READING TYPES OF URBAN FORM AS A TOOL FOR CONSERVATION DEVELOPMENT PLANS

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ABSTRACT

READING TYPES OF URBAN FORM AS A TOOL FOR CONSERVATION DEVELOPMENT PLANS

Urbanization processes and incremental approaches ignore, even destroy, the continuity of the built environment that is defined with the historical traces. Planning studies, which aim to provide continuity or create the future with references of the past, require a comprehensive and pro-determinist urban analysis.

This study aims to analyze existing city and its communication with former layers to reveal continuity of the city. Such analysis can be defined as reading urban layers, or typological-morphological analysis including social dimensions that create layers. In this context, urban typo-morphological approaches and on conservation development plans is handled.

Existing legal framework and Technical Specifications of Conservation Development Plan is evaluated and, conservation development plans prepared through these specifications is criticized as their insufficiency for multi-layered historical cities.

An analytical method is presented to read urban texture diachronically and synchronically as an attempt to improve integrated conservation methods. Especially, reading method of Caniggia and Petruccioli, representators of Italian Morphology School provides knowledge to constitute the method. Some parameters are formed in an attempt to understand formation process of multi-layered historical cities.

Keywords: *Multi-layered Cities, Urban Typo-morphology, Hierarchization of Urban Form Elements, Conservation Development Plan*

ÖZET

KORUMA AMAÇLI İMAR PLANLARI İÇİN BİR ARAÇ OLARAK KENTSEL FORM TİPLERİNİ OKUMA

Kentleşme süreçleri ve parçacı yaklaşımlar, yapılı çevrede tarihsel kalıntılarla tanımlanan sürekliliğe zarar veriyor. Sürekliliği sağlamayı amaçlayan veya geleceği geçmişin referanslarıyla yaratmak isteyen planlama çalışmaları kapsamlı ve olasılıkçı determinist bir kentsel analizi gerektiriyor.

Bu çalışma kentin sürekliliğini ortaya çıkarmak için mevcut kent ve daha önceki katmanları arasındaki ilişkiyi analiz etmeyi amaçlıyor. Böyle bir araştırma, kentin katmanlarını okumak, ya da tarih katmanlarını oluşturan sosyal boyutları göz önünde bulunduran tipolojik-morfolojik bir analiz olarak da adlandırılabilir.

Mevcut mevzuat ve Koruma Amaçlı İmar Planı Teknik Şartnamesi değerlendirilerek, bu doğrultuda yapılmış koruma amaçlı imar planı örnekleri ve analizleri ele alınmıştır.

Entegre koruma yöntemleri geliştirme çabası olarak kentsel örüntüyü eşzamanlı ve art zamanlı okuma yöntemi sunulmuş, özellikle, İtalyan Morfoloji Okulunun temsilcileri Caniggia ve Petruccioli'nin okuma yönteminden yararlanılmıştır. Çok-katmanlı tarihi kentlerin oluşum sürecini anlamak için bazı parametreler oluşturulmuştur.

Anahtar kelimeler: *Çok-katmanlı Kent, Kentsel Tipo-morfoloji, Kentsel Form Elemanlarının Hiyerarşisi, Koruma Amaçlı İmar Planı*.

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CHAPTER 1

INTRODUCTION

1.1. Aim and Scope of the Study

Today, almost all cities have historical continuity and include **multi-layered** cultural textures. These layers can *synchronically* or *successively* take place within the historical development of a city.

Recently, however, starting from the nineteenth century, urbanization dynamics and incremental planning approaches have ignored, or even destroyed, the continuity of the built environment that is defined with the historical traces. In particular, dominant planning approaches were applied to dichotomies as that between the current and historical city, excluding for example time integrity. This has decomposed the integrity of the urban areas. Ignorance of integrity approach for the planning studies of multi-layered historical cities, causes historical layers to disappear.

Such duality appears with development plans, since conservation sites are dealt with isolated from the unity of the city. Development plans and conservation development plans are prepared separately from each other. This separates the city into parts these parts are not in relation. There are comprehensive analysis studies for conservation plans, but technical specifications of conservation development plans are not adequate for analyzing multi-layered historical cities.

As a particular result of this, residents within the historical city have problems due to economic maintenance of the buildings. Conservation sites have become dilapidated, city plans are generally dysfunctional due to illegal development and ignorance of integration of conservation sites, or function to create standard and homogeneous environments, irrelevant to the actual reality on the ground.

In the context of providing continuity within the historical city, the most problematic issue appears in the analysis of the archaeological heritage. The problem has two dimensions; one is problem of interpretation of archaeological and historical remains, that is, remained in time and imperfectly understood, the other dimension comprises natural or man-made destruction of the remains. This phenomenon can be defined as

communication breaking off as scientifically used within the theoretical discourse of communication. (Yücel, 1999)

The communication problem also concerns handling historical remains which are located in urban sites. However, this communication is incomplete, rather than broken off. Given this, it could be argued that an understanding of messages arising from the archaeological heritage could be established (Yücel, 1999, p:30).

Urban archaeological sites, where archaeological and historical remains overlap, enable society to understand the logic of continuity. Owing to the lack of a planning approach which considers continuity, these sites are fast becoming the most problematic parts of urban development.

Urbanization processes and incremental approaches ignore, even destroy, the continuity of the built environment that is defined with the historical traces. Rapid growing population and its effects on urban land especially observed in multi-layered historical cities. Illegal development within the cities reasons historical traces to be destroyed and conservation sites become dilapidated. Due to the problem of integration of conservation sites to the city plans standard and homogeneous environments occur.

Existing legal framework and Technical Specifications of Conservation Development Plan evaluated and, conservation development plans prepared through these specifications criticized for their insufficiency within multi-layered historical cities.

In terms of revealing continuity of the multi-layered historical cities, historical city center of İzmir city and its communication with former layers analyzed as a case. Such analysis can be defined as reading urban layers, or typological-morphological analysis including social dimensions that create layers. It is a kind of analysis *resolving different phases to identify all moments of superimposition that determined their structure and form.* (Neglia, 2014)

The built environment is formed within the integrity of *time-space-nature and social relations* (Seymen, 1988). This integrity carries the potentials of new formations through continuous change. That is, this integrity reflects the continuity of actual together with virtual possibilities. In order to solve this problem, planning studies, which aim to provide continuity or create the future with references of the past, require a comprehensive and *pro-determinist* urban analysis.

There is need of an epistemological approach that is based on *critical realist ontology* to comprehend and conceive *the integrity*. This is also known as “theory of the

possibilities"; there are virtual possibilities besides actual events. Events and formations are explained within mechanisms of materialized (actual) and immaterialized (virtual) phenomena that have the potential of actualizing. (Sayer, 1992)

Continuity in the *overlapping time-space* (Aryda, 2000) is defined with the references of the past, which are historical traces within the built environment. As the necessity of healthy socialization, the environment should transfer these historical references to the future. Thus, such continuity enables virtual possibilities to create themselves.

Multi-layered historical cities are readable through their history and historical artifacts and traces. Built environment is readable with its elements and structures that these parts are inseparable; structures and links between the elements that compose urban fabric. Property boundaries, routes, coastline, defense walls of the ancient city, squares can be references of typo-morphological transformation of historical built environment. Reading city through elements and structures improve the studies on urban design; that enables continuity, accessibility, permeability of the cities.

The objectives of the study can be listed as; explanation of theoretical framework, interpretation of literature, historical research open to future investigations, understanding of the urban past, handling the problems of urban analysis of conservation development plans made through technical specifications for multi-layered historical cities, providing a matrix for analyses of multi-layered historical cities, interpreting the change and continuity of urban heritage in multi-layered historical cities, guiding urban planning and urban design activities through developing strategies for conservation of historical cities.

1.2. Contribution of the Thesis to the Literature

Studies on multi-layered settlements up to today, generally focused on urban morphological transformation or urban archaeological areas and aimed the rehabilitation and documentation of registered buildings and areas. This thesis targeted both the conservation of existing historical traces and texture, and revelation and conservation of intangible (unseen) traces of the historical layers through a typo-morphological reading, a multi-layered historical city is analyzed in an attempt to understand the formation

process of the city. This thesis presents a method of typo-morphological analysis for the conservation of multi-layered settlements through actual and virtual data.

In the light of the works of the Italian Morphology School which see political-economic forces as shaping a built landscape already conditioned by a particular logic, set of elements, and characteristic processes, works of Caniggia and Petruccioli, Urban morphology is related to typological classifications of buildings, open spaces, and streets. The concepts of type and typological process has been the key in attempt to read space. It considers all scales of the built landscape from the small room or garden to the large, urbanized area for multi-layered cities that have synchronic and successive formations. Thus, the study focused on the formation of the cities through concepts of multi-timed, multi-layered, and multi-scaled.

Structuralist approach that revealed structures and links between the elements compose urban fabric, and pro-determinist approach that is called theory of possibilities backgrounded the study to understand typo-morphological transformation of historical built environment. Legislation on Conservation Development is examined, and a matrix and a model suggested to be used within Technical Specification of Conservation Development Plan for various multi-layered cities. It is asserted that this method provides to work with data yet unknown, especially for archaeological layers.

This study aims to reveal a method that will enable to integrate historical city to contemporary planning studies. Such method is an attempt to develop technical specifications of conservation development plans, which concentrated on architectural conservation and inadequate to define relationships between historical traces and tissues. Thus, historical layers of the multi-layered city will be transferred to the future and provide continuity of that city.

The spatial method based on structures and elements is applied to multi-layered historical city center of İzmir. Reading old maps and literature survey supported the method.

1.2. Problem Definition

Primary problem is continuity of the multi-layered historical cities that require sensitive planning process. Urban analysis section of conservation development plans is very important to enable a healthy planning process of such areas. Urban Analysis

methods are insufficient for Conservation Development Plans: An Urban Analysis Method reading urban area from base type to urban aggregate is necessary that will relate past and future of the city.

Thesis Proposal: Urban Analysis Methods of Conservation Development plans are not sufficient for multi-layered historical areas.

Research Questions

As stated under the previous title problem is defined as "continuity of the historical cities under threat". Thus, the preliminary questions of the research were;

- What indicates the continuity concept in historical cities?

(continuing roads, textures, buildings, memory spaces)

- How does continuity in urban areas can be provided? (Urban analysis to read the continuity for the city.)

These questions address research underlining the necessity of an "urban analysis" that provides a reading of historical cities in terms of continuity. In this context, "City" is a complex system including textures that formed by different historical, social, physical, and economical dynamics. Although, such dynamics could not be seperated from each other, this study focused on the physical dimension of the city, and how it could be analysed.

Sub-questions

Are Urban Analyses sufficient according to Technical Specifications of Conservation Development Plans for multi-layered cities?

- What forms a texture of multi-layered historical sites?
- What are the elements of texture in historical urban areas?
- What are the inner relations of these elements that contribute to forming a texture?
- How this analysis should be contributed to conservation development plans of multi-layered historical cities?

1.4. Methodology

An analytical method will be presented to read urban texture diachronically and synchronically as an attempt to improve integrated conservation methods. Italian

Morphology School that approaches to city form as a historical settlement process, provided knowledge to constitute the method. Especially, the works of Caniggia and Petruccioli, representors of Italian Morphology School, directed the study. Caniggia in his work on Como city in Italy, stated that within evolutionary process new structures are formed by the human intervention to the nature, merging previous structures to the subsequent condition. Caniggia examined the diachronic formation periods of Como employing different scales of the city. Petruccioli, also expressed evolutionary settlement process and typomorphological approach. In his work on Mediterrenaen cities, Petrucciolli, defined a matrix that identifies elements, structures and their interrelationships. Elements referred to building materials, structures to building pattern, and organism to building.

In this study, Italian Morphology School and its typo-morphological approach for planning cities is expressed, since it presents comprehensive analysis methods for defining historical heritage, which enables a dynamic conservation planning process. Through works of Petruccioli and Caniggia, some parameters were formed in an attempt to understand formation process of multi-layered historical cities.

Human effect and production in time and space can be read in a typological process through phases within a complexity of the relations. Phases are assimilated within typological process one changes to other. Each phase of human production differs that these contain inner mechanisms of previous phases and cycles. Typological process rooted by evolution guided by a unitary system of formation and mutation laws of development that leads to typological continuity can be analyzed from elementary structures to gradual complexity. (Caniggia, 2001)

In the study, a matrix was developed to integrate historical city to contemporary planning studies. Such method is an attempt to develop technical specifications of conservation development plans, which concentrated on architectural conservation and inadequate to define relationships between historical traces and tissues.

The methodology of Italian Morphology School applied and adapted to the analysis. The analysis was carried out through a spatial-temporal approach through an analysis of typo-morphological process of historical built environment of multilayered İzmir city center as an in-depth case study. Synchronic and diachronic processes of İzmir city were dealt with by reading different phases of the city.

Built environment is readable with its elements and structures that these parts are inseparable and occur urban organism and thus territory. Each element is also an organism at the same time. Type concept that comes before the occurrence of organism. Property boundaries, routes, coastline, defense walls of the ancient city, squares can be references of typo-morphological transformation of historical built environment.

First the urban fabric is separated to its typical parts (*The individuation of the urban morphology*) to make it readable. Then, the fabric is analyzed by *nodes*[1], *poles*[2], and routes. It is possible in multi-layered historical cities, since the existence of continuity, *the passage from a phase to another came about gradually*. The city has a continuous process of transformation. This method allows to compensate for the lack of data about different phases, and also integrate the existing discontinuous data.

The interpretation of the structure of the urban fabric of İzmir that is presented in this work enriched with the data provided by reference to the literature reviews, and cartographic data.

The reading and interpretation of this work is based on analysis of structures and links between the elements that compose urban fabric. *A "structure" can be defined as "the relationship rule between the elements that compose an urban or architectural organism."* These structures are not taken into their visible form but including all phases of their formation. The process of formation of streets will be dealt with. *"Matrix route"*is defined by Neglia (2014) as *the main continuous route whose layout shapes the form and structure of the built environment, and therefore precedes the development of the urban fabric. They tend to connect the most important urban "nodes" or "special buildings". "Special buildings" influence not only the layout of routes (their formation or transformation) by "attracting" them; they also shape the structure of the building fabric when they are occupied and re-arranged according to new models of settlement.*

The large urban open spaces of the ancient world (temples, agora, theatres) re-occupied by housing in latter periods or destroyed by wars and disasters such as 1922 Fire in İzmir. Layout of streets and densification of courtyard houses and the formation *cul-*

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[1] ***Node*** *is any singular point in a continuum, often determined by the intersection between two continua. A node point within the urban pattern can be a discontinuity on a street, or a focal point where two geometrical and compositional axes encountered* (Caniggia, Maffei, 2001, p:126)

[2] ***Pole*** *is determined by the existence of several continua, not so much intersecting as terminating or starting from a point.* (Caniggia, Maffei, 2001, p:126)

de-sac as the narrowest elements of the street systems are examined. From ancient era to Ottoman period and today, the process of changing cultural routes effects the formation process of the city. The reading instruments can be different according to the character of the city to be analyzed.

Spatio-temporal and cultural differences role the formation of the urban fabric. First diachronic period is Roman Foundation to search Roman structure in the current urban fabric. The relationship between route structures within the walled town is searched. (Ephesus gate, Magnesia gate, deformation made by Ottoman process raising churches, mosques, synagogues, filling in the housing areas, route structure, courtyard houses, little squares as nodes,etc.)

Population and building boom causing squatter settlements and quarters after urbanization process of second half of 20th century create radical changes from the former periods. This study also attempted the adaptability of the method to Kadifekale squatter settlement area where an acropolis of ancient era exists. This area is occupied by spontaneous illegal housing by 1970's. Such work will examine types of houses, routes, and nodes within the area to catch the similarities of historical city center of İzmir that has appeared as a result of urban typological transformation process.

The principles employed in the analysis of the historical city are as follows;

- continuity of forms, textures, buildings, memory spaces
- integration and interaction of the textures to the surrounding,
- hierarchy between the textures,
- repetition of the textures

The study will be carried out by;

- Literature review of a case area (a multi-layered historical city)
- Creating typologies of historical city
- Revealing the syntatic elements, layers and elements of historical city
- Reading of typo-morphological relations of urban textures
- Examination of conservation development plan analyses for the case area

The variables of the analysis are

- Block form
- Street types
- Street textures

- Traces of archaeological pattern
- Natural pattern changes
- Monuments (religious, commercial, and public buildings)
- Major axes

Understanding formation process of streets and patterns are important. Italian morphologists defined the streets as matrix, planned, and configurator streets, and defined patterns in relation with the formation of streets.

Limitations of the study are the analysis is limited within the historical city center of İzmir and whole urban pattern could not be analysed due to the complexity of the development of the city especially after 1922 Fire and building boom after 1970's. The search for physical and functional continuity of ancient civilization and subsequent ones is limited with the change of economic and social values. Cadastral changes could not be analysed due to the lack of former maps. In the historical area transformation of the types cannot be followed easily because of the resistance of building pattern to change.

1.5. Structure of the Thesis

This thesis has six chapters. In the first Chapter, there are issues such as; aim and scope of the thesis, contribution of the thesis to the literature, problem definition and methodology of the thesis.

In the second chapter, several approaches for reading the city were dealt with. Italian Morphology School and their reading methods were examined in detail.

In the third chapter, Legal Framework for conservation development plans and its gaps were handled. Existing Conservation Development Plan of Kemeraltı, İzmir was examined for its practice.

In the fourth chapter, former studies on the formation process of Izmir were studied. The multi-layered historical city of İzmir was also analysed to reveal possible forms and structures in different time periods.

In the fifth chapter, a matrix for the analysis and evaluation of multi-layered historical cities was created, and the urban texture of multi-layered historical center of Izmir city as a case was analysed through this tool of conservation development plans. Finally, the expectation of the thesis is to present the results of the tool that is created to shed light on the development and planning activities of the multi-layered historical cities.

CHAPTER 2

THE DISCOURSE OF READING SPACE

Reading process can be defined as analyzing structures that form a whole. Such approach first appeared with Linguistic theories and was adapted to spatial-sciences in 1960s. Structure, elements, typology, meaning, representation, good form, legibility, historicity, etc. have been the basic concepts used in analysing space.

2.1. Development of Discourse on Reading Space

Discourse on reading space appears with the reaction to the functionalist approach in architecture and urban planning in 1960s (Lüchinger, 1984). Theorists defined space as the sum of elements that can be analyzed as structures.

Aldo van Eyck and Herman Hertzberger are known as the first representators of structuralism in architecture in 1960s.

In 1959, Eyck Otterlo criticised single-sided architecture aimed at progress. He underlined the necessity of contributing past into today, which he termed the internalization of time or transparent time (Lüchinger, 1984).

Rowe and Koetter's Collage City argument in 1960s provided a critique on the failure of modernist city planning and its ill effects on the traditional city. They proposed a new urban design model mediating between the scale of a building and city planning. (Dağlıoğlu, 2016)

Hertzberger developed a theory of design through the concept of Musee Imaginaire (images in the memory) in 1971. He said that every analysis is the interpretation of archetype within the dialectic transformation process of meaning layers.

Kevin Lynch emphasized meanings of urban elements in order to the creation for "*place character*", in 1960. He developed a model including five major features of physical landscape:

- Paths (to direct movement)
- Edges (boundaries to limit one's world)

- Districts (the zones for each activity)
- Nodes (points of intense activity)
- Landmarks (points of reference)

Françoise Choay, Klaus Koenig, Abraham Moles and Umberto Eco were also important figures in space semiology, through their critique of the meaningless of city and architecture (Yücel, 1973).

Urban morphology was developed as an approach to historical geography by Conzen between the end of 1960s and early 1970s (Whitehand, 1992). Conzen dealt with the management of urban landscapes through the concept of *historicity*. Elements of urban landscape were determined as town plan, buildings forms, and land use. (Conzen, 1960)

In the 1970s, French "Syntax Group" started studies on the systems of spaces. They applied morphological and typological analysis to understand how the space produced, how to create spaces. Their analysis was based on the synthesis of Kahn's *logical space system* approach using such concepts as 'attached', 'detached', 'grown', 'erased', joined. (Yücel, 1999)

Arising from this, in 1980s, Aldo Rossi developed improved syntactic approach through establishing logical relationships between typology and morphology. He analyzed the city as formed through a logical organizing of monumental typologies and texture typologies. Then, he asserted that these typologies form the memory of the city. (Yücel, 1999)

Hillier and Hanson critiqued an interregnum between architecture and planning that leads to unconscious design. They attached importance to the spatial order that includes social relations instead of geometrical order to understand the overall (global) pattern. (Hillier, 1987)

The analysis method of Space Syntax was developed by Hillier and Hanson in 1984. In the method, spatial elements of settlements were defined as *"closed elements" like dwellings, shops, public buildings, and "open system of public spaces" like streets, alleys, squares*. The relationship of these closed and open elements forms a global spatial pattern of continuous space. (Hillier, 1987)

These elements were used to define axiality and convexity of the settlement. The main tools of the method are the axial map and the convex map.

- The ‘axial’ map based on settlement layout analysis draws the fewest and the longest lines of uninterrupted permeability necessary to cover the public open space of an area.
- The ‘convex’ map comprises the set of widest spaces that cover the open space structure of that settlement

Today, issues such as ideological dimensions, difference, subjectivity, and power relations are dominant in the debates of space. It is recognized that pure structuralist approaches, where sign is an absolute integral form, are insufficient to explain the evolution and change. Content is reduced to shape, which refers to absolute structure independent of history and social relations. (Birkiye, 1984, p:56)

Post-structuralist thought, especially, Foucault and Derrida, rejects broad explanatory schemes affected city planning discipline in 1980s. Derrida’s conceptualizations of text and collage were the new metaphors of this approach to the city. City was explained as text that could be read. Every structure of it must be understood and interpreted. Urban post-structuralists tended to examine the history of the city, dwellers, and their life in the city, that is, the parts that constitute the city. They emphasized *human scale*. (Ellin, 1996)

The post-structuralist planners seek to show how urban form functions to manipulate consciousness. Foucault works emphasized freedom and his insights into the use of space as an instrument of repression applied to contemporary urban critics. (Fainstein, 1996)

The early texts of post-structuralist urbanism are Jane Jacobs’ Death and Life of Great American Cities and Richard Sennett’s Uses of Disorder. They criticized the bad effects of capitalism on urban form and highlight exclusivity and sterility. Iris Marion Young makes one of the strongest statements of the post-structuralist position on difference and ethnicity. (Fainstein, 1996)

The importance of studies on public spaces was emphasised as these had social and symbolic function for the city. Importance attached to neighborhoods with a desire to assuage the apparent fear and confusion generated by modern architecture and modern society. (Yücel, 1999)

Philosophical critics also arised for urban morphology studies. Lefebvre underlines space as social space and the lack of science and knowledge of space. The necessity of *a unitary theory of space* is expressed by Lefebvre that *encompasses the*

physical, the mental, and the social. Morphological research is criticized as ignoring mental and social space and such space is called as *Euclidian materialist space.* Euclidian space that uses a *code language* is destroyed with the debates of knowledge, social practice, and political power. (Mugavin, 1999)

Lefebvre established three propositions linking social, mental and physical space as; *first natural space is disappearing, second, every society produces its own appropriated space, third, if a space is a product, our knowledge of it must be expected to reproduce and expound and expand the process of production.* These takes us to concepts of *spatial practice*, *representations of space*, and *representational space*.

According to Mugavin (1999) urban morphology should base on; *the systematic description and analysis of city as place, revealing spatial practice, needs to highlight everyday social, cultural and institutional processes, so that product is understood through production*.

Urban reality is dealt with independent of *organicism, evolutionism and continuism* by Lefebvre (1996). The city as a place for social interactions and temporal and spatial discontinuities and historical processes is underlined. Transformation of city is related to relatively continuous global processes, mode of production, and class and property.

Discontinuities take place not only in urban formations but also in social relations, some forms change themselves into new structures. *Destructurations and restructurations are followed in time and space written in urban text but coming from history and becoming*. City cannot be read without deciphering daily relations, and ideologies. (Lefebvre, 1996)

Lefebvre (1996) called *city as a projection of society on the ground; that is, not only on the actual site, but at a specific level, perceived and conceived by thought, which determines the city and the urban*.

2.2. Reading Historical City

Reading city approach in terms of Urban morphology concept has directed conservation policies and practice since 1960s especially in Italy and France. (Rodwell, 2009).

Urban morphology is an explanatory theory interested in the study of the physical form of the city, the progressive constitution of the urban fabric and the analysis of the reciprocal relationships between the constitutive elements of the urban fabric defining combinations of spatial features (squares, public spaces, etc.). Urban space can be defined as a record of the past like that encountered in reading a document. For this reading action, it is important to analyze built environment through its elements and to reveal combinations of these elements historically. Such an approach to built environment implies methods of urban morphological analysis.

In the literature, there are different approaches about how to manage urban analysis and reading the historical city. These approaches differ due to the writer's school and discipline, whether history, geography, economy, or urban design. Similarly, these scholars point to and emphasize several different elements that can be utilized in reading the city.

Conzen (1960) dealt with city through plan, building, and land use under the title of urban morphology. He terms his approach town-plan analysis, and he identifies three fundamental elements of the town plan: streets, plots, and buildings.

Panerai works within the context of the Versailles school of French urban studies. He expressed the life and death of urban block. According to him, the urban network is located between plans and buildings. The character and relation of the small space, e.g., the dwelling, to other spaces that are both adjacent to it and to the city are determined through ancient districts which are integrated to the modern fabric. He focused on the connection between the form of cities and their architecture. He emphasised the block as it enabled the interplay of differences and continuities, the transition to a smaller scale from part of the larger urban spatial system. Thus, the concept of block gained a cultural and social content by him.

Panerai addressed issues of both design and the city building process. Panerai influenced by Lefebvre, this can be observed in his writings such as contemporary construction and house production methods weaken the relationship between people and their environments. He was motivated by the need to identify the ingredients of good city design. The book "Elements of Analysis" (1980) stipulates knowledge derived from urban analyses that enhances the ability to describe and discuss the city as a sociophysical phenomenon. In this work, the relationship between built space and social space is described as a dialectic between urban form and social action. A type is defined as an

"*abstract object built through analysis*" that reproduces the properties that are deemed essential by the analyst of a family of real objects (Moudon, 1994)

Panerai deals with the objects as part of a whole, and underlines that built environment is not accidental; on the contrary, he claims for typological analysis that this existence stands on deep structural bases of history (Panerai, 2005).

Table 2.1. Classification of urban elements according to different researchers (Source: Moudon, 1994; Yakut, 1995; A. C. Hall, 1997; Panerai, 2004; Rossi, 2006; Petruccioli, 2008).

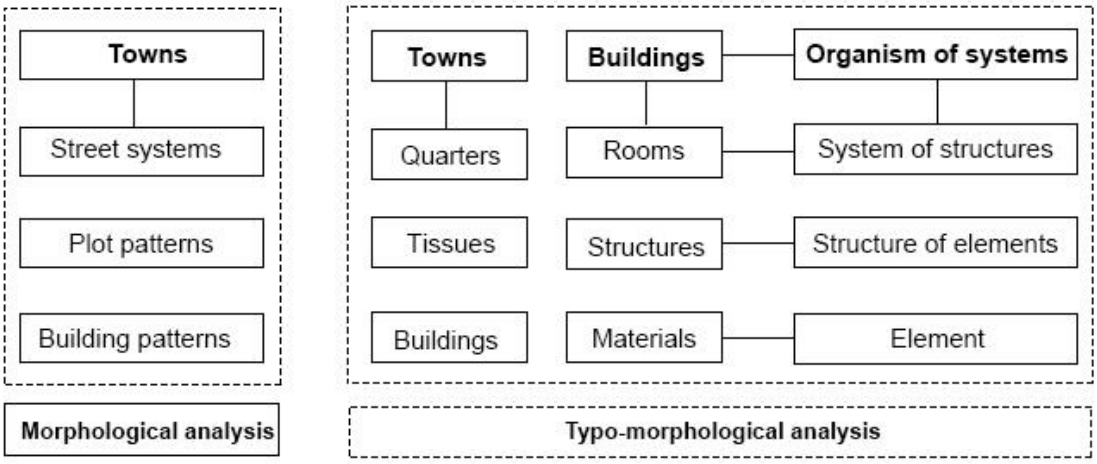
Writer	**Background**	**Classification of urban elements**
Caniggia (1963)	Italian School	Building, tissue, district, whole town
A.Rossi (1966)	Italian School	Courtyard, galleries, private and public areas
Conzen (1960)	British School; history	Plan, building, land use
R.Krier (1979)	urban design	block, avenue, street, square
Panerai (1980)	French School; architecture	Block; plan and buildings
H.Carter (1995)	British School; History	street pattern, architectural style, and land use
Moudon (1997)	Geography (adapted 3 schools)	buildings, gardens, streets, parks, and monuments
Petruccioli (2007)	Italian School; urbanism	type of building, pattern of buildings, urban organism
K.Kroph (2009)	geography	Building materials, structural elements, rooms, buildings, plots, blocks/streets, plan units, combinations of plan-units, combinations of the objects of the plan-units

Moudon follows Conzen and Muratori; she brought English, French and Italian schools together. She identified buildings, gardens, streets, parks, and monuments as main elements of morphological analysis. Moudon (1994) mentioned a concept of typo-morphology; *"Typomorphological studies reveal the physical and spatial structure of cities. They describe urban form (morphology) based on detailed classifications of buildings and open spaces by type (typology). It considers all scales of the built landscape from the small room or garden to the large, urbanized area. It characterizes urban form as a dynamic and continuously changing entity immerse in a dialectic relationship with its producers and inhabitants."*

In the light of such morphological approaches, built form and its evolution over time was attempted to describe. Main points of typo-morphological approaches are; these defined cities formed in evolution process and urban forms appeared through products of synchronical and diachronical processes.

The Italian Morphology School that underlines the urban form as a product of evolutionary process and indicating morphological hierarchy and combination of its elements. They studied urban form for descriptive and exploratory purposes, with the aim of developing a theory of city building (Moudon, 1997)

Typo-morphology works emerged in Italy in 1950's, in an attempt to define *grammer of transformation*, underlying new architecture built should be dependant to the pre-existing environment it was built in, to enable continuity. A research method was suggested to prevent *dichotomy between new planned developments within older spontenaously grown towns*. Such fragmentary approach to cities is criticised. (Van Oers, 2006).



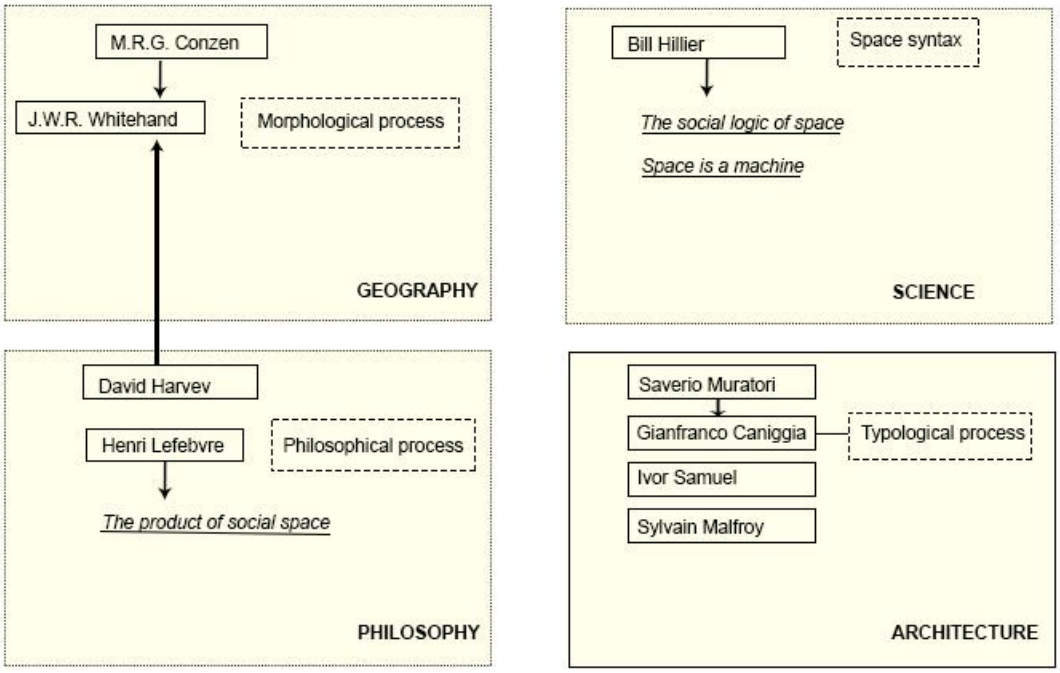


Figure 2.1. Urban Morphology Studies
(Source: Yina S., Dian Z., 2009.)

Urban Morphological works reflected to the international conservation policies through recommendations and agreements of international institutions. Documents and recommendations of UNESCO, International Council on Monuments and Sites (ICOMOS) and Council of Europe has an important role on conservation policies in the world. Beginning with 1964 Venice Charter, and 1975 Declaration of Council of Europe in Amsterdam, 1976 UNESCO Recommendation, 1987 ICOMOS Washington Charter conservation approach enlarged from single buildings to group of buildings and conservation sites. Today, the concept of *historic urban landscapes*[3] provides a holistic point for historic cities. (Rodwell, 2006; Van Oers, 2006; Rodwell, 2009)

2.3. Italian School of Typomorphological Approach to Urban Analysis

[3] Historic Urban Landscape is defined as; "*the urban area understood as the result of a historic layering of cultural and natural values and attributes, extending beyond the notion of "historic centre" or "ensemble" to include the broader urban context and its geographical setting"* (UNESCO, 2011)

In the 1960s, studies on historical cities appeared in opposition to Modernist planning approaches in Italy. Saverio Muratori, Aldo Rossi, and Gianfranco Caniggia indicated *mixed uses against functional zoning, density against garden cities, blocks against open patterns, urban streetliveliness against separation of fluxes, structured public and private space against the flatland of Le Corbusier's heirs*. (Bertolini, 2011)

Typomorphological approaches read city form as a historical settlement process, a territorial conquest to control space with materials and building techniques. Muratori and Caniggia are the first representatives of this approach in Italy.

Muratori expressed the role of history and underlined that the structure of cities could only be understood historically, with building typology as the basis of urban analysis. According to him, the typology of buildings and related open spaces defined the essence of the building fabric. His insights led to the works of Rossi and Aymanino. (Moudon, 1994)

Caniggia stated that within evolutionary process new structures are formed by the human intervention to the nature, merging previous structures to the subsequent condition. He called this *systematic isolation of the structures* that enables a total historical knowledge of the structures previously achieved. This circle gives a diagram of a process revealing the possibilities of successful development. If the current structure is conditioned by all the above, it would contain much more than traces of these aggregates, this means there was a process of continuity. (Caniggia, 1963)

Caniggia explained the human environment as made of "built objects", all related to the other. He identified built objects at four different scales: the building, the group of buildings, the city, and the region. His analysis of urban form proceeded from the small to the large elements of the environment. He identified base type in terms of its *volumetric characteristics, its position relative to the street, and its solar orientation*. Then he reviewed the base type *over time for possible mutations or adaptations*. Caniggia identified the elementary *Roman domus* as the base type which evolved into a courtyard house, then into a row house, and finally into a linear house. Thus, the analysis of the traditional city could guide the design of new buildings. (Moudon, 1994)

Caniggia describe elements of built environment in morphological hierarchy; *buildings in their lots (plots) arranged along routes, and forming plot-series.* He used the terms *built routes* (streets) embracing other types, *plot-series* that form blocks; *tissues* form from the *combination of plot series/blocks with streets* (Hall, 1997). Caniggia and

Maffei described the components of built environment as *internally arranged to construct a whole* (Kärrholm, 2011).

Rossi researched the constant rules of a trans-time typology. He determined courtyards and galleries as morphological elements of the city. He wrote on primary elements and urban phenomena as contribution for typological and morphological readings of the city. (Rossi, 2006)

Rossi, Aymonino and Giorgio Grassi are known as neo-rationalist urbanists. Urbanism would enable to produce constant rules of architecture from the city and the history of the architecture. The city was defined from the artifacts of the growth process with numerous possibilities. The architecture of the city is the life story of it. Meaning of the process is the meaning of the city.

Rossi underlined the conflicts of singularities and collective memory. Each part of the city is a single place, although the interventions depend on general planning measures. Singularities give city its character. The indicators of city dynamics are falling into ruin, and there is rapid change due to speculations and expropriation. These cause interruptions of the singularities. (Rossi, 2006)

Urban space is the production of political, social, and economical systems. Spatial structure is the production of architecture and geography. Urban artifacts are art productions (Rossi, 2006)

Rossi expressed the social content of the architecture and city and based his work on social geography theory of Jean Tricart, continuity theory of Marcel Poete, and enlightenment theory of Milizia. He classified the buildings of the city as private and public space. He defined the "type" constant and mixed thing, which forms logical principle of shape. Typology is the examination of unreductible elements of architecture and city (Rossi, 2006).

Petruccioli (2008) follows Italian School. He also presented a method of reading city through applying typological process to urban pattern. This typological process enables to understand evolution of transition one type to the other. Type is phrased as the expression of the society within a specific time and space. He defined reading as a critical analysis of determining *posteriori* elements, structures, and their interrelationships. He categorized urban elements as type of building, pattern of buildings, and urban organism.

Italian Morphology School presented a group of analysis to define the typo-morphological character of buildings in 1960s. These analyses were implemented in the

historic cities in Italy and results reflected abroad as forming *typology-led planning approach*. In typology-led planning approach typologies of buildings and open spaces lead interventions within the historic centers. *Analyses of materials and elements of buildings and open spaces (fences, windows, doors, plaster coatings, etc.)* enable to identify recognizable parts of the city (Xie, 2019)

2.4. Methods used by Italian Morphologists

The morphologists of the Italian School approach city form as a historical settlement process. The Italian school centers on the work of Muratori and Caniggia, which see political-economic forces as shaping a built landscape already conditioned by a particular logic, set of elements, and characteristic processes. In this part of the thesis, the methods, and approaches of Caniggia for Como and Petrucciolli for Mediterrenean cities are reviewed.

Italian Morphology School underlines typo-morphological approach to read the city from buildings to the tissue through a historical perspective. Such approach provides to analysis historical and multi-layered cities in detail within a space-time context. This study concentrated on the works of Caniggia and Petruccioli that they define a methodological framework for reading historical cities.

Caniggia worked on chronological maps of Como city to reveal the traces of archaeological layers of it. Petruccioli formed a matrix including scale hierarchy and hierarchy of complexity levels of the modules that enables to analysis urban tissue from buildings to region.

2.4.1. Reading Method of Caniggia

Caniggia developed a method of reading Como, a multi-layered historical city, in 1963. He defined this method as *a holistic refined, specific, and timely instrumentation and methodology*, and backgrounded the method by Saverio Muratori studies and the proceedings of Paul Maretto, Renato and Sergio Bollati Guido Marinucci. As a result of the reading, he revealed that Como was produced by a succession of identifiable steps, and it has been extended over the past two decades. (Caniggia, 1963)

He underlined that the "readibility" of a city increased through its chronological and trained record. He first aimed to develop a methodology of urban transformation. The second goal of the study was to analyse the building structure from the floor to the functional plan of urban fabric time according to an organic cyclic process. He studied the urban center and the nuclei of ancient origin in Como, Italy. (Caniggia, 1963)

The study of Como was carried out under delegated Research Center for Studies of Urban History. In this study, he defined the term structure as *a unified whole by a sum not hierarchical*, an *organism* that its parts are necessary to each other to create harmony. (Caniggia, 1963)

Caniggia examined the diachronic formation periods of Como employing different scales of the city. Each scale of the *constructed whole* was searched to reveal relationships between different dimensions of space (Caniggia & Maffei, 2001).

He dealt with the physical reading of Como as a system of structures; building, city, and the territory. He tried to identify laws of physical development and a total historical knowledge of the structure through reading aggregate. In search of the physical continuity of the city, he defined *phases* as moments of critical interventions to the city structure.

Caniggia considered building types according to the dissimilarities between building schemes. He named the *type* as "the characteristics that make the building act of living together, membership of a road system, a series of relationships", and *base type* as initial type from which the types have diversified. *Nodal point* was defined as the future of the base type, which was square-celled. Public buildings such as churches, temples, theaters and etc were termed as *specialist* buildings. Caniggia (1963) defined a terminology necessary for critical reading of an aggregate as below;

> BUILDING: body found, a summary of work identified and a particular building type, or pseudo-type; individual included in the plurality, represented the aggregate, made organic by a particular tissue;
>
> PSEUDO-TYPE OR BUILDING TYPE SPECIAL: basic patterns, or categorical, or structures, buildings, summary of the basic type and need, or system requirements, general, ie not specific to one building, but common to most buildings, features or basic structure of a particular tissue; generality of intervention on individuality, represented by individual buildings identified;

BUILDING TYPE strict sense or base type: class or structure of pseudo-types, synthesis of primary structure and use, feature or basic structure of the urban fabric itself, intervention on the general universality represented by particular types;

URBAN FABRIC strict sense or basic fabrics: special category or tissue structure, complex relationships between elementary buildings directly related to the base type; URBAN FABRIC DETAIL: category or structure of a particular aggregate, identified: tissue synthesis between it and as such a requirement, or a system of requirements, general; Created intervene on individualism represented by an aggregate identified;

URBAN CENTERS: the body identified organisms identified (buildings) and synthesis of a number of individual interventions and a particular tissue; plurality of organisms identified organic yield, which is structured through particular tissue.

SYSTEM: These bring into play factors of size, quantity of aggregate term still does not imply a gradation of this second order scales, it is nevertheless necessary if we are to account for the differences in the various dimensions of quality implied, aggregate constituent bodies we call villages, towns, districts, cities. The system depends on the size of the aggregate, in the sense that the order could climb, stop within a few terms for small clusters, and reach the highest degrees for larger cities.

He defined some laws of reading; the law of derivation of pseudo-types from the types and degrees of subsequent establishment structure by pseudo-types, the law of being a modular cluster, and bearing it pool on the next life , and again replacing a normally gradually aggregate to another, and not sudden and total renovation, the building has taken on a more complex structure than in the previous phase can only doubled by invading the area and making his own, being included according to the dictates of a new pseudo-type, bordering on the physical structure of the building. The aggregate will be so always consisting of modular units, but gradually increasing scale. (Caniggia, 1963)

Then Caniggia (1963) applied the law of derivation to the scale of the fabric as; "*basic unit of primary tissue cells arranged in series base open, along a path. The first doubling will be represented by the formation of a tissue analogous to the path symmetrically, the second by the formation of an additional parallel path with a double row of buildings, and the simultaneous acquisition of size remains inside between two groups: the size of the lot base. The introduction of a third route will be the doubling of the new system, with the formation of a duplicate of the lot, and will involve the hierarchy between the central route and side, forming a new macroscopic form*."

In reading process, Caniggia (1963) distinguished a phase from the other through its *organic*ity involving the greater, cooperation, between the parts of a system. He identified organicity through termes below:

GRADE NUMERIC, or simple serial: system of elementary aggregate;
GRADE SYSTEMATIC, or complex serial: system consists of several systems;
GRADE ORGANIC, or polarized systematical: cooperative linkages made by the presence of a pole;
GRADE INVOLVED, OR multi-polarized organic: cooperative systems with multiple poles.

He analysed the organicity of the Como in Roman Period.

Table 2.2. Caniggia's Analysis for Periods of Como City
(Source: Caniggia,1963, p:)

Phase of system	**Existing grade**	**Grade intentional**	**Period**
Ist Cycle			
Nature earlier human intervention	Involved		before the 1st millennium BC
Establishments of the Iron Age	Organic		1000 to 196 BC
Phase I of the Roman or phase of the "Castrum Marcelli"	Systematic	Organic	from 196 to 89 BC
II phase of the Roman phase or the 'Castrum' of Cn. Pompeius or colony of C. Scipio	Numeric	Systematic	89 to 51 BC
III 'phase or phase Novum Comum Towns	Systematic	Organic	from 51 at the begin. of our era.
IV "stage or phase of the polarization towards the lake or the imperial complex	Organic		I-III sec. A.D. IV-V century. A.D.
V-phase or phase of the late medieval city	Involved		IV-V sec. A.D.
II cycle			
Strengthening of the villages outside the walls	Organic		VI century
Phase nuclei of the religious type parishes	Systematic		VIII century
Phase of the replacement of the buildings housing specialist with mercantile	Numeric		X century
Renovation of the city of Milan after the war	Systematic		XII century.
end of II - beginning of cycle III			
Polarization around the Cathedral and Bishop's administrative buildings tothe complex	Organic		XIII century.

Strengthening fortified: nuclei con vent	Involved		XIV-XV century
Beginning Spanish domination and consequent crisis	Organic		XVI-XVII century.
III cycle			
Domination Austrian Cadastre Teresa beginning industrialization	Systematic		XVIII century
Undifferentiated external expansi on: intensive industrialization	Numeric		XIX century
External expansion with nuclei arranged	Systematic		XX century
Town territory: the territorial center of gravity on repolarization	Organic		
end III - IV cycle begins			
City area: multiple poles arranged through a center unit	Involved		XX-XXI century

Caniggia used maps as the main tools that allow isolation of the structural phases of an urban cluster. The maps he used were essentially growing in scale, and noting the specific purpose of each scale:

- altimetry and hydrographic maps, in reports from 1:100,000 to 1:10,000, the area's image is not used, and thus representative of the natural structure;
- 1:100,000 maps, reading problems of system territorial general, regional (path, the mutual position of the settlements);
- 1:25,000 maps for the local territorial system: housing development, industrial use of land, divided up the relationship between territory and population.
- cadastral maps 1:2000 and 1:1000, representing the subdivision of urban land in property, and then image of the urban and the aggregate, ie the buildings in their mutual relations;
- the land parcels 1:200, representatives identified the use of the property, and then images of individual buildings, their physical structures and types.

Caniggia prepared a single map consisting of the knowledge of the city from these maps and used analogy from similar other cities. Through this reading aggregate he classified items into two groups; the first consisted of the structural systems such as warping walls perpendicular or parallel, or symmetric, continuous wall alignments. The second group of items is based on the presence of atypical structures such as systems for identifying pathways of buildings prior to diagonal ones, residues of paths and open spaces orthogonal modified subsequently. (Caniggia, 1963)

Figure 2.2. a) Diagonality of Como b) Ortogonality of Como
(Source: Caniggia, 1963, p: vii)

In his study of Como, *"domus"*[4] was taken as the base type from which the city formed. In parallel with the 'domus' type urban housing has such an important element: the space front distributor, what will become portico in the "*domus*" and "*portico*" and "*lobia*' in the courts today.

Through the remains of "Castle" and the external obliques and the paths of arrival at the gates, Caniggia analysed the function of individual lots and continuity of the Roman system in Como based on "decumanus" in Roman cities.

[4] *Domus,* ***private family residence of modest to palatial proportions****, found primarily in ancient Rome and Pompeii. In contrast to the insula (q.v.), or tenement block, which housed numerous families, the domus was a single-family dwelling divided into two main parts, atrium and peristyle.* (www.britannica.com)

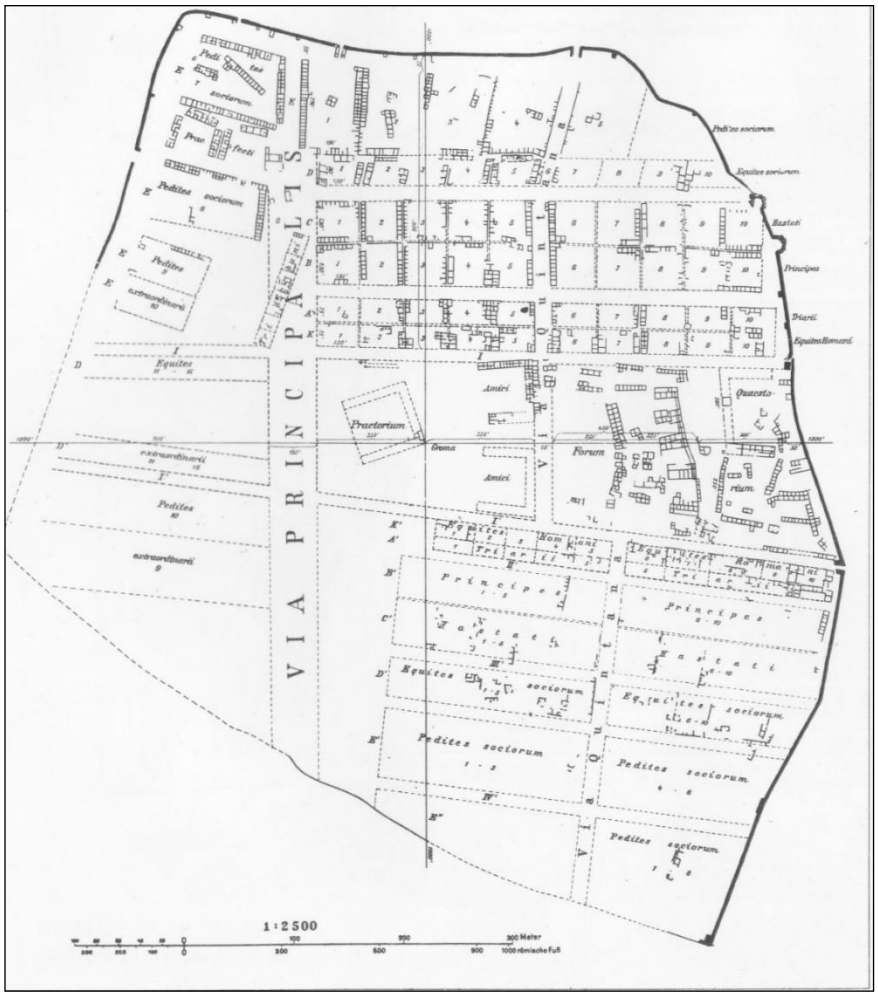


Figure 2.3. Current Lots inside Roman walls of Como
(Source: Caniggia, 1963, p: xi)

He revealed that *a series of space dividing longitudinally the "pars postica" testifies to the presence of the hole and the palace, surrounded, apparently by a band of arcades or cells for minor services*.

In his analysis, Caniggia divided the evolution of Como in the Roman period into five phases illustrated by the following 5 figures.

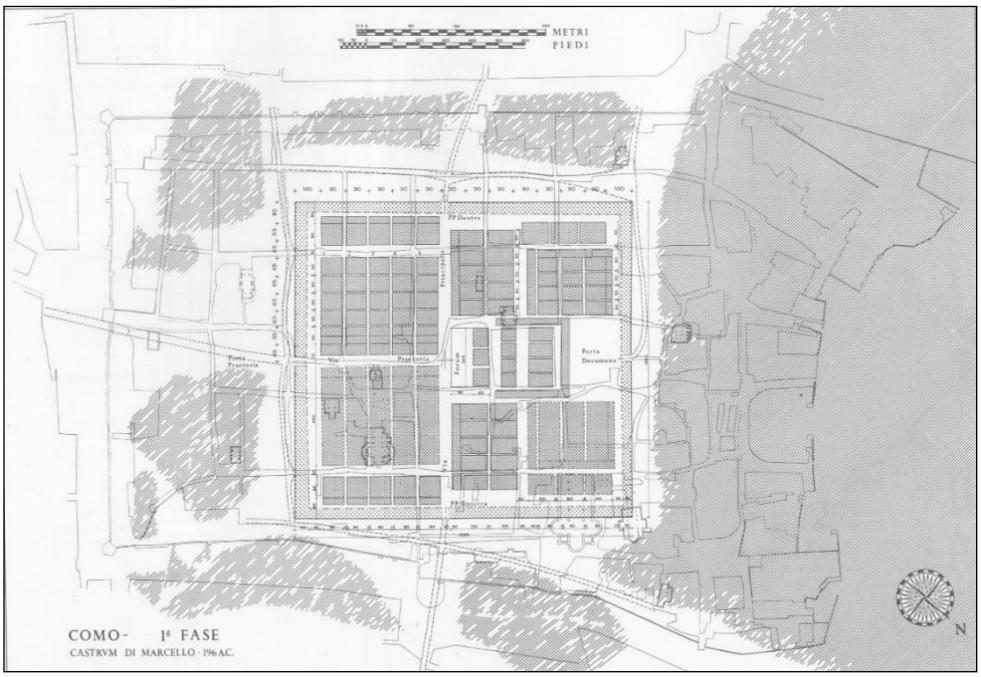


Figure 2.4. Ist Phase of Roman Como
(Source: Caniggia, 1963, p: xii)

In the 1st phase the type of building, 'Castrum', was to be a kind of courtyard with cells on three sides, in a U-shape. This shape also repeats interestingly in the main city plan. Lots of this phase belonged to the system with measures 80x60 feet. (Caniggia, 1963)

The next extension, called the “Castrum” of Cn. Pompeius Strabo reveals a number of courts of anomalous dimensions, which still exists in current Como. Probably other two side gates were added in the welding between the new and the old walls for military purposes. (Caniggia, 1963)

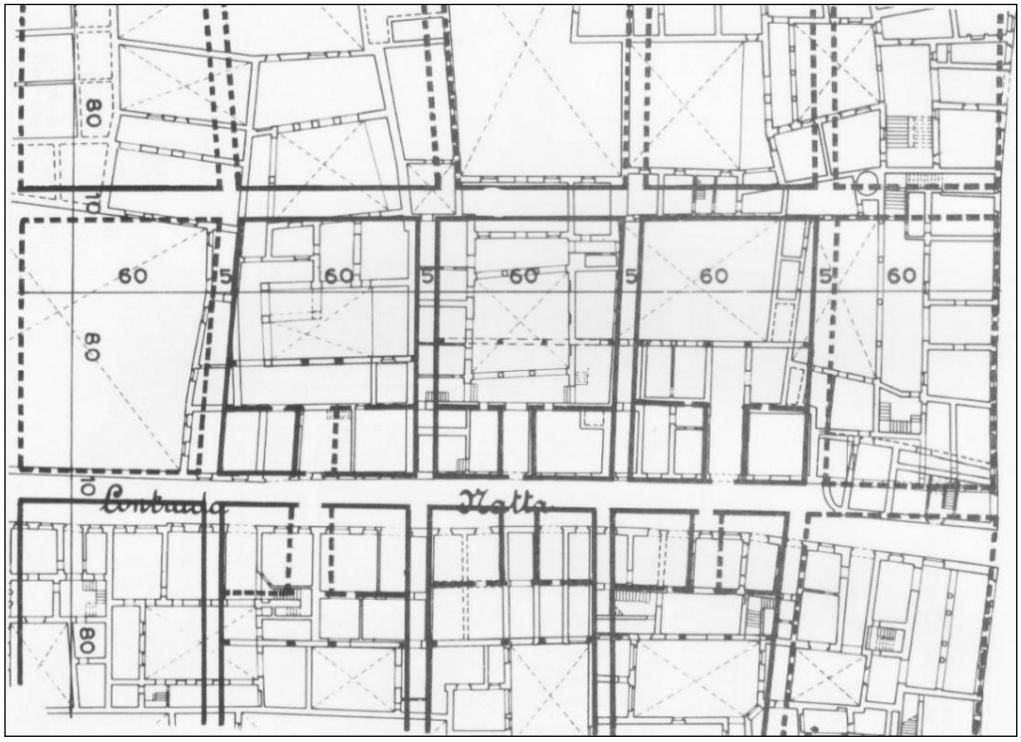


Figure 2.5. Ist Roman Phase of Como and measures on the current settlement
(Source: Caniggia, 1963, p: xiii)

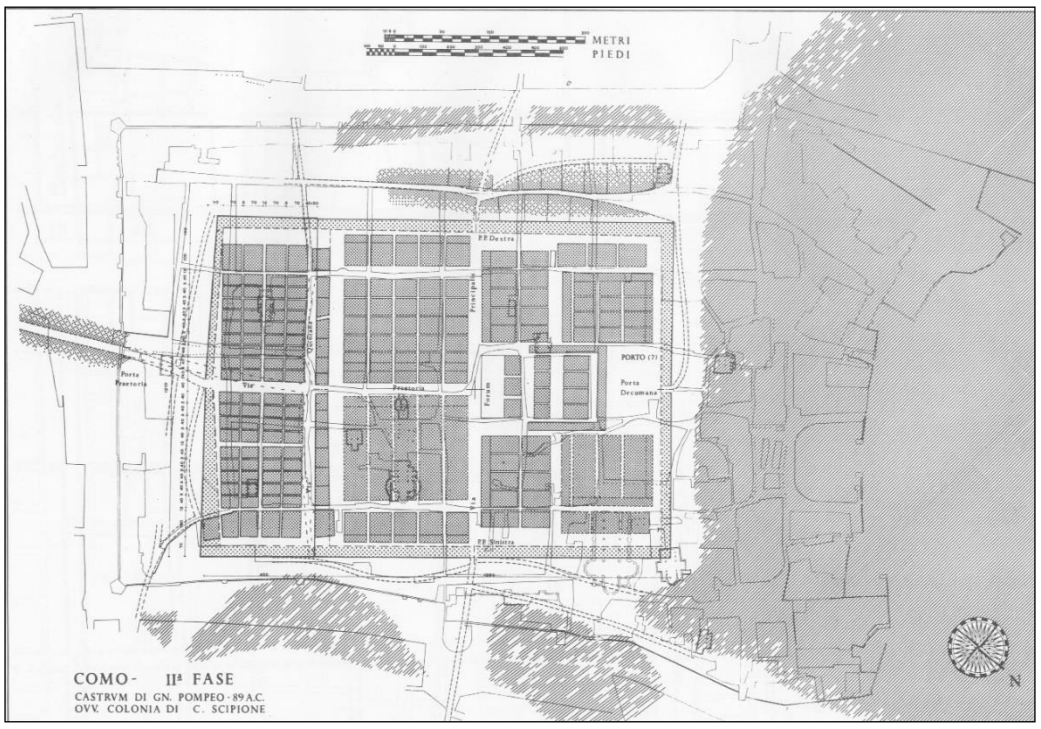


Figure 2.6. IInd Roman Phase of Como
(Source: Caniggia, 1963, p: xiv)

The portion is added by an average of 400 feet and extended the previous stage. Few traces remain of this in the current cluster, the area was being renovated by the third stage. The courts insist that the new subdivision are 70 X 40 feet, forming a tissue probably more minutes for more intensive use of the limited area available. (Caniggia,1963)

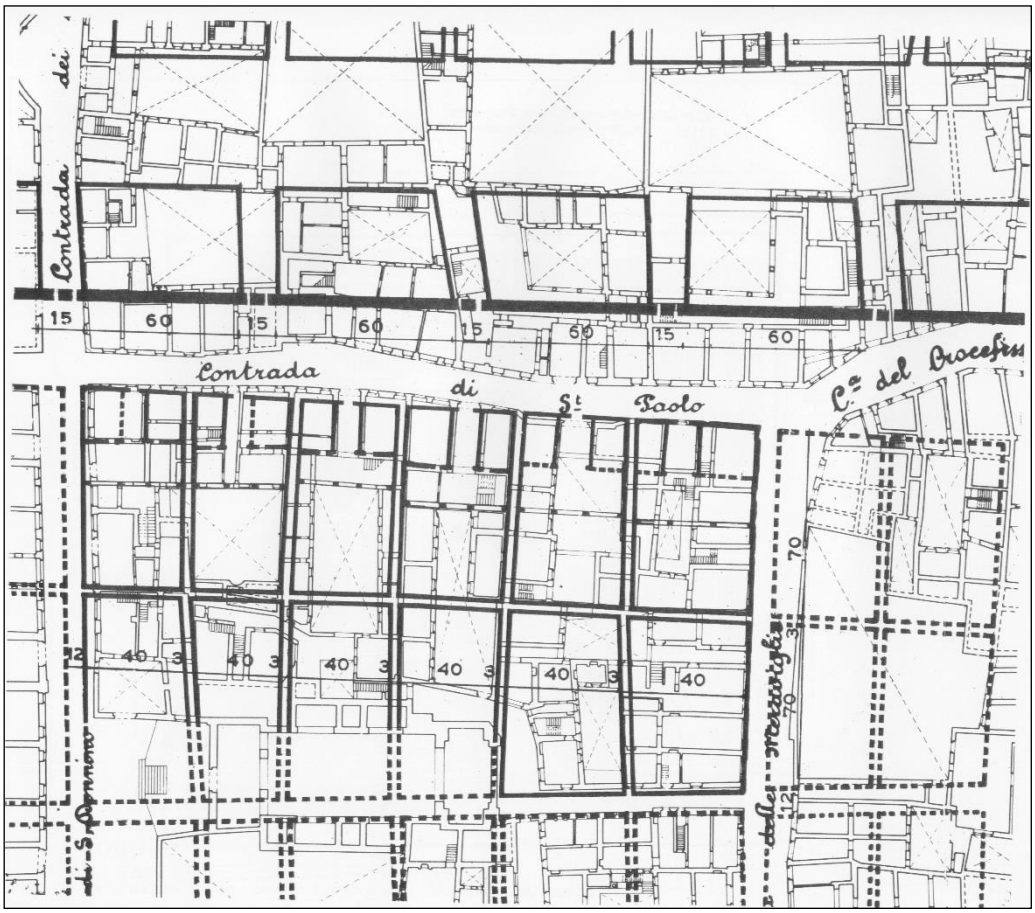


Figure 2.7. II[nd] Roman Phase of Como and measures on the current settlement
(Source: Caniggia, 1963, p: xv)

In the third phase, a further expansion of the city occurred at the time of Julius Caesar, with the founding of "Novum Comum. The foundation of "Novum Comum" was guided by the intention to make the city visually unified, orderly, especially the outside. The towers added to reinforce the existing walls were built using materials from tombs, inscriptions, and fragments of entablature columns. (Caniggia,1963)

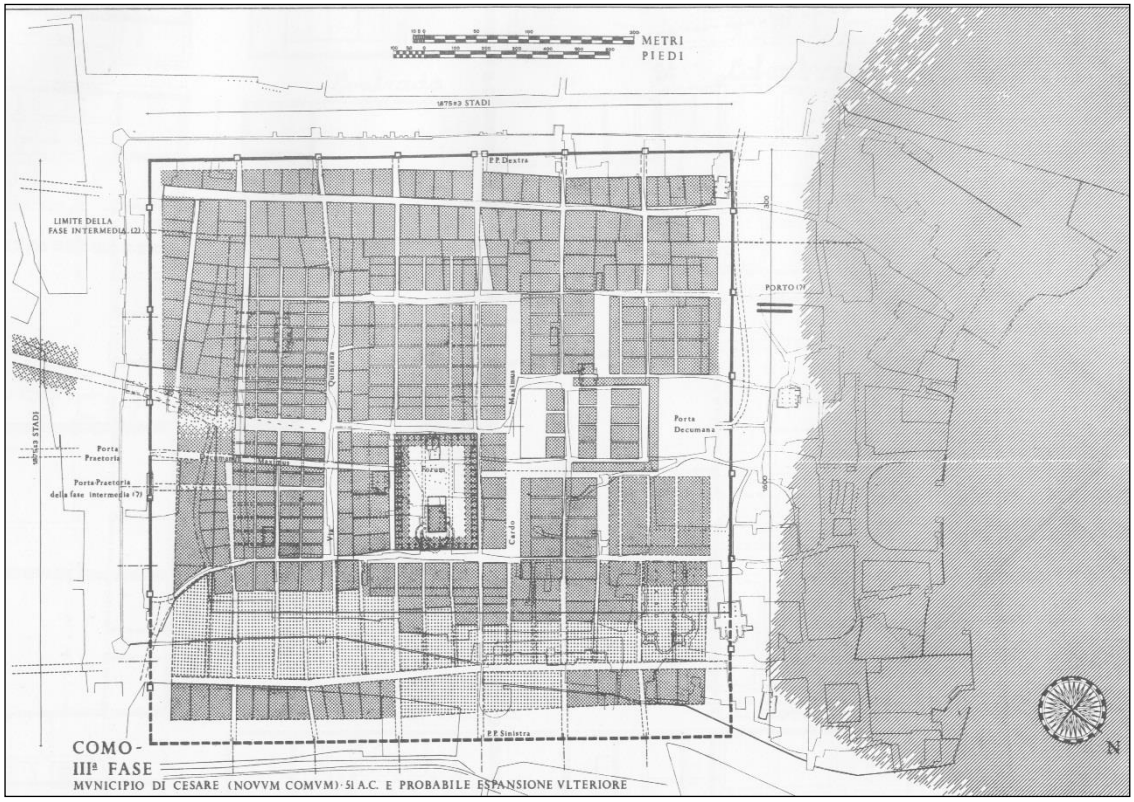


Figure 2.8. III[rd] Roman Phase of Como
(Source: Caniggia, 1963, p: xvi)

The centre of the city forced from the periphery of the aggregate and caused a new system in proportion to the size.

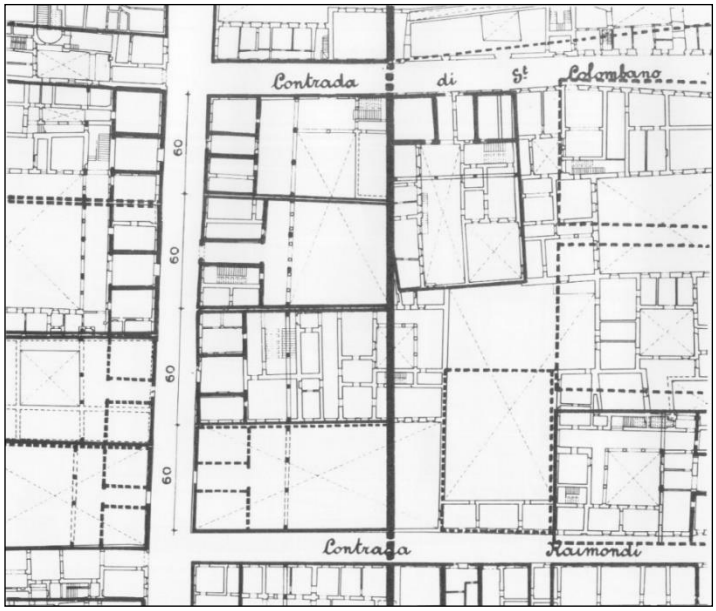


Figure 2.9. III[rd] Roman Phase of Como and measures on the current settlement
(Source: Caniggia, 1963, p: xvii)

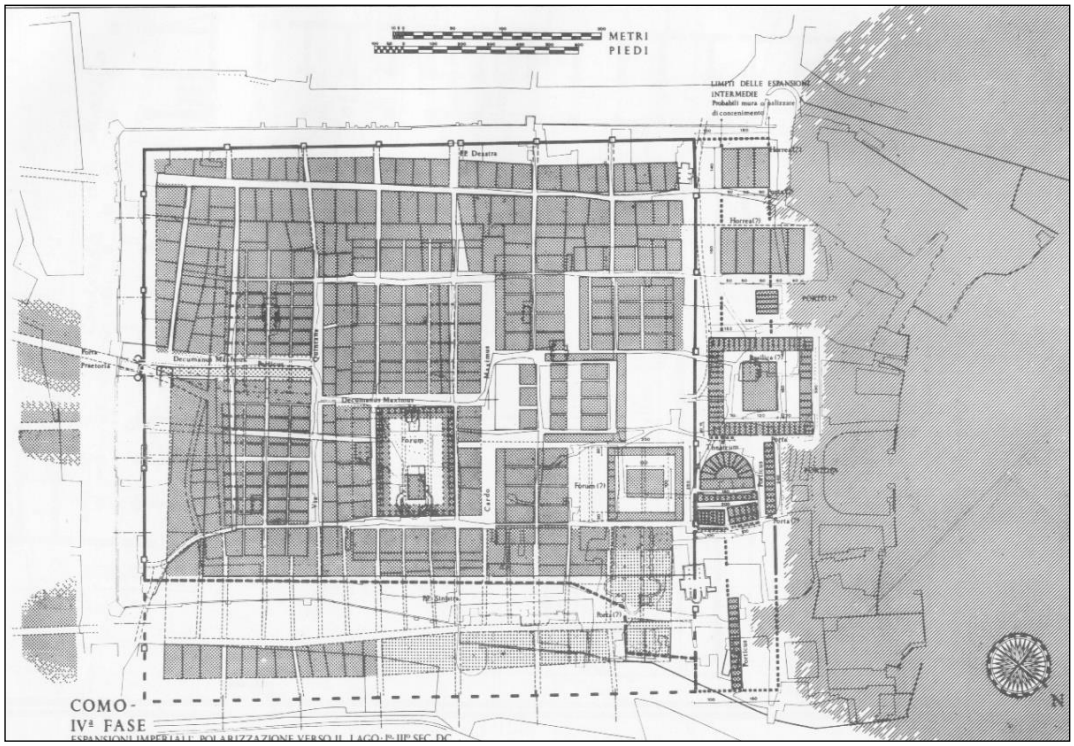


Figure 2.10. IV[th] Roman Phase of Como
(Source: Caniggia, 1963, p: xviii)

In the IV[th] phase the city expanded more, with the construction of a theater, and a large complex of Basilica.

The curve of the theater is evident in the inner wall of the alley toward the Cortesella, a diagonal path affected by the arches of the portico of the "Basilica". The measures of the theater are like; the entire complex of "scaena" it is 200, the auditorium with an orchestra of 90 radius, 80 the total distance between the outer wall of the auditorium and scaena. The portico which limits the space of the theater on the front of the lake is clear in form and measures in the structures of houses. (Caniggia,1963)

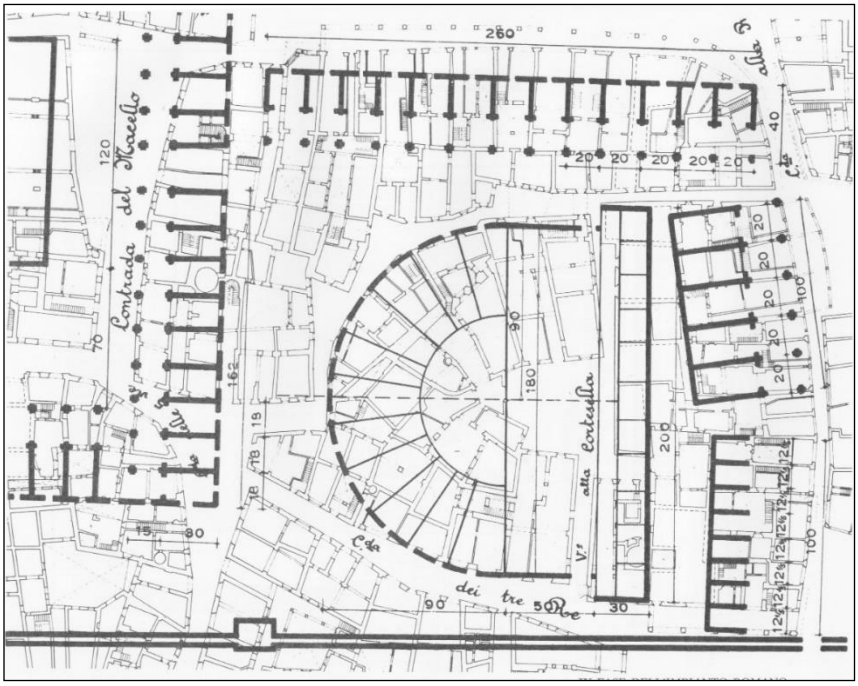


Figure 2.11. IV[th] Roman Phase of Como and measures on the current settlement (Source: Caniggia, 1963, p: xix)

The fifth stage is the final limit point of the Roman and the early stages of the Middle Ages. Although apparently differs little from the previous phase, assumes the characteristics of nodal stage, and the maximum degree of organic unity in the process. (Caniggia,1963)

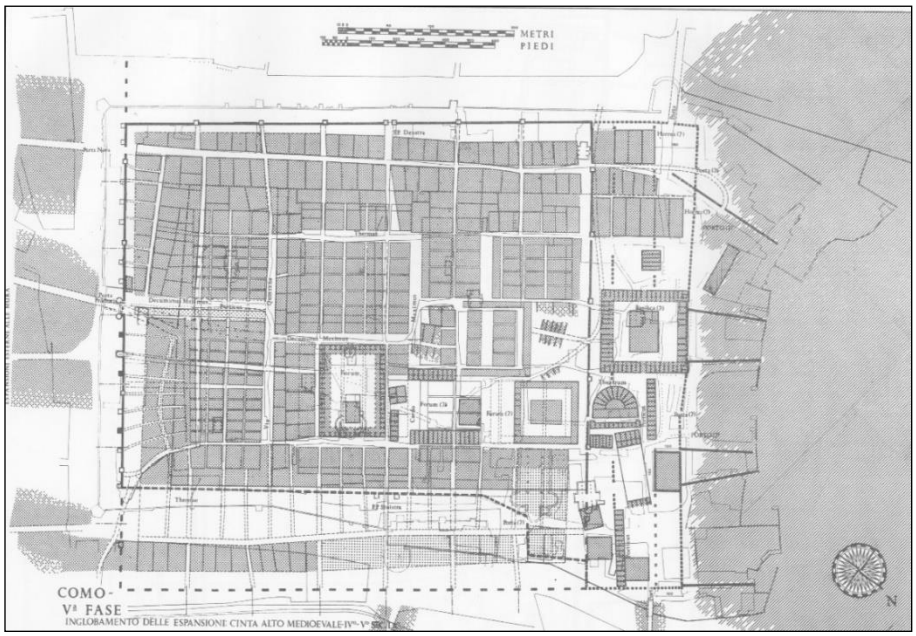


Figure 2.12. Vth Roman Phase of Como
(Source: Caniggia, 1963, p: xx)

This phase has the characteristics of the formation of short irregularly shaped, and the types of domus perystyle enhanced as the future elementary modules. New specialized types such as baths, porches, and smaller temples appeared. (Caniggia, 1963)

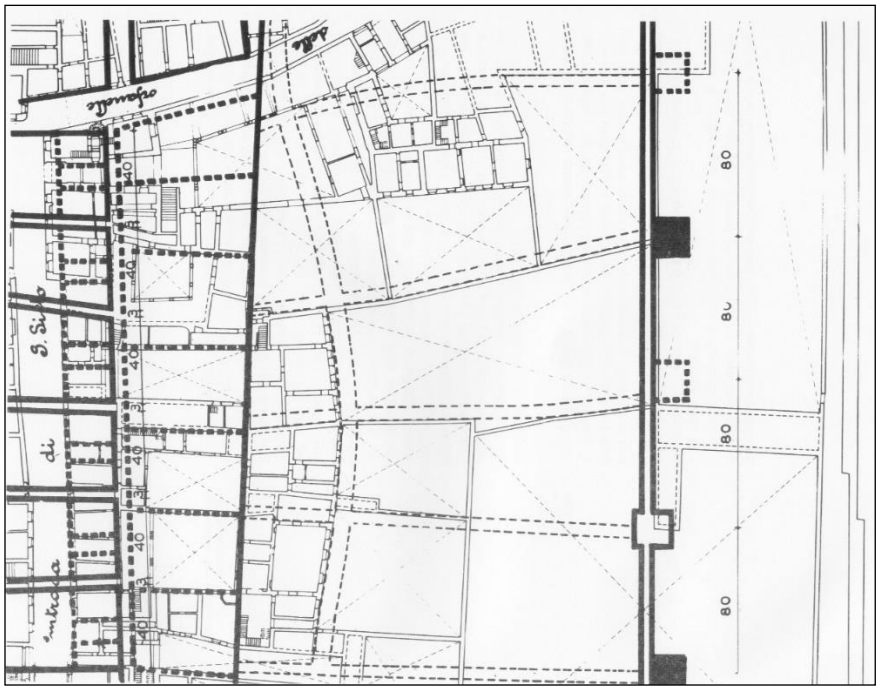


Figure 2.13. Vth Roman Phase of Como and measures on the current settlement
(Source: Caniggia, 1963, p: xxi)

2.4.2. Reading Method of Petrucciolli

Petrucciolli underlined the crisis of 19th century that damaged the relations between culture and building action. Then, he attempted to establish this relationship through *type*, and he defined type as a universal concept that contained historical process and social behaviours. (Petrucciolli, 2008)

Process means inner mechanism that gives life to type. Typological process enables to understand evolution of one type transforming the latter type. The typological process is underlined to regain the ability to understand structural relations through

fragmenting the built environment to the readable parts. Reading includes a critical analysis that identifies elements, structures and their interrelationships. Elements referred to building materials, structures to building pattern, and organism to building. (Petrucciolli, 2008)

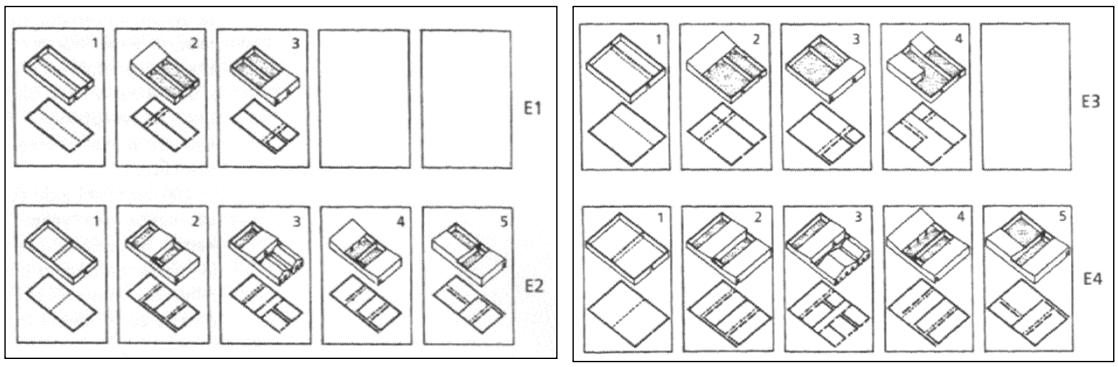


Figure 2.14. E1, E2, E3, and E4 defined the processes related to the division of the lots. (Source: Petrucciolli, 2008, p: 77)

In the study of Mediterrenaen cities, Petrucciolli (2008) mentioned scale hierarchy from house to district, city, and region. The urban structure becomes common memory through spatial memories of its components.

Typological process is complicated as its urban region or organism; it includes the intersection of another processes. Thus, it is required to decrease the complicatedness of building type or urban pattern, and then to follow retrospectively to find the simplest type or pattern. (Petrucciolli, 2008)

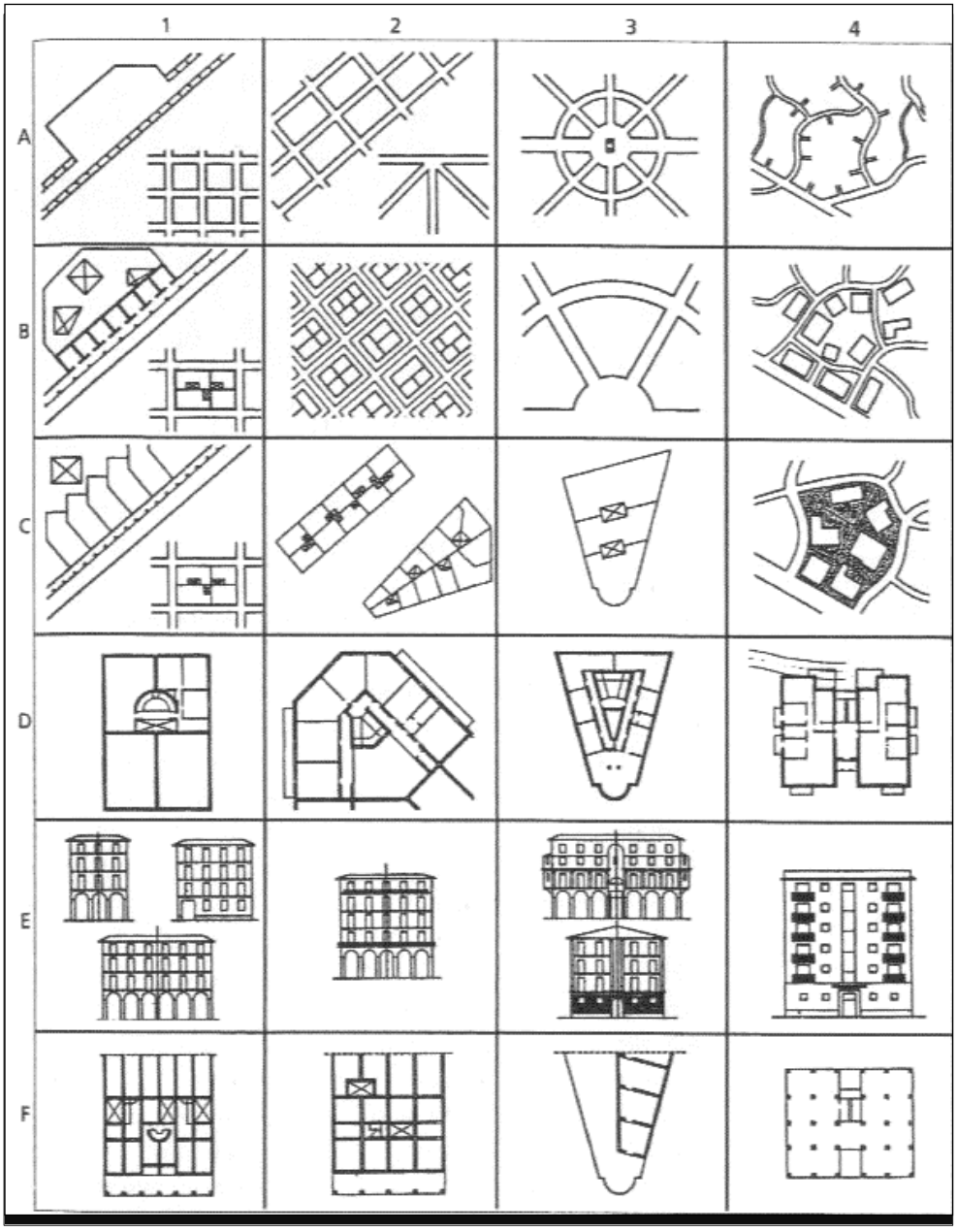


Figure 2.15. Typological process of rent houses in Algeria in 1830s. The x-axis shows the chronological function. The y-axis shows the scale levels, and this enables to see the relationships between urban pattern, building pattern, and facades of type.
(Source: Petrucciolli, 2008, p: 101)

He described diachronic and synchronic typological process with prior type. Urban pattern is formed with prior type. Parallel processes develop with prior type and transforms it. In the second phase the latter prior type forms. The new prior type is adapted to its planned pattern. However, this process is not similar within old city center, because of the resistance of building pattern to change. (Petrucciolli, 2008)

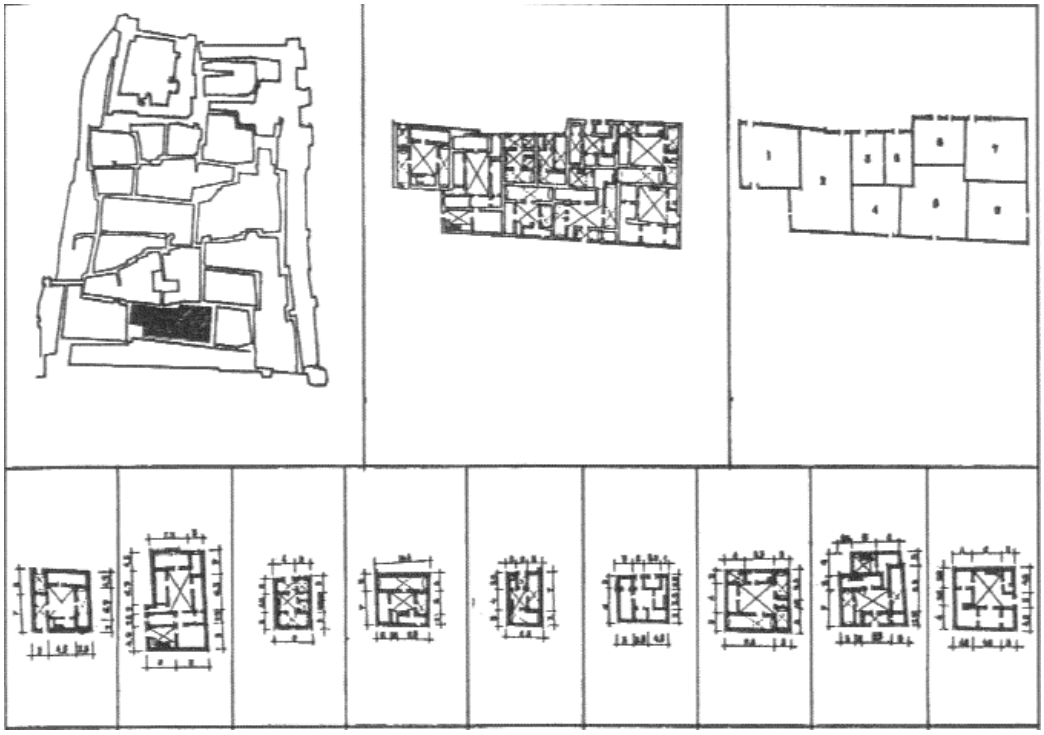


Figure 2.16. Reading of a block in Medine. First row shows division of lots, second separation of types and synchronic variants.
(Source: Petrucciolli, 2008, p: 141)

According to Petruccioli, recession period of a city affects private buildings first, because these represent cultural and economical surplus value investment of a society. When a new growth cycle started, the thought of prior type was weakened. Then, new prior type is imported from a far, but culturally dominant region, this results as integration of local traditions or domination of local processes. This change between regions is known as diatopy that enables orientation in an unknown city. (Petrucciolli, 2008)

Typological process takes place at the phases of balance or improvement through synchronic changes of prior type. Reconstruction of typologies direct to the past and unknown parts can be reestablished if these are typical. (Petrucciolli, 2008)

It is important to reestablish continuity of suffered pattern because of war, disasters, and uncontrollable building speculation. An urban restoration is needed that targeted reorganization of environmental integrity, providing continuity, and repairing the holes. Design should be based on the reading of the best description of typological

processes. During redesign the society decides to follow whether a new typological process or to use a synchronous variant. (Petrucciolli, 2008)

A designer should provide urban integrity. The break in the homogeneity of traditional structures and appearance of multicultural societies reasoned fragmentation of urban integrity. Within this aura the thought of universal unique prior type seems as a contradiction. However, this does not mean to leave the choices to the anarchy of commercial choices disguised as aesthetical choices. New designs should include the combination of typological process and creativeness. (Petrucciolli, 2008)

Petrucciolli recognized type having characteristics of integrity, transformation, and self-regulation, and presented the approach of type as a prior synthesis through the structure definition of Piaget. Prior type has already existed and comes before any construction activity; it is special to the spontaneous recognition period but reduced to the parts within the crisis period as it is today. Only, an accurate analysis based on thought can bring prior type back aposteriorily. (Petrucciolli, 2008)

As Caniggia, Petruccioli also underlined the importance of maps for reading process. The most usable documents to read both building pattern and urban pattern are air photos, cadastral plans, and architectural etudes.

He mentioned about two reading procedures that complete each other; the first is to separate elements that formed the district, and then to analyze functional and morphological relations between land parts and roads. Begin with, special building and housing buildings and their horizontal and vertical distributions should be distinguished. Secondly, ownership bands and their relationship with the streets should be defined through following diachronic typological specialization levels. Then, classification should be made to acquire a pattern mosaic of streets, lots and building types. At the end of this reading phase, different building types and building patterns and their relationships should be classified. (Petrucciolli, 2008)

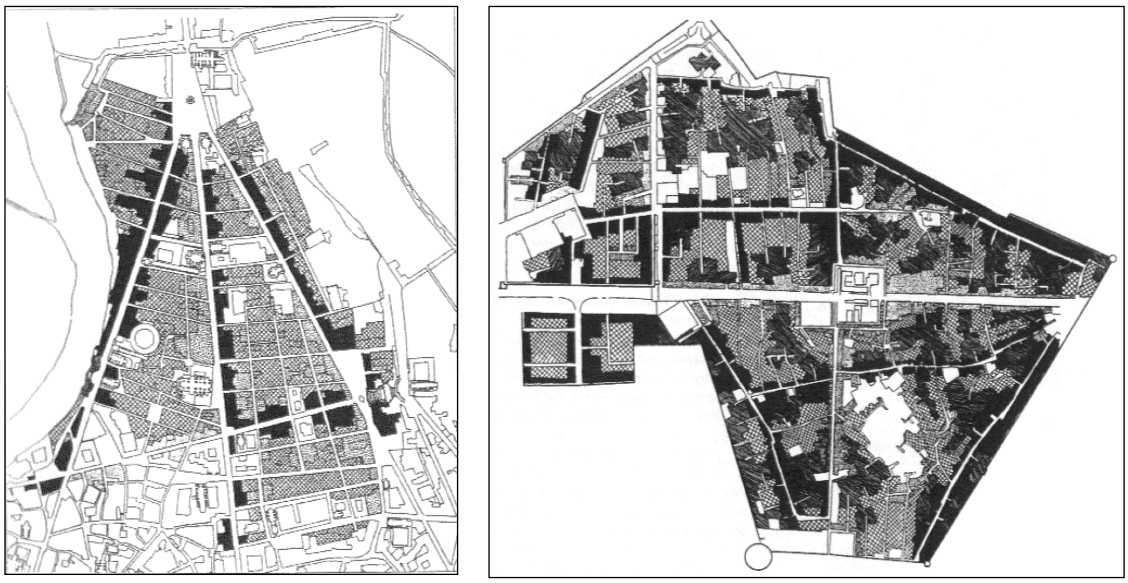


Figure 2.17. Reading of building pattern. Roman baroque bifurcation. Black indicates the pattern on matrix road, gray shows planned pattern, and pointed patterns are combinar and reconfigurator patterns.
(Source: Petrucciolli, 2008, p: 101)

Adding movement thought to the evolution process of patterns enables the understanding of streets formation process (whatever matrix, planned, and configurator street), and also the relationship of streets and patterns.

Figure 2.18. Diagram of roads; patterns on matrix roads, p:120; patterns on planned roads, p:121; patterns on reconfigurator roads, p:123
(Source: Petrucciolli, 2008)

Reading building pattern and urban pattern brings out the recognition of building pattern through describing a mosaic formed by urban pattern cluster. Then, a variety of pattern types are distinguished as they had relationships with a variety of streets. Besides, patterns are defined as increasing growth, fractionation, and overflowing the streets. (Petrucciolli, 2008)

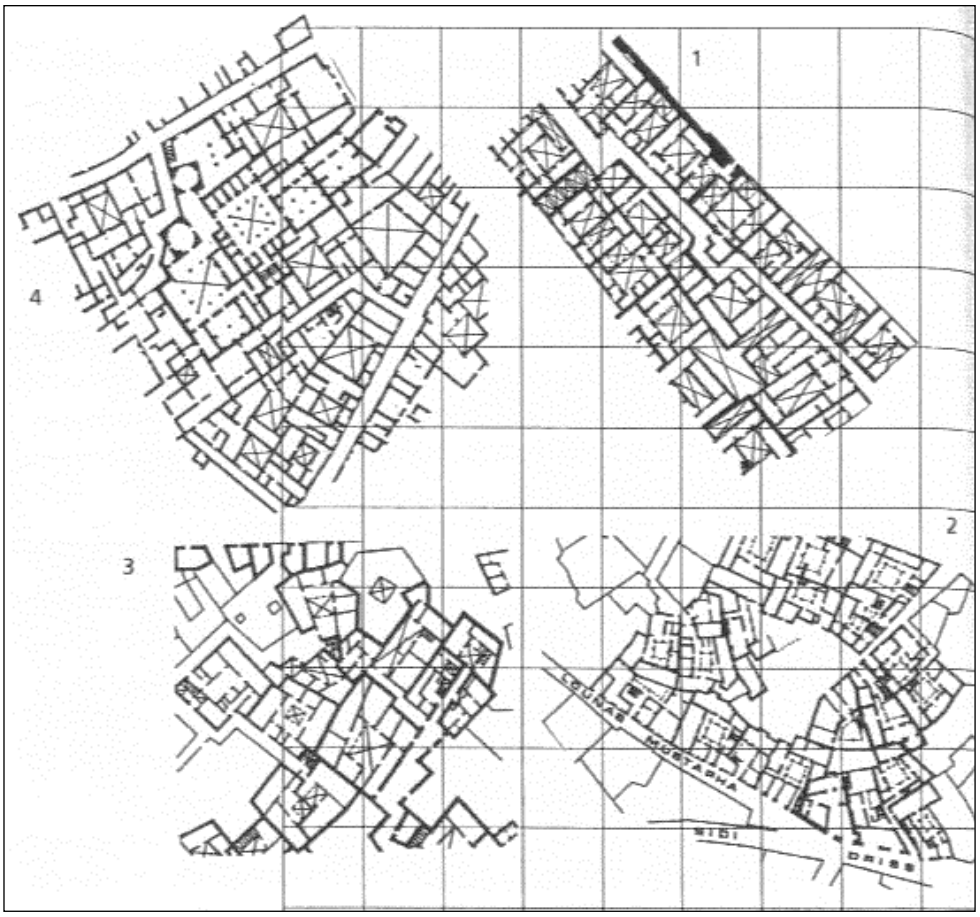


Figure 2.19. Examples of overflow patterns. 1 is the example of filling between two housing patterns, 2 is the example of overflow within Roman theatre, 3 overflow of open spaces, 4 shows the occupation of the centre of a special buildings block. (Source: Petrucciolli, 2008, p: 130)

Petrucciolli (2008) stated that the hierarchization of the parts, and specialization of the elements were the basic conditions of a city's presence. Structural complexity of urban scale hierarchy extends to urban pattern, urban street, block texture, and urban organism from urban nucleus. An urban nucleus is a module within the big city that is formed of many blocks. Urban pattern within a matured urban organism is not formed by independent and typologically similar structures; it is formed by structures that work together and are dependant to each other. (Petrucciolli, 2008)

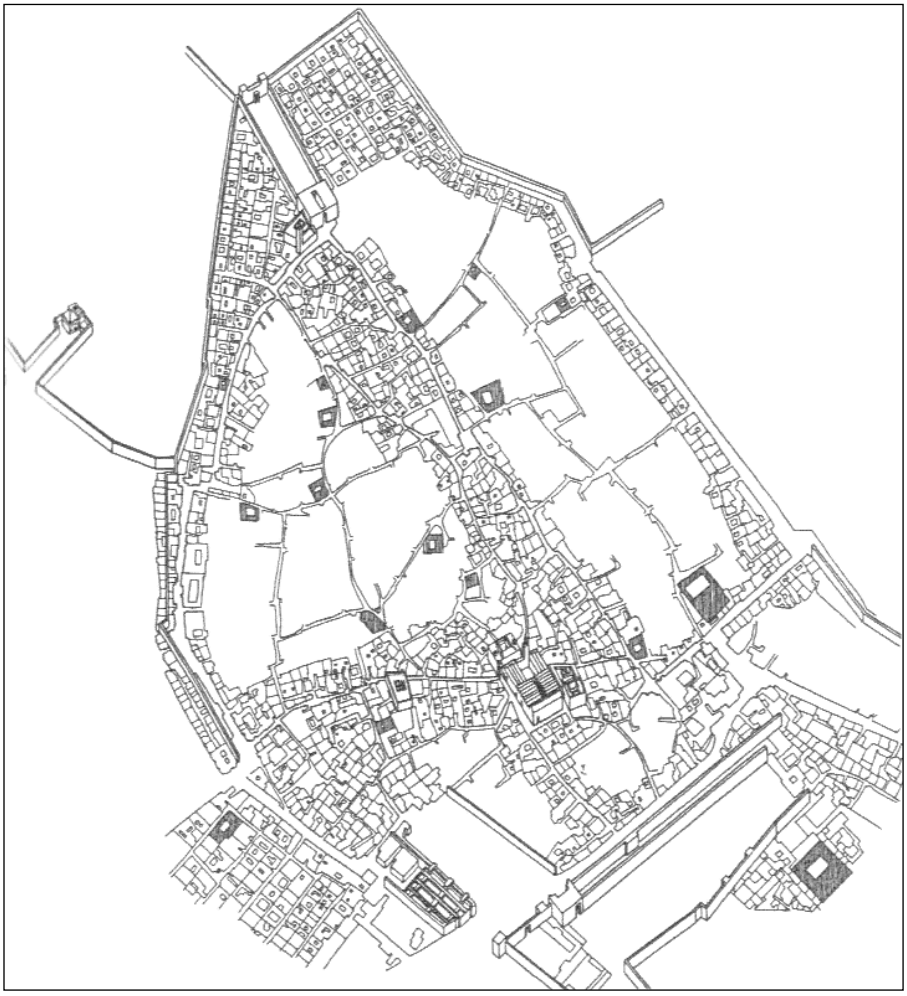


Figure 2.20. Urban pattern and primary nodes of Meknes city of Morocco
(Source: Petrucciolli, 2008, p: 166)

Movement direction of building patterns is determined with strong points that are called node points or polarizations and formed of activity center or symbolic areas. A node point can be defined as a concentration moment within the continuity or distinction moment between two continuities. A node point is established at the point that two urban nuclei collided. A node point within the urban pattern can be a discontinuity on a street, or a focal point where two geometrical and compositional axes encountered. (Petrucciolli, 2008)

Only chaos produces an unreadable structure. It is possible to reestablish morphological structure and relationship laws between components and analyze dependency labyrinth within the traditional city, although its complexity.

Figure 2.21. Examples of specialization of node and pattern. 1 is the specialization of the corner with religious buildings, 2 is Madrasa built on housing area, 3 is a completely specialized block with khans and mosques
(Source: Petrucciolli, 2008, p: 135)

Petruccioli called the analysis of the historical city as *reconstruction process* and defined such process as;

1) Singularization of regional roads that ties the city to the main regional poles. The structure should be placed topographically within the region. Roads of the region are the most permanent signs of it. Regional roads generally meet at the configurator roads of the ancient pattern within the walls and result with an important intersection point. In the spontaneous systems, this point overlaps with the founder nucleus of the city. Any urban system has at least one entrance edge.

Figure 2.22. Diagram of roads in Sousse, Tunus. Matrix roads are presented with continuous lines, planned roads with pointed lines, and bold roads are roads with no exit.
(Source: Petrucciolli, 2008, p: 190)

2) Singularization of homogenous urban parts morphologically. It is always possible to distinguish homogenous urban pattern through plan geometry and grain of urban pattern. However, it is necessary to look at cadastral maps (1/2000) and building etudes (1/500) to understand little changes of a district or between far districts.
3) Singularization of natural base of the land. This is a very important step and requires overlapping of colored map with izohips. An advantage of this process is that it turns straight geometrical schema to a three-dimensioned schema. Besides, it enables to bring out natural elements that are discontinuities of urban pattern such as drains, sand heaps, watersides, erosions, and dams.

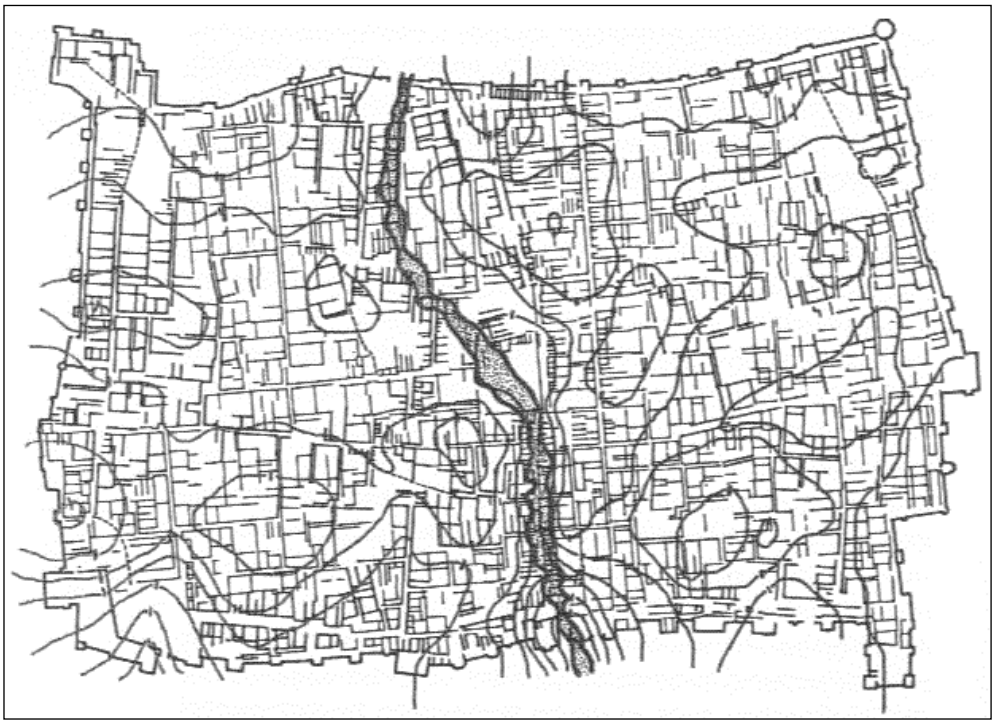


Figure 2.23. Sfaks, Tunus. Overlapping plan with izohips enabled to discover river that does not exist now
(Source: Petrucciolli, 2008, p: 178)

Analyses separate into four groups: cross modular pattern, one-way pattern, spindling pattern, and diagonal pattern. The first group includes Roman founder pattern, and the second includes the latter expands that are perpendicular to the izohips. The third group includes the analyses of the ancient transportation roads. The fourth group includes diagonal location that combines two opposite roads.

The following step of reestablishing process is to distinguish the inner laws of each system.

4) Singularization of polarizations, interval hierarchies, and rehierarchizations.
5) Singularization of existing settlement schemas through the traces of existing geometry.

Development periods leave traces within the plan of a city. If a city grows with irregular intervals, philological reconstruction should expose this. Some important principles produced through examples and drawings enable to expose the remains under the thick covering of urban pattern. (Petrucciolli, 2008)

Figure 2. 24. A block indicating the structure of a Roman theatre in Algeria
(Source: Petrucciolli, 2008, p: 200)

Figure 2.25. Morphologically autonomous parts of city
(Source: Petrucciolli, 2008, p: 162)

Mostly, a new pattern forms over some diagonal roads. Then, these behave as matrix roads that form a spontaneous pattern. A sudden concentration of the urban pattern indicates the existence of private buildings such as basilicas and forums. Hippodamus plan is destructed with this geometric corruption. However, it is possible to regain original line of classical street, because the starting point of circles coincides with the corners of original classical block. (Petrucciolli, 2008)

Petruccioli (2008) underlined the crisis in the 19th century that damaged the relations between culture and action of building. He, then, attempted to establish the relationship between the two through *type*, and defining type as a universal concept that contained historical process and social behaviours. Below a matrix prepared by Petruccioli (2007) included scale hierarchy on x axis and hierarchy of complexity level on y axis.

HIERARCHY OF LEVELS OF COMPLEXITY	SCALE HIERARCHY			
	BUILDING	**AGGREGATE**	**TOWN**	**TERRITORY**
ELEMENTS	MATERIALS	BUILDING TYPE	TISSUE TYPE (TYPICAL NUCLEOUS)	URBAN TYPE
STRUCTURE OF ELEMENTS	STRUCTURES	BUILDING TISSUE	URBAN TISSUE	PATTERN OF PROPERTY DIVISION
SYSTEM OF STRUCTURES	LAYOUT SYSTEM	STREET LAYOUT	STREET/ BLOCK PATTERN	TERRITORAL LAYOUT (ROUTES)
ORGANISM	INDIVIDUAL BUILDINGS	INDIVIDUAL TISSUE (NEIGHBORHOOD)	INDIVIDUAL SETTLEMENT (VILLAGE, TOWN)	INDIVIDUAL TERRITORY (VALLEY, REGION)

Figure 2.1. Chart for the classification of buildings at the first level of typological specifity. on the horizontal axis the various levels of scalar complexity are plotted; on the vertical axis the structural complexity is indicated.
(Source : Referred by Petruccioli in 2007 from Maretto (1973)).

Petruccioli defined *Elements* as *the simplest components of the organism and correspond to the building's construction material: the brick, the beam, the column, etc.*

Structures as *composed of elements bound by a relation of dependency and recognizable by a coherent geometric form, for example a frame.*

Systems as *in turn composed of structures connected by a relationship of necessity and dependency. Structures can be isolated by their specific function in the organism.*

Organisms as *structures of systems with an autonomous character, for example, a building. In a traditional organism, three principal systems can be separated in the interpreting: namely, construction or mechanical systems; layout or distributive systems; and morphological systems.*

Petruccioli expressed the *scale hierarchy* of the object as *subdivided into house, neighbourhood or aggregation, city, and territory.*

Scale hierarchy indicates the modules that form urban aggregate such as; building, cluster of buildings, city and region. Hierarchy of complexity levels of the modules indicates which modules contain and what kind of relationships these modules have.

Complexity levels have a hierarchy from elements of modules to structure of elements, system of structures to organism.

As a reference to Caniggia (1963) this matrix shows the law of derivation of pseudo-types from the types and degrees of subsequent establishment structure by pseudo-types, the law of being a modular cluster, and bearing it pool on the next life, and again replacing a normally gradually aggregate to another. The aggregate will be so always consisting of modular units, but gradually increasing scale.

Elements which are on the top of the complexity level indicates what is with urban modules formed by. For example; buildings are formed by their materials, building clusters are by building types. These are "*smaller components still oriented towards and related to the dimension of the global organism*." (Caniggia, 2001).

Structure means referring to Caniggia (2001) *associations of elements not equipped with an accentuated autonomy within the whole*.

Systems are "*sub- organisms already readable to a certain autonomy, albeit in their individual specialization apt to making them an efficient part of the more general organism*." (Caniggia, 2001). Systems are constituent bodies known as villages, towns, districts, cities. The system depends on the size of the aggregate.

Organism is the whole composed by elements, structures and systems.

2.4.3. Key Concepts Used by Italian Morphologists

The works of Italian Morphology School and especially Caniggia and Petruccioli, underlined the concept of *type* to analyse the historical cities will be taken as reference. Typological process was meant as inner mechanism that gives life to type. Thus, enables to understand evolution of one type transforming the latter type. They attempted to reach "base type" through searching a common origin of different types that diversified by successive interventions for adaptation to particular needs. Building is explained as type as in a series of relationships that govern the aggregate on a larger scale, the structure that is called urban.

The concept of **type** has been the key concept in attempts to read space. Caniggia (2001) defined type as; "*integrated cognitions, assumed unitarily to satisfy the particular need to which the object has to correspond; prior to the object becoming a physical*

being". It is *a unified whole by a sum not hierarchical*, an *organism* that its parts are necessary to each other to create harmony. It is the prior stage of the object; that is, the conception of the building produced.

Thus, the determining the **building type** in an urban area is the first stage of reading process. Building type means "*any group of buildings with some characteristics, or a series of characteristics, in common.* (Caniggia, Maffei, 2001, p:50)..*is a sort of undesigned concept, the synthesis of building culture in a place and era oriented, in the mind of each individual builder, towards the prefiguration of what he is about to produce*". (Caniggia, Maffei, 2001, p: 75)

Typological process is another important concept underlined by Italian Morphologists and defined as; *"examining adaptation of existing building to make it apt to the continious pursuit between formation and transformation processes of buildings and parallel process changes in needs". (*Caniggia, Maffei, 2001, p:55)

Phase is defined as a sufficiently long-time interval for these changes to be sufficiently clear. Diachronic and diatopic changes were also underlined.

Serial indicates the characteristic of an aggregation consisting of repeated elements, and **organic** as the nature of an aggregation consisting of elements which are not repeatable.

The hierarchization of **element**s, **structure**s, and **system**s and **organism**s were used in their reading studies.

Aggregate represents a quantity of buildings but also parts of urban organism that has been structured in time.

Urban Tissue is defined as typological as the building type. **Specialized tissue** does not follow a typology**.**

Node is *any singular point in a continuum, often determined by the intersection between two continua*. *(*Caniggia, Maffei, 2001, p:126). A node point within the urban pattern can be a discontinuity on a street, or a focal point where two geometrical and compositional axes encountered.

Pole is *determined by the existence of several continua, not so much intersecting as terminating or starting from a point*. *(*Caniggia, Maffei, 2001, p:126)

Matrix Route is a route whose initial purpose is to link two or more focal points. In other words, it is a route whose primary purpose is to allow travel from one point to another. A matrix route is laid down before any urban tissue.

Building Route provides access to buildings. In most cases, building routes grow out from matrix routes, allowing the urban tissue to spread outward from the matrix route. Building routes emerge together with the growth of the urban tissue. (Caniggia, Maffei, 2001)

Connecting route connects to building route.

Reconfigurator route a type of route that overlaps a previous building tissue whenever a previous matrix route does not already ensure the link.

Block is the module of the urban aggregate.

2.4.4. Adaptation of Italian Morphology School for a Model

Italian Morphologists approach to urban space as formed by political-economic forces, and conditioned by a particular logic, set of elements, and characteristic processes. The concept phase indicating diachronic process was used as period in this study.

The approach and reading method of Caniggia and Petruccioli, the representators of Italian morphology ecole, provided knowledge to analyse Izmir case. The concepts of Italian Morphologists as; **Urban Tissue, Block, Node, Pole**, **Matrix Route**, **Building Route, Connecting route, Reconfigurator route** are used for the study.

In this study, reading urban document was examined for physical context formed by political economic forces historically. To make a parallel with linguistics, the focus is placed on an active vocabulary and its syntax. In linguistics, syntax is the study of the principles and rules for constructing sentences in natural languages. In urbanism, syntax was dealt with as rules for constructing urban areas.

Urban space is a complex system produced by socio-economic relations and interaction with the geography in history. Thus, the rules may be continuity of forms, integration, and interaction of the textures to the surrounding, hierarchization between the textures, repetition of the textures, and clustering. In reading process, physical and functional continuity, typological and morphological relationships are searched as syntax of the urban texture.

Terminology and methodology of Italian morphologists could be adapted partly for the reasons;

- This study is related to the historical continuity of the multi-layered city like İzmir, thus the analysis is limited within the historical city center and whole urban pattern

could not be analysed due to the complexity of the development of the city especially after 1922 Fire and 1950's.

- The search for physical and functional continuity of ancient civilization and also subsequent ones is limited with the change of economic and social values.
- Cadastral changes could not be analysed due to the lack of former maps.
- In the historical area transformation of the types cannot be followed easily because of the resistance of building pattern to change.

2.4.5. Matrix of the Study

The Matrix of Petruccuoli to analyse historical cities adapted partly taking elements of urban space such as building, plot, block and tissue into consideration. Detailed elements that form a building is ignored in the study. The study is attempted to adapt the methodology of Italian Morphology School for the reasons of creating a tool for conservation development plan, thus the part of the Petruccioli Matrix including region also ignored.

COMPLEXITY LEVEL		SCALE HIERARCHY			
		BUILDING	**PLOT**	**BLOCK**	**TISSUE**
	ELEMENTS	BUILDING TYPE	PLOT TYPE	BLOCK TYPE	TISSUE TYPE
	STRUCTURE OF ELEMENTS	REGISTERED BUILDINGS	BUILDING/PLOT PATTERN	PLOT/ BLOCK PATTERN	BLOCK/ TISSUE PATTERN
	SYSTEM OF STRUCTURES	STREET/ BUILDING PATTERN	STREET/ PLOT PATTERN	STREET/ BLOCK PATTERN	STREET/ TISSUE PATTERN
	ORGANISM	TEXTURE OF BUILDINGS	TEXTURE OF PLOTS	TEXTURE OF BLOCKS	TEXTURE OF TISSUES

Figure 2.26. Matrix of the study

2.4.5.1. Scale Hierarchy

Scale hierarchy is the part of typo-morphological process that includes building, plot, block and urban tissue, and organism, which is formed by elements and structures of these in an organic cycling process.

- Building is the unity of elements that forms its structure from its materials to the floor and includes special and general building type.
- Plot is the immovable heritage includes buildings and forms blocks.
- Block is one of the modules of typological process that includes buildings and plots and forms urban tissue with the streets.
- Urban Tissue is the urban whole that includes elements as building, plot, and block.

2.4.5.2. Complexity Level

Complexity level includes elements, structures systems and organism representing the hierarchy of building, plot, block and urban whole.

- Element is the module of typological process.
- Structure is a combined whole that represents organism whose parts need each other to create harmony.
- System is more related to size than quality such as small clusters evolving to the larger urban areas.
- Organism as structure of systems with an autonomous character.

Type concept is one of the main concepts that is used to read urban space; it is a whole that is not hierarchic and an organism that its parts need each other. It is the conceptualization of the building produced. According to Petruccioli (2008), type concept is not a morphological analysis or an ordinary classification of functions, it is a universal concept that is rooted by historical process and social behaviors. Thus, the first job is to separate complexity of built environment to readable parts and then to search for the roots of elements which are parts of typological process.

Caniggia, uses a dual method while reading urban area; separating the elements that form urban area and then analyzing functional and morphological relationships between blocks and streets. At first, special buildings and housing buildings are separated, then, mosaic pattern of streets, plots and blocks are defined through their typological features. Consequently, different building types and building patterns and their relationships are attempted to classify. Evolutionary process of urban textures enables to understand the formation process of the streets and the relationships between streets and urban tissues.

Thus, first step of the interpretation is determining types of building, plot, block and urban tissue. Second step is determining the type inside any group that has a particular or a common characteristic forming a group. Third step, determining street relations of the groups as a synthesis of building culture synthesized in a time and space. Fourth step as reading typo-morphological relationships of urban texture through nodes, streets, specialized buildings, and archaeological traces.

In the section of structure of elements; registered buildings, patterns of building, plot, block, tissue and handled. Structure of elements indicated registered buildings, building/plot pattern, plot/block pattern, block tissue/pattern, and examines how buildings form plots, plots form blocks, block form tissue.

As system of structures, street relations with building, plot, block and tissue dealt within two dimensions, which shows what kind of streets are located next to buildings, plots, block and tissues and forming pattern of them.

As organism texture of buildings, plots, block and tissues handled.

- Texture of buildings indicated plan of the buildings that rooms form buildings.
- Texture of plots represented building/plot relationships including building type that forms plot type.
- Texture of blocks is a reading of plot/block texture; plots forming block type.
- Tissue texture presents the relationships of block and urban tissue including nodes and buildings.

Tissue is the whole organism formed by nodes, poles, street types, building types, plot, block and tissue types. Node is any singular point in a continuum, often determined by the intersection between two continua. A node point within the urban pattern can be a discontinuity on a street, or a focal point where two geometrical and compositional axes are encountered. Pole is determined by the existence of several

continua, not so much intersecting as terminating or starting from a point. Matrix Route is a route whose initial purpose is to link two or more focal points. In other words, it is a route whose primary purpose is to allow travel from one point to another. A matrix route is laid down before any urban tissue. Building Route provides access to buildings. In most cases, building routes grow out from matrix routes, allowing the urban tissue to spread outward from the matrix route. Building routes emerge together with the growth of the urban tissue. Connecting route connects to building route. Reconfigurator route a type of route that overlaps a previous building tissue whenever a previous matrix route does not ensure the link.

CHAPTER 3

LEGAL FRAMEWORK FOR CONSERVATION DEVELOPMENT PLANS

3.1. Urban Conservation in the World

As Bandarin and Van Oers (2012) underlined *Urban Conservation is an idea of modern times*. Conservation concept rooted from *Romanticism* of Renaissance at the end of 18th century. In the 19th century, monuments of the historic city gained importance as the *symbols of its tradition*. At the end of the 19th century and first half of 20th century, historic city had perceived as heritage, and conservation of historic city systematized purely at the second half of the 20th century. (Bandarin and Van Oers, 2012)

After Second World War, protection of cultural heritage has grown to international dimensions with organizations such as UNESCO, ICCROM, ICOM and ICOMOS. Charters, recommendations, guidelines, conventions, awareness campaigns and specialized training activities have been realized. Today, conservation approach evolved from conservation of antiquity to the integration of cultural existing with modern life within economic, social, and functional dimensions.

In 1960s and 70s works of Italian Morphology School and their typo-morphological approach on historic cities affected Urban conservation approach and intervention in the world. Definition of *integrated conservation of historic urban areas* was made with Amsterdam Declaration of Council of Europe in 1975. (Van Oers, 2006).

Typo-morphological approach of Italian Morphology School reflected to conservation planning as *typology-led planning technique* that *building types* direct the *interventions of historic centers*. Morphological character of building fabric is analysed through analyses of building types, group of buildings, and open spaces to *identify recognizable parts of urban landscape*. Elements of buildings such as materials and plan types are also analysed to determine the types of buildings. (Xie, 2019).

In 1987, ICOMOS Charter for the Conservation of Historic Towns and Urban Areas (Washington Charter, 1987) management of conservation areas and public participation were underlined in context of transformation process of historic cities. Sensitivity of conservation areas and changing needs of urban areas were dealt with together through defining *typo-morphological principles*. In 1990s, urban projects were on the agenda to integrate historic city center and its territory. (Van Oers, 2006).

The concept of *sustainable development* gained importance for conservation planning in the 21st century; heritage had a main role for the economic and social development of the city through regeneration of inner cities. Interdisciplinar heritage conservation groups appeared including engineers, property developers, architects, archaeologists, historians, and planners. (Van Oers, 2006).

Recently, multi-layered cities are dealt with on international platforms through a holistic approach called as *Urban Historic Landscapes*, which is defined as; "*the urban area understood as the result of a historic layering of cultural and natural values and attributes, extending beyond the notion of "historic centre" or "ensemble" to include the broader urban context and its geographical setting.*" Besides historical references as *monumental heritage*; *open spaces, streets, public spaces* are defined as *categories of urban heritage*. In this context, urban conservation exceeds the limits of *preservation of single buildings*, and historical artifacts are presented as *element*s of *overall urban setting*. Thus, conservation is underlined as *the heart of urban planning*. (UNESCO, 2011).

3.2. Urban Conservation in Turkey

According to the statement of Ministry of Culture and Tourism, in Turkey, the first legislation regarding the protection of cultural heritage was made in accordance with the law no.5805 *"The High Council of Immovable Antiquites and Monuments - Gayrimenkul Eski Eserler ve Anatlar Yuksek Kurulu (GEEAYK)"* in 1951. GEEAYK noticed the damages of urbanization and development plans on the areas to be conserved, during the *4th Five Years Development Planning* period. Conservation sites were determined, and the implementations of development plans were ceased. A regulation, the transition period building conditions, was decided to end the confusion before conservation development plans. (N.ZEREN, lecture notes, 1992)

In 1982, Turkey ratified the *Convention concerning the protection of world cultural and natural heritage* that was set in the 17th General Conference of UNESCO in 1972. (www.kultur.gov.tr)

In 1983**,** the *"Act for Conservation of Cultural and Natural Heritage - Kultur ve Tabiat Varliklarını Koruma Kanunu"* (No: 2863), which is still in force with some changes in 1987 (3386 numbered act), came into force and replaced the previous two acts (Act for Antiquities No: 1710 (year 1973) and The High Council of Immovable Antiquates and Monuments Act (year 1951)). Definitions related to the immovable cultural and natural entities were improved through the principles accepted in the national and international symposiums. The relation between planning and conservation was also clarified.

Today, the Law 2863/3386/ which was revised by Law No. 5226 in 2004 is in force with its regulations, principles, and technical specifications (Appendix A).

3.1.1. Process of Conservation Development Plans

Conservation Development Plan has a dynamic process related to legal framework, detailed analyses process, management, and participation.

Analyses of the site is the most important part of the process of conservation development plans. Most of the research and studies focus on urban morphological analyses of the settlements. Morphological transformation process of a settlement enables important hints to reveal multilayered urban texture. However, planning studies are separated into two parts as development plans and conservation development plans, which has a risk for conservation areas as isolated parts of the city. Conservation development plans dealing with conservation areas independent of the city integrity reasons those areas detached from the reality of the city and planning studies hard to implement. Such approach does not be interpreted as ignorance of historical urban texture through high building precedents. Conversely, approaching the whole city from conservation areas and developing typo-morphological analyses methods provides more healthy urban textures than the city planned just through classical analyses methods.

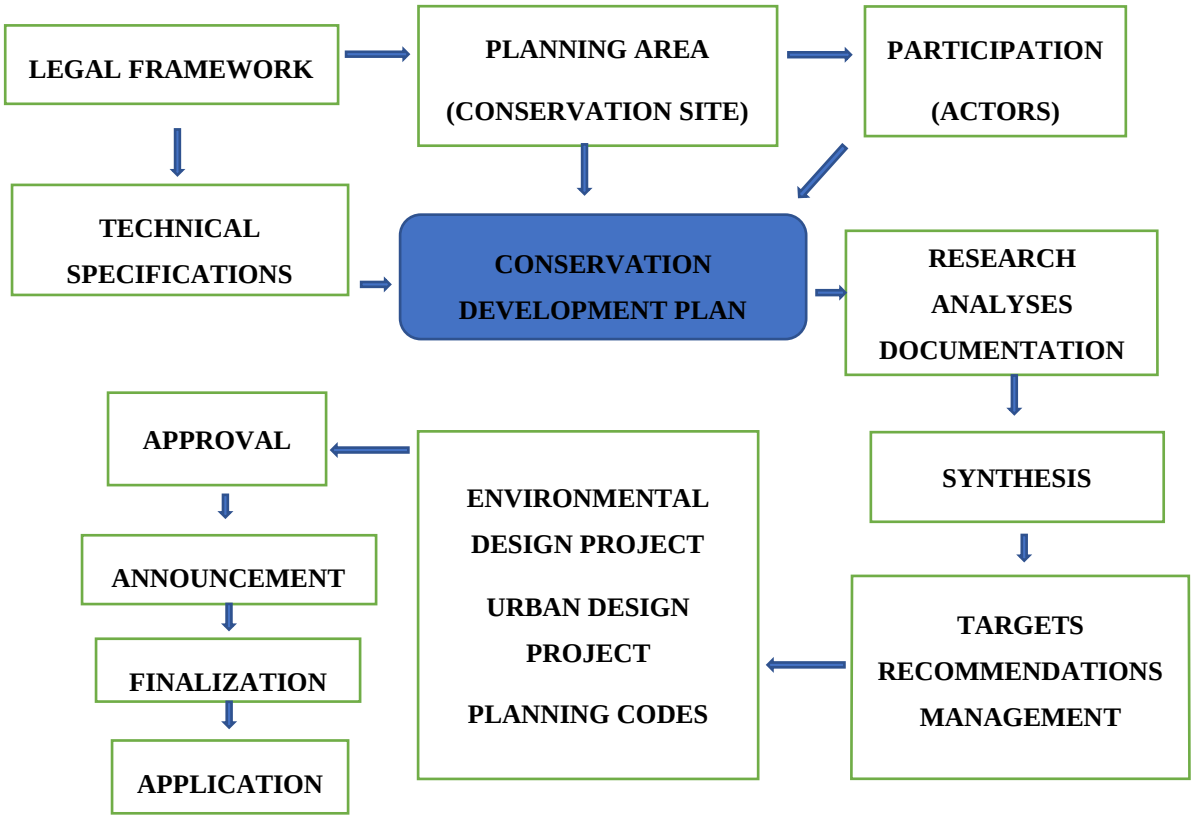


Figure 3.1. Chart for the process of conservation development plan

3.1.2. Technical Specifications of Conservation Development Plans

Conservation Development plans necessary according to 17. Article of 2863 Numbered Law are prepared through *"Regulations of Methods and Principles for Preparation, Presentation, Implementation, Control and Authors for Conservation Development Plans and Urban Design Projects*", which came in force by Offical Newspaper dated on 26.07.2005 and numbered 25887.

In order to prepare Conservation Development plans, *Technical Specifications of Conservation Development Plans* are taken into account, which approved on 21.10.2009 date and 201458 number through 6. Article of the Regulation mentioned above.

Until Conservation Development Plan has been prepared, Conservation Principles for development of Transition Period is declared by Conservation Council within three months. Municipalities and related institutions must organize

participation meetings and prepare conservation development plans to be approved by Conservation Council.

This document includes variety of general titles such as definitions, principles, targets, data collecting, evaluation, synthesis, and planning decisions.

Table 3.1. General Titles of Technical Specifications
(Source: https://teftis.ktb.gov.tr/Eklenti/21641,koruma-amacli-imar-plani-teknik-sartnamesi.doc?0)

AIM	To determine general principles (concept, content, method, language) for the planning process of conservation development plans, and to integrate the process of conservation development plans with the existing planning processes.			
SCOPE	Provisions of this document includes characteristics of Conservation Development Plans of conservation areas, which are determined and will be determined through 2863 numbered Preservation of Cultural and Natural Law changed with 3386 and 5226 numbered Law.			
DEFINITIONS	Cultural existings, Natural existings, conservation site, determination, registration, conservation development plan, urban design project, environmental design project, planning area			
CONSERVATION DEVELOPMENT PLAN	General Planning techniques	Quality of environment	Integrity of function	Transportation
	Integrity of social-culture-space	Economy and economic support	Documentation	Applicability

Table 3.2. Research and Data Collection Provisions of Technical Specifications of Conservation Dev.Plans.
(Source: https://teftis.ktb.gov.tr/Eklenti/21641,koruma-amacli-imar-plani-teknik-sartnamesi.doc?0)

5.1.a-General Research	Admistrative structure	General environment characteristics Geographic and Physical Structure	Economic Structure	Demographic structure	Historical Research	
5.1.b-Research Directed to Planning Area	Administrati-ve Datas	Historical Researches	Physical and Natural Datas	Datas related to conservation	Research related to former and existing Plans	
	Population-demographic structure	Economic structure	Social structure	Research on physical space	Ownership - urban land values	Development tendencies – Financing analysis, upper planning decisions and

						Legal framework
5.1.c-Research on Buildings, Lots and Immovable Cultural Existings	Research on all plots and buildings	Research on immovable cultural existings that are required to be conserved	Research on immovable natural existings that are required to be conserved			
5.1.d-Problems and Potentials	Formulation of the problems	Determination of the opportunity				
5.1.e-Other Research	Field survey	Methods of field survey	Archive/ sources research	Obtaining information from public institutions	Interview etc. scientific research	

Concluding titles are Evaluation of research results and determination of targets (synthesis and Evaluation), and Decisions of Conservation Development Plan-Production of model directed to application of Conservation Development Plan.

Conservation Development plans are prepared by local governments and also General Directory of Museums and Monuments of Ministry of Culture and Tourism.

Technical Specifications of Conservation Development Plans presents an example of a documentation that directs planning decisions. However, these specifications require to develop in some respects especially for multi-layered historical cities.

One of the gaps of the technical specifications is the ignorance of larger scale, that is, building-scale is densely expressed, and the interventions are in that scale such as registered building, un-registered existing building. Similar problem is about archaeological layers; there is no detailed analysis for the texture of archaeological layers except monumental buildings. Thus, it is not possible to make a reconstruction of the multi-layered city that carry the traces from past to present. Typological process of the multi-layered city that reveals the relations between building, plot, block and texture is ignored.

Multi-layered historical cities require more detailed analysis methods than the classical planning analysis methods depending on the complexity of the texture including

intangible data such as archaeological layers. Especially, theories on urban morphology are important to develop a model to enlighten the planning studies for multi-layered cities. As underlined in the second chapter of this study, there is need for a research model that deals with multi-layered urban texture from its elements to organism as a reference to Italian Morphology School.

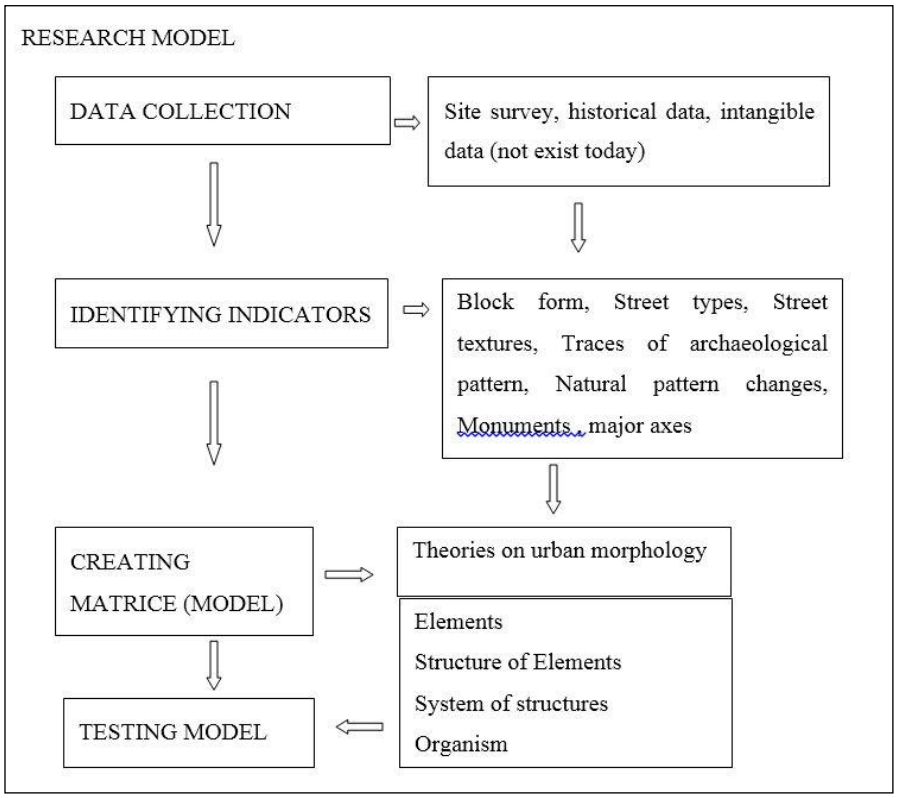


Figure 3.2. Research Model

3.3. Conservation Development Plans within Historical City Center of İzmir

Conservation development plans of İzmir is developed within İzmir History Project that started in 2013. Nineteen sub-regions are determined within the project as below;

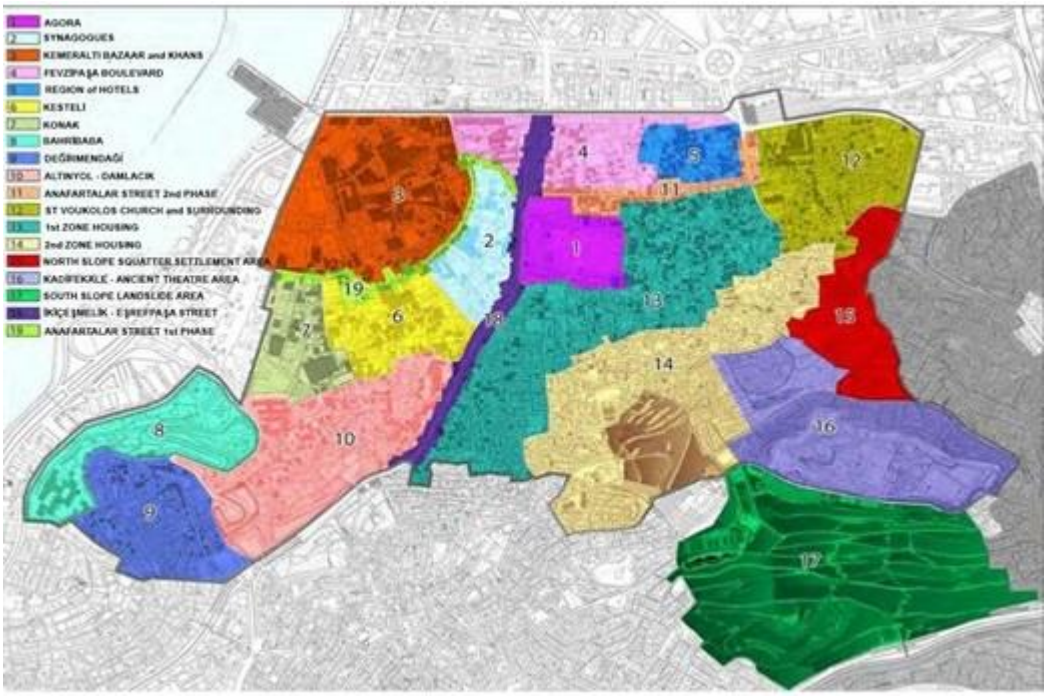


Figure 3.3. Sub-regions of İzmir History Project
(Source: İzmir Municipality)

Multi-layered historical city center of İzmir is separated into two stages for the regeneration project of traditional trade center. First stage included the area west of Agora that extended towards south through İkiçeşmelik Street and including housing areas and west slopes of Varyant at south, ended at Konak and Mithatpaşa Street. Boundaries of second stage is İkiçeşmelik at west and conservation site border at east.

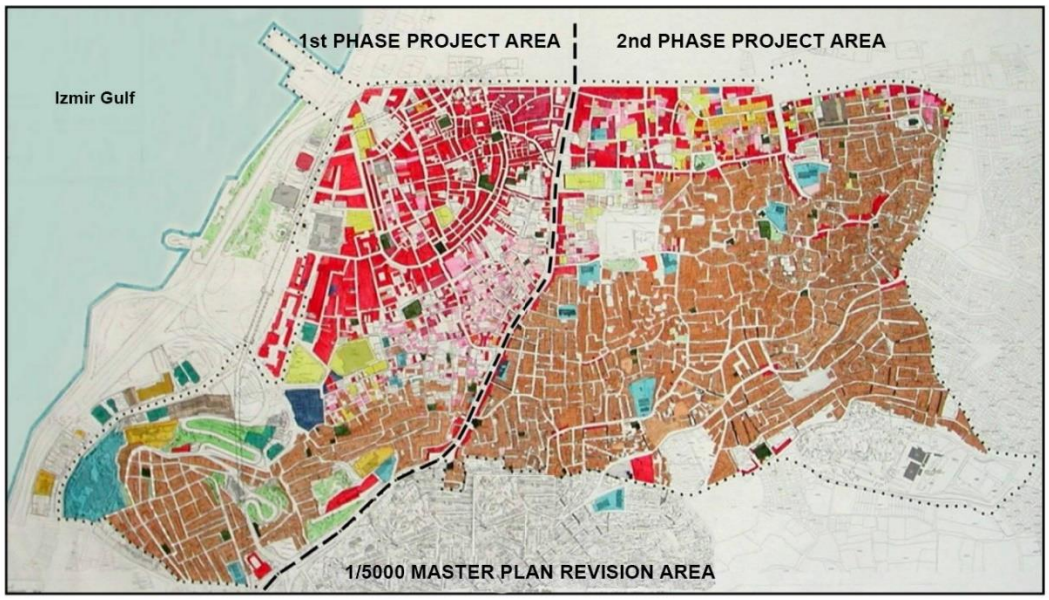


Figure 3.4. Stages of İzmir History Project
(Source: İzmir Municipality)

1/5000-scaled Conservation Master Plan was developed for the whole area at first stage. Implementation plans prepared through this plan are Kemeraltı first stage Conservation Development Plan Revision, Agora Conservation Development Plan Revision, Kemeraltı second stage-first region Conservation Development Plan Revision, Kadifekale-Theatre Conservation Development Plan.

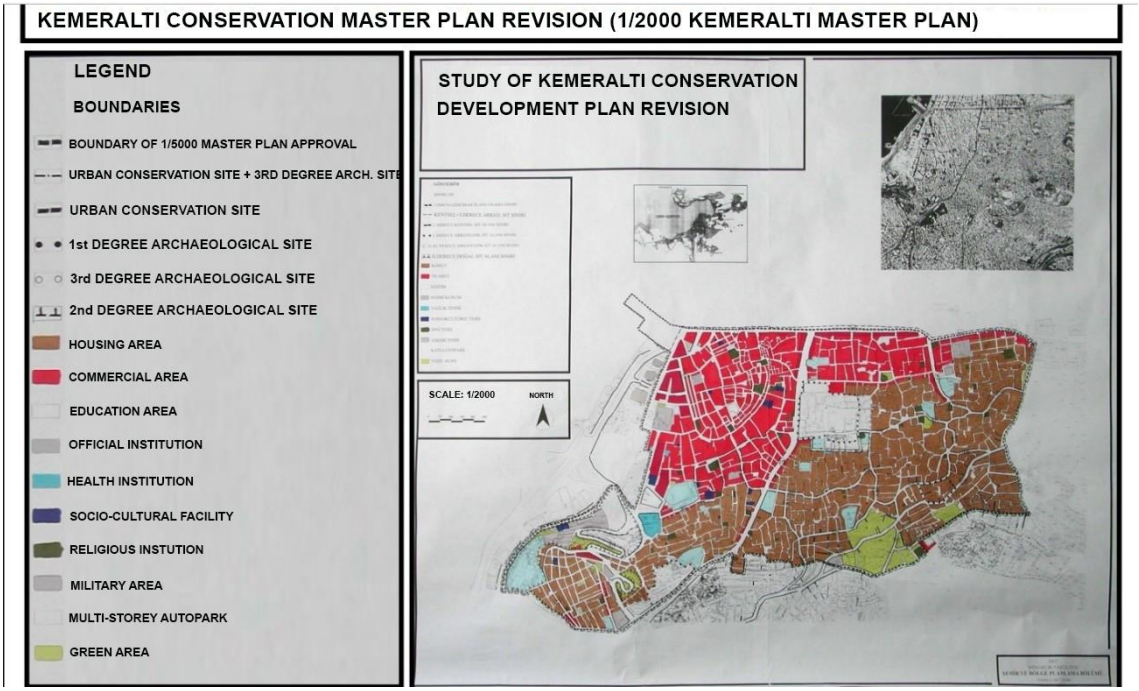


Figure 3.5. Study of Kemeraltı Conservation Master Plan
(Source: İzmir Municipality)

The target of Kemeraltı Conservation Master Plan is underlined as rehabilitation and regeneration of historical city center. The boundary of the Plan is Kemeraltı Urban Conservation Site including 270-hectared area. First stage of the project contained 88-hectar of the whole planning area from Konak Square to Fevzipaşa Boulevard, İkiçeşmelik Road and Bayramyeri Square. (DEÜ, 2002)

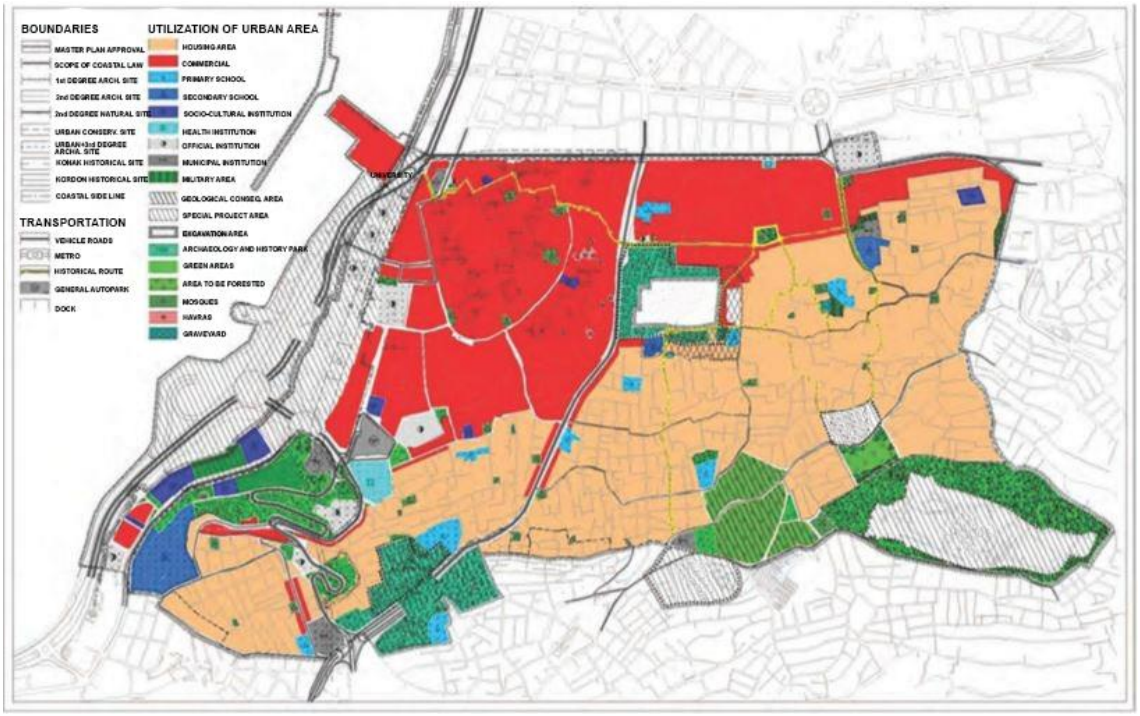


Figure 3.6. Kemeraltı Conservation Master Plan
(Source: İzmir Municipality)

Registration of excluded historical buildings were made through this study. Analyses of the study included street characteristics (such as street quality, street covering material, stairs, ramps, autoparks, trees, infrastructure elements), and land-use. Base-maps were updated, and analyses were made for building such as quality of the buildings, materials of the buildings, number of the storeys, tissue harmony, registred buildings, and related to the facades of the buildings. Data collected was mapped, and quantitative analyses were made related to the land use distribution and floor area ratio. Another kind of analyses of Kemeraltı Conservation Plan were related to archaeological data as a given data from archaeological site areas registered in 2002 such as Theatre, Stadium, State Agora, Kadifekale and Port Castle, trace of Roman Road, and the traces of the ancient city gates. Through this dataset, a physical and functional zoning was made to direct the planning decisions. (DEÜ, 2002)

Kemeraltı Conservation Plan is one of the good examples specially to regain the devastated historical tissue. However, planning decisions intensified on registered buildings and plot-based decisions ignored the existence of intangible data of archaeological layers. That is; traces of the former layers exceeding plots cannot be

conserved. Within the urban archeological area, sounding excavations reveal that there are traces of the former settlement except the registered archaeological sites.

Historic Urban Center of İzmir is a multi-layered city that has references on the ground and underground from past to present. İzmir Historical Kemeraltı Conservation Development Plan posited itself for conservation of existing buildings; there is not an attempt for traces of unknown cultural layers. There are detailed analyses and arrangements for registered buildings within the area. Archaeological conservation areas were noted as decision of Conservation Council of Cultural Existings. However, a dynamic dataset is necessary from Museum Archive from archaeological soundings for a dynamic conservation process.

CHAPTER 4

HISTORY OF IZMIR THROUGH FORMER STUDIES

In this chapter, diachronical cultural periods of Izmir and their traces were searched through former studies. The study concentrated on the the historical city center established on the slopes of Kadifekale in the Hellenistic Period. Historical center of Izmir was dealt with as a product of an evolutionary process. Historical references of İzmir were searched as actual and virtual possibilities that would shed light on the development and planning activities of the city.

4.1. İzmir in the Historical Process

İzmir is in a geography that is formed by streams and plains between mountain chains extending through east-west direction. The city developed around a gulf that enables it to be used as port.

It is surrounded by Manisa (Spylus) Mountain at the northeast, Yamanlar Mountain at north, Kemalpaşa (Nif) Mountain at east, Kızıldağ Mountain at south and Karaburun Peninsula at west. Bornova valley is located at the east of the gulf, and Kadifekale-Pagus Hill at south of the gulf in the city (Atay, 1978; Kütükoğlu, 2000).

Elevations around the city had been strategically important to defense the city. There are traces of defense walls at Nif Mountain, Kokluca Hills, Tekke Mountain, and Belkahve Gateway at south. At southeast, surveillance tower in Kaletepe, and castles in Kaynaklar, Kocadağ ve Demirci were found. Yeşildere valley was controlled with Görece and Akçakaya Castles, Yamanlar valley with Mezarlık, Adakale, Büyükkale castles, Küçükkale and Aksertepe towers (Doğer, 2001).

Sinuous sea is another advantage of İzmir that enables it to be used as a port. The seaside extends 629 km from Dikili at north to Selçuk at south (T.C. Başbakanlık Devlet Planlama Teşkilatı; İzmir İktisat Kongresi; 2004).

The city has been an important with its location between streams and agricultural lands. Meles Stream reaches to the sea from the south. Main streams of the İzmir Province are Gediz, Küçük Menderes and Bakırçay (Kütükoğlu, 2000; Beyru, 2011).

Until 17th century the coastline of İzmir had a different shape. There was an inner port in the form of arc. The port of the city had two parts; inner and outer ports – inner port is thought to be around Hisar Mosque. One change of the coastline was the filling of inner port and locating the bazaar on it between 17th-18th centuries. In 1872, the sea was filled again to build pier. (Atay, 1998; Kütükoğlu, 2000) Finally the sea was filled at Kordon to build highway and present coastline has formed. Modern port was built in Alsancak after 1950s.

Below, ancient period coastline is adapted to the existence of trade agora in ancient period, the map ended to the west of Kemeraltı, thus possible 1850 coastline is maintained. 1750 coastline is predicted from Müller map for 17th-18th centuries, but there is no clear knowledge how coastline maintained to the west of Kemeraltı. 1941 city map of municipality is used to indicate the filled areas at the end of the 19th century.

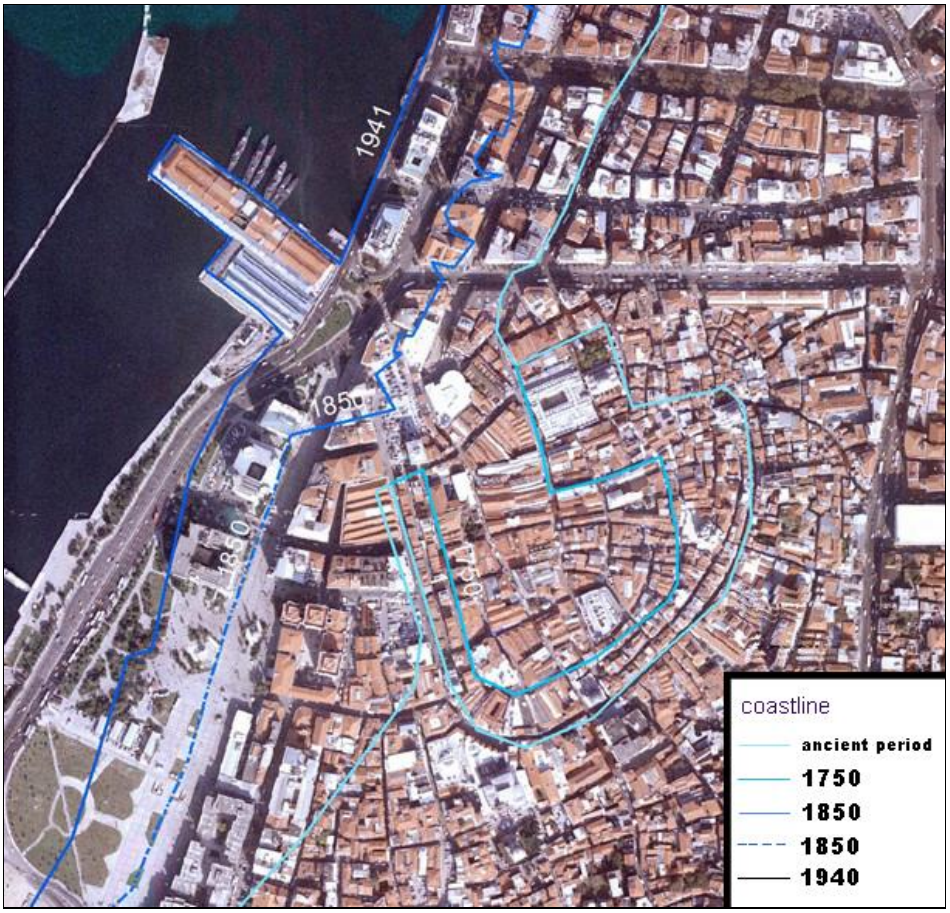


Figure 4.1. Coastline changes in Izmir

İzmir is a multi-layered city and has continuity in context of cultural periods. Archaeological excavations showed that geological past of the settlement dated back to 8000 BC. In Yeşilova, in the east of İzmir, traces of Neolithic period have been found.

Historical references of the city culture were found at three regions within the city; 1 in the map indicates Yeşilova Mound where the settlement appeared in the prehistoric period, 2 indicates Bayraklı district that classical period traces found, and 3 indicates Pagos (Kadifekale) which is the nucleus of today's city. Continuity of physical traces were interrupted with the shift of the city in Hellenistic Period.

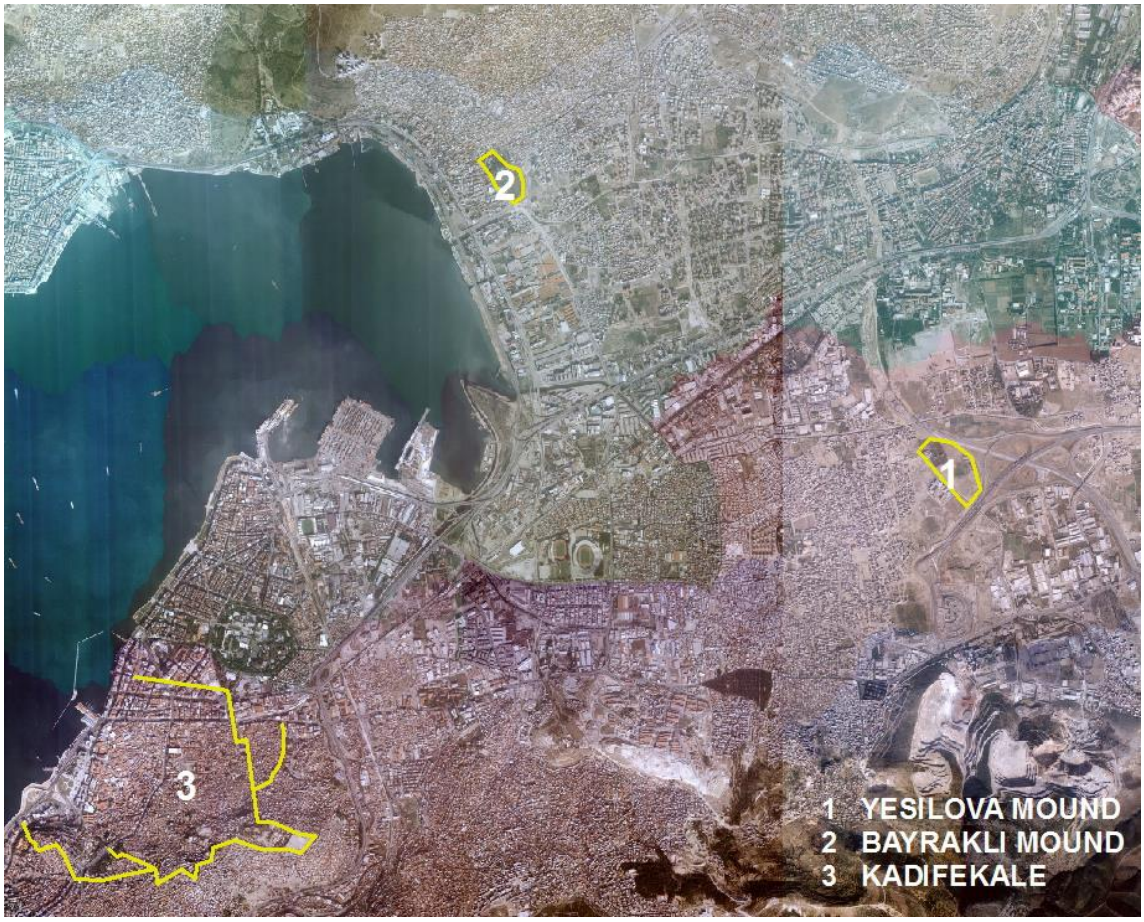


Figure 4.2. Historical reference areas of İzmir

Knowledge and traces of Prehistoric and Classical Period Layers of Izmir are out of scope of the study. Since there is not morphological continuity of these three areas. This study is concentrated on the historical city center of Izmir.

Physical continuity of historical city center of Izmir has also interrupted by earthquakes, wars, fires, smuggling of historical artifacts, and urbanization dynamics.

4.2. Diachronical Historical Layers of İzmir

Izmir city has historical continuity in context of diachronical historical layers. Historical layers of the city can be followed from the literature, old maps, and archaeological excavations. There are historical artifacts and expressions for the city from Prehistoric, Classical, Hellenistic, Roman, Byzantine, Principalities, Ottoman, and Republic Periods. Diachronical cultural periods of Izmir and their traces were searched in the study area through literature survey on history of İzmir.

4.2.1. Prehistoric Period

Traces of Paleolithic period were found on Özbek Peninsula. In İzmir, first residence traces were found on the hill of Küçük Yamanlar (8000 BC). Traces of Neolithic settlement were also found in Yeşilova. Helvacıköy Araptepe, Urla Limantepe and Kemalpaşa Ulucak mounds indicates late Neolithic period. Layers of prehistoric period were also discovered during the excavations of Smyrna ancient city (Atay, 1978; Doğer, 2001).

In Bayraklı mound, layers of Troia I (BC 3000-2500), Troia II (BC 2500-2000), Troia IV (BC 1800-1200) and Hellenistic period were found (Akurgal, 1987; Kütükoğlu, 2000).

4.2.2. Classical Period

Smyrna (İzmir) was one of the 12 Ionian cities; Ephesus, Colophon, Miletus, Teos, Klazomenae, Myus, Priene, Erythrai, Chios, Phocaea, Lebedus, and Smyrna.

The settlement was located on Hacı Mutso Hill, which is Bayraklı today. Hacı Mutso Hill was on a peninsula extending to the gulf. Smyrna was an agricultural city with a small port. In time, silt carried by Meles Stream filled the sea and the port dissappeared (Atay, 1978; Kütükoğlu, 2000).

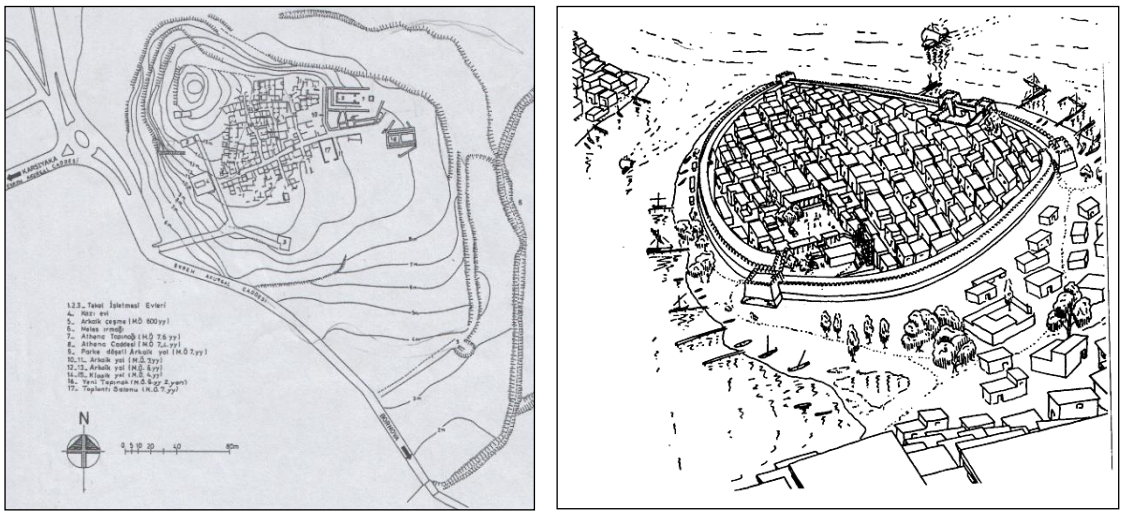


Figure 4.3. Bayraklı (Old Smyrna) Ancient City
(Source: Akurgal, 1987)

Figure 4.4. Reconstruction of Old Smyrna
(Source: North Park University, History Department, Ancient Smyrna;
http://campus.northpark.edu/history//index.html)

The settlement of Old Smyrna was established around 1102 BC and surrounded by adobe-made defense walls in 9th and 7th century BC. Hippodamos plan was applied to the settlement in 5th century BC and streets were arranged through north-south direction (Akurgal, 1987; Kuban, 2001; Tuna, 2002).

The Temple of Mother Goddess was located on the north side of the hill. Houses were small rectangular volumed and adobe-made structures with stone bases. The settlement exceeded the defense walls and reached to the size of 1000 houses. At north of the settlement, the traces of a monumental grave of Tantalos were discovered. Necropol of the settlement is located on the slopes at the southeast of the grave of Tantalos. (Akurgal, 1987; Kuban, 2001)

The settlement had been abandoned after 6th-7th century BC, because of fire, earthquake, and the destruction by Lidyans. There is not much information about the city

after that period. Rural settlements of Buca, Bornova, Işıklar, Çiğli, Pınarbaşı, Narlıköy and Naldöken were thought to have appeared at that period, in 678 BC (Cadoux, 1937; Kuban, 2001). Persian traces belonging to 4th century BC were found; defense walls were reconstructed at that period. However, the city was abandoned again in 334 BC when the new settlement was established at Mt. Pagos and a castle constructed, known as Kadifekale today (Cadoux, 1937; Atay, 1978; Kuban, 2001).

4.2.3. Hellenistic Period

The scope of this thesis is reading texture of historical center of Izmir starting from Hellenistic Period that the city moved to Pagos.

In the Hellenistic period, the city moved to the slopes of Mt. Pagos, which is Kadifekale today. Hellenistic city structure can be determined with acropol of Kadifekale and a port near the sea. There is no clear knowledge about where the defense walls pass through. However, these are predicted to be under the existing remains; defense walls were descending from northwest side of Kadifekale to Basmane and continuing to the west Magnesia Gate of the city was also to the west. (Cadoux, 1937; Baykara, 1974; Kuban, 2001). In Kadifekale, acropol of Hellenistic period, some parts of Hellenistic defense walls were discovered (Ersoy, 2012)

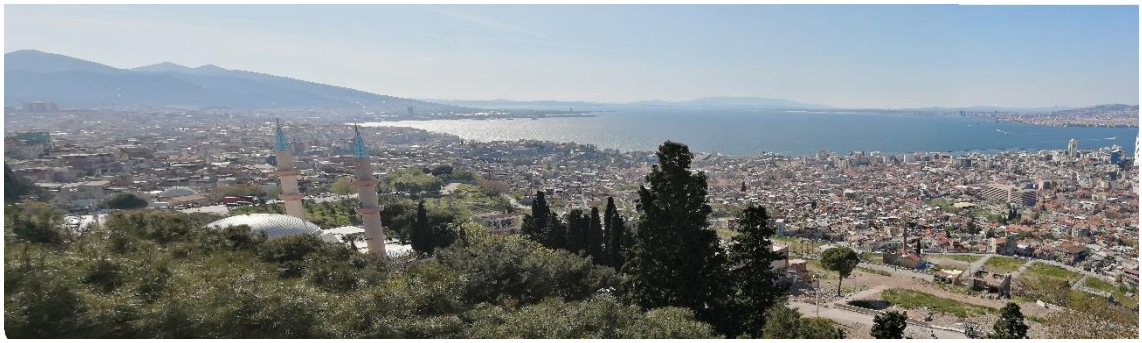


Figure 4.5. View from Kadifekale (Field survey, 2021)

Although the certain boundaries of the city are not known, it is thought to be located between Kadifekale, Değirmentepe and the sea (Kuban, 2001). It is partially located on Mt. Pagos, and the bigger part was on the valley extending to Temple of Cybele

(Metroon), Gymnasium and the port (Canbolat, 1992; Strabon, 2005; Beyru, 2011). Meles Stream was flowing next to the defense walls (Canbolat, 1992; Strabon, 2005).

Main elements of the city were Temple of Cybele, Gymnasium and the port (Kuban, 1972). Theatre was also constructed at that period. However, it was destroyed by an earthquake (Cadoux, 1937; Canbolat, 1992). The excavations in state Agora indicated that it was established in the Helenistic period (Yaka, 2006; Ersoy, 2012).

The location of the Temple is thought to be around Tepecik (Cadoux, 1937). The point of Gymnasium is not known. However, Strabon mentioned it was on the outskirts of the city and was close to the harbor (Strabon, 2005)

4.2.4. Roman Period

First Roman temple was constructed at 195 BC in the city. Strabon describes İzmir in Roman period as the city expanded around acropol of Hellenistic period and around the port (Kuban, 2001).

Roman period monuments are Agora in Namazgah, Odeon around the port, and the Stadium near the citadel, water aqueducts, various baths, gymnasiums and library. The Theater and Acropolis of Kadifekale belonging to Hellenistic period were repaired (Cadoux, 1938; Canpolat, 1953). Temple of Cybele and Gymnasium were located in the lower city (Cadoux, 1938; Kuban, 1972). The city was upholstered with agoras, theatres and temples; the location of many of them is not known today. Temple of Zeus and Temple of Vesta are thought to be located on Değirmentepe (Storari map, 1856)

Gridal Plan had formed the city structure, except for the sloping land towards Pagos Mountain. Two main roads of the Hellenistic city were maintained as Sacred Road and Golden Road by Aristides (Kuban, 2001). Golden Road is thought to be passing through Kervan Bridge and entering the city around Basmane station, and then it passes from Agora and extends to Ephesus from a gate (Cadoux, 1938; Kuban, 2001).

The city had connections with Pergamon, Magnesia, and Sardes. Ersoy (2012) mentioned there was a road from Smyrna to Pergamon, Magnesia and Sardes. This road reached to Yeşildere and also continued in Tepecik-Halkapınar-Kokluca direction over Caravan Bridge. The known city gates were; Magnesia Gate at east in Basmane, and Ephesus Gate at south on Değirmentepe.

Today, the streets of the Roman city are not known clearly, but the locations of large monuments have mostly been determined. Theatre was on the northwest slope of Kadifekale, and stadium was to the west of the theatre. State agora was located between Acropol and the port. Ergeneci (1991) mentioned the existence of also a Trade Agora in Kemeraltı.

Roman Izmir also had water aquedacts, Roman device of bringing water to city. The water brought to the city from Nif Mountain and Halkapınar (Cadoux, 1938). The remains of aqueducts can be seen on Yeşildere Road.

Figure 4.6. Main Elements of Roman City (produced from the maps of Naumann, 1950; Cadoux, 1938)

The existence of a temple near Agora is mentioned (Canbolat, 1992). Temple of Jupiter Olimpia was located near today's municipality building near Konak Square; then,

Port Castle was constructed in that area, which was previously an inner port, then named as Ok Castle (Kuban, 2001).

Figure 4.7. State Agora and surrounding (Field survey, 2010)

Figure 4.8. State Agora and Roman Bath (Field survey, 2021)

The city expanded to Kervan Bridge and extended to Halkapınar, and Diana Baths (Kuban, 2001). Temple of Tiberius was also built in that period (Canbolat, 1992). Temples of Zeus, Afrodit and Vesta were on Değirmentepe. The city was razed by an earthquake in 178 AD and then rebuilt by Roman Emperor, Marcus Aurelius. Existing remains are from 2nd century AD. (Kuban, 2001)

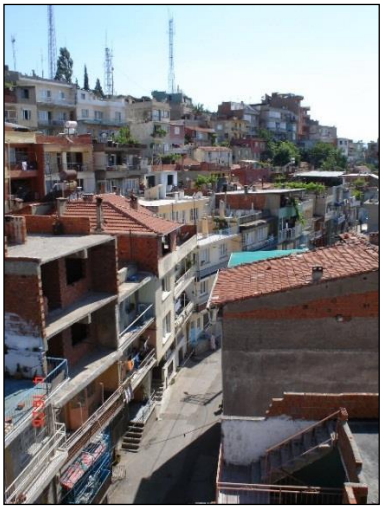


Figure 4.9. Ancient Stadium Area covered by houses today (Field survey, 2010)

Figure 4.10. Remains of Roman Road (Altınyol) near Eşrefpaşa Street (Field survey, 2010)

The city became one of the first centres of Christianity in the period of East Roman Empire and many structures of Pagan İzmir stayed unfunctional; the structures were possibly destroyed and/or used as construction materials (Kuban, 2001).

4.2.5. Byzantine Period

In the Byzantine period the population of the city decreased, and the city stayed within the boundaries of defense walls. The city is thought to have been located on the Roman İzmir. City walls were repaired in 856 AD in need of defense necessities. In the 10th century the city became the sea power of Byzantine Empire and transformed into a metropolis that had a bishopship. Trade activities were increased in that period. (Müller-Wiener,1982; Kuban, 2001)

It is known that an extensive amount of building activity was realized including the Citadel of Sea (Neon Castron) in 12th century, during this period. One of the seven churches of Christianity was in İzmir. However, its location is not known today. An earthquake happened in 1025 and the wars afterwards erased the traces of the city. In the 12th century the city again became a sea power. Functioning areas around the city were

Kastraki conservation site at west of Bornova, Kadifekale (Palai Kastron), a palace at Nymphanion, official buildings, and Port Castle (Neon Castron) in the 13th century (Canpolat,1953; Kuban, 2001).

Laskaris Palace in Kemalpaşa, Lembos Monastery at northeast of Pınarbaşı, castle on Sandıklıtepe at Magnesia Mountain, and Kurşunlu Monastery at Kuşadası Davutlar indicates the spread in the Byzantine period (Mercangöz, 1998).

The structures were Havariun Church that was transformed into a mosque, Aya Yorgi Church that was on Rum graves, Aya Demetrius Church at Palai Kastron, St. Policarp Church around the stadium, Church on the place of Hisar Mosque, Aya Kirtos Church on the place of Ahmet Ağa Mosque, Aya Theologos Church at Namazgah (Arel, 1997; Kuban, 2001).

4.2.6. Period of Principalities and Knights

In this period sovereignty of İzmir changed between Turkish principalities and Christian knights.

In 1261, Genoeseans settled around the harbor at the area known as Frenk District in latter periods (Atay, 1993). There is not much information of the physical character of the city for this period. The Port Castle had to be repaired several times. The city accomodated two different societies; Muslim settlement was around Roman Acropol and Non-Muslim settlements around harbour (Tanyeli, 1987).

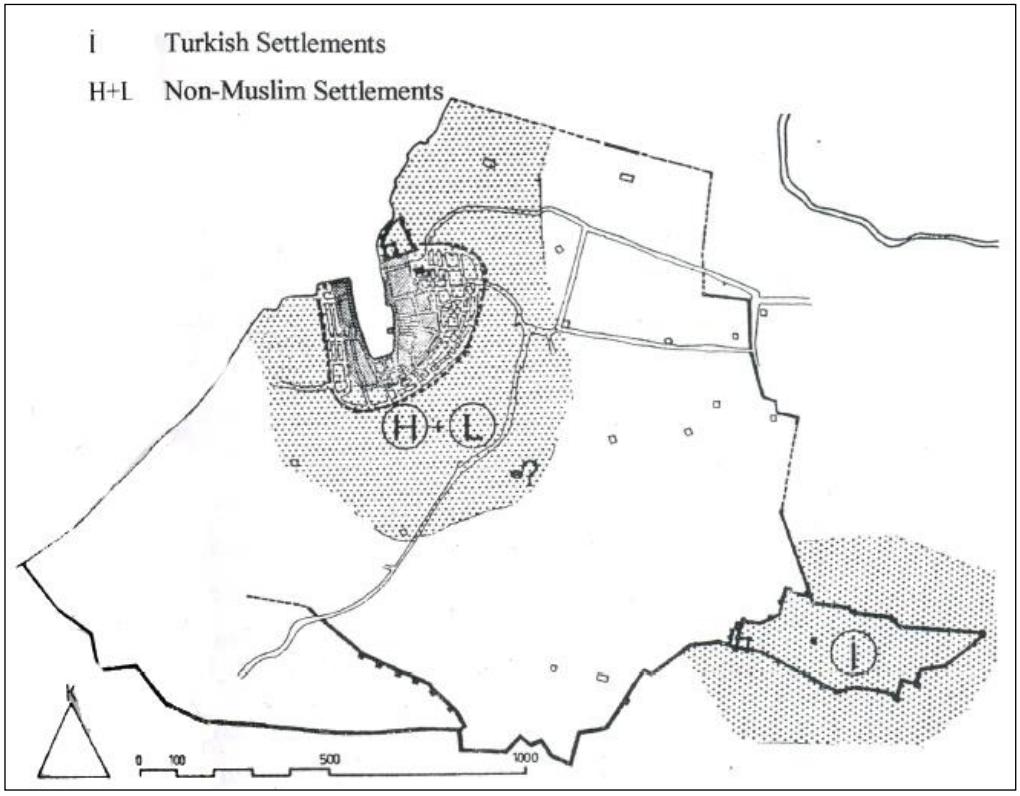


Figure 4.11. İzmir in early 14th century
(Source: Tanyeli, 1987)

4.2.7. Ottoman Period

In the early times of Ottoman sovereignty in İzmir (in the first half of 15th century), Turkish settlements around Kadifekale had begun to unite with the settlements by the seaside (Canpolat, 1953; Tanyeli, 1987; Arıkan, 1992). Characteristics of a small town continued until the late 16th century (Goffman, 1995).

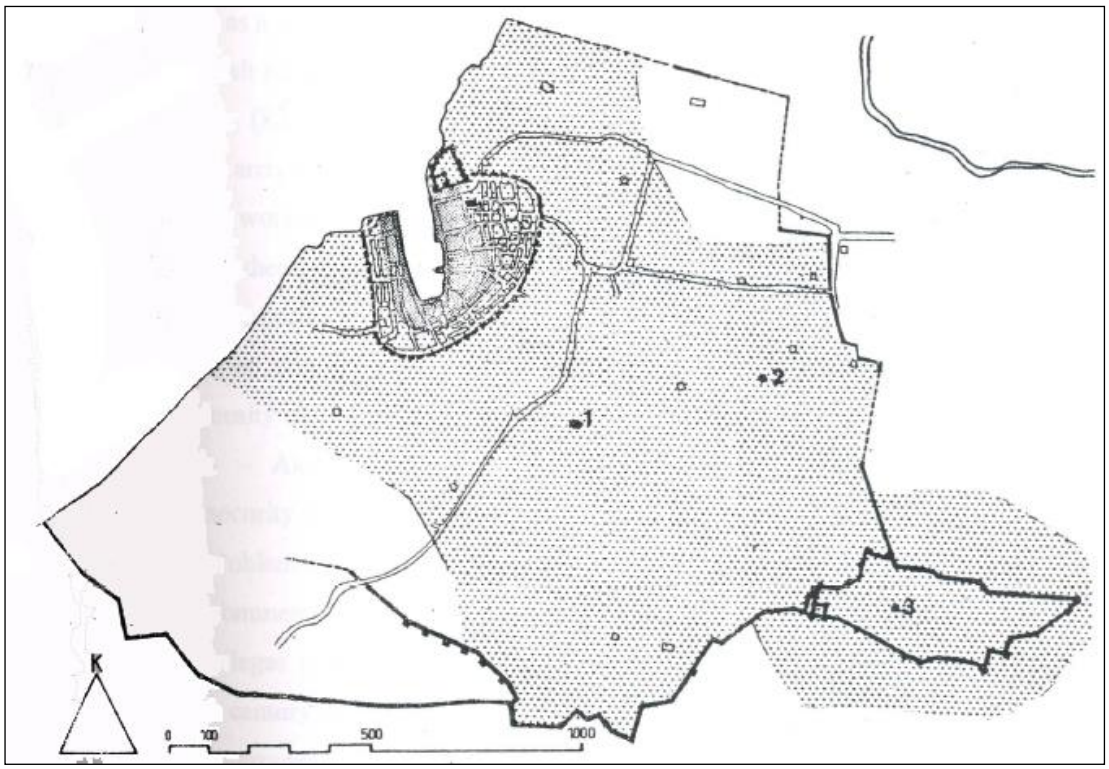


Figure 4.12. İzmir in early 15th century
(Source: Tanyeli, 1987)

The population consisting of Turks and Rum Greeks increased in the 16th century with the arrival of Jewish community. Migrations continued from inner Anatolia and Aegean islands. The economy of the city was based on agriculture and commerce. Armenian population effective in exterior commerce was seen in İzmir (Thevenot, 1971; Baykara, 1974). Levantines also enriched the population in İzmir in this period.

The Port Castle which had been knocked down before, was rebuilt in accordance with the original and was named the Ok (Arrow) Castle (Goffman, 1999).

Urbanization dynamics differentiated at that period; changes of administrative, economical, and cultural relations can be followed in the urban space. Old city structures became disfunctional in the evolution process and were used as construction materials. However, some functions continued such as usage of Agora as bazaar area. Urban texture started to change in newly constructed Turkish settlements, representing the organic city characteristics of Ottoman period. Many inns and mosques determined the physical structure of the city.

Evliya Çelebi (1671) mentioned the existence of 82 khans, 300 warehouses, entertainment facilities, leather production, and 10.300 residential units in the 17th century (Çelebi, 1985). There were vineyards and olive groves surrounding the city (Thevenot, 1971). In 17th century Sancak Castle was built in İnciraltı and Port Castle lost importance.

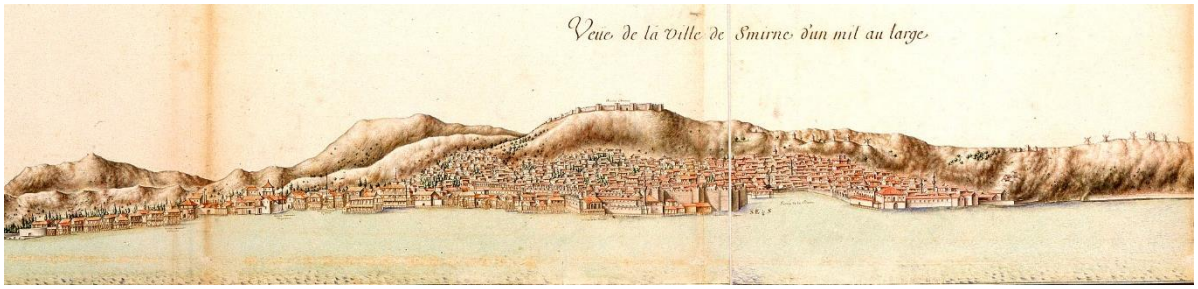


Figure 4.13. 1686 Combes, İzmir from the sea
(Source: İzmir City Archive)

Facilities of maritime commerce established around the harbour. The main axis of the city was Anafartalar Street, between harbour and the city entrance after Basmahane. Frenk Street was also an important axis of the city. The significant buildings of the 17th century are Bedesten, Büyük and Küçük Vezir Khans, Girit Khan and customs houses at the two edges of the harbor (Canpolat, 1953; Spon, 1975; Arel, 1997). The harbour had been filled in with alluvions and then totally filled in to build commercial buildings on it at the end of 18th century (Beyru, 1973; Atay, 1978). Coastline in front of Frenk District was also filled (Atay, 1998).

At the end of 18th century bazaar established around it and the castle stayed disfunctional. Port Castle collapsed in 1872. Defense walls also collapsed at that period. However, existence of some parts of defense walls, ruins of ancient theatre, stadium and ruins of Zeus Temple could be seen in the old maps of 19th century. European travelers mentioned that old pattern disappeared, and ruins of Stadium, Theatre, Agora, and Gymnasium were seen in the 19th century (Yaranga, 2000). There were remains of defense walls southwest of the port and near stadium. Theatre was demolished and covered bazaar and caravanserai were built. St. Policarp Church within the stadium was ruined. There were marble remains of Diana Baths, and remains of Temple of Asklepius,

Roman waterways, and Grave of Tantalos (Yaranga, 2000). In 1766, defense walls were constructed near Ballıkuyu, which was known as Sarimbeyoğlu walls.

In the 19th century, the city became an important trade center with infrastructure investments. A new wharf, new roads, water system were established in this period. Aydın Railway was built in 1853. Many hospitals and schools were also built by European residents (Slaars, 1868; Tekeli, 1970; Baykara, 1974). Sarı Kışla (1829) was built as a governmental building, and military area was built near seacoast. Çakaloğlu, Selvili, and Karaosmanoğlu khans were the monumental buildings erected in the 19th century. (Aktepe, 1971; Müller-Wiener, 1982; and Ersoy, 1991)

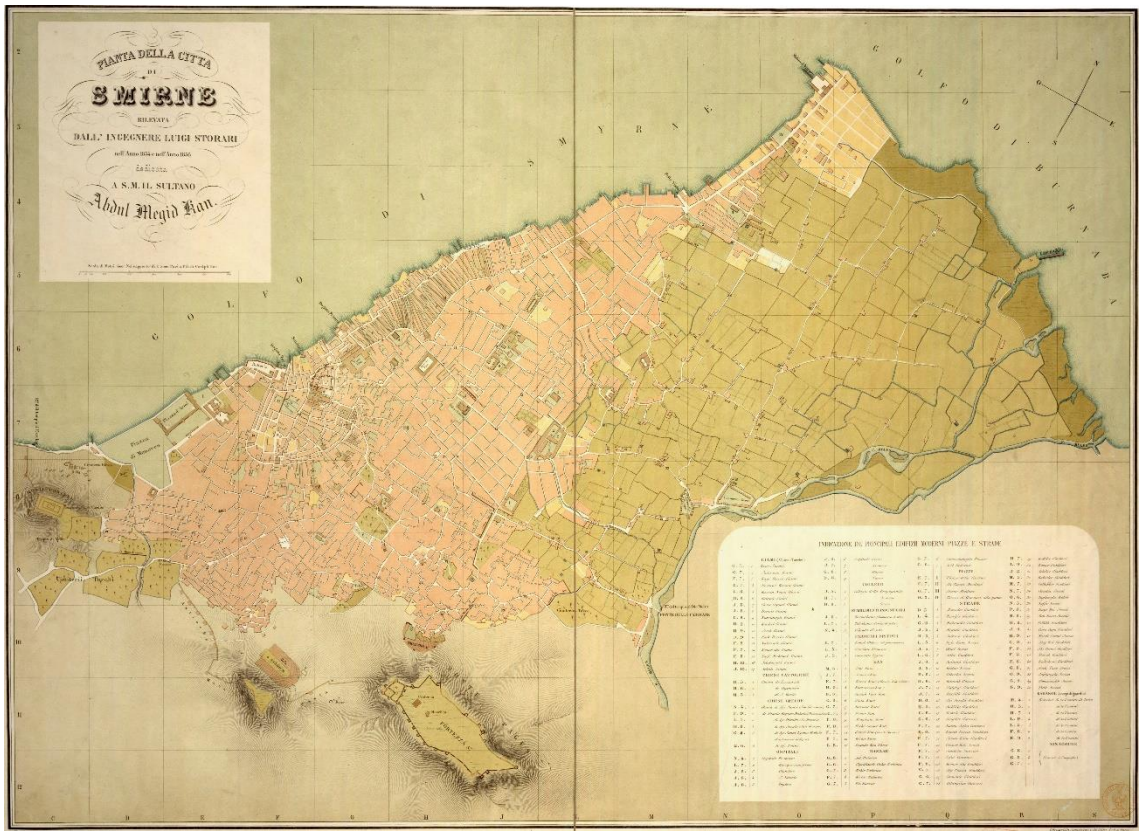


Figure 4.14. Map of Storari at the end of 19th century (see larger at appendix)
(Source: İzmir City Archive)

In 1901, Clock tower was built by Sultan Abdulhamid II as a memorial monument, which is still an important element of Konak Square. In the first half of the 19th century and 20th century period the consulates and other important foundations were located at

the seashore, and own their special piers. In the Frenk District the only pier was The British Pier.

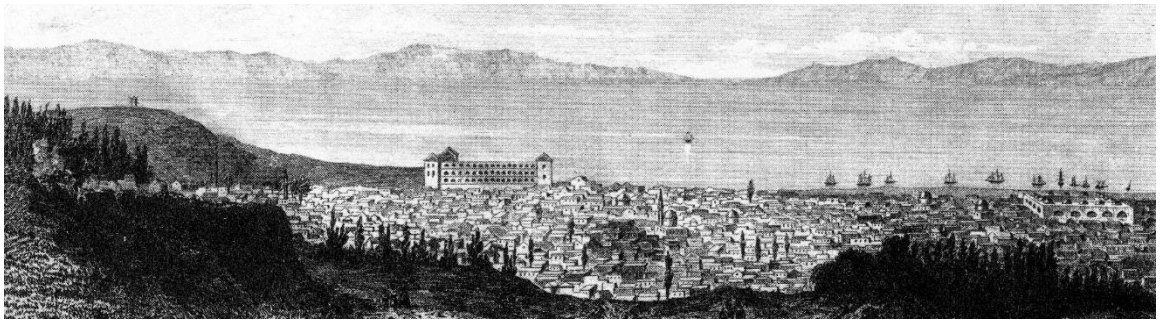


Figure 4.15. 1835 engraving of Smyrna by Texier
(Source: İzmir City Archive)

The khans determined the structure of the city center.

Table 4.1. Khans built in Ottoman Period
(Source: Ersoy, 1991)

Name	Date	Name	Date	Name	Date
Sulu Han	b. 1671	Çamur Hanı	18.yy-19.yy	Laz Hanı	19.yy
Fazlıoğlu Han	b. 1671	Çavuşzade Hanı	b. 1671	Leblebici Hanı	19.yy
K. Demir Han	b. 1836	Çerçioğlu Hanı	18.yy	Malkoçzade Hanı	b.1671
Selvili Han	16.yy-19yy	Çukur Han	b. 1671	Mehmed Efendi Hanı	b.1671
Mirkelamoğlu Han	b. 1784	B. Demir Hanı	18.yy	K. Mehmed Hanı	18.yy
Abacıoğlu	18.yy başı	Dervişoğlu Hanı	17.-18.yy	Menzil Hanı	
Yeni Han	16.-17.yy	Dolma Hanı	b. 1737	Mısırlıoğlu Hanı	19.yy
Kızlarağası Hanı	1744	Deremsiz Süleyman Hanı	19.yy	Muhtesib Hanı	b. 1671
B. Karaosmanoğlu Hanı	18.yy-19.yy	Ekmekçi Hanı	19.yy sonu	Osmanzade Hanı	b. 1726
Kadıoğlu Hanı	b. 1890	Eşrefpaşa Hanı	19.yy	Paşa Hanı	b. 1838
Manisalıoğlu Hanı	19.yy	Evliyazade Hanı	19.yy	Pederi Hanı	19.yy
Girid Hanı	19.yy	K. Fincancı Hanı	19.yy	Pirinç Hanı	19.yy
Arab Hanı	19.yy	Hacı Ali Paşa Hanı	b.1890	Piyaleoğlu Hanı	b. 1726

Esir Hanı	18.yy-19.yy	Hacı Hüseyin Hanı	b. 1671	Rauf Paşa Hanı	19.yy
Abdurrahman Hanı	1802	Hacı Mehmed Hanı	19.yy	Rıza Bey hanı	
Çakaloğlu Hanı	1805	Hacı Ömer Hanı	b. 1671	B. Sadık Bey Hanı	19. yy sonu
Musevit Hanı	19.yy	Hacı Sadullah Hanı	19.yy sonu	Sakız Hanı	b. 1836
Cambaz Hanı	19.yy	Hastahane Hanı	19.yy	Salepçioğlu Hanı	19.yy
Yok		Hüseyin Beşe Hanı	18.yy	B.Salepçioğlu Hanı	19.yy
Acem Hanı	b. 1890	Ispartalı Hanı	19.yy	K.Salepçioğlu Hanı	b. 1893
B. Akasoğlu Hanı	19.yy	İbrahim Paşa Hanı	b.1671	Süleyman Efendi Hanı	19.yy sonu
K. Akasoğlu Hanı	19.yy	İki Kapılı Han	b. 1802	Şalvarlıoğlu Hanı	19.yy
Altı Parmak Hanı	b. 1649	İmam Hanı	b. 1671	Tabur Efendi Hanı	19.yy
Balyoz Hanı	a. 1868	Kamil Bey Hanı	19.yy sonu	Tavşanlı Han	b. 1671
Barbaris Hanı	b. 1890	Kantarcıoğlu Hanı		Tellalbaşı Yeni Han	1861
K. Barut Hanı	b. 1838	Kara Mustafa Paşa Hanı	1680	Tercüman Hanı	b. 1671
Batak Hanı	19.yy	K.Karaosmanoğlu Hanı	b. 1747	Tütün Hanı	19.yy
Bey Hanı (Birinci)	b. 1671	Kemahlı İbrahim Efendi Hanı	19.yy	Uzun Han	19.yy
Bey Hanı (İkinci)	19.yy	Keten Hanı	b. 1742	B. Vezir Hanı	1675
Bostancı Hanı	b. 1671	Kurşunlu Han	b. 1671	K. Vezir Hanı	1675
Bölükbaşı Hanı	1661	B. Kuzuoğlu Hanı	b. 1823	Yandevi Hanı	
Cezayir Hanı (Eski)	b. 1836	K. Kuzuoğlu Hanı	b. 1823		
Cezayir Hanı	19.yy	Küpecioğlu Hanı	b. 1890		
Coya Hanı	19.yy				

There are 23 khans that have survived from this period. Kızlarağası Khan, Abacıoğlu Khan, and Mirkelamoğlu Khan, are the ones that have been restored with new functions.

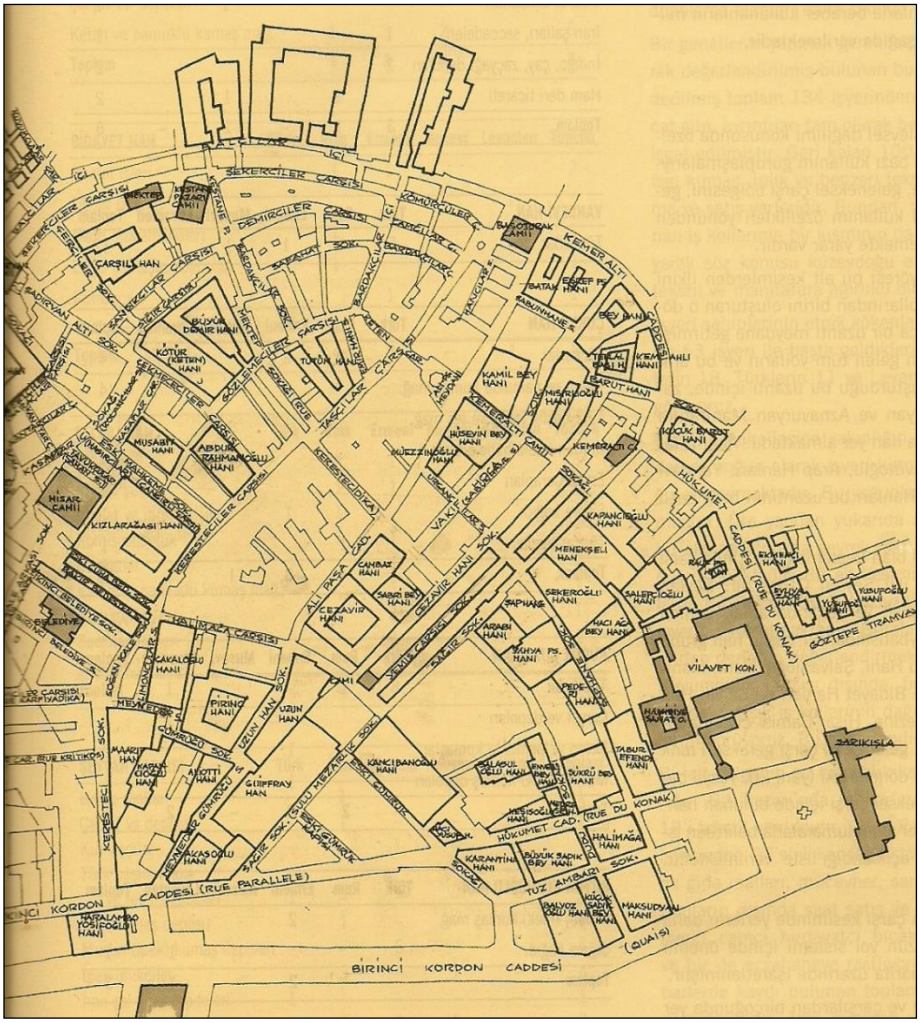


Figure 4.16. Structure of khans within Kemeraltı on 1905 Insurance Maps edited by Goad by Beyru, 2011

Table 4.2. Ottoman Khans in Existence Today
(Source: İzmir Municipality)

	KHANS	
Kemahlibey Khan	Keten Khan	Sulu Khan
Rozetli Khan	Leblebicioglu Khan	Selvili Khan
Güzel Izmir Khan	Faziloglu Khan	Karaosmanoglu Khan
Abacioglu Khan	Kücük Karaosmanoglu Khan	Mirkelemoglu Khan
Piyaleoglu Khan	Esir Khan	Manisalioglu Khan
Arap Khan	Kızlarağası Khan	Kücük Demir Khan
Tabak Khan	Çakaloglu Khan	Büyük Demir Khan

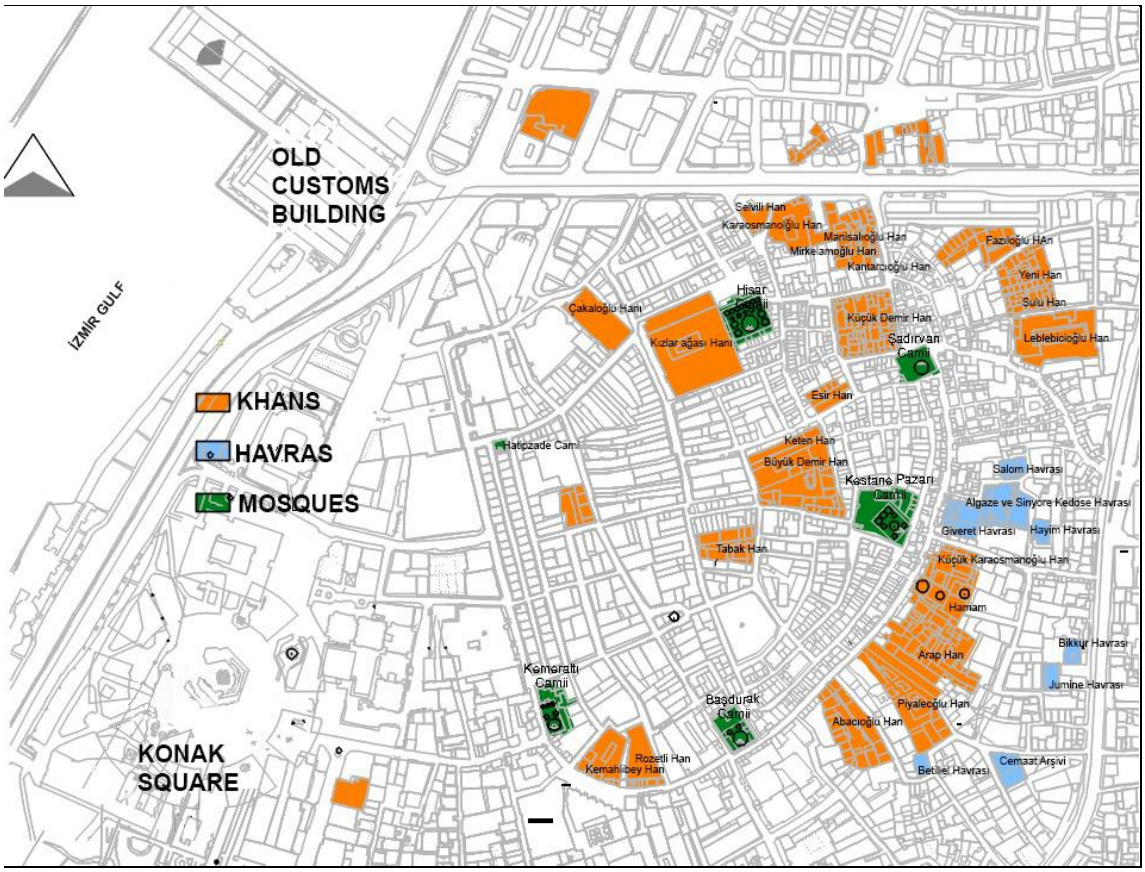


Figure 4.17. Ottoman Buildings in Kemeraltı (Source: Municipality of İzmir)

Besides Khans, many religious buildings determined the structure of Ottoman city. Today, still 7 synagogs exist in Kemeraltı; Shalom, Sinyore, Giveret, Hayim, Bakur, Jumine, and Betillel Synagogs.

The most important churches of the period are Aya Photini Church, Reformist Church, British Kingdom Church, St. Polycarp Church, St John, Domenican Church, Ayavukla, St. Maria Church and Lazarist Church (Atay, 1998; Slaars, 2001). These buildings can be seen on the maps prepared in the 19th century. Though they are restored, St John, Domenican Church, Ayavukla, St Polycarp Church and St. Maria Church are standing today but all the others disappeared completely. These buildings which were positioned at the seaside when built, stayed at the midland during the later years because of the fillings.

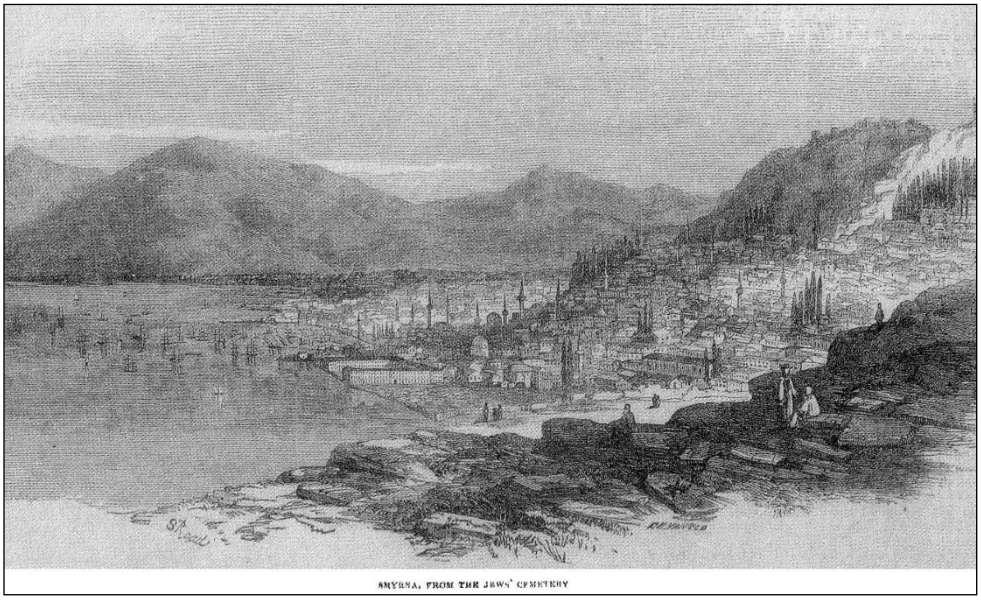


Figure 4.18. Engraving of İzmir in 1850 by Rourge Wilman Sc.

The oldest mosque built in the period and reached to our day is the Hisar Mosque (1592), and the other mosques standing today are Şadırvan Mosque (1637), Başdurak Mosque (1652) and Kestane Bazaar Mosque (1667). Also Kemeraltı Mosque (1690) and Yalı Mosque (1774) were also built in this period.

Table 4.3. Mosques built in the Ottoman Period (Source: Aktepe, 1971)

Name	**Date**	**Location**
Abdül(fettah) Mosque	Before 1670	Tilkilik, 1298 street
Ahmet Reşid Efendi Mescid (Katiboğlu)	1750	Halimağa bazaar, Yemişçe
Alemdar Mescid		Pazaryeri district
Bölükbaşı Mosque (Hacı Ahmed Efendi)	B. 1661	Kasab Hızır district
Darül-kura Medrese Mosque	18th century	Around Agora Museum
Dolablı-kuyu Mosque	1888	İkiçeşmelik, 743 street
Fazıl Ahmed Paşa (Balık Pazarı Mosque)	End of 17th century	Kasab Hızır district, next to B.Vezir'in K.
Hacı Hüseyin (Başdurak Mosque)	B. 1774	
Hacı Osman Paşa	1900	Soğukkuyu street
Hacı Yusuf	End of 17th century	
Han-Bey	1530	Pazaryeri
Hasan Hoca Mescid	B. 1874	İkiçeşmelik
Hasta Mescid	B. 1737	İkiçeşmelik
Hatuniyye	1738	Tilkilik, Anafartalar
Kaptan Mehmed bn. Mustafa	One of the oldest	
Kemeraltı	1670	Kemeraltı street

Kestane Pazarı (Saint Apotre)	1663	Kestane pazarı
Kurşunlu	B. 1671	Namazgah, 816 street
Müftü	B. 1671	Hasan hoca district, Kantar ağası street
Patlıcan		Dibekbaşı, Namazgah
Tuzcu Mescid	1754	İkiçeşmelik, Ülkü district
Yalı	1754	Next to courthouse
Abdullah Efendi	Repaired in 1890	Basmane, Altınpark
Ahmet Ağa (Halil Efendi)	B. 1842	Behind İkiçeşmelik police station
Akarcalı	1891	Değirmendağı
Alaca Mescid	B. 1897	mahalle-i cedid
Ali Ağa	1672	At the North of Odunkapı Mosque
Altıparmak	1649 (mescid renewed as mosque)	Hasan hoca district
Arap Deresi (Giritlioğlu)	B. 1901	
Asmalı	B. 1825	Mezarlıkbaşı, İkiçeşmelik street
Ayazmalı	B. 1796	
Balcı mescid	1831	Kefeli district
Çiçek Mescid	B. 1895	Between Temaşalık - Faik paşa
Çorak kapısı	1746	Across Basmane
Damlacık (Kılcı mosque)	B. 1795	
Esnaf Şeyhi	1736	Camiatik district
Eşrefpaşa	1890	
Güzelyalı (Mamure tül Hamidiye)	B. 1892	Kokaryalı
Hoca Ali Ağa (Horasanlı Mescid)		
Hacı Bey (Topaltı Mosque)	1889	Topaltı district
Hacı Hasan		Pazaryeri
Hacı Mahmut	B. 1717	İkinci Beyler
Hacı Mehmet	B. 1863	İkiçeşmelik, Damlacık
Hacı Veli (Mumyakmaz)	B. 1730	Hatuniye
Hamidiye	B. 1889	Karantina
Hasan Ağa	B. 1889	Teşvikiye district
Hikmetiye	Beginning of 20th century	Abbasağa district
Horasanlı Mescid (Tevhidiye)	B. 1888	Beştepeler
Irgat Pazarı	B. 1774	Camiatik district
İkiçeşmelik (Kurd Mehmet Paşa)	Around 1720	İkiçeşmelik
Kahraman Mescid	1878	Turna district
Kameriye	1891	Karataş
Kapıcızade		Camiatik dahallesi
Kaplanpaşa	B. 1679	Fresh fruit customs
Karaman Mescid		İkiçeşmelik, Uzunyol
Karataş	B. 1899	
Kestellizade Mescid	B. 1888	
Kudsiyemolla	B. 1784	Kefil district
Kulluk	1889	Camiatik district
Mağribli	B. 1796	Hasan hoca district
Mehmet Efendi		Around Tabakhaneler
Mısırlı-zade Mescid	B. 1806	

Naturzade	B. 1802	İkiçeşmelik, 838 street
Odunkapı	B. 1765	İkiçeşmelik, 420 street
Piyaleoğlu	B. 1730	Dibekbaşı
Salahettinoğlu	B. 1530	Temaşalık
Salebçioğlu	20th century	
Selimiye		Değirmendere
Servili Mescid	B. 1766	Karakapı Street, Basmane
Soğukkuyu	1874	
Şadırvan	B. 1670	
Şerefiye		Bozyaka
Şeyh	1645	Basmane, next to Faik Paşa Mosque
Tahtalı Mescid	B. 1836	Havra street
Tepecik	19th century	
Yapıcıoğlu	B. 1726	Eşrefpaşa, Kadifekale
Yeni	B. 1901	Karataş
Yukarı Kal'a	B. 1530	Kadifekale
Aşağı Kal'a		Around Hisar Mosque

Many baths were built in this period.

Table 4.4. Ottoman Baths in İzmir (Source: Ürer, 2002)

Name	**Date**	**Location**	**Utilization**
Basmane Bath	17th century	Anafartalar street, at South of Çorakkapı Mosque, n:390	bath
Çivici Bath	16th-18th cen.	Kestelli, 834 street, n:93	bath
Hoşgör Bath	14th-18th cen.	Karataş, 360 street, n: 10	bath
Çukur Bath	End of 18th c.	İkiçeşmelik, 841 street, n: 3	bath
Yeni Şark (Saçmacı) Bath	18th century	İkiçeşmelik Street, n:39	bath
İstanköy Bath	16th century	Kemeraltı, 917 street at South of, Salepçioğlu Mosque	
Kıllıoğlu Hacı İbrahim Vakfı Bath	?	Basmane, Anafartalar street, n: 772	Coal storage
Alibey Bath	15th-18th cen.	Karşıyaka, 1671 street, n: 88	
Tevfik Paşa Bath	End of 18th c.	Anafartalar street, next to Hasan Hoca Mosque	bath
Karantina Bath	19th century	Mithatpaşa, 181 street	
Lüks Bath	15th-17th cen.	Anafartalar street, n: 660	
Namazgah Bath	17th century	Agora yakını, 816 sokak	bath
Yeşildirek Bath	17th century	Kemeraltı, Anafartalar street, n: 288	bazaar
Salepçioğlu Bath	19th-20th cen.	Kemeraltı, I. Beyler Street, n: 9 and 9a	Textile printing
Bath ruins	?	442 street, plot no 29 and 31	Under earth

The city was formed by districts of different ethnic groups; Frenk, Armenian, Jewish, Greek, and Turkish Districts. Churches, mosques, and synagogs were the important elements representing the religious character of these districts.

Table 4.5. Ottoman Religious Buildings in Existence Today
(Source: İzmir Municipality)

	MOSQUES	
Hatipzade Cami	Kahraman Mescit Cami	Seyh Abdullah Efendi Cami
Kemeralti Cami	A. Mescit Cami	Corakkapi Cami
Basdurak Cami	Naturzade Cami	Namazgah Kursunlu Cami
Kestane Pazari Cami	H. Mehmet Cami	Fettah Cami
Sadirvan Cami	Ikicesmelik Cami	Karakol H. Efendi Cami
Hisar Cami	Hassa Mescidi	Aliaga Cami
Salepcioglu Cami	Kalafat Cami	Odunkapi Cami
Baladur Haci Mehmet Cami	Dolaplikuyu Cami	Damlacik Cami
Kadifekale Cami	Bayraktar Cami	Fatih Cami
Haci Mahmut Cami	Selvili Mescit Cami	Akarcali Cami
Esnaf Seyh Cami	Faik Pasa Cami	Kumrulu Mescit Cami
Hasan Hoca Cami	Merkez Seyh Cami	Patlicanli Cami
Hatuniye Cami	Pazaryeri Cami	Dibekbasi Piyaleoglu Cami
Mum Yakmaz Haci Veli Cami	Selahattinoglu Cami	Kireclikaya Cami
	SINAGOGUES	
Salom Havrasi	Bikkur Havrasi	Betillel Havrasi
Hayim Havrasi	Jumine Havrasi	Algaze ve Sinyore Kedose Havrasi
Giveret Havrasi		
	CHURCHES	
Ayavukla Kilisesi	St. Polycarp	St. Maria
Domenican Church	St. Antoine	St John

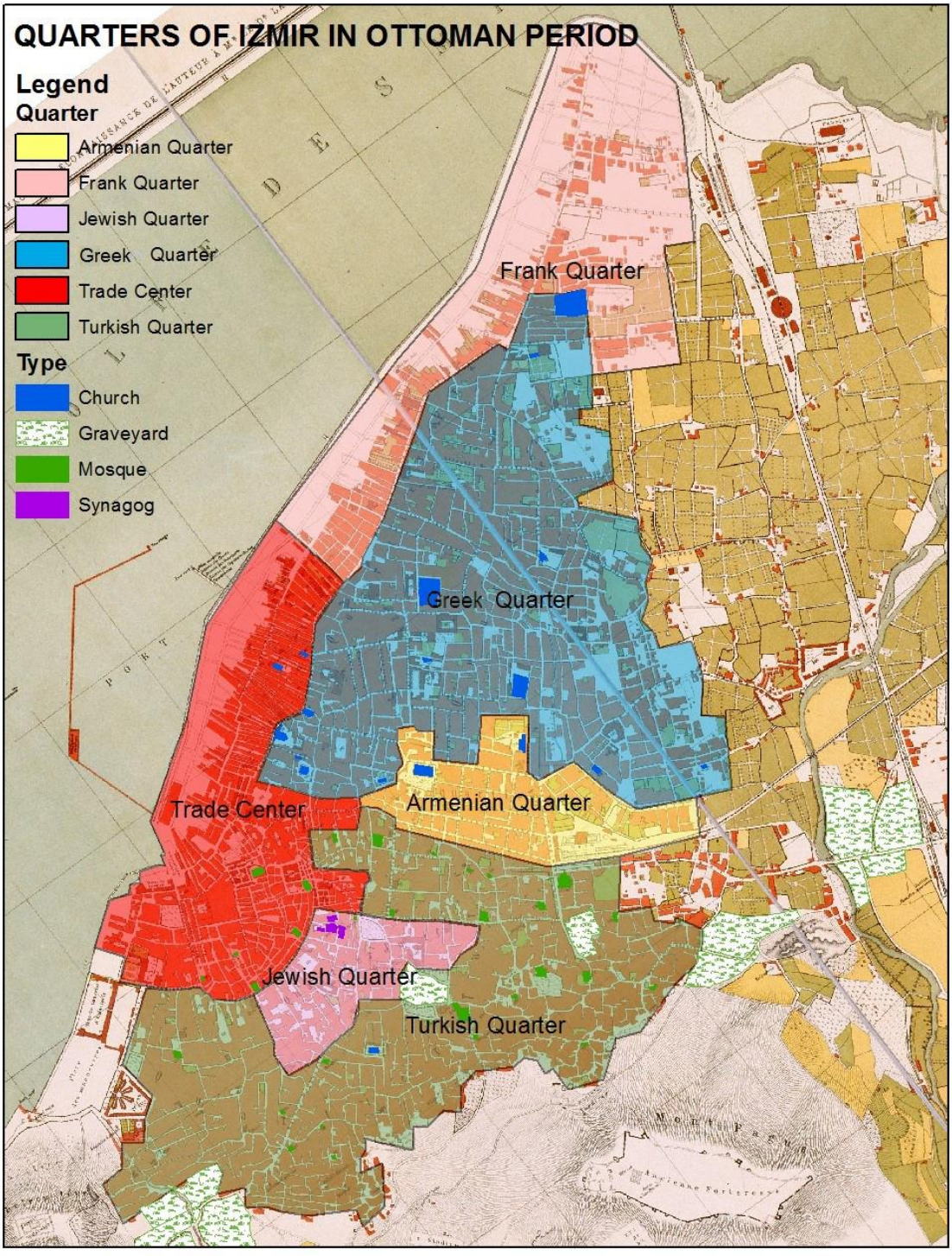


Figure 4.19. Quarters of Izmir in the Ottoman period
(Source: İzmir map by Lamec Saad (1870) and Beyru (2011, p: 90)

Frank District takes place at the shoreline of the city, and the Greek District takes place inland. After the trade centre had developed towards the north, the northern Christian Districts moved a bit more to the north. (Kıray, 1998). Evliya Çelebi notes that

non-Muslim minorities living in the northern part of the city travelled to their homes by boats in 1670-1671 (Karadağ, 2008). By the end of the 18th Century the British Pier existed on the shore of the Frank Street where the British foundations settled (Atay, 1988).

Turkish District gathered at the hillside of the Kadifekale around the massive ancient ruins and developed down to the city. The elites of the town lived in the mansions overlooking the sea, behind them, towards the castle settled the craftsmen, and in the upper part lived the poor Muslims (Kıray, 1998). The Armenian District was located between the Christian and Muslim Districts. The Çorakkapı Mosque, which is across from Basmane train station at present, was at the southern border of this district (Cadoux, 1938). Jewish District settled between the bazaar and the Turkish District. (Kıray, 1998).

In the 17th century Greek and Armenian Districts enlarged both by filling the dead spaces inside and widening towards the back. And the Turkish Districts widened within themselves towards the hillside. Since the Turkish and Armenian Districts were not able to find anywhere to spread, they became the most closely spaced parts of the town until the Karataş District started developing (Beyru, 1991).

In the second half of the 19th century İzmir had a fundamental transformation by the construction of the railways and the quay. Two railway lines built in this period and Fevzi Paşa Boulevard was located between Basmane train station and port. Residences and trade foundations spread inland. Important ruins of the old trade centre and the Vezirhan disappeared (Kuban, 2001). New residence districts appeared in Karataş and Punta (Alsancak) tips of the settlement and the suburbs like Güzelyalı, Karşıyaka, Bornova and Buca.

Types of the houses of that period are classified into two; Turkish houses and Levantine and Greek houses. Generally, the houses have exterior sofas and made masonry in ground storey and wood frame in upper storey. Turkish houses had contact with the street by means of oriel windows. Levantine and Greek houses are adjacently situated, double-storied, and have narrow facades. These have monumental entrances, pediments and plastic elements such as façade's stone covering and carving moldings (Akyüz, 1993).

Figure 4.20. Street pattern from Turkish district, Damlacık
(Source: Akyüz, 1993, Illustration 118)

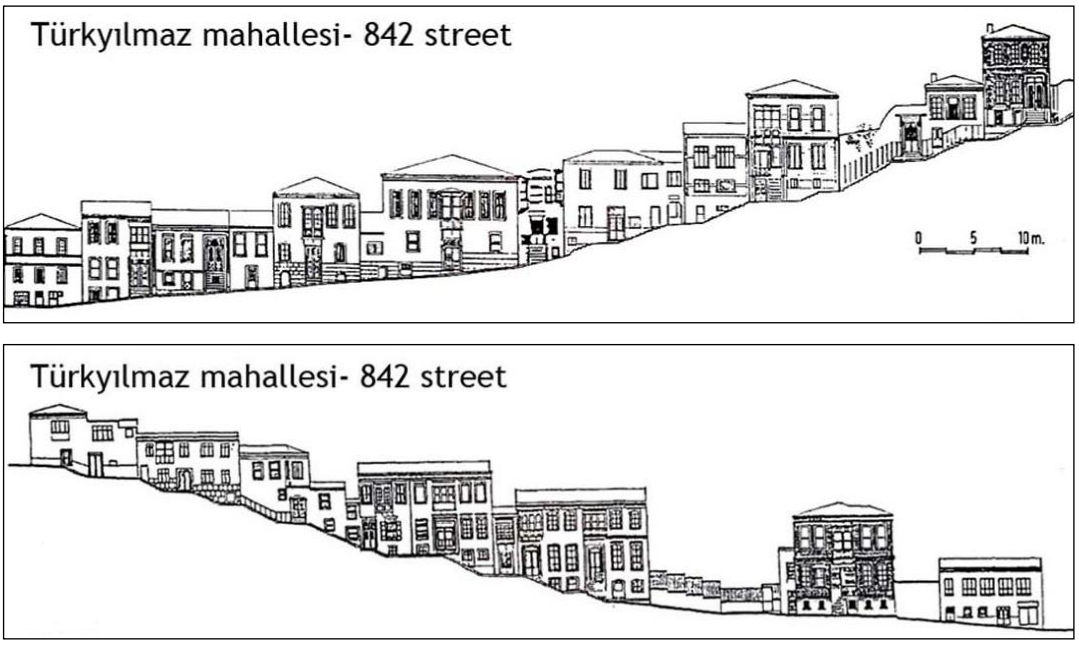


Figure 4.21. Facades of the traditional houses from Damlacık
(Source: Akyüz, 1993, Illustration 119)

4.2.8. Republic Period

Fire and war in 1922 demolished the city from Kemeraltı to Punta (Alsancak), and population exchange of 1928-1935 changed the structure of the population in İzmir.

Bouleveards and new architectural style replaced the traditional pattern and buildings in Greek, Armenian and Frenk Quarters.

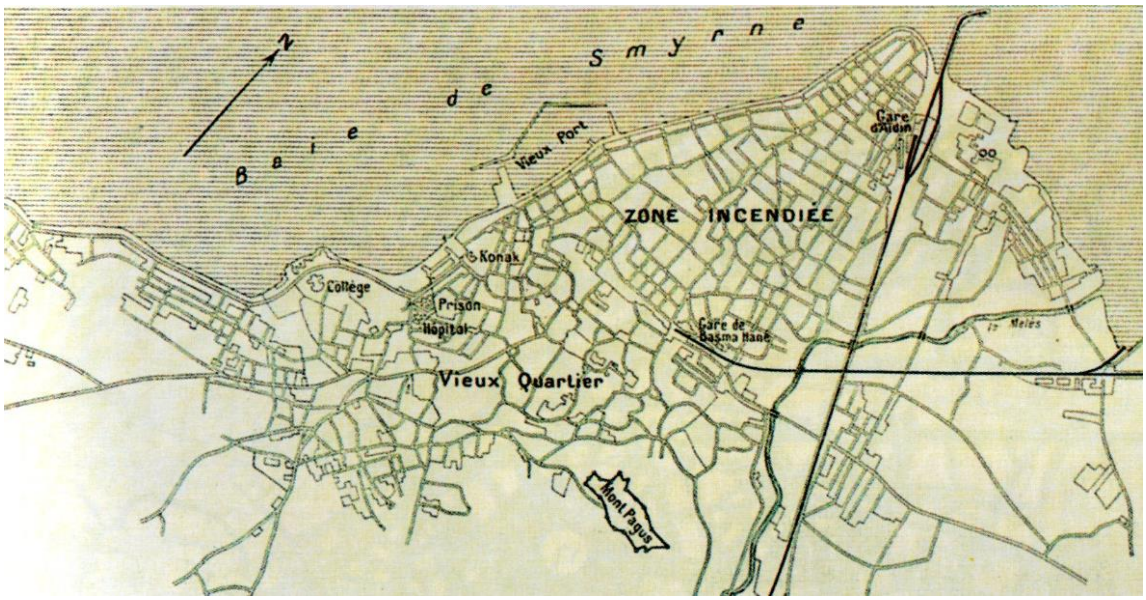


Figure 4.22. Illustraton of Izmir before 1922 Fire
(Source: 1925 Danger and Prost Plan Izmir City Archive)

The period between 1923 and 1950 was marked with the projects to create a republic city. Fire area was planned in 1925 with a French urbanism approach by Rene Danger. This development plan was in geometrical forms consisting of various symmetrical boulevards intersected by squares as an example of modernity. According to the plan Gazi Boulevard was constructed interrupting the continuity of traditional pattern between Port and Basmane. The Road divided the city center into two; one part that has historical and physical continuity and the other modern part.

The plan of Rene Danger could not implemented properly, but affected the main decisions of the latter plan. Intersecting boulevards and squares were foreseen in the plan, and the form of Kulturpark can be seen. Gazi Boulevard and Republic Square were constructed in that period.

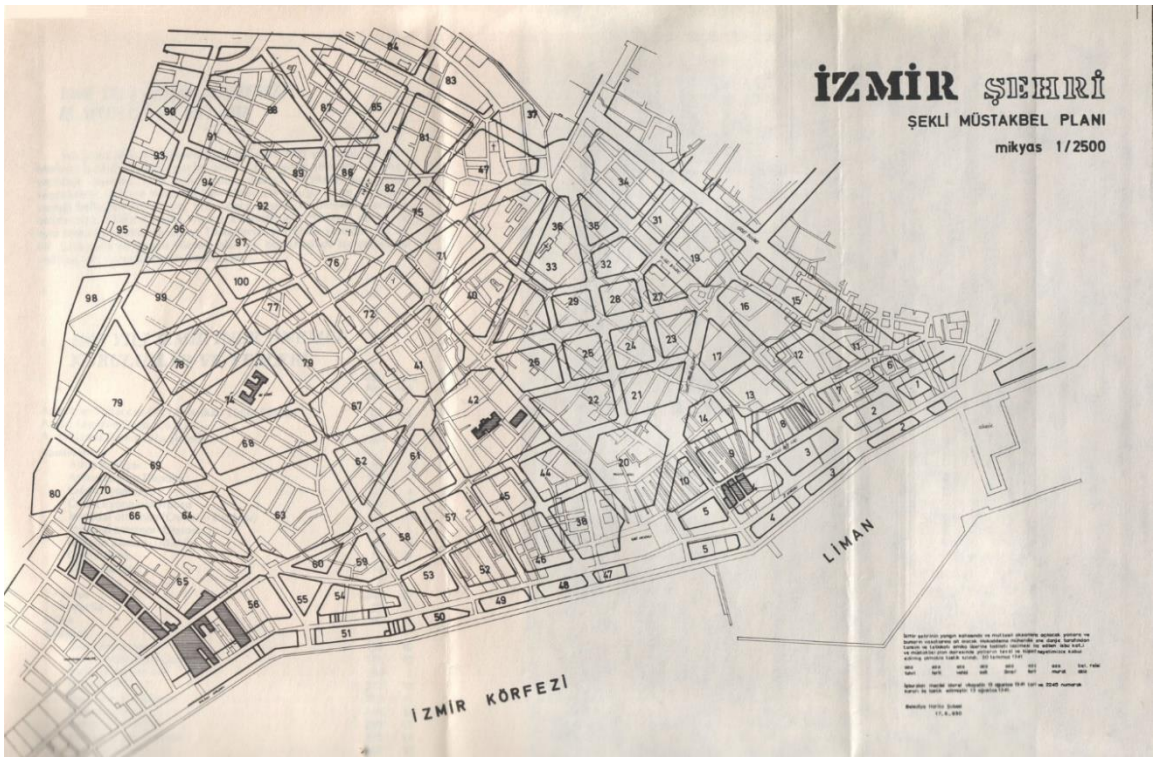


Figure 4.23. 1925 Rene Danger Plan overlaid on Izmir pattern before 1922
(Source: Atay, 1978, p:144)

Kültürpark (Fair) and Bahribaba Park were established during the leadership of Mayor Behçet Uz between 1931 and 1941. In the early period of Republic, there was not a serious change in the city macroform; compact and semi-circular form of city was protected. However, through the establishment of mass transportation and infrastructure investments Karşıyaka, Güzelyalı and Alsancak also developed. New settlement areas in Eşrefpaşa appeared with the population exchange.

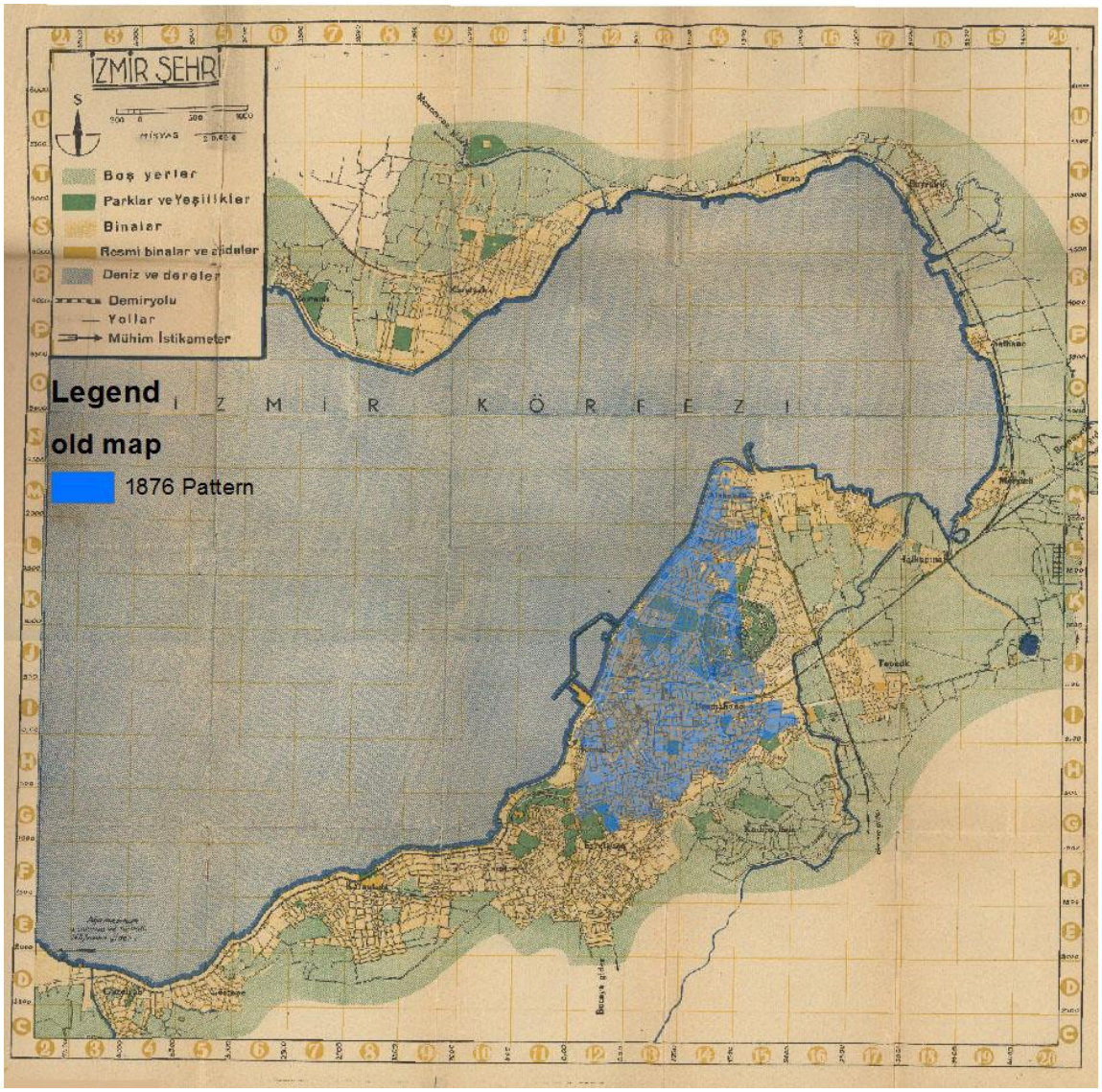


Figure 4.24. İzmir in the Republic Period
(Source: 1941 City Guide and Lamec Saad Map, 1876)

4.2.9. 1950's to present

Rapid urbanization processes and migrations changed urban form of İzmir; the city macroform transformed into fan-shaped semi-circular form from simple semi-circular form. Attractive force centered on a point and spread to the periphery through main roads (Ak,1981).

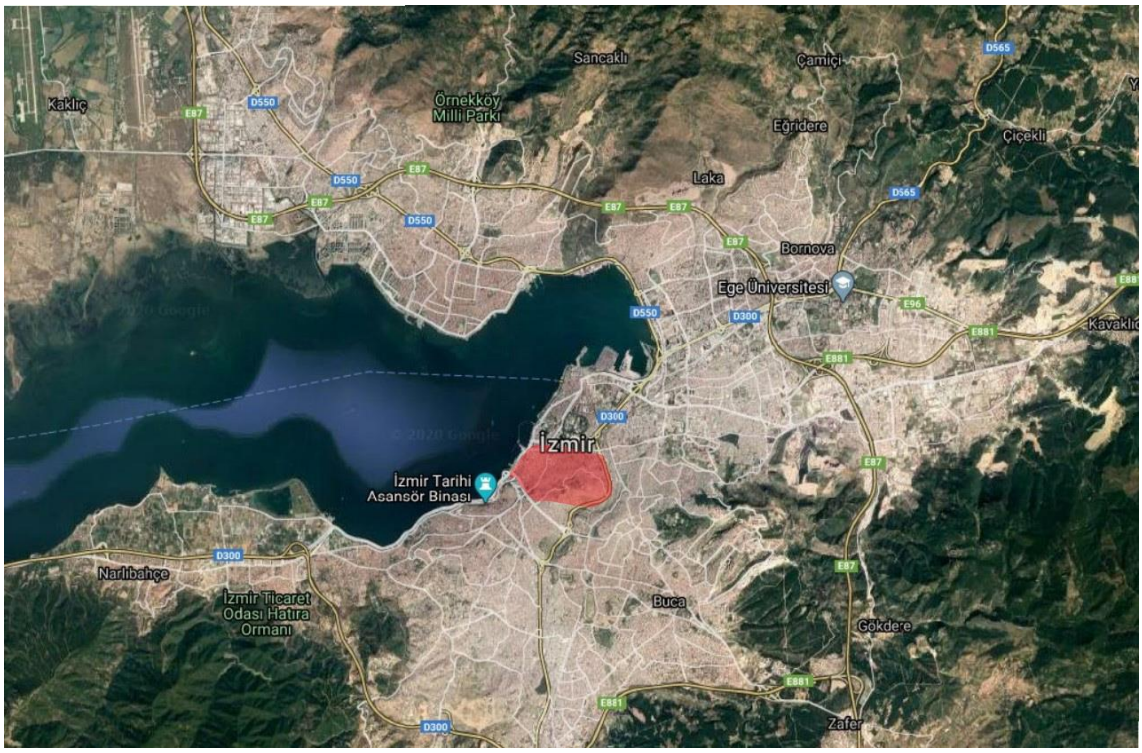


Figure 4.25. Structure of İzmir
(Source: googlemaps, 2020)

In the plans of the 19th century we can see a lot of religious buildings in the town. But only Ayavukla Church (1866), Saint John Church(1874), Domenican Church, Salepçioğlu Mosque (1896), Hisar Mosque, and small sinagogues in Kemeraltı are still standing today.

In the Hellenistic, Roman and Byzantine Periods, probably there were glorious monuments and big outdoor areas around them in İzmir. From those periods only Kadifekale and Agora can be seen today, and they are surrounded by slum houses. It is guessed that some parts of constructions mentioned in ancient sources are protected under ground. In the Ottoman Period of the town, according as the trading activities, khans, baths, and mosques were constructed. Today there are mosques, khans, and depots positioned on the Anafartalar Street which indicates the ancient port line and modest houses surrounding this centre from that period.

Figure 4.26. Conservation Areas in the Historical Center of Izmir

Building boom after 1970s affected the historic city center; the region started to decline with alot of migrations to the city, a lot of annexes and additional buildings were built around historic buildings. Squatter settlements appeared close to the area and Kadifekale District formed through these settlements.

In 2002, historical city center was declared as Urban and 3rd degree archaeological site. Decline of the historic city center has attempted to be renewed through conservation development plans of archaeological sites and restoration projects of heritage buildings.

Today, historical city center is a multi-layered conservation area, consists of registered buildings and archaeological remains. For any development intervention soundings are made to decide the development in that area. However, pressure of development next to the historic city center is in the agenda; such as Ballıkuyu Urban Transformation Project.

Multi-layered city center of İzmir entered in UNESCO Tentative List in 14.04.2020. The boundaries of UNESCO Heritage of *"Historical Port City of İzmir"* is the Urban Archaeological Site of the city center. In the description of the Historical Port city of İzmir is declared as *"Founded between the Pagos Hill (Kadifekale) and the inner port around the late 4th Century - early 3rd Century B.C. in the post-Alexander era and having remained a continuous settlement site to date, İzmir (Smyrna) still bears the traces of the Hellenistic, Roman, Byzantine, Principalities [Beylik] and Ottoman periods."*

Summary

The spatial structure of İzmir was formed during historical periods of Roman and Ottoman Period. The historical city center took its present form -organic characteristics- during the periods of the Ottoman, and Turkish occupations, and the original pattern of the open space structure and dead-end street is still followed within the texture. The mixed texture of İzmir indicates also Roman city characteristics in some parts with traces of monumental buildings and gridal streets, especially near Agora.

Caniggia's organicity analysis for historical periods is adapted and predicted in context of interventions to urban texture within diachronic periods of İzmir. In Hellenistic period of İzmir city the city moved to Pagos (Kadifekale) and the city had its organicity was numeric (*system of elementary aggregate*). In Roman period, systematic

interventions were made to city system and several buildings were built within the city. In Byzantine Period, the city polarized systematically through the villages, and grade was organic. Characteristics of a small town continued until the late 16th century. Turkish settlements around Kadifekale had begun to unite with the settlements by the seaside. Thus, in the Ottoman Period of the city, the grade was organic at first phase, then involved. At the beginning of Republic Period systematic interventions appeared within the city. In the 1950s first migrations and squatter settlements appeared in the city. After 1970s building boom the city had its involved character, *with cooperative systems with multiple poles*.

Table 4.6. Organicity Analysis for Periods of İzmir City (Adaptation of Caniggia's analysis)

Period	**Grade**	**Date**
Hellenistic	Numeric	334 BC
Roman	Systematic	195 BC
Byzantine	Organic	856 AD
Ottoman 1st Phase	Organic	15th century
Ottoman	Involved	17th century
Republic 1st phase	systematic	1923-1950
Republic 2nd phase	involved	1950-to present

CHAPTER 5

READING URBAN TEXTURE OF MULTI-LAYERED HISTORICAL CITIES

İzmir city was chosen as a case study area. The city is a multi-layered city carrying traces from ancient times to today. However, continuities of the settlement have been interrupted by many earthquakes, fires, and urbanization processes.

Figure 5.1. Archaeological remains in İzmir.

5.1. Analysis of Urban Growth by Historical Maps

The analysis on the urban growth of İzmir carried out through overlapping maps representing the different historical layer of the city. This method provides to determine the boundaries of the city in the previous year.

City boundaries for ancient city were studied by several researchers (Müller, Naumann, Baykara). These researchers predicted the location of defense walls of the

ancient city through engravings, and ancient remains. Studying on these maps, Beyru (2011) laid the defense walls on today's streets.

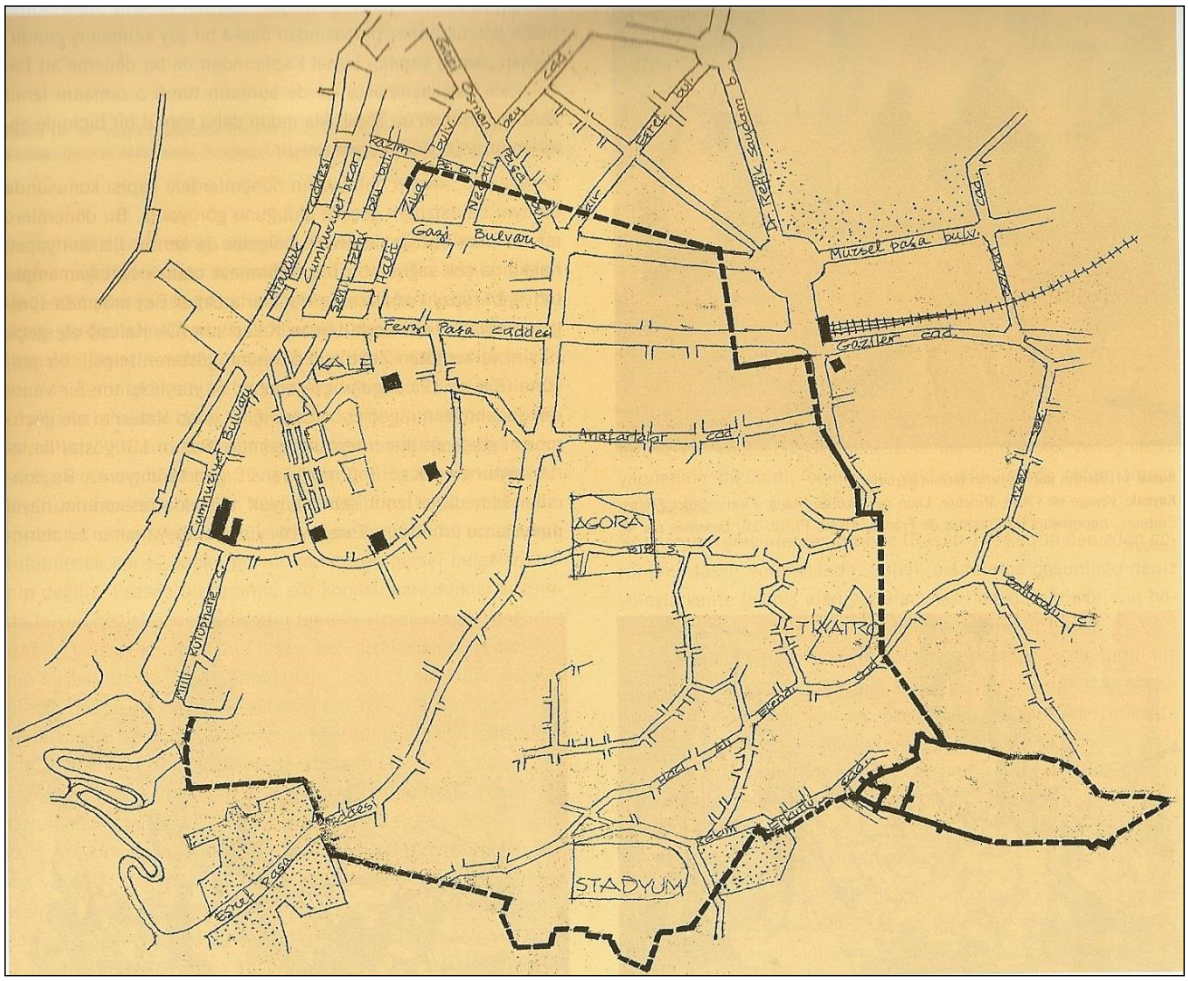


Figure 5.2. Overlaping maps by Beyru (2011, p: 9) to determine defense walls of Greko-Roman period

Another study of Beyru (2011) was made on 1780 street map. Overlapping 1780 map on today's street map indicates that İzmir had grown on top of the ancient city, extending towards north and south. Inner port of the ancient city was filled partly. However, 1780 map did not have coordinates so the boundaries of İzmir in this year was predicted. Street formations could not be read on the map.

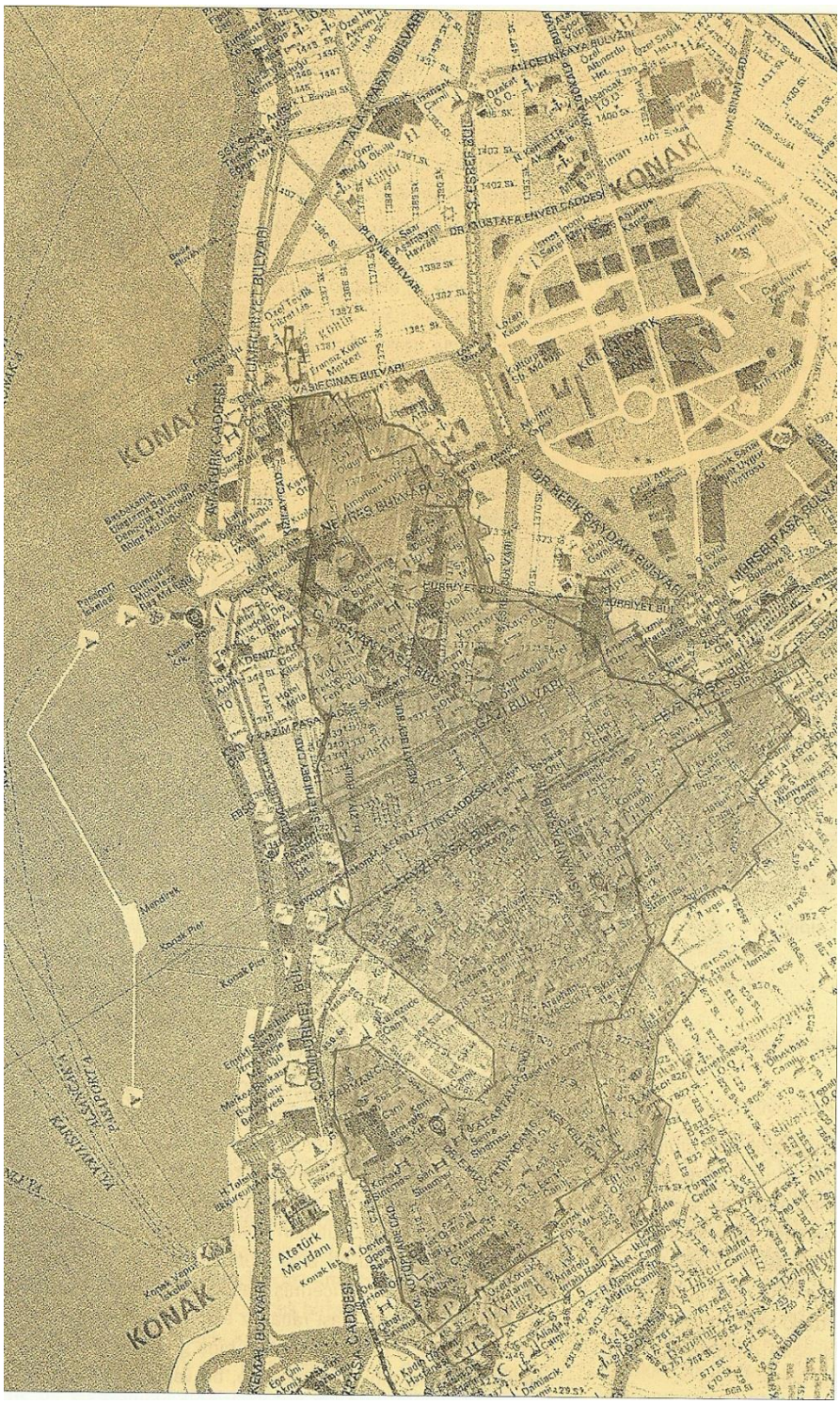


Figure 5.3. Boundaries of İzmir in 1780 (maps overlapped by Beyru, 2011, p:42)

In 1876, inner port was filled completely, and Kemeraltı was formed in that period. The city had grown to the south. Anafartalar Street and Eşrefpaşa Street as main

axes of ancient period had maintained between 1817 and 1876. Another important axe in that period was Frenk Street.

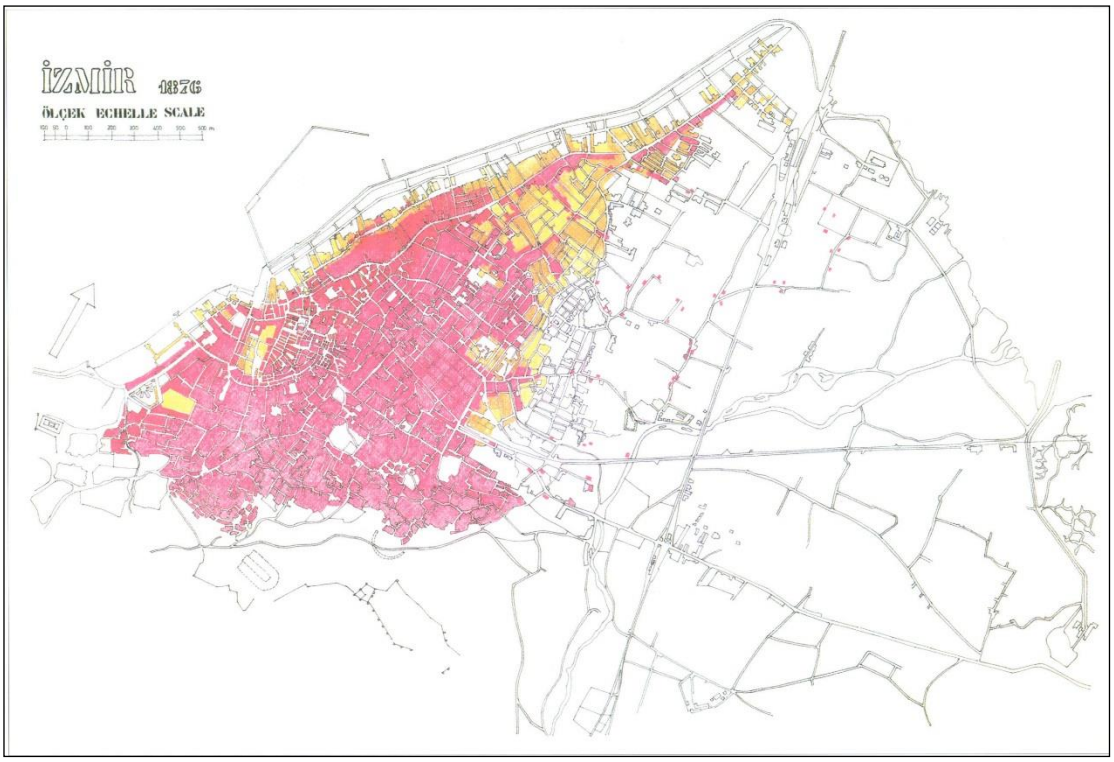


Figure 5.4. Growth between 1817-1876
(Source: Beyru, 2011, p:80)

Between 1876 and 2001, a complete and convenient map showing the texture of İzmir could notbe found to coordinate and overlap. The most recent map before the fire in 1922 is the insurance map prepared in 1905. However, this map shows only trade center of İzmir. The 1941 city guide showing the texture of the city after the fire indicates to the radical texture change in the fire area. Fevzipaşa Boulevard was established and over this road the old traces of the texture ignored; completely different block forms were created. This road cuts the old pattern passing over Port Castle and some khans of the Ottoman period.

The pattern at south of Fevzipaşa Boulevard had not changed until 1876 according to 1960, 1972, and 2001 base maps of İzmir. Agricultural lands showed in 1876 map transformed into built environment. The city developed around gulf towards the hills around and lost its lineer form.

5.2. Texture Reading

The structure of different districts formed the texture of İzmir in the 19th century. In Turkish and Jewish districts that were located on the slopes of Mt. Pagos, the texture was formed by narrow and devious streets, and dead-end streets are seen in that texture. However, gridal plan traces of ancient city can be partly followed at south of Agora in that region. Blocks of Frenk, Greek, and Armenian districts located on the flat land at south were formed by straight streets. Especially, the streets of Frank district formed quadrilateral blocks.

When comparing the block forms in 1876 and in 2001, it is determined that urban pattern is not changed much within the historical city from Ottoman urban pattern, except fire area. Fevzipaşa Boulevard divides the previous pattern and radial roads form pattern at the north of that road.

The city had grown to the south and the regions as vacant areas and ancient remains in 1876 map had filled with squatter settlements. Stadium, Theater and Zeus Temple was covered with residential areas. The traces of these structures can still be seen in the gardens of the houses.

The structure of the town that was formed between the Acropol and the inner port, and the functional division reached to our day in general terms. Commercial functions located around the port and the general structure of the settlements surrounding the area have not changed despite the expansions in the boundaries.

Connections with surrounding cities and city entries remained same. The road which enters İzmir at the line of Kemer (Meles Stream), Basmane and Anafartalar Street and reaches the harbour, has formed the main transport axis of the town since the ancient periods.

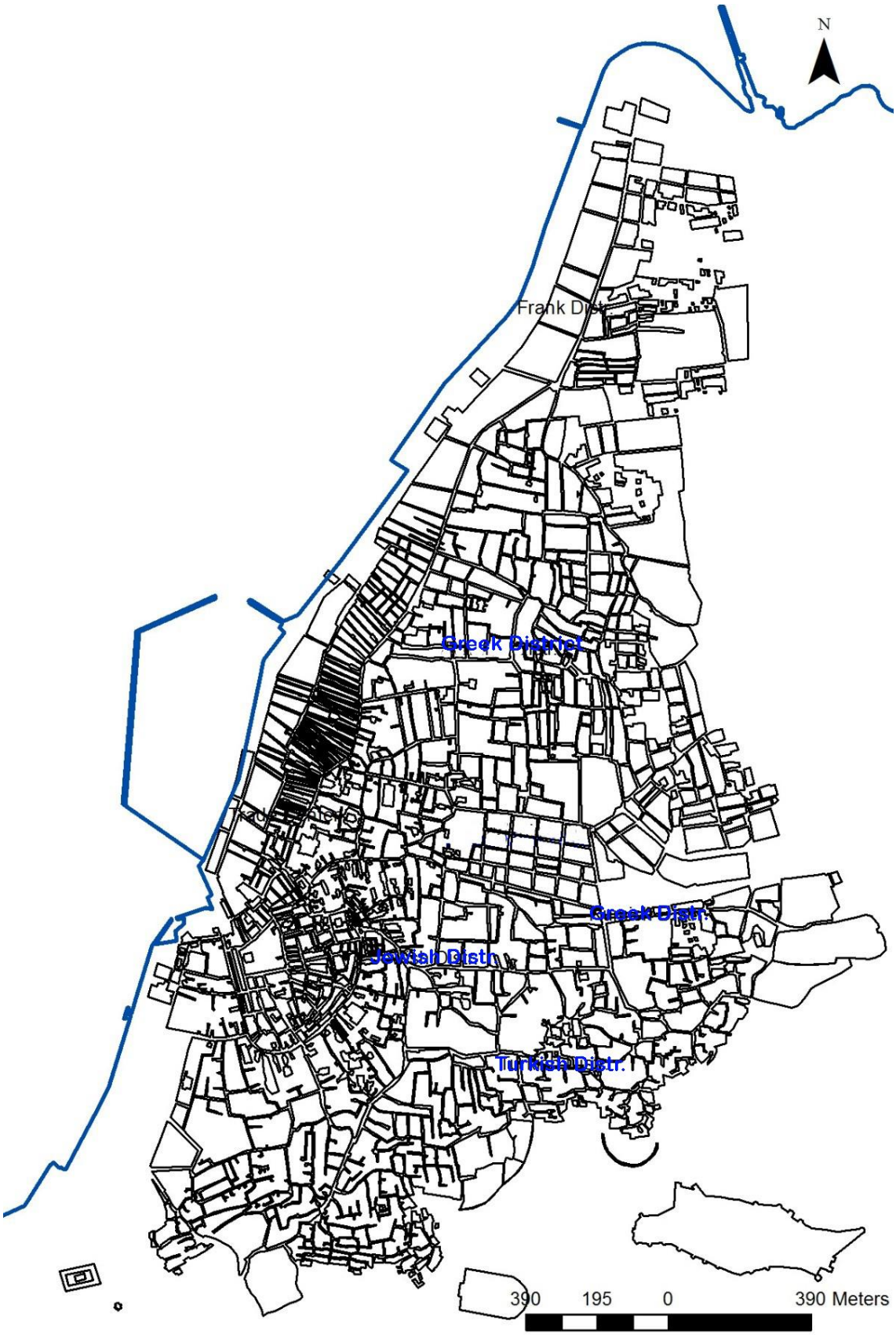


Figure 5.5. Reading 1876 map of Lamec Saad

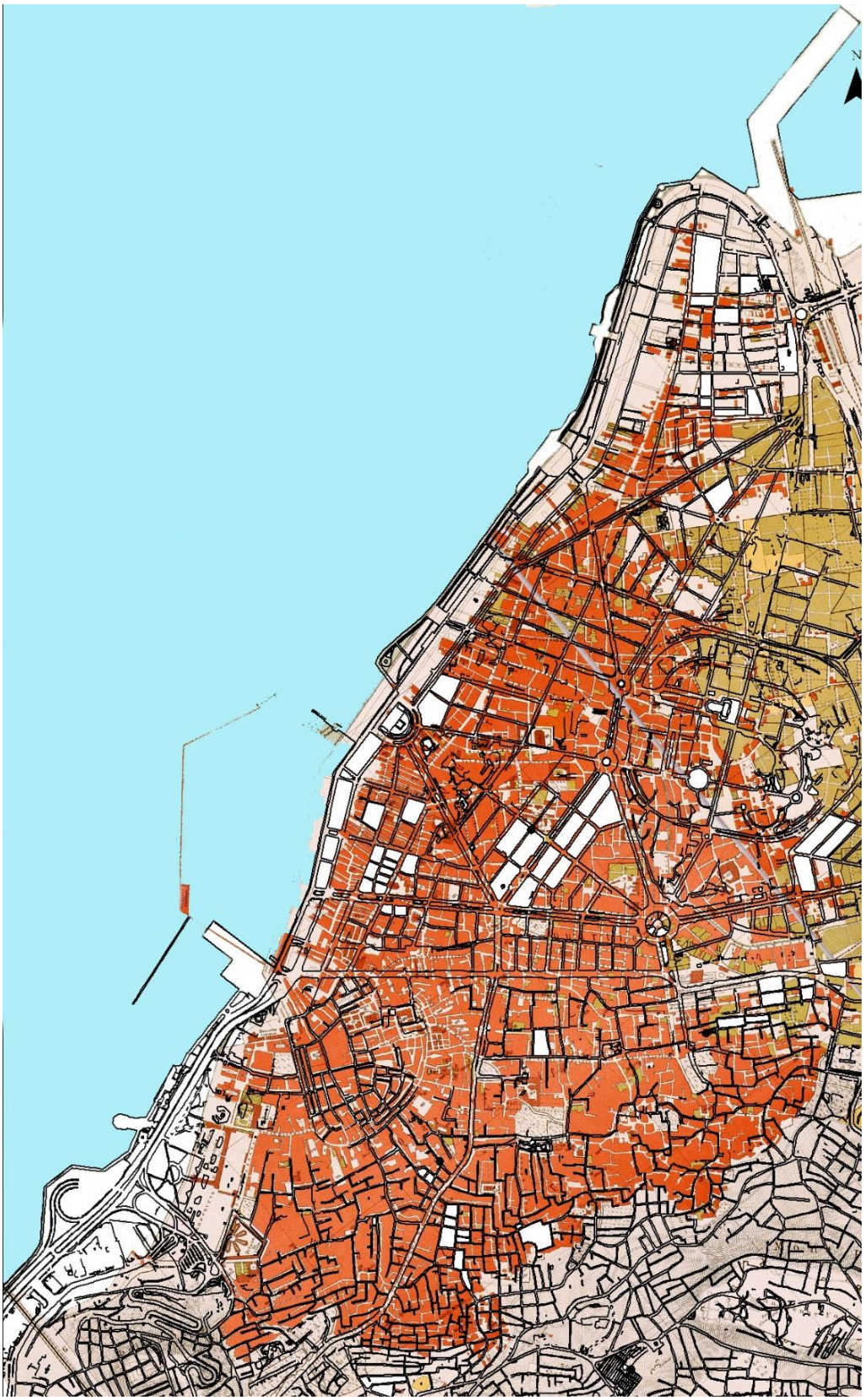


Figure 5.6. Texture changes between 1876 and 2001 (overlapping of Lamec Saad Map with the 2001 base map)

5.3. An Attempt of the Methodology on Historical City Center of İzmir

The approach and reading method of Caniggia and Petruccioli, the representators of Italian Morphology School, provided knowledge to analyse Izmir case. The concepts of Italian Morphologists as; **Urban Tissue, Block, Node, Pole**, **Matrix Route**, **Building Route, Connecting route, Reconfigurator route** were used for the study.

Matrix of the Study

The Matrix of Petruccuoli to analyse historical cities adapted partly taking elements of urban space such as building, plot, block and tissue into consideration. Detailed elements that form a building is ignored in the study. The study is attempted to form a matrix through the methodology of Italian Morphology School for the reasons of creating a tool for conservation development plan, thus the part of the Petruccioli Matrix including region were also ignored.

COMPLEXITY LEVEL		SCALE HIERARCHY			
		BUILDING	**PLOT**	**BLOCK**	**TISSUE**
	ELEMENTS	BUILDING TYPE	PLOT TYPE	BLOCK TYPE	TISSUE TYPE
	STRUCTURE OF ELEMENTS	REGISTERED BUILDINGS	BUILDING/PLOT PATTERN	PLOT/ BLOCK PATTERN	BLOCK/ TISSUE PATTERN
	SYSTEM OF STRUCTURES	STREET/ BUILDING PATTERN	STREET/ PLOT PATTERN	STREET/ BLOCK PATTERN	STREET/ TISSUE PATTERN
	ORGANISM	TEXTURE OF BUILDINGS	TEXTURE OF PLOTS	TEXTURE OF BLOCKS	TEXTURE OF TISSUES

Figure 5.7. Matrix of the study

First urban fabric separated to its typical parts (*The individuation of the urban morphology*) to make it readable. Building types, plot types, block types were dealt with to reach tissue type.

Then the fabric is analyzed by nodes, poles, routes. It is possible in multi-layered historical cities, since the existence of continuity, *the passage from a phase to another came about gradually*. The city has a continuous process of transformation. This method allows to compensate for the lack of data about different phases and integrate the existing discontinuous data. The interpretation of the structure of the urban fabric of İzmir that is presented in this work enriched with the data provided by reference to the literature reviews, and cartographic data.

The large urban open spaces of the ancient world (temples, agora, theatres) were re-occupied by housing in latter periods. Layout of streets and densification of courtyard houses and the formation *cul-de-sac* as the narrowest elements of the street systems were examined. From ancient era to Ottoman period and today, the process of changing routes effects the formation process of the city. The reading instruments can be different according to the character of the city to be analyzed.

Spatio-temporal and cultural differences role the formation of the urban fabric. First diachronic period is Roman Foundation to search Roman structure in the current urban fabric. The relationship between route structures within the walled town is searched. (Ephesus gate, Magnesia gate, deformation made by Ottoman process raising churches, mosques, synagogues, filling in the housing areas, route structure, courtyard houses, little squares as nodes…)

The principles employed in the analysis of multi-layered city centre of İzmir are**;**

- continuity of routes and textures,
- hierarchy within the whole organism
- repetition of the elements of the whole organism

The study was carried out by;

- Literature review of a case area (a multi-layered historical city)
- Overlapping old maps with the current base map and revealing the continuity of routes
- Revealing open spaces and specialized buildings as nodes of the organism
- Creating typologies of elements of textures and routes

- Reading of typo-morphological relations of urban texture as organism formed by elements and structures

As the operalisation of the analysis;

- At first, literature review and overlapping old maps inform about the area.
    - Continuity of roads, nodes as specialized buildings and open spaces were searched.
    - This analysis also enabled to search for discontinuied traces of urban fabric
- Route types were analysed according to the existence of nodes and overlapped old maps.
    - Continuing routes from ancient period were determined as matrix routes, and matrix routes also defined from the existence of nodes.
    - Reconfigurator routes were determined as that overlaps a previous building tissue or producing a new tissue.
    - Connecting routes were defined as connecting to matrix and reconfigurator routes.
    - Building routes connect to connecting routes.
- Urban fabric is separated to its recognizable parts through scale hierarchy of elements (types of buildings, plots, blocks and then tissue).
- Registered buildings, building/plot, plot/block, and block/tissue relations were dealth with their geometric forms as structures of the urban fabric.
- As a system of structures street relations contributed to form a pattern of urban fabric.
- Such analyses led to the urban textures as organisms of urban fabric. Urban texture formed by elements, structures and systems was analysed through the streets, nodes, and traces of former layers.

5.3.1. Elements

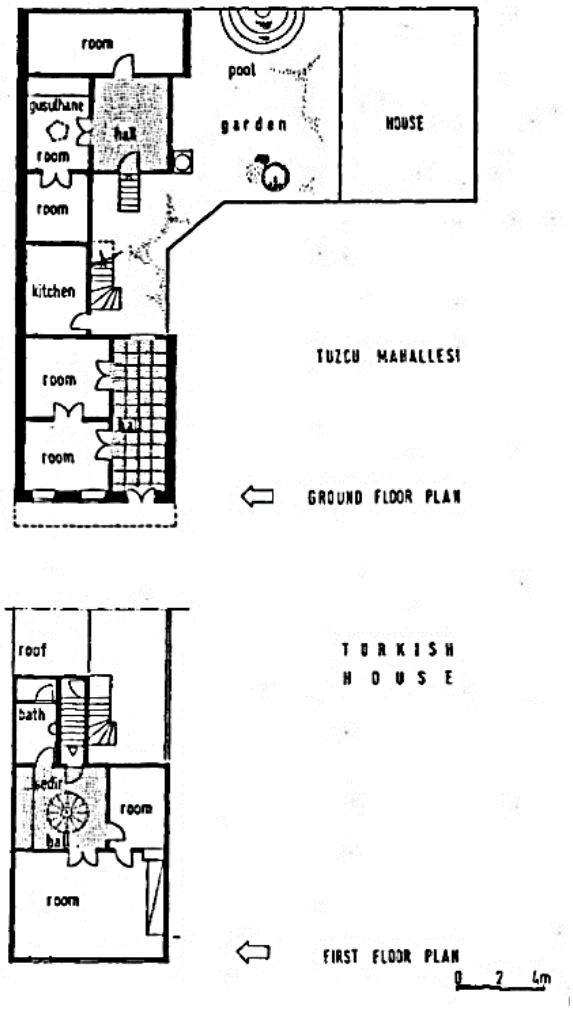
Elements are the modules at the start of the matrix. These modules were formed historically and hierarchically such as plots, blocks, and tissues. In this study, typological analysis is made at first revealing the building type, plot type, block type and tissue type.

5.3.1.1. Building Type

Traditional houses, commercial buildings, and specialized buildings such as khans or religious buildings generally form the texture of the study area.

Traditional Houses

House buildings are typical within the area through their gardens; gardens are generally at the back of the buildings. Traditional Houses are generally rectangular-shaped except the buildings on the corner.



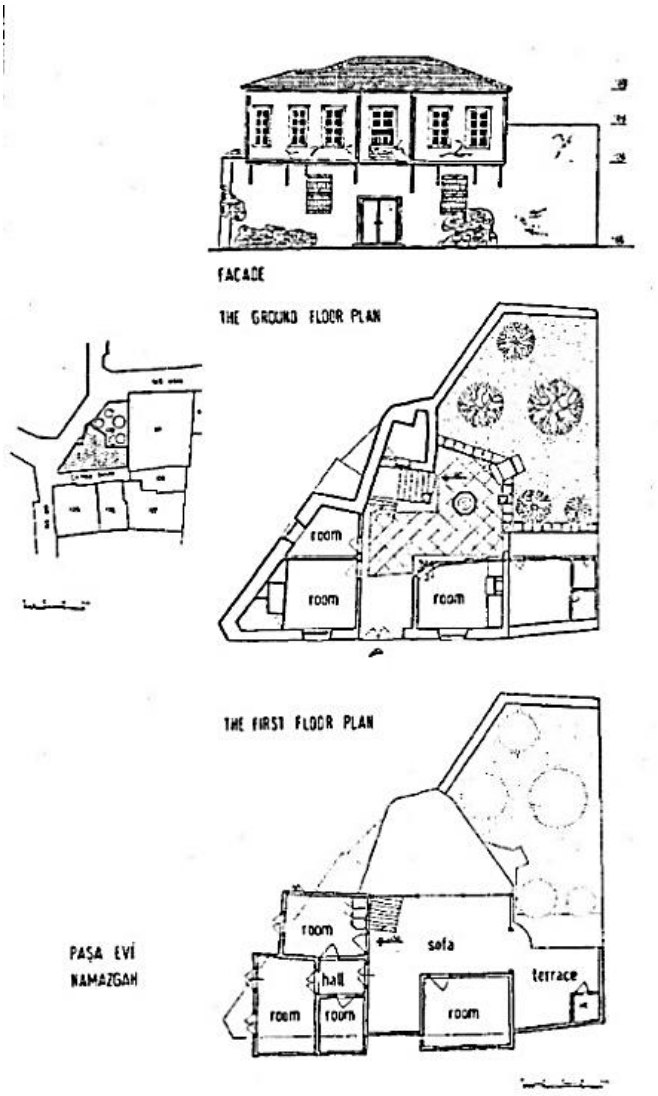


Figure 5.8. House typologies
(Source: Akyüz, 1993)

Commercial Buildings

Commercial buildings mostly located on Kemeraltı Tissue are formed by small rectangular business places.

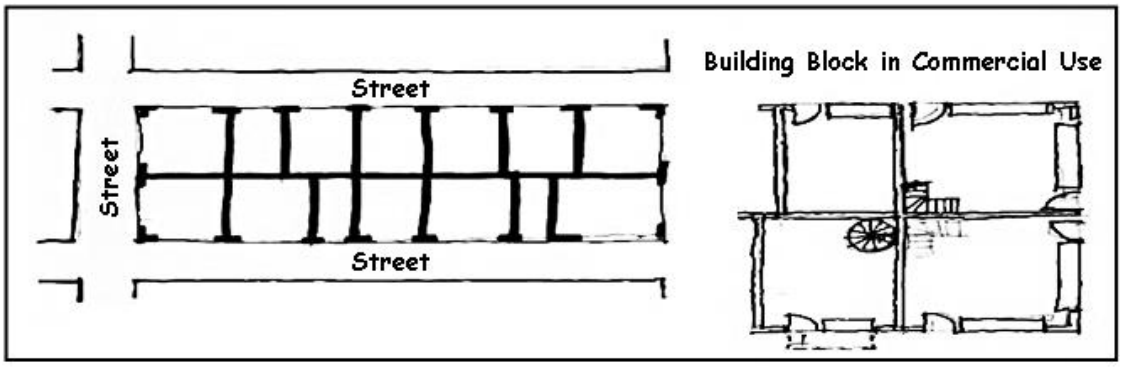


Figure 5.9. Commercial buildings
(Source: DEÜ, 2002)

Specialized Buildings

Specialized buildings are khans, synagogues, churches and mosques that indicate culture of its period. These are generally located around a courtyard or a passage.

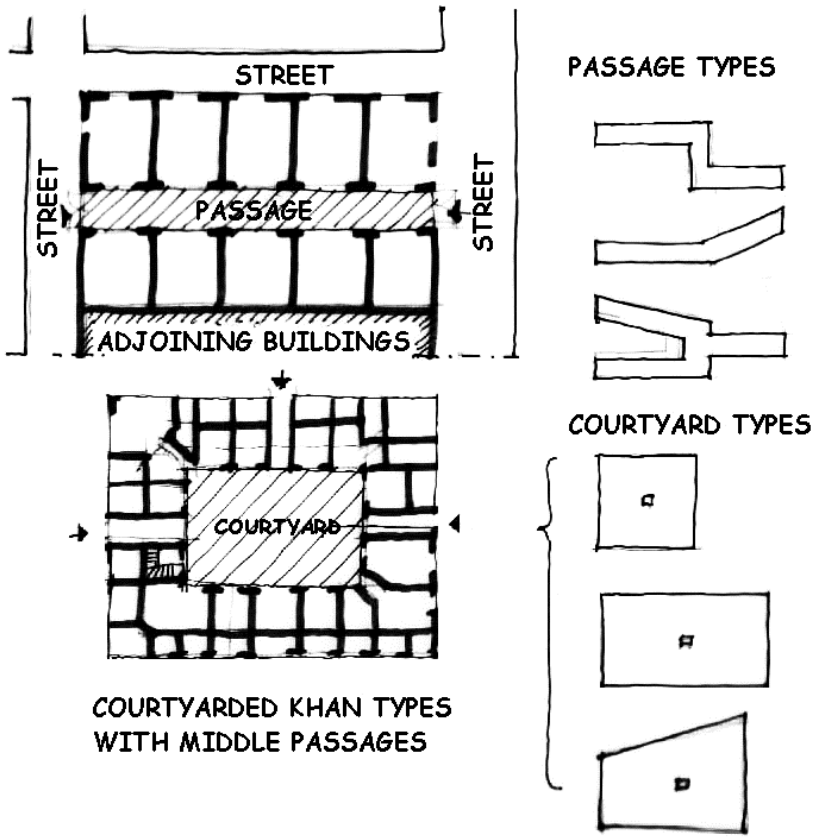


Figure 5.10. Khan buildings
(Source: DEÜ, 2002)

5.3.1.2. Plot Type

Plots are analysed through their geometric features, such as size, shape and gardens, and from building types that create plot type.

In Kemeraltı, generally there are plots without garden and ownership pattern indicates small scale commercial facilities. Figure below presents a khan and a mosque as specialized buildings.

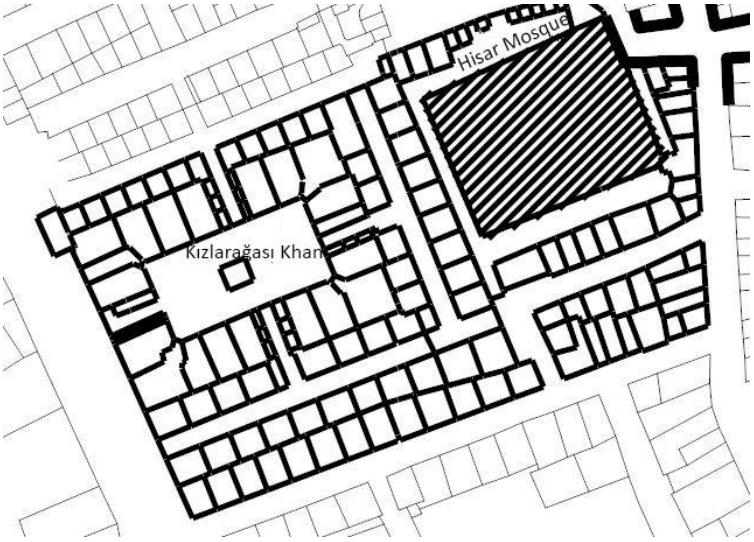


Figure 5.11. Plot types within Kemeraltı Tissue

Plot sizes and shapes have a variety at the east of Kemeraltı Tissue. There are larger plots formed through routes and besides there are small and rectangular plots as within Kemeraltı Tissue.

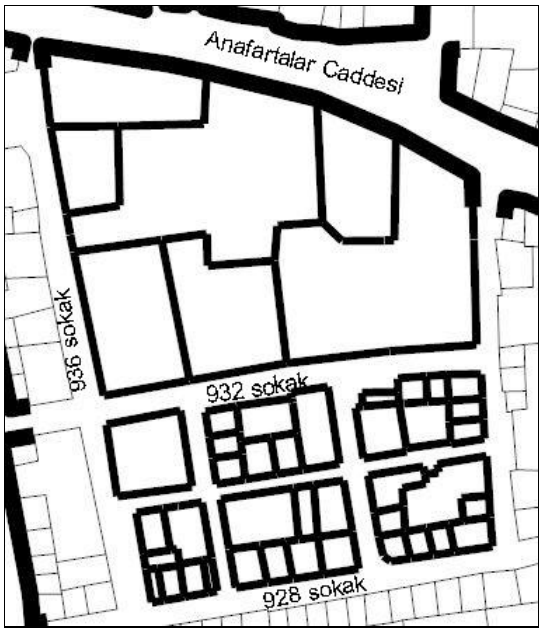


Figure 5.12. Plot types at the east of Kemeraltı Tissue

At the west of Kemeraltı Tissue plot sizes are larger due to the existence of higher public buildings. These plots are formed through development plans.

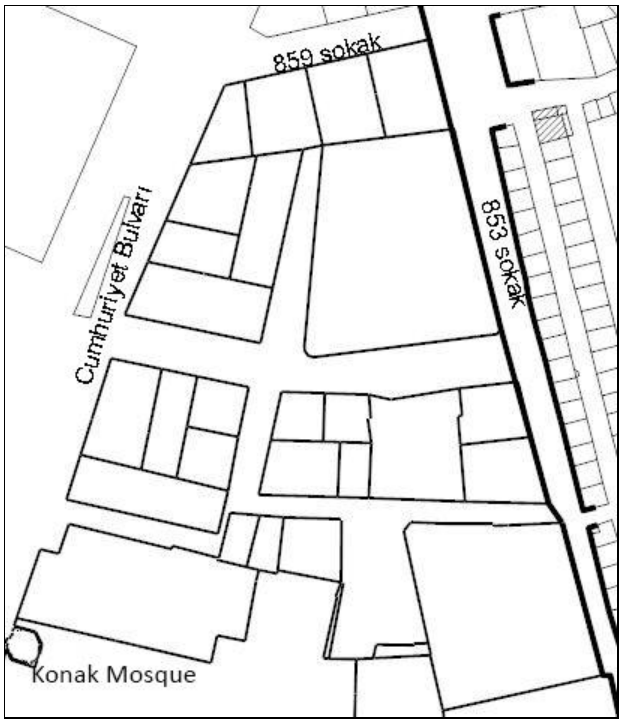


Figure 5.13. Plot types at the west of Kemeraltı Tissue

Plots are close to rectangular within Agora Tissue, which is referred to ancient grid city form in the literature. Such gridal texture is adapted to the topography.

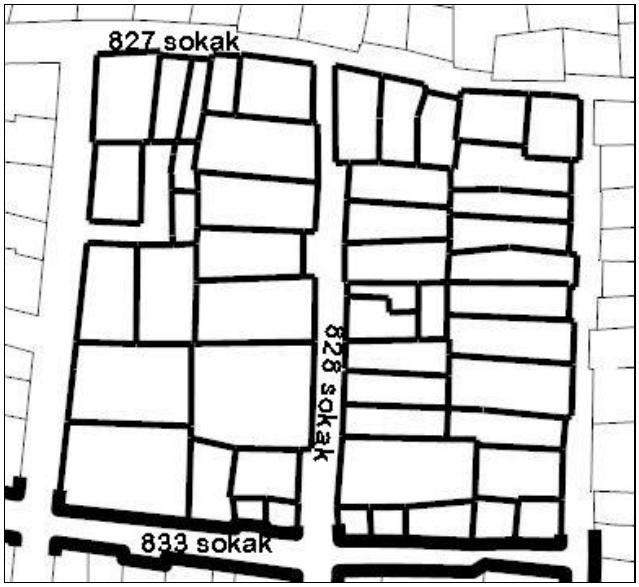


Figure 5.14. Plot types within Agora Tissue

Plot forms are mixed and indicate to organic urban texture within Pazaryeri Tissue.

Figure 5.15. Plot types within Pazaryeri Tissue

Within Kadifekale Tissue, huge plots covered with squatter settlements are located.

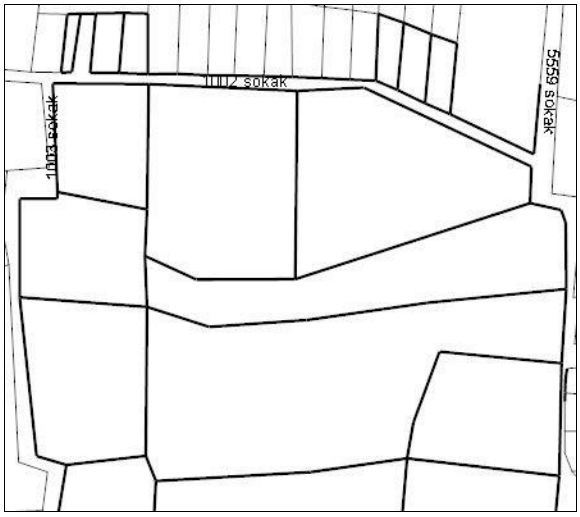


Figure 5.16. Plot types within Kadifekale Tissue

5.3.1.3. Block Type

Block type has formed through interaction of buildings and their plots with the geography such as topography and coastline.

Blocks are varied within the historical city center of İzmir according to the geographic conditions. For example, the existence of an inner port within Kemeraltı formed blocks locating around this inner port.

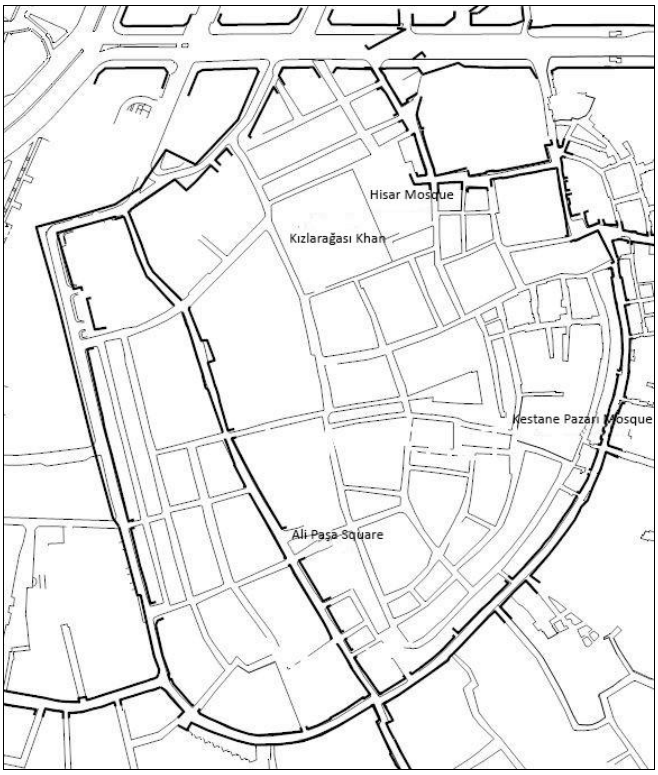


Figure 5.17. Block types within Kemeraltı Tissue

Within Agora Tissue there are blocks close to rectangular shape due to the existence of rectangular plots.

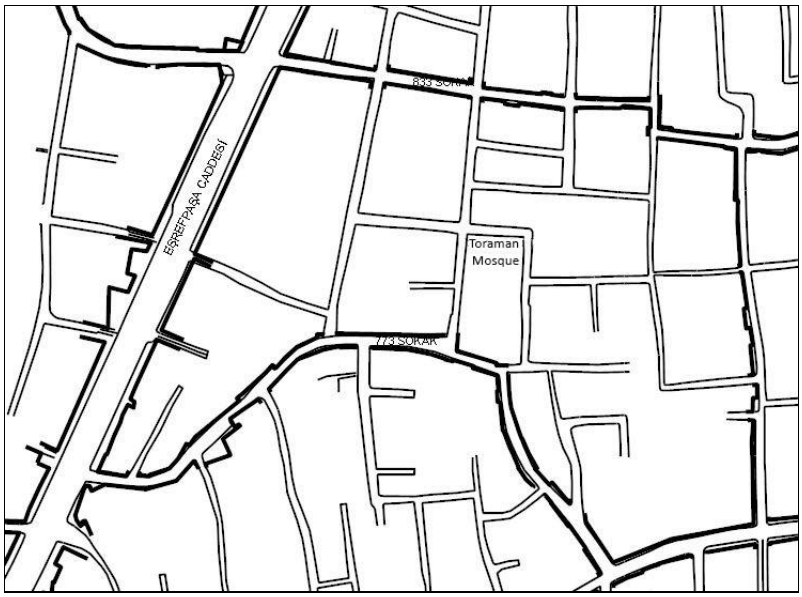


Figure 5.18. Block types within Agora Tissue

Within Pazaryeri Tissue, there are irregular-shaped block forms due to the existence of irregular plot forms and sloppy geography. Dead-end streets are located within the blocks of Pazaryeri Tissue.

Figure 5.19. Block types within Pazaryeri Tissue

Near Kadifekale, long and thin block forms occur due to the location of the Castle and sloppy geography.

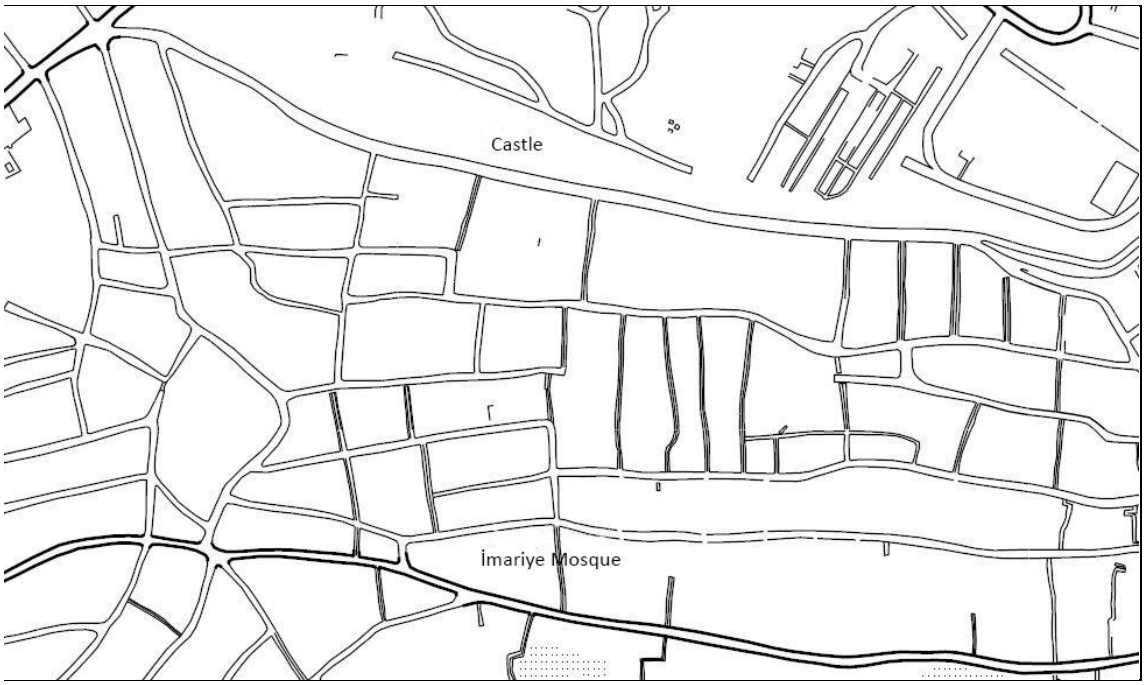


Figure 5.20. Block types within Pazaryeri Tissue

5.3.1.4. Tissue Type

Tissue types formed from the relationships of buildings forming the plots and then the blocks.

Kemeraltı Tissue is the Trade center of İzmir. It is formed between the sea and ancient road and consists of ancient port. Kemeraltı Tissue is divided into three parts one including ancient port area, the other part at the west as area of public buildings, and the last part between port and ancient road including khan buildings.

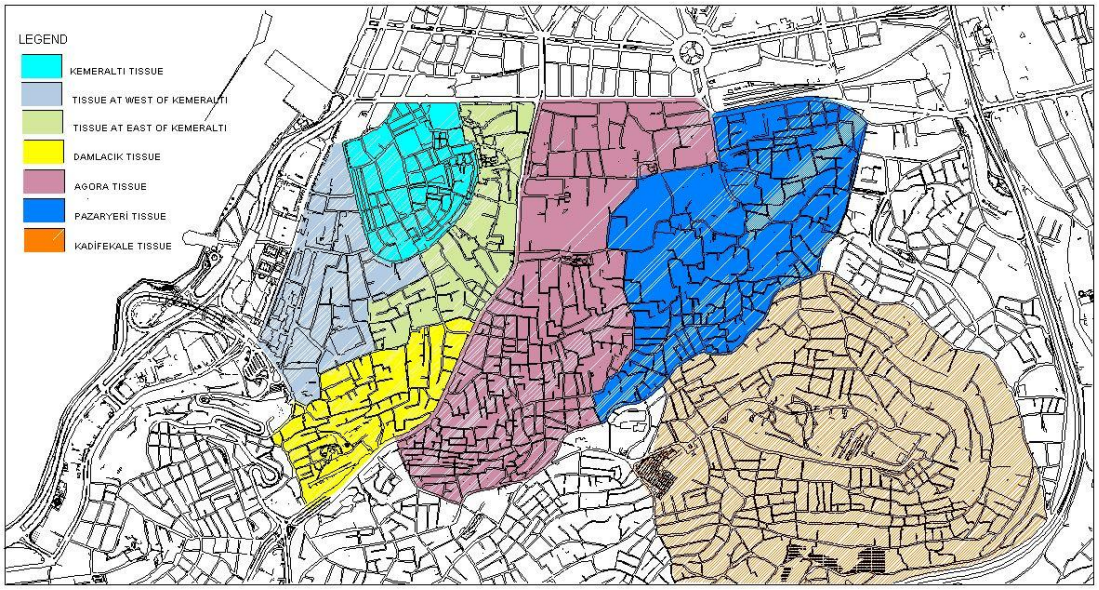


Figure 5.21. Tissue types (see larger at appendix)

Tissues formed according to the formation of matrix routes; matrix routes those laid down before any urban tissue. Another point of determining tissues is the form of inner routes and form of blocks.

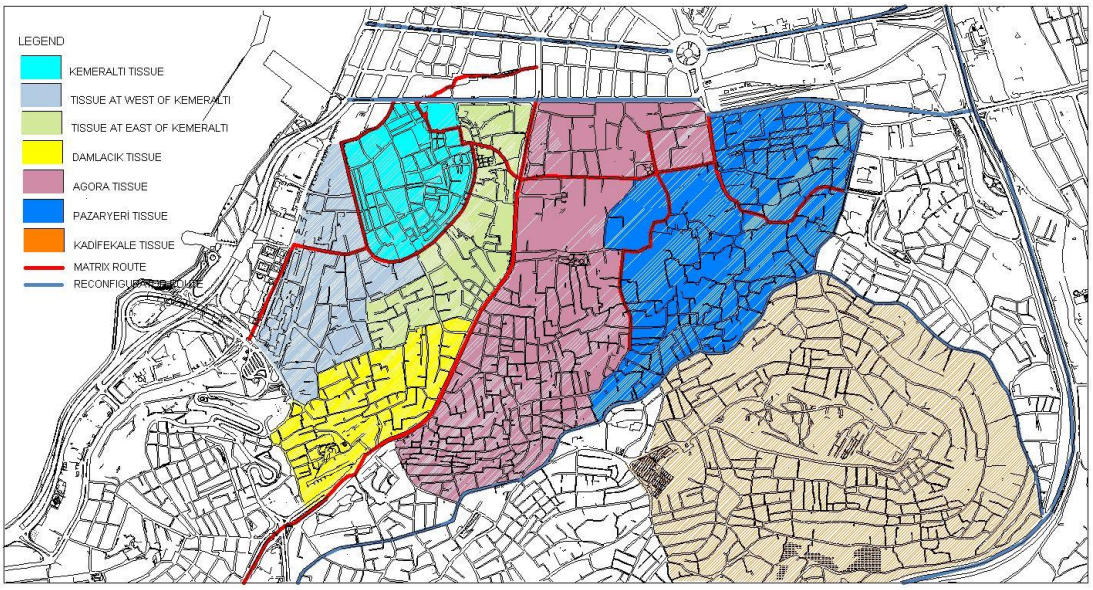


Figure 5.22. Tissue types and route types (see larger at appendix)

Housing areas next to commercial center form Damlacık Tissue. Agora Tissue includes vast area of Agora and housing areas perpendicular to each other. Pazaryeri Tissue formed by irregular block forms and dead-end streets. Kadifekale Tissue formed by the existence of the Castle and long and thin block forms located on sloppy area of Kadifekale.

5.3.2. Structure of Elements

5.3.2.1. Registered Buildings

Registered buildings accumulate at north of the multi-layered historical city, around Kemeraltı. Registered buildings are generally old Mosques and housing buildings referring to Ottoman period of İzmir. This situation indicates that Ottoman city was located around Kemeraltı.

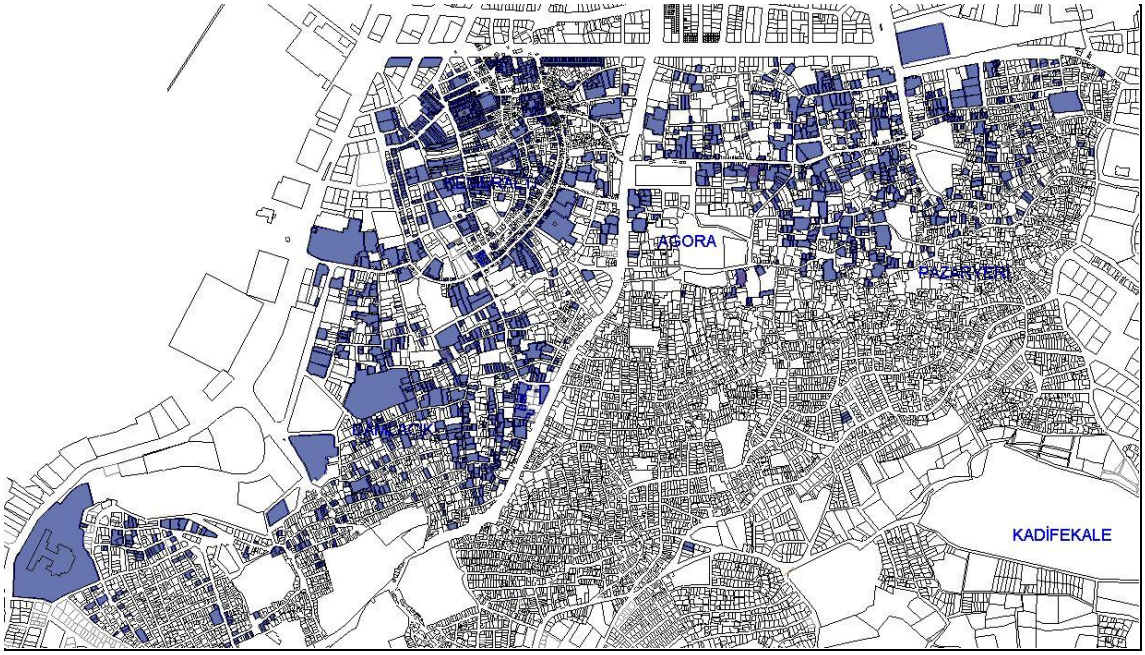


Figure 5.23. Registered Buildings (see larger at appendix)

5.3.2.2. Building/Plot Pattern

Plots are without garden within Kemeraltı Tissue, and small commercial buildings next to each other are covering the plots. Old Mosque buildings spread in a rule around arc-shaped ancient port. Large khan buildings with their courtyards and also small squares are observable within the pattern.

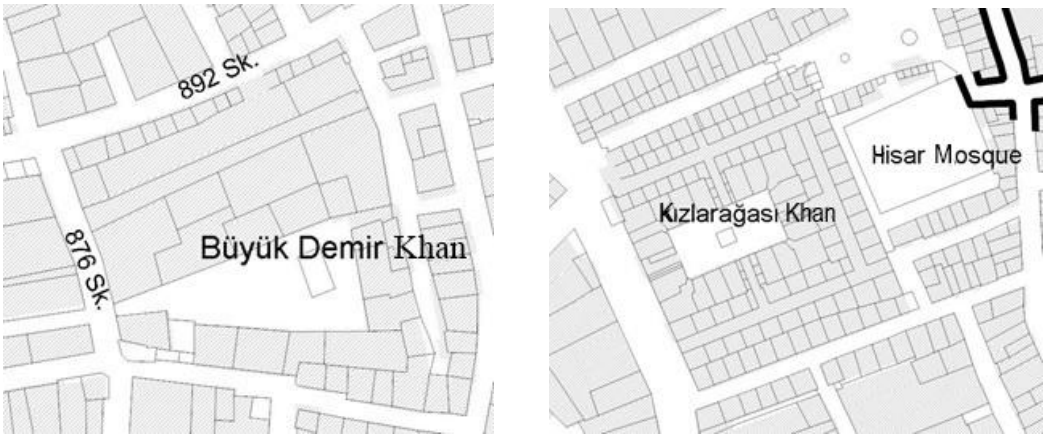


Figure 5.24. Building/plot relations within Kemeraltı Tissue

Plots sizes and building sizes indicate a variety around Kemeraltı Tissue. Plot shapes formed through routes forming building shapes. Courtyarded khan buildings are observed within the Tissue around Kemeraltı at the east.

Figure 5.25. Building/plot relations at east of Kemeraltı Tissue

The west of Kemeraltı Tissue is formed by large plots and large buildings on them. Buildings are next to street and generally have back gardens.

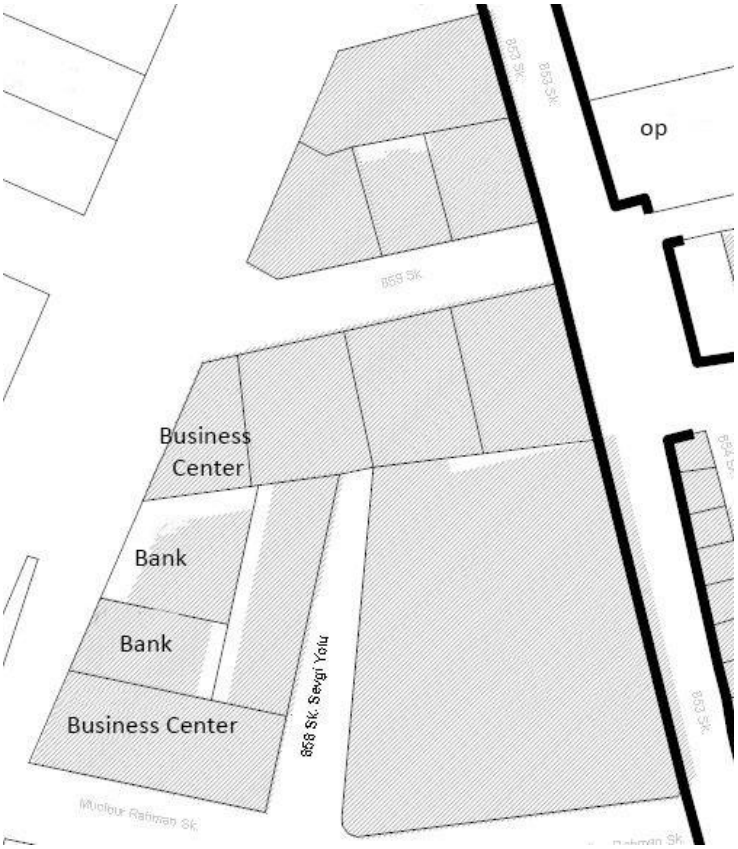


Figure 5.26. Building/plot relations at west of Kemeraltı Tissue

Rectangular shaped buildings and plots are observed within Damlacık Tissue. Buildings are next to streets and generally plots have back gardens. Perpendicular and dead-end streets can be seen.

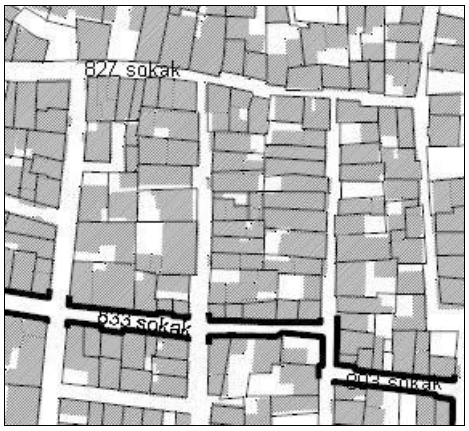


Figure 5.27. Building/plot relations within Agora Tissue

Within Agora Tissue, buildings are next to streets and small gardens can be observed. Streets are perpendicular referring to grid of ancient Agora.

Figure 5.28. Building/plot relations within Pazaryeri Tissue

Irregular shaped buildings and plots are observed at the block corners within Pazaryeri Tissue. Plots have generally large back gardens; sometimes back and front

gardens locate together. Two buildings within a plot and dead-end streets can be seen. Buildings next to small squares are observed.

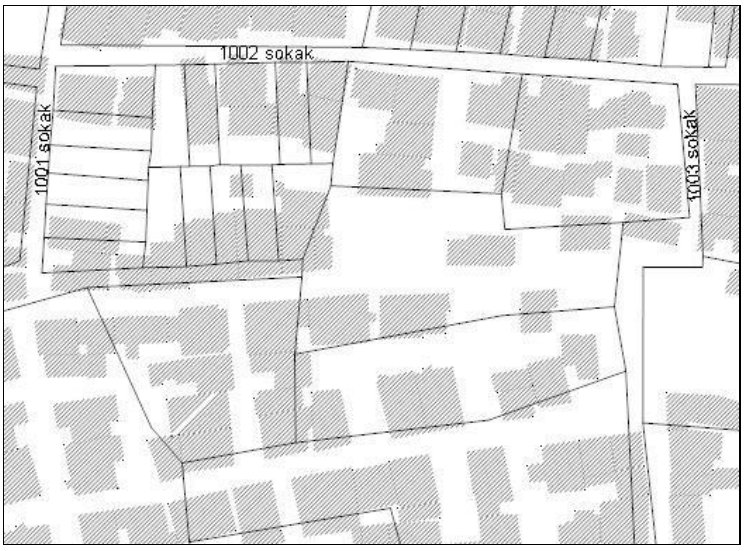


Figure 5.29. Building/plot relations within Kadifekale Tissue

Within Kadifekale Tissue, multiple buildings on large plots are observed and Squatter settlements covered the plots.

5.3.2.3. Plot/Block Pattern

Small square-shaped plots and their passages form square-shaped khan blocks within Kemeraltı Tissue. Surrounding the square-shaped khan blocks, larger and rectangular shaped plots forming blocks with dead-end streets are observed.

Generally rectangular-shaped plots form rectangular-like blocks within Damlacık Tissue. Streets are perpendicular, besides dead-end streets are observable.

Within Agora Tissue, rectangular-shaped plots are forming relatively more regular rectangularlike blocks. Plot sizes indicate variety.

Variety of plots from size to shape exposes organic form of Pazaryeri Tissue. Irregular-shaped plots and dead-end streets form irregular-shaped blocks in this area. Small squares as nodes appear between blocks.

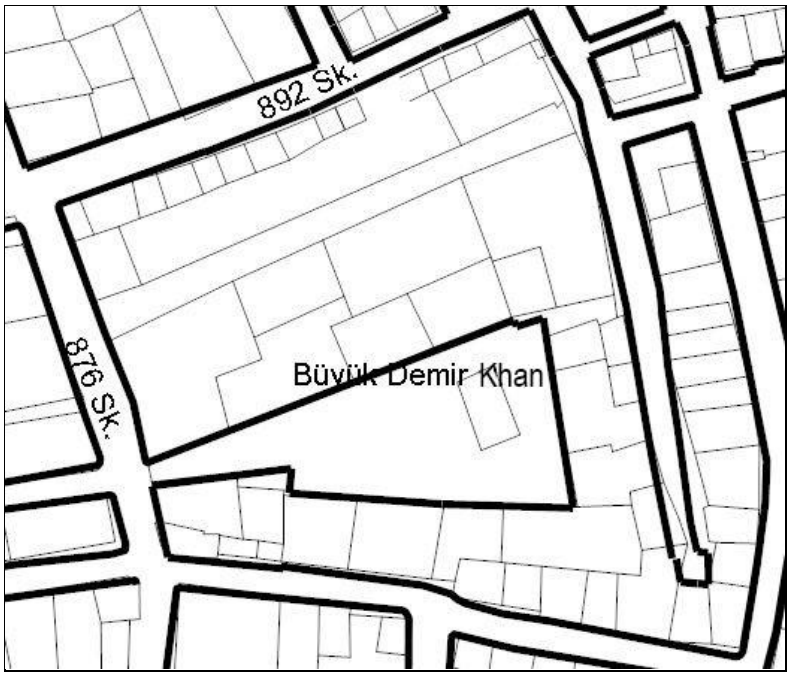


Figure 5.30. Plot/Block relations in Kemeraltı

Within Kadifekale Tissue most probably development plan and its applications directed the formation of plots and blocks. Long and topography-compatible building blocks include relatively large and regular plots.

5.3.2.4. Block/Tissue Pattern

Around Kemeraltı, an arc-shaped street referring ancient port and large khan blocks form the Tissue. Block sizes and shapes have a variety within filling area of ancient port. Blocks formed by dead-end streets are observed between the arc of ancient port and street parallel to this arc.

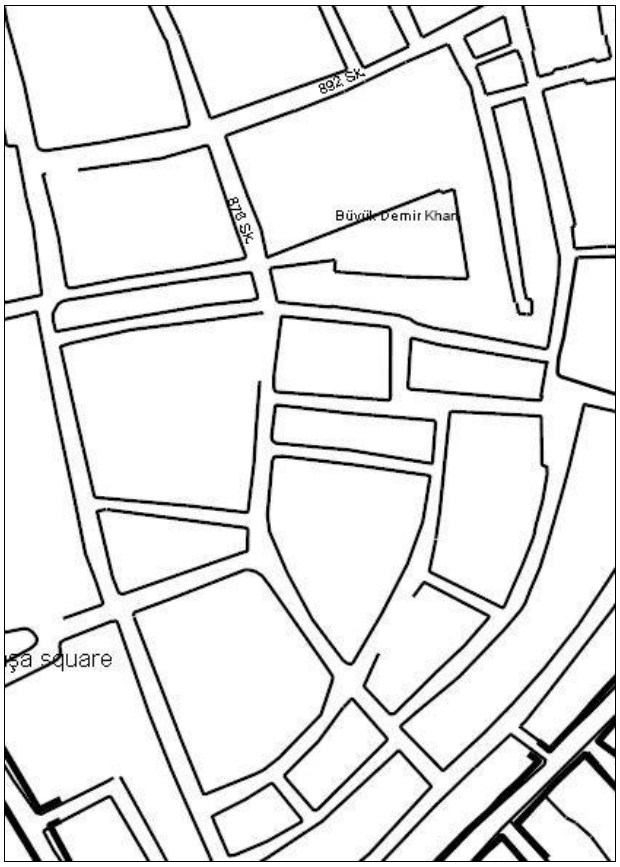


Figure 5.31. Block/Tissue Relations in Kemeraltı

Blocks and streets are formed in harmony to the street parallel to the arc of ancient port. Perpendicular and dead-end streets form rectangular-like blocks. These housing blocks form the Tissue located between Varyant, Kemeraltı and Eşrefpaşa Street.

Within Texture of Agora perpendicular streets, rectangular-like block forms, housing areas surrounding mosques define the texture. Agora and north of Agora indicate larger blocks. Blocks around Agora refer to ancient grid plan of the city. At the south of the Tissue topography adapted streets form the shape of blocks. Dead-end streets are observed within the whole Agora Tissue.

Irregular block forms define Tissue of Pazaryeri. Almost whole blocks open to a small square and blocks are formed by dead-end streets. Blocks close to Basmane Train Station are rectangular shaped within the Tissue.

Within Texture of Kadifekale, building blocks are compatible with topography and there are perpendicular long blocks surrounding Kadifekale Castle.

5.3.3. System of Structures

5.3.3.1.Building/Street Pattern

Buildings located next to streets form the texture of ancient Stadium and ancient Theater.

Figure 5.32. Building/Street Relations

Open spaces and little squares form the texture around the monumental, registered buildings like mosques as Şadırvanaltı below. Streets formed parallel to Kadifekale Castle of nodal point.

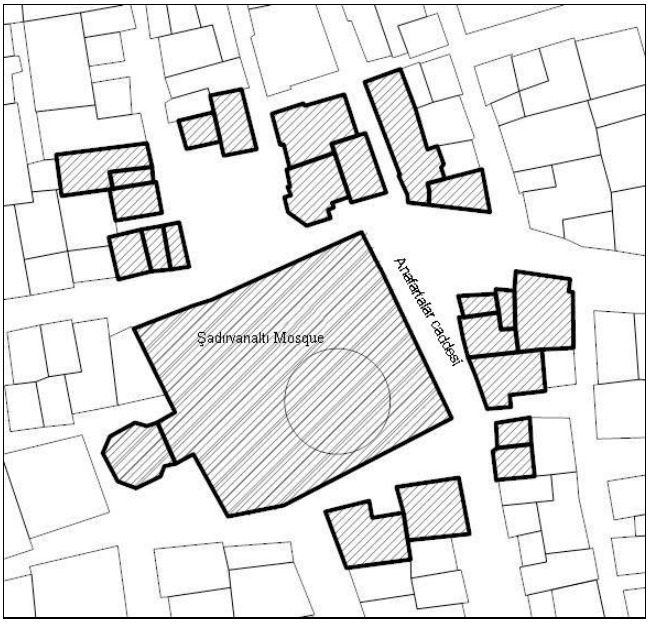


Figure 5.33. Building/Street Relations next to a monumental building

5.3.3.2.Plot/Street Pattern

Small square-shaped plots and their passages form square-shaped khan blocks within Kemeraltı Tissue. Surrounding the square-shaped khan blocks, larger and rectangular shaped plots forming blocks with dead-end streets are observed.

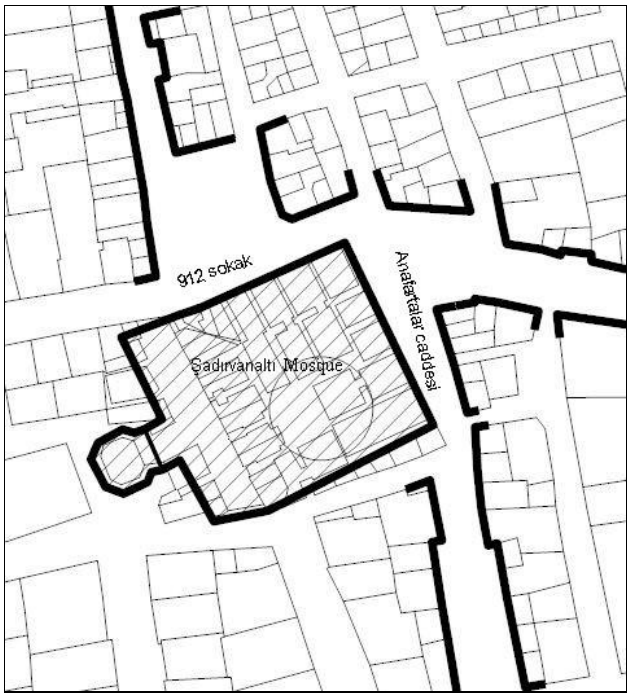


Figure 5.34. Plot/street relations within Kemeraltı Tissue

Generally rectangular-shaped plots form rectangular-like blocks within Damlacık Tissue. Streets are perpendicular, besides dead-end streets are observable.

Within Agora Tissue, rectangular-shaped plots are forming relatively more regular rectangularlike blocks. Plot sizes indicate variety.

Variety of plots from size to shape exposes organic form of Pazaryeri Tissue. Irregular-shaped plots and dead-end streets form irregular-shaped blocks in this area. Small squares as nodes appear between blocks.

Within Kadifekale Tissue most probably development plan and its applications directed the formation of plots and blocks. Long and topography-compatible building blocks include relatively large and regular plots.

5.3.3.3.Block/Street Pattern

Around Kemeraltı, an arc-shaped street referring ancient port and large khan blocks form the Tissue. Block sizes and shapes have a variety within filling area of ancient port.

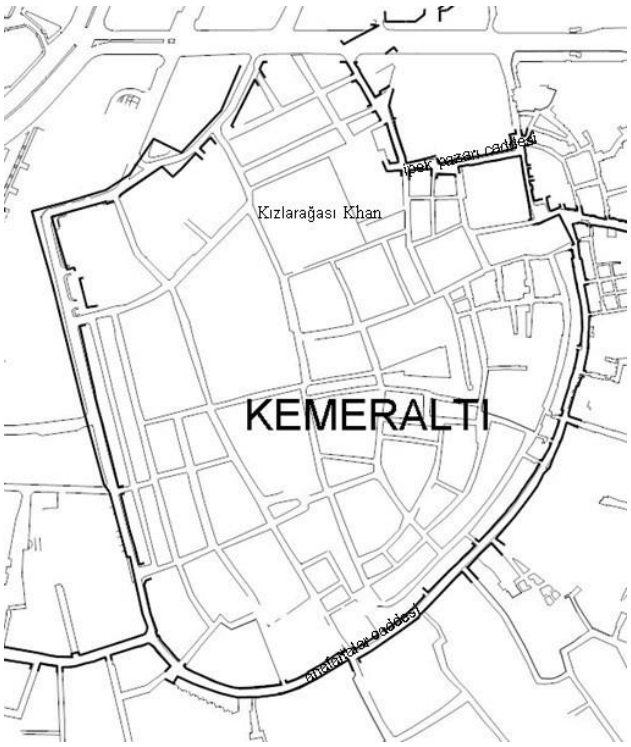


Figure 5.35. Block/Street Relations around Kemeraltı arc.

Blocks formed by dead-end streets are observed between the arc of ancient port and street parallel to this arc.

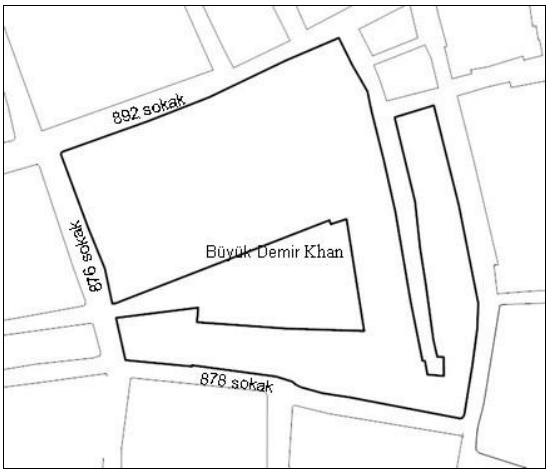


Figure 5.36. Block/Street Relations forming courtyard within Kemeraltı Tissue.

Blocks and streets are formed in harmony to the street parallel to the arc of ancient port. Perpendicular and dead-end streets form rectangular-like blocks. These housing blocks form the Tissue located between Varyant, Kemeraltı and Eşrefpaşa Street.

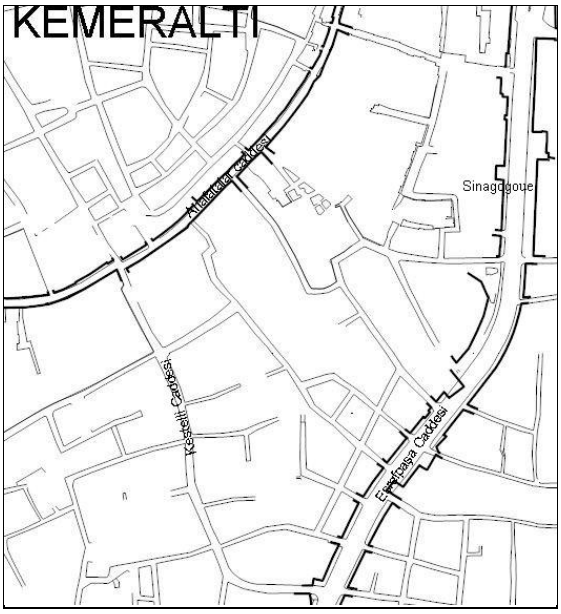


Figure 5.37. Block/Street Relations around Kemeraltı arc.

Within Texture of Agora perpendicular streets, rectangular-like block forms, housing areas surrounding mosques define the texture. Agora and north of Agora indicate larger blocks. Blocks around Agora refer to ancient grid plan of the city. At the south of

the Tissue topography adapted streets form the shape of blocks. Dead-end streets are observed within the whole Agora Tissue.

Irregular block forms define Tissue of Pazaryeri. Almost whole blocks open to a small square and blocks are formed by dead-end streets. Blocks close to Basmane Train Station are rectangular-shaped within the Tissue.

Within Texture of Kadifekale, building blocks are compatible with topography and there are perpendicular long blocks surrounding Kadifekale Castle.

5.3.3.4.Tissue/Street Pattern

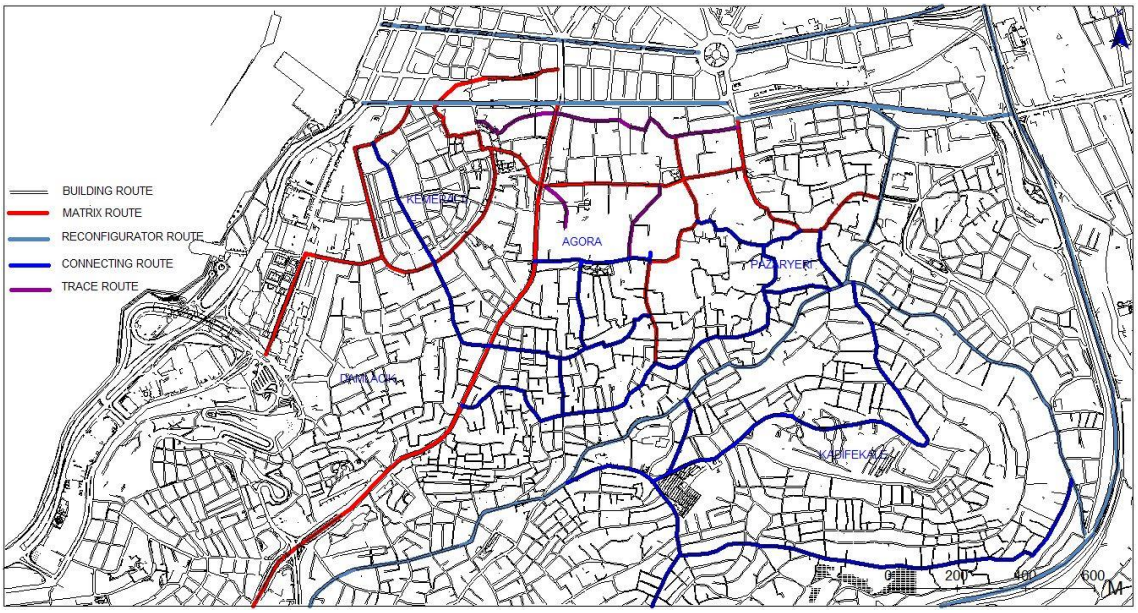


Figure 5.38. Street Pattern within the historical city center of İzmir (see larger at appendix)

Eşrefpaşa and Anafartalar roads are revealed as Matrix Routes whose initial purpose is to link two or more focal points and laid down before any urban tissue. These routes as matrix routes together with the density of specialized buildings as nodes indicate that the first tissue appeared in Kemeraltı.

In the writings about Excavations of Smyrna Ancient City prepared by Dokuz Eylül University (antiksymrna.com), the existence of grid city form within the city center is mentioned. Traces of Agora centered grid form are followed at Anafartalar Street and

İkiçeşmelik Street, Ikiçeşmelik Street is parallel to Agora at its west and perpendicular to Anafartalar Street, which route ends with Magnesia Gate of ancient city (Naumann).

Old maps also reveal former routes those have continuity as matrix routes such as Anafartalar Street, Eşrefpaşa Street, 816, 806 and 967 streets. Routes revealed through old maps are called as trace routes in the study.

Routes that connect major routes are connecting routes. There are also building routes that enables access to buildings between connecting routes.

Fevzipaşa Street was established after 1922 Fire of the city as a Reconfigurator Road. Another Reconfigurator Route is H.Ali Efendi Caddesi that was built in the 20th century and reasoned a new tissue around Kadifekale.

Kemeraltı Tissue is located between reconfigurator Route and matrix routes. The arc-shaped matrix route of Kemeraltı refers to the existence of ancient port of the city. This area is filled in as bazaar area with khans and mosques in Ottoman era. A Connecting route passes over the tissue as indicating the process of filling in. The other matrix route extends to Agora at the southeast direction. Fevzipaşa Street at north of the tissue, is a reconfigurator route established after the 1922 fire of İzmir. This route interrupted radically the continuity of the tissue.

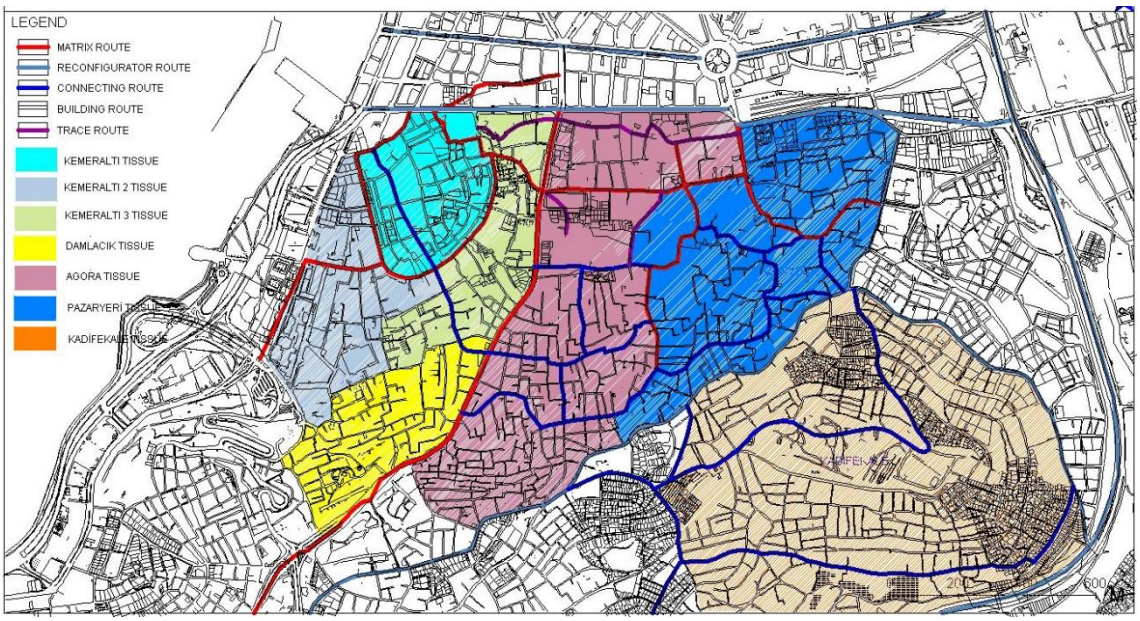


Figure 5.39. Street relations within according to Tissues within the historical city center of İzmir.

Damlacık Tissue is between two matrix routes, at the south of Kemeraltı Tissue. Agora Tissue is between Eşrefpaşa Matrix Route at the west and Pazaryeri Matrix Route at the east, at the south and north reconfigurator routes limit the Tissue. Although this Tissue indicates ancient grid structure of the city, trace routes indicate different orientations within the area; Agora Tissue and its grid structure orients to Kemeraltı and Pazaryeri Tissues, which have more organic structure next to it. At the south of Agora Tissue, grid building routes appear between topography adapted connecting routes.

Pazaryeri Tissue located between two reconfigurator routes and a matrix route, which is revealed through old maps. Building routes within the Tissue have organic structure and ends with dead end points as presenting structure of Ottoman towns. Connecting routes are adapted to sloppy geography.

Kadifekale Tissue locates between reconfigurator routes as a recently developed Tissue. The Tissue developed as a squatter settlement within larger plots that do not have a historical continuity. Thus, plots indicate a planned area; building routes are perpendicular and adapted to topography by connecting routes. However, buildings are developed spontaneously as illegal development. This tissue will be dealt with to search for its adaptability to the analysis method; how it was developed as a spontaneous settlement will be examined.

5.3.4. Organism

5.3.4.1. Texture of Buildings

Structural relationship between buildings, courtyard houses and streets form the organism as texture of buildings.

Below typical housing area of traditional houses can be observed to perceive relations between streets and gardens and courtyards of the buildings.

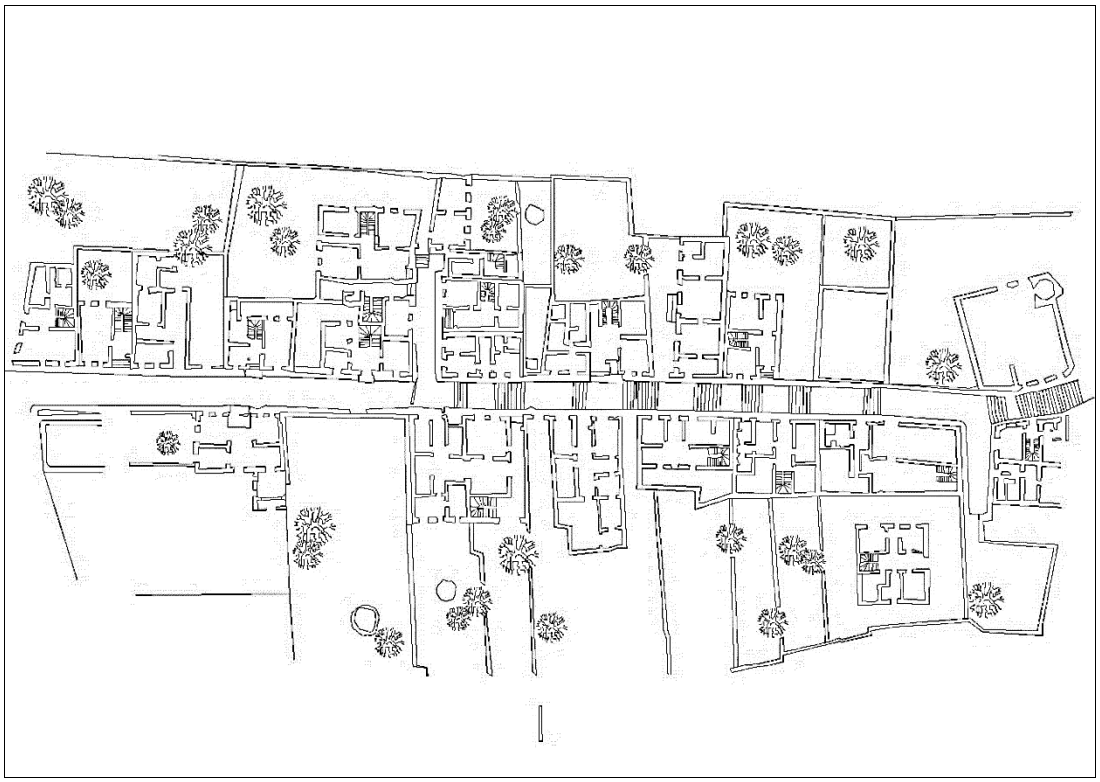


Figure 5.40. Texture of Buildings (Source: Akyüz,1993)

5.3.4.2. Texture of Plots

Plots within the historical city center of İzmir vary as front-gardened, back-gardened, plots without gardens, etc.

Plots are without garden within Kemeraltı Tissue, and small commercial buildings next to each other are covering the plots and forming khan blocks. Nodal points as small squares and religious buildings dense around matrix route-Anafartalar Street continuing towards Agora.

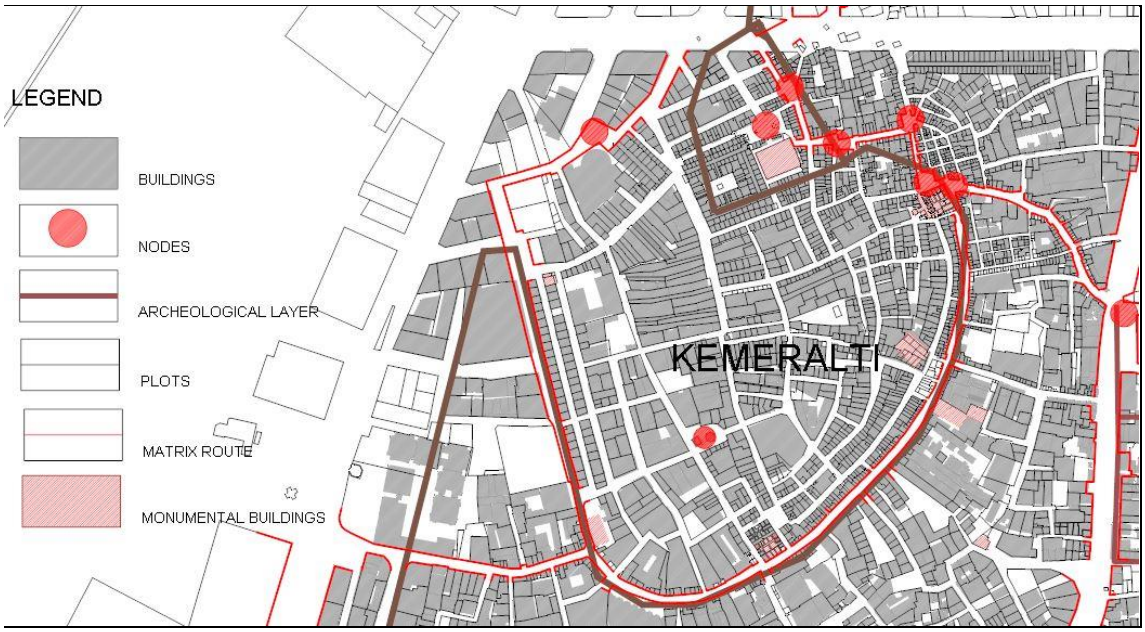


Figure 5.41. Texture of Plots within Kemeraltı Tissue

Within Damlacık Tissue, buildings are next to streets and have back gardens. Small squares and religious buildings spread within the Tissue in equal distances. Plots are bigger around Kemeraltı and small squares and open spaces are observable at the north of the Tissue.

Within Agora Tissue buildings are generally located next to the street. Oriels of the buildings to streets are visible. Plots have small gardens at the back or buildings covering the plots. Plots are generally rectangular inside perpendicular routes. Small squares are not observed within the Tissue contrary to the other tissues. There are religious buildings spread in equal distances within the Tissue. Open spaces are observed around Agora.

Irregular shaped buildings and plots are observed at the block corners within Pazaryeri Tissue. Plots have generally large back gardens; sometimes back and front gardens locate together. Two buildings within a plot and dead-end streets can be seen. Buildings next to small squares are observed.

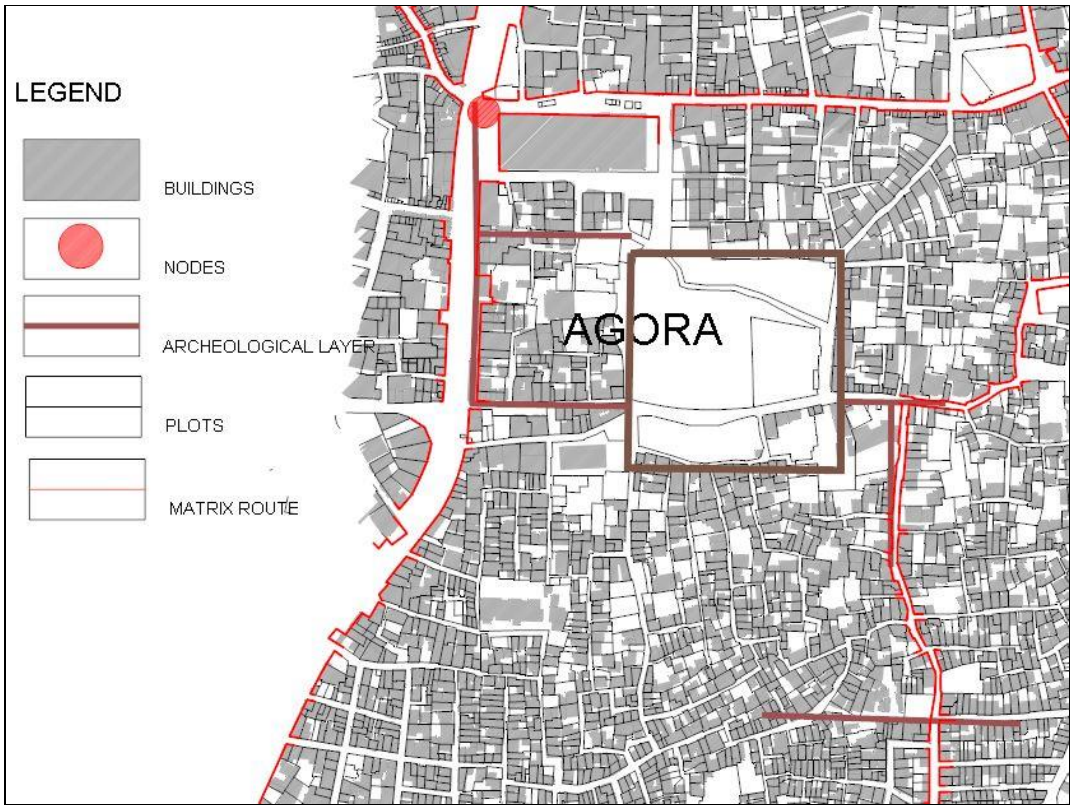


Figure 5.42. Texture of Plots within Agora Tissue

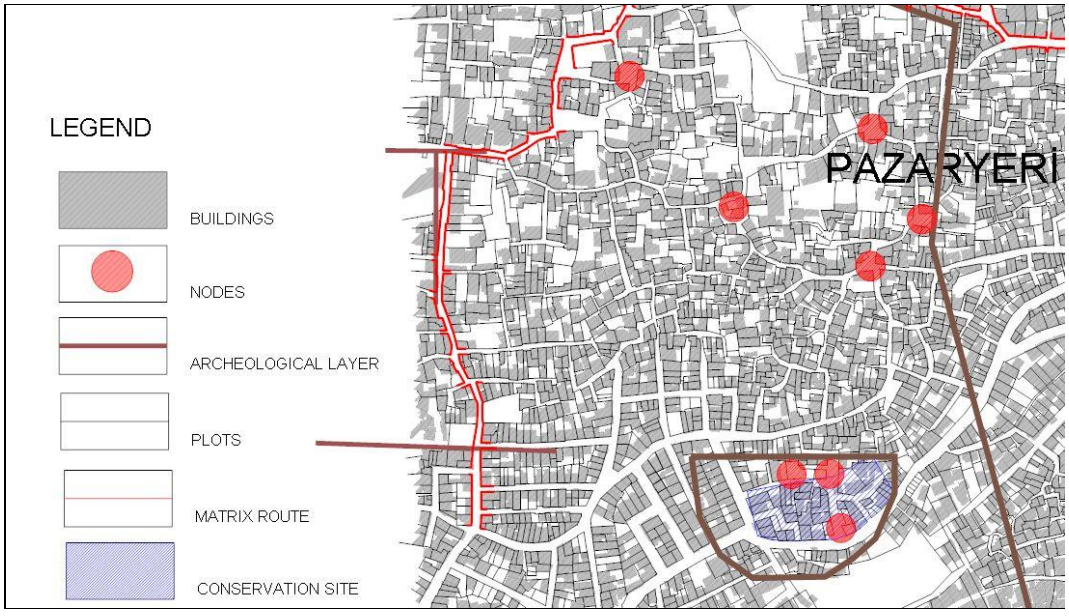


Figure 5.43. Texture of Plots within Pazaryeri Tissue

5.3.4.3. Texture of Blocks

Small square-shaped plots and their passages form square-shaped khan blocks within Kemeraltı Tissue. Surrounding the square-shaped khan blocks, larger and rectangular shaped plots forming blocks with dead-end streets are observed. The Tissue consists matrix routes as an initial settlement area of historical city center of İzmir. Inside arc-shaped matrix route that refers to the existence of ancient port geometric blocks indicate filling process of the port.

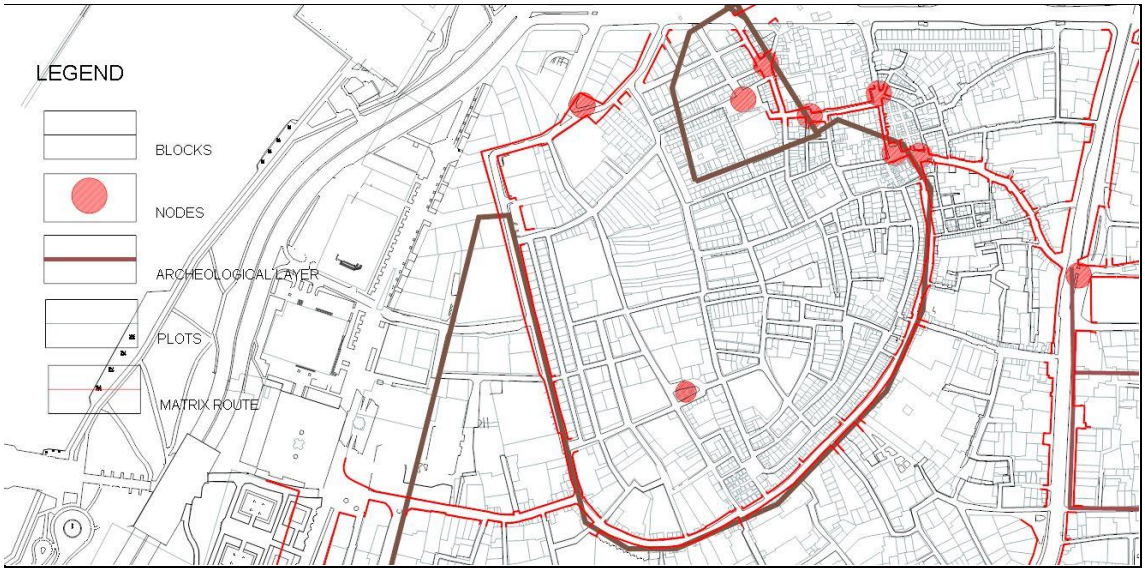


Figure 5.44. Texture of Blocks within Kemeraltı Tissue

Blocks are formed by rectangular plots and dead-end streets within Damlacık Tissue. At the north of the Tissue next to Kemeraltı Tissue, blocks oriented to north-south direction. At the south of the Tissue, orientation of blocks are parallel to Eşrefpaşa-Matrix route in northwest-southeast direction.

Within Agora Tissue, rectangular-shaped plots are forming relatively more regular rectangular-shaped blocks. Block sizes and forms indicate variety. Perpendicular streets between topography adapted connecting routes form rectangularlike blocks. Blocks are at north-south direction close to Agora, but at west-east direction close to reconfiguraor route depending on the topography.

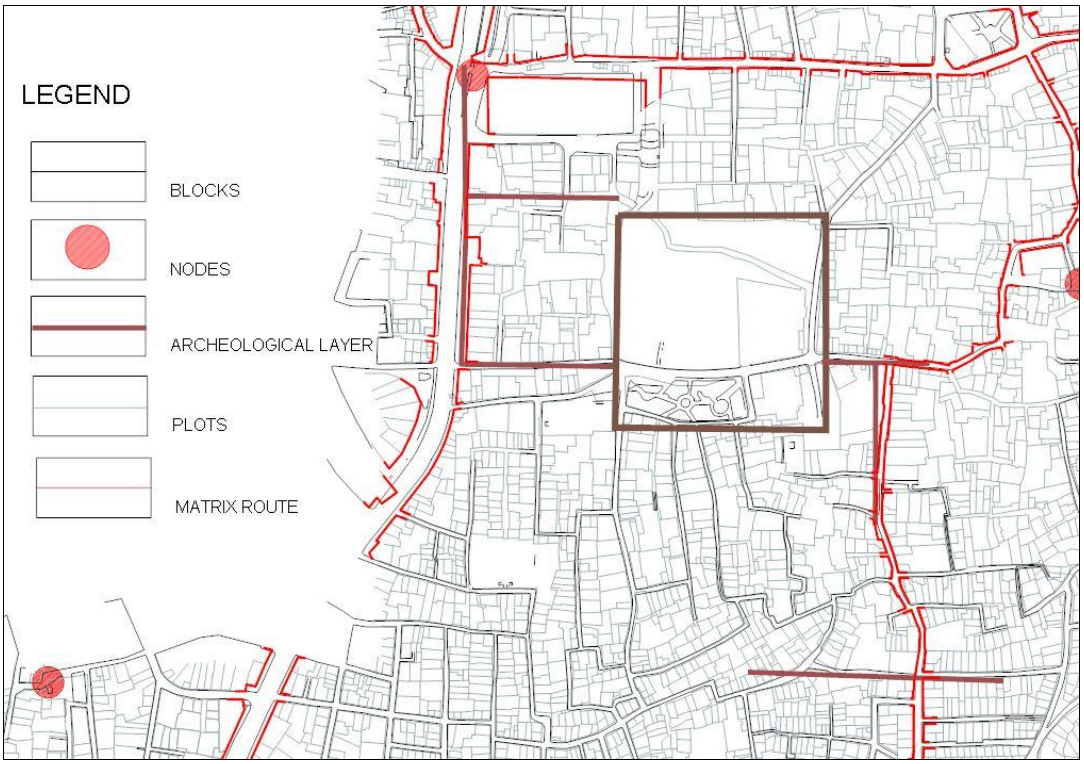


Figure 5.45. Texture of Blocks within Agora Tissue

Variety of plots from size to shape exposes organic form of Pazaryeri Tissue. Irregular-shaped plots and dead-end streets form irregular-shaped blocks in this area. Small squares as nodes appear between blocks. Irregular plots form irregular-shaped blocks within Pazaryeri Tissue. Defense walls of the ancient city follow the matrix route of the Tissue. Two reconfigurator route limits the Tissue.

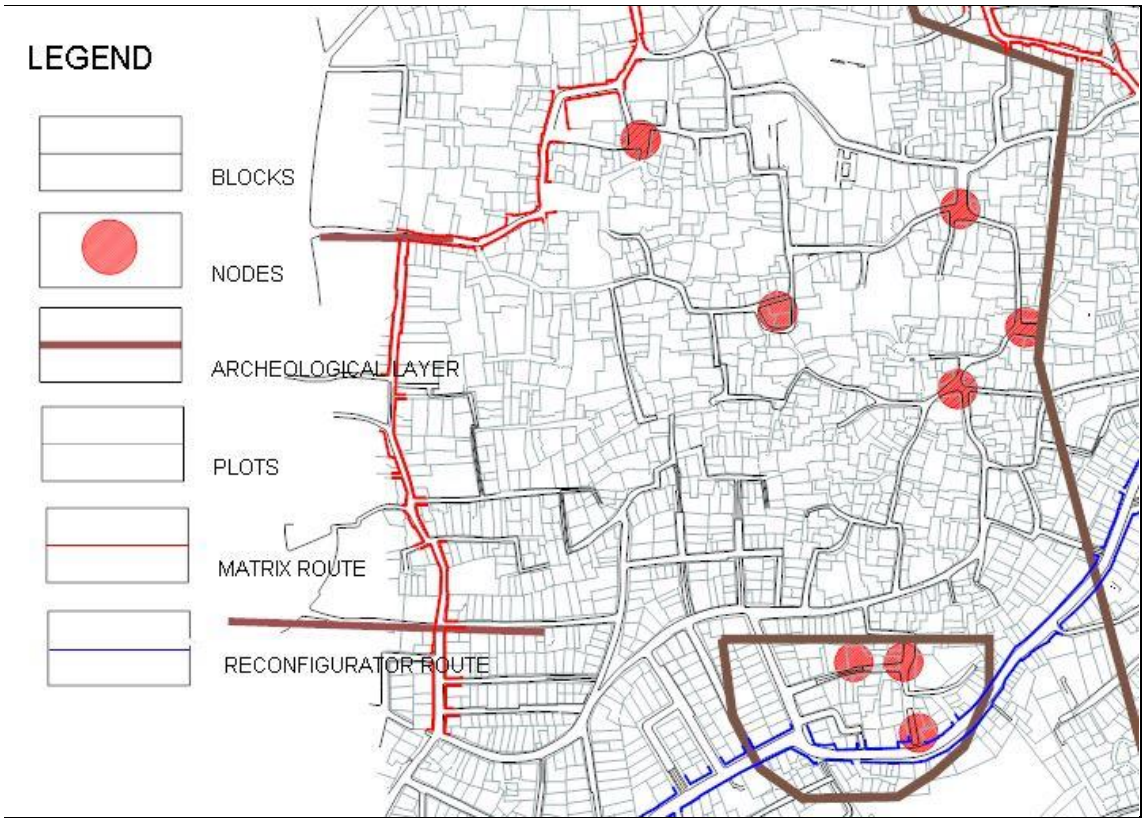


Figure 5.46. Texture of Blocks within Pazaryeri Tissue

5.3.4.4. Texture of Urban Tissue

Tissue is the whole organism formed in historical process, and formed by traces of former layers, function, nodes, poles, street types, building types, plot, block, and tissue types.

Kemeraltı Tissue is Commercial Center marked with existence of specialized buildings such as khans, mosques, and synagogues. Open spaces are observed within the texture, these are called as nodes. Location of important Mosques define the area of former inner port.

Housing blocks have dead-end streets within Kemeraltı Texture. Trace of Port Castle, which was between two matrix routes, can be observed within the Tissue. Possibly its walls were crossing over the building route of Kızlarağası Khan and matrix route at the east. After 1922 Fire of İzmir, the north of Kemeraltı was rebuilt and Fevzipaşa Reconfigurator route divided the area of Port Castle. Ancient coastline, which is drawn

from old maps, follows the line of ancient port and continues towards Konak Square. A possible old route that ties Kemeraltı Khans to Magnesia Gate of the Ancient defense walls is also observable.

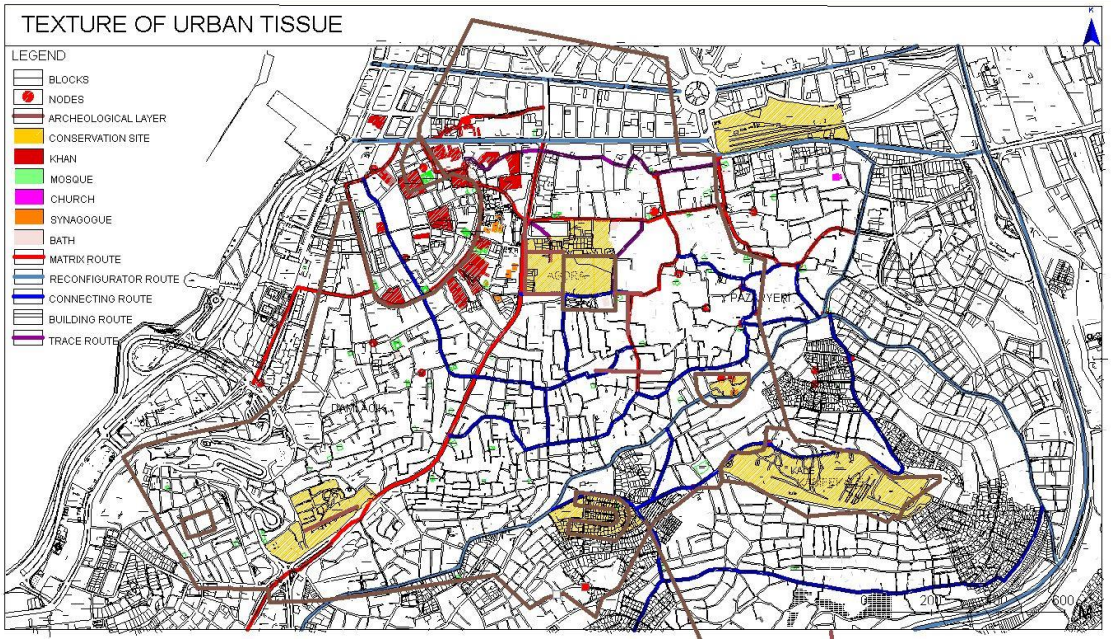


Figure 5.47. Texture of Urban tissue (see larger at appendix)

Damlacık Texture is formed by courtyarded housing areas. There are mosque buildings on the corners of the blocks. At the south of the Tissue large blocks of commercial and administrative areas are examined. Varyant and Ancient Route conservation area limit the Tissue to the west. This ancient route is parallel to Eşrefpaşa Street. Ancient coastline extending to Varyant passes over the Tissue. Buildings between ancient coastline and matrix route of Damlacık possibly built on the filled area of the sea.

Within Texture of Agora perpendicular streets, rectangular block forms, housing areas surrounding mosques define the texture. Eşrefpaşa Matrix route is parallel to Agora at the west and perpendicular with Anafartalar Matrix Route that reaches to Magnesia Gate of ancient city walls. The perpendicular streets of the area are remarkable that refers to the existence of grid plan of ancient city near Agora. However, 943 street that reaches to Magnesia Gate through Anafartalar Street should be a short-cut with its southwest-northeast orientation, on the contrary to gridal plan. This situation is exampled as in

Ephesus Theater Street that streets have sometimes different orientation on the contrary to grid plan.

Irregular block forms define Texture of Pazaryeri. Almost whole blocks open to a small square and blocks are formed by dead-end streets. Ancient Theatre limits the Tissue at the south, and defense walls of the ancient city crosses over the Tissue and following the matrix route in places. Basmane train station limits the tissue at the north, and streets are perpendicular and parallel to the station. Only this part is regular depending on the flat land here.

5.4. Results and Discussion

Multi-layered city center of İzmir, the study area, is remarkable with its elements such as archaeological layers from ancient period to Ottoman Period and today. Traces of inner Port, defense walls, State Agora, Theater, Kadifekale Akropol Castle, and ancient route indicate that texture dates to Hellenistic-Roman era. Basmane train station, khans and religious buildings reveal that the district has a continuity of the former historical periods.

Eşrefpaşa and Anafartalar roads are revealed as Matrix Routes whose initial purpose is to link two or more focal points and laid down before any urban tissue. These routes as matrix routes together with the density of specialized buildings as nodes indicate that the first tissue appeared in Kemeraltı.

Another Matrix route is followed as the street starting from Basmane Train Station and extending to Ancient Theatre and Stadium, generating another Tissue.

Anafartalar Street as Matrix route indicating former Inner Port and the existence of Port Castle generates initial texture within the historical city center of İzmir.

Old maps and literature review guides how urban texture changed. After 1922 Fire in İzmir North of Kemeraltı was destroyed and re-planned radically (ignoring the former texture and destruction of Karaosmanoğlu Khan). Thus, Fevzipaşa Boulevard can be followed as Reconfigurator Route within the Area.

Another important reading of historical city center is the reveal of former Matrix route through following Nodes, possibly the old Manisa Road extending to Magnesia Gate of the Roman Defense Walls.

Texture of Agora is located at the east of Eşrefpaşa Matrix Route. Agora is an important Node point defining the Texture. Anafartalar Matrix Route reaches to the multi-storey autopark, which is seen as vacant area in base-maps of 1960. Possibly this area was an important node of the former texture. Mosques as specialized buildings within Texture of Agora do not indicate a node point.

Texture of Pazaryeri is located between Agora and Kadifekale tissues. This Tissue is formed by the traditional housing areas of Turkish district in the Ottoman Period. Mosques and small squares as Nodal points or poles within the whole area define its texture.

Perpendicular matrix routes Eşrefpaşa and Anafartalar streets indicate the existence of a grid plan at the center of the District as marked in the works of Ersoy (2015). The Perpendicular streets around Agora are riveting this thought. However, 943 street that reaches to Agora through Anafartalar Street emerges as a short-cut street deforming the grid. Anafartalar Street stick into Magnesia Gate of the ancient city walls at the west and end in Kervan Bridge.

Eşrefpaşa Street follows topography and reaches to ancient Route around Cicipark. Orientation of the district is east-west direction around Agora and Theatre at the east. However, orientation of the district is northeast-southwest to the inner port at the east depending on the topographic conditions.

Archaeology researchers such as Cadoux and Naumann reveal that the most important street of İzmir ancient city had been the route starting at Yeşildere and following Anafartalar Street through Magnesia Gate and tying to İkiçeşmelik Street near Agora and reaching to Ephesus Gate at the southwest.

Nodal points as small squares, specialized buildings, and open spaces enable to define the Texture of former periods. For example, open spaces around ancient theater indicate the cavea of the theater.

Kemeraltı tissue itself a nodal point with its texture full of nodes. Agora itself is a node point and the district possibly started to grow from these areas and surrounded with

housing areas. Old maps of 19th century show that ancient city was abandoned partially in the latter periods and shifted to the north of the city with the establishment of new port area. Ancient city elements such as Stadium, Kadifekale limited the district. Basmane train station built in the 19th century has been a pole point with Kadifekale Castle and the district has grown around these points. The reconfigurator routes defined newly developing tissues like Kadifekale.

In this part of the study, Kadifekale Tissue is dealt with its development and similarity to the other Tissues having historical layers. Kadifekale had developed as a squatter settlement that has grown after 1950s.

Plots within the relatively new Kadifekale Tissue are in harmony at the boundary of Pazaryeri Tissue. However, large plots and large areas of unregistered treasure plots form the tissue. There are multiple buildings in large plots.

Ownership texture does not coincide with the blocks within the Tissue. Large blocks pass over building routes. Blocks are topography adapted and form a circlelike Tissue surrounding Kadifekale Castle.

The Tissue is between reconfigurator routes, which then becomes matrix routes for the developing city. Connecting routes are long and winding depending on the sloppy topography.

Buildings are next to streets within Kadifekale Texture having wide courtyards inside the blocks.

Within Texture of Kadifekale, building blocks are compatible with topography and there are perpendicular long blocks surrounding Kadifekale Castle. Narrow and topography adapted routes define the Tissue.

Ancient city walls do not follow the routes as in the other Tissues. The similarity of Kadifekale Texture can be established for Ottoman period of the District. There are nodes extending to Kadifekale through connecting route and these nodes do not define a matrix route. At the east of the Tissue there is regeneration area of Ballıkuyu that will transform the Tissue radically.

Religious buildings indicates the districts that different religious groups lived in the Ottoman period.

Related to the Tanzimat Reforms, the cities were reorganized according to the rules of geometry, the Armanian District was reorganized according to these rules. The

district's amorphous building islands in Thomas Graves's plan (1836-1837), changes into a grid planned settlement formed by straight streets and quadrilateral resident blocks in Storari plan (1856-1858).

Coastline changes also followed from the maps of different years. The inner port of the ancient city and the south of the gulf had filled until 1876. In 1876, the south of the gulf refilled to establish a dock. Coastline relation of the city is lost contrarily to the former periods. Street pattern of the former periods maintain, but textures in the blocks are changing irrelevantly.

Continuity of historical city of İzmir was harmed through disasters, and planning works that ignored previous textures in those areas.

Primary problem is continuity of the historical cities under threat due to deficient urban analysis methods. Urban Analysis methods are insufficient for Conservation Development Plans; an Urban Analysis Method reading urban area from base type to urban aggregate is necessary that will relate past and future of the city.

When sub-regions of İzmir Conservation Development Plan of Historical City Center are analysed, it is observed that archaeological regions are ignored as separated parts of the whole texture. Agora Grid-structured Agora Tissue was dealt with as having similar structure with Pazaryeri Tissue. However, this study revealed that Agora gridal structure had effects at south of it. Each tissue has characteristics of the other tissue within the whole area. Pazaryeri indicates another structure form Agora Grid with its organic texture. İkiçeşmelik and Anafartalar Streets, which were revealed as matrix roads that produced tissues in this thesis study, were taken independent from the texture.

Although, development plan of historical city center of İzmir is one of the good examples of urban conservation, still there are gaps in order to reveal the former layers of the area and especially the implicit elemets of the former periods. Since the study accepted the existing findings and ignored the latter findings.

A complex and detailed urban data analysis gains importance to develop strategies for the conservation and to provide integrity and continuity of historical urban heritage within the cities. Especially, urban continuity research through nodes and specialized buildings may provide data for detecting references of former historical layers. It is a common argument that public and religious buildings were the references of the former structure; a temple has transformed into a church, then a mosque and possibly has a

continuity of the space. This study enrichens this pointview with open spaces and matrix routes.

Another point of view is that ownership pattern of multi-layered cities may direct researchers to the traces of underground references. Tuna (1990) expressed the traceability and continuity of archaeological layer on the ground through boundaries of ownership. Maps and archaeological artifacts together present a data set important for urban development plans and urban design projects.

In this study, one of the multi-layered historical cities and its communication with former layers was analyzed to reveal the constraints providing continuity of urban unity. Within this context, the importance of detailed urban analysis appears. The formation process of multi-layered city center of İzmir was dealt with through structural relationships and concept of spatial continuity.

Here, main argument is that which historical layer of İzmir is dominant within the historical city center. Urban landscape of multi-layered historical city of İzmir has the stratification of formative stages but has different characteristics within different tissues formed in that study. There are traces of monumental structures of ancient period such as Theatre, State Agora, Acropolis and defense walls. However, Ottoman traces is another particular urban history; squares and the open areas or gardens, characterized by dead-end streets to the courtyarded houses as in Pazaryeri Tissue and density of Ottoman specialized buildings and open spaces in Kemeraltı Tissue.

Today, historical city center of İzmir show the characteristics of Ottoman city and Roman city together. Acropolis (Kadifekale), Stadium, and Theater of Roman city is empty areas and not settled according to old maps showing 19th century of İzmir. State Agora of Roman city is marked as graveyard in the maps. However, housing areas of Ottoman had been settled down around Agora and specialized buildings as religious, public and commercial buildings of Ottoman city on Kemeraltı Tissue.

As representators of Italian Morphology School underlined the structural relations derived from the relationship between the elements and structures. The relationship between buildings, open spaces and routes forms urban fabric. Thus, this theory allows to read current urban tissue through a typo-morphological formation of different layers. According to this theory, matrix routes tend to connect to most important node points. In the historical city center of İzmir, Eşrefpaşa Matrix Route extending form Agora to the

archaeological site of Ancient Route appears as an initial route forming the tissue; old maps also indicate the importance of this route in the Ottoman Period. Anafartalar Matrix Route also formed through the nodal points and specialized buildings.

Large open areas of ancient city reoccupied by current urban fabric, and traces of the streets can be followed as in Agora Tissue. Similarly, Ottoman city has a continuity, which can be followed by dead-end streets in Pazaryeri district.

Gridal urban form of ancient Smyrna (İzmir) has been deformed by dense housing areas from Ottoman period to this day. However, the function of ancient city gates, which lead to other cities as Magnesia and Ephesus, have been kept. Roman city routes as Cardo and Decumanus intersecting at Agora of the ancient city transformed into caravan routes of the Ottoman period.

Neglia (2014) interpretates this transformation process for ancient structures as varying according to the role that streets played within the urban organism in latter historical periods. Large ancient structures dysfunctioned in the latter periods due to the change of social, economic, and political system forming new type of urban organism. Within the historical city center of İzmir, the location of the city centre also changed as escaping from Agora Tissue to Kemeraltı Tissue.

CHAPTER 6

CONCLUSION

As addressed in the previous chapters, Urban Analysis Methods of Conservation Development plans are not sufficient for multi-layered historical areas. An Urban Analysis Method reading urban area from base type to urban aggregate is necessary that will relate past and future of the city.

Continuity of multi-layered historical cities defined through the terms of continuing roads, textures, buildings, memory space, and urban analysis methods were underlined as enabling to read the continuity in urban areas. In this context, "City" is a complex system including textures that formed by different historical, social, physical, and economical dynamics. Although, such dynamics could not be seperated from each other, this study focused on the physical dimension of the city, and how it could be analysed. Technical Specifications of Conservation Development Plans were handled in terms of reading the texture of multi-layered cities.

This study revealed a method that enabled to integrate historical city to contemporary planning studies. Such method was an attempt to develop technical specifications of conservation development plans, which concentrated on architectural conservation and inadequate to define relationships between historical traces and tissues. Thus, historical layers of the multi-layered city will be transferred to the future and provide continuity of that city.

Discourse of reading space and urban morphology was examined through literature. The methodology of Italian Morphology School was applied and adapted to the analysis. The analysis was carried out through a spatial-temporal approach through an analysis of typo-morphological process of historical built environment of multi-layered İzmir city center as an in-depth case study. Synchronic and diachronic processes of İzmir city are dealt with by reading different phases of the city. The reading and interpretation of this work is based on analysis of structures and links between the elements that compose urban fabric.

In Turkey, urban planning legislation and its implications is not sufficient to enable conservation especially for multi-layered cities. There is a duality of separating

actual settlements from its former periods within historical cities, such as settlements and conservation sites. Such duality reflects the urban planning system as development plans and conservation development plans. Besides, technical specifications of conservation development plans do not guide sufficient urban analysis to reveal the reality of conservation sites.

Although such typology led planning technique is suggested for multi-layered historical cities, it should be used for the periphery of such areas. Since, the tissues cannot be separated strictly. Any intervention within the city had an effect and pressure on historic cities.

This thesis targeted both the conservation of existing historical traces and texture, and revelation and conservation of discontinuities of the historical layers through a typo-morphological reading. A method was suggested for typo-morphological analysis for the conservation of multi-layered settlements through actual and virtual data.

Italian Morphology School guided the method for typo-morphological analyses of the thesis. The concepts of type and typological process has been the key in attempt to read space. It considers all scales of the built landscape from the small room or garden to the large, urbanized area for multi-layered cities that have synchronic and successive formations. Thus, the study focused on the formation of the cities through concepts of multi-timed, multi-layered, and multi-scaled.

Structuralist approach that revealed structures and links between the elements compose urban fabric, and pro-determinist approach that is called theory of possibilities backgrounded the study to understand typo-morphological transformation of historical built environment. Legislation on Conservation Development was examined, and a matrix and a model suggested to be used within Technical Specification of Conservation Development Plan for various multi-layered cities. It is asserted that this method provides to work with data yet unknown, especially for archaeological layers.

The large urban open spaces of the ancient world (temples, agora, theatres) re-occupied by housing in latter periods. Layout of streets and densification of courtyard houses and the formation *cul-de-sac* as the narrowest elements of the street systems were examined. From ancient era to Ottoman period and today, the process of changing cultural routes effects the formation process of the city.

Spatio-temporal and cultural differences rule the formation of the urban fabric. First diachronic period is Roman Foundation to search Roman structure in the current

urban fabric. The relationship between route structures within the walled town is searched. (Ephesus gate, Magnesia gate, deformation made by Ottoman process raising churches, mosques, synagogues, filling in the housing areas, route structure, courtyard houses, little squares as nodes…)

Squatter settlements and quarters after urbanization process of second half of 20th century create radical changes from the former periods. This study will also attempt the adaptability of the method to Kadifekale squatter settlement area where an acropolis of ancient era exists. This area has occupied by spontaneous illegal housing in 1950's. Such work will examine types of houses, routes, and nodes within the area to catch the similarities of historical city center of İzmir that has appeared as a result of urban typological transformation process.

Although, development plan of historical city center of İzmir is one of the good practices of urban conservation, still there are gaps in order to reveal the former layers of the area and especially the implicit elements of the former periods. Since the study accepted the existing findings and ignored the latter findings.

Gaps of the technical specifications were revealed as the ignorance of larger scale, (that is, building scale is densely expressed and the interventions are in that scale such as registered building, un-registered existing building.), lack of detailed analysis for the texture of archaeological layers except monumental buildings, and the ignorance of typological process of the multi-layered city that reveals the relations between building, plot, block and texture.

Limitations of the study are set as; the analysis is limited within the historical city center of İzmir and whole urban pattern could not be analysed due to the complexity of the development of the city especially after 1922 Fire and 1950's. The search for physical and functional continuity of ancient civilization and subsequent ones is limited with the change of economic and social values. Cadastral changes could not be analysed due to the lack of former maps. In the historical area transformation of the types cannot be followed easily because of the resistance of building pattern to change.

Any historical city should be analysed and designed considering all the dimensions that gives identity to the city to provide continuity and integration of the city. Design should be based on the reading of the best description of typological processes. An urban restoration is needed that targeted reorganization of environmental integrity,

providing continuity, and repairing the holes. Reconstruction of the historical city through continuous traces is required.

A matrix formed to examine multi-layered historical cities in four subsequent steps from buildings and group of buildings to urban organisms: elements, structure of elements, system of structures, and organism. The first step of the interpretation is determining types of building, plot, block and urban tissue. Second step is determining the type inside any group that has a particular or a common characteristic forming a group. Third step, determining street relations of the groups as a synthesis of building culture synthesized in a time and space. Fourth step as reading typo-morphological relationships of urban texture through nodes, streets, specialized buildings, and archaeological traces. Such method includes **multi-scality** to analyse the texture of the **multi-layered** settlements.

The Matrix of Italian Morphology School in order to analyse historical cities was adapted partly taking elements of urban space such as building, plot, block and tissue into consideration. Detailed elements that form a building were ignored in the study. The study is attempted to adapt the methodology of Italian Morphology School for the reasons of creating a tool for conservation development plan, thus the part of the Petruccioli Matrix including region was also ignored.

Continuity of İzmir city in context of different time periods were examined through an adapted Matrix such as coastline changes, nodes, major axes, historical buildings, typology of blocks, traces of archaeological pattern, urban textures.

Functional continuity of the city center maintains but renewal projects are in agenda related to the obsolescence. These projects should be dealt with carefully, in all aspects of conservation.

Socio-economic superstructure, production relations, and technological development have deep effects on the formation of urban historical layers. Each superstructure creates its own character of urbanization. For example, gridal street and texture formation of ancient period replaced with the organic texture character in the Ottoman period. However, many historical cities include different tissue characters referencing to different phases as shown in İzmir example. The traces of ancient gridal street system were determined within the multi-layered historical city that has the organic texture character of Ottoman period. Besides global superstructures local features such as

geography or social structure reason different physical environments having specific characters as determined different texture characters in different ethnic districts in İzmir.

This study suggests a sensitive and detailed texture analysis for multi-layered cities such as İzmir. Each cultural layer of a multi-layered city can be analysed through suggested method comprehensively. This study is limited to existing era of İzmir due to the complexity of the area. Further study may interpret each phase and cycle of the multi-layered cities in depth. Besides the method should be tested for also other multi-layered cities. Another study should carry out texture of buildings in detail. Finally, the other suggestion for further studies is the analysis of socio-economic structural relationship within metropolitan multi-layered historical cities, because those areas are the inner cities that have been dilapidated due to urbanization dynamics.

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APPENDIX A

KORUMA AMAÇLI İMAR PLANLARI TEKNIK ŞARTNAMESİ

5.1.c- Planlama Alanındaki Yapılar/Parseller ve Taşınmaz Kültür ve Tabiat Varlıklarına İlişkin Araştırmalar :

Araştırma Türü:	**İçerik:**
Bütün Parseller ve Yapılara İlişkin Araştırmalar	• Parsel Konumları ve Tipolojisi - Köşe Parsel, Ara Parsel, Ada İçi Parsel vb. - Ada ve Parsellere İlişkin Nicel Veriler • Parsel Kullanımı (Dolu/Boş Parseller) • Yapı-Parsel İlişkileri - Yapı-Parsel Büyüklükleri/Oranları - Yapının Parseldeki Konumu • Yapı Nitelikleri - Hukuki Durum (Ruhsatlı, İzinsiz, Tescilli, Yıkım Kararı vb.) - Mimari Dönem/Yapım Tekniği/ Strüktür/Malzeme/ Konum/ Kat Adedi - Yapısal Durum (Malzeme, strüktür vb. kriterler dikkate alınarak yapıların durumlarının gruplandırılması) - Ana Yapı, Bitişik Ek Yapı, Müştemilat vb. Ayrımı ve Bunların Kütle/Cephe/Konum ve Kullanım Özellikleri ile Yapım Tekniği ve Malzemesi - Yapı Gruplandırılması (Tescilli/Geleneksel/Yeni vb.) - Avlu ve Bahçe Kullanımları, Avlu/bahçe elemanları - Konfor Durumu (Elektrik, Su, Kanalizasyon, WC. vb.) • Yapı kullanım biçimleri - Tek Fonksiyonlu Yapılar (konut, ticaret, vb.) - Çok Fonksiyonlu Yapılar - Kullanılmayan Yapılar
Korunması Gerekli Taşınmaz Kültür Varlıklarına İlişkin Araştırmalar	• Mimari Dönem ve Üslup • Mimari Değerler - Cephe Öğeleri ve Tipolojisi - Plan Tipolojisi - Süsleme Elemanları, Baca, Ocak vb. Öğeler - Çatı Formu ve Malzemesi • Yapım Tekniği ve Malzemesi • Yapılarda Değişmişlik (Müştemilat ve Ana Yapı)

	- Planında - Cephede - İç Mekanda - Malzeme ve Teknolojide Değişmişlik/Bozulma ve Nedenleri • Yapılarda Orijinal Fonksiyonlar ve Fonksiyonda Değişmişlik

5.2.a. sentez ve değerlendirme

Yerleşmedeki Yapılara İlişkin Değerlendirmeler

- Doku /Ada Ölçeğinde Değerler, Sorunlar ve Potansiyeller
- Açık Alan ve Sokaklara İlişkin Değerlendirmeler
- Anıtsal Yapılar (Değer, Sorun, Potansiyeller)
- Geleneksel Yapılar (tescilli/tescilsiz)/Konutlar
  (Yapı / Sokak İlişkisi, Yapı / Avlu İlişkisi, Müdahale

  Biçimleri, Cephe / Plan Değişmişlikleri, Cephe/Plan

  Tipolojileri, İç Mekan Kullanımlarındaki Değişme ve Yeni

  Mekan İhtiyaçları, Kullanım Yoğunluğu, Fiziksel Sorunlar,

  Korunması Gerekli Değerler)
- Yeni Yapılar / Konutlar (Kütle / Cephe Özelliklerinin Uyumu, Yapı / Avlu Elemanları ve Kullanıma İlişkin Sorunlar, Değerler, Potansiyeller)
- Ticari Yapılar
- Ekler / Servis Yapıları (Kütle / Cephe / Konum Özellikleri, Kullanımlar; Mekan, Yapım Tekniği ve Malzemeye İlişkin Sorunlar, Değerler ve Potansiyeller)
- Avlular (Boyut, Eleman ve Kullanım Özelliklerine İlişkin Değerlendirme ve Potansiyeller)
- Yeni Kullanım Olanakları (Açık Alanlar, Yapılar)
- Açık Alan, Sokak, Sokak Elemanlarına İlişkin Değerlendirmeler
- Fonksiyonel Değişiklik Potansiyelleri

5.3 -Koruma Amaçlı İmar Planı Kararları ve Koruma Amaçlı İmar Planının Uygulanmasına Yönelik Model Üretimi , Yönetsel Plan

Yapı ve Parsellere İlişkin Kararlar

- Korunacak Yapılar (Anıtsal Yapılar, Sivil Mimarlık Örnekleri, Çevreye Uyumlu Yapılar)
- Korunması Gerekli Kültür/Tabiat Varlığı ile Parseline İlişkin Kararlar
- Koruma, Müdahale Biçimleri ve Öncelikleri (cephe, plan,

  malzeme, vb.)
- Kullanım/İşlevsel Kararlar
- Parsellerde Yer Alacak Yeni Yapı ve Düzenlemelere İlişkin

  Kararlar (Yapı Konumlandırılması, Yapı Koşulları, İfraz,

  Tevhid, Şuyulandırma, Arsa Düzenleme Esasları vb.)
- Mevcut Kültür Varlığı Niteliğinde Olmayan Yapılara İlişkin Kararlar
- Koruma Önerileri

- Müdahale Biçimleri
- Kullanım/İşlevsel Kararlar

• Yeni Yapılaşmaya İlişkin Kararlar

- Yapının Konumlandırılmasına, Yapılanma Koşullarına İlişkin Kararlar
- Kullanım/İşlevsel Kararlar
- Yapı Çevresinin Düzenlenmesine İlişkin Kararlar

• Ekler /Servis yapılarına ilişkin kararlar (Korunacak, düzenlenecek, yeni yapılacak kütle ekleri ve niteliği)

Avlulara İlişkin Kararlar (Boyut, eleman ve kullanıma ilişkin kararlar)

APPENDIX B

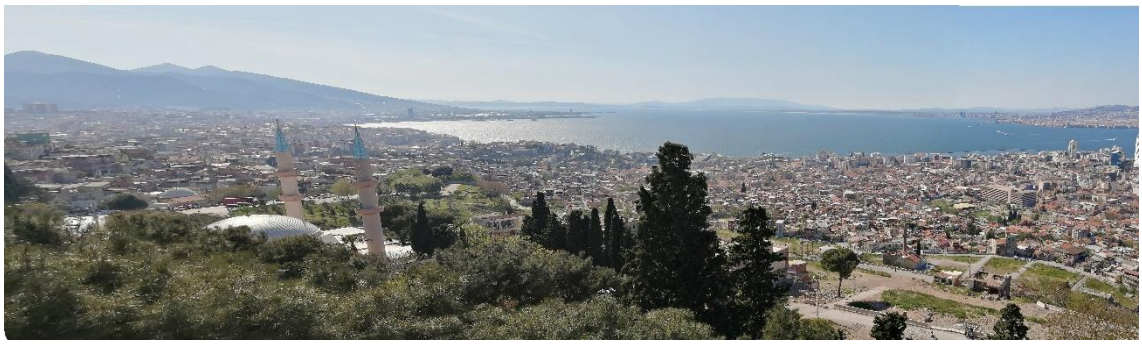
PHOTOGRAPHS FROM FIELD SURVEY

Castle and Theatre from Agora

Agora and surrounding

A structure from Republic Period within Agora

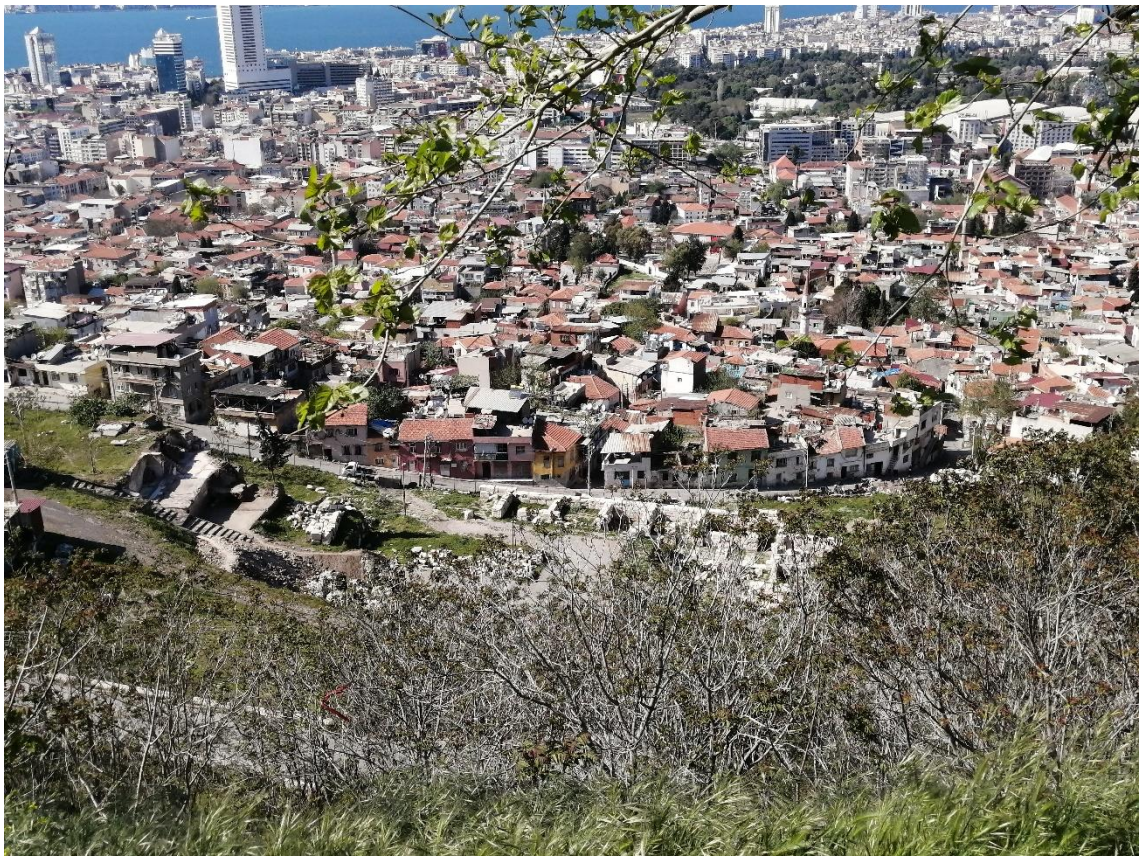
Castle, Stadium and Theatre view from Agora



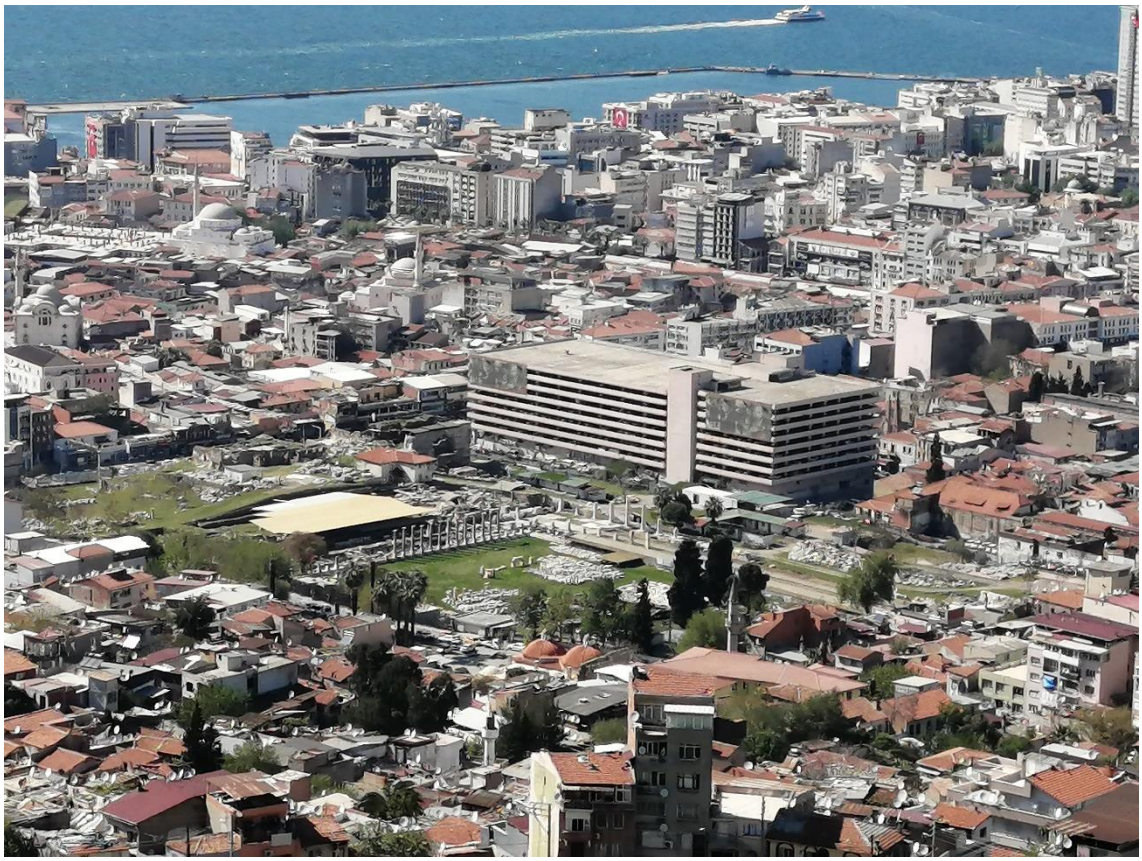
View from Kadifekale Castle

Kültürpark from Castle

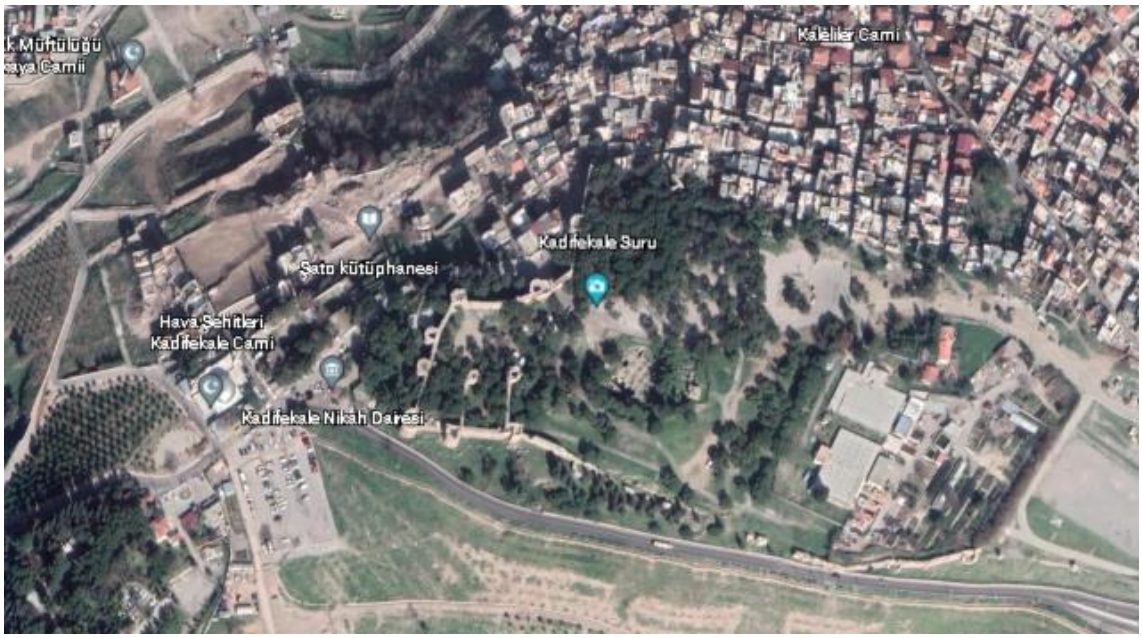
Surrounding of Stadium



Surrounding of Theatre



Agora from Theatre



Google Earth view of Castle

Google Earth view of Theater

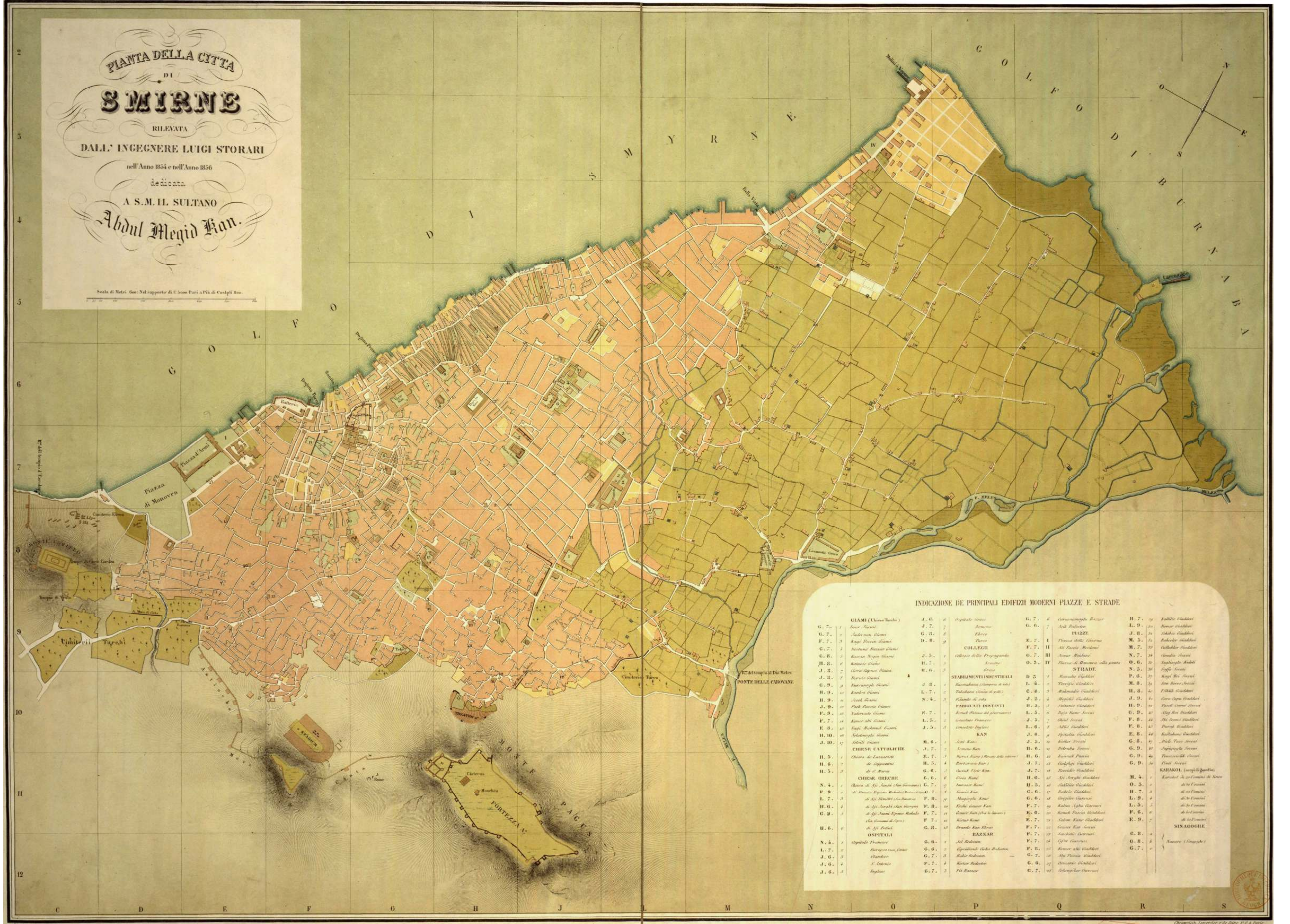
Google earth view of Castle, Theatre and Stadium

Google Earth view of Agora

Google Earth view of Kemeraltı

APPENDIX C

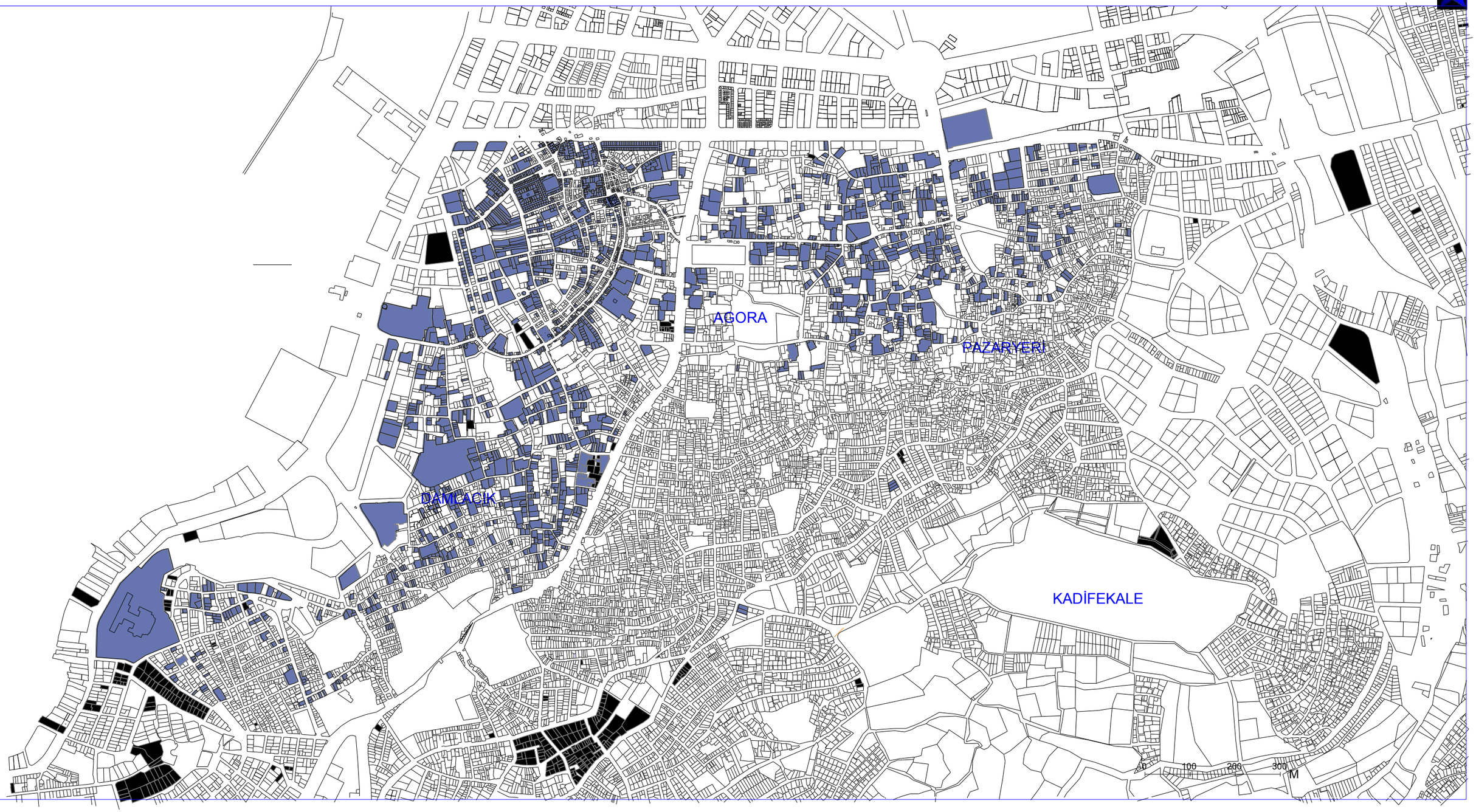
MAPS



PIANTA DELLA CITTÀ
DI
SMIRNE
RILEVATA
DALL' INGEGNERE LUIGI STORARI
nell'Anno 1854 e nell'Anno 1856
dedicata
A S.M. IL SULTANO
Abdul Megid Kan.
Scala di Metri 600: Nel rapporto di 1:5000 Pari a Pik di Costpli 800.
GOLFO DI SMYRNE
GOLFO DI BURNABA
Piazza d'Armi
Piazza di Manovra
Batteria
Cimiteri Turchi
Cimiterio Ebreo
Cimiterio Turco
STADIUM
TEATRO
FORTEZZA
Cisterna
Moschea
MONTE PAGUS
PONTE DELLE CAROVANE
F. MELES
Bella Vista
INDICAZIONE DE PRINCIPALI EDIFIZII MODERNI PIAZZE E STRADE
GIAMI (Chiese Turche)
G. 7. 1 Issar Giami
G. 7. 2 Saderuan Giami
F. 7. 3 Kagi Hossein Giami
G. 7. 4 Kestane Bazzar Giami
G. 8. 5 Kasan Nogia Giami
H. 8. 6 Katanie Giami
J. 8. 7 Ciorra Capusi Giami
J. 8. 8 Dervis Giami
G. 9. 9 Kurrunogli Giami
H. 9. 10 Kanbei Giami
H. 9. 11 Scesk Giami
J. 9. 12 Faik Pascia Giami
F. 9. 13 Naterzade Giami
F. 7. 14 Kemer alti Giami
E. 8. 15 Kagi Makmud Giami
H. 10. 16 Sciatinogli Giami
J. 10. 17 Sciuli Giami
CHIESE CATTOLICHE
H. 5. 1 Chiesa de Lazzaristi
H. 6. 2 de Cappuccini
H. 5. 3 di S. Maria
CHIESE GRECHE
N. 4. 1 Chiesa di Aji Janni (San Giovanni)
F. 9. 2 di Panaia Epano Mahala
L. 7. 3 di Aji Dimitri (San Demetrio)
H. 6. 4 di Aji Jorghi (San Giorgio)
G. 9. 5 di Aji Janni Epano Mahala (San Giovanni di Sopra)
H. 6. 6 di Aji Fotini
OSPITALI
N. 4. 1 Ospitale Francese
L. 7. 2 Europeo (non finito)
J. 6. 3 Olandese
J. 6. 4 S. Antonio
J. 6. 5 Inglese
J. 6. 6 Ospitale Greco
J. 7. 7 Armeno
G. 8. 8 Ebreo
D. 8. 9 Turco
COLLEGII
J. 5. 1 Collegio della Propaganda
H. 7. 2 Armeno
H. 6. 3 Greco
STABILIMENTI INDUSTRIALI
J. 8. 1 Basmakana (Stamperia di tele)
L. 7. 2 Tabakana (Concia di pelli)
N. 4. 3 Filanda di seta
FABBRICATI DISTINTI
E. 7. 1 Konak (Palazzo del governatore)
L. 5. 2 Consolato Francese
J. 5. 3 Consolato Inglese
KAN
M. 6. 1 Joni Kan
J. 7. 2 Armeno Kan
E. 7. 3 Baruti Kane (Mercato delle cotone)
H. 5. 4 Barbaresco Kan
G. 6. 5 Cuciuk Vizir Kan
G. 6. 6 Giota Kane
G. 7. 7 Imrozor Kane
G. 7. 8 Demir Kan
F. 8. 9 Abagioglu Kane
F. 8. 10 Kechi Gosser Kan
F. 7. 11 Gosser Kan (Ora le Gavoni)
F. 7. 12 Kirtar Kane
G. 8. 13 Grande Kan Ebreo
BAZZAR
G. 6. 1 Jel Bedesten
G. 6. 2 Cupraliozade Cioka Bedesten
G. 7. 3 Bakir Bedesten
F. 7. 4 Kirtar Bedesten
G. 7. 5 Pit Bazzar
G. 7. 6 Caraosmanoglu Bazzar
G. 6. 7 Acik Bedesten
PIAZZE
E. 7. I Piazza della Caserma
F. 7. II Ali Pascia Meidani
G. 7. III Aimar Meidani
O. 5. IV Piazza di Manovra alla punta
STRADE
D. 5. 1 Mescudie Giaddesi
L. 4. 2 Tirrific Giaddesi
C. 6. 3 Makmudie Giaddesi
J. 5. 4 Megidie Giaddesi
H. 5. 5 Sultanie Giaddesi
L. 5. 6 Bojia Kane Soccai
J. 5. 7 Ghiul Soccai
L. 6. 8 Adlie Giaddesi
J. 6. 9 Spitalia Giaddesi
J. 5. 10 Kiotar Soccai
H. 6. 11 Bilruba Soccai
H. 6. 12 Kaimak Pascia
J. 7. 13 Gialghgi Giaddesi
J. 7. 14 Rescidie Giaddesi
H. 6. 15 Aji Jorghi Giaddesi
H. 5. 16 Sakilie Giaddesi
G. 6. 17 Bakrie Giaddesi
G. 6. 18 Gingiler Garrusi
F. 7. 19 Kalim Agha Garrusi
E. 6. 20 Konak Pascia Giaddesi
E. 7. 21 Salun Kane Giaddesi
F. 7. 22 Gosser Kan Soccai
F. 7. 23 Sandalie Garrusi
F. 7. 24 Cifut Garrusi
F. 8. 25 Kemer alti Giaddesi
G. 7. 26 Ali Pascia Giaddesi
G. 6. 27 Ermenie Giaddesi
G. 7. 28 Celangilar Garrusi
H. 7. 29 Kallilie Giaddesi
L. 9. 30 Kemer Giaddesi
J. 8. 31 Sokibie Giaddesi
M. 5. 32 Bakcelar Giaddesi
M. 7. 33 Colluklar Giaddesi
N. 7. 34 Cirudia Soccai
O. 6. 35 Inglisoglu Kuloli
N. 5. 36 Saffa Soccai
P. 6. 37 Kagi Bei Soccai
M. 8. 38 San Rocco Soccai
H. 8. 40 Fillikh Giaddesi
J. 9. 41 Cara Capu Giaddesi
H. 9. 42 Tiordi Ciamé Soccai
G. 9. 43 Alay Bei Giaddesi
F. 8. 44 Iki Ciami Giaddesi
F. 8. 45 Parak Giaddesi
E. 8. 46 Kadiskane Giaddesi
G. 8. 47 Dieli Tase Soccai
G. 9. 48 Japigioglu Soccai
G. 9. 49 Temascialik Soccai
G. 9. 50 Fisni Soccai
KARAKOL (corpi di guardia)
M. 4. 1 Karakol di 20 Uomini di linea
O. 5. 2 di 40 Uomini
H. 7. 3 di 20 Uomini
L. 9. 4 di 30 Uomini
L. 5. 5 di 30 Uomini
F. 6. 6 di 40 Uomini
E. 9. 7 di 40 Uomini
SINAGOGHE
G. 8. a
G. 8. b Navare (Sinagoghe)
G. 7. c

Conservation Areas in the Historical Center of İzmir

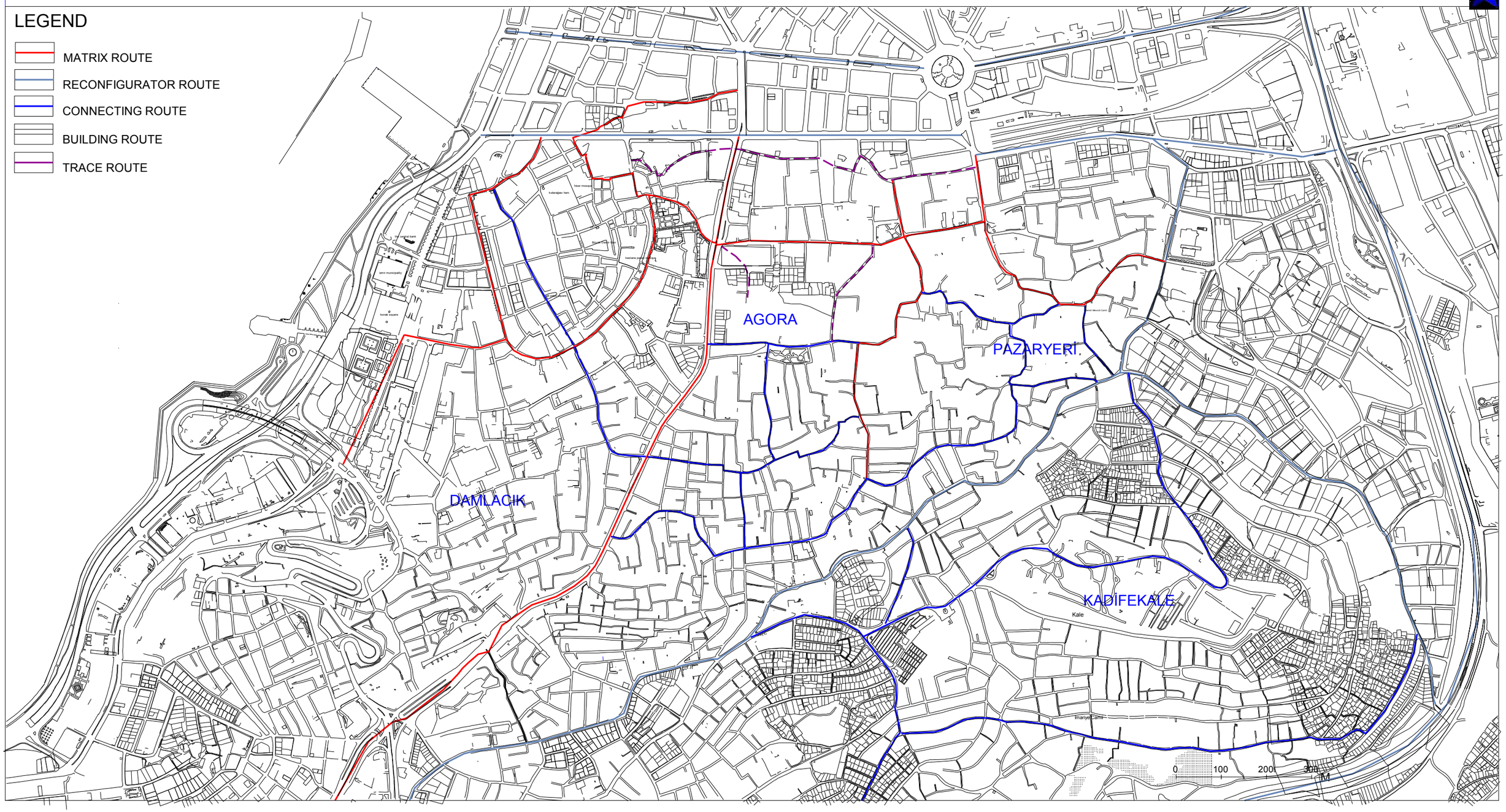
REGISTERED BUILDINGS



ROUTES

LEGEND

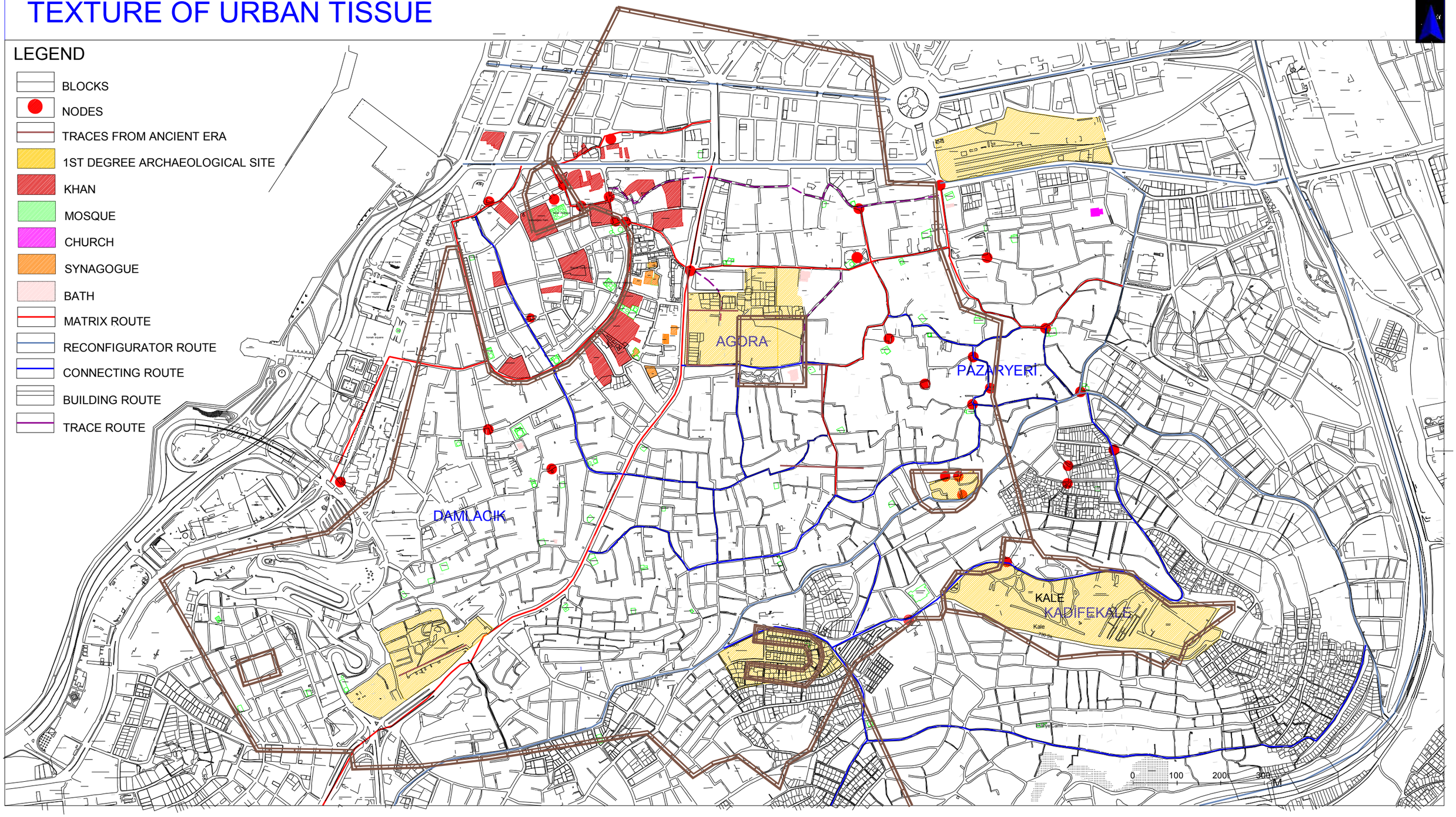
- MATRIX ROUTE
- RECONFIGURATOR ROUTE
- CONNECTING ROUTE
- BUILDING ROUTE
- TRACE ROUTE



TEXTURE OF URBAN TISSUE

LEGEND

- BLOCKS
- NODES
- TRACES FROM ANCIENT ERA
- 1ST DEGREE ARCHAEOLOGICAL SITE
- KHAN
- MOSQUE
- CHURCH
- SYNAGOGUE
- BATH
- MATRIX ROUTE
- RECONFIGURATOR ROUTE
- CONNECTING ROUTE
- BUILDING ROUTE
- TRACE ROUTE



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