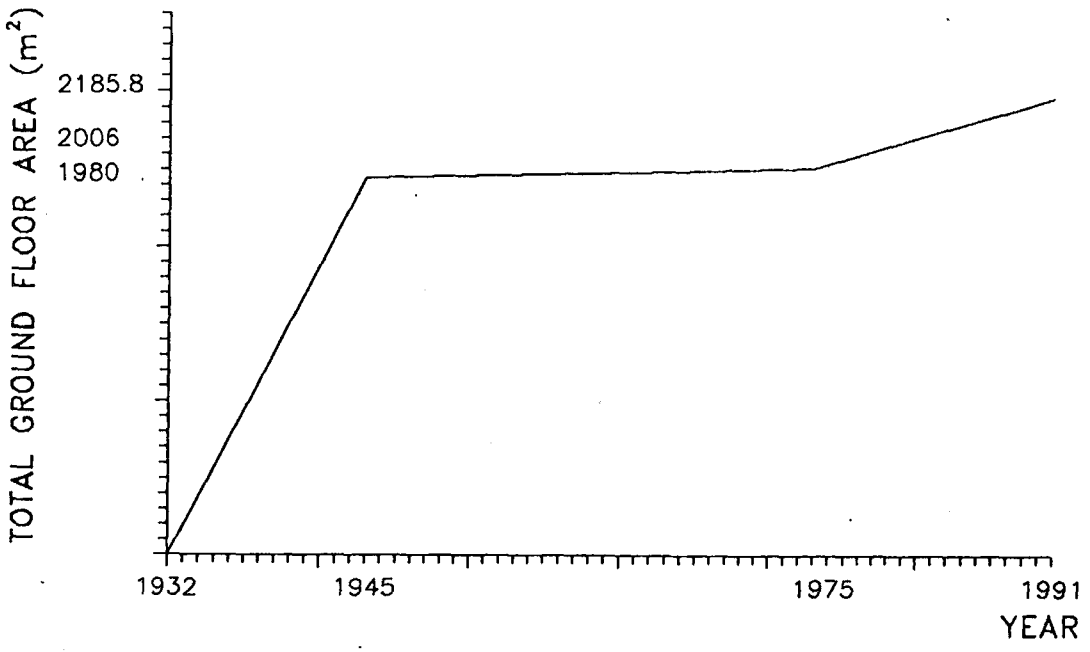
[TABLE 5.4] INTENSITY OF BUILDING FABRIC WITHIN TIME SECTIONS

	1945	1975	1991
total ground floor area (m^2)	1980.00	2006.00	2185.80
total floor area (m^2)	8802.00	11604.00	18779.80
parcel area (m^2)	5383.55	5383.55	5383.55
TAKS (min)	0.21	0.21	0.21
TAKS (max)	0.24	0.24	0.50
KAKS (min)	1.06	1.06	1.29
KAKS (max)	2.40	4.15	5.50
TAKS (av.)	0.37	0.38	0.41
KAKS (av.)	1.63	2.16	3.44

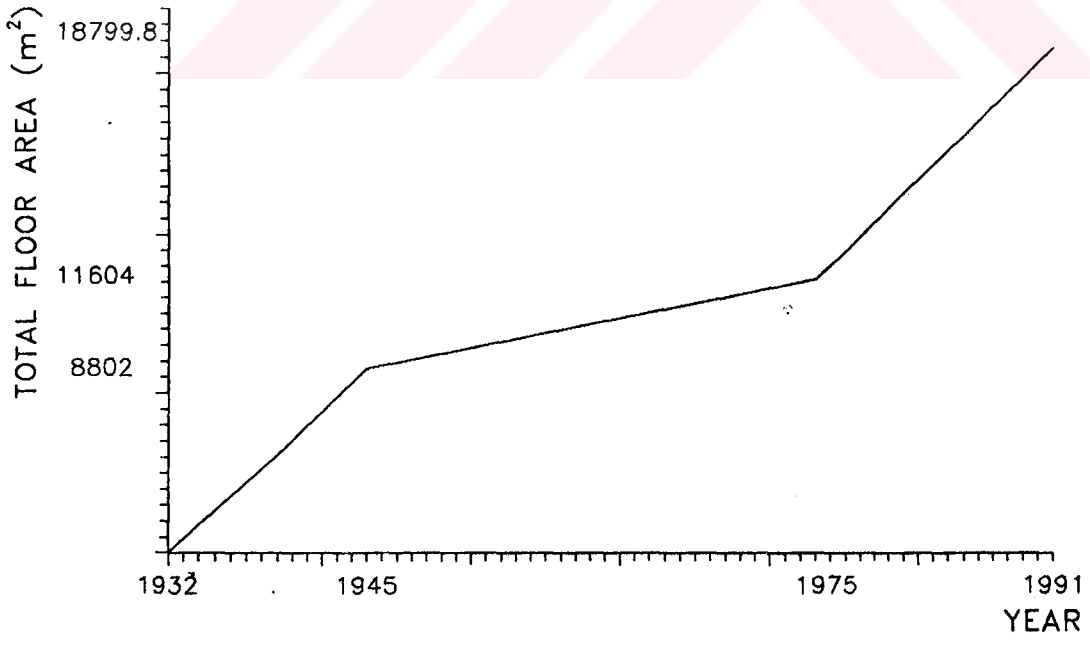
Source: Ankara Metropolitan Municipality Archieve
Files number 1163/10-11-12-13-14-15-16-17-18-19-22

TAKS (TABAN ALANI KAT SAYISI): total built up area to the parcel area ratio

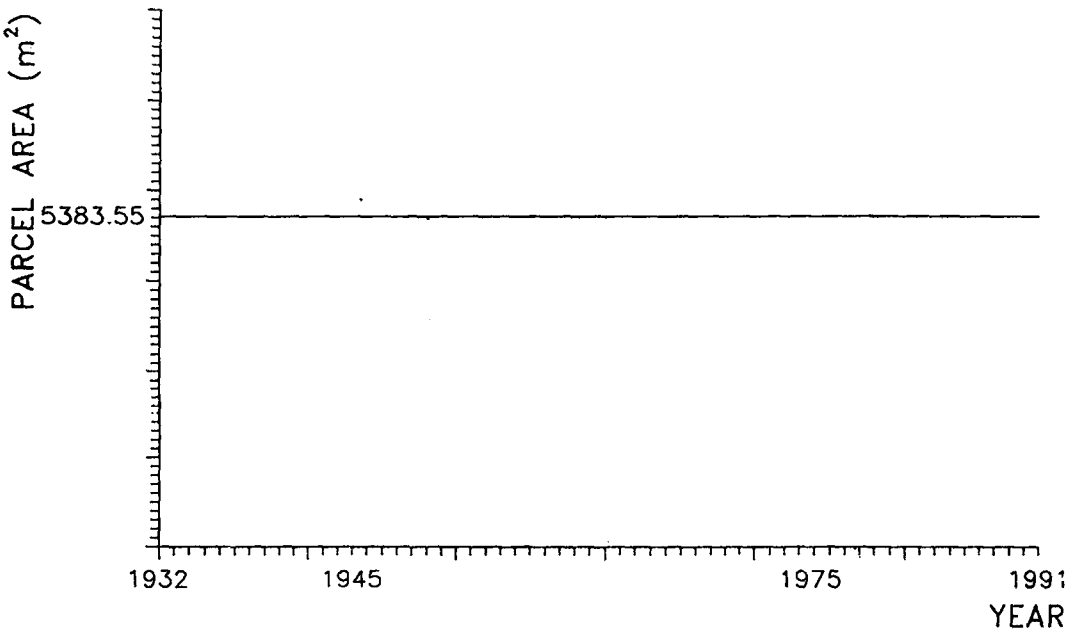
KAKS (KAT ALANLARI KAT SAYISI): floor area to parcel area ratio



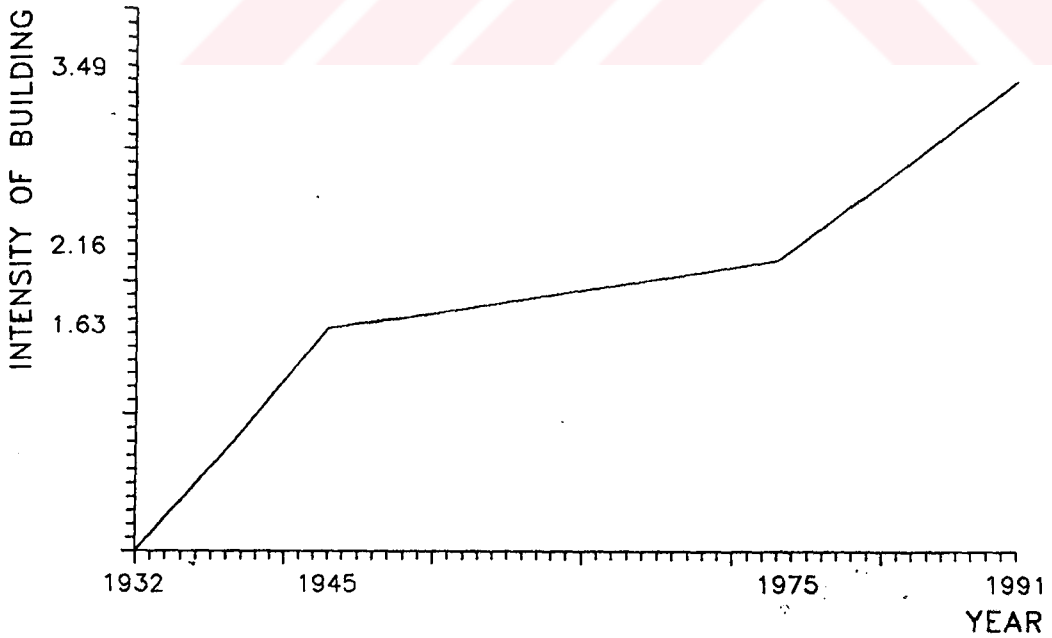
(DIAGRAM 1) TOTAL GROUND FLOOR AREA versus YEAR



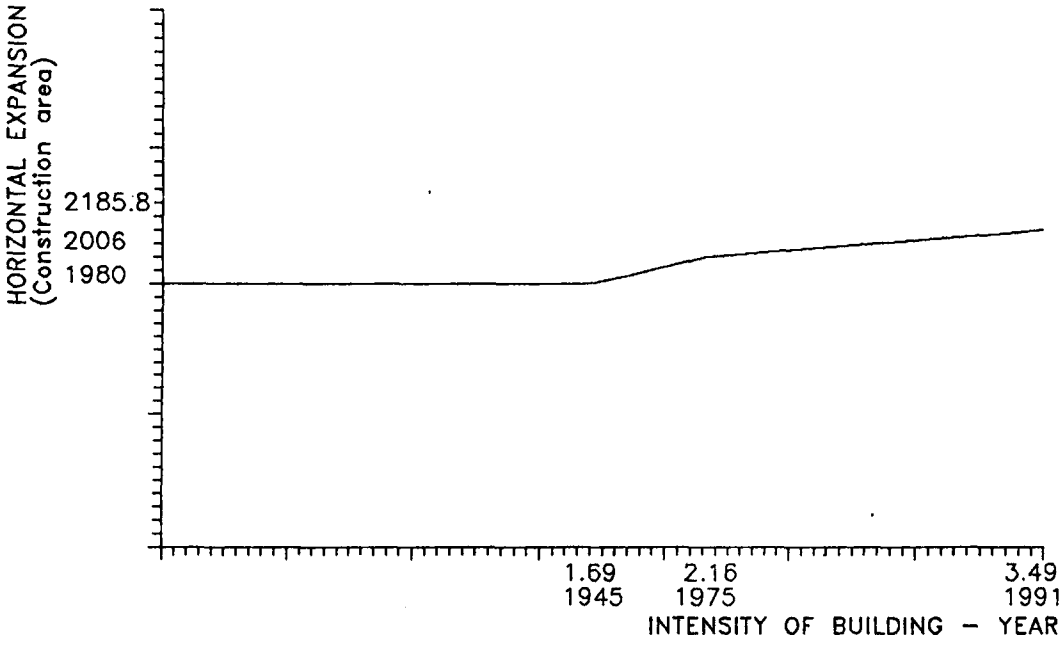
(DIAGRAM 2) TOTAL FLOOR AREA versus YEAR



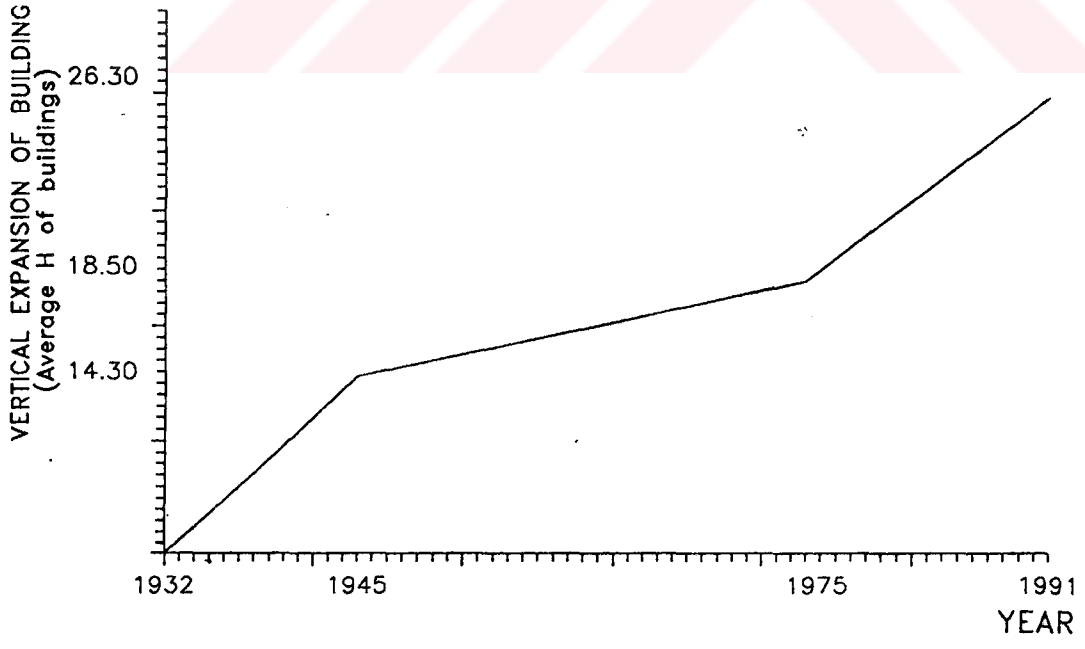
(DIAGRAM 3) PARCEL AREA versus YEAR



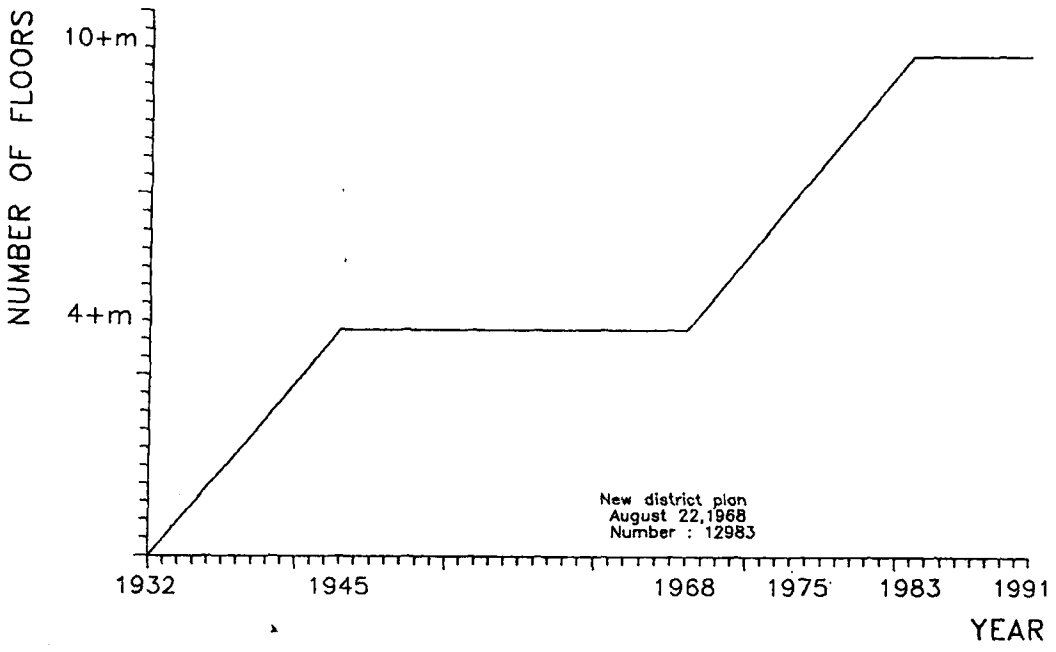
(DIAGRAM 4) INTENSITY OF BUILDING versus YEAR



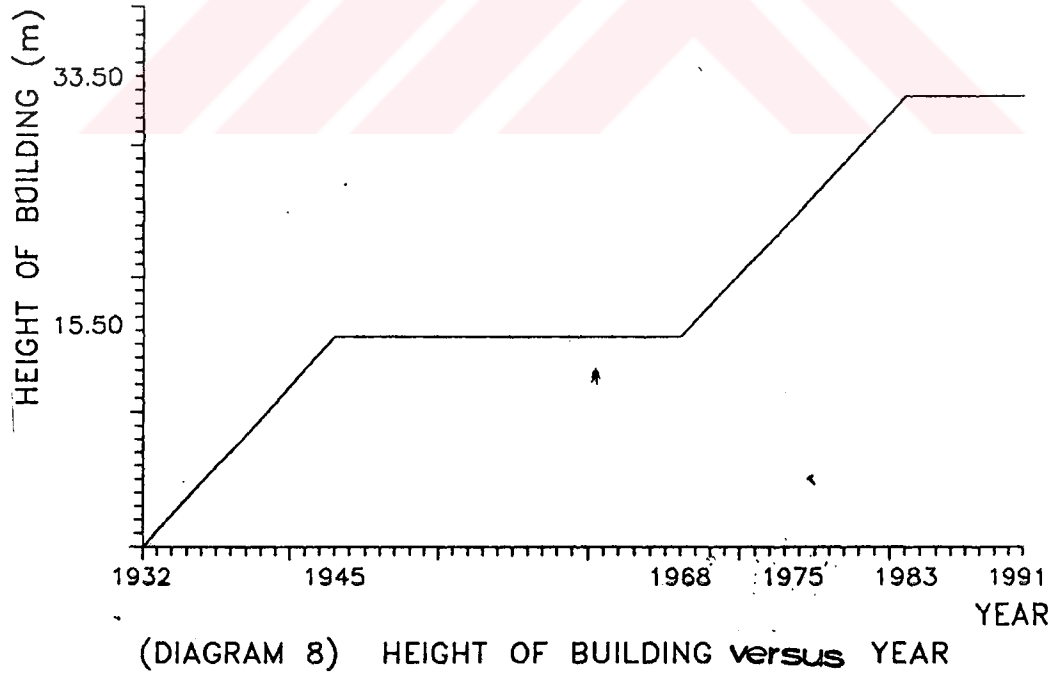
(DIAGRAM 5) HORIZONTAL EXPANSION OF BUILDING versus INTENSITY OF BUILDING – YEAR



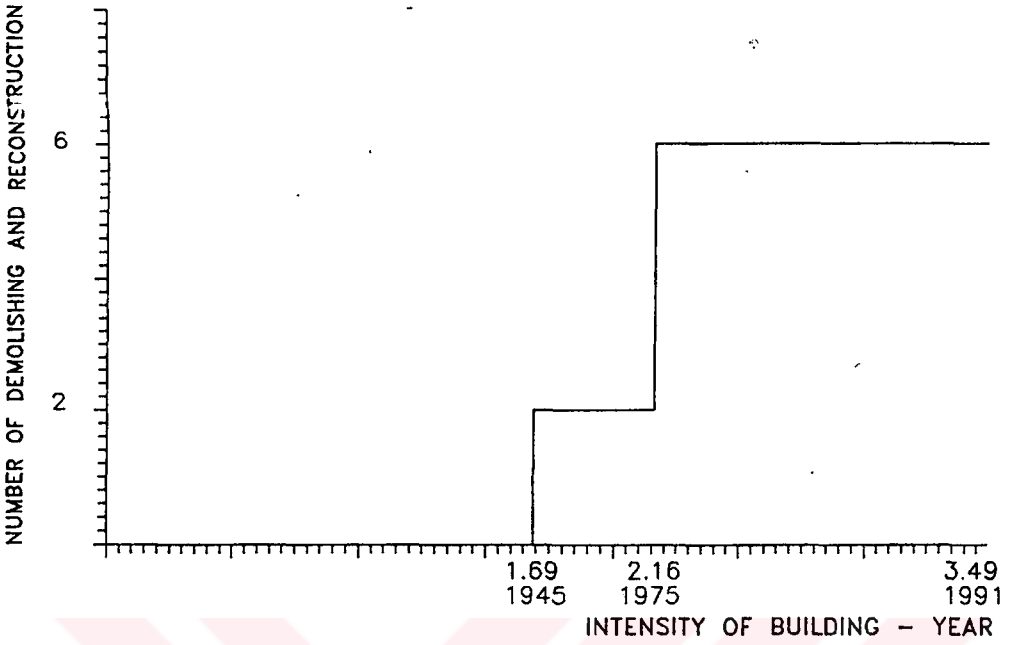
(DIAGRAM 6) VERTICAL EXPANSION OF BUILDING versus YEAR



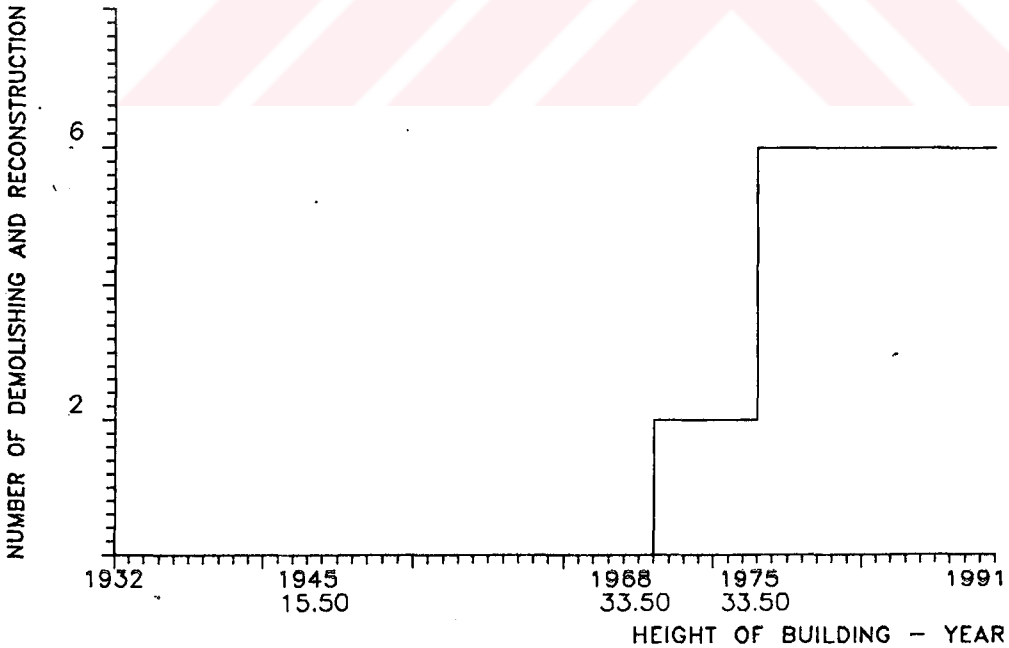
(DIAGRAM 7) NUMBER OF FLOORS versus YEAR



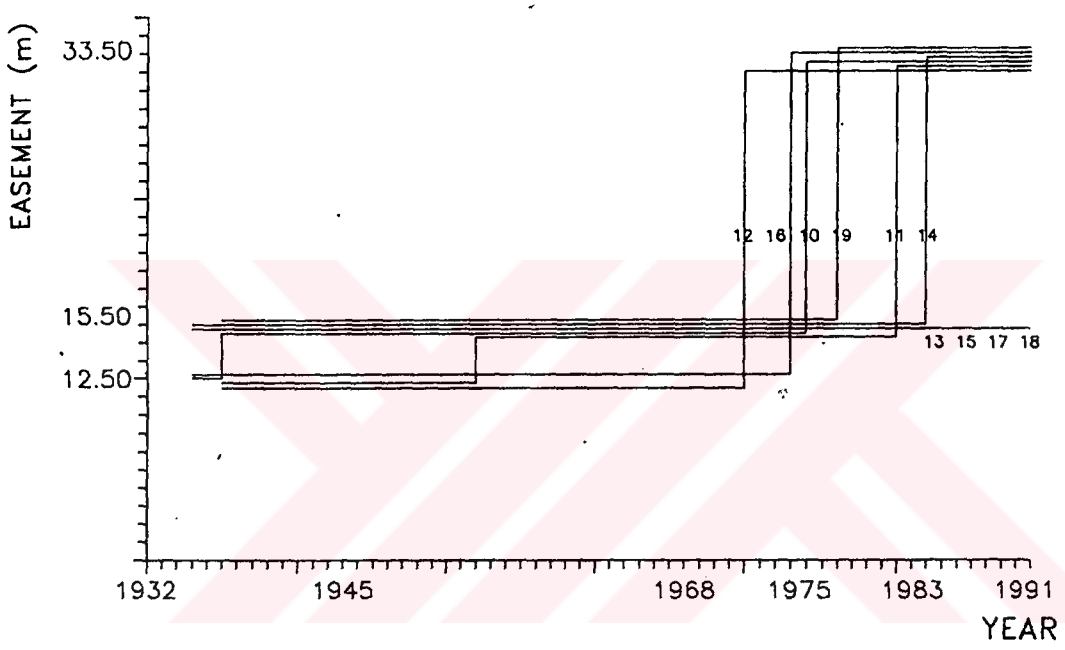
(DIAGRAM 8) HEIGHT OF BUILDING versus YEAR



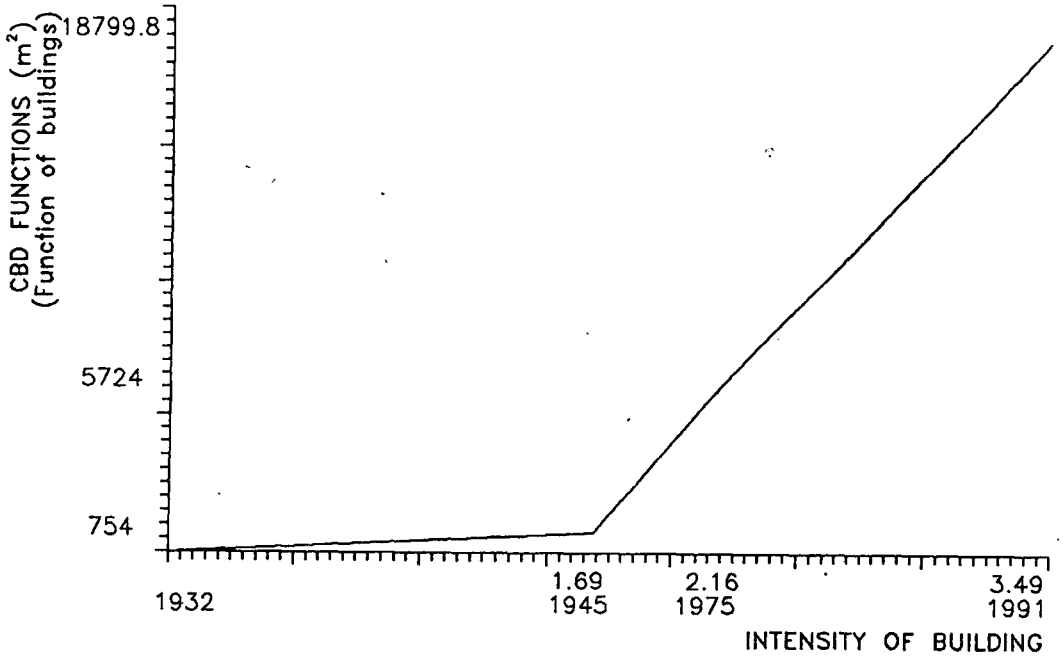
(DIAGRAM 9) NUMBER OF DEMOLISHING AND RECONSTRUCTION versus INTENSITY OF BUILDING – YEAR



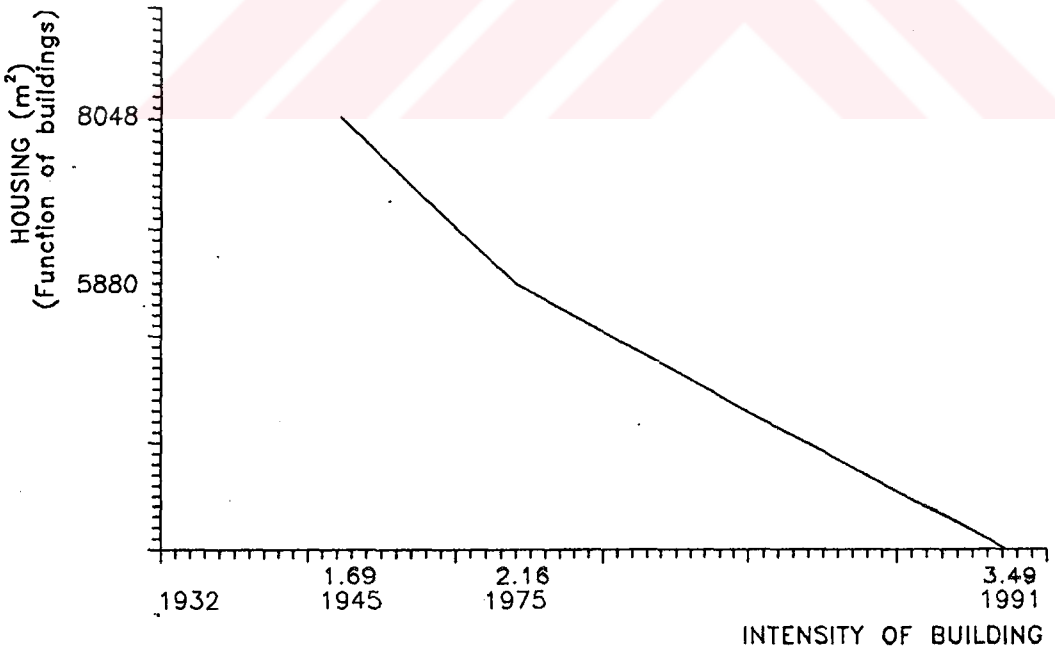
(DIAGRAM 10) NUMBER OF DEMOLISHING AND RECONSTRUCTION versus HEIGHT OF BUILDING – YEAR



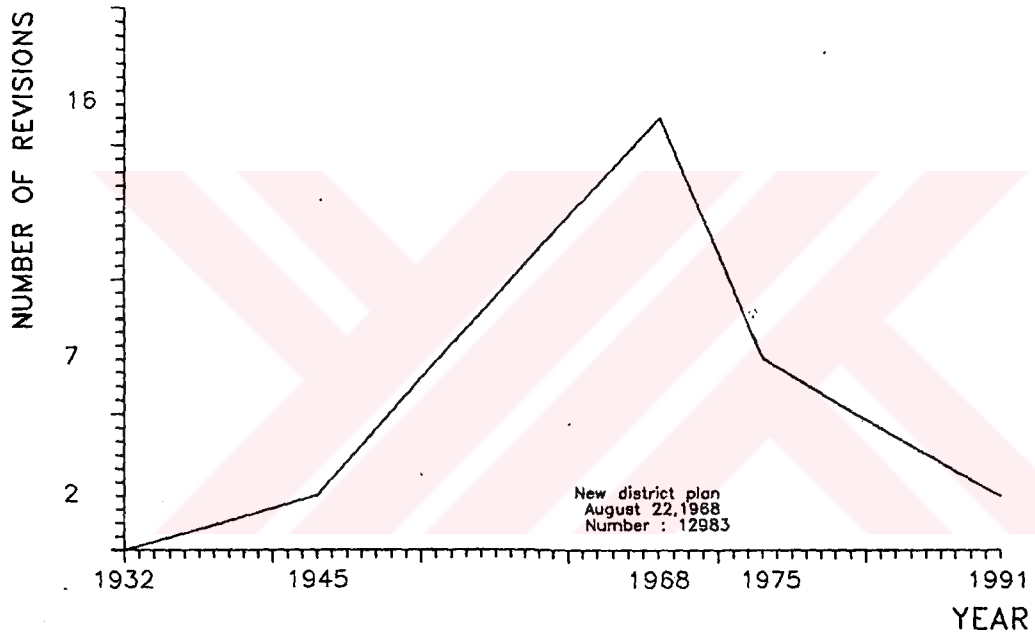
(DIAGRAM 11) EASEMENT versus YEAR



(DIAGRAM 12) CBD FUNCTIONS versus INTENSITY OF BUILDINGS



(DIAGRAM 13) HOUSING versus INTENSITY OF BUILDING



(DIAGRAM 14) NUMBER OF REVISIONS versus YEAR

TLE 6.51 REVISIONS REALIZED ON PROJECTS

mber of rcel	1163 10	1163 11	1163 12	1163 13-22	1163 14	1163 15	1163 16	1163 17	1163 18	1163 19
mber of visions	3	2	4	4	3	2	3	2	3	1
te of visions	31/07/1934 10/12/1967 08/09/1972	29/06/1967 06/10/1979	10/09/1956 09/09/1965 02/04/1970 20/05/1970	09/03/1955 26/09/1963 01/10/1969 21/05/1974	13/12/1963 04/10/1967 24/10/1984	05/10/1956 20/05/1970	02/10/1935 28/04/1959 12/10/1973	20/08/1956 28/07/1964	12/10/1957 12/09/1963 06/01/1969	07/03/1963

ce: Ankara Metropolitan Municipality, Archieve
Files: 1163/10-11-12-13-14-15-16-17-18-19-22

Footnotes:

1. Though, 2015 Ankara Urban Plan has been prepared, the decisions mentioned in the plan did not reflect to the case study area till 1991.

2. EVYAPAN, G., Kentlesme Olgusunun Hizlanmasi Nedeniyle Yapilar Yakin Cevresi duzeyinde Acik Alan ve Mekanlarin Degisimi, ODTU Mimarlik Fakultesi, Ankara, 1981, pp. 86

3. MARASOGLU, A.C., "Ankara Imar Talimatnamesi" Imar Kanunu, Balkanoglu Matbaacilik, 1971, Ankara, pp. 587

4. The guidelines of building codes number 6785, 1351-6785 include quantitative values and formulae about the depth and width of building. On the other hand, these guidelines and formulae can not be applied to the case study area, because the development and reconstruction plan of the case study area were prepared in 1930's which was limiting the application of further new guidelines.

5. TEKELI, I., "Ankara Kent Makroformunun Degerlendirilmesi" Ankara 1985'den 2015'e, EGO Genel Mudurlugu, Ajans iletisim, Ankara, 1987, pp. 179.

6. Ibid., pp. 177.

7. OZTURKCAN, N., TUNCEL, A., "Ankara'da Yesil Alan Sorunu", Mimarlik 77/3, Ankara, 1973, pp. 69.

8. Ibid., pp. 68.

7. CONCLUSION

The chaos of life in the urban physical environment in Ankara reflects its negative impacts on city administration, economic and social structure of the city. Moreover, any failure in city administration may end up with the existing chaotic situation observed in urban physical environment.

The main interest of the study is **legitimate and administrative formation of urban physical environment in Turkey**, whereas, the concentration point is **influence and impact of legal tools and planning-design-construction procedure on formation of architecture** realized in this environment. Therefore, all the subjects and sub-issues discussed in the study may be filter through this framework.

The developments observed in the city result in a physical environment full of insecure, unhealthy, unfamiliar and ordinary physical formation. The reasons for lack of urban quality in these physical objects in order to raise them to the level of objects of identity, i.e. entities, are also lying in the guidance this formation. These factors can be analyzed in two separate groups as, **directly** and **indirectly** influencing factors. From these factors, city administration, social and economic structure of the city and development policies of the authorities have indirect influence on the formation of urban physical environment and architecture, whereas, public consensus, building codes and planning-

design-construction procedure have direct impact and influence. In conclusion part, we will concentrate separately on all the factors having direct impact on urban physical environment and architecture.

7.1. FACTORS HAVING DIRECT IMPACT ON URBAN PHYSICAL ENVIRONMENT

7.1.1. PUBLIC CONSENSUS

'To use the maximum right of building defined by laws and regulations up to its limits'[1] is the fundamental expectation followed by the **public** as a consensus in the realization of planning-design-construction procedure. The reflection of this legal right on the morphology of city and formation of its architectural face is mostly negative and undesired.

'Lack of qualitative aspect of space comes with the maximum right of building' is a common objective shared. The idea underlying this objective is dependent on the preference of the public. To obtain more income by using maximum building space always becomes dominant issue compared with the aesthetic, functional and qualitative aspect of space.

The lift-up realized on the facades of existing buildings or newly constructed buildings give us hints about the search of qualitative aspect of space besides the quantity. Reconstruction of facades of existing buildings 'Yeni Karamursel Magazalari' and 'Yapi ve Kredi Bankasi' in Kizilay are the examples of searching for somehow quality.

Unfortunately, to search solutions to the existing problems of urban physical environment within these limitations is always expensive and tiresome activity; as well as ending in vain.

7.1.2. BUILDING CODES

Legitimate formation of urban physical environment and architecture in this environment is guided by the laws and regulations. Since 1984, the laws number 3030 and 3194 are the main legal tools or in other words, building codes determining the relationship of buildings and guidelines of planning-design-construction procedure.

The primary objective brought to building is similar to the objective mentioned in the previous part: 'Guidelines of building codes contain quantitative aspect of space rather than qualitative. According to the guidelines of building codes, the relationship between building are determined by mathematical equations. This way of determining the relationship proposes quantitative solutions to the problems of urban physical environment which lacks quality. In addition to these, the cities planned and the buildings constructed in respect to these guidelines contain merely qualitative and mostly quantitative values.

'Validity of building codes for all kind of buildings accommodating different functions' is another critism focused on building codes.Existing building codes do not permit the flexibilities that might be applied to the buildings having

different activities. The consequence of these guidelines by the contribution of public goals and expectations is the similar facades with similar voids having the form of cube or rectangular prisms which are hated by inhabitants. Moreover, the guideline of building codes can not updated by the authorities to the changing, growing and developing situations of urban physical environment.

The last objective related with building codes focuses on the illegal income obtained by the public. In other words, the codes, which seem concrete and inflexible to the speculative income obtained from urban land, open to illegal benefit by the interpretations done on guidelines. Mostly, the basement floor(s) gained in sites with slope or the urban land obtained by annexation of parcels are main the examples of illegal benefit obtained by the interpretation of guidelines.

7.3. PLANNING-DESIGN-CONSTRUCTION PROCEDURE

The realization of architecture and formation of urban physical environment is shaped by the three integrated processes of planning-design-construction procedure.

The time spent during the planning-design processes is always minimized by public in order to balance the time spent during the approval of projects by authorities. According to the guidelines of laws and regulations, the prepared plans and projects must be controlled by the professionals of municipality or governorship in order to determine the living standards brought by the projects to the urban environment.

Unfortunately, in time, this control becomes a test aiming to search the convenience of prepared plans and projects to the guidelines of building codes and regulations. Moreover, due to the organization model preferred by the authorities, the approval of a project by the authorities takes long time. On the other hand, as the time spent for approval extends, due to the high rate of inflation both on urban life and construction activity, the reflection of this extension is mostly negative on construction process and economical income of public. Therefore, to minimize the loss of income, approval procedure must be quickened.

The probability of creating unhealthy, insecure, degenerated urban physical environment increases proportionally with the limited time spend during planning-design processes and with the accelerated time interval during approval. In other words, it is imaginary to expect qualitative aspects of space during planning-design-construction procedure. Moreover, it is also imaginary to expect objective control of plans and projects that will solve the problems of urban physical environment.

As a consequence, the lack of quality in urban physical environment is unavoidable due to the lack of time during planning-design-construction procedure, besides the quantitative guidelines of building codes. Therefore, to obtain projects worth on urban environment, the time lost during the approval process must be minimized and the time

gained must be transmitted to planning-design-construction.

The intensity of building codes decreasing during construction process, whereas, the counter position realized in planning-design processes is another problem of formation of architecture in urban physical environment. The lacking of qualitative values in formation of architecture during the preparation of plans and projects and approval of them continue all through the construction process.

The illegally gained building area during construction process is legalized by the 'project modifications' given afterwards. Most of the time 'to obtain more square meters' also becomes the fundamental goal and expectation of public during construction process. The reflection of these goals to the constructed building sum up with the changes done in projects deviated from the origin of projects. The realized changes mostly lack the quality of space which is also lacked during the planning-design processes. Moreover, 'project modifications' must also be controlled by the authorities. On the other hand, this control and approving process increases the load of control mechanism of municipalities and governorship.

Therefore, to live in a physical environment with certain qualities, the new **urban planning process** must be proposed and defined by the authorities. **Urban design projects** will be the legal tool of **urban planning process** which is searching

both the qualitative and quantitative values of urban physical environment.

7.2. URBAN PLANNING PROCESS

The new urban planning process proposed is analyzed in terms of the process, organization model and product. Though, all the factors are individually have impacts on the urban design project, the project can be successful if and only if the three factors are meet. If any factors' objective is not meet, the urban design project can not define and propose solutions to the existing qualitative problems of urban physical environment. As a consequence, the following factors must be inspected considering their interdependent relationship for the success of urban design project.

7.2.1. PROCESS

Economical, social, political and physical values of the urban physical environment are the main inputs of **urban planning process. Urban Design Project** is one of the output of the process which is a legal tool proposing alternatives to minimize the problems of physical environment.

Today, the legitimate formation of urban physical environment depends on the urban development plans. The decisions which are given in the **parcel scale** by the development plans lack the quality in the urban physical environment. In other words, the decisions given in parcel scale without considering their reflection on the city are lacking the continuity, harmony and unity of the urban physical

environment. Moreover, any change or addition realized in any parcel or building plot has direct impact and influence on the morphology and architecture of the city. Therefore, thinking that the decisions given in any part of the city reflect to the other parts, decisions must be given in **district scale.**

As a consequence, **Urban design projects** may be a better way of realizing the planning process not in **parcel scale** but in **district scale.**

7.2.2. ORGANIZATION MODEL

The step of **urban design projects** is the way of living in qualitative, continuous and unique urban physical environment. To support the realization of the projects, the existing organization model must be changed.

1. The law of the development and the building codes must be separated. Today, the guidelines of the law cover all of the planning, design and construction activities. Though, these activities are the parts of the same procedure, their inputs differ. Therefore, building codes must be another by-law acting in the light of but separated from the law. So that, each of them contain more qualitative and specific guidelines that will guide to the formation of urban physical environment.

Building codes must be updated at certain time intervals in order to produce solution to increasing problems of urban

physical environment. In other words, concrete guidelines must be flexible against new inputs brought by urban growth and functional transformation. Moreover, every guideline of the codes must be prepared considering their negative reflections on physical environment, otherwise, new problems will be added to the existing problems of urban physical environment, such as, illegal income obtained from urban land by the interpretations of guidelines.

In addition to this, the mathematical equations used to determine the relations between buildings are inadequate for the formation of architecture and the urban physical environment. Buildings accommodating different functions necessitate differing kinds of relation systems. Therefore, these specialized relations must be determined by the guidelines of a 'flexible' building codes.

2. The keystones in the realization of **urban design projects** are **planner** and **designer**. The close relationship of these two professionals will sum up with highly qualitative, continuous and unique urban physical environment. The decisions beginning from the planning stage till the end of design stage will follow each other and will contain both the qualitative and quantitative aspects of space. Moreover, the decisions of these professionals will be either in **city** or **district scale** which will be the solution of the struggle between planner and designer mentioned in the (part 5.3.2.).

It is obvious that the fundamental preference of landowners is 'to use the maximum right of building determined by the laws and regulation'. To minimize the negative reflection of this right on urban physical environment, the product of **urban design projects** must contain qualitative and functional aspects of space as well as quantitative aspects.

To stand apart from these activities, the public must share the anxieties and goals with planner and designer about the quality and quantity of urban physical environment. Therefore, the qualitative aspect of space indicated during design process must be applied by the constructor during the construction process.

3. To realize the **urban design projects** depending on urban **plan**, the cities must be divided into districts and the districts must be divided to sub-districts. In each sub-district a committee must be established to prepare, realize and control the urban design projects. These committees will be formed by the inhabitants of the sub-districts besides the representatives of the municipalities and authorities. In addition to these, the committees must be a branch of the committee in districts. Moreover, the committees' in the districts might be a section of municipalities working with the Metropolitan Municipality.

A hierarchic order of the division will accelerate both the preparement and realization of urban design projects dependent on the urban plan. Moreover, by this organization

model user and public will participate on the decisions that will effect their life and environment. By the **participation of public** in the urban design projects, they will be aware of the developments realized on their district compared to the existing situation.

To control the adequacy of **urban design project** to the district and to the city is the other important subject that should be determined in order to live in qualitative environment. By the hierarchic order mentioned above and by the participation of public to the **urban design** projects, the control and approval of the projects will be relatively better compared to the existing situation. As the mechanism is not dependent on one individual, the ethical occasions realized on the approval of projects and buildings will be minimized.

7.2.3. PRODUCT

The product of **urban design projects** will be different from the development plan. It must be a project indicating its significance both for its near surrounding and for the whole city. As the project is the consequence of the work realized by planner, designer and by the contribution of participation of public, it will contain more qualitative values related with the urban physical environment. So, the project will be presented by three-dimensional drawings, perspectives and model which can be understood not only by the professionals but also by the public. The comments coming from the public

to the committees of the sub-districts will be discussed by the professionals and inhabitants. Therefore, the final outcome of the process will be the **buildings** that are favored, liked and having qualitative values besides the quantitative ones.

As a consequence, to live in a physical environment with certain qualities, the qualitative aspect of space must be considered primarily important compared to the quantitative aspect of space. The mentioned three factors 'public, building codes and planning-design-construction procedure' have negative and positive impacts on the formation of architecture in the urban physical environment. As the qualitative outputs of each of the factors increase the urban physical environment we are living in will contain less problems than we have now.

Footnotes:

1. EVYAPAN, G., Kentlesme Olgusunun Hizlanmasi Nedeniyle Yapilar Yakin Cevresi duzeyinde Acik Alan ve Mekanlarin Degisimi, ODTU Mimarlik Fakultesi, Ankara, 1981, pp. 75

GLOSSARY

Administrative [T. Yönetsel]: connected with management; execution (W).

Allocation of title-deed [T. Tapu Tahsis Belgesi]: a document that establishes title to property (W).

Amnesty Laws [T. İmar Affı]: law prepared for rehabilitation and dismissal of unpermitted buildings.

Annexation [T. Birleştirme]: unification of real estates on single ownership in order to realize a project or construction of building (R.K.)

Attached Building Block [T. Bitişik Nizam]: Two or more buildings having physical contact with each other (R.K.).

Borderline of Facade [T. Cephe hattı]: a line defining the front of the building (R.K.).

Boundary of zone [T. Bölge sınırı]: a borderline defining the boundary of differing functional zones.

Building licence [T. Yapı ruhsatı]: a document that permits the construction of building.

Building lot [T. Yapı adası]: a subdivision of a block in a town or city (W).

Building prohibition [T. Yapı yasağı]: interdiction to build.

Cadastral parcel [T. Kadastral parsel]: smallest plot of land indicating minimum ownership and land piece.

Compulsory replotting [T.Düzenleyici Birleştirim]:unification of real estate without considering the existing ownership to realize the development plan (R.K.).

Density of Building [T. Bina Yoğunluğu]: ratio of floor area to the urban land (R.K.).

Depth of Building [T. Bina Derinliği]: perpendicular distance taken from front to back line of building (R.K.).

Depth of parcel [T. Parselin Derinliği]: average distance between the front borderline to the back (R.K.).

Development parcel [T. İmar parseli]: plot of land on which building can be constructed (O.A.).

Distribution [T. Dağıtma]: dispersal of development parcel after the replotting.

Eaves [T. Saçak]: edge or edges of a roof, usually projecting beyond the sides of a building (W).

FAR [T. KAKS]: Floor area to the parcel area ratio.

Height of Building [T. Bina Yüksekliği]: the height from the ground floor level to the level of eave. (R.K.).

Implementation plan [T. İmar uygulama planı]: a legitimate and administrative document applying the decisions of development plan (O.A.).

Land-use [T. Arazi Kullanımı]: existing usage of the urban land for a specific function.

Legitimate [T. Yasal]: to make lawful (W).

Master plan [T. Nazım imar planı]: a document leading the principles of the settlements, the development directions, functions of the zones, transportation network and etc. of the cities (R.K.).

Morphology [T. Morfoloji]: any scientific study of form and structure without regard to function (W).

Plan modification [T. Plan değişikliği]: a partial or slight change observed in the form of the plan.

Parcelling process [T. Parselasyon işlemi]: separation of urban land into building lots and parcels. (W).

Planning-Designing- Construction procedure [T. (Yapı üretim süreci) Planlama-tasarim-inşaat süreci]

Profile of road [T. Yol kesiti]: Maximum height of the building defined by the building codes of the district (R.K.)

Projection [T. Çıkma]: a section of building projecting from the borderline of facade (R.K.).

Set-back distances [T. Çekme mesafesi]: the distance between the borderline of building and limits of parcel defined by the guidelines of building codes (R.K.).

Total built up area to the parcel area ratio [T. TAKS (Taban Alanı Kat Sayısı)]:

Urban development plan [T. Kentsel gelişim planı]: a legal document indicating the development of urban environment in terms of economic, social and physical values (A.S.E.).

Urban fabric [T. Kent dokusu]: framework or structure of the urban physical environment (W).

Urban growth [T. Kentsel büyüme]: the development and improvement observed in the city.

Urban physical environment [T. Kentsel fiziksel çevre]:

Width of parcel [T. Parsel eni]: dimension of parcel facing to the street (R.K.).

Zoning [T. Bölgeleme]: division of urban land into zone considering the functional structure of the city

Abbreviations used in the Glossary

R.K., Rusen Keles, KentBilim Terimleri Sozlugu, T.D.K. Yayinlari, Sevinc Basimevi, Ankara, 1980
O.A., Özcan Altaban,
W., Webster's New World Dictionary, The World Publishing Company, Cleveland and New York, 1951

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