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**URBAN ARCHAEOLOGICAL ISSUES AND RESOURCES
IN İZMİR HISTORIC CITY CENTRE:
AN EXPLORATORY CASE STUDY**

**A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
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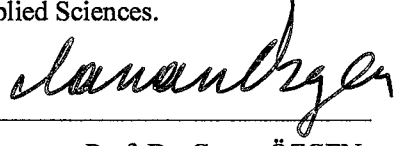
BY

BURAK BELGE

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Prof. Dr. Canan ÖZGEN

Director

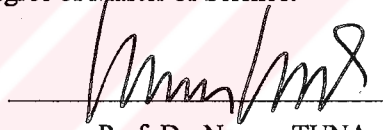
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Prof. Dr. Ali TÜREL

Head of Department

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



Prof. Dr. Numan TUNA

Supervisor

Examining Committee Members

Prof. Dr. Sevgi AKTÜRE

(METU, CRP)



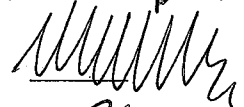
Prof. Dr. Numan TUNA

(METU, CRP)



Assoc. Prof. Dr. Murat GÜVENÇ

(METU, CRP)



Assist. Prof. Dr. A. Güliz BİLGİN ALTINÖZ

(METU, ARCH).



Inst. Erhan ACAR

(METU, CRP)



I hereby declare that all the information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I fully cited and referenced all material and results that are not original to this work

Name, Last name: Burak BELGE

Signature :

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ABSTRACT

URBAN ARCHAEOLOGICAL ISSUES AND RESOURCES IN İZMİR HISTORIC CITY CENTRE: AN EXPLORATORY CASE STUDY

BELGE, Burak

M.S., Department of City and Regional Planning

Supervisor: Prof. Dr. Numan TUNA

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In Turkey, the majority of the historic city centres have been continuously occupied since early ages onwards and where still occupation exists. The multi-layered structure of historic centres both can indicate the historical continuity of cities and enhance urban consciousness, if urban archaeological resources are handled effectively into planning process. However, the recent policies and strategies don't allow the handling of urban archaeological resources, especially invisible sub-soil resources, into planning and decision-making process.

In this thesis, it is aimed to formulate a basic methodological framework for the handling of urban archaeological resources into planning process of historic city centres in Turkey. Therefore, the study is handled in two parts; a conceptual methodological framework part and an exploratory case study. In the conceptual part, a basic equation is studied to research the factors on the conservation and evaluation of real urban archaeological potential. Then, the methodological framework is examined in detail in İzmir Historic City Centre that has been inhabited since 324 B.C.

Consequently, the terms of equi-property areas, which are used to define ideal potential of archaeological resources, and urban archaeological character zones, which are described as

the basic units of planning and conservation policies, are developed to determine exact management strategies for urban archaeological resources.

Key Words: Ideal and Real Urban Archaeological Potential, The Quality of Archaeological Deposit, İzmir Historic City Centre, Multi-layered Historic City Centres, Diachronic Plans, Equi-property Areas, Urban Archaeological Character Zones, Urban Archaeological Database (GIS)



ÖZ

İZMİR TARİHİ KENT MERKEZİNDEKİ KENTSEL ARKEOLOJİK DEĞERLER VE SORUNLAR: KEŞİFSEL BİR ÖRNEK ÇALIŞMA

BELGE, Burak

Yüksek Lisans, Şehir ve Bölge Planlama Bölümü

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Türkiye'deki tarihi kent merkezlerinin bir çoğu erken dönemlerden beri sürekli olarak yerleşilmiş ve yerleşilmeye devam etmektedir. Eger, kentsel arkeolojik değerler planlama sürecine etkin bir şekilde dahil edilirse, tarihi kent merkezlerinin çok katmanlı yapısı hem kentlerin tarihsel sürekliliğinin bir göstergesi olur, hem de kentli bilincinin güçlendirir. Fakat, Türkiye'deki güncel politikalar ve stratejiler kentsel arkeolojik değerlerin, özellikle görünmeyen toprak altı değerlerin, planlama ve karar alma süreçlerine katılımına olanak sağlamamakta.

Bu tezde, Türkiye'deki tarihi kent merkezlerinin planlama sürecine kentsel arkeolojik değerlerin dahil edilebilmesi için temel bir yöntemsel çerçevenin tanımlanması amaçlanmaktadır. Bu nedenle, çalışma iki bölümde ele alınmıştır; kavramsal yöntem çerçevesi bölümü ve keşifsel örnek çalışma bölümü. Kavramsal bölümde, gerçek arkeolojik potansiyelin korunması ve değerlendirmesinde etkin olan faktörlerin araştırılması için temel bir denklem çalışıldı. Daha sonra, M.Ö. 324 tarihinden beri yerleşilen İzmir Tarihi Kent Merkezi detayında yöntemsel çerçeve değerlendirildi.

Sonu olarak, kentsel arkeolojik deęerler iin ynetim stratejilerinin tanımlanabilmesi amacıyla eş-deęer alanları – *ideal arkeolojik potansiyelin tanımlanması iin temel birimler* – ve kentsel arkeolojik karakter blgeleri – *planlama ve koruma politikalarının tanımlanması iin temel birimler*- tanımları geliřtirildi.

Anahtar Kelimeler: İdeal ve Gerek Kentsel Arkeolojik Potansiyel, Arkeolojik Katmanların Kalitesi, İzmir Tarihi Kent Merkezi, ok Katmanlı Tarihi Kent Merkezleri, Katmansal Planlar, Eş-deęer Alanları, Kentsel Arkeolojik Karakter Blgeleri, Kentsel Arkeolojik Veritabanı (CBS)





Dedicated to Prof. Dr. Gönül TANKUT

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TABLE OF CONTENTS

PLAGIARISM	iii
ABSTRACT	iv
ÖZ	vi
DEDICATION	viii
ACKNOWLEDGMENT	ix
TABLE OF CONTENTS	x
LIST OF TABLES	xiv
LIST OF FIGURES.....	xv
LIST OF ABBREVIATIONS	xviii
CHAPTERS	
1 INTRODUCTION.....	1
1.1 Problems and Potentials in Handling Archaeological Resources in the Planning Process in Turkey.....	2
1.2 Aim and Scope of the Thesis	4
1.3 The Method of the Thesis	5
2 URBAN ARCHAEOLOGY AND PLANNING	11
2.1 Development of Urban Archaeology as an Interdisciplinary Field of Study.....	11
2.2 Archaeology and Planning.....	14
2.2.1 International Documents on Archaeology and Planning.....	14
2.2.1.1 The Colloquy on Archaeology and Planning.....	14
2.2.1.2 Recommendation No. R(89) 5, Council of Europe.....	16
2.2.1.3 The European Code of Good Practice: “Archaeology and the Urban Project”	17
2.2.2 Examples of Best Practices in European Countries	19
2.2.3 The Development of the Concept of Urban Archaeology in Turkey	22
3 METHODOLOGICAL FRAMEWORK	27
3.1 Introduction.....	27
3.2 Urban Archaeological Database Model.....	32

3.3	Topographic and Geographical Elements	34
3.4	Ideal Archaeological Potential / Pi in Equation	35
3.4.1	The Primary Sources of Information.....	36
3.4.2	Secondary Sources of Information	39
3.4.3	Evaluation of Ideal Urban Archaeological Potential.....	40
3.5	Destruction on Urban Archaeological Resources / D in Equation.....	45
3.6	The Quality of the Deposit / q factor	48
3.7	The Overall Evaluation of the Planning and Conservation Studies.....	49
3.8	Real Urban Archaeological Potential / Pr.....	51
4	CASE STUDY; URBAN ARCHAEOLOGICAL RESOURCES IN İZMİR HISTORIC CITY CENTRE.....	54
4.1	Definition of Case Study Area and Its Boundaries	55
4.1.1	Socio-economic and Historical Development of İzmir and Its Vicinity	55
4.1.2	Boundaries of Case Study Area	62
4.2	Urban Archaeological Database Model in İzmir Historic City Centre	62
4.3	Topographical and Geographical Factors in İzmir	64
4.4	Ideal Archaeological Potential in İzmir Historic City Centre.....	66
4.4.1	Primary Sources of Information.....	66
4.4.1.1	Archaeological Researches	68
4.4.1.1.1	Archaeological Excavations	68
4.4.1.1.2	Rescue Operations of İzmir Archaeological Museum.....	71
4.4.1.1.3	Archaeological Surveys.....	73
4.4.1.1.3.1	Extensive Survey in İzmir Historic City Centre.....	73
4.4.1.1.3.2	Intensive Surveys in İzmir Historic City Centre	75
4.4.1.1.3.3	Geophysical Surveys in Agora and Its Surroundings.....	79
4.4.1.2	Old Maps, Plans and Photographs	80
4.4.2	Secondary Sources of Information for İzmir Historic City Centre	83
4.4.2.1	Ancient Writer's Statements.....	83
4.4.2.2	Travellers.....	84
4.4.3	Diachronic Plans	87
4.4.3.1	Ancient İzmir	88
4.4.3.1.1	The General Layout of the City:.....	88
4.4.3.1.2	Inner Organization of the City:.....	89

4.4.3.2	Byzantine and Early Turkish Principalities	92
4.4.3.2.1	The General Layout of the City	92
4.4.3.2.2	Inner Organization of the City	93
4.4.3.3	Early Ottoman Period	95
4.4.3.3.1	The General Layout of the City	95
4.4.3.3.2	Inner Organization of the City	96
4.4.3.4	Late Ottoman to Early Republic	99
4.4.3.4.1	The General Layout of the City	99
4.4.3.4.2	Inner Organization of the City	100
4.4.3.5	Early Republic to 1950s.....	103
4.4.3.5.1	The General Layout of the Historic City Centre:	103
4.4.3.5.2	Inner Organization of the Historic City Centre	103
4.4.3.6	1950's to the Present.....	105
4.4.4	Evaluation of Ideal Urban Archaeological Potential in İzmir Historic City Centre	107
4.5	Destruction on Urban Archaeological Resources	111
4.5.1	Destruction by re-use in İzmir Historic City Centre	111
4.5.2	Destruction by disasters in İzmir Historic City Centre	112
4.5.3	Destruction by modern construction methods.....	113
4.6	The Quality of Deposit in İzmir Historic City Centre.....	117
4.7	The Overall Evaluation of Planning and Conservation Studies.....	119
4.7.1	Development Plans.....	119
4.7.2	Conservation Plans.....	120
4.7.3	Sites Decisions and Registration Inventory of Immovable Cultural Properties	125
4.7.4	Conservation Agenda in İzmir Historic City Centre	126
4.8	The Real Archaeological Potential in İzmir Historic City Centre	127
4.9	Urban Archaeological Character Zones in İzmir Historic City Centre.....	131
5	CONCLUSION	155
5.1	The Evaluation of Methodological Framework	155
5.2	The General Strategies for İzmir.....	157
5.3	The Further Suggestions for the Multi-layered Historic City Centres	160

REFERENCES.....	164
APPENDIX	
EXAMPLE OF FIELD INVESTIGATION INVENTORY FORM	171
RESCUE OPERATIONS BY İZMİR ARCHAEOLOGICAL MUSEUM.....	173
THE OLD MAPS, PHOTOGRAPHS AND ENGRAVINGS OF İZMİR.....	184
THE OLD DEVELOPMENT AND CONSERVATION PLANS	191



LIST OF TABLES

Table 3-1:	An example table for the evaluation of Ideal Urban Archaeological Potential by diachronic documentation.....	42
Table 3-2:	The reordered example table that allows the evaluation of similarities and differences between equi-property areas.	45
Table 3-3:	State of survival for the sites and edifices.....	47
Table 3-4:	An example table for the evaluation of Real Urban Archaeological Potential to define Urban Archaeological Character Zones.....	52
Table 4-1:	Traveller had visited İzmir between the beginning of the 17th century and the beginning of the 20th century	85
Table 4-2:	The Evaluation of Equi-property areas in İzmir Historic City Centre	109
Table 4-3:	Known earthquakes and fires in İzmir Historic City Centre.	112
Table 4-4:	Reordered Table of Equi-property Areas	128
Table 4-5:	The Evaluation of UACZ in İzmir Historic City Centre	130
Table 4-6:	The Categories of Urban Archaeological Character Zones in İzmir Historic City Centre.....	153
Table 7-1::	Urban Archaeological Structures were marked on Figure 7-4.....	193

LIST OF FIGURES

Figure 3-1:	The evaluation of the Real Urban Archaeological Potential by the equation ..	32
Figure 3-2:	A simple part of the suggested structure for the current application of GIS within archaeology	33
Figure 3-3:	An example for UAD, Gloucester Urban Archaeological Database, U.K.,..	34
Figure 3-4:	Three Levels of Information	44
Figure 3-5:	The conserved archaeological potential in the City of London.....	47
Figure 4-1:	The old and new locations of settled area in İzmir.....	55
Figure 4-2:	Triangulated Irregular Network (TIN) Model of İzmir Historic City Centre... ..	63
Figure 4-3:	A print screen view of Urban Archaeological Database prepared by B. Belge	64
Figure 4-4:	The development of the coastline from the Ancient Periods to the Present.	67
Figure 4-5:	The existing map of the State Agora and probable boundaries.....	69
Figure 4-6:	İzmir Theatre in 1922 and Restitution Drawings	70
Figure 4-7:	The sketch of Ancient Smyrna by Nauman and Kantarcı.....	70
Figure 4-8:	Rescue Operations and Known Monumental Structures in İzmir Historic City Centre.....	72
Figure 4-9:	The evaluation of extensive survey according to different types of building and pattern	74
Figure 4-10:	The surveyed zones in the 1995' Survey	77
Figure 4-11:	The Cultural Properties to be preserved according to the surveys.	78
Figure 4-12:	Surveyed areas in the inner court and the streets by GPR (DRAHOR, M.G., 2002)	79
Figure 4-13:	İzmir in Ancient Period.....	91
Figure 4-14:	İzmir in Byzantine and Early Turkish Principalities Period.....	94
Figure 4-15:	İzmir in Early Ottoman Period.....	98
Figure 4-16:	İzmir in Late Ottoman Period.....	102

Figure 4-17:	İzmir in 1950s	104
Figure 4-18:	İzmir in the Present	106
Figure 4-19:	3D views of the diachronic reconstruction plan.....	108
Figure 4-20:	Equi-property areas in İzmir Historic City Centre	110
Figure 4-21:	The destroyed and conserved areas around the State Agora	115
Figure 4-22:	Destruction by Re-use, Disasters and Modern Developments in İzmir Historic City Centre.....	116
Figure 4-23:	The quality of deposit, q factor depending on the slope intervals.....	118
Figure 4-24:	The recent boundaries of different categories of conservation sites	126
Figure 4-25:	Zone 1 – The State Agora Project Area	133
Figure 4-26:	Zone 2 - Mix Buildings on Conserved Traditional Pattern of 19th Century....	135
Figure 4-27:	Zone 3 - Traditional Buildings on Conserved Grid-Iron Pattern	136
Figure 4-28:	Zone4 - Mix Buildings on Conserved Grid-Iron Pattern	138
Figure 4-29:	Zone 5 - Traditional Buildings on Conserved Traditional Pattern of 19th Century	139
Figure 4-30:	Zone 6 - 3rd Degree Urban Archaeological Potential / Limited Development Zone	140
Figure 4-31:	Zone 7- traditional Buildings and Squatters on Morphed Grid-Iron Pattern....	141
Figure 4-32:	Zone 8 - 1st Degree Urban Archaeological Potential / Conservation Zones.	142
Figure 4-33:	Zone 9 - Kemeraltı Arc (Traditional Buildings on Conserved Traditional Pattern of 19th Century)	143
Figure 4-34:	Zone 13 - Traditional Buildings on terraced Terrain parallel to the Roman Road	146
Figure 4-35:	Zone 15: Mix Buildings on Conserved Traditional Pattern of 20th Century	147
Figure 4-36:	Zone 17 - Squatters / 2nd Degree Urban Archaeological Potential	148
Figure 4-37:	Zone 18- Kadifekale / Restricted Development Zone.....	149
Figure 4-38:	Urban Archaeological Character Zones in İzmir Historic City Centre according to their categories.....	154

Figure 6-1:	Thomas Graves' Map – 1836-37	184
Figure 6-2:	Luigi Storari' Map – 1854-56	185
Figure 6-3:	The Water Disturibution Map – 1897	186
Figure 6-4:	The sketch of İzmir in 1992	187
Figure 6-5:	The Current Map of 1950s	188
Figure 6-6:	Svoboda, 1865, a general view from Değirmentepe (1997a, p.17).....	189
Figure 6-7:	Svoboda, 1865, a general view from Bozkaya (1997, p. 23)	189
Figure 6-8:	The Engraving of J.P. de Tournefort, (PINAR, İ., p.45).....	190
Figure 6-9:	The Engraving of K. von Haller, (PINAR, İ., p.251).....	190
Figure 7-1:	Rene Danger's Plan.....	191
Figure 7-2:	Aru, Özdeş and Canpolat Plan	191
Figure 7-3:	Bodmer Plan.....	192
Figure 7-4:	The Reconstruction Commission' Inventory in 1938	192



LIST OF ABBREVIATIONS

- GIS – Geographic Information Systems
- İMM – İzmir Metropolitan Municipality
- NGOs – Non-govermental Organizations
- PPG – Planning Policy Guidance
- UACZ – Urban Archaeological Character Zones
- UAD – Urban Archaeological Database



CHAPTER 1

INTRODUCTION

“In order to prosper in the future, towns must continue to change and develop, as they have always done in the past. This meant that a balance must be struck between the desire to conserve the past and the need to renew for the future.” (European Code of Good Practice, 2000)

The balance between the conservation and the development; one the hand, the archaeologists said that archaeology is a study of the physical remains of man’s past, on the other hand the planners saw their task as guiding the physical development of regions, town and rural areas to meet contemporary and future social, cultural and economic needs to conserve and improve the environment and “the quality of life”¹ (MADRAN, E., (ed.), 1999, p.264).

It is known that the archaeological resources are irreplaceable and non-renewable resources that are highly fragile and vulnerable to destruction. With the many demands of the modern society, it is not always feasible to save all archaeological remains. The key question is where and how to strike the right balance (PPG 16, 1990, para. 3-7).

In the defined context, it will be possible to strike the right balance provided that the archaeological resources are evaluated and considered in each stage of the planning and development process. At that point, urban archaeology is considered as an interdisciplinary field of study that evaluate the cultural stratification in cities and understand the historical background of urban life, while urban planning is a decision making institution on the

¹ The Colloquy on Archaeology and Planning, Florence, 25 October 1984, Council of Europe

development of urban areas and a mediator between the actors in urban areas should be seen as the key / indispensable disciplines.

Then, the study concentrates on the evaluation of sub-soil archaeological resources, which were not usually taken into consideration by urban planners.

1.1 Problems and Potentials in Handling Archaeological Resources in the Planning Process in Turkey

Planning strategies and decisions have either positive or negative critical effects on urban archaeological resources. Therefore, since the earliest stages of the planning process, as a necessity, urban planners should be well-informed about the urban archaeological resources. Although, most of the historic city centres in Turkey have been settled since the earlier periods, urban planners are not still well equipped on urban archaeological resources in Turkey.

There are different data sets on urban archaeological resources that are stored in such authorities like Regional Conservation Commissions, Archaeological Museums, Municipalities, Research Centres, Universities and NGOs involving various inventories. However, there is not a standard or usable format having a complete inventory. Even the records of the recent past are not available to examine. In other words, there is no computerized and spatial inventory for the whole country, so there is no chance to use them for the processes of decision making and planning.

In summary, the evaluation of real archaeological potential in historic city centres is seen as the crucial problem of the handling of archaeological resources in the planning process. Especially sub-soil archaeological resources –invisible- could not be identified effectively because of non-spatial and non-standardized sources of information.

Moreover, there are problems in the financial, administrative and legal frameworks of urban archaeology in Turkey. Financial support for recording and preservation of all archaeological sites are provided by the Ministry of Culture and Tourism's respective departments, their working and financing capacity are very limited. Non-professional experts on urban

archaeology and the lack of technical support are the other important problems that cause the loss of non-renewable resources (TUNA, N, 1999).

Aforementioned problems have caused a lack of co-operation between urban planners, archaeologists and architects. Thus, the problems begin in the earliest stages of the urban archaeological studies and the planning process. As a result, the urban archaeological resources can not be integrated effectively into the planning process. Therefore, integrated planning strategies that allow both the preservation and the development can not be progressed.

On the other hand, because of lack of legal, administrative and financial supports, inadequate urban archaeological database and inefficient planning tools; such development operations – public or private- like subways, rehabilitation project for historical centres, parking lots, etc. threaten the discovery and protection of archaeological heritage.

Consequently, these problems caused even the destruction of urban archaeological resources, deliberately. Tuna (TUNA, N., 1999, p.222) states that;

“In the Turkish planning experience, urban archaeological remains until now have been considered either somewhat a hindrance for urban development hence to be eliminated, or in a more permissible mood, parts of cities to be ignored and excluded. Recently though, the attitude has changed entirely, so that urban archaeology is commonly evaluated as an important given value in the urban planning process”

Recently, the changes in legal and administrative frameworks enhanced the interdisciplinary structure of the preservation of cultural resources. The conservation planning process is defined as an interdisciplinary study under the control of urban planners in relation with disciplines like architecture, restoration, the art history, archaeology, so on. At that point, the co-operation of related disciplines should be an obligatory necessity. Moreover, the evaluation of urban archaeological resources may be one of the earliest stages of pre-planning analyses which is important not only in the preparation but also in the implementation of development and conservation plans.

1.2 Aim and Scope of the Thesis

The study aims to define a simple methodological framework to integrate the urban archaeological resources –especially sub-soil sources- into the planning and decision-making processes. The determination of conserved archaeological resources underground the historic city centre is defined as the main aim of the study. Therefore, the study is designed in two parts; firstly, the probable sources and evaluation of informations are defined basically in a conceptual part. Then, the results of simple methodological frameworks are researched in detail in İzmir Historic City Centre.

As a result, the study is based on the relation between the urban archaeological studies and the planning institution. The urban archaeological studies are the outputs of detailed research and analyses that have been made usually by means of the interdisciplinary structure. Both archaeological and historical sources have to be evaluated in the urban archaeological studies. However, this thesis is not an archaeological or historical research, recording exactly the multi-layered structure² of the historic city centres. The lack of information about urban archaeological resources and the technical abilities could not allow establishing such a study.

This study is just a methodological framework and exploratory study which aims to answer the following three questions:

- How different archaeological and historical datasets can be stored systematically by means of Geographic Information Systems (GIS)?
- How these datasets can be evaluated to determine the conserved urban archaeological potential in the historic city centres?
- How the conserved urban archaeological potential can be evaluated to define integrated conservation strategies and planning decisions that will enhance the sustainability and continuity of the historic city centres?

² A. G. Bilgin Altınöz (2002, p.iii) define multi-layered towns as “*the towns which have been continuously inhabited since early ages onwards and where still inhabitation exists; the majority of the Anatolian towns have such a structure*”. In this study, the concept of the multi-layeredness is used in the same meaning.

1.3 The Method of the Thesis

In the second chapter of the study, a basic literature review; firstly, the development of the concept of urban archaeology is studied to understand the interdisciplinary structure of the topic. Then, international documents and best practices in European Countries are evaluated to capture the indispensable relation between archaeology and planning. Lastly, the development of concept and recent development are studied to determine the detailed problems and potentials in handling urban archaeological resources in the planning process in Turkey.

Consequently, as mentioned before, the study is established in two parts; the conceptual part, that define the methodological framework for the evaluation of urban archaeological resources, and the case study that aims to examine the application of the methodological framework in one of the most important multi-layered centre in Turkey, İzmir Historic City Centre.

In the conceptual part of the study, firstly, an ideal Urban Archaeological Database (UAD) is defined as a technological facility to make spatial analyses by archaeological and historical datasets in various formats. This UAD is a model of database that allows making spatial analyses by GIS than a model of urban data bank.

Then, primary and secondary sources of information in UAD are defined according to their reliability. Primary sources are defined as first hand data on archaeological resources including archaeological excavations, rescue operations and archaeological surveys. Old maps and photographs are also used as primary sources. Secondary sources are visual or written historical documents which are used in order to obtain information about the previous periods.

After that, the methodological framework defined by Garmy (GARMY, P., 1995, p.3) for the evaluation of real urban archaeological potential in multi-layered historic city centres is chosen as a guideline. Garmy advises a basic equation that obtains ideal archaeological resources, destruction of it and the quality of deposits.

In this defined context, how UAD can be used to define the Ideal Archaeological Potential, theoretically meaning probable archaeological resources without any destruction, is explained step by step. Physical and morphological developments of cities are studied as successive occupation of the city and its topohistorical development. Then, equi-property areas, where the same urban archaeological layers overlay, are defined as the sub-units of ideal archaeological potential. The equi-property areas are used as a term of the potential for archaeological resources.

Then, the evaluation methods of the mass destruction by modern construction methods or partial destruction by re-use and disasters on urban archaeological resources are defined. At that point, the differences between modern and traditional construction methods are pointed out to examine the destruction properly. After that, the next step is the evaluation of the positive or negative effects of the quality of urban archaeological resources. The dominance of topographical factors is explained in detail.

The evaluation of past and recent planning policies and conservation decisions are defined as the necessity for determining the real archaeological potential. Because, the preservation of urban archaeological resources have been affected by the designated urban conservation areas and the applied planning policies. The probable positive and negative effects of these policies are tried to be explained in the defined context. In other words, the effects of planning and conservation policies are evaluated according to the recent problems in historic city centres.

The real urban archaeological potential is defined as an output of the aforementioned steps. In other words, real archaeological potential can be seen as the probable conserved urban archaeological resources, which may be either remains -on soil or sub-soil- or preserved traces of the previous urban morphology. The probable characteristics of the evaluated potential are determined as unclear crucial subjects. The real problem can be seen as the determination of spatial diffusion of the urban archaeological resources underneath the cities. Certain problems as well as the archaeological potential concentrate on urban archaeological character zones (UACZ) which have been described for the management of urban archaeological resources. In summary, character zones are described as the basic units of planning and conservation policies.

The effective strategies for each zone in detail will let enhancing urban identity and create urban continuity in historic city centre by means of the evaluation of archaeological and historical sources of information. The defined methodological framework has been examined by means of an exploratory case study in İzmir Historic City Centre. In this study, the exploratory research on İzmir allows to evaluate the methodological framework in terms of urban planning in Turkey.

İzmir has been one of the most important gateways of Anatolia during its history. By means of its defined role, İzmir and its region have been inhabited continuously since the earlier periods. Because of multi-layered deposition, İzmir Historic City Centre is defined as the 1st Degree of Urban Historical Site and the 3rd Degree of Archaeological Site by İzmir 1 No Regional Conservation Commission. Moreover, there are monumental sites such as the State Agora, the Theatre, the Roman Road and the Stadium which are defined as the 1st Degree of Archaeological Site in the historic centre. However, because of similar problems in the cities having a strong historical background, the urban archaeological resources have been threatened by ad hoc activities in the present, İzmir Metropolitan Municipality acts positively for the archaeological heritage in the State Agora. Moreover, the İzmir City Archives, which have documents of all periods of the city is an important step to create urban continuum, established by İMM. In the defined context, İzmir Historic City Centre have problems and potential in handling the urban archaeological resources into the planning process. As a result, İzmir Historic City Centre has been chosen as the case study area for researching the aforementioned methodological framework that will be used to define UACZ in multi-layered historic city centres.

Firstly, archaeological and historical sources about İzmir Historic City Centre are researched as much as possible to define Ideal Archaeological Potential. Then, the obtained data have been evaluated to define primary and secondary datasets according to their reliability. Archaeological excavations in the State Agora, rescue operations by İzmir Archaeological Museum and archaeological surveys are taken as primary sources to define ideal archaeological potential. Also, old maps and photographs, which have been prepared since the second half of the 19th century, are used to enhance the ideal archaeological potential in İzmir Historic City Centre. The statements of ancient writers and the itineraries of the

travellers who had visited İzmir between the 17th and 19th centuries are used as the secondary sources of information.

Then, diachronic reconstruction plans are prepared for historical periods that are determined according to the turning points in the socio-economical history of İzmir. Diachronic reconstruction plans let *“the comprehensive understanding of an urban environment by means of horizontal and vertical cross-sectional analyses and thematic studies presenting the full history of the Cities”* (SOMMELLA, P., 1984 p2). Consequently, 60 equi-property areas are determined in İzmir Historic City Centre.

Primary and secondary information optimise the archaeological potential and determine the ideal urban archaeological potential in İzmir Historic City Centre. However, by the time, the archaeological resources have been destroyed either completely or partially by various reasons. Therefore, destructions on urban archaeological resources in İzmir Historic City Centre by re-use, disasters and modern construction methods are mainly studied. Firstly, the destruction by re-use meaning the destruction of the structures and artefacts of earlier cultural deposits by later urban activities are studied. Therefore, while equi-property areas are assessed according to continuity and cultural accumulation, the risk of destruction in the the layers of earlier period are established. In addition to the defined factor in re-use, the records about the destruction of the ancient monumental building which has been used in the the construction of monumental building of especially the 18th Century are studied.

Secondly, although the exact results of earthquakes can not be estimated, the consequences of known earthquakes are summarized in İzmir where the existing fault-lines are still in motion. In addition to earthquakes, the effects of fires that either follow the earthquakes or have occurred by themselves have been examined. Lastly, the destroyed areas where new modern buildings are constructed by modern construction methods have destroyed the urban archaeological deposits. In addition to modern construction methods, the infrastructure and development projects which have destroyed the urban archaeological resources in İzmir Historic City Centre are studies. Of course, these public projects and investments are to satisfy the needs of urban life, but financial and administrative problems have caused insufficient documentation during the construction. As a result, the sub-zones, where urban

archaeological resources are destroyed wholly or partially in İzmir Historic City Centre, are established.

The quality of the urban archaeological resources, that is the q factor, is established. Only topographical data is available to define the q factor in İzmir Historic City Centre. The slope intervals are determined by means of GIS. Then, the conserved archaeological strata in each interval are estimated according to the result of rescue operations by İzmir Archaeological Museum. Moreover, the conserved traces of grid-iron axes were used to enhance the results. In addition to the topographical factors, further / probable research activities to enhance the q factor are defined.

Lastly, the planning and conservation studies have been studied chronologically to search their negative or positive effects on the urban archaeological resources. Primarily, the development plans including Rene Danger Plan in 1922, Aru, Özdeş and Canpolat Plan in 1950s, Bodmer Plans in 1957 and 1973 Master and 1978 Revision Plans, are criticised according to their direct or indirect effects on the urban archaeological resources. Then, the Conservation plans including the Reconstruction Commission' Inventory in 1938, the Kemeraltı Conservation Plan in 1984, the Conservation Master Plan of Kemeraltı and Its Surroundings in 2002, the Revision Conservation Plan of Kemeraltı in 2002 and the Conservation and Regeneration Project of the Agora and Its Surroundings by İMM, are evaluated briefly in urban archaeological terms. In addition to the planning activities, Site Decisions in İzmir Historic City Centre are uploaded to UAD to observe the coincidence of site decision with archaeological potential. In summary, the present conservation agenda in İzmir Historic City Centre and the recent planning and conservation policies are summarized to define potentials and problems in the implementation of plans and decisions.

As the last stage of the methodological framework, the real urban archaeological potential in İzmir Historic City Centre is evaluated as an outcome of the superimposition of the aforementioned analysis. It is observed that; surely, the evaluated potential doesn't have the same characteristics in all of the defined areas. While, some part of the archaeological layers have been preserved well and are under the pressure of modern development, some part will lose its uniqueness. Therefore, 27 UACZ are determined exactly in İzmir Historic City Centre. The details of these zones include an assessment of archaeological potential, threats

and opportunities in character zones and research potential for the future studies. As a matter of fact, boundaries of zones can be changed by more data or urban dynamics changing in the future.

UACZ are evaluated according to the conserved and destroyed archaeological potential in categories like “conservation areas” (restricted development), “research areas and controlled development areas”, “limited development areas” and “development areas”. Consequently, management strategies are developed for each zone in detail. In addition to detailed strategies for each zone, general management strategies on the problems in financial, administrative and legal terms are suggested as the promises of the study.



CHAPTER 2

URBAN ARCHAEOLOGY AND PLANNING

2.1 Development of Urban Archaeology as an Interdisciplinary Field of Study

In the second half of the 19th Century, the effects of industrialization started to be seen as the construction works in the important centres of Europe like London and Oslo. Sarfatij (SARFATIJ, H, 1999, pp.21) regards the recording of traces of habitation in these centres as the beginning of modern urban archaeology in Europe, even the documentation of archaeological resources has been carried out insufficiently by non-professionals. He also mentions about the unprecedented wealth of archaeological data in Novgorod, where systematic archaeological excavations are carried out to document the layers underneath the whole town. Consequently, Sarfatij (SARFATIJ, H, 1999, pp.22) says that;

“..., London or Oslo showed how rescue excavations may be necessary when archaeological remains are threatened by new construction work. Novgorod illustrates exactly how much the ground beneath a town can reveal as an archaeological resource providing it is studied in the correct manner following archaeological methods. Both these aspects were not widely combined in the period immediately after the Second World War when the restoration the innumerable city centres devastated by the war was commenced. There was an immediate need for archaeological works in the areas concerned and this was the first time that urban archaeology was approached in any systematic manner.”

At that point, the concept of urban archaeology can be defined as the rescue excavations to have more and rapid information on the archaeological resources before the new development operations.

Between 1960 and 1970s, the archaeological studies in urban areas started to be seen as a field of study. Integrated conservation strategies are developed and urban archaeology, as archaeology in urban areas has become an interest of urban conservation. Strategies for the archaeological advice before planning, the archaeological excavations before construction have been developed by international documents. Also, public access and presentation of the archaeological sites in towns are other significant topics in urban archaeology (BİLGİN, A.G., 1996, p.11).

However, the primary interest is still, the archaeological excavation in the study field. International documents, such as the European Convention on the Protection of the Archaeological Heritage (London, May 1969) concentrated on the necessary measures to ensure that excavations are authorised, entrusted, controlled and the result are proceeded by the qualified persons.

In fact, urban archaeology begins to develop by the new threats that have emerged by the impact of large-scale construction projects resulting from the pressure from an increasing population and the rising standards of living (motorways, underground railways and high-speed trains, re-planning of historic centres, car parks etc.) and due to the physical planning schemes (2002b, p.2).

Sarfati (SARFATI, 1990, p.25) calls the aforementioned period as the second wave of devastation and points out that

“The threat to archaeological remains lying beneath towns affected by development schemes was particularly great because modern building methods are much destructive than those used in the past. Mechanisation had allowed us to dig deeper, whether for the purpose of e.g. pouring concrete foundation or constructing underground car parks. Urban archaeology was thus faced with an immediate and immense challenge, almost without warning”

As a result, urban archaeology has changed its definition from “archaeology in town” to “archaeology of urban life” (BİLGİN, A.G., 1996, p.11). At the same time, conservation and

enhancement of the archaeological heritage have become one of the goals of urban and regional planning policies by The Valletta Convention (16 January 1992). The convention invites managers and developers, authorities and researchers who are some of the various actors to analyse how to associate protection and planning. Also, the convention insists on the creation of administrative structures to integrate archaeological data into development projects (2002b, p.2). The aim of the Convention can be summarized briefly as;

“The protection of the archaeological heritage as a source of European collective memory and as an instrument for historical and scientific study”
(2002b, p.3)

As the defined context, the integrated conservation of the archaeological heritage and the promotion of public awareness are defined as the primary goals of the States. As an outcome of the convention, the European Urban Archaeological Project have successfully completed to set urban consciousness as one of the most important studies in “the Campaign of European Archaeology Years” between 1992 and 1997 (TUNA, N, 2003, p.88)

In summary, urban archaeology has emerged as a field of study during the reconstruction of destroyed cities after World War II in Europe. During the redevelopment process, and until 1970’s, urban archaeology has been seen as works and excavations to rescue archaeological properties in urban areas. However, recently, urban archaeology is defined as an interdisciplinary field of study that aims to evaluate the multi-layered cultural accumulation in cities and understand the historical background of urban life.

The interdisciplinary structure of urban archaeology may be defined as the co-operation of archaeologists, urban planners, architects, urban and architectural historians, and other related disciplines. All of these interests play indispensable roles in urban archaeological studies. However, as a matter of fact, the planning as a controlling and decision making institution has an important role in the co-operation of various fields of interest. Primarily, the evaluation of urban archaeological resources is usually one of the earliest stages of pre-planning analyses. After that, the urban planners should be in a good dialogue between archaeologists and the others which is not only important in the preparation but also in the implementation of development and conservation plans. On the other hand, recently, urban

planners have another important role as a mediator between the other actors like developers, archaeologists and architectures. At that point, it should not be forgotten that, the efficient evaluation of urban archaeological resources in the earlier stages of planning process may allow to the easier implementation of plan and projects.

Another crucial point in the structure of interdisciplinary works is that, while each expert works on their themes, all of them should be well-informed about the fundamentals of other disciplines to establish a good relation. Having minimum information on each discipline will allow experts to be successful in discussions on archaeological resources, understanding the other disciplines and explaining the details of his/her disciplines to others.

2.2 Archaeology and Planning

International interest has increased on the specific topic that is the dilemma between archaeology and planning since 1980s. While international suggestions are developed for the conservation and enhancement of the archaeological heritage as a matter of urban and regional planning policies, national legal and administrative frameworks are developed for the integration of archaeological resources to planning process. Meanwhile, the roles of different actors and the general strategies are defined by international and national documents.

2.2.1 International Documents on Archaeology and Planning

2.2.1.1 The Colloquy on Archaeology and Planning,

The dilemma between planners and archaeologists is firstly considered in “Archaeology and Planning Colloquy organized by the Council of Europe in Florence, 25 October 1984. The colloquy has pointed out that, finite urban archaeological resources are an expression of common European cultural identity that has been threatened throughout Europe. General points in the colloquy are defined as;

- the vulnerability of the archaeological heritage,
- the lack of dialogue and understanding between archaeologists, planners, the public authorities in many cases,

- the vastly inadequate resources for archaeological heritage
- the lack of practical implementation of existing international conventions. (MADRAN, E., 1999, p.264)

As followed, the general points are similar to the problems in cultural heritage management. However, the importance of colloquy was the clarification of the respective approaches and objectives of archaeologists and planners. Delaunay summarizes the dilemma between archaeologists and planners and suggests that;

- *on one side are the planners, concerned with construction and development*
- *on the other side are the archaeologists, concerned with surveys, inventories, classification and conservation.*

Therefore very open dialogue must be established between these two groups. This should imply;

- *a prior understanding of one another's work*
- *inclusion of conservation or rescue interests in the decision-making process.*
- *programming and adequate financing of the necessary resources (DELAUNAY, C, 1984, p.2)*

In addition to these general strategies, specific proposals and suggestions are accepted by the Member States in the main headings. These main topics can be summarized as “the general surveys and prospecting”, “the integration of archaeological consideration in planning process”, “legislation”, “financial aspects”, “ increasing public awareness”, “training”, “information” and “research” (MADRAN, E. (ed.), 1999, pp.265-266) .

Briefly, the crucial suggestions are that archaeological databanks or other forms of information are defined as the preliminary obligations for better understanding of archaeological resources by planners. Moreover, the negotiations on tripartite basis (archaeologists, planners and developers) are suggested to decide on the archaeological potential of a site to be known. According to the colloquy, the negotiation will be based on;

- change in the development plan in order to avoid disturbing the archaeological deposit,

- provision of sufficient times and means for proper scientific investigation of the site (including publication of the results of investigation)

Another very important point is the increasing public awareness that will be achieved by the presentation of the archaeological remains to the local community, training and education programmes.

Consequently, archaeological databanks, negotiation between the actors and the importance of increasing public awareness may be summarized as the main contributions of the colloquy on archaeology and planning. By the colloquy, the fundamentals of handling the archaeological resources in the planning process are defined basically. These specific suggestions have also been indispensable points in the following international and national.

2.2.1.2 Recommendation No. R(89) 5, Council of Europe

The Council of Europe has prepared a “Recommendation on the Protection and Enhancement of the Archaeological Heritage in Context of Town and Country Planning Operations” in 13 April 1989. The recommendation concentrated on such development projects that may be in the public or the private sector, poses a particular threat to the discovery and protection of the archaeological heritage. Then, the recommendation’ aim is summarized as

“...the definition of principles, and particularly with methods, without going into detail on the provisions to be enacted which are the responsibilities of each state.”(MADRAN, E (ed.), 1999, p.353)

In the defined context, archaeological data banks linked with other sources are evaluated as a crucial necessity on handling the archaeology in the planning process, again. The developments of new working methods are seen as a chance for effective technical and scientific solutions. Also, the new equipment let more realistic time-limits, human resources and well-defined scientific objectives, are studied as the solutions for the problems in the field investigations before development.

Moreover, legal regulations based on consultations on funding have to be provided by the developers in accordance with the law suggested to solve financial problems in the discovering and conservation of the archaeological resources. Also, planning regulations based on the defined consultations let the establishment of more or less protected areas, practices regarding the control of building permits are other important contributions of the recommendation (MADRAN, E. (ed.), 1999, p.354).

Consequently, conditions for the success of harmonized development and protection operations will be established as the basic components and phases of the effective field interventions. Inventory and mapping of archaeological sites, the data collection methods, the presentation of the result to general public, the publication of summary report and the arrangements for accessibility of archaeological resources were defined as the crucial points in the field interventions. Especially, the archaeological data banks are determined as a very important point to the evaluation of archaeological potential at the earliest stage of planning process. Finally, archaeological field interventions before development are seen as a mandatory.

As a result, the complex and interdisciplinary structure of urban archaeology is enhanced by the recommendation. Especially, financial solutions based on contractual approaches let to transfer the cost of archaeological resources from public to private developer. Therefore, archaeological inventory works and planning applications can be financed more by public resources. The impacts of contractual approaches have effected administrative and legal terms in national scale in European countries. The best practices of these terms are evaluated at the latter section of the study.

2.2.1.3 The European Code of Good Practice: “Archaeology and the Urban Project”

The code of good practice has been prepared by a group of experts providing advice on the need of urban archaeology to the Cultural Heritage Committer of the Council of Europe. The code has been approved by the Cultural Heritage Committee in March 2000 (European Code of Good Practice, 2000).

In the defined context, the objectives of the Code of good practice are defined as;

“The enhancement of the protection of the European urban archaeological heritage through facilitating co-operation between planners, archaeologists and developers. All are concerned with the towns’ future. Having first highlighted areas where the revised European Convention on the Protection of the Archaeological Heritage (Valletta, 1992) is of especial relevance to urban planning, the code of good practice presents the many areas where such co-operation between all parties in the urban project can be readily assured.”(European Code of Good Practice, 2000).

Consequently, the role of urban planning enhanced by the code of good practice, at the same time, the indispensability of co-operation between different actors is emphasized. In detail, the code of good practice defines the roles of each actors based on tripartite which are urban planners and public authorities on one side, archaeologists on another side, and lastly, developers and architects on the other side.

The value of the urban archaeological resources to society and urban identity are crucial points in the role of public authorities and planners. Also, the historical topography of the town forming an important part of the character of town is defined as worths of preservation. The presumptions for preservations and adequate archaeological advice have been evaluated as the necessities in planning process. Urban archaeology and education are other important issues in the role of public authorities and planners. Because, the planners have been seen as responsible to explain the public and developers why the urban archaeological heritage is important and why money should be spent on preserving or investigating it. The roles of other actors are especially based on the professionally archaeological evaluation at the earliest possible date, and the understanding of the others responsibilities.

The Code of good practice exactly defines the mandatory relation based on interdisciplinary structure of urban archaeology. While, the preservation of archaeological heritage is established as the primary goal of urban archaeological studies, the strategies let to private or public development. In this structure, urban planning has a more crucial role for both the conservation and development in urban areas.

2.2.2 Examples of Best Practices in European Countries

The interdisciplinary structure of urban archaeology and the international terms on archaeology and planning have been studied until now. Aforementioned international frameworks have developed parallel to the administrative and legal terms in national scale. As aforementioned, the fundamentals of interdisciplinary studies, which are based on the cooperation between actors concerning with the future of towns, are defined. At the same time, the methodological frameworks and strategies for the preparation of effective development and conservation plans are developed. In this section, the administrative and legal frameworks have established a good dialogue between actors is summarized as the best practices in European Countries, especially in the United Kingdom. After that, a method used in France leading urban planners to make effective preliminary evaluation of urban archaeological resources, were discussed. At the end of the section, the zoning and coding method based on the determination of conserved urban archaeological resources are studied related with the aforementioned basic method which is defined in France.

The documents of Planning Policy Guidance (PPG) are prepared in the United Kingdom to gather the existing international recommendations and national legal frameworks in 1990s. The PPG 15 (Planning and the Historic Environment) and PPG 16 (Archaeology and Planning) are directly related with the study. Especially, PPG16 is a well established document leading the different actors of development like planning institution, private entrepreneur and conservation institutions to consultate on public benefit. Addyman (ADDYMAN, P., 2003, p.5) summarizes their contribution as;

“...Planning Policy Guidance 16 (Archaeology and Planning), which put the onus on developers to deal with the archaeology of their sites and placed an emphasis on the mitigation of damage rather than excavation in 1990’s. This transferred the cost of urban archaeology very largely from the public purse. More positively the PPG15 (Planning and the Historic Environment) and PPG16 requirements have created a climate in which the archaeological implications of proposed development are taken into account at the very earliest stages of the planning process”

PPG16 expresses the irreplaceable and non-renewable structure of archaeological resources. However, it point out that, “...with the many demand of modern society, it is not always feasible to save all archaeological remains. The key question is where and how to strike the right balance...,” (PPG16, para.8). At that point, the earliest decision to evaluate archaeological resources in the development and planning process are defined as the solution to control the process much easier.

The advices on the handling of archaeological matters in the planning process are defined in PPG 16 for the preparation of development plans which are so crucial to understand the importance of earlier evaluation of archaeological resources in the planning process. Paragraph 15 and Paragraph 16 said that:

“para 15 - Development plans should reconcile the need for development with the interests of conservation including archaeology. Detailed development plans (i.e. local plans and unitary development plans) should include policies for the protection, enhancement and preservation of sites of archaeological interest and of their settings. The proposals map should define the areas and sites to which the policies and proposals apply. These policies will provide an important part of the framework for the consideration of individual proposals for development which affects archaeological remains and they will help guide developers preparing planning applications.”

“para 16 - Although the surviving numbers of archaeological remains are finite and irreplaceable, obviously not all of them are of equal importance. Planning authorities may therefore wish to base their detailed development plan policies and proposals on an evaluation of the archaeological remains in their area. Archaeological remains identified and scheduled as being of national importance should normally be earmarked in development plans for preservation. Authorities should bear in mind that not all nationally important remains meriting preservation will necessarily be scheduled; such remains and, in appropriate circumstances, other unscheduled archaeological remains of more local importance, may also be identified in development plans as particularly worthy of preservation.”

Especially the terms on the evaluation of archaeological remains according to their importance and the degree of conservation, are very important for the planning authorities to determine the zones of equal importance.

PPG 16 has defined terms for not only pre-planning studies, but also for the planning applications and the implementations of proposed developments. It allows to planning authorities to control “the permitted planning rights” and define “specific planning permission when a specific threat emerges on known or probable archaeological sites (PPG16, para.18) . a well established model for the planning applications is determined. The stages of the planning applications on known or probable archaeological remains may be summarized as;

- Early consultation between developers and planning authorities at an early stage
- Field Evaluation:
- Consultations by Planning Authorities:
- Arrangements for Representation by Record Including Funding

At the end of the evaluations regarding archaeological remains, the alternatives for the planning decisions are defined as;

- Excavation and preservation in situ
- A prior excavation to record the archaeological evidences, where it is not feasible to preserve remains, it is defined as “*a second best opinion*” (PPG16, para.13)

In addition, the planning conditions for the on-going excavations during the construction periods and the holding of a “watching brief” are defined by PPG16. Also, the probable processes of the discovery of archaeological remains during development are defined.

Consequently, in PPG 16 on Archaeology and Planning defining the general strategies for the integration of archaeological resources to each stage of planning process can be seen as a complete guidance model. Of course, local differences should be evaluated to use this type of guidance model in the application of planning process. However, the unity of PPG 16 expresses the complex structure of urban archaeological studies in the planning process.

Another European Country, France has well-established legal and administrative frameworks on the management of urban archaeological resources. An international symposium on urban archaeology was organized in 1980 with parallel to the international interest on archaeological resources in urban areas. The symposium has concentrated on ad hoc archaeological operations carried out in the urban environment without any documentation. A computer based system is developed for the national mapping system. In addition, the need of the evaluation of conserved archaeological resources in the sub-soil is defined as a primary topic. As a result, the approach is defined within a basic equation, that is;

$$Pr = (Pi - D)^q \text{ (GARMY, P., 1995, p.3)}^3.$$

As mentioned above, the legal terms in the United Kingdom allows the planning authorities to determine the urban archaeological resources in different categories according to their significance. At the same time, the aforementioned equation used in France might be used to define these categories. The equation defines a conserved urban archaeological potential by the evaluation of ideal resources, destruction and the quality of the archaeological resources.

At that point, the real problem can be considered as the determination of spatial diffusion of the urban archaeological resources underneath the cities. The zoning practice based on the determination of the areas where the similar urban archaeological resources are probably conserved, have developed as a preliminary planning analysis. This analysis shall be defined as the interdisciplinary evaluation of urban archaeological resources. Especially in U.K., the outcome of the basic method, which is used in France, the real archaeological potential has been used as the base for the Supplementary Planning Guidance since 1990s.

2.2.3 The Development of the Concept of Urban Archaeology in Turkey

In Turkey, archaeological excavations and rescue operations which are usually concentrated on the monumental structure have been observed in urban areas since the Early Republican Periods. The archaeological excavations in the State Agora-İzmir or the Roman Baths-Ankara are the examples of first archaeological researches in the historic city centres.

³ The equation was explained in detail in Chapter 3.

Also, there are basic documentations on the findings by chance during the constructions of the New Republican Administrative buildings in each historic city centre.

Recently, the concept of urban archaeology is described by the 338 numbered Principle Decision⁴ of Higher Commission for the Protection of Cultural and Natural Resources in 1993. Urban archaeological sites are defined as areas where archaeological sites exist together with immovable cultural properties defined by the 2863 numbered Act⁵ and urban pattern that has to be conserved, defined in the same Act. This decision on urban archaeological sites includes the necessity of the scientific inventories of urban archaeological resources. Then, necessary planning studies in every scale have to be prepared urgently in urban archaeological sites. Although the principle decision on urban archaeological sites is redefined basically in by the 658 numbered Principle Decision⁶ of Higher Commission in 1999, the concept of urban archaeology has not been considered as an interdisciplinary field of study in Turkey, yet.

Because of lack of legal, administrative and financial supports, inadequate urban archaeological database and inefficient planning tools; such development operations like subways, rehabilitation project for historical centres, parking lots, etc. threaten the discovery and protection of archaeological heritage. In addition, the lacks of co-operation between urban planners, archaeologists and architects, the problems have been occurred in the earliest stages of the urban archaeological studies and the planning process. Thus, the urban archaeological resources can not be integrated effectively to planning process.

As a result of the aforementioned problems, the probable urban archaeological sites are still defined as the third category of archaeological sites to control the development process, especially in the historic city centre where there is more pressure of new developments. However, by the same principle decision, No: 338, the third category of archaeological sites is defined as the areas where the unity of archaeological resources was destroyed by natural

⁴ Higher Commission for the Protection of Cultural and Natural Resources, Meeting No: 30, Decision No: 338, 30.11.1993

⁵ Act for the Protection of Cultural and Natural Resources No:2863, replaced Act No :1710

⁶ Higher Commission for the Protection of Cultural and Natural Resources, Meeting No: 60, Decision No: 658, 05.11.1999

or artificial factors. Thus, new developments and arrangements, which have caused to unpredictable loss of urban archaeological resources in the historic city centres, have been allowed in the third category of archaeological sites by the inquiry soundings; Because, the continuity of urban archaeological resources can't be evaluate by non-professional inquiry soundings. Also, the non-standardized reports and non-spatial inventories don't allow the planning authorities to make a preliminary evaluation at the earlier stages of planning process. Therefore, the implementation problems have been observed in the planning applications and the proposed developments.

In addition to problems in pre-planning process, there are problems in the application of large-scale public or private investment in the historic city centres, e.g. İzmir Historic City Centre. When the Metro Project was prepared, the location of the Basmane Stop was discussed. The Metro constructed at a crucial point where urban archaeological layers have been overlaid from ancient periods to the present. As a result, important archaeological resources like a colonnade road⁷ are found at the construction site by the experts of İzmir Archaeological Museum. However, the urban archaeological resources could not be recorded scientifically because of administrative problems. At the end of the construction, some archaeological findings like columns are exhibited in the Basmane Stop. However, the İzmir Project can not be seen as a successful project when it is compared with the examples from the world like the Metro Project of Athens.

As an example of best-practice in Turkey, an evaluation of urban archaeological resources in the Historical Peninsula has been made to determine the location of stops of the Bosphorus Tube Passageway Project in earlier stages of the project. The minimum adverse impact on urban archaeological resources was the main aim of the evaluation. Therefore, the plot of the Post Office in Sirkeci, where urban archaeological resources are destroyed probably by modern buildings, is proposed as the best location for the Sirkeci Stop of the Tube Passageway. The filling areas of the ancient port, where urban archaeological potential is less, is choosen for the Yenikapı Stop of the Tube Passageway (TUNA, N, 2003, p.91). The positive effects of the evaluation of urban archaeological potential have been observed

⁷ Prof. Dr. Numan TUNA, the member of 1 No İzmir Regional Commission for the Protection of Cultural and Natural Resources

during the construction period. The importance of administrative facilities should be evaluated as a chance for the Historical Peninsula.

Recently, Act No: 5226⁸, defines new responsibilities for the Local Administrative to conserve the cultural resources. The Act allows the Municipalities and Local Governors to establish the department that may be specialized in the preservation of cultural resources. Also, tax advantages and sponsorship models are defined to support the preservation of cultural resources in local scale.

In addition to administrative and financial terms, new legal framework enhances the interdisciplinary structure of the preservation of cultural resources. The conservation planning process is defined as an interdisciplinary study under the control of urban planners with related disciplines like architecture, restoration, the art history, archaeology, and etc.

The authority of planning institutions on the preservation of cultural resources as a controlling and decision making institution has been enhanced by new legal framework. The co-operation of urban planners, archaeologists, architects, urban and architectural historians, and other related disciplines have become an obligatory necessity. Therefore, primarily, the evaluation of urban archaeological resources should be one of the earliest stages of pre-planning analyses. After that, urban planner as a mediator should establish a good dialogue between the other actors like developers, archaeologists and architects. That is important not only in the preparation but also in the implementation of development and conservation plans.

As aforementioned, another crucial point in the interdisciplinary structure of urban archaeology is that while each expert is concentrated on his/her study, all of them shall be well-informed about the fundamentals of other disciplines to establish a good relation. Minimum information on each discipline will allow urban planners to be successful in the preservation of urban archaeological resources and the preparation of effective conservation plans. The new legal framework also shall be evaluated in these terms.

⁸ Act for the Protection of Cultural and Natural Resources No:5226, 14.7.2004, Official Gazette 27.7.2004 / 25535

In summary, when the development of urban archaeology as an interdisciplinary field of study is examined, the integration of archaeological resources in each stage of planning process is perceived as an obligatory necessity for both the preservation of archaeological resources and the development of urban areas.

In defined context, firstly, the establishment of Urban Archaeological Databank is considered as an indispensable step to evaluate the urban archaeological resources in Turkey. The well-established database model can be established to evaluate and store the urban archaeological resources in the present by means of Geographic Information System. These UAD will allow the analysing of the records that have been stored in various institutions like Archaeological Museum or Regional Commissions. As a result, the urban archaeological resources will be understood by urban planners while preparing the plans and development strategies. Thus, the financial and technical requirements should be supported by the Municipalities that have had more responsibilities by the Act No: 5226.

The evaluation of real archaeological potential on soil or sub-soil resources, even the morphological traces in historical pattern, is the second step for handling the archaeological thinking in the planning process. The exact or probable determination of archaeological resources allows the urban planners to estimate the risk in the study area. While the management strategies are developed for the preservation of urban archaeological resources, the new development pressure may be controlled or modified to satisfy the needs of urban life.

In the next chapter, a simple methodological framework is defined to evaluate the urban archaeological resources in the historic city centres where there is a more development pressure. In the defined framework, firstly, an Urban Archaeological Database Model has been developed to evaluate archaeological and historical datasets. Then, how the real urban archaeological potential can be evaluated, is established step by step. Lastly, UACZ where exact management strategies may be proposed according to uniqueness of zone, are defined as the basic units of implementation / policies in the planning process.

CHAPTER 3

METHODOLOGICAL FRAMEWORK

3.1 Introduction

The conceptual part of the study defines a simple methodological framework aiming to integrate urban archaeological issues to planning process in multilayered historic city centres in Turkey. Although, there are alternative methods and techniques used in urban archaeological studies to determine the conserved sub-soil urban archaeological resources, the aforementioned method of P.Garmy (1995, p.8) has been chosen as the basic framework of the study.

P. Garmy enhances the urban continuum term, which has been used in terms of topographical and chronological components instead of highlighting specific elements in cities. This approach has been adopted to prepare “Documents for Evaluating the Urban Archaeological Heritage of the Cities of France” (DEPAU), which are instrumental in developing process, by National Centre of Urban Archaeology (C.N.A.U). Garmy (GARMY, P., 1995, p.3) summarizes these documents as:

“Each document examines the topohistorical evaluation of the urban fabric from its origins up until the most recent major changes, paying little attention to urban objects considered in isolation. The approach is thus different from that of the inventory: it seeks to compare an “ideal” heritage, largely identified on the basis of historical topography and archaeological data, with a “real” heritage resulting from a long series of interventions in the subsoil.”

As followed, the positive and negative effects on the conservation of urban archaeological resources and the possible sources of archaeological potentials have been analyzed by this

approach. The approach is defined within a basic equation, that is $Pr = (Pi - D)^q$. In this equation;

- *Pi is the potential that exists theoretically as a function of the successive occupations of the city and its topohistorical development*
- *D represent the massive destruction of archaeological deposits*
- *q is a complex factor relating to the quality of the deposit determined by topography (slope), orography (the site's capacity to preserve material) and the extent of the anthropic (human) deposit. As a precaution it will be considered that $Pr=0$ only in cases where it is absolutely certain that the anthropic deposit has been destroyed as far down as the geological substratum.*
- *Pr is the real potential that is being evaluated (GARMY, P., 1995, p.3)*

The methodological approach of Garmy has been used in many cities in France depending on the framework of DEPAU. Eleven DEPAU have been published and, twenty-five studies have been contracted. The cities range from medium-sized (Bayeux, Catres) or even small (Saint-Amand-Mondrod) cities to major ones like Strasbourg and Metz. Also, the methodological framework has been used for the response operations to emergency situations (GARMY, P. 1995, p.4). As aforementioned, the approach has been used a decision-making tool on the sub-soil urban archaeological resources in both the planning process and management of urban centres.

In the defined context, as summarized in the latter chapter, the methodological framework of Garmy has been adopted for the pre-planning analysis in the United Kingdom in 1990s. For example, York City Council has prepared an archaeological research on urban archaeological resources in 1990s. They summarize their aims as:

“Update knowledge of the City's archaeological resource and to provide a framework for ensuring the development of sites is secured in a way which can conserve the most outstanding archaeological resources. The archaeological resource defined in this study is primarily that buried below the existing ground level. The resource consists of deposits of potentially informative strata and finds which have survived underground in various states of preservation.

Building construction damages or destroys these deposits to a degree dependent on the type of foundations and method of construction used. The aim of the study is therefore to propose ways of resolving the potential conflict between development and archaeology.”(1996, the Summary of the Study Report)

Another example, a map is produced in 1990 by the Corporation of London to defined the areas where;

- archaeological deposits are known to have been removed or badly damaged and so have limited archaeological potential
- in the remaining areas such deposits survive and they therefore have archaeological potential (2001a, p.51).

The aim of this study is the definition of a general guide in the Corporation of London’s Unitary Development Plan. This map is defined as a good starting point of any potential developer in London. Such study has allowed the developers to decide the potential areas for investment.

Another recent planning document based on the archaeological character zones is prepared in Bath, U.K. in 2004. The Bath Supplementary Planning Document (SPD) determines the zones of archaeology in the City of Bath and defines advices for each zone to provide guidance to anyone involved in development and related activities (2004b, p.4).

The evaluations of archaeological resources based on the Urban Archaeological Database including cumulative records of known archaeological sites have been completed basically in 1997. Then, these records are combined with historical and recent maps by GIS. Finally, 36 character zones are defined in detail in the City of Bath. The problems and potential in each zone are evaluated to define exact strategies. Also, as a crucial point, the possibility of change in the zone boundaries in future more information is collected, are expressed by the Bath SPD.

In summary, the evaluation of ideal archaeological potential and the destruction on urban archaeological resources have been considered as the crucial factors in the equation. In addition to them, the q factor –the quality of the deposit- is the most important and the

complex feature in the evaluation process of the real archaeological potential. There are various variables to determine this factor. Therefore, in this study, the aforementioned method on real archaeological potential is enhanced by urban archaeological database. The evaluation of real archaeological potential should be taken as one of the most important problems in the studied topic. Also, conservation and planning works are studied as significant factors on urban archaeological resources. Recent planning and conservation policies have been evaluated in a context of the critic of potential and threats in the multi-layered historic city centres. And then, methodology is defined to determine the urban archaeological character zones that are units of implementation in the planning process.

In the multilayered historic city centres, there is a dilemma between the conservation of urban archaeological layers and the development of historic centres. Urban planning as a problem solving institution and controlling mechanism has a mediator role between conservation and the development institutions. Strategies and decisions that are defined by urban planners have either positive or negative critical effects on urban archaeological resources. Therefore, since the earliest stages of the planning process, urban planners should be well-informed about the urban archaeological resources while other analyses and researches are carried on. However, planning practice in Turkey, is still not well equipped on urban archaeological resources and real archaeological potential can not be determined exactly. Although there are different datasets on urban archaeological issues and planning process, as mentioned before, if these data are continued to be stored in different institutions in various formats, there is no chance to use them for the decision making / planning processes. At that point, P. Garmy (1995, p.8) confirms that:

“There is a little hope of rediscovering the urban significance of a fragment of rampart if it is preserved in the middle of a lawn. If, however, its significance is fully taken into account by urban planners, and the remains are integrated into their work, it will pose considerable forces. By adopting such an approach we shall be creating a physical band between urban history and modern urban development, instead of just artificially preserving in modern cities the traces of their past.”

Therefore, the study, firstly, should be concentrated on how different sources of information can be formatted in spatial terms with the same format. An ideal Urban Archaeological Database (UAD) is defined as a technological facility to make spatial analyses. The processing of different sources to allow defining ideal urban archaeological potential is a crucial point in the methodological framework. In the following sections, the basic indispensable steps and points have been defined as a conceptual framework. However, as mentioned before, the main aim of this study is not to prepare an UAD in detail. The study is a simple example for the handling of the archaeological resources, especially sub-soil resources, into planning process. The possible outcomes of the methodological framework and the attributes of UAD have been discussed related to on the limits of the case study, İzmir Historic City Centre.

Then, how historical and archaeological data can be spatial and uploaded to UAD is studied. While working on archaeological and historical datasets, it should not be forgotten that, sources are evaluated in different reliability. So, primary and secondary sources of information are defined with their possibilities of usage. How these datasets can be evaluated to determine the Ideal Archaeological Potential is established as next stage.

The following step is the determination of the different reasoned destruction on real archaeological potential. Partial or whole destruction on urban archaeological resources and the various reasons are studied in detail. Then, the conservative factors on urban archaeological resources like topographical or orographical (the site's capacity to preserve material) features are studied. In addition, planning and conservation works may have visible effects on urban archaeological issues. Therefore, how these works can be criticized in urban archaeological terms, is studied as another step. The evaluation of real archaeological potential and definition of urban archaeological character zones is the last stage of methodological framework.

These evaluations may simply be followed by Figure 3-1.

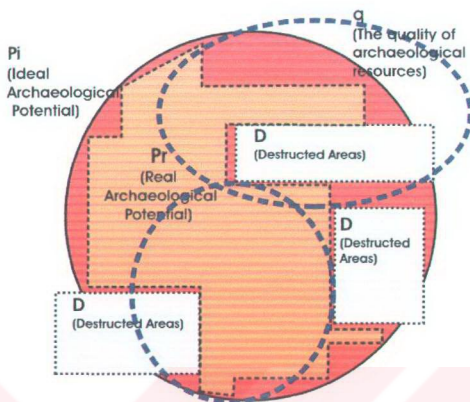


Figure 3-1: The evaluation of the Real Urban Archaeological Potential by the equation

As a result of spatial analyses, planning institutions can develop effective strategies and define the decisions on urban archaeological issues by defining UACZ in different categories. The planning policies can be developed more effectively depending on the archaeological potentials, the threats and quality of the deposit in each UACZ. As a result, the integration of urban archaeological issues into planning process will establish an urban continuum in multi-layered historic city centres. So, urban identity and sustainability may be enhanced in historic city centres.

3.2 Urban Archaeological Database Model

UAD model in this study is not an “Urban Data Bank” which usually includes historical data and resources. It should be seen just as a GIS based model that may be used for spatial referencing of different datasets by coordinates and database management. It will be reorganized to set an Urban Data Bank in the future. There are different available programs based on Geographic Information Systems (GIS) to set UAD.

GIS programs are used to link graphic/spatial data and related database. In addition, they make it possible to create georeferencing of different datasets, superimposition and overlaying analyses and 3D / graphic visualizations of layers. Wheatley and Gillings (2002, p234) assume a two brached use of GIS in archaeological terms. They have prepared a simple chart for the current GIS applications in archaeology.

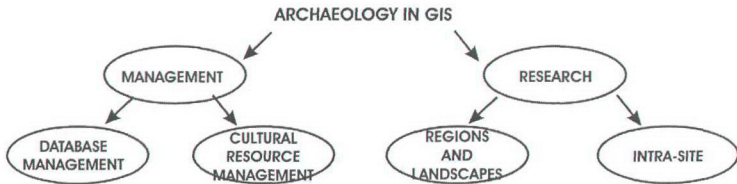


Figure 3-2: A simple part of the suggested structure for the current application of GIS within archaeology

(Wheatle, D., and Gillings, M., 2002, p.234)

The UAD model used in this study can be evaluated within the scope of the management branch of the simple structure above. It is a transition model between database and archaeological resource management. The structure and the attributes of UAD model have been studied in the latter sections. However, there should be more detailed database structure for the use of various sources of informations. At the end of the study, the preparation of a well-established database model has been suggested as a further research topic, in addition to the overall evaluation of the methodological framework. The following datasets should be studied in UAD model to make spatial evaluation of urban archaeological resources;

- Topographic and Geographical elements play significant roles on the layout and development of historic city centres.
- Archaeological and Historical Data (primary / secondary) let us determine Ideal / Probable Archaeological Potential in the historic city centres.
- Whole or partial Destruction on urban archaeological resources to understand the gaps in the ideal archaeological potential.
- Topographical and Orographical Factors are important features on preservation of urban archaeological resources from the human factor.

Real archaeological potential may be evaluated by superimposition of the aforementioned datasets. As a result of superimposition, of course, a unique or homogenous archaeological potential may not be determined. So, urban archaeological character zones in different categories may be defined easily by coding.

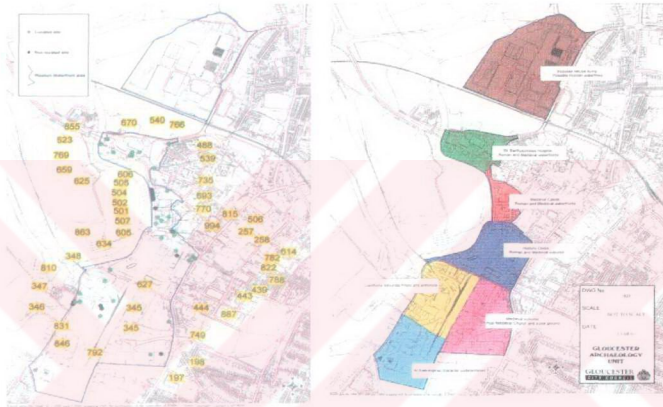


Figure 3-3: An example for UAD, Gloucester Urban Archaeological Database, U.K., Western Waterfront Area Known Archaeological Sites (to the left) and evaluated General Archaeological Characterisation (to the right), (<http://www.gloucester.gov.uk/libraries/templates/page.asp>, accessed in 22.12.2004)

3.3 Topographic and Geographical Elements

Topographical features like mountains, hills, rivers, sea / coastline and natural ports are important factors on both the general layout and inner organization of cities. Therefore, topographical features shall be studied chronologically in detail to understand their position in cities. Topographical features in the study area should be the first layer in UAD if there is no anthropic activity. Also, UAD may lead to evaluate tophistorical development.

During the historical development of cities, geographical events like fault lines, geo-politic position of city have played significant positive or negative roles on socio-economic and physical development of cities. Therefore, depending on the scale of urban archaeological study, geographical events have to be studied in UAD, too.

On the other hand, topographical features in the study area should be evaluated in geoarchaeological terms, because the traces of sub-soil urban archaeological layers can be observed by topographical references, such as sudden changes in the slope of area. Also, as mentioned in the further sections, the slope of the area has a positive effect on the conservation of urban archaeological resources.

3.4 Ideal Archaeological Potential / Pi in Equation

Garmy (GARMY, P., 1995, p.3) defines the Ideal Archaeological Potential as;

“The potential that exists theoretically as a function of the successive occupations of the city and its topohistorical development”

In other words, superimposition of the occupation area of different periods without any destruction defines the Ideal Archaeological Potential. Therefore, physical development of the city should be studied in detail to define the occupation area and overlaying areas. As defined above, chronological and physical development of city is the main data to evaluate the urban archaeological issues in historic city centres.

Utilizable documentation of different datasets let us make overlay analysis on urban archaeological resources. There are different datasets that can be helpful to define occupation areas of different periods. However, all datasets should not be evaluated with the same degree of significance, because historical datasets may include the comments of writers or failures in physical referencing. Thus, the reliability of datasets is the most important feature in utilizable documentation. In this context, scientific archaeological works and cartographic datasets are described as primary sources in UAD. Visual or written historical documents are defined as the secondary sources.

3.4.1 The Primary Sources of Information

Primary sources can be regarded as the first hand data on archaeological resources. Even, the scale and method of archaeological works are different; the scientific documentation of archaeological data is invariable in utilizable documentation.

Archaeological excavations are one of the scientific works in historic city centre. Reports, plans, stratigraphic sections and assessments on artefacts have been prepared by archaeologists with the professional experts. This data will be used as a direct input to UAD. They are very important to understand in detail the accumulation of cultural layers horizontally and vertically in specific areas. Therefore, UAD model should allow the researchers to make these analyses.

Another primary dataset is the inquiry soundings or trial trenches that are established especially in rescue works. Also, basic documentation on findings by chance may be examined in this topic.

In Turkey, as mentioned in the legal framework, the Regional Commissions for the Protection of Cultural Heritage and Natural Entities and Local Archaeological Museum are responsible for rescue excavations. However, there are problems in documentation because of scarce time and financial resources. Additionally, financial or technical incapability, non-professional staffing and non-computerized database do not let us to control effectively all archaeological works. Therefore, the dissemination of information resulting from field work would not be easily obtained. Moreover, the records on inquiry soundings and trial trenches carried out even in the recent past are not available to be used (TUNA, N., 1999, p.220).

In this study, rescue studies also including findings by chance, can be divided into 3 groups. The first one is the works that include detailed documentation (vertically and horizontally) of archaeological stratification and artefacts. The second one is the works that include only general definitions of archaeological findings without spatial references. The findings by chance are also included in this group. The last one can be defined as rescue works in which the detailed or non-detailed documentation recorded no archaeological remains.

Furthermore, the minimum standard for data collection is defined to integrate data obtained from the rescue operations. Therefore, primarily, a standard data collection form is developed for field investigation (Appendix I; a basic example of the form hyperlinked with Urban Archaeological Database). The form contains two pages; the first one is formed of general information and recent development on plots and results of archaeological research. While, the second one is a visual documentation page that includes plans, sections and photographs, if available.

In Turkey, another important point in rescue operations is the lack of a desk-based assessment to define strategy for development and archaeological works before field investigations. MoLAS -Museum of London Archaeology Service- (MoLAS, 2001, pp.1) has defined a desk-based assessment as;

“A programme of assessment of the known or potential archaeological resource within a specified area or site on land, inter-tidal zone or underwater; it consist of a collation of existing written, graphic, photographic and electronic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional or international context as appropriate.”

The methodological framework used in this study can be considered as a more detailed and comprehensive version of desk-based assessment in whole historic city centre instead of a single plot.

Archaeological Surveys are another primary dataset. The aim and scope of archaeological surveys are different in archaeological terms. However, in urban archaeological terms, surveys should be seen as non-destructive and quick data collection method on urban archaeological resources. The surveys may aim either an overall understanding of recent structures in study area or detailed research on urban archaeological traces in study area. In this concept, extensive or intensive urban archaeological surveys can be defined as two alternatives.

Extensive surveys (zone or region based) in urban archaeological areas, could be carried out to research;

- Different urban pattern in the study area,
- Attributes of buildings in the study area such as; construction method of building (traditional or modern),
- General conditions and recent problems in the study area,
- Topographical features
- Visible traces of archaeological layers.

If extensive surveys are enhanced by aerial photographs and modern survey technologies, sub-zones can be determined basically according to their pattern and building construction method. As we know, especially, traditional buildings that will be 1-3 storied buildings don't deteriorate archaeological strata, because their foundation depth is not so deep. However, the modern building techniques are very destructive for archaeological heritage. Eventually, we can research the destruction caused by the modern development.

Intensive surveys (plots –plots or building based) can be carried out to examine archaeological and historical data on the plot base. Apart from the extensive surveys, intensive surveys concentrate on archaeological matters rather than the recent structures. Cadastral plan and most recent maps can be used for the survey. Urban archaeological traces and matters like conserved ancient wall lines or artefacts should be recorded in intensive surveys without detailed field investigations. In addition to archaeological matters, information on recent pattern like features of buildings, buildings with basement floor, floor number and construction method can be recorded in detail by intensive surveys. Vacant plots in survey area should be recorded, too. Because, vacant plots are the chance for both archaeological works and arrangements to depict cultural accumulation in study areas. The obtained data should be transferred to a computer based inventory form to define sub-strategies. In intensive surveys, the research of excavated areas, which are the plots of the previous inquiry soundings or the foundation excavations of new modern buildings, is a crucial chance to follow the archaeological stratification.

Non-destructive survey methods such as geophysical surveys have been used to define archaeological resources extensively since the last quarter of the 20th century. There are

different geophysical techniques like magnetic gradiometer, resistivity and ground penetrating radar (GPR). Geophysical techniques are still not efficient in all archaeological areas, because of the characteristic of soil or sensitivity of techniques to outer factors. However, there are successful examples giving definite result on archaeological layers without any excavations. Thus, geophysical surveys shall be an efficient dataset for UAD model.

In Turkey, in the second half of the 19th century, cartographic technology has developed and maps and plans have been prepared by especially foreign experts. After the 2nd World War, aerial photography and photo-grametric technologies have developed, too. Although old maps and plans are not prepared with modern cartographic techniques, they include important clues on the layout of city, pattern and buildings. Thus, old maps and plans may be uploaded to UAD by georeferencing tools as much as it is possible. Eventually, some spatial references can be used for making spatial analyses. Therefore, old plans and aerial photographs that are prepared during the aforementioned periods can be studied chronologically to search the development of city and its pattern especially in the 20th century.

In addition to cartographic studies, photographers have visited the Anatolian Cities during the same time. There are many old photographs in various details. Thus, especially, panoramic photographs of the city or detailed photographs of different structures shall be used as basic documentation materials. The looking angle and base point of photographs may be added to UAD to enhance diachronic documentation.

3.4.2 Secondary Sources of Information

Secondary sources, which have been used in UAD model, are visual or written historical documents. They are used to obtain information of old periods; even they are not designed for this aim. Bilgin (BİLGİN, A.G., 1996, p.45) states that;

“Besides the primary documents, the secondary documents such as “travellers” books, “engravings” and “sketches” are also made use of during the studies of urban archaeology. These narrative and visual information should be treated carefully as they can reflect wrong or unexisting information about town. They

give only an image about the different aspects of the city in the period of preparation. However, their degree of reliability should always be in mind while making use of them.”

As mentioned above, visual documents may be summarized as engravings and sketches. There are well-prepared sketches and engravings by travellers including hints from the periods of its preparation. Of course, they are only images of periods, but they will be used to enhance known structures by visualization.

Moreover, written sources can be traveller's books or ancient writer's statements. Chronological documentation of traveller's data topic by topic will be useful to obtain socio-economic development and demographic data of city

3.4.3 Evaluation of Ideal Urban Archaeological Potential

As defined above, Ideal Urban Archaeological Potential would be evaluated by superimposition of the successive occupations of the city and its topohistorical development. Therefore, the occupation areas in different periods have to be determined partially, while utilizable documentation by UAD.

Sommella defines utilizable documentation as an interdisciplinary study with the assistance of specialists in the fields of ancient history, archaeology, town planning, topography, history, epigraphy, numismatics etc and co-operation between them (SOMMELLA, P., 1984, p.3). Also, Sommella says that,

“The purpose of this type of research must be to achieve a comprehensive understanding of an urban environment by means of horizontal and vertical cross-sectional analyses and thematic studies presenting the full history of the Cities, including its relations with its hinterland.” (SOMMELLA P., 1984, p.2)

Bilgin points out that, an utilizable documentation can only be achieved by diachronic documentation. She also mentioned that “diachronic reconstruction plans” can be prepared to see the development of city chronologically (BİLGİN, A.G.;2002, pp.34-40).

The contents of diachronic reconstruction plans are various. They can be about the elements of general layout and inner organization of cities⁹. The elements of the former one may be

- Occupation area of the city; it may be defined as the settled or cultivated area by citizens. Boundaries of the city that will be either an open-boundary like coastline or a defined boundary like fortification wall,
- Entrances of the city, it will be either a gate in the fortification wall or a point that trade routes entrance to the city.
- Urban division will be made according to socio-economic differences such as ethnic quarters or functional differences. For example, according to the intensity and main buildings in the occupation area, the sub-zones of administrative, commercial, housing and porting activities should be defined to understand the city in detail. Urban division in this study is based on the morphological and functional analyses of the diachronic documents.

The crucial point in urban division is the evaluation of various morphological, social and physical differences according to urban archaeological terms. In some studies, the functional differences such as residential, commercial, administrative areas and non-settled areas like cemeteries and parks, in historic city centres can be effective to evaluate the archaeological stratification. In some cases, like İzmir Historic City Centre, socio-economic differences should be examined to determine the possible outcomes of socio-economic differences on the conservation of archaeological resources.

The elements of inner organization may be

- Monumental and main buildings,
- Urban pattern, that is defined according to streets and blocks
- Open areas that will be the cemeteries or urban parks.

The aforementioned elements have to be studied in detail for each period to understand the structure of the city. Cohen defines urban elements similar to the defined ones above. Also,

⁹ A more detailed explanation of the elements of the city was made by BİLGİN (BİLGİN, A.G, 1996, pp.28-32) in her thesis by using references from KOSTOF (KOSTOF, S., 1991 and KOSTOF, S., 1992). In this section of study, a brief summary of the aforementioned definition were used.

he describes the unique and cultural identities as the secondary urban elements. Eventually, he (COHEN, N., 2001, pp.36-37) stresses that;

“As in-depth understanding of the city structure is a prerequisite for determining conservation potential and hierarchy. Thus, the city needs to be broken down into most basic components”

By means of diachronic documentation of the city structure, the development of the city will become visible. And then, diachronic reconstruction plans will be overlaid to know where such areas settled or not settled in which periods. Sommella defines a this type of superimposition study as a Plano-volumetric analyse (SOMMELLA, 1984, p.4).

By Plano-volumetric view after superimposition of all layers, zones may be determined according to stratification and continuity of urban archaeological layers. Table 3-1 will be helpful to understand this overlaying analyse basically. Zones that are defined in this stage, are called by Bilgin as *“Equi-property areas are the areas of same historical continuity, that is, the areas that carry the traces of the same phases and that are equivalent in that sense”* (BİLGİN, A.G., 2001, p.118). In this study, the term of equi-property areas can be used to define the sameness of probable urban archaeological resources in the areas.

Table 3-1: An example table for the evaluation of Ideal Urban Archaeological Potential by diachronic documentation.

Periods	PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5				
	D1	D2	D3	D1	D2	D3	D1	D2	D3	D1	D2	D3	D1	D2	D3	D4	D5
Urban Division Area																	
1	■				■												
2																	
3																	
4																	
5	■				■												
6		■				■											
7																	
8																	

Settled
 No Occupation

The assumed above table depicts the historical stratification in an urban archaeological site. The historical continuity of each zone can be followed by means of this table. According to

this table, for example, the equi-property zone 1 has occupied only in the first and the second periods of the assumed site. Zone 1 has been within the boundaries of D1 –urban division 1- in the period 1. It is within the boundaries of D2 –urban division 2- in the period 2. This simple presentation technique will be used to understand the vertical and horizontal development of the site.

These types of table will be enhanced by the techniques of graphic information processing to easily follow the archaeological stratification. If the aforementioned table is evaluated as a *reorderable matrix*¹⁰, the order of columns can not be changed, because they present a chronological development. However, the changes of the order of rows may let to examine the similarities and differences between the equi-property areas (Table 3-2).

J. Bertin (1981, pp.2-11) summarizes the stages of these types of graphic information processes as;

- 1st stage; Defining the Problem
- 2nd stage; Defining the Data Table
- 3rd stage; Adopting a Processing Language
- 4th stage; Processing the Data, Simplifying Without Destroying
- 5th stage; Interpreting and Deciding

These types of matrix let us to make spatial analysis by different questions in different levels. J. Bertin (1981, pp.12-13) points out that;

“Information is a relationship, but this relationship can exist among elements, subsets or sets. And these three levels must be retained in the subsequent graphic;

- *the elementary level*
- *the intermediate level*
- *the overall information level*

¹⁰ The term is used by J. BERTIN (1981, p.32) to define a “x” / “y” matrix that allows graphic analysis by the changes of the order of columns or rows to examine the data easier .

THREE LEVELS OF INFORMATION

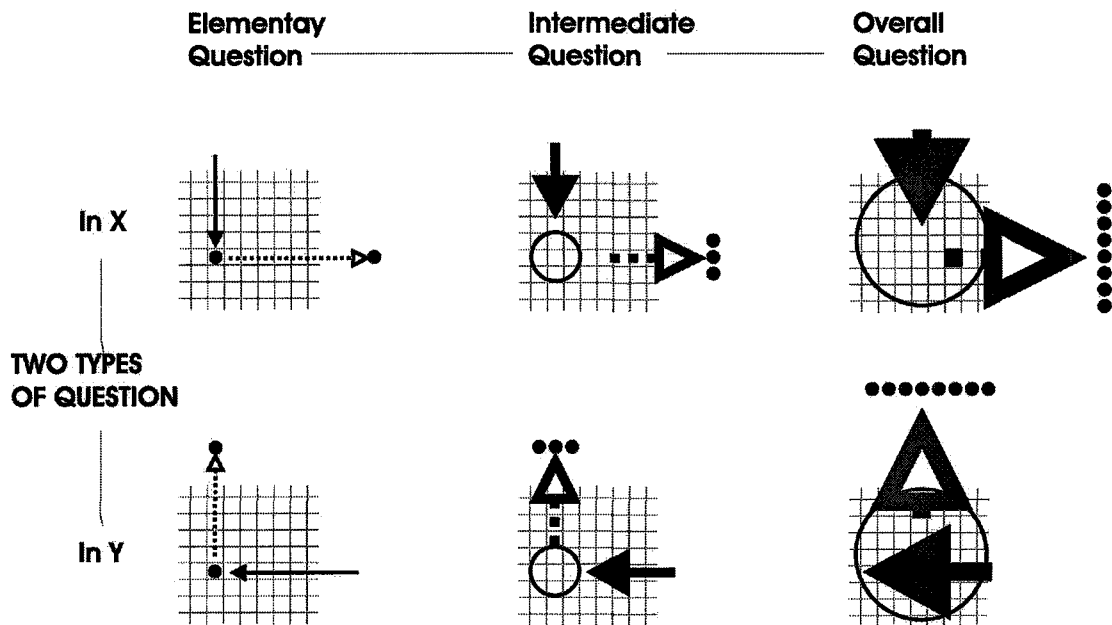


Figure 3-4: Three Levels of Information
(BERTIN, J., 1981, p.13)

According to the above level, for example, each row in the example table shows a unique historical stratification in an equi-property area in the elementary level. In the intermediate level, equi-property areas 2 and 7 in Table 3-2 represent easily the non-settled areas in the period 1. In the overall information level, the rows of the whole table show the changes of historical stratification in the site. On the other hand, while one column in Table 3-2 represents the settled areas of a unique urban division, the first three columns (period 1) depict a simplified view of Period 1 in the intermediate level. In the overall information level, the columns of the table show the overlappings of different period in the site.

After the evaluation of diachronic documents, the assessment of the effect of recent morphological differences on urban archaeological resources is a dispensable point. The analyses of the present urban patterns and building types can be helpful to determine the morphological traces of urban archaeological resources. Also, even the destruction of the modern development evaluated in detail, the recent urban patterns shall be assessed to

capture the conservative or destructive effects of the morphological differences in the urban archaeological sites.

Table 3-2: The reordered example table that allows the evaluation of similarities and differences between equi-property areas.

Periods	PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5				
Urban Division	D1	D2	D3	D1	D2	D3	D1	D2	D3	D1	D2	D3	D1	D2	D3	D4	D5
Area																	
1	Settled				Settled												
5																	
8			Settled														
7																	
2																	
4																	
3		Settled															
6																	Settled

■ Settled

□ No Occupation

3.5 Destruction on Urban Archaeological Resources / D in Equation

Aforementioned sources of information, either primary or secondary, establish an ideal urban archaeological potential in historic city centres. In other words, until now, all data evaluated in UAD have optimised the archaeological potential. However, in time, archaeological layers are destroyed by human or natural factors. As it is mentioned before, an equation is used as the framework of study that $Pr = (Pi - D)^q$. According to this equation, we correctly analyze the destruction, which may be either mass destruction or partial destruction such as the changes in the urban pattern, to evaluate the real preserved archaeological potential. There are various reasoned destructions on urban archaeological layers;

- Destruction by Human Factors / Vandalism; since the foundation of towns, Historic City Centre has been occupied by different civilizations. Of course, their occupation areas should be evaluated as cultural identities of their periods. While new cultural identities and land division models develop in historic city centres, the structure and artefacts of old cultures are destroyed or reused by new ones. This is an inevitable point in the urban continuum. Thus, while equi-property areas are assessed according to continuity and cultural accumulation, it should not be forgotten that, there is a risk of deterioration in the layers of the earliest periods. In addition to the

effects of stratification, we sometimes have specific information regarding the reuse of the pieces of monumental structures to construct new ones.

- Destruction by Disasters like Earthquakes and Fires; although we can not estimate the exact destruction caused by earthquakes, especially in sites where fault lines are still in motion, it will be assumed that; they are important factors on the development of the city. Moreover, as we know, especially in the 19th Century in Anatolian Cities where traditional building methods –based on timber- are used, there are big fires which have reshaped the pattern of historic city centres.
- Destruction by Modern Construction Methods; until the beginning of the 20th Century, destruction on urban archaeological layers made by human activities are partial, since the construction methods are not destructive. However, by means of new buildings with deep foundations and urban pressure, human activities for providing needs of urban life, start to be more destructive. In Turkey, the effects of modern construction methods in historic city centres have been followed in the last quarter of 20th century. TUNA, N. summarizes this period as;

“The 1980s witnessed the wholesale destruction of ancient buildings and archaeological strata in urban areas. It was also a period of dramatic environmental change. Much of the archaeological and historic heritage has been destroyed by human activities such as urban development, modern agricultural techniques, mineral extraction and the construction of road networks, etc.” (TUNA, N. ,1996, p.1)

In addition to various reasons, the degree of destruction is another important factor for the evaluation of destruction on urban archaeological resources. As aforementioned, different reasoned destruction can cause partial or whole lose of archaeological resources. Therefore, criterias should be developed to determine the conserved archaeological potential. A.G BİLGİN ALTINÖZ (2002, p.124) defines a five level for the state of survival for sites and edificies (Table 3-3).

Table 3-3: State of survival for the sites and edifices.
(A.G.BİLGİN ALTINÖZ, 2002, p.124)

	For Sites	For Single Edificies
1	Intense remains reflecting a homogeneous tissue	Whole, intact
2	Moderate remains reflecting a heterogeneous tissue	Part of a whole
3	Sparse remains without no tissue character	Remain
4	Gap	Gap
5	Unknown state of survival	Unknown state of survival

Extensive and intensive surveys described in the primary sources may be helpful to define destruction made by modern construction methods. Also, destruction by natural factors or reuse may be traced by means of a chronological research. Eventually, partially or completely destroyed zones could be determined. Similar to the defined context, the following map is produced by the Corporation of London to define the areas where; archaeological deposits are known to have been removed or badly damaged and so have limited archaeological potential (shaded area) or in the remaining areas such deposits survive and they therefore have archaeological potential (unshaded areas) (2001a, p.51).



Figure 3-5: The conserved archaeological potential in the City of London
(2001a, p.51)

3.6 The Quality of the Deposit / q factor

Garmy (GARMY, P., 1995, p.3) emphasizes “q” as;

“A complex factor relating to the quality of the deposit determined by topography (slope), orography (the site’s capacity to preserve material) and the extent of the anthropic (human) deposit”

According to defined concept, more detailed analysis and works have to be done to define the “q factor”. First one of them will be the determination of conservation effect of topography. These effects can be evaluated by slope analysis. Slope intervals may be defined according to more preserved archaeological strata in which interval. Therefore, topographical maps and slope analysis should be prepared to understand the topohistorical development of cities. Terraced lands of artificial hills may be observed by the superimposition of different layers. In addition, traditional building methods have usually used the terraced terrains of the earlier periods. Therefore, the quality of the deposit, the q factor is positive in the sloping areas.

Another important analysis may be orography analysis to define the preservation capacity of the sites and the archaeological quality of the surroundings, i.e. their capacity to preserve fragile materials. Soil analysis by archaeometric methods may be helpful for this topic.

Last analysis to define q factor shall be the assessment of the thickness of the archaeological layers. Altimetric plans that show the altitude of all archaeological layers in plan, is a useful method for this work. Altimetric plans can be enhanced by standing building, borehole auger surveys and standard test pits or trial trenches. If sufficient survey data uploaded to UAD, a basic zoning may be made by correlation methods. In the defined context, the depths of cultural deposits are crucial points for the “q” factor.

In fact, the depths of cultural deposits can be observed by non-destructive methods or simple inquiry works. Firstly, the rescue operation and archaeological excavations are the primary sources for the determination of the depths. Intensive surveys should be evaluated another indispensable source to understand the depths of cultural deposits. Especially, the stratification of cultural layers may be followed, if the sections of the excavated plots for

either the new constructions or infrastructure work. The trial trenches or non-destructive methods like geophysical surveys may enhance the results of intensive surveys.

Another important factor on the quality of the deposit is the level of the groundwater. Even urban archaeological resources have not been destroyed by modern construction methods; archaeological resources may be lost its property because of the changes in the level of the groundwater. This type of evaluation allows the efficient use of financial resources for the site presentation. Therefore, the groundwater level should be evaluated with related disciplines to define the quality of conserved archaeological potential.

3.7 The Overall Evaluation of the Planning and Conservation Studies

According to the basic equation defines by P. Garmy (1995, p.3), real archaeological potential can be determined by subtracting the destroyed areas from ideal archaeological potential. The quality of the deposit may be either a positive or negative factor according to characteristics of site. In addition to evaluation of factor in the equity, conservation decisions and planning policies should be taken as important factors that cause positive or negative impacts on the conservation of urban archaeological resources. In the defined context, the evaluation of earlier and recent conservation and planning policies can be seen as a important stage for the evaluation of issues and potentials in the study ares.

Assessment of Development and Conservation Plans: Development plans covering either whole city or partial, and conservation plans have been prepared since the beginning of Early Republican Period professionally. Although planning approaches and aims have been changed in time, they have always impact on urban archaeological resources. Sometimes, their impact will be positive to conserve urban archaeological strata and control the development. However, be aware or not aware of, their strategies and decision have caused destruction on urban archaeological resources. For example, :it is known that , after 1950s, new routes are opened in historic city centres by plans, and this caused the demolishing of 1-3 storied traditional buildings and the construction of higher buildings. As an outcome of this process, urban archaeological resources have destroyed by modern developments rapidly.

Site Decisions and Registration Inventory of Immovable Cultural Properties: In present legal framework, there are 3 categories of archaeological sites and one category of urban

archaeological sites. As mentioned in legal framework, Higher Commission has determined the regulations in these sites by different dated and numbered principle decisions. The latest principle decision on topic is the 05.11.1999 dated and 658 numbered one. In legislation, Regional Commissions are still responsible to control the application of principle decisions in conservation sites. According to principle decision;

- 1st Degree of Archaeological Sites: Areas where any development or work be allowed. Only scientific excavations and scientific conservation activities are permitted.
- 2nd Degree of Archaeological Sites: Areas that should be conserved, but conservation and using conditions are determined by Regional Commissions. Only repair works or maintenance of existing building stock and scientific conservation activities are permitted
- 3rd Degree of Archaeological Sites: Areas where new developments may be allowed according to conservation-use decisions under the control of the Regional Commission through field investigation.
- Urban Archaeological Sites: Areas where archaeological sites exist together with immovable cultural properties defined by the 2863 numbered Act and urban pattern that have to be conserved, defined in the same Act.

However, the concept of urban archaeology has not seen as an interdisciplinary field of study in Turkey, yet. The probable urban archaeological sites are still defined as third category of archaeological sites to control the development process, especially in the historic city centre where the pressure of new developments more. However, the third category of archaeological sites is defined as the areas where the archaeological resources were destroyed by natural or artificial factors. So, new developments and arrangements have been allowed in the third category of archaeological sites by the inquiry soundings. That have caused to unpredictable loss of urban archaeological resources in the historic city centres. Because, the continuity of urban archaeological resources can't be evaluate by non-professional inquiry soundings. Also, the non-standardized reports and non-spatial inventories don't allow to planning authorities to make a preliminary evaluation at the earlier stages of planning process. Therefore, the implementation problems have been seen in the planning applications and the proposed developments.

As followed above, there are restricted issues in conservation sites. Therefore, even there are problems in implementation of legal and administrative rules, restricted issued make sites more conserved than out of conservation site. Eventually, boundaries of archaeological site shall be defined in UAD by spatial coordinates.

In addition to archaeological sites, there are different categories of sites such as urban conservation or historical sites. These areas are also important traces to set urban continuity and enhance urban identity, because in urban archaeological terms, not only sub-soil and ancient layers of city but also built-up environment on soil are seen as the traces that have to be conserved.

Evaluation of Recent Dynamics: As another important topic, recent situation and dynamics in study area have to be evaluated to define management strategies that will orient the development of historic city centres, of course future of urban archaeological resources, too. There shall be a set of planning analyse to establish the dynamics in the historic city centre. If available, land prices and ownership pattern could be used to determine urban pressure on the historic city centres. Another important impact on the historic city centres, present and suggested land-use and urban-division pattern in historic city centres. These analyse may be enhanced by various analyse and method that are used in urban planning. As a result, SWOT-Strengths, Weakness, Opportunities-Threats- and Best-use analyses should be made to define the vision of historic city centres that may be evaluated by actor's thoughts on topic, too. Both development and conservation dynamics have to be evaluated together, so urban continuity could be established.

3.8 Real Urban Archaeological Potential / Pr

Consequently, real urban archaeological potential can be evaluated by assessment of conserved archaeological resources, destruction on it, the quality of the site and recent dynamics (potentials, opportunities and threats). In other words, aforementioned methodological framework determines the real potential or conserved archaeological deposit.

As a result, it may be observed that; surely, evaluated potential doesn't have same characteristics in all defined areas. Therefore, "urban archaeological character zones (UACZ)" have to be determined for evaluating real archaeological potential, exactly.

Cities have continued to change and develop, as they had always done in the past. Therefore, boundaries of zones may be changed by more data collected or urban dynamics changed in future. Table 3-4 is helpful to understand how boundaries of zone will be determined by simple grading.

Table 3-4: An example table for the evaluation of Real Urban Archaeological Potential to define Urban Archaeological Character Zones

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9	ZONE 10	ZONE 11	ZONE 12	ZONE n
IDEAL ARCHAEOLOGICAL POTENTIAL (PI)													
Period 1	■	■					■		■			■	
Period 2	■	■											
Period 3	■	■		■	■	■	■	■	■	■	■	■	■
Period 4	■	■	■	■	■	■	■	■	■	■	■	■	■
Recent	■	■	■	■	■	■	■	■	■	■	■	■	■
EVALUATION OF THE RECENT SITUATION													
PATTERN													
Pattern 1	■	■					■		■			■	
Pattern 2	■	■		■	■	■	■	■	■	■	■	■	■
Pattern 3	■	■	■	■	■	■	■	■	■	■	■	■	■
BUILDINGS													
Building 1	■	■			■	■	■	■	■	■	■	■	■
Building 2	■	■		■	■	■	■	■	■	■	■	■	■
Building 3	■	■	■	■	■	■	■	■	■	■	■	■	■
DESTRUCTION													
Modern	■	■					■		■			■	
Re-use	■	■					■		■			■	
Disasters	■	■	■	■	■	■	■	■	■	■	■	■	■
THE QUALITY OF THE DEPOSIT													
Topography	■	■			■	■	■	■	■	■	■	■	■
Orography	■	■				■	■	■	■	■	■	■	■
CONSERVATION													
Planning Studies	■	■					■		■			■	
Conservation Decisions	■	■					■		■			■	

At that point, exact strategies for each zone will be determined easily according to problems and potentials in each zone. However, in next step, categorization of urban archaeological

character zones will be helpful to define general strategies. These categories may be various according to characteristic of the study area. In Sydney (1997a, pp.6-8), for example, the categories were defined according to archaeological potential as;

- Area of archaeological potential (AAP)
- Area of archaeological potential / partially disturbed (AAP-PD)
- Area of archaeological potential /Deeper sub-surfaces features only (AAP-DSF)
- Area of Little or no Archaeological Potential
- Building Shadow
- Remnant Structures
- Fabric of Extant building
- Movable Relic / Deposit

On the other hand, in Bath, U.K. (2004b, pp.19-31), a categorization was made according to development control tools as;

- Character zones and archaeological appraisal and assessment,
- Character zones and archaeological monitoring
- Character zones and preservation in situ
- Character zones and preservation by record

This study concentrated on a methodological framework to define urban archaeological character zones according to real archaeological potential; therefore, at the end of the study, a categorization will be made by various archaeological potential. And then, management strategies and conservation decisions may be determined for each category.

CHAPTER 4

CASE STUDY; URBAN ARCHAEOLOGICAL RESOURCES IN İZMİR HISTORIC CITY CENTRE

İzmir Historic City Centre has been chosen as an exploratory case study area for examining aforementioned methodological framework in previous chapter that will be used to define archaeological character zones in multi-layered historic city centres. The study is a basic contribution to urban planning / conservation process that aims to enhance urban identity and create urban continuity in historic city centre by means of archaeological and historical data.

In this chapter, firstly, İzmir Historic City Centre and its boundaries defined geographically by means of its socio-economic and historical development, also recent dynamics in study area. After that, geographical and topographical issues around İzmir' vicinity and case study area were studied as factors that have important roles in the historical development of cities. After that, according to defined methodological framework, physical elements and urban archaeological resources (that are either visible or sub-soil) in study area, examined by means of archaeological and historical documents to define "Ideal Archaeological Potential". At this stage, utilizable documentation of different data sets is so important. And then, different reasoned "Destruction" on urban archaeological issues described spatially. Then, probably conserved areas by means of soil characteristic or topography, defined basically. In addition, recent planning policies and conservation decisions were evaluated to see either their negative or positive effects on urban archaeological resources. Finally, "Real Archaeological Potential" was determined by the superimposition of above mentioned issues. Consequently, urban archaeological character zones (UACZ) were defined in detail in İzmir Historic City Centre. Moreover, at the end of this chapter, basically, management strategies for each zone and general strategies for urban archaeological resources were defined as promises of study.

4.1 Definition of Case Study Area and Its Boundaries

4.1.1 Socio-economic and Historical Development of İzmir and Its Vicinity

İzmir has been one of the most important western gates of Anatolia to Mediterranean World during its history. By means of its defined role and geographical facilities, İzmir and its region are inhabited continuously since 4000 B.C. (ALKIN, B., 1968 cited in KUBAN, D., 2001, p.54). First settlement area was Tepekule (at the innermost site of İzmir Gulf and presently called as Bayraklı) in İzmir Metropolitan Area and there are clues from 3000 B.C. in that site. At that period, its region had related with Central Anatolian Culture (Hittites) more than Aegean Sea (AKURGAL, E., 1970, p.119 cited in KUBAN, D., 2001, p.54).

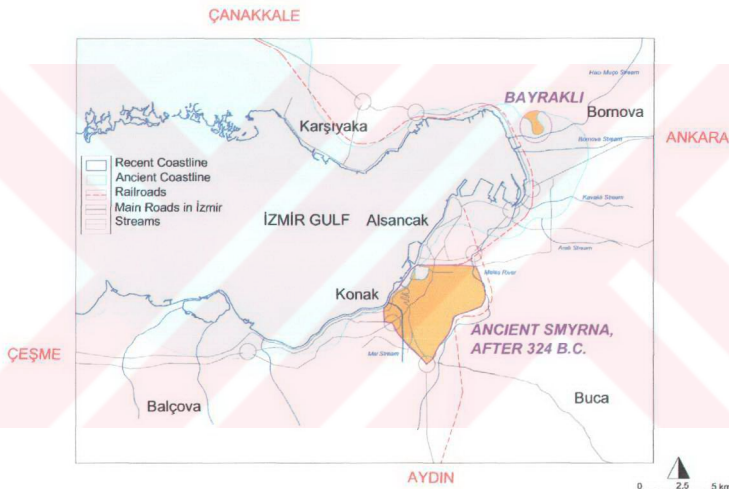


Figure 4-1: The old and new locations of settled area in İzmir

Prepared by B. Belge by the base map of İzmir Metropolitan Municipality and E. Canpolat map that indicated the ancient coastline (CANPOLAT, E., 1953).

Bayraklı / Smyrna¹¹ entered into Ancient Greek History around the 11th century B.C. when it was captured by Aiolic colonies. In 8th B.C., The Kolophonians seized Smyrna by help of Ephesus. After that period, city could be seen as a colony of both Colophon and Ephesus until Lydian destroyed and emptied Smyrna, because of its commercial and agricultural activities in Hermos (presently called as Gediz) Valley at the end of the 7th century B.C. After that, there is an utterance of Strabo on a village period. There is a debate on it means, either urban life started to like village life or people started to live in villages. It is said that; settlements, such as Buca, Bornova, Işıklar, Çiğli, Pınarbaşı, Narlıköy and Naldöken around İzmir City Centre existed in that period (CADOUX, C.J., 1938, pp.67-94). There are archaeological evidences that show peoples had returned Smyrna / Bayraklı since 580 B.C. (BEAN, G.E., 1966, p.50 cited in KUBAN, D. 2001, p.57)

Refoundation of Smyrna between Mount Pagus and sea was explained by a legend on dream of the Alexander the Great in 334 B.C. Ancient writers' enhances the refoundation of city;

"An oracular utterance said by Pausanias (in the second century A.D.) to have given by Apollon at Klaros, when Smyrna was about to be refound by Alexander the Great (334.BC) on its present site, declared "thrice and four times happy will those men be, who are going to inhabit beyond (or possibly opposite to) sacred Meles" (CADOUX, C.J., 1938, pp.10-11)

After refoundation of Smyrna, Lysimakhos -one of the commander of Alexander the Great- built-up city that embraced by the walls. He gave his daughter's name "Eurydikeia" to city (CADOUX, C.J. 1938, pp.100-105). At that period, Smyrna had a free-statute as a polis. During the ages of Seleukos and the Kingdom of Pergamon, the free-statute of city had continued (KUBAN, D, 2001, pp.58-59).

In 133 B.C., Roman Republican Period in Smyrna began. We have learned more about this period by ancient Anatolian writers like Strabo, Aristides and Pausanias. In the 1st century B.C., Strabo said that; while a smaller part of city settled around old Acropolis (Mount Pagus), real occupation area concentrated around ancient inner harbour (KUBAN, D, 2001,

¹¹ There are debates on the source of city's name, Smyrna. For more information, look CADOUX, C., J., 1938, p.29, and KUBAN, D., 2001, p.58.

p.59). Atay (1978, p14) said that Smyrna was advanced in providing food and clothes, and in ship-building for the Roman Armies at that time.

Roman Republican Period was the most brilliant times of Smyrna. There are many utterances in ancient times that described Smyrna's beauty especially in this period. "Strabo the geographer, writing perhaps about 6.B.C, says of it "...And now is the most beautiful of all the cities" (cited in CADOUX, C.J., 1938, p.171). In addition, "...Aristeides several times sketches the general lie and harmonious unity of the city, the low-lying shore, the slope, the Acropolis, etc., and extols the profusion and splendour of its buildings - gymnasium, city-squares, theatres, walls, harbours, enormous baths, several fine race-courses, innumerable fountains, sunlit streets" (cited in CADOUX, C.J., 1938, pp.173-174).

Although more detailed description of city layout was made while diachronic plan of Smyrna prepared. The territory of city will be helpful to understand the development of city in Roman Republican Period. Whole population in the mid of the 1st century B.C. was about 100.000 (CADOUX, C.J., 1938, p. 186). "*Smyrna's territory was, nearly, with that of Klazomenai on the west, that of Colophon on the south, that of Sardeis on the east, and that of Temnos on the north*" (CADOUX, C.J., 1938, p. 183.).

Smyrna's history in Byzantine Period is not known very-well. In the 8th century A.D., defence / fortification might be a priority for city like other Anatolian Cities. Smyrna had an important role in Christian World by becoming one of the metropolit centres in 692 (MÜLLER, W.W., 1968, p63 cited in KUBAN, D. 2001, p. 61). City was naval base of Byzantine Empire. Although, commercial activities in city increased between 9th and 10th centuries, occupation area of Roman period in city walls had not still filled by Byzantine occupation area (KUBAN, D., 2001, p.61)

İzmir Architectural Map (2004a, Urban History of İzmir¹²) summarizes briefly period between 11th century and the second half of the 17th century as;

"In the 11th century, İzmir was the central city of the first Turkish Principality founded at West Anatolian costs under leadership of Çaka Bey. Conquered by

¹² Probably, author of this text summarized the chapter in KUBAN, D. 2001, pp.61-65

the Byzantines once again, İzmir began turning into a Venetian and Genoese colony. Upon the treaties signed in 1261 and 1304, the Genoese earned the right to reside and trade in İzmir whereas the Venetians gained the priority to make up a district in line with the treaty of 1265. As a result of the First Crusades, Latin's occupying the harbour district and the Turks taking shelter in Kadifekale Citadel. İzmir divided into two parts as Upper İzmir and Lower İzmir and the city maintained its dual structure for a long time."

"Unlike other cities, from the day it was founded until the 14th century, the city of İzmir continuously relocated its urban centre from Smyrna to Kadifekale and Inner Prot. On the other hand, the city kept its double-centred urban characteristic of its own until the residents abandoned Kadifekale Citadel and the neighbourhood settled at the inner city during the second half of the 17th century.

Beside above information on period between the 11th century and 17th century, one of the important turning points in history of İzmir, was Timur's destruction on city at the beginning of the 15th century. Another one was the starting of Ottoman domain in İzmir in 1419. Ottoman Empire's secure enhanced the commercial capacity of city in the 15th century.

Kuban (KUBAN, D., 2001, p.65) point out that, İzmir become the most important commercial centre of Ottomans in Mediterranean. Braudel (BRAUDEL, F., 1966, p.262 cited in KUBAN, D., 2001, p. 65) write that, İzmir was an important commercial centre with its strong linked with land in 1550 in Mediterranean.

At the beginning of the 17th century, France and England send commercial representatives to İzmir. In the second half of the 17th century, Evliya Çelebi (cited in KUBAN, D., 2001, pp.66-68) made detailed descriptions for İzmir. He described İzmir's different ethnic quarters as an evidence of its dual-character. The population of city was estimated by Evliya Çelebi about 60-7000. He declared that, there were 10.300 houses in 32 quarters of different ethnic groups.

Pococke (1771, pp.5-24 cited in KUBAN, D. 2001, p.72) made a description of İzmir layout like a triangle that 1 km in west-east and 3 km through the coastline. The population of İzmir reached 100.000 at the end of 18th century. However, occupation area of Roman Period had not still filled by new developments (KUBAN, D. 2001, p.72.).

By commercial capacity going to increase, İzmir became the province centre of its region, in 1851. Kiray (KIRAY, M., 1972, p.10 cited in KUBAN, D., 2001, p.73) pointed out this date as the starting of westernization that caused both development and destruction.

Although, some other harbours in Mediterranean were getting more commercial capacity in the third quarter of the 19th century, İzmir had got its commercial importance as the construction of both railways and the harbour in the second half of 19th century (ÖZKUT, D, 1997, p.27). In 1863, firstly, İzmir – Manisa railroad, and then İzmir – Aydın railroad opened. In 1868, a treaty signed with an English firm on filling of sea and construction of new harbour was opened in 1875. Another important work that enhanced the commercial activities was the change of the bed of Gediz River to avoid closing of İzmir Gulf by alluvial. Also, a horse-tramway road had been constructed to link Göztepe and Hamidiye (Güzelyalı) to Centre (KUBAN, D., 2001, pp.74-75). While, new harbour increased the commercial activities in İzmir, suburban developments had been seen around İzmir by means of railroad, and tramway connections at the last decade of 19th century. Duckerts (1904, p.19 cited in BEYRU, R., 1973, p.60) gave the population of İzmir as 250.000 in 1902.

At the beginning of 20th century, there were political and economical problems in not only Ottoman Empire but also in all European countries. In 1914, First World War began, and all commercial activities of İzmir with European countries stopped by governments. In May 15th, 1919, Greeks occupied İzmir. In Sep 19, 1922, Turkish Army entered to cities that like a ruined city at that time. İzmir Architectural Map (2004a, Urban History of İzmir) declares that;

“The 1922 İzmir fire ruined the physical, cultural and social topography of the city. Fire affected at around the Basmahane District, the fire devastated approximately 20-25.000 buildings that amount to three fourths of the city, but not including the Turkish districts.”

In Early Republican Period, the rehabilitation and reconstruction of city was the most important problem. In 1924, Rene Danger prepared a plan that included monumental boulevards and squares. In addition to new pattern between old city and Punta, plan suggested to move harbour from Pasaport to Alsancak. Even many modification on plan were made by city council, present character of Alsancak was shaped by this plan (KUBAN, D. 2001, p.78).

Kuban (2001, p.78) said that İzmir had not extended so much in ten years since 1923. There were non-occupied areas in the northern hill of Kadifekale and the hills of Göztepe. Tepecik was not settled until the Second World War. When, industrial activities appeared at the end of the Gulf of İzmir and railroads nationalized, commercial and industrial activities had got speed. Warehouses in the centre moved through to back sides of harbour. Historic City Centre conserved its residential and commercial units. At the end of the first half of the 20th century, the spread of İzmir in southern, northern and western axes could be observed easily (2002a, p.17).

Taner (2002a, p.18) summarized the period between 1950 and 1970; by means of agricultural mechanisation, a migration from rural sides to urban areas began. İzmir has effected this migration like other cities that had economic opportunities in 1950s. As a result of this trend, squatter housing became an important urban problem in İzmir. Planning works concentrate on this topic. Squatter houses especially concentrated at the northern hilltop of Kadifekale, firstly. Moreover, between 1950 and 1970, İzmir had a new urban characteristic by industrialization. In historic city centre, wholesale commercial activities settled around traditional centre and create specialized streets. Furthermore, a transformation from 2-3 storeys buildings to 8-10 storeys buildings had seen in Alsancak, as a result of increasing in land prices and rental pressure.

Planning works tried to control aforementioned developments of İzmir Metropolitan Area between 1950 and 1970. These planning activities were determined in detail at the latter chapters of study.

At the end of the period, the most important factor that affecting the following periods was defined as the 1973 Master Plan of İzmir that determining the development tendencies around the Gulf of İzmir as along the axes of north-south and east-west. In 1980s, İzmir experienced urban sprawl in all directions (2004a, Urban History of İzmir). During this period, dual character –traditional centre in Kemeraltı and modern centre around Alsancak- of İzmir Historic City Centre enhanced. As a result, physically and economically depression areas had been seen in traditional centre and residential areas around Agora. Today's the problems will be still observed in traditional centre and residential districts around the CBD. In recent years, there is an increase in the number of shopping malls in İzmir Metropolitan Area that cause a new trend will effect traditional commercial centre and near surroundings.

Until now, the socio-economic and historical developments of İzmir were summarized. As a result of brief history, we can define periods that are not parallel to periods by politic power of different culture. First one of them will be period between 3000 B.C to refoundation of Smyrna at the northern hill of Mount Pagos. However, thesis concentrated on the planning / management problems in multi-layered historic city centre that have a strong historical background. Therefore, the case study especially deal with the periods began with the refoundation of Smyrna in 324 B.C. As defined concept, seven periods determined in historical process. Turning points of periods are socio-economic or physical events that effected the settlement and social pattern of İzmir. Consequently; seven periods determined to evaluate the changes in layout of city. ;

- First period is the time between 324 B.C. –the refoundation of city- and the 7th century A.D. when İzmir became one of the metropolits of the Christian World.
- Second one had continued to till İzmir was included to Ottoman Empire domains in the beginning of 15th century. There were security problems in Anatolia.
- Third period could be defined as the Early Ottoman Period in İzmir until to second half of 19th century when westernization operations began.
- The next one is the Late Ottoman Period in İzmir. This period finished by the end of Turkish Independence War.
- Fifth period is Early Republican Period in that rehabilitation and reconstruction activities had seen in İzmir Historic City Centre.

- Period between 1950 and 1970, when İzmir's macroform reshaped along the Gulf of İzmir and squatter housing existed, is sixth period.
- Last period is recent period has continued since 1973 Master Plan of İzmir.

4.1.2 Boundaries of Case Study Area

İzmir Historic City Centre was selected as case study area that bounded by Kadifekale – Değirmentepe axis at south, Punta at north, the coastline in different periods at west and tentatively Meles River at east. It could be defined as probable occupation area of Roman Period. Since, as mentioned before, İzmir reached its largest boundaries in Roman Period. Of course, occupation area of city has been larger than Roman period since 1800s. However, defined study area has become the core of İzmir and its periphery since the refoundation of city in 324 B.C.

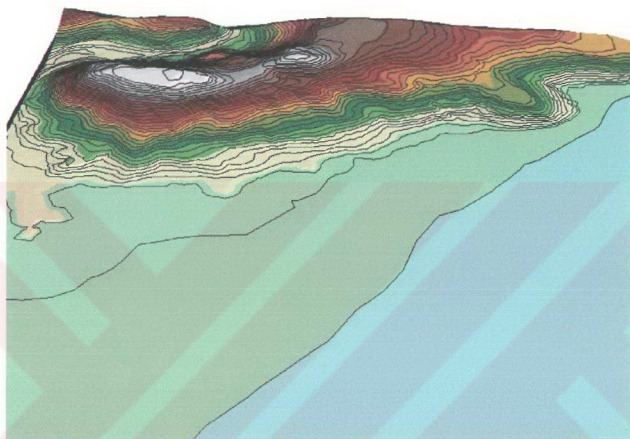
4.2 Urban Archaeological Database Model in İzmir Historic City Centre

ArcMap™ well-known GIS Software that allows to display and query maps, develop custom map applications, and perform many other map-based tasks, produced by ESRI was used for spatial referencing of datasets by coordinates and database management. Also, Auto-CAD (Computer Aided Design) program was used for digitizing the details in the scanned hardcopy files.

Firstly, topographic and geographical features in İzmir Historic City was used as base map of study area. A TIN (Triangulated Irregular Network) model had been prepared to follow easily the unbuilt topography of the case study area (Figure 4-2). The TIN model had been used for slope analysis, too.

After that, each factor in the methodological equation of study “ $Pr = (Pi-D)^q$ ”, used as group of layers in UAD. At that point, archaeological and historical sources of informations uploaded to UAD as a group of layer to set Ideal Archaeological Potential. The primary sources of informations (*raw data*) were converted to digital data format and then they were transferred to UAD. During these processes, the utilities of AutoCAD program were used, too. The necessities of these processes are defined in detail by A.G.BİLGİN ALTINÖZ (2002, p.139) as:

“Following the collection of raw data, is their conversion into digital data format. This can be realized by directly entering the data into GIS. However, as GIS are not advanced as CAD softwares in drawing facilities ,..., it seems more efficient to convert the raw data into digital data first by utilizing CAD softwares and then transferring them to GIS environment.”



*Figure 4-2: Triangulated Irregular Network (TIN) Model of İzmir Historic City Centre
Prepared by B. Belge by the base map of İzmir Metropolitan Municipality*

In addition, during uploading different sources to UAD, georeferencing facilities of ArcMap program had been used to examine the data in various format, polygon, line or point data, in the same geographic context.

Then, destruction on urban archaeological resources was used as another group of layer to understand the gaps in the ideal archaeological potential. The destroyed urban archaeological resources map of İzmir Historical City Centre was created by Auto-CAD program and transferred into the UAD.

The available data on the quality of site was determined by slope analysis method in ArcGIS program was one of the group of layers. Also, the overall result of archaeological excavations in the State Agora and inquiry soundings were used to estimate the depths of archaeological deposits. Finally, UACZ were produced as the last layer by overlaying the other layers.

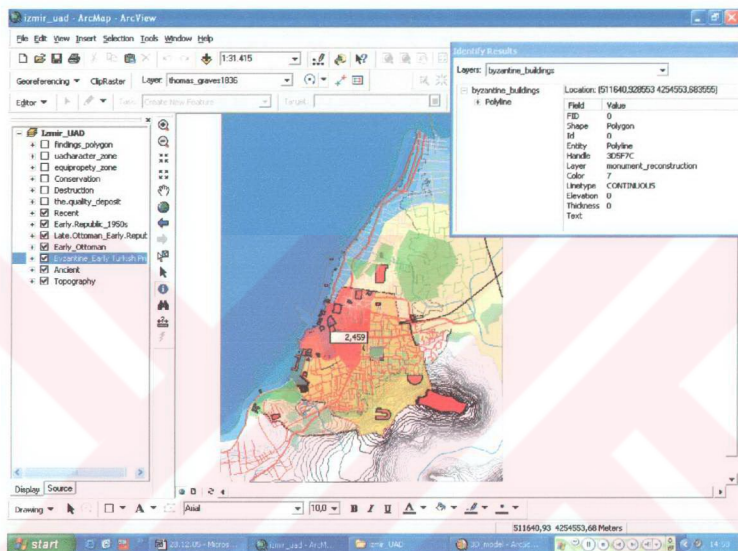


Figure 4-3: A print screen view of Urban Archaeological Database prepared by B. Belge

4.3 Topographical and Geographical Factors in İzmir

Topographical and geographical factors are important factors that affect the socio-economic and physical development of cities. The effects of natural factors could be easily followed in the history of İzmir.

Izmir has a superior geographical location that enhances its socio-economic importance in Aegean Region. While, in the same region, some important centres such Erythrai, Ephesus

and Millet had lost their importance by means of some natural reasons like alluvial floods, İzmir has enhanced its importance by taking the other's roles. İzmir is situated in a convenient location where Aegean Sea thrust approximately 70kms into land by The Gulf of İzmir. It is surrounded by mountains that make protected ports from winds. Moreover, the depth of the Gulf let to ships till the skirts of İzmir (1986a, p.6019).

On the other hand, in Aegean Region, mountain chains lie down perpendicularly to sea. Therefore, valleys in region have importance because they are not only arable lands, but also routes that link Anatolia and Aegean Sea. Commercial routes from inlands (Anatolia) have combined at the eastern part of the Gulf of İzmir (1986a, p.6019), so geographical factors doubled its importance. As I mentioned before, first railway roads had constructed to enhance these interaction between arable lands and sea / ports in Aegean Region.

Atay (1978, p.7) pointed out that, aforementioned factors didn't play role on the selection of İzmir's first settlement area. Until the end of the Middle Age, fortification and overlooked points were important factors on cities. We can easily follow these selection criteria in İzmir's first settlement –Bayraklı- area. The overlooking situation of Pagus/Kadifekale could be an important factor in the refoundation period.

There are still active fault lines in region as another important geographical event that have effected the development of İzmir. In the following section 4.4.2., the effects of this event were studied chronologically in detail. Briefly, earthquakes and following fires destroyed İzmir in many times in its history. And, today, the existing fault line system is continuously in motion.

In aforementioned context, when we looked at the topographical features of the case study area, firstly, Mount Pagus is observed as the highest point. During the refoundation period, the Acropolis of Smyrna situated at Mt. Pagus. Also, there were traces of inhabitation in former periods at Mt. Pagus. İzmir has situated between the northern hill of the Mt. Pagus and sea, especially in flat area since its refoundation in 324 B.C. Değirmentepe is another hill in study area at the west of Pagus. As mentioned before, the line between Pagus and Değirmentepe is the boundary of study area at south..

The Meles River –the eastern boundary of study area- is another natural event seen in its historical development since its foundation. There were many utterances on Meles River in ancient writer's text. Cadoux (1938, p.13) wrote about the debates on which one is the Meles River, either Caravan-Bridge River or Halka-Bunar River. Today, the Caravan-Bridge river that flow around Mt. Pagus and spill at Punta, is called as Meles River.

Coastline of the Gulf of İzmir is a geographical feature that has determined the western limit of occupation area as an open-boundary since its foundation. In history, the coastline of İzmir Gulf has changed either naturally or artificially (Figure 4-4). This filling process could be followed in study area with Inner port –its axis can be followed by the Anafartalar Street- that had filled until the end of 18th century. Also, even the limits of natural filling area aren't known exactly, northern part of study area shall be situated on alluvial plain of the Meles River. In addition to natural changes, the coastline has changed to construct either harbour or roads, as well in the last decade.

4.4 Ideal Archaeological Potential in İzmir Historic City Centre

As mentioned in conceptual part of study, Ideal Archaeological Potential could be defined theoretically as probable archaeological resources without any destruction. Therefore, firstly, archaeological and historical data about İzmir Historic City Centre were researched as much as possible. Then, obtained data have been evaluated to define primary and secondary datasets according to their reliability. After that, diachronic reconstruction plans were prepared for each period was defined according to socio-economic history of İzmir. Consequently, equi-property areas in İzmir Historic City Centre were determined.

4.4.1 Primary Sources of Information

Archaeological researches that include archaeological excavations, rescue operations by İzmir Archaeological Museum and archaeological surveys were taken as primary datasets to define ideal archaeological potential. Also, old maps and photographs were used to enhance ideal archaeological potential in İzmir Historic City Centre.



Figure 4-4: The development of the coastline from the Ancient Periods to the Present Prepared by B. Belge depending on the current base map of İzmir Metropolitan Municipality, the current map of 1950 (CANPOLAT, E.), the 1854 Map of Luigi Storari (ATAY, Ç., 1998), the General Map of Early Ottoman Period (MÜLLER, W., W., 1963.) and the sketch of Ancient Period (NAUMANN, R., KANTAR, 1950)

4.4.1.1 Archaeological Researches

4.4.1.1.1 Archaeological Excavations

Agora: In İzmir Historic City Centre, although there are various traces of ancient monumental structures, scientific archaeological excavations have continued in only State Agora, where known as Namazgah at the beginning of the 20th century.

In 1932, İzmir Municipality started to arrange an urban park in Namazgah where there was a Muslim Cemetery at that period. While park arrangement going on, an ancient statue base was found in the study area. Then, first archaeological excavations began under the control of Selahattin Kantar, who was the director of İzmir Archaeological Museum (GÖKSU, E., 2002, p.53).

First excavation works had continued from 1932 to 1941 by Rudolf Nauman and Selahattin Kantar¹³. At the end of works, the surface of inner court –approximately 120m length and 80m width- had cleaned. Moreover, it was understood that, the monumental structure is the State Agora of Ancient İzmir, not a Theatre as thought at the beginning of archaeological works. (AKURGAL, E, 1970, cited in GÖKSU, E., 2002, p.58).

Since 1996, İzmir Archaeological Museum has controlled current archaeological excavations by financial supports of İzmir Governorship and İzmir Metropolitan Municipality. Archaeological excavations have continued in the stoas around the inner court. A detailed publication of archaeological excavations has not prepared, yet. According to Auto-CAD drawings of K17 and K18 trenches, get from archaeological excavation team in December 2003, there are eleven archaeological layers in the stoa with 4,95m depth filling.

As a result of archaeological excavation, the probable layout of State Agora was determined. According to archaeological works, the southern part of Agora will continue under the Park and 816.Street.

¹³ There are detailed plans, sections, and resituation drawings in reports. Look at NAUMANN, R., KANTAR, S., Die Agora Von Smyrna, Istanbul Forschungen 17, Istanbul, 1950

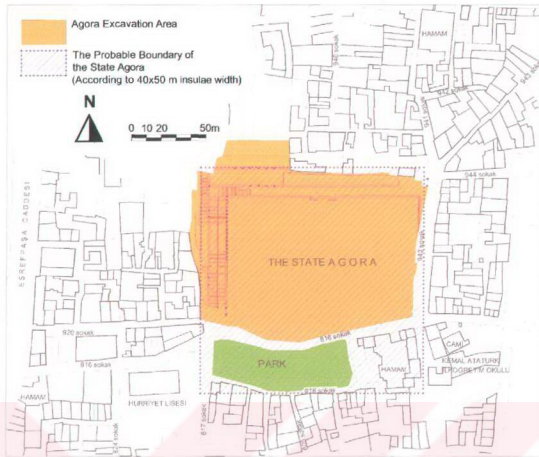


Figure 4-5: The existing map of the State Agora and probable boundaries
 Prepared by B. Belge depending on the Project of Conservation and Regeneration of Agora and Its Surroundings, IMM, Directorate of Historical Environment and Cultural Property, 2002.

Theatre: Another important monumental structure were studied in Early Republican Period, is the Theatre of Ancient Smyrna. There are restitution drawings of Theatre, which were prepared in 1922 when the traces of the Theatre were still visible.

In addition to archaeological excavations, Nauman and Kantarcı prepared a map of known ancient structures by visible archaeological remains and using old maps such as Luigi Storari's Map (NAUMANN, R., KANTAR, S., 1950, p.71). The map shows the general layout of Roman's occupation area by defined with fortification walls. The Agora, the Pagus / Kadifekale, the Theatre, the Stadium, the Zeus Akraios Temple, the Roman Road and the St. Pietro Castle are shown in the map. Also, the probable route of the fortification wall was indicated in the map, although there is no data on the south-western boundary of the fortification wall (Değirmentepe).

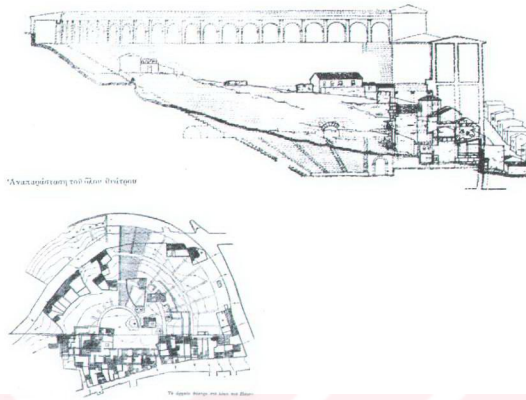


Figure 4-6: İzmir Theatre in 1922 and Restitution Drawings
(Üç İzmir, 1992a)

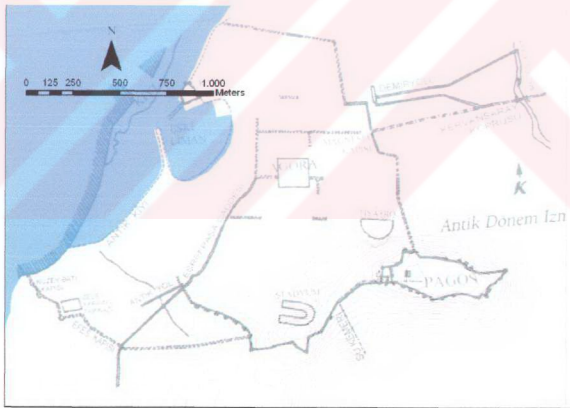


Figure 4-7: The sketch of Ancient Smyrna by Nauman and Kantarcı
The sketch (NAUMANN, R., KANTAR, S., 1950, p. 71) was rectified by B. Belge according to the coordinates of the current base map of İzmir Metropolitan Municipality

4.4.1.1.2 Rescue Operations of İzmir Archaeological Museum

I made a research on rescue operations of İzmir Archaeological Museum in December 2003 in İzmir Historic City Centre, sixteen inquiry soundings had been made by the staff of İzmir Archaeological Museum since 1994. Only eleven of their report could be found and were examined in the archive of İzmir 1 No Regional Commissions for the Protection of Cultural Heritage and Natural Entities. In addition to inquiry soundings, there is a map of findings and known monumental structures that prepared by İzmir Archaeological Museum.

In addition to inquiry soundings, there are problems in rescue operations for the large scale projects like the Metro Project in İzmir Historic City Centre. When the Metro Project had been prepared, the location of the Basmane Stop was discussed. It constructed at a crucial point where urban archaeological layers have overlaid from ancient periods to the present. As a result, important archaeological resources like a colonnade road were found at the construction site by the experts of İzmir Archaeological Museum. However, the urban archaeological resources could not be recorded scientifically because of administrative problems. At the end of the construction, some archaeological findings like columns are exhibited in the Basmane Stop.

İzmir Archaeological Museum's rescue operations include findings by chance, were grouped in three main titles that were defined in methodological framework:

- Works that include detailed documentation (vertically and horizontally) of archaeological stratification and artefacts,
- Works that include only general definitions of archaeological findings without spatial references. This group includes the findings by chance.
- Works in which the detailed or non-detailed documentation recorded no archaeological remains.

As mentioned in conceptual part, the reports, which were prepared by Local Museum Staff, are not in same standards and not enough to use for defining vertical and horizontal layout of archaeological resources in İzmir Historic City Centre by an altimetric map. So, inquiry soundings could not be used to determine the depth of anthropic deposit in this study. Only, they will be helpful to estimate the depth of archaeological layers in specific zones, where there are detailed reports on inquiry soundings.

Therefore, an updateable data collection model was prepared for all rescue works in İzmir Historic City Centre. Firstly, all plots uploaded to UAD (Figure 4-8). Then, one “Field Investigation Inventory Form” was filled with available data as an example (Appendix I). all of the other informations about rescue operations were summarized in a table (Appendix II) that includes;

- Inventory Number in UAD, Plot Number or Location of Plot,
- Date and Aim of Excavation,
- Detail on Excavation (for ex; Number of Sounding, etc.),
- Archaeological Strata (periods), Depth of Archaeological Findings,
- Architectural and Movable Cultural Findings,
- Assessment of Report, Related Commission Decision,

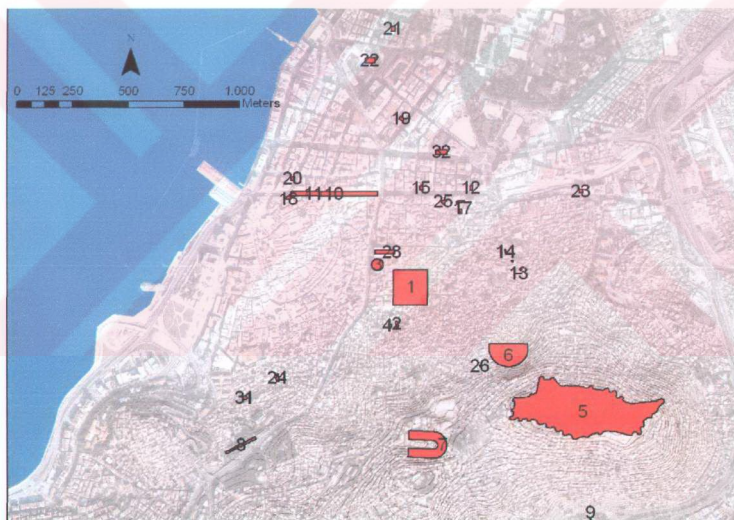


Figure 4-8: Rescue Operations and Known Monumental Structures in İzmir Historic City Centre

4.4.1.1.3 Archaeological Surveys

4.4.1.1.3.1 Extensive Survey in İzmir Historic City Centre

In December 2003, I made a simple extensive survey in İzmir Historic City Centre to understand the basic components of study area. Survey aimed to define types of urban patterns and buildings by survey. And then, I compared the survey data with aerial photo and current map of study area. According to data obtained from survey and comparison, I determine sub-zones -this data used as an input for UAD- in study area according to pattern analyse and building types.

According to pattern analyse, I defined four types for pattern, these are the witness of their period and shall be thought as an urban archaeological issue, as;

- Morphed Grid-Iron Pattern (Assumed Data)
- Conserved Traditional Ottoman Settlement Pattern
- Early Republican Pattern that planned area after 1922.
- Modern Pattern.

In addition to settled areas, urban parks and big vacant areas were examined by extensive survey. These vacant areas are important reserve areas for urban archaeological resources. According to basic survey, building types on different settlement patterns are not same in İzmir Historic City Centre. There are four building types in study area;

- Traditional houses that are built by old construction methods and generally don't destruct the urban archaeological resources, unlike there is sub-soil basement. These houses are also historical resources that should be conserved.
- Buildings that are built in Early Republican Period, probable destruct the urban archaeological resources. These buildings were constructed by modern techniques that destroyed archaeological deposits. On the other hand, early republican buildings have architectural and historical property.
- Modern buildings that are built by modern construction methods and, the depth of basement are high, so, destructing the urban archaeological resources.
- Squatter housing around Kadifekale that are built by different methods, and should be surveyed intensively.

As a result, an analysis according to defined patterns and building types was made to define destroyed and conserved urban archaeological issues in the latter section of study -4.5.3.



Figure 4-9: The evaluation of extensive survey according to different types of building and pattern

4.4.1.1.3.2 Intensive Surveys in İzmir Historic City Centre

In İzmir Historic City Centre, archaeological and topographical traces of urban archaeological resources are still observable. Especially, topographical clues about physical environment of ancient periods are visible around Agora. Unfortunately, in this study, a detailed intensive survey could not be made to determine the exact data on urban archaeological resources. However, there are two intensive survey, their goals are different, in İzmir Historic City Centre.

First one of them, an urban archaeological survey based on plots made between the State Agora and the Theatre in 1995 to determine the urban archaeological traces. That survey was made by the sub-titles:

- Monumental buildings
- Well-preserved buildings
- Less intervention – change on buildings
- More intervention – change on buildings
- Tumbledown buildings
- Ruins
- New buildings that constructed with traditional methods
- New buildings that constructed with modern destructive methods

Also, vacant plots and basement floors of buildings were recorded to determine probable conserved urban archaeological resources.

In addition to recent buildings, archaeological traces such as ruins of architectural ancient walls and re-used movable cultural properties were recorded in plots. Figure 4-9 shows the surveyed area by this survey.

Second intensive survey was made around the Agora by İMM in 2002 for preparing the Conservation and Regeneration Plan of Agora and Its Surroundings. Survey and analysis of the existing situations were made by the staffs of the Directorate of Conservation of Cultural and Natural Heritage in İzmir, İMM. In surveys, built-up and vacant areas were studied in detail in below titles;

- Land-use in the basement, 1st and 2nd floor of buildings,

- Typology of houses,
- Number of floors,
- The recent condition of scheduled buildings,
- Recent development rights in study area.

Especially, the cultural properties should be conserved were recorded by İMM's survey, that will be helpful to define urban archaeological character zones. The findings where at the west of the Agora, were recorded exactly and added to the recent map of the study area.

Consequently, even there are recent surveyed areas around the State Agora and the Theatre, both survey were made in insufficient conditions to record the urban archaeological resources exactly. Because, the 1995 survey was not supported with sufficient technological facilities and financial resources, even the survey team was familiar on urban archaeological survey. Also, their results were not studied until now.

The survey of İMM not only aims to determine urban archaeological resources but also to find out the recent condition of built environment. As mentioned, it was just a pre-planning analysis to prepare a conservation plan for the Agora and near environment. A map was produced to indicate the result of both survey and plots that were found archaeological traces (Figure 4-11).

It should not be forgotten that, intensive urban archaeological surveys will be effective to record urban archaeological resources in İzmir Historic City Centre. Therefore, according to detailed zoning in latter section of study, intensive surveys are seen as an effective method to record urban archaeological resources.

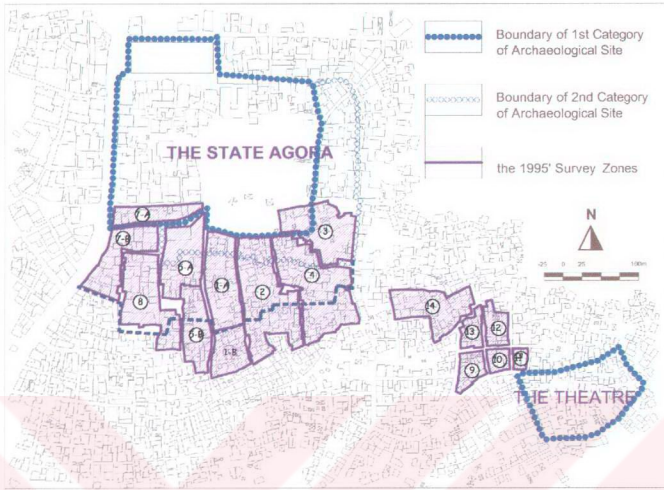


Figure 4-10: The surveyed zones in the 1995' Survey

Prepared by B. Belge on the current base map of İzmir Metropolitan Municipality

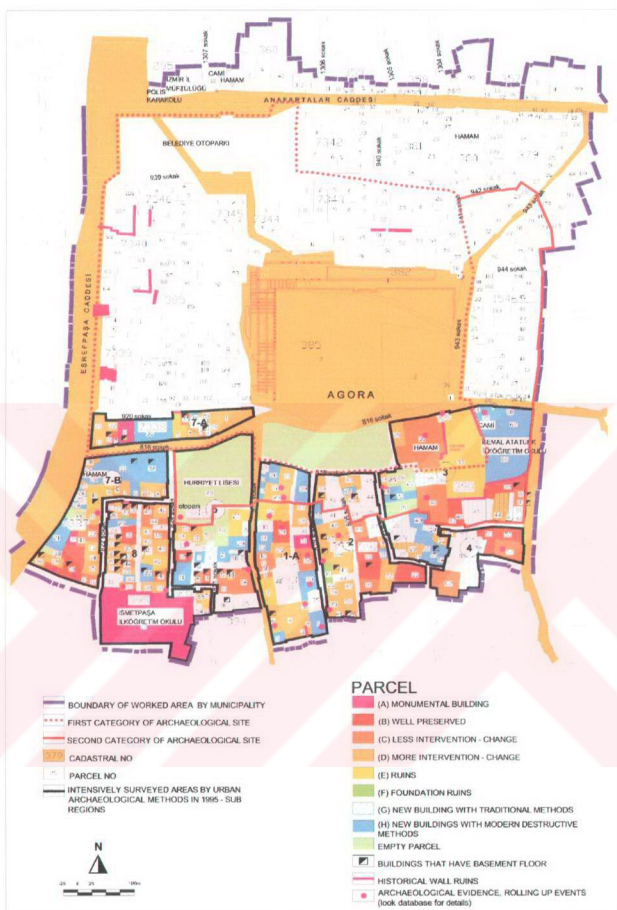


Figure 4-11: The Cultural Properties to be preserved according to the surveys. Prepared by B. Belge depending on the 1995 'Survey Results and the Project of Conservation and Regeneration of Agora and Its Surroundings, İMM, Directorate of Historical Environment and Cultural Property, 2002.

4.4.1.1.3.3 Geophysical Surveys in Agora and Its Surroundings

A geophysical survey made by M. G., DRAHOR¹⁴, M. MARTINAUD¹⁵, R. CHAPOULIE¹⁶, in the State Agora in 2002. In eight 20 x 20m grid, magnetic techniques were used in the inner court. However, because of soil features and built areas, data obtained from magnetic survey is not clear. Resistivity survey had made on 36 north-south profiles with 2m interval. Also, VES (Vertical Electric Survey) and resistivity survey had been made on 4 profiles in the park area. According to preliminary results of resistivity tomograms, a probable archaeological layer was discovered in 1-1,5m depth in the inner court. In addition to surveys in the inner court, georadar (GPR) surveys had been made in the street around the Agora. GPR measuring had been made in the inner court, too. Preliminary results of GPR survey were similar to resistivity surveys. However, they were not efficient as much as the real capacity of method, because of the groundwater level. (DRAHOR, M.G., 2002).

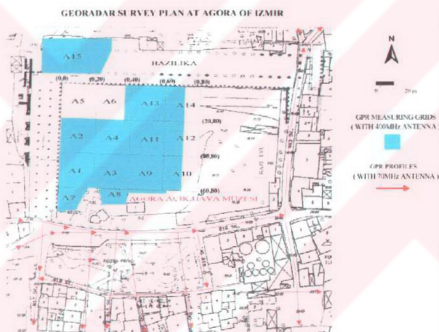


Figure 4-12: Surveyed areas in the inner court and the streets by GPR (DRAHOR, M.G., 2002)

14 Dokuz Eylül University, Faculty of Engineering, Department of Geophysics Engineering, İzmir /Turkey

15 Bordeaux 1 Université, Centre de Développement des Géosciences Appliquées, Talence Cedex/France

16 Bordeaux 3 Université, Centre de Recherche en Physique Appliquée à l'Archéologie, Pessac/France

4.4.1.2 Old Maps, Plans and Photographs

Old Maps: Since the second half of the 19th century, the maps of İzmir and its surroundings had been prepared parallel with westernization movements in İzmir. Maps were produced according to their aim in various scale and detail by different methods. Therefore, the reliability and sensitivity of maps are so different because of coordinate systems and map producing systems. However, even maps were produced in various systems, recent and known structural elements of city such as Kadifekale, the New Harbour or conserved axes were used to rectify the old maps to the coordinates of current map in UAD.

In this study, although there are very detailed maps of İzmir Historic City Centre in plot base, maps that show the general layout and basic elements of İzmir were preferred to prepare Diachronic Plans. This data become so helpful to examine the periods since 1850s.

In defined context, the maps of Thomas Graves in 1836-37, Luigi Storari in 1854-56, Georgiades in 1885, the Water Distribution in 1897, the Ministry of Defence in 1925 and Emin Canpolat in 1950 were studied in detail. All mentioned maps were rectified firstly. Then, they were added as layers to Urban Archaeological Database.

Thomas Graves – 1836-37: Thomas Graves's 1837 dated map of İzmir is the first map of İzmir Historic City Centre that shows the general layout of city. According to the map, southern boundary of city started from "Bahribaba Park-present name of area-" and it continued through the northern hill of Kadifekale. Map show that, a concentration started through the coastline. Occupied area reached till to Alsancak. Also, we could observe that the inner port was completely filled by alluvial. In addition to general layout, the ruins of ancient monumental structures are seen in the map. There is no settlement around the ruins of ancient Stadium and Theatre. Also, map indicated the location of the foundations of Zeus Akraios Temple. Beyru (BEYRU, R., 1973, p.30) pointed out that the river Meles divided into two branches near to Caravan-Bridge. Another important point is the western gate and roads of İzmir which had still used Caravan-Bridge route similar to ancient periods. Beyru (BEYRU, R., 1973, pp.29-30) also gave a list of the main buildings like hospitals, churches, synagogues, mosques and inns in detail at that period (Appendix III / Figure 6-1).

Luigi Storari – 1854-56: Luigi Storari's 1854-56 dated map is another detailed map that shows the general layout of İzmir and its main elements in the mid of 19th century. The Ali Paşa Square completely filled by commercial buildings at that period. Also, he mentioned that, the coastline had changed by artificial fillings, so St. Pietro Castle and Frenk Streets were away from the Sea. In addition, Beyru (BEYRU, R., 1973, pp.35-37) also gave a very detailed list of the main buildings and streets -hospitals, churches, synagogues, mosques, colleges, industrial buildings, official buildings, squares, bazaars, and inns- in detail at that period.

In addition to Beyru's statements, we may easily observe that, exact location of St. Pietro Castle is so clear at the map of Luigi Storari. As a very important data, the map indicates the pattern of non-settled agricultural fields, too. These data may be used to determine the Roman agricultural pattern at the out of fortification wall, basically. Moreover, the ruins of the fortification walls are seen at the map (Appendix III / Figure 6-2).

Georgiades – 1885: As mentioned in socio-economic historical development of city, the railroads and new harbour were the most effective factors on the layout of İzmir in the last quarter of the 19th century. The development around historic city centre may be followed by the map of D. Georgiades in 1885. Although presentation technique of the map is so basic to determine the exact pattern of city and the location of main elements in city, it will be helpful to estimate the northern expansion of city by means of railroads and new harbour.

According to map, there were still vacant places in Alsancak and Punta. Two finished railroad axes and the breakwater of the new harbour are new elements of city. Moreover, ruins of ancient monumental structures may be observed. Also, the quarters of different ethnic groups were shown at the map. One branch of the Meles River, which flows the inner part of Alsancak disappeared by development of city. In addition, map includes a legend of the main buildings in İzmir such as, the Hospital of Ottoman Empire and train stations.

The Water Distribution Map – 1897: Another detailed map that was produced in the last decade of the 19th century, is an infrastructure plan of the water distribution in 1897. The map is so detailed to examine the pattern of İzmir, because of the map's production aim.

In Alsancak, the map shows more development than Georgiades's one. There was any development around the ruins of ancient monuments and the Değirmentepe, yet. As an important point, the pattern of agricultural field is like a planned pattern for future development (Appendix III / Figure 6-3).

The Ministry of Defence's Regional Map in 1925: In Early Republican, the nationalism movement become effective on the map producing, too. The Ministry of Defence prepared a large scale map of the Gulf of İzmir in 1925. The parts of the map, which shows the historic city centre, indicate that, the triangle between the Aydın Railroad, Fevzipaşa Boulevard –its present name- and the coastline was completely destroyed by 1922 Fire. Only such a few part of Punta could be rescued from the devastating effects of 1922 Fire. Industrial developments at the inner part of Alsancak were still stand. Furthermore, the developments around Karataş and Değirmentepe are observable at the map

In addition to the map of the Ministry of Defence, there is a sketch that shows the probable layout, indicated the northern and southern expansion of İzmir before 1922 Fire (Appendix III / Figure 6-4). The sketch was published in a French Journal, L'Illustration's 4696 Number in March 1933 (2003a, p.69).

The Current Map of 1950s (Emin Canpolat): The last old map used in this study is the 1950's current map of the historic city centre that published in Canpolat (CANPOLAT, E. , 1958,). The new planned pattern of Alsancak and the Culturpark (İzmir Fuarı) are seen at the map. Although, the northern hill of Kadifekale wasn't resettled, yet, the new development areas on the Değirmentepe and the old cemeteries on the Eşrefpaşa were observed at that period (Appendix III / Figure 6-5)

Photographs: The photographers started to visit İzmir at the end of the 19th century. Especially, panoramic photographs of city shall be useful to define the general layout of the city. A beneficial collection of old photographs of İzmir published in 1997 by AKMED (.the Research Institute of Mediterranean Civilizations).

Two of the photographs by Alexander Sandor Svoboda published in the book were examined in detail and added to UAD as an example. First one of them is a general view from the

Değirmentepe in 1865. The main elements in the photograph are Kadifekale and, Sarı Kışla. The general layout of İzmir is observable in the photograph. The area of inner port was still vacant as shown in the old maps of that period. The Jewish Cemeteries on Bahri Baba Parkı are too visible to determine the boundary. Also, the cypresses around the Muslim Cemeteries –Selvi in Turkish- are another main element in the photograph (Appendix III / Figure 6-6).

Second one is another general view from Bozkaya, in 1865, too. The view angle of it is a rare angle that there are few photographs of İzmir. Atay (1997a, p.23, texts by ATAY, Ç.) pointed out that, the agricultural field use pattern is a very important clue in this photograph. Also, the north-eastern expansion and boundaries of İzmir are visible in photograph, basically (Appendix III / Figure 6-7).

Above mentioned maps and photographs were selected to enhance the diachronic documentation of İzmir according to defined period in socio-economic history of İzmir. Of course, the historical development of İzmir may be followed by more visual documents in detail. However, this study is a basic example for the methodological framework to use old visual documents in analysis by means of UAD.

4.4.2 Secondary Sources of Information for İzmir Historic City Centre

4.4.2.1 Ancient Writer's Statements

As mentioned in the socio-economic history of İzmir, there are statements of Ancient Anatolian Writers especially on the Roman Republican Period. Strabo, the ancient geographer (the first. cent. B.C), Aristeides (in the latter half of the second century A.D.), and Pausanias (in the second century A.D.) are the most famous ones who gave detailed information on İzmir in the period of concern. But, it should not be forgotten that, they are only oral historians. Therefore, their utterances were used to enhance the data obtained from primary datasets and examine the socio-economic history of city. In this section, all information's obtained from ancient writers weren't summarized, but, the utterances of them were used in both socio-economic history of city and the diachronic documentation.

4.4.2.2 Travellers

Travellers' books¹⁷ were studied chronologically by means of a book (PINAR, İ., 2001) that summarized the most of them from 1608 to 1918. Although there are problems on the references of visual documents like engravings, the book allowed preparing a table of their contents with similar to prepared by Bilgin (BİLGİN, A.G., 1996, p.111) in her thesis. In Table 4-1, physical references, socio-economic information and visual data listed according to ethnic and historical sub-groups. In addition, demographic data with ethnic references were listed. The codes used in table 4-1 are;

- Visual:¹⁸
 - M (Map),
 - Skt (Sketches / Engraving),
 - Ph (Photographs),
- Physical References:
 - Periods: 1 (Hellenic / Roman),
 - 2 (Byzantine / Seljuk),
 - 3 (Ottoman),
 - a (City Edge),
 - b (Monumental Structures),
 - c (General)
- Socio-Economic Conditions
 - 1 (Ottoman / Turks),
 - 2 (Greek),
 - 3 (Armenian),
 - 4 (Jewish),
 - 5 (Frank / European)
 - a (General / job interest-merchants, religious, epidemic invasions),
 - b (Quarters)
- Demographic:

¹⁷ The importance of traveller' books had been summarized in the section 3.4.2.

¹⁸ As mentioned above, there are problems in referencing the visual documents. There are visual documents especially engravings in each section that summarized one of the traveller' books. Table 4-1 prepared according to these sections. However, a detailed reference system must be developed for the book (PINAR, İ., 2001)

- 1 (Ottoman / Turks),
- 2 (Greek),
- 3 (Armenian),
- 4 (Jewish),
- 5 (Frank / European),
- T (Total)

*Table 4-1: Traveller had visited İzmir between the beginning of the 17th century and the beginning of the 20th century
(PINAR, İ., 2001)*

Traveller	Year	Visual*	Physical Reference	Socio-Economic	Demographic
J. B. Tavernier	1632 / 38	Skt	1ab, 3abc	1ab, 2ab, 3ab, 4ab, 5ab	1, 2, 3, 4
R. De Dreux	1667 / 68	Skt	1b	5a	-
Dr. J. Covell	1670 / 79	Skt	-	1a	-
T. Smith	1671	Skt	1b, 3a	2a, 5a	-
J. Spon	1675	Skt	1b, 3b	3a, 5a	1, 2, 4
C. de Bruyn	1678	Skt	1c, 2c, 3c	1a	-
O. Dapper	1681	-	1abc, 3abc	1b, 2b, 3b, 4b, 5b	1, 2, 3, 4
J. P. de Tournefort	1701 / 02	Skt	1ab, 2ab, 3abc	2a, 3a, 4a, 5a	1, 2, 3, 4, 5
A. M. Myller	1726	Skt	1b, 2b, 3abc	1ab, 2ab, 3ab, 4ab, 5ab	1, 2, 3, 4
J. B. Tollot	1731/ 32	Skt	3c	1b, 2b, 3b, 4b, 5b	1, 2, 3, 4
R. Pococke	1739	Skt	1abc, 2c, 3abc	1a, 5ab	2, 3, 4, T
M. S. Schultz	1752 / 53	Skt, M	1b, 2b,	1a, 2a, 3a	-
C. W. Lüdeke	1759 / 68	Skt	3c	1a, 5a	1, 4, T
J. H. Riedesel	1768	Skt	1b, 3c	-	T
J. Dallaway	1795	Skt	1bc, 2c, 3c	-	T
F. de Beaujour	1800	-	1bc, 3abc	1a	1, 2, 3, 4, 5, T

O. F. von Richter	1815	Skt	1b, 3ac	5a	T
L. A. Forbin	1817	Skt	1b	1a, 5a	-
W. Turner	1818	Skt	-	-	1, 2, 3, 4, 5, T
F. V. J. Arundell	1822	Skt	-	-	T
R. R. Madden	1825	-	3c	1a, 2a, 5a	-
E. C. Döbel	1832 / 33	Skt	1b, 3c	5a	T
A. de Lamartin	1833	Skt	1b, 3c	1a	-
W. J. Hamilton	1835 / 36	M	1abc, 2c, 3c	1a, 3a, 4a	-
G. H. von Schubert	1836	Skt	1c, 3c	1a	-
H. von Pückler	1839	Skt	1b, 3c	5a	-
C. Fellows	1838 / 40	Skt	1c, 3c	1a	-
L. Ross	1845	Skt	1b, 3ac	1ab, 2a, 5ab	1, 2, 3, 4, 5, T
T. Fliedner	1851 / 56	-	3abc	1a, 2a, 3a, 4a, 5a	2, 3, 5, T
J. H. Peterman	1852	Skt	3c	1b, 2b, 3b, 4b, 5b	1, 4, T
C. T. Newton	1852 / 54	Ph (?)	1b, 3c	5a	-
M. Busch	1859	Ph (?)	1b, 3ac	1b, 2ab, 3ab, 4b, 5ab	4, T
H. Scherer	1860	Ph (?)	-	1ab, 2ab, 3ab, 4ab, 5ab	2, 3, T
Dr. T. Schuchardt	1861	-	3ac	1ab, 2b, 3b 4b,	-
K. von Haller	1864	Skt	3c	-	1, 2, 3, 4, 5
F. J. Seiff	1872	-	1c, 3ac	1b, 2b, 3b, 4b, 5b	1, 4, T
A. von Schweiger	1881	Ph	1bc, 3bc	1ab, 2ab, 3b, 4b, 5ab	-
J. Hallbauer	1892	Ph	1b, 3c	1a, 2a, 3a, 4a, 5a	-
H. Barth	1892	Ph	3abc	1ab, 2ab, 3ab, 4ab, 5ab	1, 2
Dr. P. W. Keppler	1892	Ph	1b, 3c	1b, 5b	1, T
E. Kauder	1895	-	1b, 2b, 3bc	1ab, 2b, 3b, 4b, 5ab	-
P. von Lindau	1898	Ph	3abc	1ab, 2ab, 3ab,	1, 2, 3, 4, 5, T

				4ab, 5ab	
R. von Lindau	1898	-	3acb	1ab, 2ab, 3ab, 4ab, 5ab	1, 2, 3, T
P. Linderberg	1902	Ph	3ac	1a, 2a, 5a	1, 2, T
Dr. A. Philippson	1904	Ph	3ac	1ab, 2a, 3a, 4a, 5a	1, 2, 3, 4, 5, T
R. von Eisenstein	1911	Ph	1b, 2b, 3ab	-	-
M. Thamm	1911	Ph	1b, 3bc	1b, 2b, 3b, 4b, 5b	T
F. K. Endres	1918	-	3c	General	T

As seen in the table 4-1, travellers had visited İzmir especially in the 19th century with parallel to the development of commercial capacity of the city. In summary, we got information on social and physical pattern of the city by travellers' books. In addition, the earthquakes, fires and related epidemic invasion could be followed by written statements. A detailed evaluation of these secondary datasets shall be an important contribution for urban memory.

Although exact and clear data could not get from the visual documents in the books, there are general information's about the layout of city and monumental structures (for example; engravings of J. P. De Tournefort and K. Von Haller / Appendix III Figure 6-8 and Figure 6-9). Especially, travellers mentioned from the natural beauty of the near surroundings of İzmir and the Gulf of İzmir. Also, Kadifekale is usually the most important feature in their statements. Because, the most of them came İzmir by sea, it would be possible that, saw the topographic and natural features of İzmir, firstly.

4.4.3 Diachronic Plans

While the socio-economic development of İzmir was examined, seven periods were defined according to factors that affect the general layout of city in historic city centre. And then, topographical and geographical features of study area were studied. After that, primary and secondary archaeological and historical available datasets were summarized in this chapter. Lastly, diachronic reconstruction plans for each defined period were prepared to determine

the ideal urban archaeological potential in İzmir Historic City Centre by superimposition of them.

4.4.3.1 Ancient İzmir

As mentioned above, the first period began with the refoundation of İzmir in 324 B.C., continued with the Roman Republican Period –the most brilliant period- of city. It finished when İzmir became a Christianity Centre in the Byzantine Period in the 7th century B.C. Especially ancient writers' statements were used to determine the general layout and the inner organization of the city, because primary dataset for early periods is so basic to determine a diachronic reconstruction plan. However, primary dataset especially rescue works used for supporting the statements.

4.4.3.1.1 The General Layout of the City:

The Occupation Area of the City: Smyrna refound by Lysimakhos between at the northern hill of Mt.Pagus and the Inner Port. Boundary of the city embraced by the walls. These city walls determined the concentration area of the occupation area as a solid edge, had repaired in the Roman Republican Period, too (CADOUX, C.J. 1938, pp.100-105). The ancient coastline is an open boundary has changed in time. The Inner port of the city was the most characteristic feature of the coastline at that time.

In the 1st century B.C., Strabo said that; while a smaller part of city settled around old Acropolis (Mount Pagus), real occupation area concentrated around ancient inner harbour (KUBAN, D, 2001, p.59). At the most brilliant period, Smyrna's boundaries expanded from Caravan-Bridge to Diana's Baths at the northern edge. This means the boundaries expanded from the fortification walls. The southern boundary of city reached Değirmentepe. Cadoux (CADOUX, C.J., 1938, p.175) declared that as well as beyond the southern wall (at Karataş and Göztepe), the suburbs of the ancient city doubtless extended in Aristides times (Figure 4-13).

Entrances of the City: Smyrna was a naval base in the Roman Republican Period, so there were relations with the inner Anatolia and the other important port cities in its territory. As much as known, there were three main city gates at the fortification wall as entrances of city.

One of them known as the Magnesia Gate was located at the east of city, let to entrance of the ancient trade routes from inner Anatolia. Second one, the Ephesus Gate, was located at the south of city. Also, there was a north-western gate that let to route through the coastline. (Figure 4-13)

Urban division: Although we don't have exact information to determine the socio-economic or functional division in the city, it may be presumed that; main administrative activities had to be concentrated between the State Agora and the Inner Port. In addition, according to a statement of Pionious, Cadoux (CADOUX, C., J., 1938, p.175) stated that, burial places might be located outside the city walls, in the valley of the Caravan-Bridge River (presently named as Meles), further out to south east and near Tepecik where remains of such exist. Consequently, three main division units that are the administrative centre, the housing areas and the outside of fortification walls, that was low occupancy area. There would be burial activities and low intensively settled areas like farms in the outside of fortification walls (Figure 4-13). In defined context;

- Administrative areas could be determined as the core of Ancient Smyrna.
- The inner side of fortification wall was supposed as the housing area. There would not be a homogenous density and occupation in the whole of the inner side, but there should be artificial activities in these areas.
- The outer side of the fortification wall was defined as the low occupation area. the Necropolis at the eastern side of the fortifications were added into the low occupation area.

4.4.3.1.2 Inner Organization of the City:

Monumental and main elements / buildings of the City: Cadoux (CADOUX, C., J., 1938, p.174) said that, it is not possible to determine the exact location of precisely more than a few of the main elements of ancient İzmir. There is no doubt about the Acropolis located on the Mt. Pagus.

In addition, the exact location of the Theatre, the Stadium and the State Agora that had rebuilt or shaped at the Roman Republican Period, are known by means of the aforementioned map prepared by İzmir Archaeological Museum. The inner port was another main element of ancient İzmir that the exact location could be determined by Anafartalar

Street. Also, Luigi Storai and following maps indicated the location of a Zeus Akraios Temple¹⁹ on the hill of Değirmentepe.

In addition to known monumental buildings, there were many elements described by ancient writers' statements. One of them is the "Trade Agora" was located next to the Inner Port a by Taner (2002a, Figure 4.3.1., p.44). Moreover, Cadoux (CADOUX, C., J., 1938, p.180-181) mentioned from an "Odeion" that stood near the old prison, the "Baths" near the Ephesian Gate, a Gymnasium near the outer harbour according to statements of Aristeides and Strabo. He also mentioned from the "Metroon", the "Porticoes" and a library. We know also, the water supply system was so developed to support the city according to ancient statements. There were 3 aqueducts on the Meles River at the Roman Republican Period. However, these elements didn't add to "diachronic reconstruction plan because of the reliability of statements (Figure 4-13)

Urban Pattern: There were two main road, which called as "the Golden Street" running in curve from near Tepecik, across the Caravan-Bridge, through the gate in the old wall, and round southwest wards through the city to the "Ephesian Gate and "the Sacred Street" (Kutlu Yol in Turkish) found during the widening of Eşrefpaşa Street" (CADOUX, C., J., 1938, p.176). General pattern of the city defined by Strabo as "*The streets were laid out, at right angle so far as possible, and were paved with slabs of stone*" (CADOUX, C., J., 1938, p.175)

We may still observe the north-eastern direction of axes in the general pattern of İzmir Historic City Centre between Kemeraltı and Kadifekale. Especially, the axes can be determined around the State Agora. It might be seen that, there is a 4/5 proportion between north-south and east-west boundaries of the insulae around the State Agora. The other axes and the inner organization of the city will be assumed according to the insulae width determined by these axes. In addition, while İzmir Metro construction had continued, a paved main road along Fevzi Paşa Boulevard was observed by Prof. Dr. Numan TUNA who was a member of Regional Commission (Figure 4-13).

¹⁹ Cadoux mentioned from this temple as the Temple of Asklepios (CADOUX, C., J., 1938, p.180)

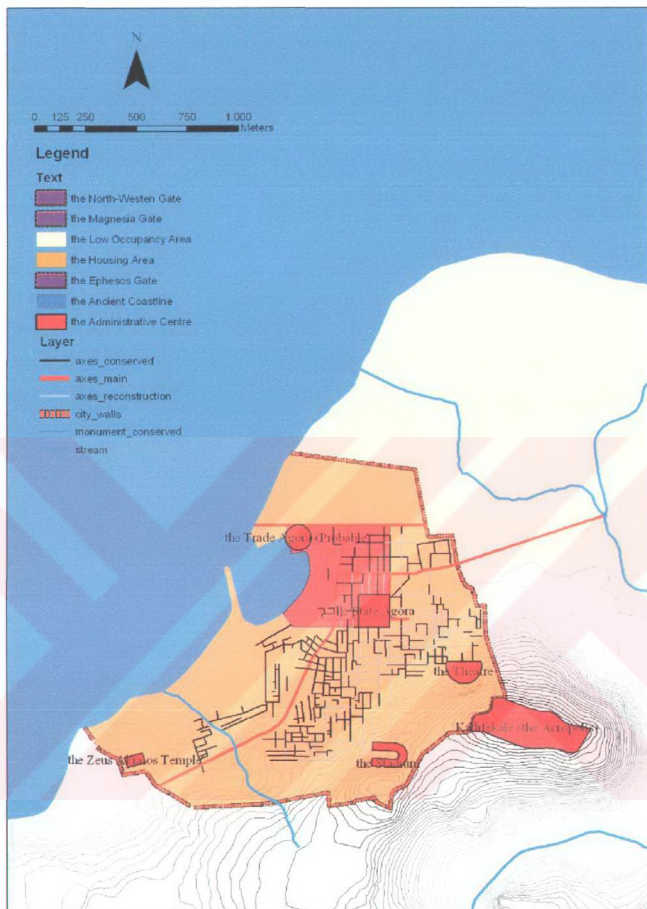


Figure 4-13: *İzmir in Ancient Period*

Prepared by B. Belge depending on the current base map of İzmir Metropolitan Municipality, the 1854 Map of Luigi Storari (ATAY, Ç., 1998), and the sketch of Ancient Period (NAUMANN, R., KANTAR, 1950)

4.4.3.2 Byzantine and Early Turkish Principalities

As mentioned above, the second period started when İzmir became a Christianity Centre in the Byzantine Period in the 7th century B.C. It finished by the domains of the Ottoman Empire in the beginning of the 15th cent.

4.4.3.2.1 The General Layout of the City

The Occupation Area and Entrances of the City and Urban Division: As I said before, Kuban (KUBAN, D., 2001, p.61) pointed out that there is so few data on the physical layout of İzmir in the Byzantine Period. Especially, the aforementioned events in the 11th century would play a destructive role on the traces of this period.

Although we didn't have exact data on the Byzantine Period, the traces of the fortification walls let us to determine the occupation area of the city. Müller (MÜLLER, W.W., 1963, p.63 cited in KUBAN, D., 2001, p.61) said that, III. Mihail repair the fortification walls in 856, as a result of the increasing pressure on the city and empties in the coast of Anatolia at that period.

During this period, it can be assumed that, the fortification walls and the coastline defined the occupation area of city. The city might be laid between Kadifekale, where quarters and garden settled, and the St. Pietro Castle that built by Rhodos Chevaliers (KUBAN, D., 2001, p.63). According to him (KUBAN, D., 2001, p.63), there was no settlement outside the fortification walls apart from monasteries and farms. However, the exact locations of these farms and monasteries could not be found.

The most important urban characteristic of this period is the dual character of the city, the Upper İzmir and the Lower İzmir. It may be assumed that, there was no connection between them. According to these context,

- The western side of the State Agora and the near surroundings of St. Pietro Castle were defined as the Lower İzmir.
- The quarters in Kadifekale and near surroundings were evaluated as the boundaries of the Upper İzmir.
- The cemeteries around the State Agora should be the transition zone between Upper and Lower İzmir. However, the exact boundaries of them could not be determined.

Therefore, the inner side of the fortification wall was defined as the low occupation area.

İzmir didn't have commercial relations with Anatolia, because of the Turkish pressure. Therefore, the inner port, trade by seas, had to be the entrance of İzmir. However, as a crucial natural factor, the Inner port started to fill in this period. (Figure 4-14)

4.4.3.2.2 Inner Organization of the City

Monumental and main elements / buildings of the City: Between 1224 and 1258, III İonnes Vatatzes, repaired Kadifekale, Müller (cited in KUBAN, D. 2001, p.62) stated that; Kadifekale had reached its recent layout at that period. At that period, Vatazes rehabilitated İzmir by public buildings such as the Sea Castle (St. Pietro Castle) and the Castle Palace next to the Sea Castle (AHRWEILER, H.,1966, p.321 cited in KUBAN, D. 2001, p.62).

Although İzmir had been an important Christianity Centre in Byzantine Period, there are limited data on the exact location of main religious building in this period. Kuban (KUBAN, D., 2001, p.63) gave a list of them such as St. George Church in Greek Cemeteries at outside of Kadifekale, St. Dimitrius Church in Kadifekale, St. Kirtos Church where Kestane Pazarı Mosque located, St . Theologos Church was probable the Cathedral of İzmir in Namazgah and St.Polycarp Church is the most familiar one near the ruins of the Stadium. (Figure 4-14)

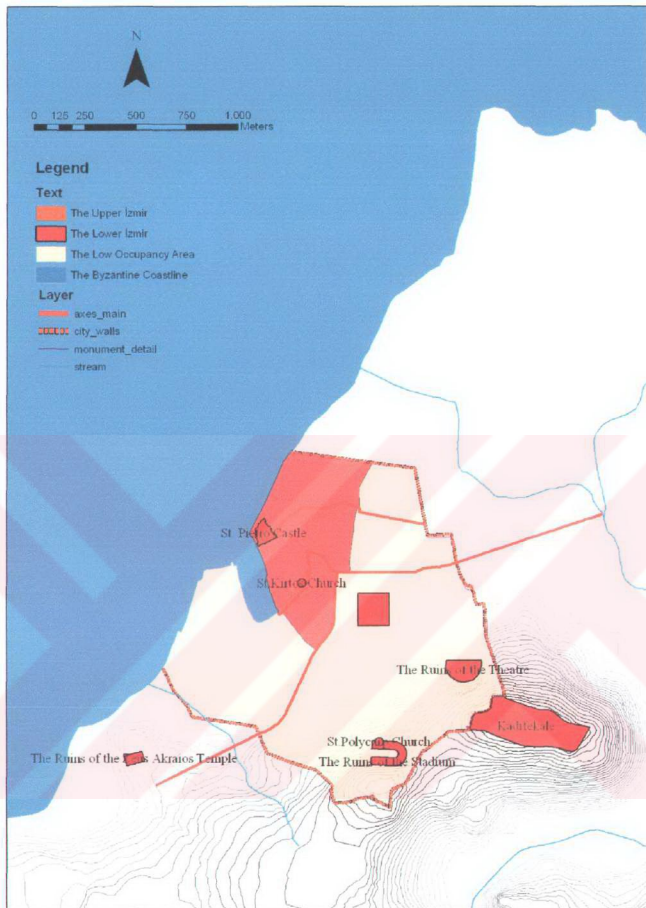


Figure 4-14: *İzmir in Byzantine and Early Turkish Principalities Period*
 Prepared by B. Belge depending on the current base map of İzmir Metropolitan Municipality
 and the General Map of Early Ottoman Period (MÜLLER, W., W., 1963.)

4.4.3.3 Early Ottoman Period

As mentioned above, the third period started with the domains of the Ottoman Empire in the beginning of the 15th cent. It ended with westernization movements in the second half of the 19th century. During this period, İzmir had got importance with the increasing commercial capacity by the domain of the Ottoman Empire.

4.4.3.3.1 The General Layout of the City

The Occupation Area and Entrances of the City: At the beginning of the 17th century, France and England send commercial representatives to İzmir. Also, the representatives of other countries had settled in İzmir by the time. As a result, new settlement pattern started to shape with the foreigners.

The occupation area of İzmir oriented towards north where a flat area between the sea and the mountain in the mid of the 17th century by commercial activities.

Pococke (1771, pp.5-24 cited in KUBAN, D. 2001, p.72) made a description of İzmir layout like a triangle that 1 km in west-east and 3 km through the coastline. There were no quarters at the northern hill top of Kadifekale and inside of Kadifekale.

At the end of the period, the general boundaries of city could be easily followed by the maps that were prepared by Thomas Graves and Luigi Storari which were examined in detail in the former section of study (4.4.1.2.)

Entrances of the City: The main entrance of the city was the trade road coming from east and entered to city by the Caravan Bridge (Kemer Köprüsü). Another entrance of city was from south between the cemeteries in Eşrefpaşa.

Urban division: In this period, as summarized in the socio-economic history of İzmir, there were different ethnic groups who worked in various professions. According to their living standards and customs, they preferred to settle in different location in İzmir. They constructed their buildings – houses, religious buildings, administrative buildings, so on – by different materials in various architectural style. Therefore, the ethnical differences in İzmir were accepted as crucial factors on urban division. Depending on the aforementioned framework, 8 sub-division units were defined in Early Ottoman Period:

- Evliya Çelebi (cited in KUBAN, D., 2001, pp.66-68) said that, Muslim quarters had lay still around ancient remains at the northern side of Kadifekale.
- In Lower İzmir, Frenks –a name used for Christians- and Greeks were settled through the sea-shore between inner port / commercial centre and Alsancak city.
- Armenians quarters were near to Muslim quarters at that period. After a fire in 1844, Armenians started to move Basmahane and near surroundings.
- There were Jewish quarters between commercial centre and Armenian's.
- Kemeraltı, present name, and near surrounding was defined as Commercial Centre.
- The Maneouvre Square and Sarı Kışla were evaluated as the beginning of the Administrative Centre.
- Lastly, the cemeteries in various locations were defined as a sub-urban division.

By means of commercial activities, Inns and related activities started to locate the surrounding of the old inner port in northern direction. Also, as administrative activities, the consulships had located in Frank Quarters (Figure 4-15).

4.4.3.3.2 Inner Organization of the City

Monumental and main elements / buildings of the City: By means of commercial capacity and multi-cultured social structure in city, each ethnic group started to construct buildings in their quarters in various styles. According to aforementioned maps, there were concentrations in traditional centre and Frank Quarter.

Beyru (BEYRU, R., 1973, pp.29-30) gave a list of main buildings in İzmir, according to map of Thomas Graves. The list includes 10 consulship buildings of various country, 5 churches, and 5 hospitals, 13 mosques that are stood either in present or destroyed. Also, the Bataria Square, the St. Pietre Castle, Sarı Kışla and the factory in Basmahane were listed.

Beyru (BEYRU, R., 1973, pp.35-37) gave another list of main buildings in İzmir by Luigi Storari' map. This list is more detailed than former one. It includes 17 mosques, 3 Catholic and 6 Greek Orthodox churches, 3 synagogues, 3 college, 3 industrial structures, 3 public publics, 9 hospitals, 7 police station, 13 inns, 7 bazaars and 4 squares. It also includes the name of 50 streets. There is a relational code according to grid system in map.

Also, St. Pietro Castle and Sarıkışla that built in 1827 could be easily observed in the map. In addition, these maps show the ruins of ancient remains like the Theatre, the Stadium, the Zeus Akraios Temple and the fortification walls.

Urban Pattern: Beyru (BEYRU, R., 1973, p.35) made a comparison between Graves's and Storari's maps, and he pointed out that, the main layout of İzmir didn't change so much. He concentrated on the pattern changes around the Basmahane (new grid-iron pattern after 1844 Fire) and Punta (grid-iron pattern for new developments).

Ottoman traditional pattern at the south of the city would be observed. Also, another main feature of pattern is the domain of traditional centre. Main axes oriented to the line of old inner port.

Open Areas: The cemeteries of various ethnic groups were non-built / open areas in the early ottoman period. Beyru (BEYRU, R., 1973, p.30) concentrate on the points that; there were cemeteries of Turks around Cicipark and cemeteries of Jewish in Bahribaba Park by Thomas Graves' map. Also, there were cemeteries around the Caravan Bridge.

Inner port was completely filled by alluvial at the end of the period. There was a square called as Ali Paşa Sqaure on the area of the inner port, but traditional buildings constructed in the area and only a small area have been conserved as an urban square (Figure 4-15).

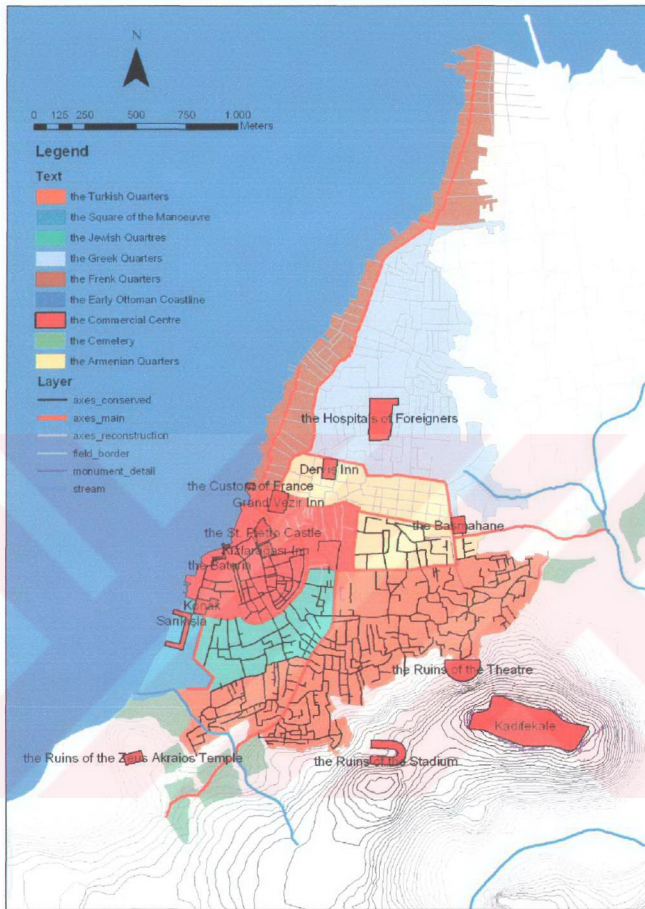


Figure 4-15: *İzmir in Early Ottoman Period*

Prepared by B. Belge depending on the current base map of İzmir Metropolitan Municipality, Thomas Graves' Map (KUBAN, D., 2001) and Luigi Storari's Map (ATAY, Ç., 1998)

4.4.3.4 Late Ottoman to Early Republic

As mentioned above, the fourth period began with westernization movements in the second half of the 19th century. The period ended as Turkish Army entered to the city in Sep 19, 1922. As mentioned before, the commercial capacity of İzmir had reached a peak point by means of new transportation investments.

4.4.3.4.1 The General Layout of the City

The Occupation Area of the City: The occupation area of the city can be followed by Georgiades' map in 1885 and the water distribution map in 1897. Georgiades' map indicated the effect of the railroads and new harbours. Map will be helpful to estimate the northern expansion of the city. The water distribution map shows more development in detail than former one in Alsancak. These maps indicated the northern expansion and the new development pattern around Alsancak and Punta in the end of the 19th century.

A southern development had seen around Karataş and Göztepe in the beginning of the 20th century. As mentioned in the latter section of study (4.4.1.2.), there is a sketch that shows the probable layout, indicated the northern and southern expansion of İzmir before 1922 Fire. This sketch showed the southern expansion of city by means of tramway route between Güzelyalı and the city. The Karataş and Göztepe became a prestigious neighbourhood next to the city.

Consequently, İzmir laid between Alsancak and Karataş-Göztepe in 1922, although there were vacant areas at the northern hill of Kadifekale.

Entrances of the City: New transportation modes changed the entrances of İzmir. Basmahane and Alsancak Stations became entrances for both passengers from suburbs and inputs from Manisa and Aydın. Also, new harbour and the breakwater had shaped as the entrance of commercial goods by sea. Furthermore, Caravan-Bridge had conserved its importance as the eastern gate, still.

Urban division: After the new harbour and the quay had constructed by English and France companies, Kordon road opened the filling are of sea. Kuban (KUBAN, D., 2001, p.76) said that, after the filling of harbour, the Frenk Street that was at the coastline in 1824-28, got

200m far away from the sea. The new filing areas and Kemeralti had been developed as the Commercial Centre of İzmir.

The Levantines, merchants and as their mediators, the Jewish, Greeks and Armenian citizens of the Ottoman started to move from their workplace in Kemeralti to coastline areas in Alsancak, where new prestigious urban areas were emerged (2004a, Urban History of İzmir).

At the same time, Tilkilik at Namazgah was the quarter of the middle income Muslim groups, while low income groups that were especially migrated to İzmir, settled around Eşrefpaşa. Another settlement area for Muslims became: Karantina near to Jewish quarters (KIRAY, M. 1998 cited in 2002a, p.16).

The quarters of different ethnic groups could be still followed in İzmir. While Muslims had continued to settle at the northern hill top of Kadifekale, Non-Muslim communities of İzmir had shaped Alsancak with social and cultural activities. Kuban (KUBAN, D., 2001, p.77) mentioned that there were houses of the Levantines that were maximum 3 storeys. In Alsancak, near the Punta, there were consulships. At the backside of harbour, the warehouse had been settled.

In addition, Konak Square started to be administrative centre of İzmir by means of the new buildings of Governorship that built in 1867-76 and Municipality that built on the ruins of St. Pietro Castle. Administrative centre was enhanced symbolically by Saat Kulesi that built in 1901 (KUBAN, D., 2001, p.76).

The character of traditional commerce centre had changed in this period, too. When, Inns became a storing place for goods, institutional framework in banking and exchanging had been developed. Also, accommodation services for merchants developed at the end of the 19th century (Oteller Bölgesi) (2002a, p.13). (Figure 4-16).

4.4.3.4.2 Inner Organization of the City

Monumental and main elements / buildings of the City: As I mentioned before, Alsancak had developed by The Levantines, the bourgeois of İzmir and the social, cultural activities and modern urban services concentrated around new harbour at that period. Georgiades' map

shows the Consulates, the Post Office, the Theatre and The Telegraph Office at the north of traditional centre.

At that period, Rahmi Aslan, the Ottoman Authorities modernized the city by Konak Square had been administrative centre. Also, Orphanage, National Library, National Movie and Girl' High Scholl (İttihat ve Terakki School) had built in Konak where the old cemeteries laid. Also new train stations and custom buildings were new main buildings of İzmir. The arrangements for Bahri Baba Park started at the moment (2004a, Urban History of İzmir)

Urban Pattern and Open Areas: Aforementioned sketch that showed the layout of the city in 1922 indicated the differences between the old traditional pattern at the south of city and the northern pattern. In addition, Georgiades' map shows, as an important point, the pattern of agricultural field is like a planned pattern for future development.

Furthermore, even there were delay in finishing; the Şirket Boulevard between Basmahane and Gümrük was completed partially in 1918. It would be opened completely in 1930 (2002a, p.15). (Figure 4-16)

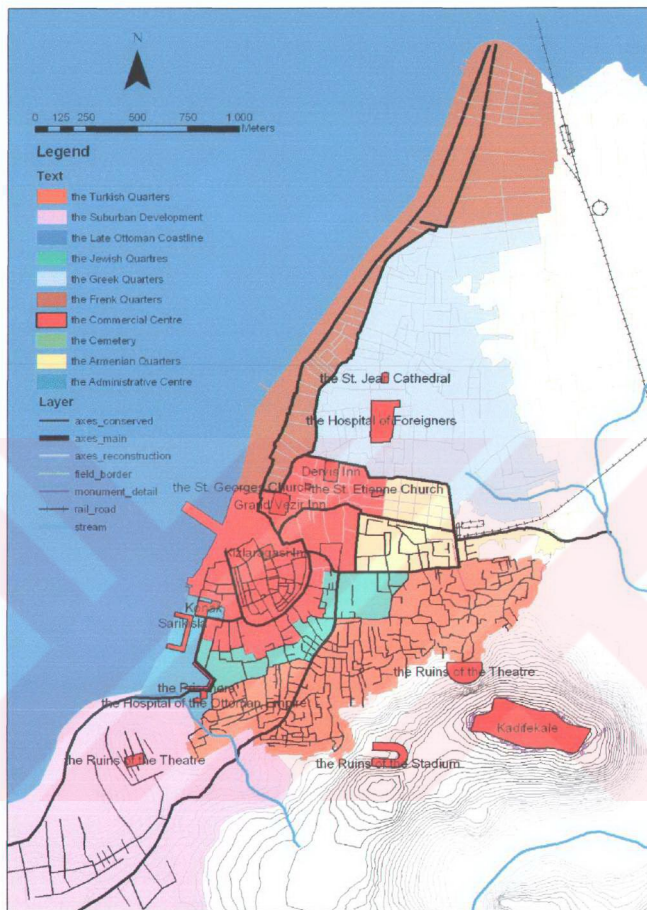


Figure 4-16: İzmir in Late Ottoman Period

Prepared by B. Belge depending on the current base map of İzmir Metropolitan Municipality, the Water Distribution Map (Başbakanlık Osmanlı Arşivi) and the sketch was published in a French Journal, *L'illustration's* 4696 Number in March 1933 (2003a, p. 69))

4.4.3.5 Early Republic to 1950s

As mentioned above, the Early Republican period began when Turkish Army entered to the city in Sep 19, 1922. The starting dates of migration from rural to urban areas in 1950's are the end of the fifth period. This period may be summarized as the improvements in İzmir as the reflection of national development.

4.4.3.5.1 The General Layout of the Historic City Centre:

As mentioned in the socio-economic history of İzmir, the 1992 Fire destroyed the social, cultural and physical topography of the city. Therefore, at the beginning of the period, reconstruction and rehabilitation of the historic city centre was the main topic. Rene Danger prepared a plan that includes huge boulevards and monumental axes with buildings in 1924. It suggest that a new harbour that may be constructed between Alsancak and Halkapınar.

The area between Konak and Alsancak that includes Kemeraltı had formed as the Central Business District. The land and building prices started to increase at the south of traditional centre again. The public buildings like the prisoners, the hospital and the military barracks were moved out of the centre. Also, as an important event, warehouses started to move out from the centre (2002a, p.17).

In addition to developments around traditional centre, the near surroundings of the centre had reformed by various activities. One of them was the industrial district at outside of Aydın railroad and new harbour development (Figure 4-17).

4.4.3.5.2 Inner Organization of the Historic City Centre

Two different patterns were visible at that period. One is new planned pattern with boulevards and its buildings in new architectural style. This new developed area is a heritage of Early Republican Period that may be still followed easily. The other one is the traditional Ottoman Pattern with old housing stock. After 1922 Fire, this conserved building stock and urban pattern is still a trace of İzmir in the 19th century. Kültürpark is a gain of new planned area in the socio-cultural development of İzmir. Another urban park is Bahribaba Parkı that is still a feature of İzmir' silhouette (Figure 4-17).

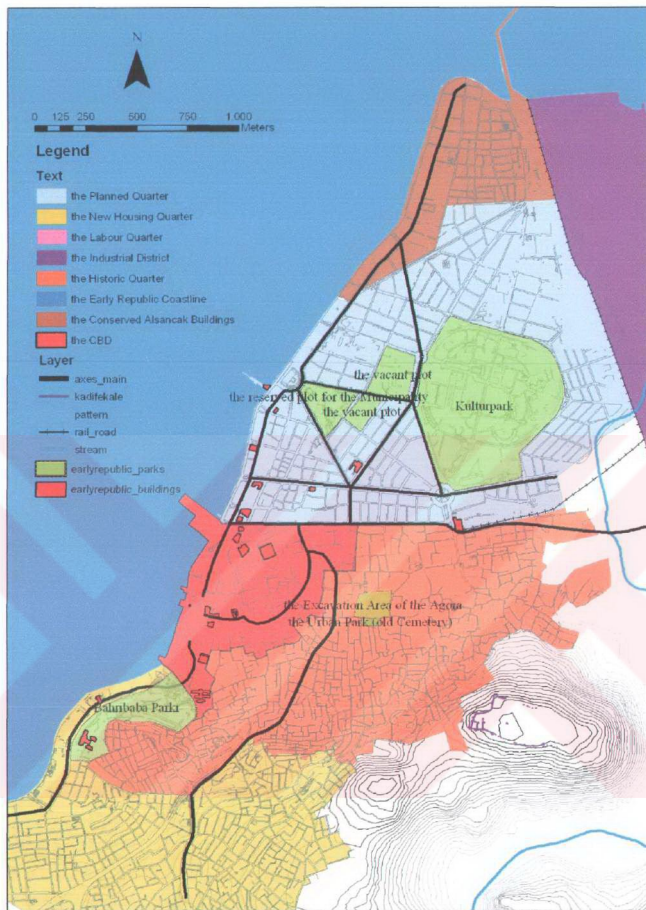


Figure 4-17: İzmir in 1950s

Prepared by B. Belge depending on the current base map of İzmir Metropolitan Municipality and the current map of 1950s (CANPOLAT, E., 1953).

4.4.3.6 1950's to the Present

As mentioned above, the sixth period began in 1950's and ended with 1973 Master Plan of İzmir. The last period is recent period has continued since 1973 Master Plan of İzmir. While İzmir's macroform have reshaped along the Gulf of İzmir and squatter housing existed, İzmir Historic City Centre has been shaped as a dual character centre includes traditional centre and modern centre. However, the dynamics in İzmir Historic City Centre have been developed since 1950's. Therefore, the main elements and the historical developments of last two periods had evaluated in the same diachronic plan.

As a result of migrations in 1950s, squatters especially had settled at the northern hilltop of Kadifekale and around the Agora. These migrations affected the macroform of İzmir, too. At the same time, a transformation from 2-3 storey buildings to 8-10 storey buildings had seen in Alsancak, as a result of increasing in land prices and rental pressure. Konak had been administrative, touristy and retail trade centre of İzmir since 1970s. Also, cultural and financial activities settled around Konak, too. By means of increasing in demand, city centre had spreaded to boulevards between Konak and Alsancak. Also, trading activities started to increase in Alsancak, while trading activities that especially serve for low-income groups settled in Basmane, Eşrefpaşa, Mezarlıkbaşı and Tepecik (2002a, p.18).

At the moment, while land prices were increasing in Kemeraltı, the new trading activities could not settled because of the lower rate of economic development. Therefore, Kemeraltı have been a depression region (KIRAY, M., 1998 cited in 2002a, p.19). At the same time, the old housing stocks on the traditional Ottoman pattern between Fevzipaşa Boulevard and Kadifekale have been the depression regions by squatter housing. The 1973 Master Plan of İzmir suggested a linear development around the Gulf of İzmir and İzmir experienced urban sprawl in all directions during 1980s (2004a, Urban History of İzmir). During this period, dual character –traditional centre in Kemeraltı and modern centre around Alsancak- of İzmir Historic City Centre enhanced. As mentioned before, the problems have been observed in traditional centre and residential districts around the CBD since 1970s. In recent years, there is an increase in the number of shopping malls in İzmir Metropolitan Area that cause a new trend will effect traditional commercial centre and near surroundings (2004a, Urban History of İzmir).

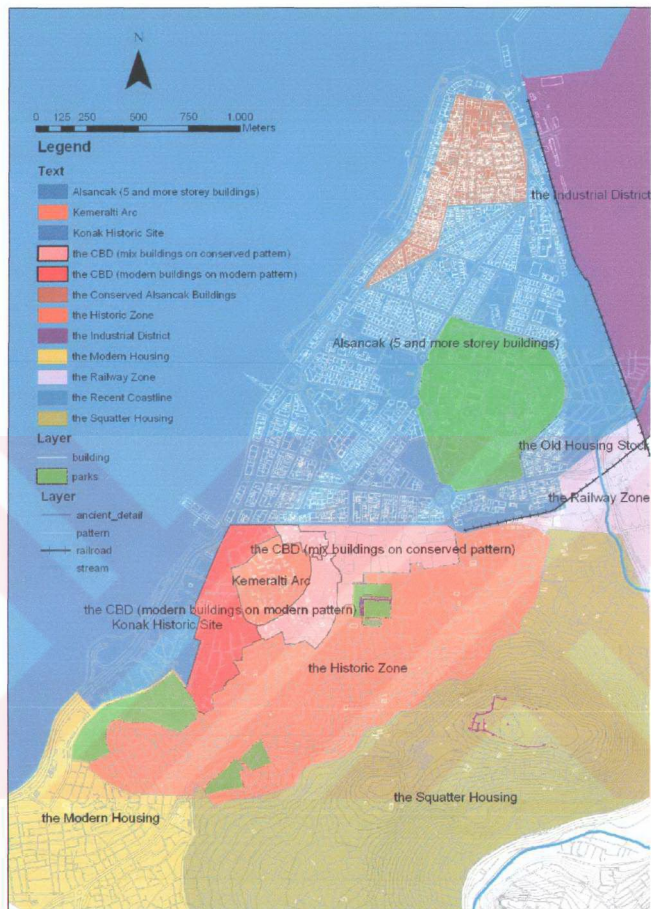


Figure 4-18: *İzmir in the Present*

Prepared by B. Belge depending on the current base map of İzmir Metropolitan Municipality

4.4.4 Evaluation of Ideal Urban Archaeological Potential in İzmir Historic City Centre

In the previous section, each period of the successive occupations of the city and its tophistorical development studied by diachronic reconstruction plans those were prepared by primary and secondary layers in UAD. Each diachronic reconstruction plan includes data on the general layout and the inner organization of historic city centre.

In earlier periods, archaeological datasets were supported by ancient writers' statements. In the periods of the 19th century, the maps were the most usable datasets. In the 20th century, the planning works and the comments on modern development were helpful to prepare the diachronic plan. While, all diachronic plans were preparing, I tried to determine regions to observe the continuities and discontinuities in the general layout of the historic city centre. The artificial and natural changes in the coastline were seen as an important issue in each diachronic plan.

However, the diachronic plans of the historic city centre are prepared through insufficient material for some periods of İzmir. Because, even there were earlier archaeological and historical studies on İzmir, only some of them gave detailed information on the inner organization of İzmir Historic City Centre. Therefore, special regions, where main elements and buildings concentrated or important axes coincided, were defined to follow continuities and discontinuities in the inner organization with functional or ethnical concentrations.

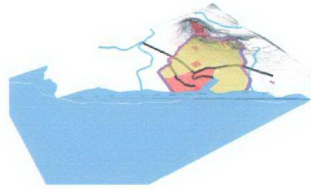
Consequently, diachronic reconstruction plans were overlaid to obtain the degree of stratification. By plano-volumetric view after superimposition of all layers, zones might be determined according to stratification and continuity of urban archaeological layers. These zones were defined as "the equi-property areas" (Figure 4-19).

All diachronic reconstruction plans were superimposed to determine equi property zones. These zones are not only the regions where similar ideal urban archaeological potential exist by stratification without any destruction, but also the characteristic traces of each period's morphological and functional divisions. Consequently, 60 equi-property areas were defined in İzmir Historic City Centre (Table 4-2, Figure 4-20).

Ancient Smyrna



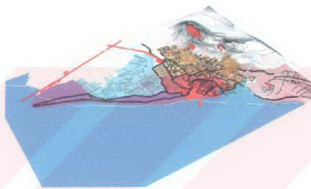
Izmir in Byzantine Period



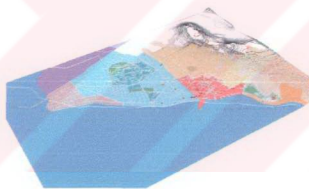
Izmir in Early Ottoman Period



Izmir in Late Ottoman Period



Izmir in Early Republican Period



Izmir in the Present



Figure 4-19: 3D views of the diachronic reconstruction plan



Figure 4-20: Equi-property areas in İzmir Historic City Centre

4.5 Destruction on Urban Archaeological Resources

All data evaluated in the previous section, optimised the archaeological potential and determined ideal urban archaeological potential in İzmir Historic City Centre. However, by the time, archaeological resources have been destroyed by various reasons. According to methodological equation - $P_r = (P_i - D)^n$ - to evaluate real preserved archaeological potential destruction that may be either mass or partial, have to be examined properly.

In this section, destructions on urban archaeological resources by re-use, disasters and modern construction methods were studied exactly. As a result, the sub-zones, where urban archaeological resources were destroyed wholly or partially, were determined.

4.5.1 Destruction by re-use in İzmir Historic City Centre

İzmir Historic City Centre have settled continuously since the refoundation of Smyrna in 324 B.C. All cultural layers had been studied as archaeological resources of various civilizations. By the time, the structure and artefacts of older cultures destroyed or reused by newer ones. Therefore, while equi-property areas are assessed according to continuity and cultural accumulation, it should not be forgotten that, there is a risk of destruction in the earlier period's layers. Therefore, aforementioned equi-property areas shall be evaluated according to the level of stratification. Although, old construction methods were not destructive as much as modern ones, this factor may be evaluated for the zones where over stratification. At that point, it not should be forgotten that, defined factor is only an assumed destruction. At defined context, the archaeological works in equi-property areas 2, 6, 20, 21, 22, 23, 26, 27, 28, 32, 41, 42, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56 may be evaluated in detail for testing this assumption.

In addition to defined factor in re-use, there are records about the destruction of ancient monumental building to use their structural elements, especially after 18th century. Kuban (KUBAN, D., 2001, p.69), pointed out that, Grand Vizier Ahmet Paşa, used the elements of the Theatre and the Stadium to construct "Vezir Han" in 1673. He also mentioned from the other activities that used the ancient structures elements to use in their present works.

4.5.2 Destruction by disasters in İzmir Historic City Centre

As mentioned above, natural factors are another destructive issue on urban archaeological resources. Especially earthquakes and related fires had been effective in İzmir. Although the exact results of earthquakes could not be estimated, they are important factors on the development of cities, where fault lines are still in motion. İzmir is tectonically, in the first degree earthquake zone, and the existing fault-lines are still in motion.

In addition to destructive effects of them, fires that either followed the earthquakes or occurred itself had been destructive on the traditional pattern of İzmir Historic City Centre since 17th century. As we know, there were big fires that reshaped İzmir Historic City Centre, where traditional building methods –based on timber- had used especially in the 19th century. Moreover, the urban pattern which includes narrow streets and cul-de-sacs enhanced the spread of fires in İzmir Historic City Centre. Slaars (SLAARS, F., 1868, pp.4-5, cited in BEYRU, R. 1973, p.1) summarized the history of natural factors in İzmir as;

“It is a miracle that a city have a past of thirty four century, it have conserved always its beauty, wealthy, prosperous and boundaries, even there were many wars, epidemic invasions, earthquakes and fires in its history”

There is any specific study about the natural destruction on urban archaeological resources, yet. Therefore, a chronological table (Table 4-3) was prepared to evaluate the earthquakes and fires which were able to find out by a basic library search.

Table 4-3: Known earthquakes and fires in İzmir Historic City Centre.

Date	Natural Factor	Effected Areas	Reference
178 A.D.	Earthquake	Whole city	KUBAN, D., 2001, p.60
1025	Earthquake	Whole city	AHRWEILER cited in KUBAN, D., 2001, p.62
1688	Earthquake / Fire	The quarters of Turks, Frenks and Armenians	La MOTTRAGE cited in KUBAN, D., 2001, p.66
1742	Earthquake / Fire	Half of the city	ÖZKUT, D., 1997, p.21

1739	Earthquake	-	SLAARS, F.cited in KUBAN, D., 2001
1763	Fire	-	CHANDLER cited in KUBAN, D., 2001, p.71
1778	Earthquake / Fire	Mosques and Inns in the city centre.	SLAARS, F.cited in KUBAN, D., 2001
1797	Fire	The quarter of Frenks	SLAARS, F.cited in KUBAN, D., 2001
1834	Fire	-	KUBAN, D., 2001, p.74
1841	Fire	The quarters of Turks and Bazaar	KUBAN, D., 2001, p.74
1844	Fire	Basmahane and the quarters of Armenians	BEYRU, R., 1973, p.34-35
1883	Earthquake	The St. Pietro Castle	KUBAN, D., 2001, p.75
1922	Fire	The triangle between Fevzipaşa Boulevard, Aydın Railroad and Sea.	Küllerinden Doğan Şehir, 2003a,

There is no detailed information about all of the earthquakes and fires in İzmir Historic City Centre. However, there are detailed and spatial references on the 1844 and 1992 Fires. These fires and prepared plans for ruin areas are important effects on the continuity of urban archaeological resources. Especially, urban pattern in fire areas had changed completely.

4.5.3 Destruction by modern construction methods

As mentioned in socio-economic history of İzmir, urban pressure on İzmir Historic City Centre has been increased since 1950s. By means of increasing in demand, CBD had spreaded to boulevards between Konak and Alsancak. A transformation from 2-3 storey buildings to 8-10 storey buildings had seen in Alsancak, as a result of increasing in land prices and rental pressure. Also, these transformations have been seen on the boulevards and narrow streets in Konak and Kemeraltı. As a result of this transformation, modern construction methods with high foundation depth have destroyed the urban archaeological resources in such areas where new modern buildings were constructed. Also, Early Republican developments in Alsancak might be added to destructive activities in Alsancak.

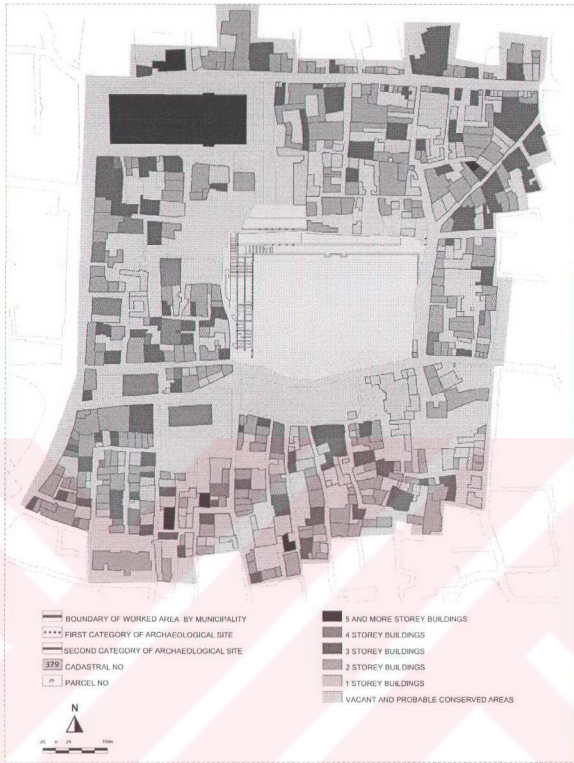
In addition to modern construction methods, there were infrastructure and development projects which destroyed urban archaeological resources in İzmir Historic City Centre. Of course, these public projects and investments were needed to satisfy urban life, but financial and administrative problems caused insufficient documentation during construction. One of them was the İzmir Metro Project that caused many discussions in urban agenda during its construction period. Unfortunately; a scientific documentation for urban archaeological resources could not be made. Only movable properties were conserved and some of them have been exhibited in Basmane Stop. However, the metro project could not be seen as a successful project, if it is compared with examples from world, such the Athens Metro Project.

Urban archaeological survey methods were defined as extensive and intensive surveys in primary datasets section, might be helpful to define destruction made by modern construction methods. As mentioned the former sections²⁰, according to basic extensive survey in İzmir Historic City Centre, building types on different settlement patterns are not same. The plots of buildings, which were constructed by modern techniques since the beginning of Early Republican Period, were evaluated as the destroyed areas where archaeological deposits were lost completely.

However, the results of extensive survey are only sufficient to make an overall zoning in İzmir Historic City Centre. The exact location of destruction might be evaluated by intensive surveys. Because, although new modern buildings constructed in its plot, there are vacant / not-settles areas like gardens or streets in these zones. Also, there were either 3 storeys new buildings or buildings with basement floors that destroyed urban archaeological resources. Therefore, the results of urban archaeological survey in 1995 and analytical survey of IMM in 2002 were examined to determine destroyed and conserved areas around the State Agora²¹.

²⁰ The building types were examined in the section 4.4.1.1.3.1

²¹ These surveys were examined in detail in the section 4.4.1.1.3.2.



*Figure 4-21: The destroyed and conserved areas around the State Agora
 Prepared by B. Belge depending on the intensive survey of İMM, 2002*

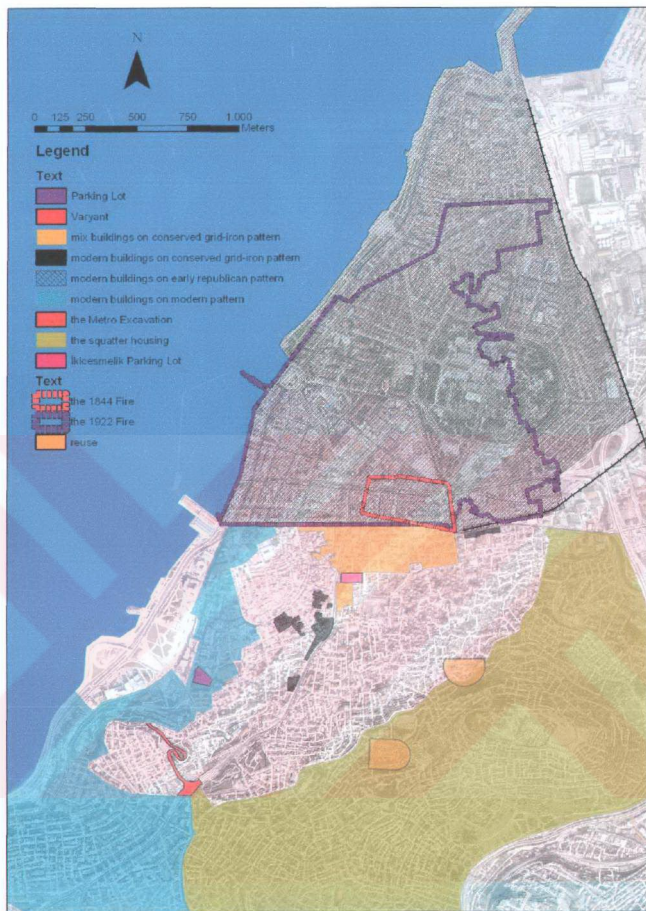


Figure 4-22: Destruction by Re-use, Disasters and Modern Developments in İzmir Historic City Centre

4.6 The Quality of Deposit in İzmir Historic City Centre

Garmy (GARMY, P., 1995, p.3) defined the quality of deposit as; a factor determined by topography, orography and the extent of the anthropic deposit. In İzmir Historic City Centre, there was too insufficient data to define an exact “q” factor.

First of all, there was no data on the orography that is the soil’ conservation capacity in İzmir Historic City Centre. The orographical analysis should be made by archaeometric techniques.

In addition, more detailed analysis and works have to be done to determine the determination of conservation effect of topography. These effects could be evaluated by slope analysis in İzmir Historic City Centre. Figure 4-23 shows a basic slope map of İzmir Historic City Centre. The map includes 4 slope intervals. An incomplete assumption would be made by present inquiry soundings, but it could not be an indicator to examine the “q” factor. Therefore, slope intervals might be examined according to more preserved archaeological strata in which intervals. The basic evaluation of the slope map and the aforementioned inquiry soundings indicated that the filling depth increased around Fevzi Paşa Boulevard because of the alluvial floods. In addition, the slope intervals between % 15 and %25 enhanced the conservation of urban archaeological traces that were directly linked with the slope, such as the urban pattern. Especially, the morphed grid-iron axes at the south of the State Agora and the terraces parallel to the Roman Road may be the conservative factor of the topohistorical development. The quality of deposit depending on the slope intervals was evaluated in detail for each urban archaeological character zone at the end of this chapter.

Last analysis to define q factor is the assessment of the thickness of the archaeological strata. Altimetric plans that show the altitude of all archaeological layers in plan, is a useful method for this work. Present inquiry soundings had used to prepare a model of altimetric plan in İzmir Historic City Centre.

Of course, this plan is insufficient to examine the extent of urban archaeological resources vertically or horizontally. However, the plan may be developed by standing building and, borehole auger surveys. These types or techniques have been developed for the archaeological investigations in settled areas. In addition, a simple survey that will be based

on the open foundations excavation of new construction could be helpful to define the depths of archaeological deposits. The sections of these plots may give crucial data on the stratification of archaeological layers, if they are investigated by professional experts, who have experience on intensive survey methods. Then, trial trenches or inquiry soundings can be opened to test the results of basic survey in the critical locations. Also, non-destructive survey methods, such as geophysical survey methods will be used. When each survey data are uploaded to UAD, a more detailed zoning will have been made by correlation methods.

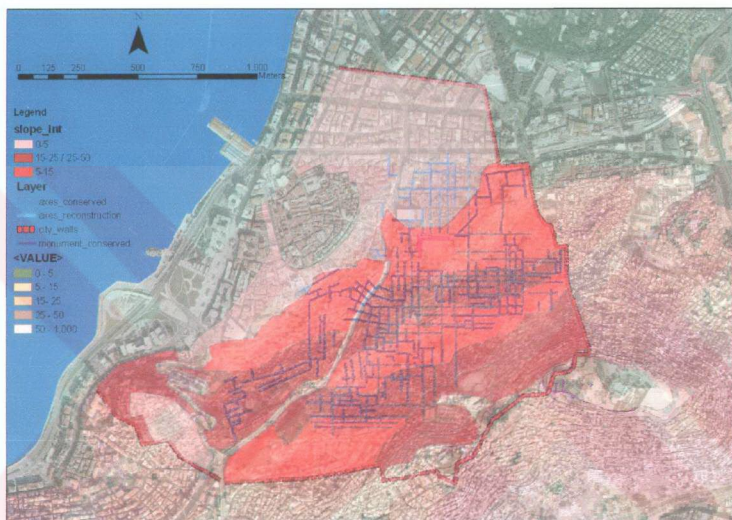


Figure 4-23: The quality of deposit, q factor depending on the slope intervals

4.7 The Overall Evaluation of Planning and Conservation Studies

First maps of İzmir Historic City Centre had been prepared since the end of the 18th century. The accuracy and details of map had developed after the half of the 19th century²². At the same time, experts, who came for preparing the maps, prepared local development plans for fire areas such as Alsancak and Basmane. Also, they prepared basic plans for the suburbs like Buca and Bornova (2002a, pp.22-23).

By Early Republican period, parallel to national development policies, planning works become comprehensive and detailed to control the development of city. Various development and conservation plan that were about either historic city centre or whole city, have been prepared since the 1922 Great Fire. In this section, all planning and conservation studies had been studied briefly to examine the negative or positive effects of them on urban archaeological resources.

4.7.1 Development Plans

After 1922, the reconstruction of fire areas and the increase in housing demand were the most important urban problems in İzmir. So, Rene Danger was invited to prepare the Reconstruction Plan by İzmir Municipality in 1925. Although Municipal Technical Committee and Reconstruction Commission had intervened the planning works, Rene Danger' plan had effected the developments of present pattern in Alsancak. The present urban pattern and historical buildings of Alsancak should be seen as urban archaeological resources that save the traces of Early Republican Period. But, it should not be forgotten that, the new pattern and modern buildings in Early Republican Period allowed the destruction of earlier urban archaeological issues (Figure 7-1, Appendix IV).

In 1950s, the population of İzmir started to increase more rapidly. As a result of the increasing rate, İzmir Municipality opened a planning competition, and then Kemal Aru and his team won the competition. They had prepared a plan that supposed an increase from 230.000 to 400.000 for 50 years in future according to the competitions document (BAYRAKTAR, A., 1973, pp.113-117). In summary, Aru Plan formed basically the present

²² Some of these maps were examined in detail in the latter section 4.4.1.2 of the study.

structure of İzmir Historic City Centre. However, the rapid population rate didn't allow implementing the whole plan (Figure 7-2, Appendix IV).

In 1957, the population of İzmir was 350.000 that reached approximately the projection of Aru's plan in 50 years. The plan had been insufficient to control the development. Therefore, İzmir Municipality let a Swiss expert, Albert Bodmer to renovate the plan. His plan concentrated on ownership and squatter problems (BAYRAKTAR, A., 1973, p.118). They enhanced the Central Business District character of Konak. Therefore, the rental pressure, especially in boulevards, had caused the destruction of urban archaeological resources plan (Figure 7-3, Appendix IV).

In 1965, İzmir Metropolitan Planning Bureau established to prepare the plans of İzmir in all scales. In 1973, the Master Plan of İzmir was approved. Approved plan was revised in 1978. The plan suggested a linear development around the Gulf of İzmir and tried to set a hierarchy in urban centres. Konak and Kemeraltı were seen as the Central Business District. There were defined zones like industrial, touristy, commercial and administrative zones in larger scales (2002a, p.25). In 1984, İzmir Metropolitan Planning Bureau was closed and İzmir Municipality had the planning authority by the 3194 No Law, similar to other planning bureaus in Turkey. İzmir Municipality had added the macro decisions to the Master Plan such as the free zone, the airport, the motorway and the areas where the improvement plans were made. Then, the municipality prepared 1989 Revision Master Plan that formed the present structure of city centre (2002a, p.26). By the master plans, dual character –traditional centre in Kemeraltı and modern centre around Alsancak- of İzmir Historic City Centre have enhanced.

4.7.2 Conservation Plans

In 1938, the Reconstruction Commission decided to prepare an inventory of cultural properties that had to be conserved during the development works in İzmir Historic City Centre. This study wasn't a conservation plan, but it is important. Because, the inventory was the first study that aimed the conservation of cultural properties during the development implementations. The inventory included 36 structures including 22 mosques and inns, public baths, walls and cellars were marked on the existing İzmir Plan (Figure 7-4, Appendix IV)) (2003a, p.73). 14 urban archaeological structures were summarized in Table 7-1.

The first Kemeraltı Conservation Plan had prepared 1978-82 and was approved in 1984. The plan' documents could not be examined in detail. However, there are critics of old plan in the recent Kemeraltı Conservation Plan' report, which had prepared by Dokuz Eylül University, Department of City and Regional Planning (2002a, pp.31-34). First of all, the 1984 plan was prepared by traditional development planning tools instead of a conservation plan. In other words, conservation tools could not be developed by planners. In addition, because of lack of scheduled lists, there were no exact strategies for scheduled traditional building stock. Moreover, there were extra floor rights caused to demolish old buildings and construct new ones. Also, transportation strategies in the 1984 plan suggested the widening of old roads and opening the new ones. These strategies caused both the demolishing of the scheduled buildings and the increasing of vehicle traffic in Kemeraltı. Such as, many scheduled or unscheduled historical buildings had been destroyed during the widening of İkiçeşmelik Avenue. As well, the 1984 plan suggested 5 car parking lots in Kemeraltı to solve the parking problems. However, only 3 of them have constructed since 1984. These buildings are inharmonious with the traditional silhouette of Kemeraltı. Another important lacking in the 1984 plan is that, archaeological resources in Kemeraltı Conservation Area were not added to plans, such as the Roman Road (2002a, pp.31-34).

According to aforementioned critiques, it is clear that the 1984 plan' strategies was too insufficient to conserve the cultural properties in İzmir Historic City Centre. As a matter of fact, the plan had accelerated the decaying process in İzmir Historic City Centre. Especially, the car parking lots and new high-storey buildings along the avenues destroyed sub-soil urban archaeological layers.

The Kemeraltı Conservation Master Plan was prepared by İMM, Directorate of Public Affairs in 1/5000 scale. The plan aimed to freeze the construction rights that were defined in the 1984 plan at the south and east of the Agora and along the Avenues in İzmir Historic City Centre. Consequently, the master plan determined "action areas" and "special project areas". The master plan defined eight special project areas (2002a, pp.110-112);

- The Agora was defined as the starting point to set "the ancient city backbone" between Kemeraltı and Kadifekale. Therefore, the construction rights at the south

and east of the Agora were freeze until detailed archaeological works are finished. In any case, the widths of roads were fixed around the Agora. Also, the demolishing of the İkiçeşmelik car parking lot was suggested by the master plan.

- The Roman Road shall be linked with Cici Park by getting the road at the south of it to sub-soil. Therefore, Cicipark and the Roman Road will have been linked directly to make an arrangement that allow the exhibition of archaeological resources.
- A basic arrangement, which will allow the efficient use of square, includes only renovation of street pavements and street furniture was suggested at the Konak Square.
- The expropriation of the buildings in the 1st Category of Archaeological Site and detailed archaeological excavations were suggested in the Stadium and the Theatre.
- The demolishing of the car parking lot near Ali Paşa Square was suggested. The master plan aimed to link the car parking area and square. There will be cultural and artistic activities in the square.
- A recreation project was suggested in the square between Kızlarağası Hanı and Hisarönü Mosque.

The strategies of recent master plan that aimed to freeze the construction rights are the positive factors to get chance for detailed urban archaeological studies. Also, the specific project areas may be effective to rehabilitate the historic city centre, if all projects are implemented in harmony.

However, the master plan concentrated on the monumental structures more than cultural resources as whole. Strategies on urban archaeological resources, they suggested setting only linking routes between them. It didn't develop effective tools to establish an urban continuum. Because, as you know, the Historic City Centre are living organism like cities, and the strategies should be dynamic to manage the historic city centre, conserve the archaeological resources and sustain the urban continuity.

The Revision Conservation Plan of Kemeraltı was prepared by Department of City and Regional Planning, Dokuz Eylül University. The plan includes only the west hand side of Eşrefpaşa Avenue that is defined as the first stage

At the report of the plan, recent urban problems such as the decaying areas, typical transportation and parking problems, security problems and some vacancies like “Eski Ayakkabıcılar Çarşısı”, were defined. The report grouped the decaying problems in İzmir Historic City Centre in 8 groups as (2002a, pp.29-30);

- Physical Decaying
- Functional Decaying
- Decaying in Image
- Administrative and Legal Decaying
- Locational Decaying
- Financial Decaying
- Relative or Economic Decaying

According to planning analyses such as the situation of buildings stock, the number of floors, the characteristics of the pattern and the floor area ratios were studied to define 8 sub-zones in the aforementioned first stage area. The first one was Konak Historic Site with backside buildings. The second one was Kemeraltı that is a unique area, as mentioned in the equi-property areas. The third and fourth ones were the modern buildings and inns its present name is “Ayakkabıcılar Sitesi” in Turkish. The fifth zone was determined as a transition zone between modern and traditional buildings. The sixth and seventh zones were the traditional buildings at the north-western terrace of the Roman Road. Bahribaba Park and its near surrounding were defined as the eighth zone.

The defined zones are the traces of different periods with their patterns and building stock. They may be evaluated according in their own context. Also, sixth and seventh sub-zones were examined in detail, as mentioned before, because the traditional building stock may conserve the urban archaeological resources.

Another current study is “the Conservation and Regeneration Project of the Agora and Its Surroundings”. As mentioned before, the Agora and Its Surroundings were defined as “special project area” by the master plan. In this context, İMM, Directorate of Historical Environment and Cultural Property prepared the project by the cooperation with Provincial Directorate of İzmir Culture and İzmir Archaeological Museum. They studied about

archaeological and historical resources in detail in the boundaries of project that is not limited with the first and second category of archaeological sites around the Agora. The project based on the strategies determined in 4 sub-zones and out of zones (2003b)

The Agora excavation area and the expropriation areas at the west and north of the Agora were defined as a sub-zone. Some of the expropriations had completed by İMM. The project aimed to clear the whole area from buildings expect from the scheduled ones that may be used for cultural activities.

The area limited by 816.Street, 941.Street, Eşrefpaşa Avenue and Anafartalar Avenue was defined as "Archaeology and History Park". This zone includes the area of the car parking lot, too. The principles of possible arrangements were defined by the project.

Two urban design zones were suggested by the project. One of them is "Urban Design Zone of Anafartalar Avenue and Its Surroundings". The other one is "Urban Design Zone of Eşrefpaşa Avenue and Its Surroundings". The details of urban design projects were not defined in the project. The touristic and commercial activities were allowed by the project.

At the south of 1st category of archaeological site, a conservation zone was defined by the project. In this zone, some inquiry soundings were suggested in the gardens of houses and the park area. The 658 numbered and 5.11.1999 dated principle decision that defined the rules in 2nd category of archaeological sites, is valid in the conservation zone. The areas where are out of the aforementioned zones were grouped in one category, too. These areas were leaved for housing.

In fact, the Conservation and Regeneration Project of the Agora and Its Surroundings was prepared similar to a development plan. Although, it proposed to connect the Agora and the important avenues by expropriation, the effective financial strategies and management tools were not developed. In this context, the expropriation values will be problem for the implementation of project. Also, the complete demolishing of buildings, which have economic life-span, like İkiçeşmelik Parking Lot may cause unexpected results. In addition, the complete demolishing of the buildings around the scheduled ones can cause the loss of the characteristics of traditional pattern.

4.7.3 Sites Decisions and Registration Inventory of Immovable Cultural Properties

Because of the multi-layered accumulation, different categories of archaeological and historical sites had defined in İzmir Historic City Centre according to 2863 No Law and its' related documents since 1983. Firstly, Kemeraltı Urban Conservation Site was determined in Konak by the 348 numbered and 27.7.1984 dated principle decision of Higher Commission for the Protection of Cultural and Natural Resources. In this site, the Agora, the Theatre, the Stadium, Kadifekale and the Roman Road were determined as 1st Degree of Archaeological Site by the 3234 numbered and 22.10.1991 dated decision of the 1 No İzmir Regional Commission for the Protection of Cultural and Natural Resources. In the same decision, the surroundings of Kadifekale were defined as "Archaeological Conservation Zone". At the same time, the surroundings of the Agora and the Theatre were determined as 3rd Degree of Archaeological Site. Recently, the surroundings of Kadifekale were redefined as 2nd Degree of Archaeological Site by the 9513 numbered and 27.9.2001 dated decision of 1 No İzmir Regional Commission. Except for aforementioned sites, there are some site decisions by 1 No İzmir Regional Commission. They are;

- Urban Site (the 348 numbered and 27.7.1984 dated decision)
- Urban Special Site (the 2374 numbered and 6.11.1990 dated decision)
- Kordon Historical Site Area (the 4840 numbered and 20.01.1994 dated decision)
- Konak Historical Site Area (the 4840 numbered and 20.01.1994 dated decision) (2003b, pp.1-2)

Lastly, Regional Commission changed the Kemeraltı Urban Conservation Site as 3rd Degree of Archaeological Site and Urban Site by the 9728 numbered and 30.01.2002.date decision. In addition, the boundaries of the 1st Degree of archaeological site of the Agora were expanded till Eşrefpaşa Avenue and Anafartalar Street by the same decision. Moreover, the areas at the south and east of the Agora were determined as 2nd Degree of archaeological site (2003b, pp.1-2).

As mentioned before, although there is a principle decision of Higher Commission on the urban archaeological sites, İzmir 1 No Regional Commission changed the Degree of Kemeraltı urban conservation site as 3rd Degree of archaeological site and urban Site by the 9728 numbered and 30.01.2002.dated decision. However, the high potential of urban

archaeological resources in Kemeraltı could be observed by a basic evaluation similar to this study.

The latest boundaries of aforementioned sites were added to UAD as legal limits that should effect the evaluation of urban archaeological zones. The evaluated real archaeological potential and the various categories of sites are comprised in the next section. In short-terms, the different categories of sites will be used as the boundaries of project areas. In long-term periods, of course, the boundaries of sites may be changed with more detailed studies in İzmir Historic City Centre.

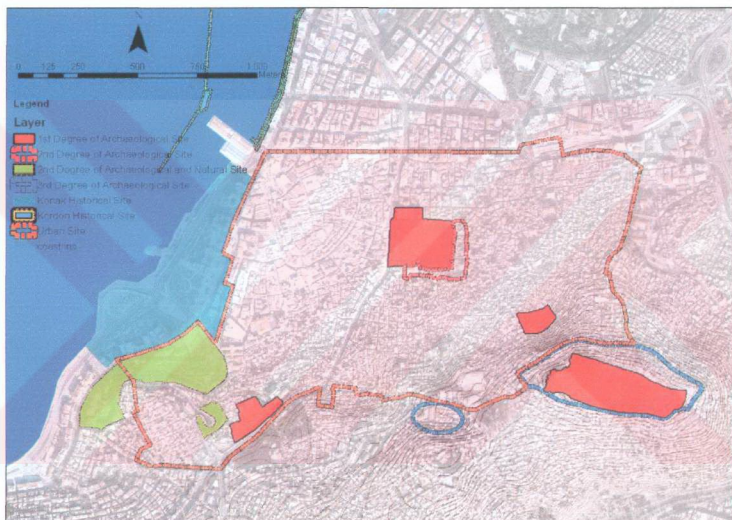


Figure 4-24: The recent boundaries of different categories of conservation sites (İzmir Metropolitan Municipality, Directorate of Historical and Cultural Properties)

4.7.4 Conservation Agenda in İzmir Historic City Centre

As mentioned before, recent situation and dynamics in İzmir Historic City Centre have to be evaluated to define exact management strategies. The planning analyses to establish the dynamics in the historic city centre were examined briefly by the recent conservation plans.

Therefore, instead of repeating the general problems and strategies, the evaluation of administrative and legal framework may be more helpful to define vision of İzmir Historic City Centre.

In recent times, İzmir Metropolitan Municipality show positive efforts for archaeological heritage in historic city centre, especially in the Agora. In addition to archaeological studies, İMM opened “İzmir City Archives” that includes documents from all periods of city. The city archive can be seen as an important turning point to understand the value of continuity in İzmir Historic City Centre. This make easier the creating urban continuum and sustainability of archaeological resources in İzmir Historic City Centre. However, İMM’ studies are still insufficient to set urban continuum. Studies should concentrate on not only monumental structures but also all urban archaeological resources either they are sub-soil or on soil. By means of comprehensive and integrated works, all archaeological and historical resources can be conserved.

4.8 The Real Archaeological Potential in İzmir Historic City Centre

As mentioned before, the study aimed to define conserved sub-soil archaeological resources in İzmir Historic City Centre to handle them into planning process. The equation $Pr = (Pi - D)^q$ was defined to determine the real archaeological potential. In this context, Pr can be defined as the evaluated or conserved archaeological resources in the case study area. Depending on the methodological framework, firstly, ideal urban archaeological potential was determined by the primary and secondary sources of information. Ideal archaeological potential in İzmir Historic City Centre was examined in 60 Equi-property areas by Table 4-3. The structure of this table was simplified without destroying by reordering, and then the Table 4-4 was created to observe the similarities and differences between the equi-property areas. The new structure of the tables of equi-property areas can be used to have informations in three levels, elementary, intermediate and overall²³. Historical continuities and discontinuities are observed effectively to define character zones.

²³ Three Levels of Informations had been examined in detail in the section 3.4.3

Then, the natural or man-made destruction of urban archaeological resources were determined according to whole or partial destruction. After that, the quality of the deposit, which is a complex factor, was determined by analysing the topography and the depth of archaeological strata. Lastly, in the previous section, conservation decisions and planning studies were criticized to evaluate their positive and negative effects on urban archaeological resources in İzmir Historic City Centre.

Consequently, the real urban archaeological potential can be evaluated by the superimposition of aforementioned analysis. However, it should not be forgotten that, the ideal urban archaeological potential, destruction and the quality of the deposit are the stable data. Of course, in future, unknown dataset can be found by more detailed analysis and field works. In any case, these datasets are the traces of non-renewable existing data. Therefore, these datasets have to be evaluated as primary inputs to determine the real archaeological potential. On the other hand, especially, conservation decisions are tools to limit the activities in conservation sites. The boundaries of sites, secondary inputs, will be effective to define the real archaeological potential in short-term. In long-term periods, the boundaries of sites will be changed parallel to real urban archaeological potential. At that point, real archaeological potential could be seen as an outcome of the aforementioned datasets.

As a result, UACZ were determined as the areas include similar equi property zones where the degree of destruction and the quality of the deposit were same. And then, while some of the recent boundaries of planning decisions and conservation studies like the State Agora were used as the temporary boundaries of UACZ, the other zones were obtained exactly as the output of the method.

Consequently, it might be observed that; surely, evaluated potential doesn't have same characteristics in all defined areas. While, some part of archaeological layers preserved well and under pressure of modern development, some part will be lose its uniqueness. Therefore, "urban archaeological character zones" have to be determined for evaluating real archaeological potential, exactly. Table 4-5 will be helpful to understand how boundaries of zone will be determined by simple grading. As a matter of fact, boundaries of zones will be changed by more data collected or urban dynamics changed in future. Because, cities have continued to change and develop, as they had always done in the past.

Table4-5: The Evaluation of UACZ in İzmir Historic City Centre

Character Zone	Epi-Property Zone	IDEAL ARCHAEOLOGICAL POTENTIAL (P)																												EVALUATION OF RECENT SITUATION						DESTRUCTION (D)			QUALITY OF DEPOSIT (e)															
		URBAN ARCHAEOLOGICAL LAYERS																												PATTERNS						BUILDING						SLOPE INTERVALS												
		ANCIENT				BYZANTINE				EARLY OTTOMAN				LATE OTTOMAN				EARLY REPUBLIC				RECENT				DIPRODUM	TRADITIONAL	EARLY REPUBLICAN	MODERN	TRADITIONAL	MODERN	APARTMENT QUARTERS	DISASTERS	REUSE	MODERN ACTIVITIES	1-5	1-10	1-15.25	1-20															
3	41	43	47	51	46	49	50	50	26	27	30	33	34	35	31	32	32	32	50	33	34	35	31	32	32															50	33	34	35	4	10	32	36	39	38	2	41	42	44	50

4.9 Urban Archaeological Character Zones in İzmir Historic City Centre

26 UACZ were determined in İzmir Historic City Centre. Each zone was defined according to the evaluation of ideal urban archaeological potential and the destruction. The evaluation of recent situation defined the exact boundaries of zone. The aforementioned slope intervals were used to enhance the archaeological potential. If available, the known depths of archaeological layers by rescue operations were used to evaluate the possible stratification. The details of these zones include an assessment of archaeological potential, threats and opportunities and research potential for future studies in each character zone. In summary, UACZ are policy zones for planning and decision-making processes. At that point, it should not be forgotten that, the boundaries of urban archaeological character zones may change as more information is collected.

Zone 1: The recent boundary of the Conservation and Regeneration Project of the Agora and Its Surroundings was defined as the temporary boundary of Zone 1. The Zone includes the equi-property zone 3 and 48 wholly. It had been occupied until the beginning of the Early Ottoman Period in the 15th century. Then, the zone used as central cemetery between the Commercial Centre and Turkish Quarters. At the beginning of the Early Republican Period, as mentioned before, first archaeological excavation had been made during an arrangement project. The Recent Archaeological Excavation and aforementioned project have been continued by the co-operation of İzmir Archaeological Museum and İzmir Metropolitan Municipality.

In the recent situation, there are traditional and monumental architectural resources on the conserved grid-iron axes in the Zone 1. Aforementioned intensive surveys made by İMM and METU pointed out the traces of urban archaeological layers. For example, the ancient walls at the west of the State Agora and the architectural findings in the construction area of İkiçeşmelik parking lot showed the potential of archaeological layers. In addition to visible archaeological remains, the street pattern around the State Agora allowed observing possible insulae size that is 40m in north-south direction and 50 m in east-west direction.

The depth of archaeological layers is approximately 5m in the central court of the Agora according to recent archaeological excavations. The slope of area increasing through the south of the zone that may be effected the stratification. Geophysics surveys around the

Agora could not be used to define the possible archaeological remains because of the subsoil water level.

According to surveys of İMM, there are especially traditional and scheduled buildings in the Zone 1. The traditional buildings methods have not destroyed the possible urban archaeological resources. However, there are some traditional buildings, which have basement floor, possibly destroyed archaeological resources according to urban archaeological survey of METU. In addition, there are some modern buildings destroyed urban archaeological resources, such as the İkiçeşmelik Parking Lot and the buildings of Hürriyet High School and İsmet Paşa Primary School.

In any case, the Zone 1 should be defined as the “Restricted Development Zone”. This zone contains significant archaeological deposits of urban character relating to Roman occupation. The recent project of İMM shall be re-evaluated according to these traces, because the recent project concentrated on only visible archaeological remains. The project suggested a huge demolition program at the north-western side of the Agora. However, as mentioned, there are not only sub-soil archaeological resources, but also archaeologically and historically sensitive axes around the State Agora. Proposed urban design project shall take into consideration these conserved important axes of ancient grid-iron pattern. Visual or physical elements may be used to define archaeological axes in the Zone 1. Another important factor in urban design project should be the presentation of the Agora’s Excavation site and excavated plots of trial digs to enhance the urban memory. On the other hand, the conservation and maintenance of traditional and scheduled buildings should be another important element of the project. The project should be modified as an interdisciplinary study.

In summary, Zone 1 should be evaluated by more detailed urban archaeological survey like intensive and geophysical survey methods. It should be evaluated as an Urban Archaeological Park. The recent project shall be re-evaluated as an action plan in terms of urban archaeology. The zone should be seen as a chance to set *an urban continuum* in İzmir Historic City Centre. No new demolition or intervention should be allowed till the action plans completed.

In addition, urban park at the south of the Agora and vacant plots and gardens around the Agora are archaeological potential areas that should be seen as reserve areas with traditional buildings that have no basement floor. According to action plan, trial trenches may be opened to observe archaeological stratification in the some of these plots. The arrangements for the presentation of archaeological layers in these plots should be effective on the public awareness.

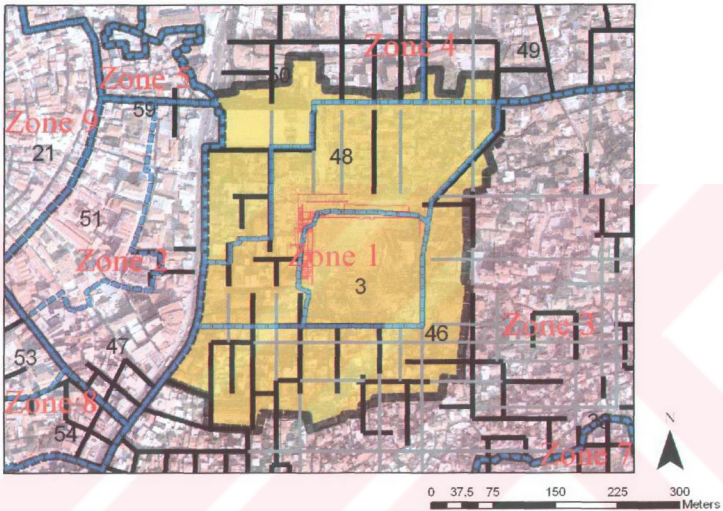


Figure 4-25: Zone 1 – The State Agora Project Area

Zone 2: The zone includes the equi-property zone 47 and 51 wholly. There has been continuous occupation since at least 324 B.C. The zone has a crucial location between the State Agora and the ancient inner port in the ancient period. Then, the zone had been seen as a transition zone between commercial activities and Jewish quarter in the Early Ottoman and Late Ottoman periods. In the Early Republican period, the transition character between CBD and traditional buildings had been continued. The zone has been used by commercial activities by parallel to the development of CBD through to important avenues. There is any archaeological study in the zone. However, the Synagogues those are included in World Monuments Endangered List Site, can be seen as the traces of Ottoman periods.

There are modern high floored buildings that destroyed possibly archaeological resources in their plots. However, conserved traditional buildings may save archaeological resources in their plots. Zone 2 may be defined as mix buildings on conserved traditional pattern of the 19th century, basically.

The zone lay on the % 0-5 slope interval mostly. The depth of the Late Ottoman archaeological layer is 1.8-2m, the earlier ancient layers is 4m in the same slope interval according to inquiry soundings around Basmane. The whole infilling depth reached 6m in the same soundings. However, the exact depths of archaeological layers should be investigated in detail

Zone 2 was defined as 2nd Degree Urban Archaeological Potential / Controlled Development Zone. A more detailed field investigation and decision making process have to be developed for these controlled development zone in terms of financial, legal and administrative strategies. The following strategies may enhance the conservation of urban archaeological layers till the more detailed analysis;

- Inquiry Soundings before implementation and watching brief during implementation
- Contractual solutions between urban planners, archaeologists, land owners and developers according to international terms that includes not only the excavation cost, but also the costs of publications and public awareness.
- The standard data collection methods
- In any case, minimum intervention to zone until to detailed analysis.

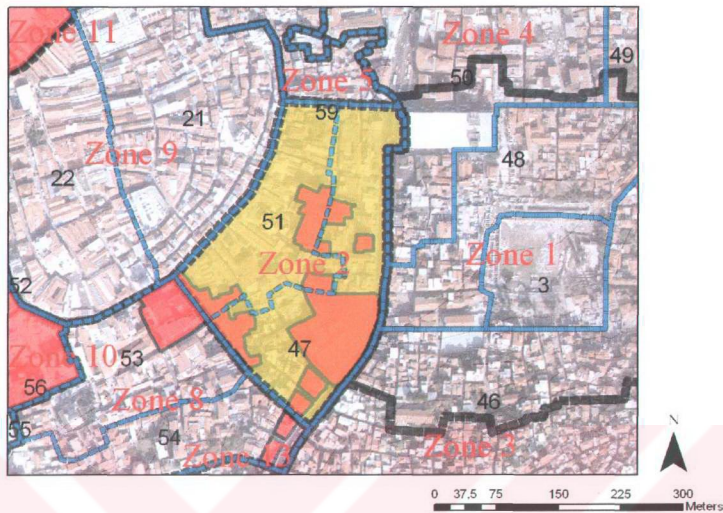


Figure 4-26: Zone 2 - Mix Buildings on Conserved Traditional Pattern of 19th Century

Zone 3: The zone includes the most of the equi-property zone 46 where traditional buildings lay on conserved grid-iron pattern. There has been continuous occupation since at least 324 B.C. Although the zone was seen as low occupation area in the Byzantine Period, there had been Turkish quarters in the zone until the beginning of Early Republican Period. The Eşrefpaşa and Anafartalar Avenues defined the western and northern boundaries of the zone. The probable route of the ancient fortification wall defined the eastern boundary of zone. There are some conserved pieces of fortification walls in Altunpark Street. The intensive surveys made by the team of METU, there were archaeological remains especially between the Agora and the Theatre.

There is no complete destruction by modern developments, because there are traditional and low rise buildings in the zone. Only maintenance of buildings is the exact problem. The slope of area increases through the south. The conserved grid-iron axes could be observed more in the slope interval of %15-25. Maybe, the destructive effects of continuously occupation may be observed in the earlier layers.

Zone 3 was defined as 1st Degree Urban Archaeological Potential / Conservation Zones that should be researched more detailed and development should be limited by means of management guideline. As mentioned, there are not only sub-soil archaeological resources, but also archaeologically and historically sensitive axes in the zone. Intensive urban archaeological surveys will be helpful to understand the structure of urban archaeological resources. The zone should be seen as a chance to set an *urban continuum* in İzmir Historic City Centre. In addition, vacant plots and gardens are archaeological potential areas that should be seen as reserve areas with traditional buildings that have no basement floor. Trial trenches and detailed inquiry soundings should be seen as a necessity to evaluate archaeological stratification in detail. The route of the fortification wall should be seen as another important research / project topic.

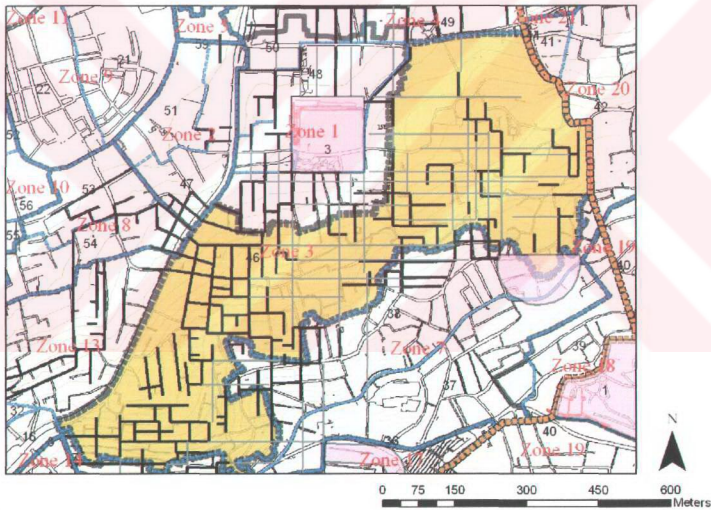


Figure 4-27: Zone 3 - Traditional Buildings on Conserved Grid-Iron Pattern

Zone 4: The zone includes the equi-property zone 49 and 50 mostly. There has been continuous occupation since the ancient period. The zone had been seen as a transition zone

between Armenian, Turkish quarters and commercial activities in the Early Ottoman and Late Ottoman periods. In the Early Republican period, the new route of Fevzi Paşa Boulevard determined the northern boundary of the Zone. The zone has been used by commercial activities for especially low income groups by parallel to the development of CBD through to important avenues. There are detailed inquiry soundings and important remains in 13 and 27 plots of 369 No Cadastral land (Appendix II).

There are modern high floored buildings that destroyed possibly archaeological resources in their plots. However, conserved traditional buildings may save archaeological resources in their plots. Zone 4 may be defined as mix buildings on conserved grid-iron pattern, basically.

The zone lay on the % 0-5 slope interval completely. The depth of the Late Ottoman archaeological layer is 1.8-2m, the earlier ancient layers is 4m according to aforementioned inquiry soundings. The infilling depth reached 6m in the same soundings. These areas are a transition zone between the northern hill of Kadifekale and the flat area.

Zone 4 was defined as 2nd Degree Urban Archaeological Potential / Controlled Development Zone. A more detailed field investigation and decision making process have to be developed for these controlled development zone in terms of financial, legal and administrative strategies. The following strategies may enhance the conservation of urban archaeological layers till the more detailed analysis;

- Inquiry Soundings before implementation and watching brief during implementation
- The excavated plots of past inquiry soundings can be arranged for the presentation of remains.
- The traces of the fortification may be researched as another important project topic.
- Contractual solutions between urban planners, archaeologists, land owners and developers according to international terms that includes not only the excavation cost, but also the costs of publications and public awareness.
- The standard data collection methods
- In any case, minimum intervention to zone until to detailed analysis.

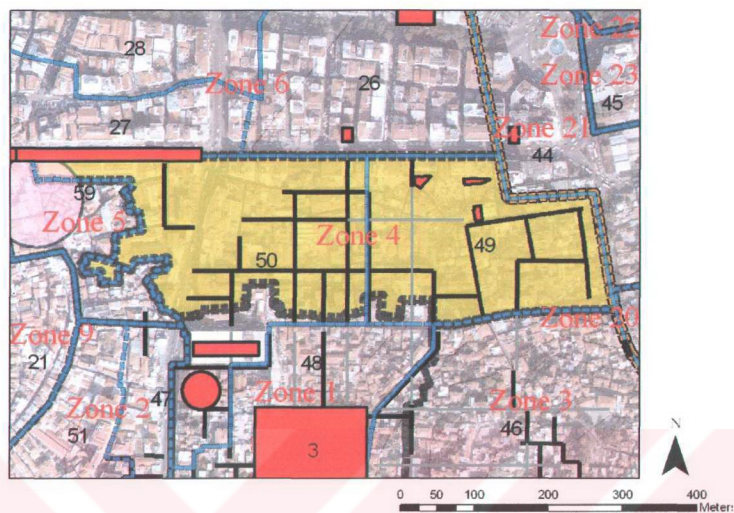


Figure 4-28: Zone4 - Mix Buildings on Conserved Grid-Iron Pattern

Zone 5: The zone includes the whole of the equi-property zone 59 where traditional buildings lay on conserved traditional pattern of 19th century. There has been continuous occupation since the ancient period. The zone was seen as the probable location of the Ancient Trade Agora by some authorities²⁴. The floor mosaics, which were defined as the floor of a Roman Bath, founded in the plot of Albey Store in this zone. The zone has been part of the commercial centre.

The traditional buildings possibly have saved urban archaeological layers. Also, there would be remains related with the ancient inner port. The zone lay on the % 0-5 slope interval completely. The aforementioned depths in the Zone 4 may be possible depths of urban archaeological layers in this zone.

²⁴ The Revision Conservation Plan of Kemeralti in 2002

Zone 5 was defined as 1st Degree Urban Archaeological Potential / Conservation Zones that should be researched more detailed and development should be limited by means of management guideline. The strategies defined in the Zone 3 are valid for this zone. However, mostly traditional pattern of the 19th century' commercial centre could be observable in this zone. This is a crucial chance for *urban continuum* in İzmir Historic City Centre.

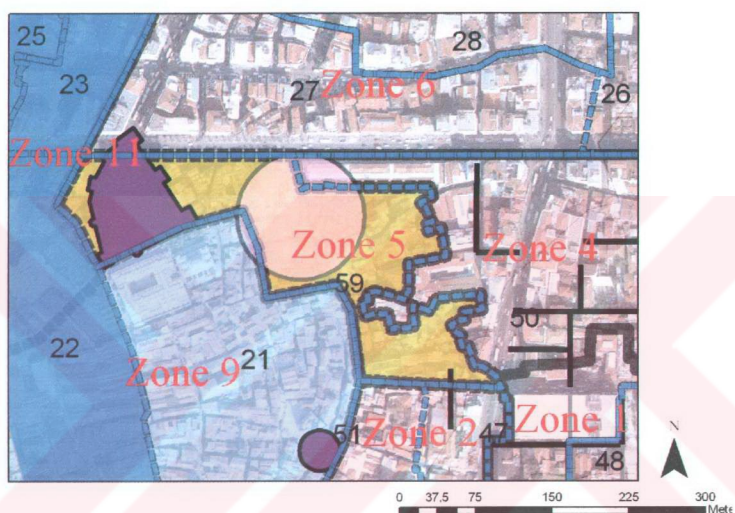


Figure 4-29: Zone 5 - Traditional Buildings on Conserved Traditional Pattern of 19th Century

Zone 6: The zone includes the whole of the equi-property areas 26, 27 and 28 where apartment buildings lay on the planned pattern of Early Republican Period. The occupancy and the stratification of archaeological layers showed similarities with Zone 5 and Zone 4. However, the 1922 Fire affected this zone and the pattern of the zone changed according to Rene Danger's Plan. Also, the apartment buildings have destroyed urban archaeological layers since 1960s. In any case, the archaeological findings during the Early Republican Periods such as, the buildings of Tekel, Yapı Kredi Bank and Post Office (Appendix II)

indicated the urban archaeological potential. In addition, the traces of plan, which prepared for 1844 Fire Area in Armenian quarter, could be observed in the pattern of the equi-property zone 26.

Zone 6 was defined as 3rd Degree Urban Archaeological Potential / Limited Development Zone. The limited or defined, that means agreement on the developments by public authorities and archaeologists, development should be allowed in this zone. The following strategies should be developed to set the balance between the development and conservation;

- Monitoring strategies for before, during and after development.
- Inquiry Soundings before implementation and watching brief during implementation
- Contractual solutions between urban planners, archaeologists, land owners and developers according to international terms that includes not only the excavation cost, but also the costs of publications and public awareness.

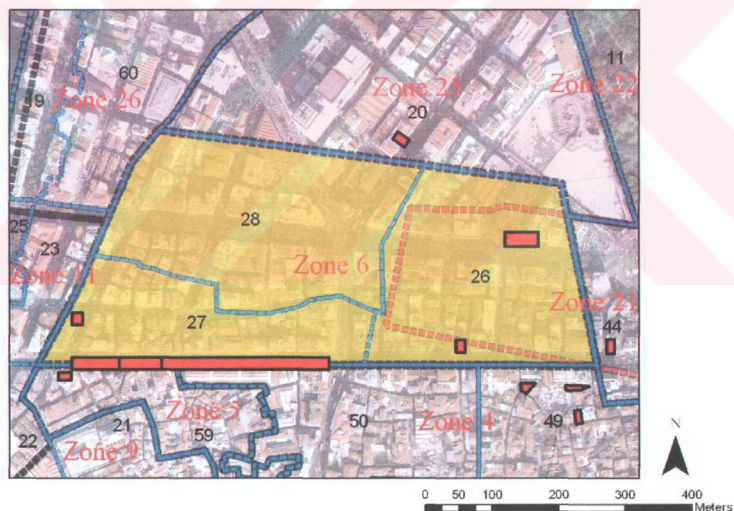


Figure 4-30: Zone 6 - 3rd Degree Urban Archaeological Potential / Limited Development Zone

Zone 7: Occupied from 324 B.C. to the Early Republican Period and again from the beginning of 20th century. Zone includes the equi-property zone 37 and 38 wholly. There were traditional buildings in the north and squatters in the south on morphed grid-iron pattern. The ruins of the Theatre have a crucial importance in the zone. Both traditional and squatter houses may save the urban archaeological resources. The slope intervals may have positive effects on the preservation of archaeological remains. The intensive survey of METU comprised such a little part of the zone even that indicated the high potential in this zone. But, a more detailed intensive survey is seen as a necessity.

The Zone 7 was defined as 2nd Degree Urban Archaeological Potential / Research Zone. Any intervention or development should not be allowed until detailed researches. Then, strategies for the enhancement of the traces of ancient remains and the maintenance of built-up physical structures will be developed. On the other hand, the regeneration of squatters is another urban problem.

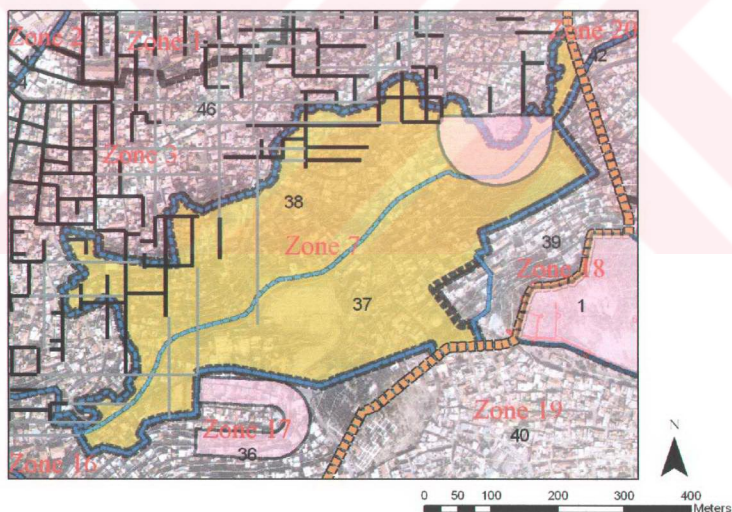


Figure 4-31: Zone 7- traditional Buildings and Squatters on Morphed Grid-Iron Pattern

Zone 8: The zone includes the whole of the equi-property areas 53 and 54 where traditional buildings lay on conserved traditional pattern of 19th century. There has been continuous occupation since the ancient period. The occupation periods shows similarities with Zone 2 and Zone 5. However, especially traditional Jewish houses were seen in the Early and Late Ottoman Periods more than commercial activities. The zone laid on the %15-25 slope intervals mostly. However, there are no known archaeological findings or studies to determine the probable depths of archaeological layers.

The Zone 8 was determined as 1st Degree Urban Archaeological Potential / Conservation Zones. The strategies, which were defined in the Zone 3 and Zone 5, are valid for this zone, too. The maintenance and conservation of traditional buildings is another crucial point in this zone.

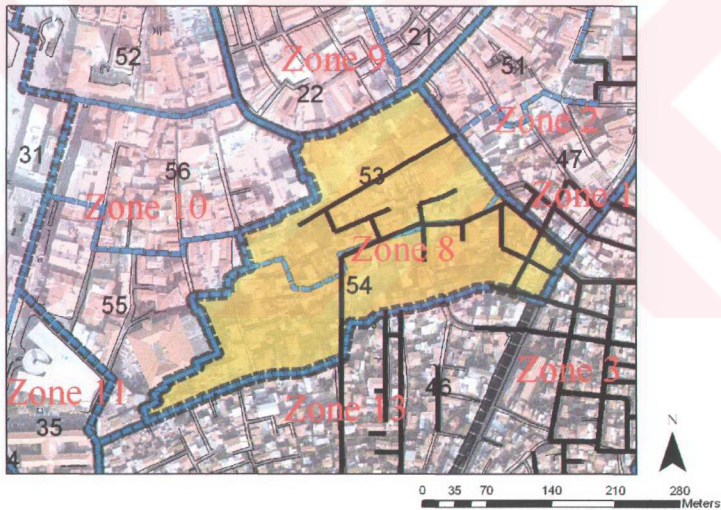


Figure 4-32: Zone 8 - 1st Degree Urban Archaeological Potential / Conservation Zones.

Zone 9: The arc of the ancient inner port, Anafartalar Street, known as Kemeraltı Arc and the infilling area was defined as the Zone 9. The zone has been settled continuously since the alluvial floods filled the ancient port completely in the beginning of the 18th century. Kemeraltı Arc has been the centre of traditional commercial activities. In the present, traditional buildings lay on conserved traditional pattern of the 19th Century.

Although, the zone had not been settled in the ancient and Byzantine periods, it has played an important role in the memory of İzmir. Therefore, Zone 9 was defined as No Urban Archaeological Potential / Urban Conservation Zone. The conservation of its unique pattern should be seen as an important conservation problem. In addition, the character of arc determined by Anafartalar Street should be enhanced by visual elements.

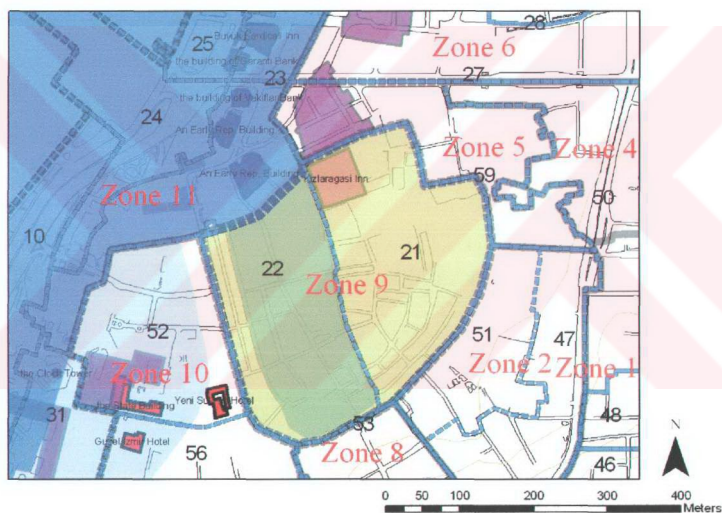


Figure 4-33: Zone 9 - Kemeraltı Arc (Traditional Buildings on Conserved Traditional Pattern of 19th Century)

Zone 10: The zone hadn't occupied until the beginning of the 19th century when Sarı Kışla and Konak were constructed at the western boundary of the zone. The zone has been the part

of administrative centre since the Late Ottoman Period. Also, accommodation activities had been developed parallel to new character of historic city centre in the zone known as “Otelier Bölgesi”. Modern Buildings have been constructed on conserved traditional pattern of the 19th century. The zone includes completely the equi-property areas 52, 55 and 56.

The zone was defined as 3rd Degree Urban Archaeological Potential / Limited Development Zone because of destructive activities after 1950s. However, urban archaeological resources may be saved in un-built areas, but it can be easily said that, modern buildings and other construction works would destroyed archaeological resources wholly. Therefore, this zone should be seen as chance for redevelopment or renovation. In this zone, before, during and after development control models should be used. The aforementioned strategies for the Zone 6 are valid for this zone, too (Figure 4-38).

Zone 11: Konak and Kordon Historic Site were defined as the Historic Conservation Zone. The plots of Old Ottoman Hospital and the Prisoner were added to Historic Conservation Zone 11. Although there no occupation until the beginning of 19th century, the zone includes the crucial traces of administrative centre of İzmir Historic City Centre since the Late Ottoman Period (Figure 4-38).

Zone 12: Bahribaba Park that defined as the Natural and Historic Conservation Site by İzmir 1 No Regional Commission was determined as Urban Archaeological Reserve Areas. The zone had been used as the cemeteries of Jewish in İzmir during the Early and Late Ottoman periods. At the beginning of the Early Republican period, the zone arranged as an urban park. However, there should be urban archaeological resources related with the settlements in Değirmentepe (Figure 4-38).

Zone 13: The zone includes the whole of the equi-property areas 16, 32 and the western side of 46 where traditional buildings lay on terraced terrain parallel to the Roman Road. The zone had occupied from 324 B.C. to the Byzantine. Then, the Turkish quarters had overlaid the remains of ancient times since the Early Republican Period. The Roman Road that was defined as the 1st category of archaeological site defined the upper boundary of the zone. The zone was terraced parallel to the Roman Road in a harmony with the slope of area. There is a detailed inquiry sounding, where important remains were found in 98-99 plots of 121 No

Cadastral land (Appendix II). In addition to detailed inquiry soundings, there are architectural remains in the plot of Konak Aliğa Mosque.

The zone lay on the % 15-25 slope intervals completely. The possible depth of archaeological remains of ancient and Byzantine periods is 1.8-2m according to above inquiry soundings. However, the traditional buildings and terraced pattern of the zone possibly have saved urban archaeological layers.

Zone 13 was defined as 1st Degree Urban Archaeological Potential / Conservation Zones that should be researched more detailed and development should limited by means of management guideline. The strategies were defined in the Zone 3 are valid for this zone. This zone is another crucial chance for *urban continuum* in İzmir Historic City Centre. In addition to aforementioned strategies, management strategies for the excavated plots in the zone should be determined. Moreover, the exhibition of the Roman Road should be taken into consideration as an urban design problem. The suggestion of the recent Conservation Plans that aimed to link the Roman Road and Cicipark by passing Eşrefpaşa Avenue should be re-evaluated, because of possible the fill and cut operations.

Zone 14: Cici Park was determined as Urban Archaeological Reserve Areas. The zone was in the inner side of the possible boundary of ancient fortification walls. After that, the zone had been used as Turkish Cemeteries in İzmir during the Early and Late Ottoman periods. At the beginning of the Early Republican period, the zone arranged as an urban park. Whether, the inner side of the fortification walls was occupied wholly, the zone has a unique character that may have saved the untouched ancient urban archaeological resources. However, more detailed research activities are obligatory for the evaluation of urban archaeological potential in Cici Park (Figure 4-38).

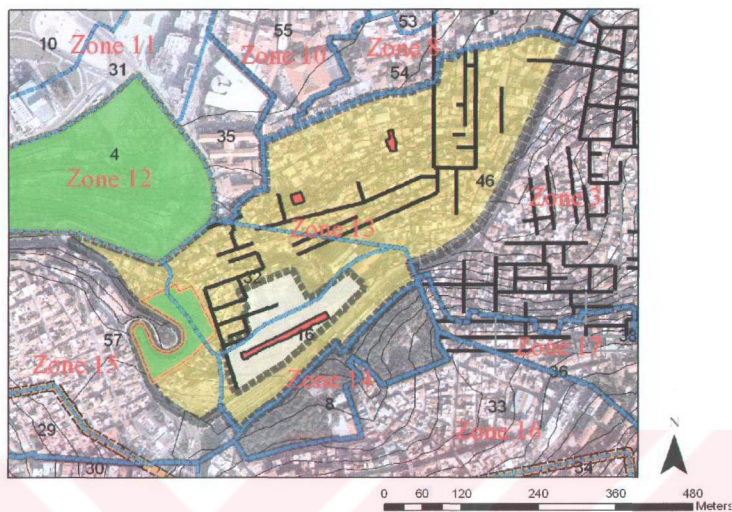


Figure 4-34: Zone 13 - Traditional Buildings on terraced Terrain parallel to the Roman Road

Zone 15: The zone that includes the equi-property areas 29 and 57 completely was determined as Zone 15. There was the Zeus Akraios Temple according to ancient statements and the Old Maps. The zone was occupied again in the beginning of the 20th century with parallel to suburban developments in Karataş and Göztepe. Some of the buildings constructed in this period have conserved. In detail the zone may be defined as mix buildings on conserved traditional pattern of the 20th century.

The zone was determined as 3rd Degree Urban Archaeological Potential / Limited Development Zone. The probable remains of the Zeus Akraios Temple and the fortification walls should be investigated. There should be a cult area near to the Zeus Akraios Temple. The topographical location of Değirmentepe enhanced the importance of the zone. In addition, management strategies shall be developed for the conservation of the pattern and buildings of the 20th century.

Zone 16: The Apartment buildings lay on modern pattern at the south of Cicipark and Değirmentepe was defined as the Zone 16. The northern side of the zone settled in ancient periods. There were cemeteries during the Early and Late Ottoman periods. The zone have reoccupied since the beginning of the 20th century. However, the buildings and pattern of the zone have been changed by modern developments. Out of the northern side of the zone, any conserved urban archaeological potential seems possible. Therefore, the zone was defined as No or Little Archaeological Potential / Development Zone (Figure 4-38).

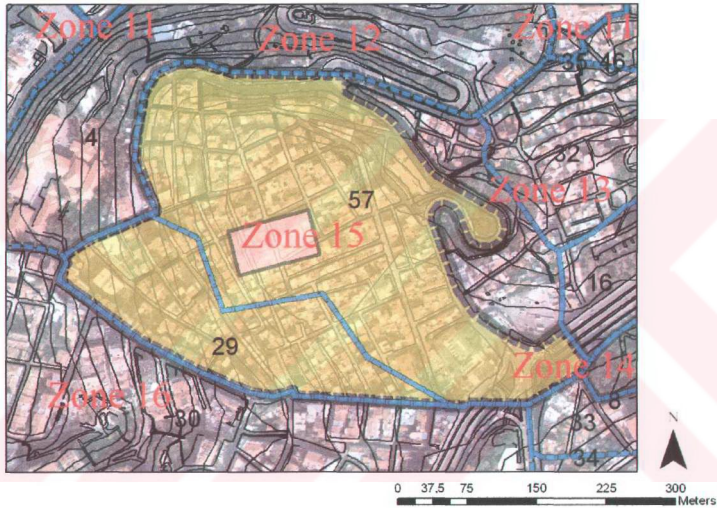


Figure 4-35: Zone 15: Mix Buildings on Conserved Traditional Pattern of 20th Century

Zone 17: The zone was occupied only in the ancient periods. Then, it has been reoccupied since 1950s by squatters, mostly. The zone includes the equi-property zone 36 wholly. There were squatter in the north and high storey buildings in the south on morphed ancient pattern. The zone is a transition zone between regenerated apartments and squatters. There were ancient statements and old maps that pointed out the ruins of the Stadium were in this zone. As mentioned before, the ruins of the Stadium had destroyed to use its architectural elements

in the Early Ottoman period.. According to aforementioned references, a location was defined as 3rd categories of archaeological site by İzmir 1 No Regional Commission. However, the exact location of the Stadium can be observed by means of the recent pattern. Both traditional and squatter houses may save the urban archaeological resources of the Stadium. But, the high storey buildings have been destroyed the urban archaeological resources in their plots. The slope intervals may have positive effects on the preservation of archaeological remains.

The Zone 17 was defined as 2nd Degree Urban Archaeological Potential / Research Zone. A detailed action plan should be prepared to investigate the traces of the Stadium. Also, the present pattern of the zone has to be conserved as an urban archaeological trace. Any intervention or development should not be allowed until detailed researches. Then, strategies for the enhancement of the traces of ancient remains and the maintenance of built-up physical structures will be developed.

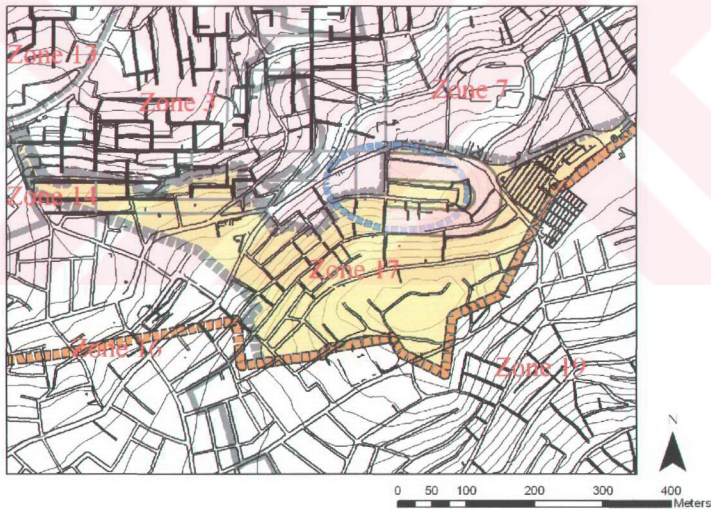


Figure 4-36: Zone 17 - Squatters / 2nd Degree Urban Archaeological Potential

Zone 18: Kadifekale on the Mt. Pagus and its near surroundings was defined as Zone 17. The boundaries of the 1st and 2nd category of archaeological sites were used as temporary limits of the Zone. Kadifekale was the acropolis of ancient Smyrna since 324 B.C. The present walls of Kadifekale reshaped lastly in the Byzantine Period. There was a Turkish quarters in the Kadifekale in the beginning of the Early Ottoman period. No occupation had been seen until 1950s, when squatters reoccupied around Kadifekale.

Kadifekale was defined as Restricted Development Zone similar to the State Agora. There is an incomplete rehabilitation project for Kadifekale by İMM. In any case, more detailed archaeological and historical studies should be seen as necessity before an arrangement project. However, there are urgent restoration works on the some parts of Kadifekale. Also, the project of İMM may be re-evaluated in terms of urban archaeological studies.

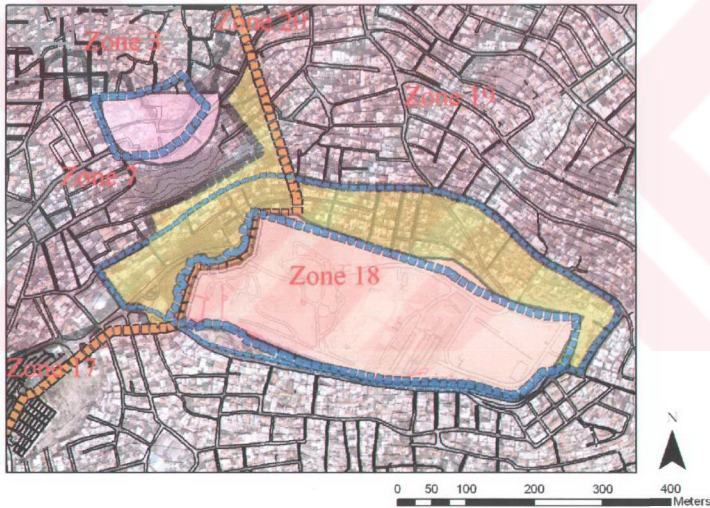


Figure 4-37: Zone 18- Kadifekale / Restricted Development Zone

Zone 19: The Area, where squatters have been settled around Kadifekale, was defined as Zone 19. According to diachronic documentation, there is any occupation in the hills of

Kadifekale out of the northern hills. However, there were archaeological and historical statements pointed out that there were the structures related with water supply infrastructure and aqueducts on the Meles River. Therefore, the zone was determined as 3rd Degree Urban Archaeological Potential / Limited Development Zone. In addition to structural remains, the silhouette of Kadifekale should be enhanced as an urban archaeological resource (Figure 4-38).

Zone 20: The area includes the equi-property areas 2, 41 and 42 completely were defined as the Zone 20. There were low occupation areas in the northern side of the Zone. Probably, the necropolis of the Ancient Smyrna had been laid on the Valley of Meles River. The archaeological findings such as the Roman Tomb in the 10 No plot of 184 No Cadastral Land. The cemeteries along the caravan route in the Early and Late Ottoman periods enhanced the functional continuity of the zone. There are traditional buildings on traditional pattern that emerged at the beginning of the Early Republican Period. The parallel boundaries of Urban Conservation and 3rd category of Archaeological Sites included the approximately half of zone. The zone was defined as 2nd Degree Urban Archaeological Potential / Controlled Development Zones. In addition to aforementioned strategies for the controlled development zones, the archaeological studies to define the exact route of the ancient fortification wall should be prepared with the Zone 3. (Figure 4-38)

Zone 21: As mentioned in the Zone 20, probably, the necropolis of the Ancient Smyrna had been laid on the Valley of Meles River. The diachronic development of the zone shows similarities with the Zone 20. However, the modern developments along the boulevards and railway activities have caused the partial destruction of urban archaeological potential in this zone. Therefore, the Zone 21 -transition zone between squatters, modern buildings and the railway zone- was defined as 3rd Degree Urban Archaeological Potential / Limited Development Zone. (Figure 4-38)

Zone 22: Kültürpark: was determined as Urban Archaeological Reserve Areas. The zone includes the equi-property areas 11, 12 and 13 completely. There were low occupation areas in the Ancient Periods. Then, the zone started to reoccupy by Greek quarters parallel to the development of İzmir in the Ottoman Period. The 1922 Fire completely destroyed the quarters of Greeks. After that, as mentioned before, the zone re-planned in the Early

Republican Period. Kùltürpark was arranged as the İzmir International Fair Area at that period. Although there are modern buildings that probably destroyed urban archaeological resources, the zone should be evaluated as a crucial chance for the Ottoman Archaeology. Unfortunately, there is any archaeological study to enhance the above hypothesis (Figure 4-38).

Zone 23: The low occupation area of the Ancient Period hadn't been occupied until the Early Republican Period. The Apartment Houses had developed on the Early Republican Pattern. Also, a Railway Zone had developed around the Basmane Train Station. These modern developments had destroyed the urban archaeological resources wholly. Therefore, the Zone 23 was determined as Development Zone / Little or No Archaeological Potential. In any case, the watching brief method may be developed to control the findings during the development (Figure 4-38)

Zone 24: The Industrial Zone at the backside of Alsancak Harbour determined as Zone 24. The zone had not been occupied until the Early Republican period. There was only low occupation in the Ancient Periods. Also, there were arable lands from the Early Ottoman Period to 1992. Maybe, there would be farms parallel to rural activities. However, huge industrial buildings probably destroyed the traces of aforementioned resources. On the other hand, the Old Industrial Buildings may be used for the industrial archaeology (Figure 4-38).

Zone 25: The area where Early Republican and modern apartment buildings lay on the Early Republican Pattern was defined as the Zone 25. There were low occupation areas in the ancient periods. However, the important architectural remains such as the stone foundation, ancient architectural findings during the construction of Efes Hotel and the foundation of ancient port in the 22 No Plot of 1027 No Cadastral Land in Alsancak, indicated a monumental occupation between the fortification wall and the ancient coastline. The zone reoccupied by the Frenk and Greek quarters in the Early and Late Ottoman periods. The pattern of the zone re-planned after the 1922 Fire. There were 1-2 storeys buildings in the Early Republican Period. However, 8-10 storeys apartments have been built in this zone after 1950s. Consequently, the Zone 25 was defined as 3rd Degree Urban Archaeological Potential / Limited Development Zone. Aforementioned strategies for limited development zones are valid for this zone, too (Figure 4-38).

Zone 26: The area where Early Republican and modern apartment buildings lay on the infilling areas (naturally or artificially) after the Early Ottoman Period was defined as the Zone 26. The zone was destroyed completely by the 1922 Fire, then re-planned. Therefore, the Zone 26 was defined as Development Zone that means possibility of minimum intervention on urban archaeological resources (Figure 4-38).

Zone 27: The historical development of Zone 27 shows similarities with the Zone 26. However, there are conserved Alsancak Houses that were saved after the 1922 Fire on conserved traditional pattern of the 19th century. The basic street plan of the Zone was probably prepared by Luigi Storari who prepared a detailed map of İzmir in 1854-56. Therefore, the Zone 27 was determined as No Urban Archaeological Potential / Urban Conservation Zone. The conservation of traditional Alsancak Houses and the street plan should be thought as not only a conservation or restoration problem, but also an urban archaeological necessity.

As a result, management strategies were determined according to Urban Archaeological Potential by defined categories. Transition zones or more detailed categories should be determined by principle decisions of Higher Commission. The aforementioned strategies could be used to guide planning and decision making process. As a result of aforementioned analysis, basic analyses for both planning activities and cultural heritage management evaluated basically. Table 4-6 indicated briefly the definition of each zone and categories. At that point, there are two important point, they should not be forgotten that; the aforementioned boundaries of each zone are temporary zones. By more detailed analysis or more information in future, the boundary and definition of each zone may be changed. The other important point is that, the above basic strategies have to be enhanced by administrative legal and financial strategies. (Figure 4-38)

Table 4-6: The Categories of Urban Archaeological Character Zones in İzmir Historic City Centre

Zone No:	Definition	Arcaheological Potential / the Categories of Zones
Zone 1	The State Agora Project Area	Restricted Development Zone
Zone 2	Mix Buildings on Conserved Traditional Pattern of 19th Century	2nd Degree U.A.P. / Controlled Development Zone
Zone 3	Traditional Buildings on Conserved Grid-Iron Pattern	1st Degree U.A.P. / Conservation Zone
Zone 4	Mix Buildings on Conserved Grid-Iron Pattern	2nd Degree U.A.P. / Controlled Development Zone
Zone 5	Traditional Buildings on Conserved Traditional Pattern of 19th Century	1st Degree U.A.P. / Conservation Zone
Zone 6	Apartment Houses on Early Republican Pattern	3rd Degree U.A.P. / Limited Development Zone
Zone 7	Traditonal Buildings and Squatters on Amorphed Grid-Iron Pattern	2nd Degree U.A.P. / Research Zone
Zone 8	Traditional Buildings on Conserved Traditional Pattern of 19th Century	1st Degree U.A.P. / Conservation Zone
Zone 9	Kemeralti Arc (Traditional Buildings on Conserved Traditional Pattern of 19th Century)	No Sub-soil Potential / Traditional Buildings
Zone 10	Modern Buildings on Conserved Traditional Pattern of 19th Century	3rd Degree U.A.P. / Limited Development Zone
Zone 11	Konak and Kordon Historic Site	No Sub-soil Potential / the Historic Conservation Zone
Zone 12	Bahribaba Park	Reserve Area
Zone 13	Traditional Buildings on terraced Terrain parallel to the Roman Road	1st Degree U.A.P. / Conservation Zone
Zone 14	Cici Park	Reserve Area
Zone 15	Mix Buildings on Conserved Traditional Pattern of 20th Century	3rd Degree U.A.P. / Limited Development Zone
Zone 16	Apartment Houses on Modern Pattern	No Sub-soil Potential / Development Zone
Zone 17	Squatters	2nd Degree U.A.P. / Research Zone
Zone 18	Kadifekale	Restricted Development Zone
Zone 19	Squatters	3rd Degree U.A.P. / Limited Development Zone
Zone 20	Traditional Buildings on Traditional Pattern of 20th Century	2nd Degree U.A.P. / Controlled Development Zone
Zone 21	Transition Zone between Squatters and Railway Zone	3rd Degree U.A.P. / Limited Development Zone
Zone 22	Kulturpark	Reserve Area
Zone 23	Apartment Houses and Railway Zone	Little or No U.A.P./ Development Zone
Zone 24	Industrial Zone	Industrial Archaeology
Zone 25	Apartment Houses on Early Republican Pattern	3rd Degree U.A.P. / Limited Development Zone
Zone 26	Apartment Houses on Early Republican Pattern (infilling area)	No Sub-soil Potential / Development Zone
Zone 27	Alsancak Houses on Conserved Traditional Pattern of 19th Century	No Sub-soil Potential / Traditional Buildings

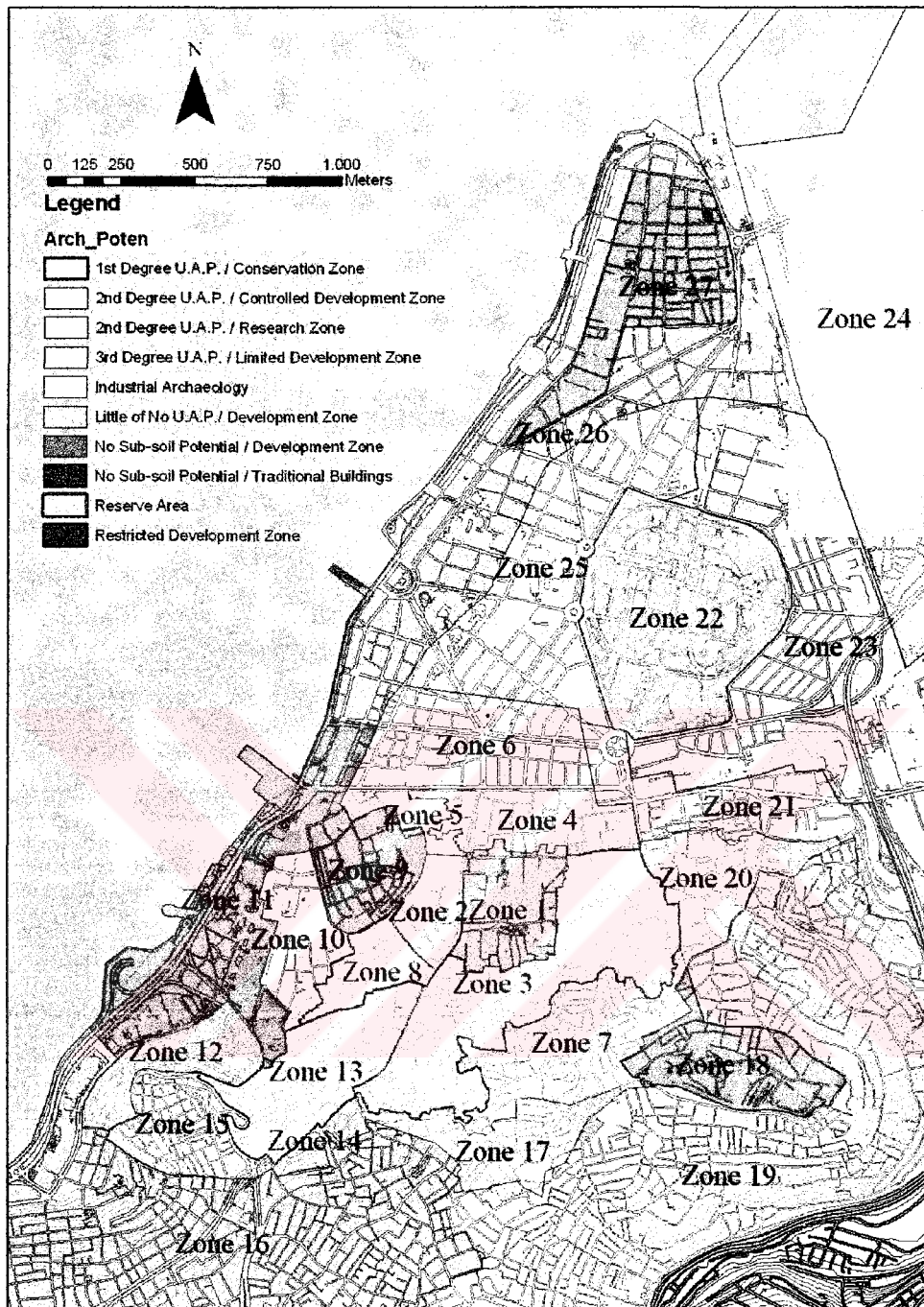


Figure 4-38: Urban Archaeological Character Zones in Izmir Historic City Centre according to their categories

CHAPTER 5

CONCLUSION

In the case study of İzmir Historic City Centre, management strategies were developed for each UACZ in detail according to the assessment of archaeological potential, threats and opportunities in character zones. Then, UACZ were grouped in the categories to define general strategies for the similar character zones. Of course, this exploratory case study is a basic example to examine the defined methodological framework. However, while İzmir Historic City Centre were analyzed step by step, the problems and potentials of the handling archaeological resources in the planning process, which may be the probable reflections of the general problems in the multi-layered historic city centres in Turkey, were observed. Therefore, after general strategies for İzmir Historic City Centre were described, the suggestions on the multi-layered historic city centres in Turkey were developed as the simple promises of the study.

5.1 The Evaluation of Methodological Framework

The basic equation of P.GARMY (1995, p.3) have been used as the methodological framework of the study. This equation aimed to evaluate real urban archaeological potential in multi-layered sites as an outcome of such factors. In defined context, especially, the probable conserved sub-soil urban archaeological deposits can be evaluated by aforementioned framework. In fact, equation includes only overall definitions on factors. However, it lets researches to observe the indispensable factors on the conservation of urban archaeological resources. In this section, the methodological framework has been evaluated step by step to indicate the strengths and weakness for further researches.

Ideal Archaeological Potential was defined as the successive occupation areas, which was an unclear definition to enhance the multi-layered structure of urban archaeological sites.

Therefore, diachronic reconstruction plans that were enhanced by historical and archaeological data that were both primary and secondary sources of information. At that stage, the utilizable documentation of different sources in the same spatial references is a crucial point. Therefore, UAD are seen as indispensable necessity for the multi-layered historic centres

After that, the superimposition of all diachronic reconstruction plans and overlaying analysis by chronological tables allowed evaluation of ideal archaeological potential. Equi-property areas were evaluated by graphic information processing techniques to discuss in detail. Graphic information processing systems are seen as helpful to observe similarities and differences between the equi-property areas. However, these techniques should be enhanced by statistical methods for the more comprehensive studies.

In the equation of P. Garmy, the destruction factor was defined as the mass destruction. However, different degree of destruction on urban archaeological deposits by various reasons had been evaluated. The destruction is evaluated as partial or whole destruction for İzmir Historic City Centre. However, more detailed model, which includes exact definitions of the degree of destruction, should be developed.

In the methodological framework, the quality of archaeological deposit is the most crucial factor for especially sub-soil archaeological resources. The evaluation of topographical, orographical features and the characteristics of archaeological deposit is an indispensable stage for the management of sub-soil archaeological resources. In addition, the level of groundwater was observed as a significant factor on the conservation and the presentation of archaeological deposits. In Turkey, the data collection and evaluation methods should be developed.

Finally, real / conserved archaeological resources were seen as an outcome of all factors. It is not in a homogenous character to define similar planning and management policies. However, different categories may be described depending of the characteristics of sub-zones.

As a result, the methodological framework of study is a simple contribution for the management of multi-layered historic city centres in Turkey. Although there has been not well-established archaeological database and inventories to set character zones, this simple equation will be useful for the pre-planning and decision-making process until more detailed studies. Each factor of the basic equation indicates the indispensable features of such an urban archaeological researches and pre-planning process.

5.2 The General Strategies for İzmir

In Turkey, the most of the historic city centres have similar urban archaeological characteristics of İzmir Historic City Centre. There are not only monumental resources on the soil, but also urban archaeological layer underneath the cities. On the other hand, the historic city centres usually are used as the traditional commercial centres or the housing stocks of low-income groups where the renovation and development pressure are over than any other location of the cities. As a result, the balance between the preservation and the development can not be set for sustainable development strategies. Therefore, although the following strategies were developed for the case study area, everyone, who either govern or plan the historic city centres, may find something related with their studies.

In addition to affirmative efforts of İMM and İzmir Archaeological Museum like the projects of “Agora Archaeological Excavations” and “İzmir City Archive”, it is an indispensable point that, a more detailed evaluation of urban archaeological resources in İzmir Historic City Centre by authorities is a necessity to create *urban continuum* in İzmir.

The establishing of Urban Archaeological Database by available data in İzmir Archaeological Museum, İzmir 1 No Regional Commissions and another related institution should be first step of such evaluation of urban archaeological resources. Of course, a comprehensive database needs not only accurate and detailed data, but also financial, administrative and technical support. At that point, the responsibility of İMM is a crucial opportunity, because İMM have more financial and technical capacity than İzmir Archaeological Museum and Regional Commission. Therefore, firstly a comprehensive database model will be developed by İMM and then the related records of aforementioned institutions may be transferred to set Urban Archaeological Database.

On the other hand, the setting of such a comprehensive database is a long-term work, so basic evaluations and strategies should be developed for the recent planning process. This type of evaluation can be made by basic documents used in this study. These documents should be enhanced by more proper extensive and intensive urban archaeological surveys to define preliminary character zones. These surveys may be used in UAD, and then the boundaries of character zones will be changed in future. In addition to surveys, some trial trenches or inquiry soundings shall be made in the critical points where probable development pressure may increase in near future. At the end of aforementioned studies, the basic evaluations will be helpful to authorities until UAD have been set.

In defined context, aforementioned basic evaluation is seen as a necessity for the recent planning studies. As mentioned before, the Kemeraltı Conservation Master Plan was prepared by İMM, Directorate of Public Affairs in 1/5000 scale. Also, the first stage of the Revision Conservation Plan of Kemeraltı, which includes the western side of Eşrefpaşa Boulevard, had been prepared and approved in 2002. However, both of them defined basic strategies that include only the specific project zones of known monumental structures, instead of strategies based on detailed urban archaeological evaluation that should include all urban archaeological traces. For example, as mentioned in the case study, although there are important archaeological potential around the north-western terrace of the Roman Road, the conservation strategies of the Revision Conservation Plan concentrated on the traditional building stock on it. There are the most of the real urban archaeological potential such as conserved archaeological resources around the State Agora in the probable boundary of the second stage of the Revision Plan. Therefore, a detailed evaluation of urban archaeological resources should be added as an obligatory condition to the planning documents of the second stage of the Revision Plan by the Municipality.

In addition to the recent planning studies, there are important problems in the recent conservation studies in İzmir Historic City Centre. First of all, the site decisions are not appropriate for the preservation of urban archaeological resources. As mentioned before, although there is a principle decision of Higher Commission on the urban archaeological sites, İzmir 1 No Regional Commission changed the category of Kemeraltı urban conservation site as 3rd category of archaeological site and urban Site by the 9728 numbered and 30.01.2002.dated decision. However, the high potential of urban archaeological

resources in Kemeraltı could be observed by a basic evaluation similar to this study. In addition, the study indicated that, there are differences between the boundaries of real archaeological potential and 3rd category of archaeological sites of the Theatre and the Stadium. Therefore, Regional Commissions shall evaluate the categories of site decision by a basic evaluation of urban archaeological resources.

Another insufficient recent conservation study is “the Conservation and Regeneration Project of the Agora and Its Surroundings” was prepared by İMM, Directorate of Historical Environment and Cultural Property. As mentioned before, it proposed to connect the Agora and the important avenues by expropriation. However, any other effective financial strategies or management tool were not developed. The most crucial problem in the Conservation and Regeneration Project may be thought as the lack of detailed evaluation of urban archaeological traces around the State Agora like conserved grid-iron axes.

In defined context, there are potential and opportunities in İzmir Historic City Centre from Bayraklı to Kadifekale. Although Bayraklı, (First settlement area of İzmir at the innermost site of İzmir Gulf) is a conserved and homogenous archaeological site; it has been threaten by urban developments. However, the ongoing archaeological excavations and conservation decision may be enhanced b urban archaeological terms. Bayraklı should be presented as the first settlement area of İzmir to enhance public awareness.

In addition, the northern side of Fevzi Paşa Boulevards, where apartment and early republican buildings are still standing, should be seen as a architectural / urban archaeological heritage that have been indicated one of the most important turning points in the history of İzmir. Therefore, its unique characteristics shall be enhanced.

The case study area, İzmir Historic City Centre, has a crucial importance in the history of İzmir, because of its multi-layered structure. While monumental resources such as the State Agora, Kadifekale or the Roman Road have indicated the roots of İzmir, the pattern of Kemeraltı or traditional buildings conserved the traces of Ottoman Empire. Even, the traces of Lower and Upper İzmir have been still observed, when a simple look from Kadifekale. In summary, this methodological framework is not only a pre-planning analysis, but also a chance for the perception of multi-layered archaeological resources of historic city centres.

5.3 The Further Suggestions for the Multi-layered Historic City Centres in Turkey

- Local Administration should have urban archaeological vision and tools to set an urban continuum by the integration of urban archaeological resources in the planning process. The Act No: 5226 allowed them to establish a department; its abbreviation is KUDEP (The Conservation, Implementation and Monitoring Bureau) in Turkish, which especially will concern with the maintenance of the historical building stock. However, various disciplines related with cultural resources have to be employed in KUDEP. Also, Regional Commissions for Museums and Ancient Monuments were defined in the same Act. Although, the aforementioned institutions don't directly concern with the urban archaeological resources, the increased responsibilities of Local Administration will enhance their vision. Also, these institutions may build a local capacity for the solution of technical support. Also, these departments may allow the establishing of professional archaeological services in historic cities. Therefore, KUDEP should be established urgently in the historic cities.
- The Municipalities should establish Urban Archaeological Database by available data in Archaeological Museum or Regional Commissions to evaluate urban archaeological resources by their financial, administrative and technical facilities. Until UAD have been set, basic evaluations and strategies should be developed for the recent planning and development processes. Integrated conservation strategies should be developed according to these evaluations. Basically;
 - Potential urban archaeological resources should be determined to define conservation strategies.
 - The risk level of urban archaeological resources should be determined to guide the investments. Only public investments that are inevitable for public benefit should be allowed in the risky archaeological areas.
- An Environmental Impact Assessment Model should be developed to guide the investment in the earlier stages of the projects to mitigate the impacts of developments on urban archaeological resources.

- Financial strategies should be developed to solve the problems in the transforming of the cost of archaeological heritage management from public to developers. The contractual solutions must include not only rescue operations but also the publication and presentation of results. Solutions for ownership problem that is one of the most important problems in historic city centres should be developed for the plot in the real urban archaeological potential. There is a regulation²⁵ that allowed exchanging of the lands, where the development is prohibited, with public lands. The scope of this regulation may be expanded to include urban archaeological potentials. The transfer of developments rights should be developed as an alternative for the public lands. Maybe, the transfer of development rights can be used more efficiently in the historic city centre, where land prices are so high, than exchanging with public lands.
- Local and national education campaigns should be developed to increase the public awareness on urban archaeological resources. There are different alternatives for increasing public awareness like the education programs in schools, the urban archaeological trips in the historic city centres, so on.
- The recent regulations defined tax advantages for sponsorship models that allowed to financial support of the projects on scheduled cultural resources by private entrepreneurs. The alternative projects for urban archaeological resources may be developed like the excavations in vacant plots or the arrangements of recent excavated plots.
- In addition to regulations in legal, administrative and financial frameworks, a management guideline, that will be similar to Planning Policy Guidance in England, may be prepared for planning authorities, developers, archaeologists and land owners. “*The Management Guideline for Urban Archaeological Resources*” should include not only planning policies but also policies about following terms will be helpful.

²⁵ Kesin İnşaat Yasağı Getirilen Korunması Gerekli Taşınmaz Kültür ve Tabiat Varlıklarının Bulunduğu Sit Alanlarındaki Taşınmaz Malların Hazineye Ait Taşınmaz Mallar ile Değiştirilmesi Hakkında Yönetmelik, Resmi Gazetenin Tarihi :8.2.1990 , Sayısı : 20427

- Policies on New Construction
 - Negotiation regulations between the actors of development such as; planning institutions, conservation institutions, developers and property owners
 - Decisions in regional scale such as land-use and floor-area ratio decisions
 - Decisions in architectural scale; in such case, architectural project will be helpful to both new construction and conservation of archaeological heritage. By means of architectural and engineering projects, archaeological heritage will be present to public in modern buildings.
 - Standards for development; GIS database will let us to have 3 dimensional maps of project area. In these maps, we may determine digs of cultural layers and standards like new building foundations digs will be defined in guideline.

- Policies on Archaeological Resources: How archaeological properties would be evaluated according to their importance / Assessment of archaeological data
 - In situ, (archaeological properties that should be conserved as it is, and presentation, use, conservation strategies should shaped in its existing place)
 - In museum, (archaeological properties that will be conserved by moving to museum)
 - Moving (archaeological properties that will be conserved by moving to an other place in study area and presentation, use, conservation strategies should shaped in its new place)
 - Documentation (archaeological properties that lost its uniqueness because of different reasons, have importance because of its cultural layers. This type of properties should be recorded carefully before development and add to GIS database)

- Presentation of Urban Archaeological Resources:
 - *How to preserve them technically well,*
 - *How to open them to the public at large,*
 - *How to eliminate negative effects of first two. (TUNA, N. 1999)*

- Standards for the Inventories and Documentation of Urban Archaeological Resources
 - Desk-based assessment model for decision-making process
 - Field investigations and non-destructive survey techniques (Extensive / Intensive / Geophysical) as a second stage after desk-based assessment
 - Inquiry Soundings and Trial Trenches as development control tools
 - Decision on Mitigation and Monitoring Strategies,



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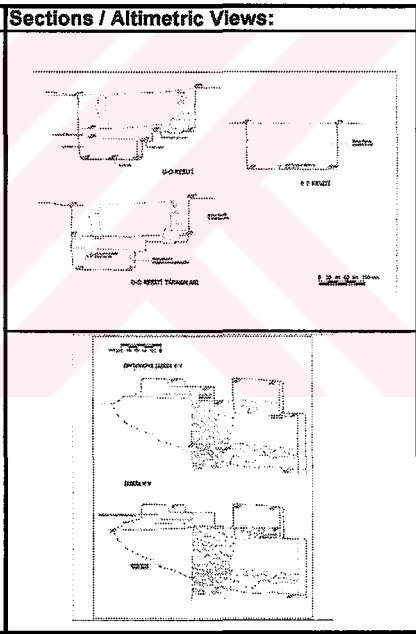
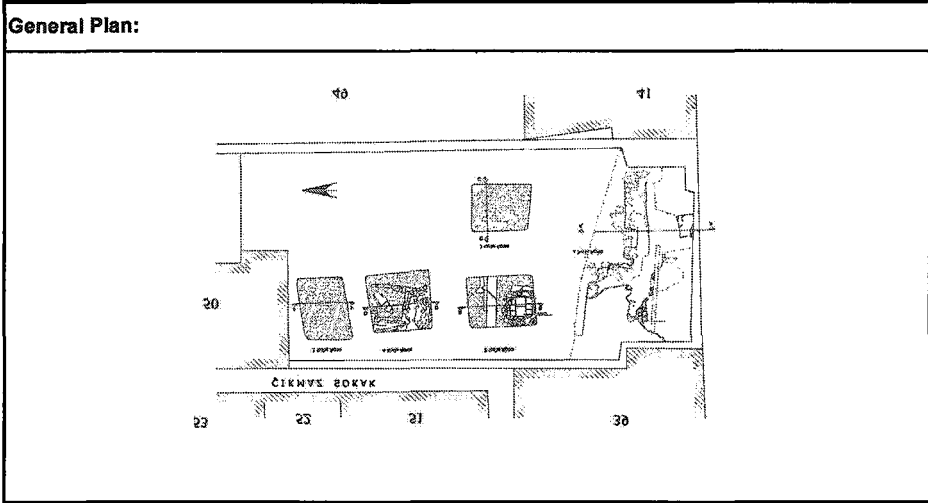
APPENDIX I

EXAMPLE OF FIELD INVESTIGATION INVENTORY FORM

İZMİR HISTORIC CITY CENTRE URBAN ARCHAEOLOGICAL DATABASE				
Field Investigation Inventory Form / Page 1				
General Information on Parcel:				
Site:	Historic City Centre	Research Field Inventory Code:	25	
Date:	14.03.2003	Cadstral No:	121 / 98-99 Plot	Parcel Area (ha):
Parcel Ownership:	Private		 Ha
Museums Experts:	Architect F.Feyzal ÖZKABAN - Architect Gülçin DÜŞÜT (drawings)			
Archaeological Findings on Soil:	The foundations of two contemporary buildings / Ceramics			
Recent Development on Parcel:				
Land Use:	Vacant Plot		Floor:	
Condition:			
Data on Building:			
Archaeological Research / Survey / Excavation Results:				
Trench:	5 Inquiry Soundings opened by the experts of İzmir Archaeological Museum			
Stratification:	0 - 0.8m depth infilling soil / 0.8 - 1.8m depth Ottoman and Byzantine Layers / Roman Layers in 1.8m depth.			
Architectural Remains (immovable):	A wall started (0.40 x 2.40 m) h=1m (Ottoman and Roman)			
Movable Remains:	Ceramics and			
Report Evaluation:	There should be a relation with the complex underneath Konak Aliğa Mosque. It is probable a Byzantine Basilica on a Roman structure			
Regional Commission Decree:	More detailed field investigation is needed. The determination of the plot as the 1st category of archaeological site			
Related Letters:			

**İZMİR HISTORIC CITY CENTRE
URBAN ARCHAEOLOGICAL DATABASE**

Field Investigation Inventory Form / Page 2



APPENDIX II

RESCUE OPERATIONS BY İZMİR ARCHAEOLOGICAL MUSEUM

<i>Data Inventory</i>	1	2	3
<i>Number in UAD</i>			
<i>Plot Number or Location of Plot</i>	The State Agora	393 / 7 – 8	The Old Area of “Saray Sineması”
<i>Date</i>	Since 1998	1994	-
<i>Aim of Excavation</i>	Scientific Archaeological Excavations	Building Construction Excavations	-
<i>Detail on Excavation</i>	-	-	-
<i>Archaeological Strata</i>	Roman	-	Roman
<i>Architectural Findings</i>	-	-	Remains of an ancient buildings (several walls)
<i>Movable Cultural Findings</i>	-	-	-
<i>Assessment of Report</i>	-	-	-
<i>Related Commission Decision</i>	-	-	-
<i>Depth of Archaeological Findings.</i>	-	-	-

Data Inventory Number in UAD	4	5	6
Plot Number or Location of Plot	821.St. / No:23 (the south of the State Agora)	Kadifekale	The Theatre
Date	-	-	-
Aim of Excavation	-	-	-
Detail on Excavation	-	-	-
Archaeological Strata	-	-	-
Architectural Findings	The water cistern (tonozlu)	-	-
Movable Cultural Findings	-	-	-
Assessment of Report	-	-	-
Related Commission Decision	-	-	-
Depth of Archaeological Findings.	-	-	-

Data Inventory Number in UAD	7	8	9
Plot Number or Location of Plot	The Stadium	The Roman Road	The Aqueduct (Yeşildere Sukemeri)
Date	-	-	-
Aim of Excavation	-	-	-
Detail on Excavation	-	-	-
Archaeological Strata	-	-	-
Architectural Findings		-	-
Movable Cultural Findings	-	-	-
Assessment of Report	-	-	-
Related Commission Decision	-	-	-
Depth of Archaeological Findings.	-	-	-

Data Inventory Number in UAD	10	11	12
Plot Number or Location of Plot	Fevzi Paşa Boulevard	Fevzi Paşa Boulevard / Basmane Stop	The underground of İstiklal Hotel in Basmane
Date	-	-	
Aim of Excavation	The Metro Excavatio	The Metro Excavatio	
Detail on Excavation	-	-	
Archaeological Strata	-	Roman	Roman
Architectural Findings	-	A Roman Road parallel to Fevzi Paşa Boluevard.	The remains of the ancient fortification wall (the probable eastern gate of İzmir)
Movable Cultural Findings	-	Columns (some of them have been exhibited in Basmane Stop) and Ceramics	-
Assessment of Report	-		-
Related Commission Decision	-		-
Depth of Archaeological Findings.	-		-

Data Inventory Number in UAD	13	14	15
Plot Number or Location of Plot	1543 / 8	1030, 1033 and 967 St.	Çankaya Branch of Yapı Kredi Bank
Date	-	-	-
Aim of Excavation	The Inquiry sounding for the road widening	-	The construction of modern building
Detail on Excavation	-	-	-
Archaeological Strata	-	-	-
Architectural Findings	The remains of the ancient fortification wall	The remains of the ancient fortification wall	The Columns
Movable Cultural Findings	Amorphed pieces of stonein in 3,50m depth.	-	-
Assessment of Report	-	-	-
Related Commission Decision	-	-	-
Depth of Archaeological Findings.	-	-	-

Data Inventory	16	17	18
Number in UAD			
Plot Number or Location of Plot	369 / 4 (Şifa Hospital)	369 / 13	Albey Mağazası
Date	-	2001 - 2003	-
Aim of Excavation	The construction of modern building	The construction of modern building	The construction of modern building
Detail on Excavation (for ex; Number of Sounding, etc.)	The archaeological excavation and restoration works are finished before the construction	6 Inquiry Soundings in 2001 and 2 extra Inquiry Soundings in 2003	-
Archaeological Strata (periods)	Roman	Ottoman / Roman	Roman
Architectural Findings	The remains of a building (tonozlu)	Ottoman Wall, Clay Water Pipe	Roman Bath and related mosaics
Movable Cultural Findings	-	Roof tiles,	-
Assessment of Report	-	Related with the structures underneath Şifa Hospital	-
Related Commission Decision	-	-
Depth of Archaeological Findings.	-	Ottoman 0.2- 3.8m Roman 3.8 – 7m	-

Data Inventory Number in UAD	19	20	21
Plot Number or Location of Plot	The Şımarık Disco / Şair Eşref Boulevard	Çankaya Branch of PTT	1027 / 22
Date	-	-	-
Aim of Excavation	The construction of modern building	-	The construction of modern building
Detail on Excavation (for ex; Number of Sounding, etc.)	-	-	Plot Area: 385m ² The excavations are finished. The project have been prepared for the presentation of the remains in the floor of the building
Archaeological Strata (periods)	Roman	-	Roman
Architectural Findings	The remains of a podium or probable monumental building	-	The remains of ancient port.
Movable Cultural Findings	-	9694 inventory numbered sculpture in İzmir Archaeological Museum	-
Assessment of Report	-	-	-
Related Commission Decision	-	-	13.11.2003 dated last decision on the details of the probable glass floor of the building.
Depth of Archaeological Findings.	-	-	-

Data Inventory Number in UAD	22	23-a	23-b
Plot Number or Location of Plot	Efes Hotel	184/10	374/22
Date	-	1995	1996
Aim of Excavation	The construction of modern building	The construction of modern building	The construction of modern building
Detail on Excavation <i>(for ex; Number of Sounding, etc.)</i>	-	-	-
Archaeological Strata <i>(periods)</i>	Roman	Roman	Roman
Architectural Findings	Architectural Remains?	-	-
Movable Cultural Findings	-	Roman Tomb	Roman Tomb
Assessment of Report	-	-	-
Related Commission Decision	-	Commission allowed new construction	Commission allowed new construction
Depth of Archaeological Findings.	-	-	-

Data Inventory Number in UAD	24²⁶	25	26
Plot Number or Location of Plot	121 / 98-99	369 / 27 (Türk Telekom)	2505 / 61 (the southwest of the Theatre)
Date	-	2001-2002	2002
Aim of Excavation	-	The construction of modern building	The construction of modern building
Detail on Excavation (for ex; Number of Sounding, etc.)	-	4 Inquiry Soundings	4 Inquiry Soundings
Archaeological Strata (periods)	-	Ottoman / Roman	No Archaeological Finding
Architectural Findings	-	-Ottoman Wall in 1,80m depth -Roman Wall in 3,50m depth	-
Movable Cultural Findings	-	- An in-situ oinoche dated to the 2-3 centuries A.C - Ceramics	-
Assessment of Report	-	-	There is not cultural resources according to the Act 2863
Related Commission Decision	-	- 18.13.2002 dated decision on no allowance	-
Depth of Archaeological Findings.	-	Ottoman 0.2- 3.3m Roman 3.3 – 5m	Main ground in 1,70m depth

²⁶ The example field investigation form in Appendix I, 171-172

Data Inventory	27	28	29
Number in UAD			
Plot Number or Location of Plot	The Water Infrastructure Work around the State Agora	The İkiçeşmelik Parking Lot	1293 St. No:2
Date	-	-	-
Aim of Excavation	-	The construction of modern building	-
Detail on Excavation (for ex; Number of Sounding, etc.)	3 Folder for the each study zone that do not include detailed information.	-	-
Archaeological Strata (periods)	-	Roman	Byzantine
Architectural Findings	-	Architectural Remains?	-
Movable Cultural Findings	-	-	A Byzantine styly decorated marble tablet that have been used as a piece of the modern building
Assessment of Report	-	-	-
Related Commission Decision	-	-	-
Depth of Archaeological Findings.	-	-	-

Data Inventory Number in UAD	30	31	32
Plot Number or Location of Plot	961 St. Şeyh Mosque	Konak Aliğa Mosque	The building of TEKEL
Date	-	-	1931
Aim of Excavation	-	-	The construction of modern building
Detail on Excavation (for ex; Number of Sounding, etc.)	-	-	-
Archaeological Strata (periods)	-	-	-
Architectural Findings	The stone remains of a monumental building underneath the basement of the mosque	The remains of the ancient water distribution infrastructure	A mosaic floor surrounded by the columns
Movable Cultural Findings	-	-	-
Assessment of Report	-	-	-
Related Commission Decision	-	-	-
Depth of Archaeological Findings.	-	-	8m depth

APPENDIX III

THE OLD MAPS, PHOTOGRAPHS AND ENGRAVINGS OF İZMİR

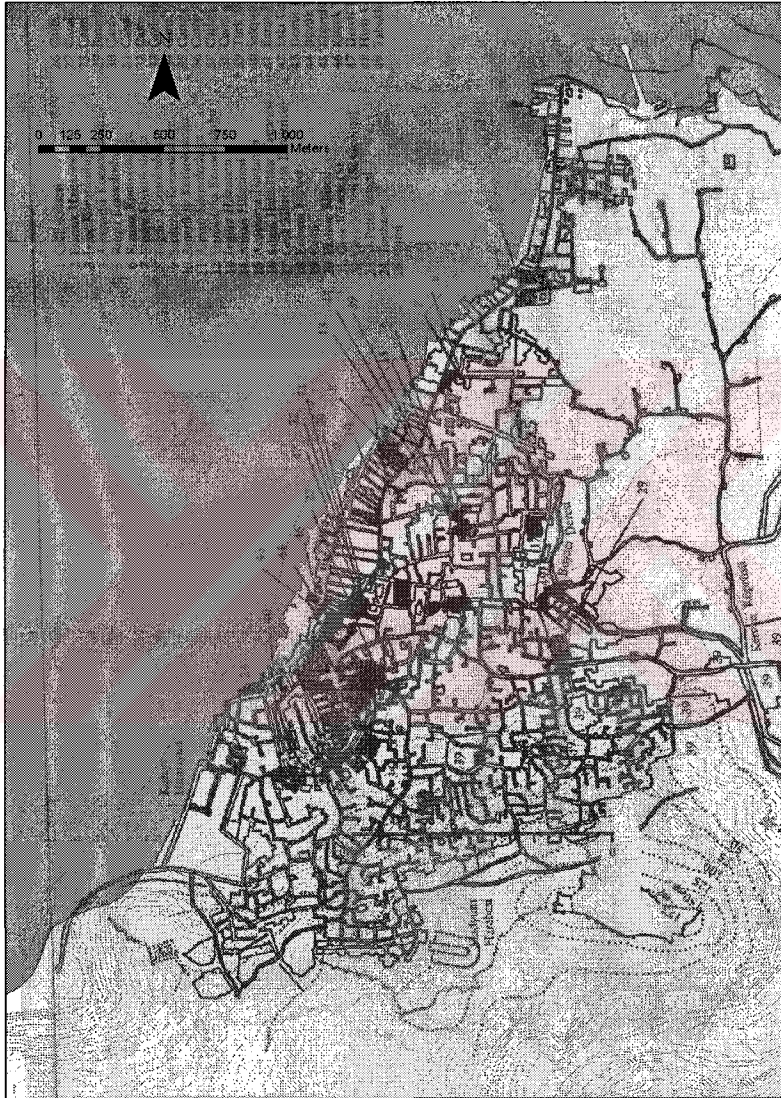


Figure 6-1: Thomas Graves' Map – 1836-37

The map (KUBAN, D. 2001) was rectified by B. Belge according to the coordinates of the current base map of İzmir Metropolitan Municipality

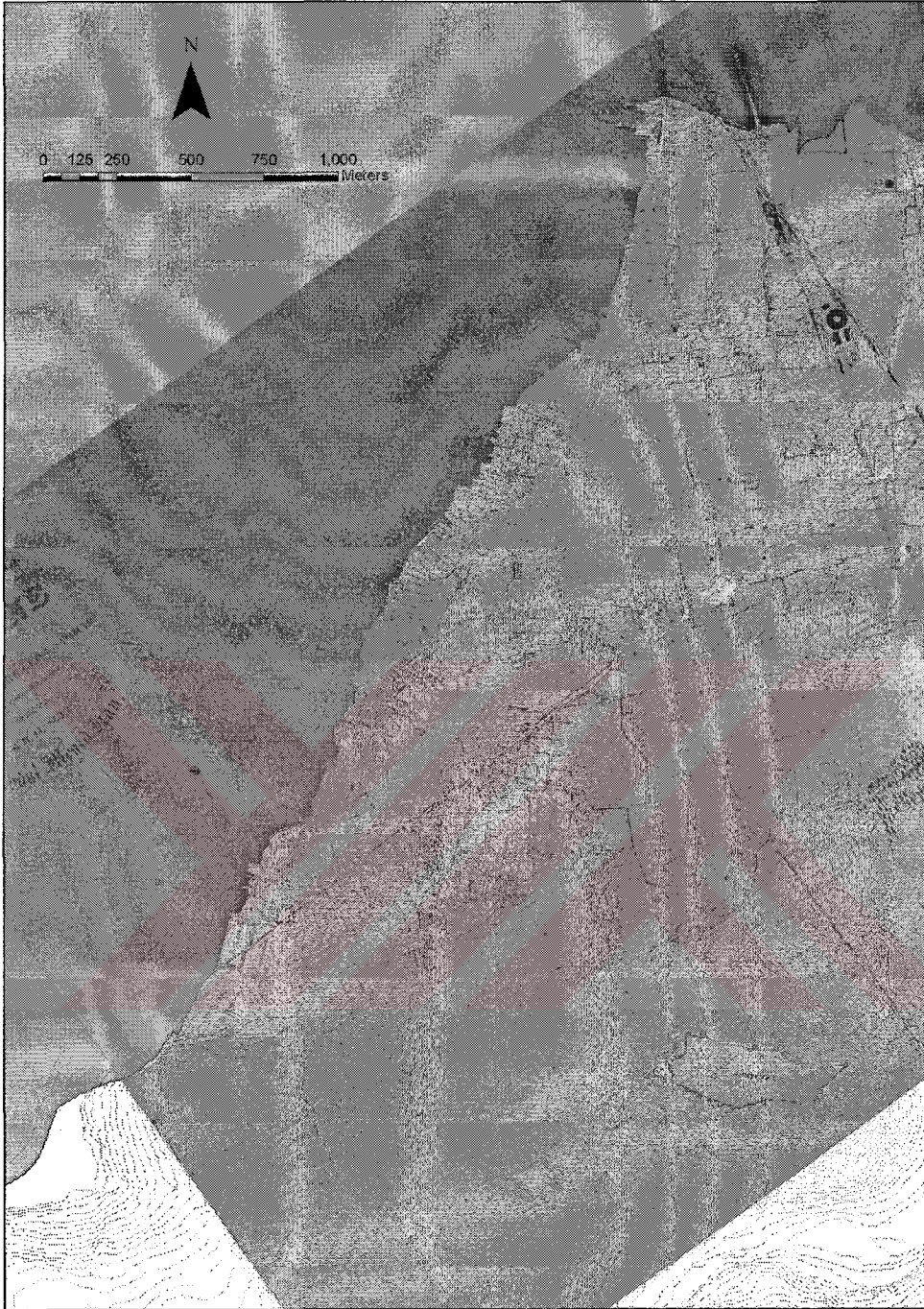


Figure 6-2: Luigi Storari' Map – 1854-56

The map (ATAY, Ç., 1998) was rectified by B. Belge according to the coordinates of the current base map of İzmir Metropolitan Municipality

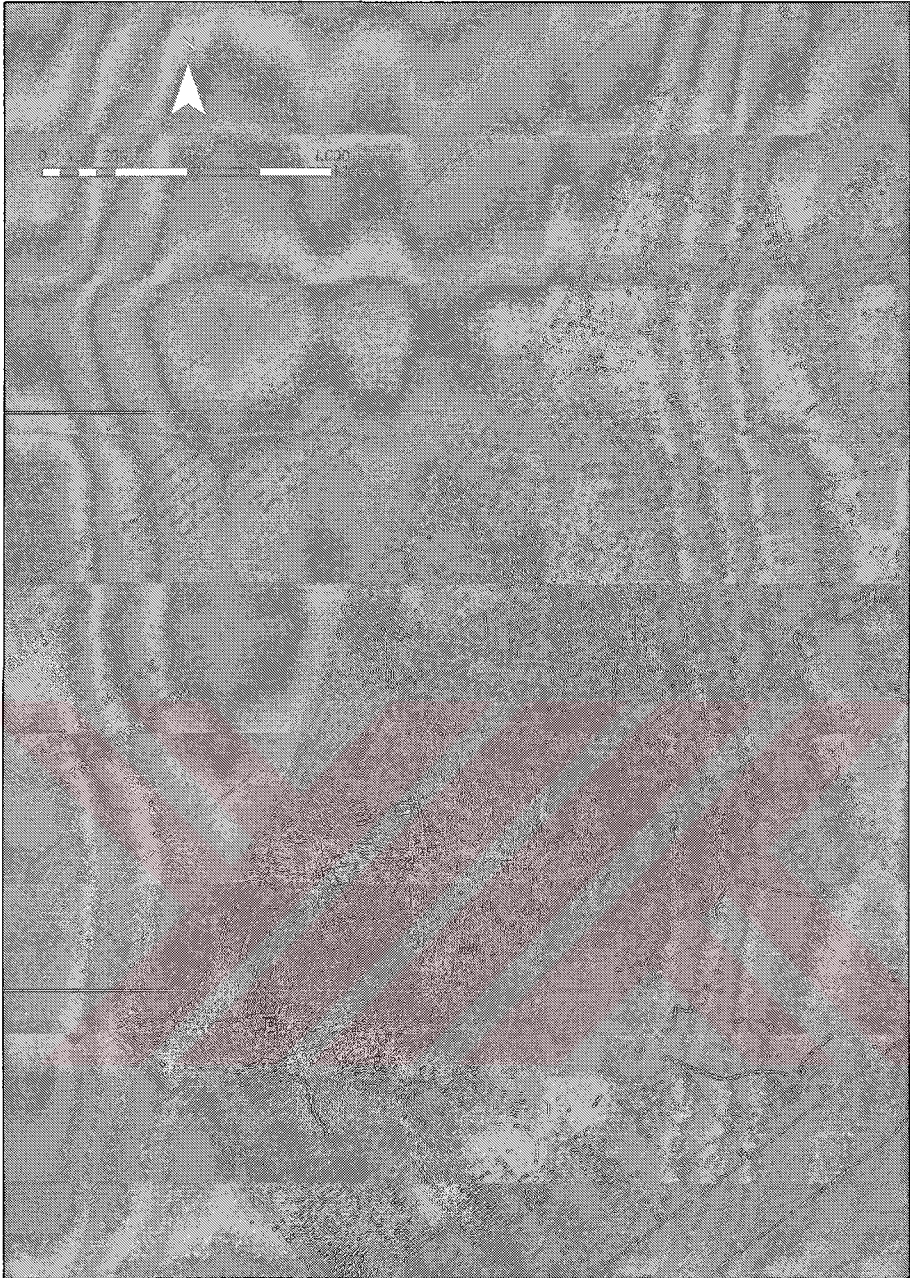


Figure 6-3: The Water Distribution Map – 1897

The map (T.C. Başbakanlık Osmanlı Arşivi) was rectified by B. Belge according to the coordinates of the current base map of İzmir Metropolitan Municipality

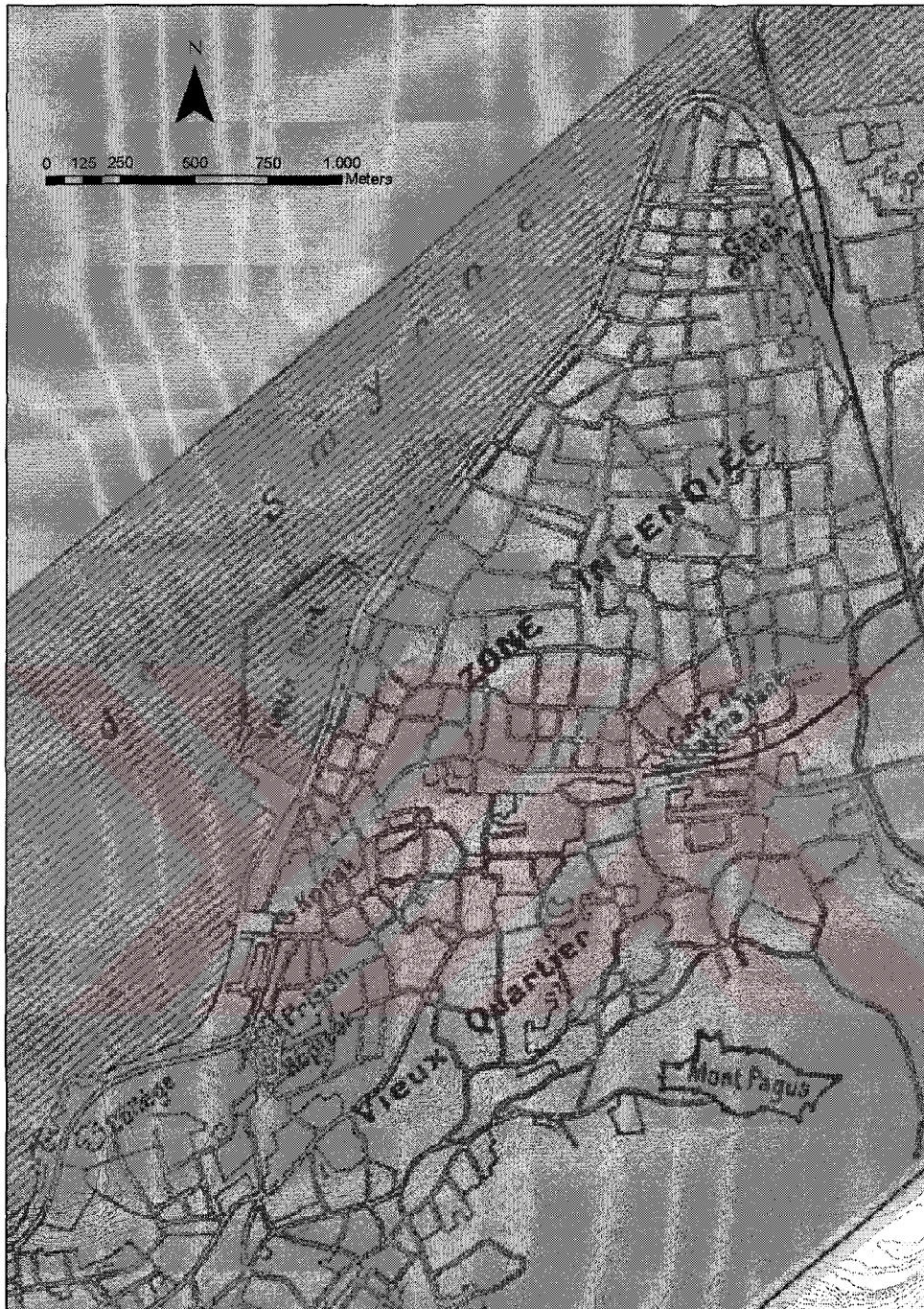


Figure 6-4: The sketch of Izmir in 1992

The sketch (was published in a French Journal, L'Illustration's 4696 Number in March 1933 (2003a, p.69)) was rectified by B. Belge according to the coordinates of the current base map of Izmir Metropolitan Municipality



Figure 6-5: The Current Map of 1950s

The map (CANPOLAT, E., 1953) was rectified by B. Belge according to the coordinates of the current base map of İzmir Metropolitan Municipality



Figure 6-6: Svoboda, 1865, a general view from Değirmentepe (1997a, p.17)

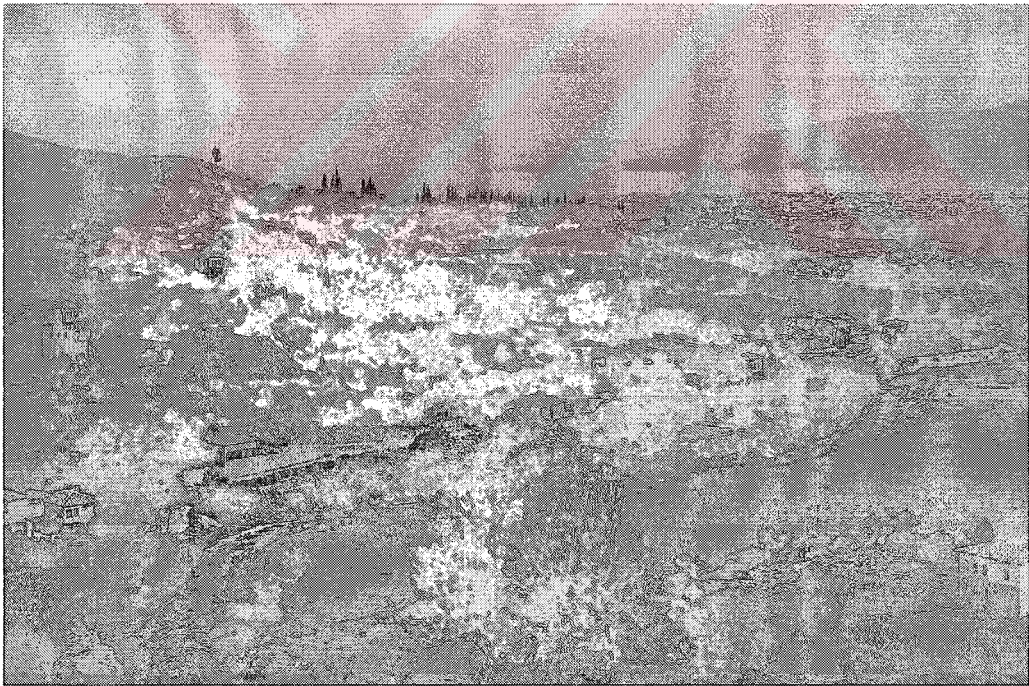


Figure 6-7: Svoboda, 1865, a general view from Bozkaya (1997, p. 23)

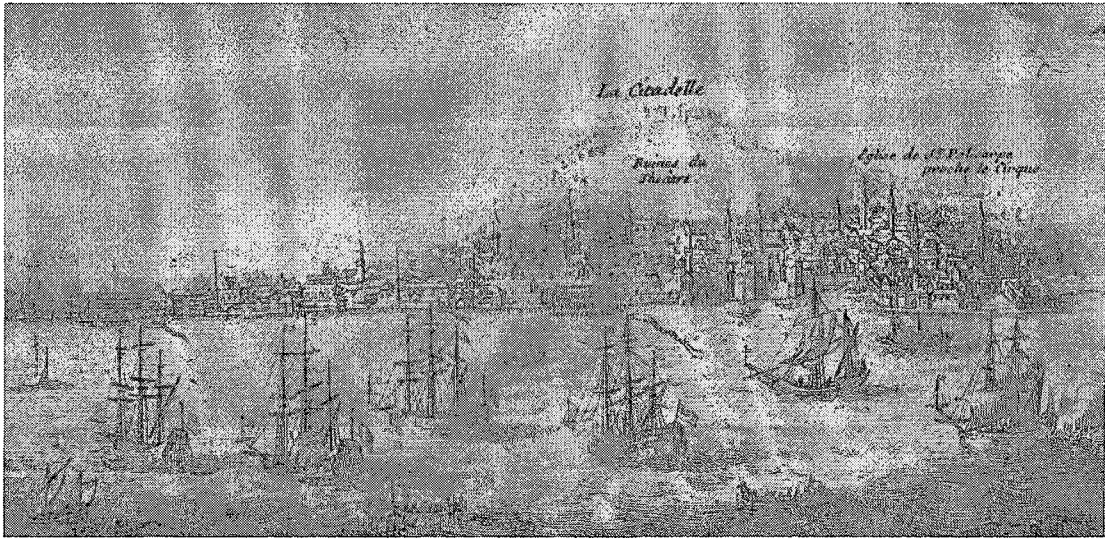


Figure 6-8: *The Engraving of J.P. de Tournefort, (PINAR, I., p.45)*

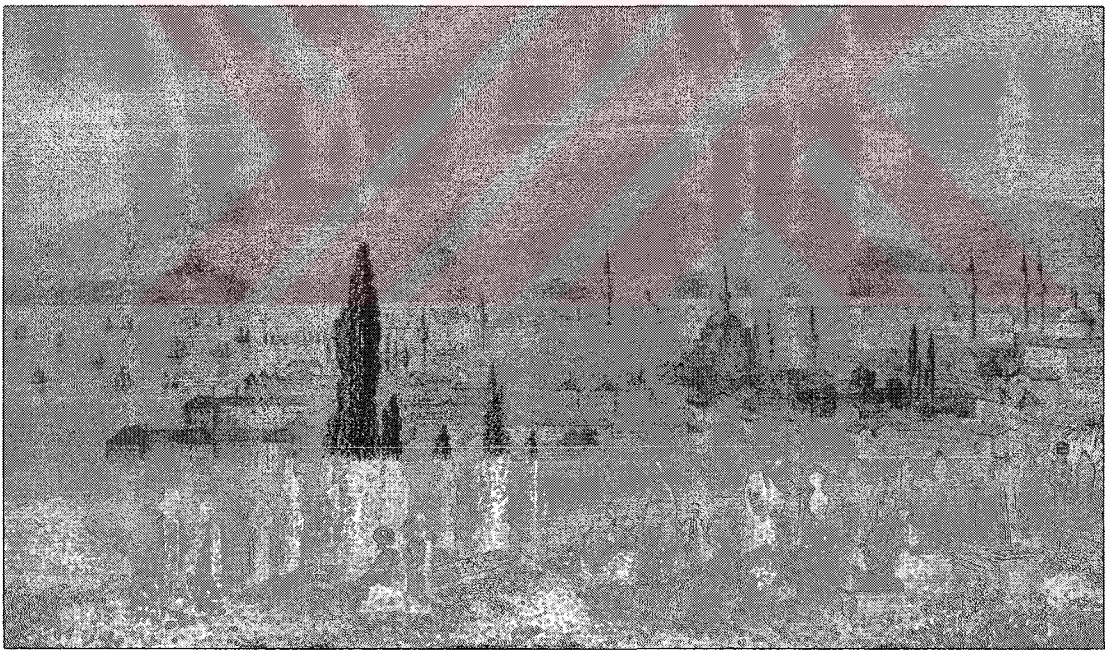


Figure 6-9: *The Engraving of K. von Haller, (PINAR, I., p.251)*

APPENDIX IV

THE OLD DEVELOPMENT AND CONSERVATION PLANS



Figure 7-1: Rene Danger's Plan

The sketch of the plan was published in a French Journal, L'Illustration's 4696 Number in March 1933 (2003a, p.69)

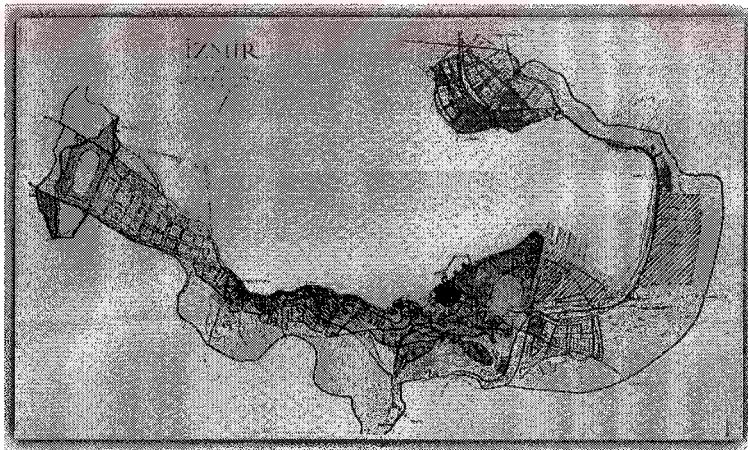


Figure 7-2: Aru, Özdeş and Canpolat Plan
(ATAY, Ç., 1998)

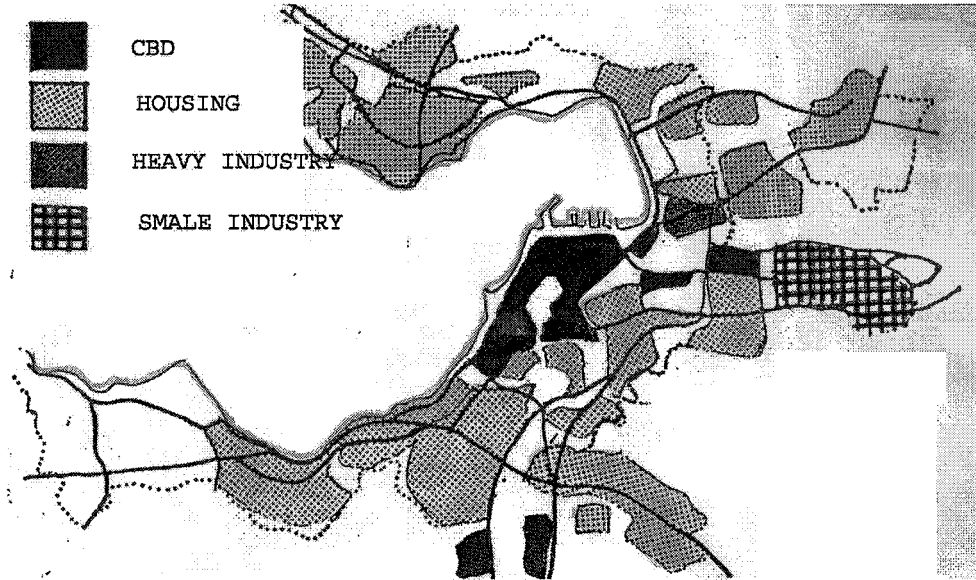


Figure 7-3: Bodmer Plan

Produced by B. Belge depending on a student study (Middle East Technical University, Department of City and Regional Planning, CRP401-401 Planning Studio VII, 2003-2004 Fall Semester).

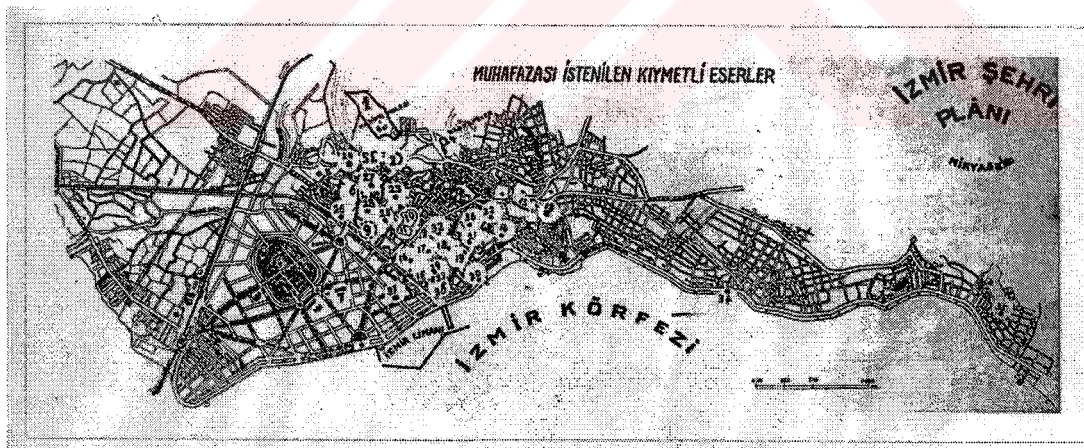


Figure 7-4: The Reconstruction Commission' Inventory in 1938 (2003a, p.73)

*Table 7-1:: Urban Archaeological Structures were marked on Figure 7-4
Prepared by B. Belge depending on the map (2003a, p.73)*

No:	Definition
1	Kadifekale
2	Wall of Ancient Theatre at Kireçlikaya
3	Mosaics located at the schoolyard of Topaltı School and underneath the surrounding houses.
4	Stadium place beginning from the İnkılap School's yard and leaning towards the east.
5	Fortress wall at Tamasalık Burç Street.
6	Fortress wall between Faik Paşa and Sadık Bey Hotel.
7	The ground of Arabacı Inn.
8	Walls lying along both sites of Karakapı.
9	The small hill at the junction, where Tilkilik Avenue, Fevzi Paşa Boulevard, Çorakkapı and Hatuniye intersect.
10	The forum ground (Agora) at Namazgah.
11	The area between Asri Cinema and Namazgah Avenue, and Mezarlıkbaşı and Bülbül Hoca Street.
12	Three files of fortress walls on the left hand side of the Mal Stream and the curb (Roman Avenue).
13	Area inside the Halit Bey School.
14	The underground passage located beneath the Damlacık Mosque.