A FRAMEWORK FOR SUSTAINABLE URBAN MOBILITY IN HISTORIC URBAN LANDSCAPE: A PROPOSAL FOR ANTALYA KALEİÇİ

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ABSTRACT

A FRAMEWORK FOR SUSTAINABLE URBAN MOBILITY IN HISTORIC URBAN LANDSCAPES:
A PROPOSAL FOR ANTALYA KALEİÇİ

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The main subject of the thesis is the mobility systems in historic urban landscapes. In this respect, the aim of the thesis is to provide **"a framework for Sustainable Urban Mobility (SUM) in Historic Urban Landscapes (HULs)" together with the process, principles and tools** that will **solve the mobility problems while contributing to conservation and promotion its values and significance.**

In this regard, the thesis is structured mainly in two parts. In the first part, the current mobility systems, existing projects and implemented cases as well as international charters and manuals within the broad range of urban mobility and urban conservation literature are assessed. Complementing these assessments with the assessment of the observations drawn from the case of Antalya Kaleiçi, a framework for SUM in HULs, including the process, principles and tools, is proposed. In addition to this, a checklist for SUM systems in HULs is also provided. Following this, the second part of the thesis consists of the case study on Antalya Kaleiçi, the historic inner citadel area of Antalya, which is a historic urban landscape with a rich variety of values due to continuous inhabitancy from antiquity onwards as well as with many mobility problems. In this part, first of all, the historical development of the site, the conservation and planning studies related with this site in different scales, as well as the cultural properties, the users, the functions, the public realms and the urban mobility system existing today in Antalya Kaleiçi are extensively

surveyed and assessed. Based on these assessments, and adhering to the provided framework and checklist in the first part of the thesis, a SUM proposal is developed for Antalya Kaleiçi in the second part.

To conclude, sustainable urban mobility for historic urban landscape is an important solution, which should not only be considered for solving the urban mobility problems in historic urban landscapes but also as a tool for contributing to the conservation, promotion and sustainability of its values and significance due to the cultural, social and historical accumulation of those areas.

Key Words: Sustainable Urban Mobility, Historic Urban Landscape, Antalya Kaleiçi

ÖZ

TARİHİ KENTSEL PEYZAJLARDA
SÜRDÜRÜLEBİLİR HAREKETLİLİK ÜZERİNE
BİR ÇERÇEVE:
ANTALYA KALEİÇİ İÇİN BİR ÖNERİ

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Tezin ana konusu tarihi kentsel peyzajlarda ulaşım sistemleridir. Bu bağlamda, tezin amacı tarihi kentsel peyzajların tarihi değerlerini korurken ve ön plana çıkarırken, bu alanlardaki güncel hareketlilik problemlerini çözecek sürdürülebilir kentsel hareketlilik için çerçeve önermektir.

Bu bakımdan, tez birbiriyle ilişkili iki bölümde yapılandırılmıştır. Birinci bölümde, uluslararası bildiriler ve el kılavuzlarının yanı sıra güncel hareketlilik sistemleri, mevcut projeler, uygulanmış örnekler; kentsel hareketlilik ve kentsel koruma literatürünün geniş yelpazesi altında değerlendirildi. Bu değerlendirmeleri tamamlayan, örnek çalışma alanı Antalya Kaleiçi'nde yapılan gözlemlerin değerlendirilmesiyle, süreç, ilke ve araçlarıyla birlikte tarihi kentsel peyzajlarda sürdürülebilir kentsel hareketlilik çerçevesi önerildi. Buna ek olarak, bu alanlarda sürdürülebilir kentsel hareketlilik sistemine dair kontrol listesi sunuldu. Bunu takiben tezin ikinci bölümü, Antik dönemden itibaren sürekli yerleşim alanı olmasından kaynaklanan çok çeşitli değerlere sahip olmasıyla birlikte aynı zamanda güncel hareketlilik sistemlerinin neden olduğu problemlerin yaşandığı, Antalya Kaleiçi Tarihi Kentsel Peyzajını içermektedir. Bu bölümde, kültürel varlıklar, kullanıcılar, işlevler, kamusal alanlar ve mevcut hareketlilik sistemleri detaylı olarak

incelenmesine ek olarak öncelikle alanın tarihsel gelişimi, bu alanla ilgili koruma ve planlama çalışmaları farklı ölçeklerde değerlendirilmiştir. İkinci bölümde, bu değerlendirmelere göre, tezin birinci bölümünde sağlanan çerçeve ve kontrol listesine bağlı kalarak, Antalya Kaleiçi Tarihi Kentsel Peyzajı için sürdürülebilir kentsel hareketlilik önerisi geliştirilmiştir.

Sonuç olarak, tarihi kentsel peyzajlarda sürdürülebilir kentsel hareketlilik, sadece hareketlilik sorunlarını çözecek bir araç olarak görülmemeli, fakat aynı zamanda bu alanların sahip olduğu kültürel, sosyal ve tarihsel birikimlerinin korunmasına, ön plana çıkarılmasına ve sürdürülebilirliğine katkıda bulunan önemli bir çözümdür.

Anahtar Kelimeler: Sürdürülebilir Kentsel Hareketlilik, Tarihi Kentsel Peyzaj, Antalya Kaleiçi

''To my beloved family…''

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OLD KALEİÇİ

I wandered around Kaleiçi's
Narrow streets
I smelled
The scent of rotten
Fig wood
I walked
Under the wide eaves
Which hinder the sun
Drop on the road
I saw
The marble in the courtyard
On which
Laundry is beaten
I felt I'd heard
The sounds of copper of handiwork
Pomegranates had sagged
To the streets again
Basil had been placed
In front of bay windows again
Narrow streets
Smelled moldy again
Channels had overflowed
Into the streets again

ESKİ KALEİÇİ[1]

Dolaştım Kaleiçi'nin
Dar Sokaklarında
Kokladım
Şu Yemiş Ahşabın
Çürümüş Kokusunu
Yürüdüm
Güneşi Yola Düşürmeyen
Geniş Sacakların Altından
Gördüm Avluda
Çamaşır Dövülen
Mermer Taşını
Duyar Gibi Oldum
Tokuç Seslerini
Narlar Yine Sarkmıştı
Sokaklara
Yine Konmuştu
Feslikanlar Cumbalara
Dar Sokaklar
Yine Küf Kokuyordu
Yine Taşmıştı
Arıklar Sokaklara

[1] Tarık Akıltopu, who is the first architect of Antalya, was born and grown up in Kaleiçi, 1997, Translated into English by Neşe Demir

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ABBREVATIONS

SUM Sustainable Urban Mobility

HUL Historic Urban Landscape

PT Public Transportation

NT Nostalgic Tram

LRT Light Rail Tram

EU European Union

UN United Nations

CO Carbon monoxide

NO Nitrogen oxide

SO_2 Sulphur dioxide

ICOMOS International Council on Monuments and Sites

UNESCO United Nations Educational, Scientific, and Cultural Organization

KUDEB Conservation, Implementation, Controlling Unit

UKOME Transportation and Coordination Center

CHAPTER 1

INTRODUCTION

There are many inputs that shaped the historic urban landscapes Mobility and as aa necessity of the mobility streets are one of the important input that is critied in the conservation literature

In this regard, assessment of the changed role of those sites within the urban conservation context brought the necessity of the wider definition and scope of the historic urban landscape. In *Vienna Memorandum on "World Heritage and Contemporary Architecture - Managing the Historic Urban Landscape", 2005,* the idea behind the term of historic urban landscape was identified as it includes broader territorial and landscape context rather than traditional terms *historic centers* and *ensembles* or *surrounding* to assess the effect of current development on the overall landscape of heritage significance (UNESCO, 2005)[2]. In this context, **Historic urban landscape** defined as ''*the area understood as a historic layering of cultural and natural values''* (UNESCO, 2011)[3].

The wider definition of historic urban landscapes includes;

- *the site's topography,*
- *geomorphology,*
- *natural features,*
- *its built environment, both historic and contemporary,*
- *its infrastructures above and below ground,*
- *its open spaces and gardens,*
- *its landuse patterns and spatial organisation,*

[2] Further information about Vienna Memorandum on "World Heritage and Contemporary Architecture - Managing the Historic Urban Landscape" can be reached from <http://whc.unesco.org/archive/2005/whc05-15ga-inf7e.pdf> (Last Access 8 December 2014)

[3] Further information about Recommendation on the Historic Urban Landscape, including a glossary of definitions can be reached from < http://portal.unesco.org/en/ev.php-URL_ID=48857&URL_DO=DO_TOPIC&URL_SECTION=201.html>(Last Access 10 November 2014)

- *its visual relationships and all other elements of urban structure* (UNESCO, 2011)

It also includes social and cultural practices and values economic processes, and the intangible dimensions of the heritage as related to diversity and identity (UNESCO, 2011)

As a component of urban fabric, from past to present, mobility has been formed as one of the most important humankind activity. It developed with road transportation priorities, then continued with waterway transportation, railway, and airline discovery, mobility has continued to be developed until today. Analyses regarding road transportation development showed that since the beginning of human civilization, roads were constructed for military or economic purposes between different settlements (Figure 1).

Figure 1: The transportation of military means (http://www.romancoins.info/MilitaryEquipment-Wagons.html)

Before 2000's BC the first vehicles had been started to be used, when coming to the year 1000's BC the vehicles were preferred to be used in the freight transportation as well. With the introduction of freight transportation, the needs for construction of roads for these vehicles were arised (Beall & Fox, 2009 cited in Uzun, 2010; 6).
From first ages to the beginning of the middle ages, horses and horse-drawn carts and their developed models used as transportation vehicles. Paris, as one of the cities that

used public transportation firstly, used the big vehicles called omnibus (Keskin, 1975 cited in Uzun, 2010; 1) [4] (Figure 2).

Figure 2: Omnibus (http://bertrandjost.chez-alice.fr/Francais/Monog-famille/jacob_egg.html, Last access 2014/09/08)

Until 19th century, the cities were based on walking. Those walking cities had high density, mixed land use, and narrow streets that were constituted by organic form, half an hour reaching destinations between destinations (Newman & Kenworthy, 1999)(Figure 3).. Carriage and access facilities were done with the help of diligences

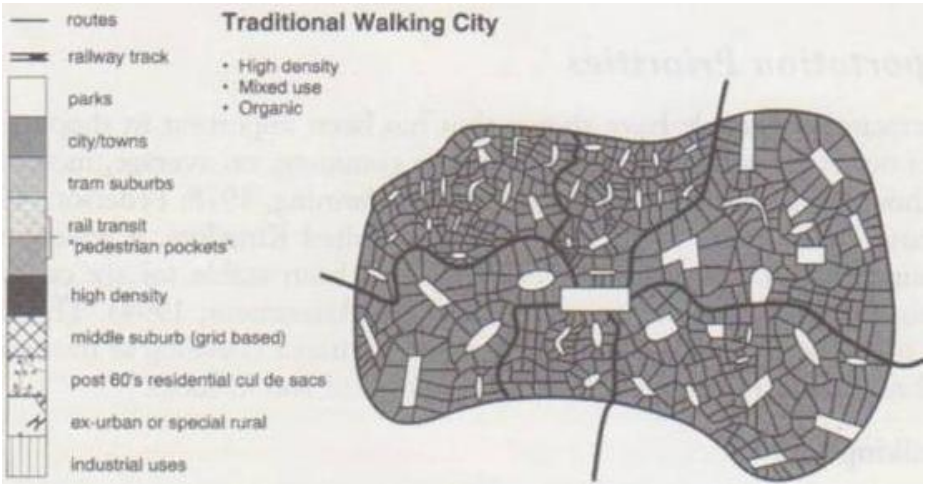


Figure 3: Traditional Walking City (Newman & Kentworthy, 1999; 28)

[4] The master thesis of Hakan Uzun (Uzun,Hakan.''Evaulation of Historic City Centers Transportation Relationship in the Context of Conservation; İzmir Historic City Center Case Study''.) which mainly aims to investigate the reasons and results of motorized traffic in historic city centers, and introduce proposals to conserve those sites by meeting mobility demand is one of the main sources used in this research.

The breaking point occurred in the middle of the 18th century; with the introduction of the steam power in transportation, railway and water transportation had been developed. Together with this development, steam power road vehicles, significant changes were occurred in the transportation system.

In the 18th century, with using steam power for road transportation in addition to waterway transportation led to significant changes. Especially in 1825 in England, using the first steam locomotive for passenger transportation were a revolutionary step. Trains that were revealed by steam power not only connected cities, but also they established channels providing to spread toward suburb (Uzun, 2010; 6-7).

The number of passengers that these axles carried everyday to the city center increased the traffic congestion and provided the development of tram and metro systems. As a result of these, in 1863 in London, the first attempt for metro and in 1881 in Berlin tram took their places in public transportation (Göçer, 1982 cited in Uzun, 2010; 7).

By 1860s, because of industrial revolution and population increase, walking cities transformed into new transit city with train, tram, or automobile (Newman, Kenworthy, 1999) (Figure 4-Figure 5). This radical change in cities constituted different city development with different social and economic priorities. The functions of these sites have changed and the use of private cars increased even in short distances, the existing infrastructure of those sites could not fulfill the current travel demand.

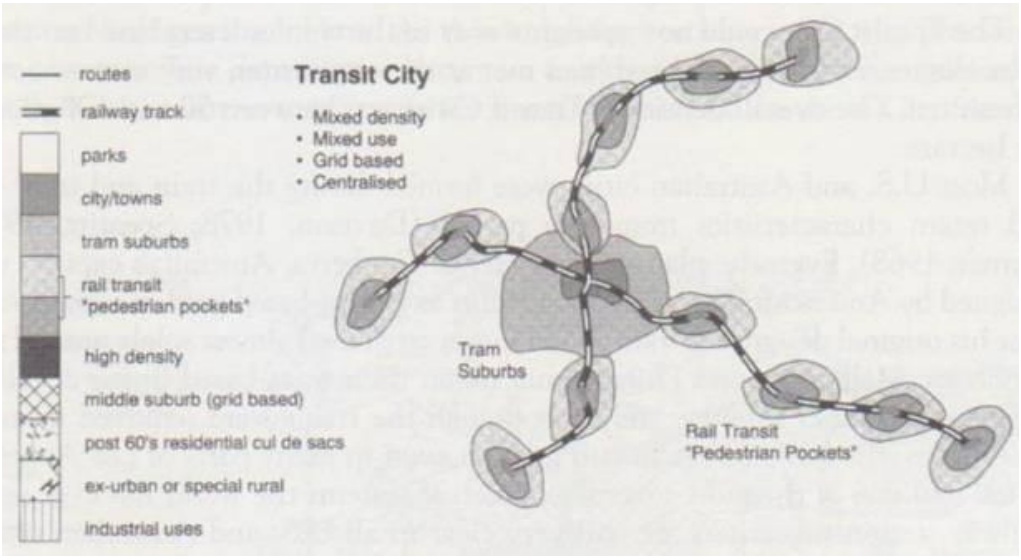


Figure 4: Transit City (Newman & Kentworthy, 1999; 29)

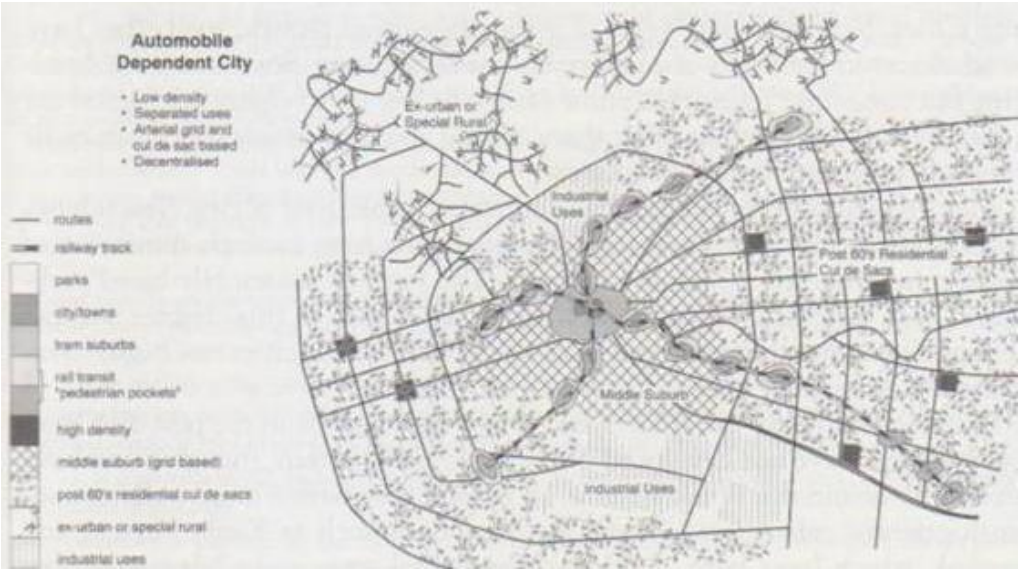


Figure 5: Automobile Dependent City (Newman & Kentworthy, 1999; 31)

Widening traditional streets and constructing new roads were the solutions that municipalities have applied in historic urban landscapes to increase accessibility to them and within them. This situation resulted in more motorized traffic in those sites. Therefore, cultural assets and social life have been affected negatively in time.

Therefore, many problems have been occurring with respect to deteriorating not only traditional tissue but also environmental, economic, and social character of the site. *Beyond threatening city preservation, these areas do not provide mobility and accessibility to tourists, because these sites were not designed for tourism conditions and contemporary life needs (*Carvalho, Paschoalin, & Castañon, 2012; 5874). In relation with the rapid urbanization, uncontrolled urban development, unsustainable consumption of the resources, the traditional mobility context have changed and transformed into motorized traffic that became a threatening issue for the historic urban landscapes.

Concordantly, after II World War, awareness about conserving cultural heritage studies increased. As an important problem of those sites, the negative impacts of current mobility solutions on traditional urban fabric have been tried to be minimized. The tools to keep the traffic at minimum level are restricting the entrance of the private vehicles and only allowing the service vehicles as ambulance, fire truck, and garbage truck, pedestrianization of the traditional streets, and implementation of the railway systems.

It should be figured out that the subject of urban mobility in historic urban landscapes is a significant part of conservation and management plan. In the scope of this thesis, this part of conservation plan, concerning mobility regulations while conserving and promoting the cultural properties will be assessed. Namely, Antalya Kaleiçi historic urban landscape is chosen as a case area which has significant problems related with motorized traffic in order to promote a framework for sustainable urban mobility, the principles, tools and methods were drawn from literature survey and site survey.

1.1.DEFINITION OF THE PROBLEM

Whether it is historic or nor the effect of motorized traffic have different important impacts on urban environments. The impacts range from economic to social and environment (Table 1). The rapid urbanization has triggered those impacts. These impacts will be more dominant on historic urban tissue.

> *Urban growth is transforming the essence of many historic urban areas. Global processes have a deep impact on the values attributed by communities to urban areas and their settings, and on the perceptions and realities of their inhabitants and users. On the one hand, urbanization provides economic, social, and cultural opportunities that can enhance the quality of life and traditional character of urban areas; on the other hand, the unmanaged changes in urban density and growth can undermine the sense of place, the integrity of the urban fabric, and the identity of communities. Some historic urban areas are losing their functionality, traditional role and populations….* [5]

Historic urban landscapes from past to present, because of their attractiveness they are under the pressure of increase travel demand. Today in most of the world, they are exposed to seasonal touristic activities that became their destiny and the changes that modern life conditions caused. Local people demand on using private cars because of their provision of comfort, safety, and easy access have increased traffic movements in those areas. Those have negative impacts as social, economic, and physical since the traditional urban characters have physical disability, and unable to meet travel demand by motorized vehicles because of lack of infrastructure. In this context, because of forming in their unique, vulnerable character and culture without car and other modern traffic elements, the transportation infrastructure of historic urban landscape is not appropriate to current motorized traffic loads.

Since the role of historic streets are more than transportation with respect to their local distinctive elements, their amazing and unique images, and the places for social activities, the effects of motorized traffic on historic urban landscape will be more

[5] Further information about about *Recommendation on the Historic Urban Landscape, including a glossary of definitions* can be reached from <http://portal.unesco.org/en/ev.phpURL_ID=48857&URL_DO=DO_TOPIC&URL_SECTION=201.html > (Last access December, 2012)

dominant than other areas because their spatial formation is vulnerable and not appropriate to motorized traffic.

Table 1: The Effects of Motorized Traffic (Newman & Kenworthy; 2000)

Environmental Effects	Economic Effects	Social Effects
Oil Vulnerability	External cost from accidents and pollution	Loss of street life
Photochemical Smog	Congestion costs, despite endless road building	Loss of community
Toxic emissions such as lead and benzene	High Infrastructure costs in new sprawling suburbs	Loss of public safety
High Greenhouse gas contributions	Loss of productive rural land	Isolation in remote suburbs
Urban Sprawl	Loss of urban land to bitumen	Access problems for carless and those with disabilities
Greater storm-water problems from extra hard surfaces		
Traffic problems such as noise and severance		

In addition, specificly in those sites, there are **space-focused problems**. Since cities are changing with respect to the needs of people, it became necessary to meet the new conditions of the settlements' daily life. However, with those changes, historic urban landscapes can not serve the need of different users, uses and population increase brings the need for new infrastructure system**.** The insufficiency of historic street network in the traditional urban fabric became a significant problem that should be solved without demolishing the physical and social environment. This traditional urban fabric formed with respect to human scale as narrow streets and dead-end street can not be adapted to the motorized traffic. The other problem is the need for parking area, since there is a difficulty to find places for parking. People use empty lots as parking areas that resulted in uncontrolled growth of those areas.

Economy-focused problems in historic landscape, city centers economically have the responsibility of servicing different needs of different users. Namely, they have

residential, commercial, cultural, and social areas that bring the necessity of the changes in time. In the city centers, because of the new functional relations and changes, land use and constructing new services on the land, the cost of land increase (Uzun, 2010; 14). With changed functions, the travel demand increases while it is difficult to increase the travel supply. Therefore, the problems and costs related with constructing new public transportation in historic urban fabric increase the cost of connecting the new settlement areas with old one.

As administrative-focused problems, historic areas are always supposed to accessibility problems because of being attractive places resulting in the travel demand increase that cannot be fulfilled by existing mobility network and local administrators preferably choose constructing new routes as a solution to meet the travel demand. However, this choice made the problems worse and worse in time.

> *Considering that the acceleration of the physical deterioration of the heritage traceable to pollution seriously threatens its survival and the possibility of its being handed down to future generations;*
>
> (Council of Europe, 1997; 97)

One of the most important problems that constituted the main idea behind this thesis is the impacts of motorized traffic on historic urban tissue together with its components. Accordingly, the facades of the historic buildings and monuments were deteriorated because of the chemical reactions caused by traffic pollutants as SO_2 of vehicles that damage the structures of the rocks used in many historic buildings. Furthermore, the vibration caused by vehicular traffic affect the built and unbuilt environment negatively.

Therefore, it is necessary to implement sustainable urban mobility choices in terms of using alternative fuels, energy efficient vehicles, supporting and applying mass transport, integrated transportation modes, traffic demand management strategies, safe and secure mobility conditions, enhancement of less car-dependent lifestyles and finding new concepts for goods distribution.

1.2.AIMS AND SCOPE OF THE THESIS

Streets are the basic requirement of transportation and mobility facilities placed in urban tissue. Through history, both in antique period and Roman period, street definitions have different meanings. While today it has a just physical meaning, it had a perceptional meaning in that time.[6] Although today many people use roads and streets in the same meaning, they are different from each other; roads are mainly highways to accommodate the motorized traffic, however, buildings and public spaces defines the streets whose main function is the movement of people to access their specific needs.

> *Streets and their sidewalks, the main public places of a city, are its more vital organs. Think of a city and what comes to mind? Its streets. If a city's streets look interesting, the city look interesting if they look dull, the city looks dull.*
>
> (Jacobs, 1961; 39)

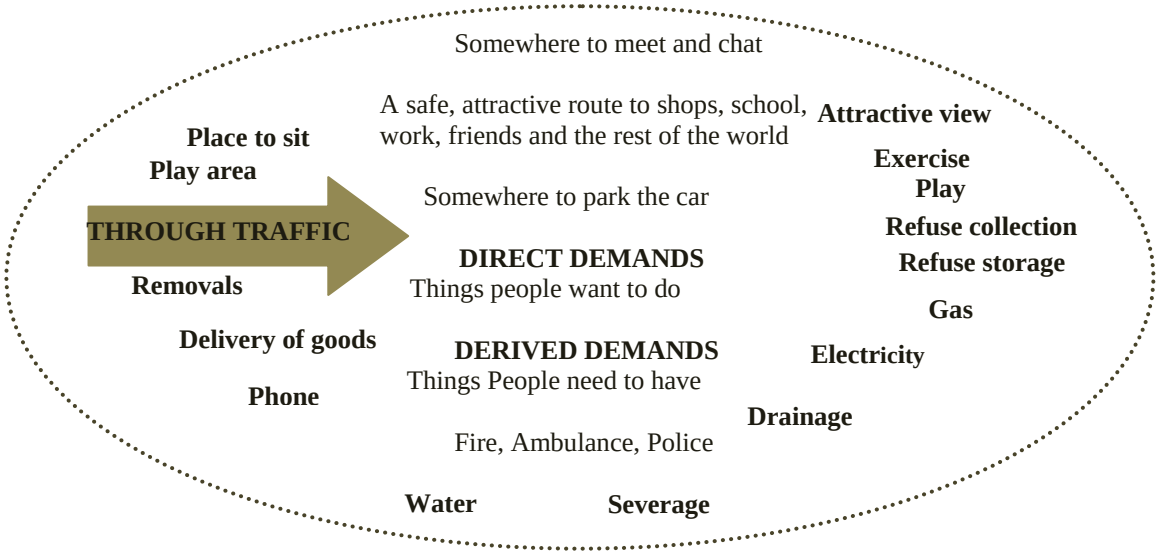
> *One of the joys of the walking around historic sites is to experience the diversity open space which exists between the buildings.*
>
> (Strike, 1994; 40)

Accordingly, the role of the streets cannot be limited only for transportation from one point to another. They are the places that many daily activities of people and city needs are fulfilled. They serve as space where many activities took placed (Table 2). In this table, it is clear that streets have different roles in addition to hosting motorized traffic. The majority of daily activities and city infrastructure take place in the streets. Therefore, in the context of historic urban landscape, the roles of streets not only mobility but also spatial roles should be taken into consideration in an integrated approach. However, today because of assessing the urban mobility in historic urban landscapes separately from the main transportation system triggered the continuance of problems. The problems concerning the difficulty to access to

[6]The different meanings of public realms including streets and squares can be reached from Appendix A

historic urban landscapes and difficulty of accessibility within the historic urban landscapes result in deterioration of urban tissue with its components and the confliction between pedestrian and motorized vehicles continue in a progressive way.

Table 2: The Roles of Streets[7] (Poole, 2007; 4)



Therefore, **the aim of the study is** to propose "**a framework of sustainable urban mobility in historic urban landscape**" while conserving, and promoting physical, social, cultural and economic significance of them[8] with respect to increasing the accessibility **within the historic urban landscape** and **mobility between historic** and **contemporary part of the city.**

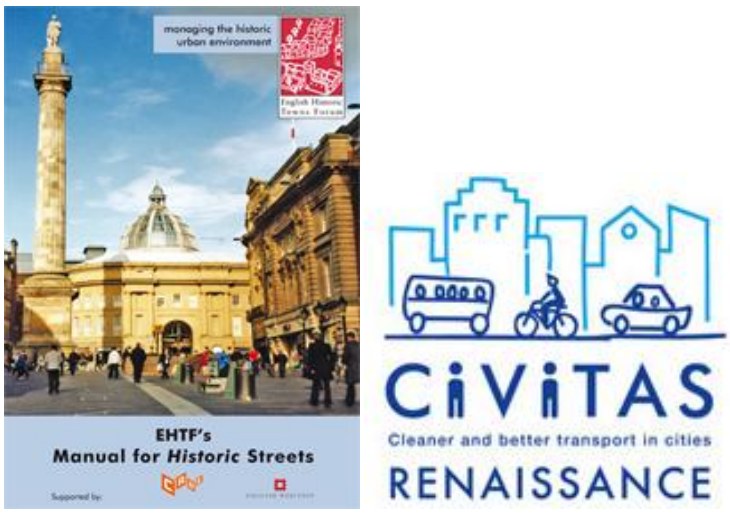
[7] The table cited in Manual for Historic Streets, The 2002 Designing Streets for People Report published by the Urban Design Alliance, the diagram reproduced in this documents, also in this thesis the diagram was redrawn by the author.

[8] At this part of thesis, it should be highlighted that since the subject of sustainable urban mobility in historic urban landscapes has been developing in recent time, there are very limited sources regarding especially for the theoretical and implemented projects part. Therefore, only a few directly related examples can be discussed in a detail especially for a proposal of a framework for sustainable urban mobility in historic urban landscapes.

The aim based on respecting the traditional and distinctiveness character of the site both tangible and intangible values in accordance with sustainable urban mobility modes. The holistic approach that sustainability provides aims to integrate the mobility system and public realm to promote the cultural properties. In addition, it represents the major opportunity to support the local identity and economic success by meeting the needs of different users in terms of happiness, time management, health, wellbeing, and increase in awareness.

1.3.METHODOLOGY

With reference to the aim of the study, this thesis composed of three main parts. Starting from a discussion of the main concepts, continuing with analyses about the implemented projects, then analyses and assessment regarding case area was put forward and lastly resulted in a proposal for sustainable urban mobility system in Antalya Kaleiçi Historic Urban Landscape.



(a) **(b)**

Figure 6: (a) Cover Page of Manual for Historic Streets in English Heritage Town Forum (b) Civitas Renaissance Project Logo [9]

[9] Further information can be reached from (a) http://www.westsuffolk.gov.uk/Documents/CoreDocs/ManualforHistoricStreets.pdf (Last accessed on 11 November 2014)and (b) http://www.civitas.eu/content/renaissance (Last accessed on 11 November 2014)

The first part stage of the thesis is including literature survey, organized in two parts. The first part includes the discussion of sustainable urban mobility in historic landscapes regarding sustainability, urban mobility and sustainable urban mobility concepts, international charters, guidelines, thesis and publications of the conferences, and implemented projects of urban mobility solutions, and SUM in HUL with the case of Perugia including general principles, methods, and contemporary tools. One of the most important document is, with the support of English Heritage, Manual for Historic Streets were published in April 2008 by English Historic Town Forum (Figure 7-a)[10]. In addition, within the scope of implemented projects, as an example of Limited Traffic Zone, Florence and the main issues behind urban rail system in historic sites analyses will provide proper strategies, principles, methods. After, Civitas Renaissance (Figure 7-b)[11], one of the projects of CIVITAS[12] Initiative, focused on implementation of sustainable urban mobility solutions in historic city centers with the case of Perugia were analyzed in a detail. The relevant documents were taken during Erasmus period of author in Perugia. The coordinator of this project in Municipality of Perugia, Lucia Cristea, provided the relevant information and introduced what they did in Perugia with site survey. The second part of the literature survey includes the general observations drawn from the second part of the thesis that is analyses about case area including site survey (Figure 8), general characteristics, historical development, planning and conservation activities, archival survey. Then, the first part result with a proposal for sustainable urban mobility in historic urban landscapes.

The second stage of the thesis, which refers to the third and fourth chapter of the thesis structured on the case area, Antalya Kaleiçi Historic Urban Landscape. This section mainly overviews the general characteristics, historical development, analyses regarding current situation including cultural properties, users, functional properties and public realms and urban mobility of Antalya Kaleiçi. After, planning and conservation activities that affected city center development especially in Kaleiçi

[10] This document consisted of different experts views in terms of theory and good practices. Further information can be reached from <http://www.historictownsforum.org/node/768> (Last Access 11 January 2015)

[11] Further information can be reached from <http://www.civitas.eu/content/renaissance >(Last Access 11 January 2015)

[12] **Ci**ty **Vi**tality **S**ustainability-**CIVITAS**, an European Initiative

by focusing on the direct and indirect effects of those activities on urban mobility were examined. During this stage, necessary information and related documents were taken from KUDEB[13] unit in Antalya Metropolitan Municipality, Chamber of Architects in Antalya, and Suna-İnan Kıraç Museum (Table 3).

Table 3: Visited Instituions and Field Studies

Visited institutions		**Content**
Internship at Greater Municipality, KUDEB Unit		-Collection of related documents including development plans,registration status, current situation of the site,taking responsibility at site survey in Cumhuriyet Street and its surrounding
UKOME		-Collection of related documents and datas about urban mobility including parking areas, pedestrian streets, public transportation system with stops
Antalya Conservation Council		-Collection of related documents
Antalya Chamber of Architect		-Publications, books analysed
Suna-İnan Kıraç Museum		-Master thesis about Kaleiçi examined -Related documents taken
Interview with different users	Taxi drivers	-Their idea about the Needs and Problems of the site associated with motorised traffic in hul
	Residents	-Needs and Problems of the site associated with motorised traffic in hul
	Tourists	-Needs and Problems of the site associated with motorised traffic in hul
	Workers	-Needs and Problems of the site associated with motorised traffic in HUL
	Local Administration	- Aware of the problems related with motorised traffic in hul and on the process of taking action
Site Survey regarding urban mobility in relation with cultural properties, different users,functions and public open spaces		-At peak hour 17:00-19:30,learning attractive destinations, dense streets regarding pedestrian and vehicular, the profile of the users

[13] Conservation, Implementation, Controlling Unit,the author conducted her thesis in 2012 in this unit, within the Kaleiçi 1992 rEvion Plan of 1992 see Appendix B

Furthermore, in addition to visit of related institutions, then current urban mobility system was analyzed regarding the mobility between historic and contemporary part of the city and within the historic part in terms of existing mobility networks, tools and vehicles, users and density of use based on the site survey. Within the scope of the site survey, survey photographs of Kaleiçi were taken and some physical and functional measurements regarding traffic were carried out. Two survey sheets were prepared[14]. The first one was prepared in order to learn the relation between mobility and streets as a space with its components regarding cultural properties, vistas, street elements, functions, and in relation with them the capacity, density the site has. The second one is carried out in order to learn the ideas of different users of Kaleiçi about the mobility demand and problems occurred in the site and what they prefer for Kaleiçi in the future. In addition, interviews with residents, retailers, and visitors were applied in order to learn the choices and desires of different users. Furthermore, related documents about mobility were taken from UKOME.

(a) (b)

Figure 7: Photographs taken during site surveys (a) Automobile dependence in the traditional streets that limited pedestrian movement. (b) Main pedestrian street-Hesapçı Street invaded by tables. ((a) & (b) Author, 2014)

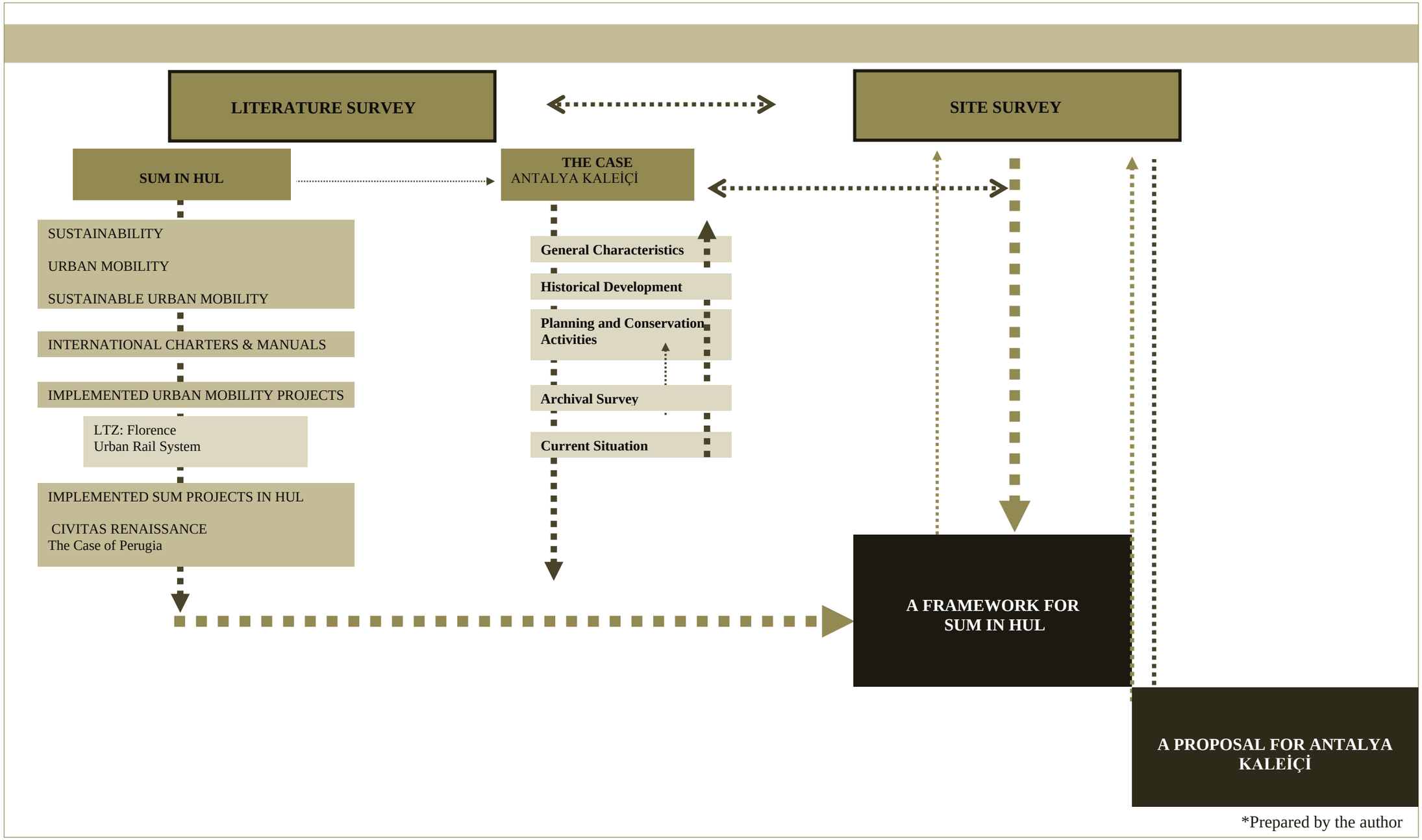
Third and last stage of the thesis that belongs to the fifth chapter focused on a proposal of sustainable urban mobility for Antalya Kaleiçi Historic Urban Landscape regarding main principles, tools, methods, and projects. Main principles including

[14] The survey sheets can be reached from Appendix C

policies and strategies are mentioned by giving references to implemented projects, literature, problems seen in the case area during the thesis process.

Consequently, depending on mainly identification of values, problems and potentials of the cultural properties, users, public realms, functions, this stage was finalized with objectives, and general principles, tools and space-specific solutions within the scope of the sustainable urban mobility for Antalya Kaleiçi.

Table 4: Methodology of the Thesis



*Prepared by the author

1.4.STRUCTURE OF THE THESIS

As it was defined in the methodology part of the thesis, apart from introduction and conclusion parts, the study is structured in three main parts concerning a discussion of the main concepts, then implemented urban mobility solutions in historic urban landscapes, then SUM in HUL with the case of Perugia, and observations drawn from the case area of thesis. Finally, it was resulted with a framework of sustainable urban mobility in Kaleiçi Historic Urban Landscape.

In this regard, **in the introduction part** of the thesis, after a brief definition of historic urban landscape, in order to understand the contextual relation between urban mobility, its vehicles', and city plan based on the literature review were analyzed. After that, the role of the urban mobility in forming the city centers is analyzed. Then the problems associated with motorized traffic in historic landscape were introduced. After, the aim and scope of the thesis and the methodology are defined.

In the second chapter, the main concepts of sustainability, urban mobility and sustainable urban mobility in historic urban landscape is discussed with respect to international documents including reports, articles, charters etc. Further urban mobility solutions for historic landscape were analyzed with the help of Perugia, part of Civitas Renaissance and Florence, as an example of limited traffic zone. In particular, it can be said that a broad analyses to identify main principles for sustainable urban mobility in historic urban landscapes were examined. Consequently, a proposal for sustainable urban mobility in historic urban landscapes together with its all phases including principles, tools, and methods are put forward in a detailed manner.

The third chapter includes the case study research accomplished in Antalya Kaleiçi Historic Urban Landscape. In this regard, firstly, general characteristics of the Antalya Kaleiçi including geography and historical development are conducted in order to achieve an effective result for understanding the place. Then planning and conservation activities in the city focusing on Kaleiçi were examined with respect to

direct and indirect impacts of these plans on urban mobility. In addition to this, analyses about current situation of the case area were discussed within the sub-headings of cultural properties, users, functions, and public realms that these subtitles were defined according to literature survey.

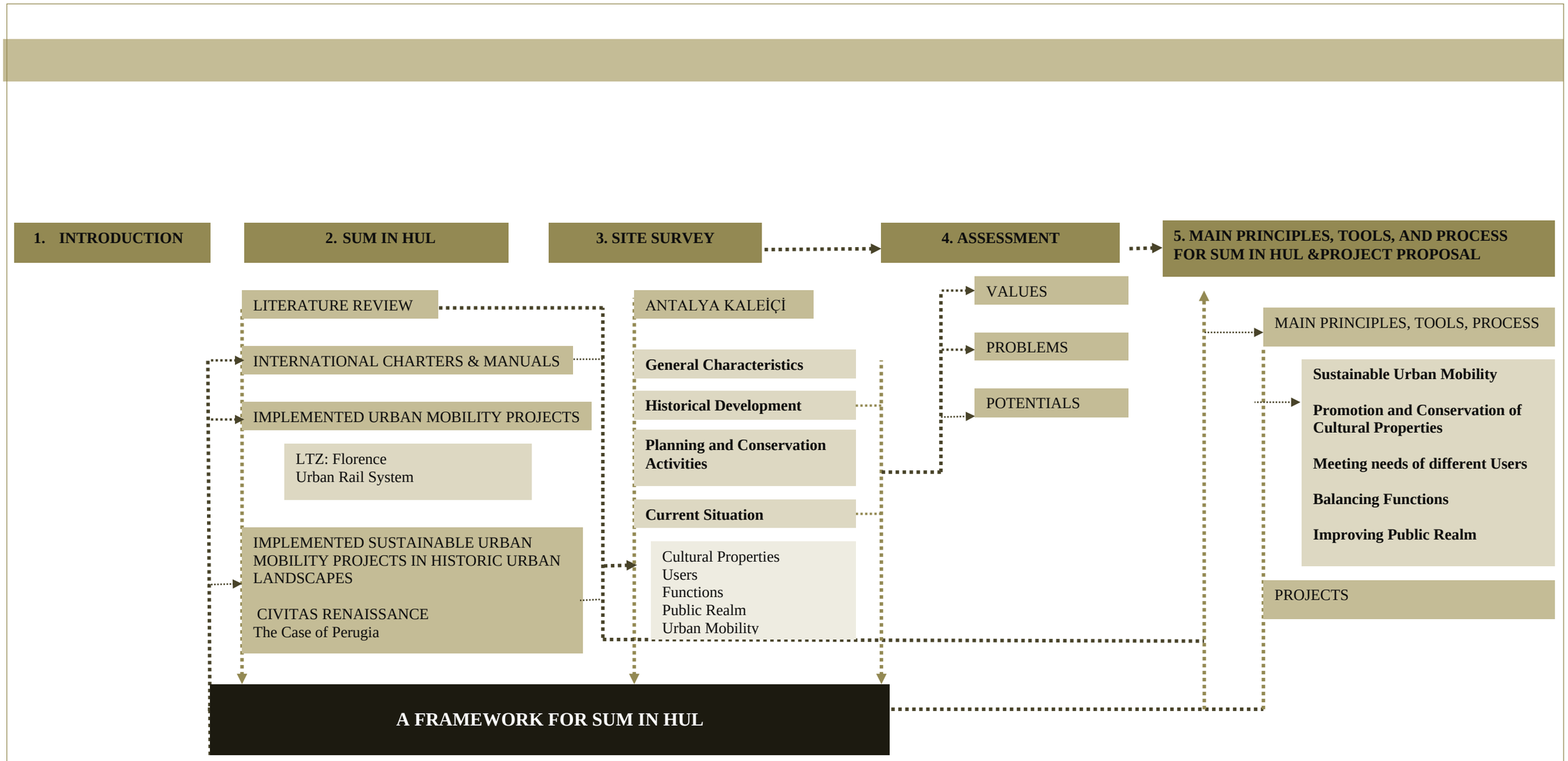
The fourth chapter puts forward the current situation of Antalya Kaleiçi HUL by evaluating the previously identified inputs. In this manner, values, problems, and potentials are identified with respect to framework that defined in chapter 2. An overall assessment highlighting the most crucial features of the components of SUM in HULs are also set as bases for the configuration of the following part, chapter 5.

Based on the main records during evaluation stage, **in the fifth chapter,** the objectives for the future of the site are introduced. Furthermore, it continues with defined main principles, tools, and methods in order to solve problems associated with motorized traffic in the site while enhancing and promoting the values, unique character, and potentials of the site.

Finally, chapter 6 or the conclusion part summarizes the study briefly by providing final discussion of the problems related with motorized traffic in historic urban landscape. Then it emphasizes some further recommendations principles, tools, and methods in the scope of a framework for SUM IN HULs.[15]

[15] In this thesis, **SUM** Sustainable Urban Mobility, ‘’**HUL’’** is used to define **H**istoric **U**rban **L**andscape

Table 5: Flow of the Thesis



*Prepared by the author

CHAPTER 2

SUSTAINABLE URBAN MOBILITY IN HISTORIC URBAN LANDSCAPE

Before critizing sustianable urban mobility issue in historic urban landscapes, it is necessary to define and understand the general concepts of sustainability, urban mobility, and sustainable urban mobility.

2.1.SUSTAINABILITY, URBAN MOBILITY, SUSTAINABLE URBAN MOBILITY: DISCUSSING THE MAIN CONCEPTS

2.1.1. Sustainability

The emergency of the concept of sustainability was dated to 1972, in UN Conference on the Human Environment in Stockholm, which aimed to have a clearer environment with the help of decrease in air and water pollution and chemical contamination (Newman&Kenworthy, 1999). Although there is no certain definition for the concepts of sustainability, sustainable development and sustainable transportation (Beatley, 1995 cited in Litman 2011)[16], some definitions of the sustainability and sustainable development are:

> *"Sustainable development "meets the needs of the present without compromising the ability of future generations to meet their own needs."*[17]

> *"Sustainability is equity and harmony extended into the future, a careful journey without an endpoint, a continuous striving for the harmonious co-evolution of environmental, economic and socio-cultural goals."*[18]

> *"…sustainability is not about threat analysis; sustainability is about systems analysis. Specifically, it is about how environmental, economic, and social*

[16] Further information about the definition of the sustainability, sustainable transportation and traffic demand management can be reached from <http://www.vtpi.org/tdm/tdm67.htm> (Last Access 18 December 2014)

[17] WCED 1987 Our Common Future, World Commission on Environment and Development, Bruntland Commission

[18] Voula Mega and Jørn Pedersen (1998), *Urban Sustainability Indicators*, European Foundation for the Improvement of Living and Working Conditions

systems interact to their mutual advantage or disadvantage at various spacebased scales of operation."[19]

After, scholars and policy professionals have started to integrate the principles and concept of sustainability in urban and metropolitan context (Goldman & Gorham, 2006; 261). Sustainable development aims to decrease the use of natural resources in general. Briefly, the concept of sustainability refers to the environmental protection in global scale along with any kinds of social or economic development (Figure 9).

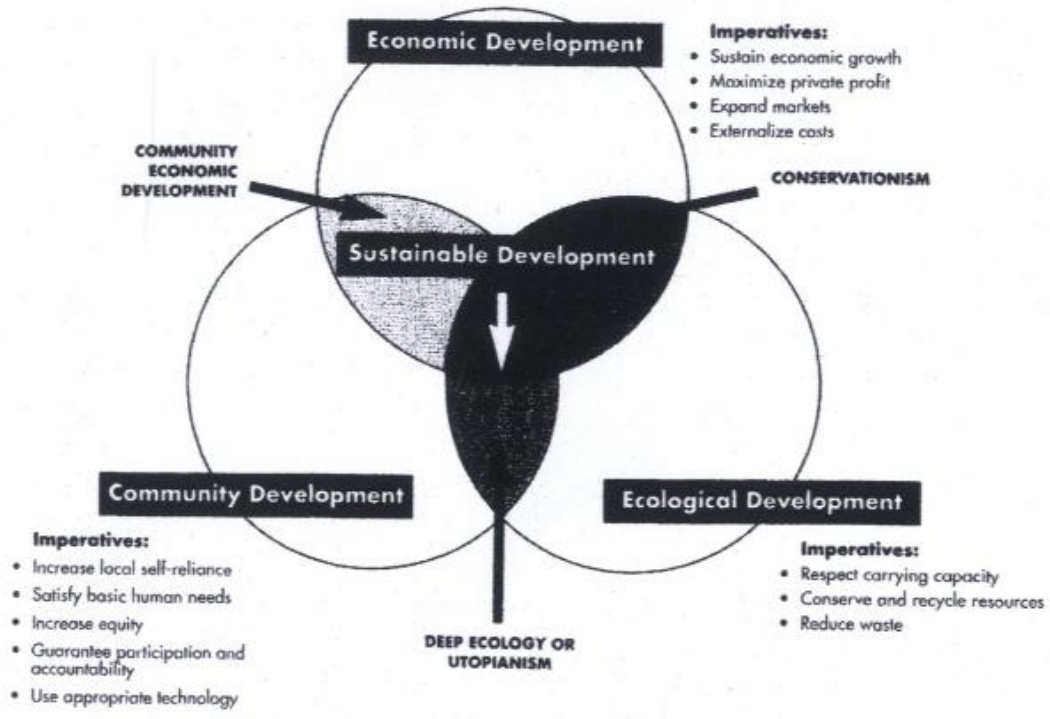


Figure 8: The three component of sustainable development (International Council on Local Environmental Initatives, 1996 cited in Kenworthy&Newman, 1999; 4)

Similarly, within the scope of cultural heritage conservation, the activities that would be implemented in those sites should be sensitive to natural, and cultural environment of cultural heritage with social, financial and environmentally

[19] TRB (1997), Committee for a Study on Transportation and a Sustainable Environment, *Toward A Sustainable Future; Addressing the Long-Term Effects of Motor Vehicle Transportation on Climate and Ecology*, National Academy Press

sustainability issues (ICOMOS, 2008; 6) since it plays a part in social cohesion, well-being, creativity, and economic attraction, and providing comprehension of the relation between communities (ICOMOS, 2011; 2).

In this context, sustainability for the conservation of cultural asset is not only about cost driver, but also it provides benefits associated with ecological, cultural and social values (Friedrich, 2010; 41).

2.1.2. Urban Mobility

> ***Mobility:*** *The ability to move or be moved freely and easily*[20]
> ***Transport:*** *A system of means of conveying people or goods from one place to another*[21]
> ***Transportation:*** *The action of transporting someone or something or the process of being transported*[22]

The difference between **transportation** and **mobility** should be assessed within the scope of this thesis. The study of transportation based on the static destination and starting points, and measured in trips between these, rather than being structured around the processes and experiences of motion (Cox, 2009; 9). Transport depended on the concept of accessibility, which is the ability to reach desired goods and services and activities. Mobility is the means by which those goods, service, and activities can be reached, the physical act of travel (Litman, 2008 cited in Cox, 2010; 10). Physical mobility provides people to access the goods, services, or activities. Walking is the most fundamental mobility means (Cox, 2009; 10).

> *Transport is fundamental to our economy and society. Mobility is vital for the internal market and for the quality of life of citizens as they enjoy their freedom to travel. Transport enables economic growth and job creation: it must be sustainable in the light of the new challenges we face. Transport is global, so effective action requires strong international cooperation.*
>
> *(European Commission, 2011; 3)*

[20] Oxford Dictionary, Web, <http://www.oxforddictionaries.com/definition/english/mobility?searchDictCode=all >(Last Access 20 November 2014)
[21] <http://www.oxforddictionaries.com/definition/english/transport?searchDictCode=all> (Last Access 20 November 2014)
[22]< http://www.oxforddictionaries.com/definition/english/transportation?searchDictCode=all>(Last Access 20 November 2014)

When historic urban landscapes were considered in the framework of sustainable development, urban mobility plays a key role in providing the efficient operation of the creating activities, enhancing social well-being and ensuring accessibility to the activities held in those sites. An alternative to motorized traffic, non-motorized modes should be encouraged and chosen.

2.1.3. Sustainable Urban Mobility

With rapid urbanization, over the past 30 years, car ownership and uses have increased because of increase in travel demand. Thus resulted in supply increase to meet the travel demand however, this traditional approach could not solve the problem and it is not appropriate solution anymore (European Commission, 2004)

Namely, it is clear that the increase in automobile use in time in historic landscape have resulted in economic, environmental, and social problems. Therefore, motorized traffic in historic landscape should be limited to minimum level both in volume and in speed to guarantee the sustainability of the cultural properties to the future with its different users. Therefore, in order to provide accessible and enjoyable areas with safe and secure conditions for different users of the historic environment in an efficient public transportation system, the need for sustainable urban mobility arised. In this respect, the definition of the sustainable urban mobility should be conducted, and then the context should be interconnected with historic urban landscape.

> *"a strategic plan that builds on existing planning practices and includes integration, participation, and evaluation principles to satisfy the mobility needs of people today and tomorrow for a better quality of life in cities and their surroundings".*[23]

Earth Summit in Rio de Janerio in 1992 which included five agreements regarding the Convention of Biological Diversity, the framework Convention on Climate change; Forest Principles, the Rio Declaration on Environment and Development and Agenda 21. Kyoto Protocol, which is about climate change, hold in 1998 and come into force in 2003 (Rodwell, 2007).

[23] Rupprecht Consult, (n d), Sustainable Urban Mobility Plans, http://www.mobilityplans.eu/index.php?ID1=5&id=32(Last Access December, 3,2012)

In addition, the World Bank Urban Transport Strategy (2002) emphasized a framework for urban transport planning analyze the relationship between urban transport and development, environment, and poverty reduction, the significance of non-motorized transportation, public transportation, mass rapid transit, traffic demand management systems and transport pricing, urban transport safety and security (The Word Bank,2002)[24].

EU Transport White Papers (European Union, 2001; European Union, 2011)[25] that is primary document of European Union Transportation policies supporting the promotion of the economic development, competiveness, and efficiency towards environmentally friendly transport modes with vehicle technologies.

In Action Plan on Urban Mobility, 2009, in this document there are six main themes with their actions supported. Those themes are promoting integrated policies, taking into consideration citizen's needs, using technology to provide sustainable urban mobility modes, strengthening funding in terms of using existing funds efficiently, searching for future needs, and sharing experience and data, observation and optimizing urban mobility were enhanced themes to support sustainable urban development (European Union, 2009)[26].

Additionally, the concept of sustainable urban mobility supports the balanced development and integrated transportation system including public transportation, non-motorized transportation in an effective way.

Automobile dependence in road transport because of its preference by most of the people become a threatening issue for historic landscape due to its negative impacts regarding economy, environment and social content on those vulnerable tissue . When the negative impacts of current transportation modes were considered, the

[24] Further information can be reached from< http://siteresources.worldbank.org/INTURBANTRANSPORT/Resources/cities_on_the_move.pdf> (Last Access December, 8, 2014)

[25] As an important step in the strategies in urban mobility, white papers published in 2001 and 2011 can be reached from <http://ec.europa.eu/transport/themes/strategies/doc/2001_white_paper/lb_com_2001_0370_en.pdf > and <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0144&from=EN>(Last Access December, 8, 2014

[26] Further information can be reached from http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52009DC0490 (Last Access December, 8, 2014)

need for sustainable urban mobility, which includes enhancement of public transport, non-motorized transportation as cycling, walking, and using energy clean vehicles with constituting different stakeholders in a participatory approach became first aid to the problems that affected quality, perception of life negatively. Therefore, as it can be seen from (Table 6), quality of life located in the hearth of the sustainable urban mobility plans. The other elements that composed main principles of sustainable urban mobility focused on **increasing quality of life**.

Table 6: Key terms accounted for in the ELTISplus definition of Sustainable Urban Mobility Plans[27] (Wefering, Bührmann, & Rupprecht, 2012; 12)
(Redrawed by the author)

<table>
<tr><td>Transport
of people and goods</td><td>Vision how the urban areas should look twenty years from today</td><td>Mobility
being mobile, not necessarily transporting something</td></tr>
<tr><td>Participation
Of citizens and stakeholders</td><td rowspan="3">Quality of Life

Expressed in space for people, better air, less noise, improved health, and reduced health cost, ecosystem health, less traffic, less pollution, time, and cost savings of sustainable urban mobility solutions, etc.</td><td>Integration
of all relevant sectors, disciplines, and decision-making levels</td></tr>
<tr><td>Sustainable
Balancing economy, ecology, environment and inter- and intra-generational justice</td><td>Human Needs
to move freely, safe, efficient, and at affordable prices</td></tr>
<tr><td>Urban Area
Encompassing a city and its surroundings, the functional city</td><td>Planning Culture
Holistic approach moving away from engineering-based and infrastructure-based approach</td></tr>
<tr><td>Evaluation
focusing on achievable and measurable targets</td><td>Strategic Plan
resulting from a process building on existing planning practices</td><td>Accessibility
Of urban areas and their services</td></tr>
</table>

Sustainable urban mobility includes transport information and management, multimodal interchanges, mobility management, cycling, car sharing and car pooling, zones with controlled access, clean vehicles and fuels, public transport, good

[27] The table was retrieved from the documents of *The State of the Art of Sustainable Urban Mobility Plans in Europe*, 2012; it can be reached from <www.mobilityplans.eu> (Last Access 10 December 2012).

distribution and logistic service, parking management, urban pricing (Maca´rio & Marques, 2008)

Briefly, the concept of sustainable urban mobility focused on the ensuring accessibility, improving safe and secure transport system, which is available to all, reducing air and noise pollution, greenhouse gas emissions and energy consumption. In addition, within the economic scope improving the efficiency and cost-effectiveness of the transportation of persons and goods; in social perspective, increasing the attractiveness and quality of the urban environment are goals of sustainable urban mobility concept.

Table 7: Overview of the most important documents and projects in the EU's frameworks targeting sustainable mobility[28]

NAME	DATE	CONTENT
Washington Charter	**1987**	-control of the traffic in the historic urban area in terms of using sustainable, non-polluting urban transportation modes -encouraging pedestrian access , provision of parking areas -if necessary, motorways to provide access to historic towns without demolishing
POLIS	**1989**	-the development of innovative policies&technologies within scope of SUM
CommunityTreaty	**1992**	-integrating transport management policy in EU
White Paper	**1992**	-Future development of common transport policy
5th Environmental Action Program	**1992**	-Directed solutions for environmental problems towards sustainability
Agenda 21	**1992**	-Presentation of urban policies targeting sustainable development
"In Town Without My Car!"	**1998**	-debating and providing information on mobility problems of present-day, promoted by European Program "Car Free City Day"
5th Framework Program	**1998**	-EU support to projects in the area of sustainable development
Most	**1998**	-aiming to introduce mobility management in transport policies, promoted by 5th Framework Program
Eltis	**2000**	-providing information and support a practical transfer of knowledge and exchange of experience in the field of urban and regional transport in Europe
Civitas	**2000**	-developing innovative strategies for SUM promoted by 5th Framework Program
White Paper on Transport Policy	**2001**	-60 measures to enhance integrated market in the competition, bridging all modes of transportation, eliminating barriers, attracting private investors, protecting transport users, managing the globalization of transport
6th Environmental Action Program	**2001**	-Issued information on the best practices for mobility management
Tapestry	**2001**	-aiming to promote communication, publicity and awareness campaigns to use of sustainable mobility in travel within EU
Manual for Historic Streets	**2008**	-Theory and practice of good streetscape managements
Green Paper 'Towards a New Culture of Urban Mobility'	**2008**	-aiming at improvement of quality of public, increasing the use of clean and energy efficient technologies, promoting walking and cycling, protecting rights of passengers on PT
Action Plan on Urban Mobility	**2009**	-20 measures to encourage and help local, regional and national authorities in achieving their goals for SUM
White Paper 'European Transport Policy For 2010: Time to Decide'	**2010**	-60 measures aimed at developing European Transport System capable of shifting the balance between transport modes -revitalizing railways -promoting transport by sea and inland waterways -controlling the growth of air transport
Valetta Principles	**2011**	-historic towns not appropriate for heavy traffic -degradation, reduce of quality of life in time due to invasion of those areas by car
Do the Right Mix	**2012**	-European Mobility Commissions' SUM campaign aiming combining different transport modes

[28] cited in Monteiro.&Aurora (2006) *Local sustainable mobility management. Are Portuguese municipalities aware?* p.10 It is updated, developed, edited by author, the yellow ones (painted by the author) is the important document emphasized the mobility issue in historic urban landscapes while the green ones, the important documents for mobility, keynoted SUM

2.2. URBAN MOBILITY REGULATIONS AND SOLUTIONS FOR HISTORIC URBAN LANDSCAPE: INTERNATIONAL CHARTERS, MANUALS AND IMPLEMENTED PROJECTS

2.2.1. International Charters, Manuals and Conferences

With increase in automobiles usage, different solutions were implemented on the cities as constructing new linear and continuous roads to meet the travel demand. However, the mobility solutions for the historic urban landscapes should be different and should be sensitive to its authentic urban fabric.

> *…In those cities with a strong and culturally important historic city center, a medieval or Renaissance street pattern incapable of dealing with heavy traffic, and an attractive urban environment of squares, beautiful buildings, and untouchable monuments.*
>
> (Goodwin, 2001)

In the conservation era, still there is no exact and comprehensive document about the mobility management in the historic urban landscapes. In some charters, the subject was mentioned in general manner. In 1987, within the scope of Washington Charter, it was stated that modernization of the world in the long term has caused physical, economic, and social deterioration of the historical areas and in some cases even the demolition of them have occurred. In the same charter, it was introduced that not to demolish historic pattern, traffic in the historic town or urban area must be planned and controlled in terms of using sustainable, non-polluting urban transportation modes. Furthermore, pedestrian access should be encouraged. In addition, there should be parking areas in the historic areas. In addition, if necessary, motorways should be designed to provide access to the historic towns and they must not give demolish to those areas. These are not wrong issues, but they are too general principles (ICOMOS, 1987).

In 1990s, English Historic Towns Forum with Civic Trust, English Heritage, and government departments has focused on the relationship between urban mobility and historic city centers. The routes of historic sites and their relationship to the surrounding area, the material choices, street furniture, signing, and lighting that

should enhance the local distinctiveness provide comprehending of the history of the town (Firth, n.d.).

In 1993, in *'Traffic in Historic Towns',*[29] it was claimed that while build environment define the unique character of the town, settling of the built environment were constituted by ordinary elements of the streets in terms of pavements, street furniture and signs.

In 1994, the need to publish 'Traffic in Historic Town Centers' arised from the conflict between motorized traffic and traditional urban fabric because of the need to conservation of historic landscapes regarding its visual appearance, local character with its different users. Therefore, this document explained the problems related to motorized traffic in historic city centers. In addition, it was stated that because of considering only traffic management, without taking into account sufficiently the preservation and promotion of the sites, the sustainability of them to the future could not be maintained. This document analyzed good European examples for the Historic Core Zones, and stated that a historic core zone should (Poole, 2007; 6):

- *Be central conservation area and traffic control zones;*
- *Make special provision for the controlling traffic speeds, parking, servicing and access;*
- *Give particular consideration for the number and design of the signs and all physical traffic calming measures;*
- *Give priority to enhancing historic environment; and*
- *Provide some recognition of the need for pedestrian priority.*

It was stated that because of urbanization process and population increase and urban sprawl brought the insufficiency of the transportation infrastructure. These impacts were analyzed in the case of Edirne Inner Citadel Area. The analyses aimed assessing the transportation system, which served people, while the conservation of the historic urban environment with its cultural and natural values (Sirel & Akansel, 1996; 357-358).

[29] This is cited in the publication of *Historic Town Forum; Bradford on Avon Historic Core Zone Draft Final Report*, p101, the whole documents can be found at http://www.priorityforpeople.org/wp-content/uploads/2012/10/jun10_buchanan_hcz_report_Part2.pdf (Last Access November, 26, 2014)

The seminar that was sponsored by Stratford-upon-Avon Society, Traffic Sub Committee Shakespeare Institute, that was hold in October 10, 2000, *Managing Traffic and Pedestrians in Historic Towns*[30], there are seven key messages for Stratford drawn from the seminar. Those are briefly, the increasing problem of motorized traffic in historic towns should be immediately solved, in addition to pedestrianization, the solutions include widening pavement between through application of traffic calming measures, the approach should be implemented on the all users in a progressive way with the principle of experiment, monitor, and decide. The fourth one is although some businesses could be affected negatively, in the long term they would experience increasing benefits as whole. Fifthly, even traders complain about the defined time for vehicle delivery, they accept it in a time. Further from the examples introduced, it was stated that bypass is necessary tool. Lastly, an effective park and ride system in the comprehensive management approach is another important solution could be applied with the supplement of parking policies.

In 2005 in Vienna Memorandum on *World Heritage and Contemporary Architecture- Managing the Historic Urban Landscape*[31], the decisions about the design of the public space should include functionality, scale, materials, lighting, street furniture, advertising, and vegetation. Urban infrastructure in the historic urban pattern must include all measures in order to respect the traditional urban tissue, building stocks and context in order to cope with the negativities associated with motorized traffic and parking requirements (UNESCO, 2005).

In 2008, in Manual for Historic Streets that is organized by English Historic Town Forum with the support of English Heritage, CABE in these documents there are different articles from different authors finalized with a list of principles that drawn from experience of this forum.

[30]Further information about the summary of seminar can be found at <http://www.stratfordsociety.co.uk/managing%20traffic%20historic%20towns.htm> (Last Access November, 26, 2014)

[31] The document mainly based on the integrated sustainable conservation of the monuments and sites with contemporary architecture, sustainable urban development and landscape integrity with focusing on existing traditional urban tissue, building stock and context The whole document can be found http://whc.unesco.org/archive/2005/whc05-15ga-inf7e.pdf (Last Access December, 8, 2014)

The four main functions of the historic streets that brought the necessity to manage those sites defined in Manual for Historic Streets. Those functions (Hebditch, 2002; 9):

- **Civic spaces**-show relationship with past, describing local identity and pride
- **Social spaces**-meeting places as squares, shops, cafes that constitute the sense of place
- **Destination spaces**-visitors contribute to local economy
- **Retail spaces**- the place that traditional markets occur local economy with local identity

Briefly, in this manual, the attention was given to streets which are part of city's character, and public realm with necessary design elements including pavement materials, signs, public art, lighting that enhance the local distinctiveness. Also, the planning of the functions, the identification of all users' needs and priority of pedestrians over vehicles, the demonstration of case studies to people who do not believe to convince them are the other policies supported.

Furthermore, in the Valletta Principles for the Safeguarding and Management of Historic Cities, Towns and Urban Areas, which was adopted by ICOMOS General Assembly, in 2011, it was stated that in most of the historic towns and urban areas, pedestrian movement and slow forms of transport along the site were common; therefore, they are not appropriate for heavy traffic. Invasion of those areas by car gradually would cause their degradation and reduce of quality of life in time (ICOMOS, 2011) .[32]

[32] The whole document can be found at <http://www.international.icomos.org/Paris2011/GA2011_CIVVIH_text_EN_FR_final_20120110.pdf> (Last Access November, 26, 2014)

2.2.2. Implemented Projects

2.2.2.1. Limited Traffic Zones

Limited traffic zone is another solution that most of the municipalities have decided to implement in many historic cities especially in Europe. It is an area of the city center in which non-residential traffic is not allowed to pass into, there is only essential motorized traffic for needed services as city buses, and delivery vehicles and couriers, and in some cases, and certain times are defined for those services. For residents, they have to get special permit to drive and park in limited traffic zones. The aim of this implementation is to reduce traffic, decreasing the number of highly polluting vehicles in the city center, and encouraging a shift towards more sustainable modes.

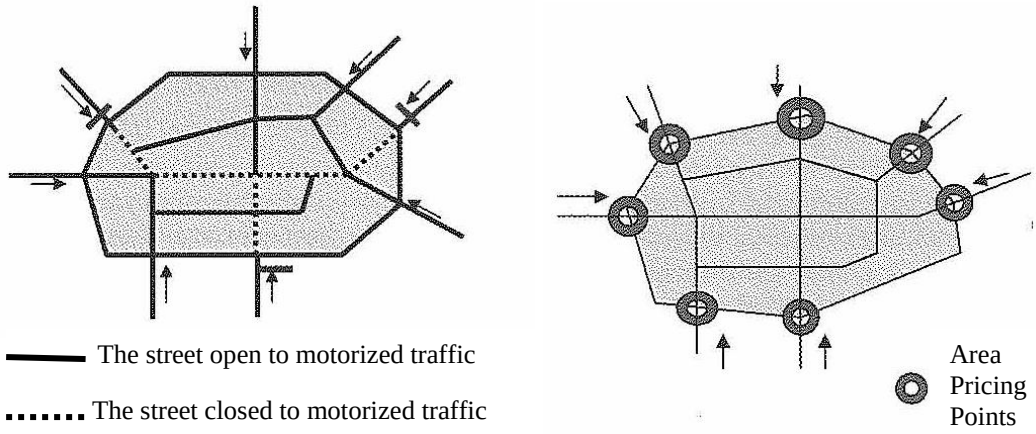


Figure 9: (a) Closure an area to motorized traffic (Elker, 2012; 284),
(b) Area Pricing, (Elker, 2012; 290)[33]

The measures are based on demand management strategies including access management and road pricing, parking management with pricing strategies, and transport telematic including intelligent transportation system for traffic monitoring, management.

Similar to concept of limited traffic zones, **town center pedestrianization** occurred as a solution to building new roads into central areas that resulted in destruction of

[33] The legends translated into English by author

urban areas in 1950s and 1960s. In addition, they are known as pedestrian zones, car free zones of a town reserved for only pedestrian use. In which some of the traffic or all traffic is prohibited. This is also based on demand management strategies as access management and road pricing, enhancement of walking and cycling and providing safety and security for pedestrians.

Other solution that implemented in HUL is the divison of the city center into parts, which are separate from each other and connected to each other with internal streets, and preventing the transit traffic pass into those separated regions. For example, Birmingham, Frankfurt, Hamburg, Lübeck, and Bremen are the examples of that system **(Pederson, 1980 cited in Uzun, 2010; 69)**.

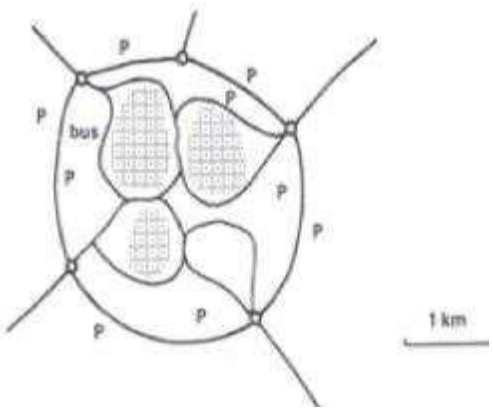


Figure 10: The solution proposed for mobility system in historic sites
(Pederson, 1980 cited in Uzun, 2010; 69)

Example of Limited Traffic Zone- Florence[34]

The whole historic part of Florence especially the part located within the 19th century, which is a protected UNESCO heritage site defined as *''Zona Traffico Limitato''* Limited Traffic Zone. Special rules defined to enter area for transit and parking. Bicycles, electric vehicles, motorcycles, and scooters are allowed to enter this area. The boundaries of Limited Traffic Zone in Florence are well defined with

[34]The information concerning LTZ in Florence retrieved from http://en.comune.fi.it/administration/mobility/florence_by_car.html,further information can be found on this web site Also, the author had the opportunity to see the actions in the city (Last Access 01.01. 2015)

respect to using special bilingual displays. Access points are controlled by cameras, which define easily one's license plate. With respect to this information, drivers who do not have special access pass will be charged. Other than in Limited Traffic Zone, transit is not allowed in the pedestrian zones and there are lanes for the public transportation. Those lanes are defined with yellow lines and there are writings and signs on the road that indicate a lane defined for bus or taxi.

For non-resident and tourist access in Limited Traffic Zone
Residents who do not live in limited traffic zone have some restrictions to enter the area for driving and parking at the following times:

In a year: Monday to Friday from 7,30 am to 7,30 pm;
Saturdays from 7,30 am to 6 pm.

Additional summer night in Limited Traffic Zone: In addition to this defined time, there are also some restrictions during summer from end of the May until middle of September. This limitation concerns only Thursdays, Fridays and Saturdays between 11 pm until 3 am.

Access for tourists: tourists, who have a car and travel by car, take a temporary permission to travel in the limited traffic zone where their accommodation place located. Tourists get this permission by communicating with their license plate number to their accommodation facility and they are forwarded to the appropriate office. They get temporary permission for a maximum 2 hours in order to transport their luggages only on arrival and departure dates.

Parking In the city, at various points, there are underground and above-ground parking paid parking lots.

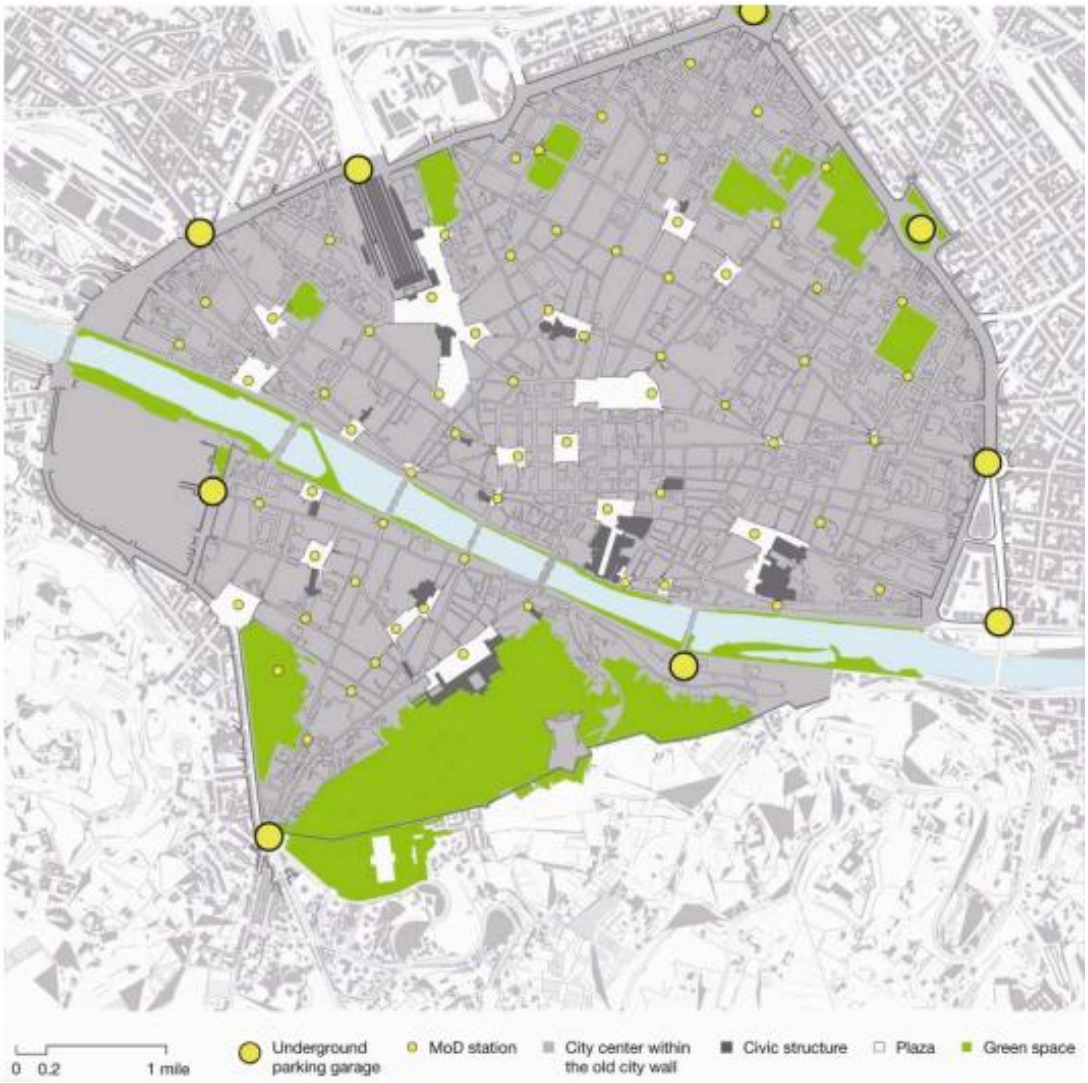


Figure 11: Mobility on demand system implementation study (http://ilp.mit.edu/media/conferences/2011-vienna/chin.pdf)

Some of the parking lots are located in the limited traffic sone and they are accessible without taking permission. There are hourly and daily costs for the parking lots.

Street Parking: There are ZCS zones (Controlled Parking Zones, Zone a Controllo Sosta) in this area; there are no specific restrictions for the transit. On the other hand, in these areas there is division between resident and non-resident for the street parking. There are specific colors for this division: **white lines** for the parking of residents. They have to take a resident pass in order to park in this area. **Blue lines** are for paid parking and include everyone as non-residents, they can park with

paying at the parcometro, or coin operated dispenser. **Yellow lines,** have signs and available for the disabled people. Sign always show a special pass number, in other words, it means that specific person has reservation for this space and it is not available for any other disable. In addition, in each week or month one night is not allowed for parking for the street cleaning.

(a) **(b)**

Figure 12: (a) Bollard in the street to restrict motorized traffic (b) Pedestrianized Area (Author, 2013)

In conclusion, the historic part of the city declared as Limited Traffic Zone where the private cars were not allowed to enter into site except residents. In addition, the area supported with underground parking and there is regulation for tourists.

2.2.2.2. Urban Rail System

Implementation of the urban rail systems in historic urban landscape is one of the challenging and controversy solutions in today's condition. Although the mobility problems of the cities can be solved by constructing urban rail systems, another problem begins with the difficulty of the conservation of cultural properties located underground. However, construction of the urban rail systems brings some problems for the presentation and conservation of the remains during rail system excavation. Especially the problems occur during the identification of metro route, excavation studies, assessment of the ruins that were found, and the station exit points (Mehmetoğlu, 2008).

There are many examples of urban rail systems that implemented in historic urban landscapes as Athens, Rome, Barcelona, London, and Mexico City etc (Figure 15). The development of those projects occurred as the inspired one from the other. There are different solutions for the edifices, in Rome, for example the third metro line was put 30 m underground that there is no archeological edifices, however, for the ventilation problems there should be some openings through archeological layer.

Underground museums were built to show and promote the cultural properties found excavations during construction of the rail systems in Sofia and Athens metro construction. However, more attention was given to metro construction rather than cultural properties underground.

The construction of the rail system in historic urban landscape is not only an engineering and transportation issue, however; it is an architectural and archeological conservation issue. Therefore, in order to promote a sustainable modern development, sufficient precautions during and after excavations for the construction should be conducted in a multidisciplinary approach.

(a) **(b)**

Figure 13: (a) Athens Monastiraki Station, A bridge made of glass leads through arcgeological edificies (untergrundbahnen.de, 2013)n (b)Pino Suarez Station, Aztec Temple for the wind god Ehecatl, at Mexico City (F H Langhorst,nitle.org cited in http://mic-ro.com/metro/archaeology.html,2013)

2.3.SUSTAINABLE URBAN MOBILITY SOLUTIONS FOR HISTORIC URBAN LANDSCAPES: FOCUSING ON THE PROJECT OF CIVITAS RENAISSANCE THE CASE OF PERUGIA[35]

CIVITAS (**CI**ty, **VITA**lity and **S**ustainability) is an organization which implements sustainable urban mobility plans in European cities aiming more sustainable, clean and energy efficient urban transportation system with respect to implementation and evaluation of technological and policy based measures.

The CIVITAS Renaissance, which is a collaborative project for five world-known historic city centers, faced common problems including Perugia, **Italy**; Bath, **UK**; Szczecinek, **Poland**; Skopje, **Macedonia**; Gorna Oryahovitsa, **Bulgaria** (Figure 16). The problems that occurred in those cities affected quality of life negatively and caused environmental problems. In addition, noise pollution, negative impacts on the physical environment are the result of increase in automobile dependence. Thus make it necessary to implement sustainable urban mobility plan since it is possible to enhance, and preserve the character and appearance of the town and increase the accessibility for public transport users, pedestrians, and cyclists.

[35] In this part of the thesis mainly prepared according to information on the web site, and further information can be reached from <http://www.civitas.eu/content/perugia> (Last Access 11 January 2015)

Figure 14: Cities that CIVITAS RENAISSANCE applied (http://www.comune.perugia.it/articoli/progetto-renaissance)

The Renaissance cities are different from each other in terms of size, national status, and political governance, social and economic integration within European Union. The project is ***"Testing Innovative Strategies for Clean Urban Transport for historic European cities."*** This project introduces a 'new sustainable mobility culture' of cleaner urban transport into these historic cities. Thus will play a large part in preserving their 'traditional culture' and architectural heritage, on which a major proportion of their local economy and society depends (Civitas Renaissance, n.d.). Those cities faced with important transportation problems because of seasonal tourists demand. This project aims to develop an access and mobility package depend on reliable, valid and integrated measures. In this way, preservation of the historic environment will be enhanced in addition to sustainable development of local economy, visitor, residents, and local business benefits (Pickup, 2013).

Based on these different historic cities, there would be different innovative sustainable urban mobility measures to enhance the conservation of the city. The results of those projects will be an implemented showcase for the other historic cities

faced with same problems. This project aims innovative methods to apply sustainable urban mobility modes. Those are defined as in website of CIVITAS[36]

- *Energy and Environmental Innovation*
- *Technological Innovation*
- *Organizational Innovation*
- *Innovative Pricing Policies*
- *Payment Technologies*
- *Political Process Innovation*
- *Transport System Management Innovation*

Energy and environmental innovation include using alternative fuels for both public and private transportation fleet. Since as an example of alternative fuel, bio-diesel has no negative effect on the environment because of reductions in CO and N, thus show no contribution to the greenhouse gases.

In the scope of **technical innovation**, this project supports vehicle fleets and buses with biodiesel, compressed natural gas, methane, and electricity. In addition, using ICT[37] for real-time information about road congestion, parking spaces, and public transport program is a technology used in Perugia.

In order to succeed **organizational innovation,** different stakeholders at the local level and European level are included during the project process aiming solving problems with integrated approach. This strategy will make easier to evaluate different measures because of including different stakeholders in the same aim.

Innovative pricing technologies and **payment technologies** include pricing of public transport and parking with differentiated prices. With usage of smart cards for public transport, passengers can buy tickets easily. In addition, differentiated parking prices in the city center will have an important effect on the traffic demand. In addition to parking pricing, decreasing taxes of clean vehicles will encourage drivers to buy them.

[36] Further information can be reached from <http://www.civitas.eu/ > (Last Access on 19.08.2014)
[37] ICT-Intelligent Communication Technology

From implementation point of view, **political process innovation** will be an impressive example for the importance of political decisions on local transportation of historical city centers. Involving different decision-makers during the planning process provide an effective and integrated period in order to announce the result of these projects by organizing forums.

In addition, **transport system management innovation** is the other theme that is explained in RENAISSANCE project. There are innovative techniques in order to collect information about traffic situations including public transport, individual traffic, and parking. The result of new modes of information technology will be evaluated on chosen target group. In this way different sources from different modes of transportation could be managed in one system and could be easily distributed the other channels.

CIVITAS RENAISSANCE PROJECT brings and applies innovative and integrated mobility solutions in historic cities. This project support **improvement of public transportation vehicles** and **private cars**, including **new forms of hybrid vehicles**, minibuses, bicycles, water trams and taxis. In addition, those cities aim to integrate different modes of transportation system such as driverless mini-metro, personal rapid transit, and cycling and water trams. Furthermore, improved logistics management systems and cleaner delivery vehicles for urban freight in pipe-net system offer more sustainable urban mobility in those cities.

In this part of the thesis, one of the projects belonging to CIVITAS RENAISSANCE, Perugia, Italy will be analyzed with respect to their implementation of urban mobility solutions with its tools, methods and expected outcomes.

2.3.1. General Information about Perugia, Italy

Figure 15: The historic part of Perugia, (googleearth)

Perugia is located in Umbria region in central Italy. It is the central city of this region (Figure 17). Its population is about 160.000. Its height level from the sea is about 450 m and the extent area of municipality territory is about 450 km (Papa, Transport Innovation in the Historic City of Perugia, 2012).

Figure 16: Cover page of 3rd Renaissance Conference [38]

[38] A cover page of the 3rd Renaissance conference that held in Perugia in 10th September 2010, the basic idea behind conference was to assess and discuss the changing travel behavior through improving alternative mobility modes as electric cycling, cycling, shared car, water transport options. In addition, intelligent transportation system, new clean energy sources, and restrictions on the travel behavior, the efficiency of the personal rapid transit, driverless public transportation system as minimetro, travel options provided by web services was assessed and discussed. Further information can be reached from < http://www.civitas.eu/sites/default/files/documents/BROCHUREeng.pdf>(Last Access 08 January 2015)

This city is an example of fortified city settled on hill. Through history, it hosted Etruscan, Roman civilizations. Today, this historic city preferred by local and foreign visitors during year because of its history, artworks, and cultural events. In addition, there are some other reasons that make it an attractive city as hosting two international universities, which are University of Perugia and University for Foreigners, and being capital of the Umbria region. All these increase the travel demand in Perugia; however, the city has difficulties to overcome the problems. In the early 1980's, city applied first plan by closing some part of the historic center to the private cars. Parking areas outside the city walls, elevators within some places solved traffic problems as a while. However, with car ownership increase, the traffic problems in the city have worsened in time.

2.3.2. Urban Mobility System in Perugia

According to (Civitas Renaissance, n.d.), aims can be summarized as:

- accomplishing citizens' needs,
- decrease in levels of environmental and acoustic pollution with respect to national and EU legislation,
- decrease in energy consumption caused by transportation, decrease in private car use, increase in accessibility,
- provide other modes of transportation as public transport, car sharing, car pooling, collective taxi, with the help of integrated, and innovative solutions for traffic infrastructure system,
- reduce traffic congestion,
- provide intermodality, interchange and interconnection between new and existing transportation systems

Urban Mobility Plan (UMP) is approved by municipality of Perugia. This plan aims to integrate multimodal public transport system for the next 10 years with respect to **interchange stops** with high quality networks. There are 15 main principles that is defined within the scope of CIVITAS RENAISSANCE for sustainable urban mobility in Perugia in order to preserve and promote particular characteristics of the city and provide accessibility by combining economic, social, and environmental measures. Those principles defined as:

- Retrofitting the car fleet of the municipality
- Clean fuel technology for the public transport fleet
- Intermodal interchanges for public transport
- Reducing the access of private vehicles in limited traffic zone
- Implementation of the city parking strategy
- Trip avoidance strategies
- Raising awareness on the new mobility strategy
- Sustainable commuting strategies
- Road safety and security traffic monitoring system
- Assessing the options for more road pavement markings
- Improvement in the bus stop environment
- Car pooling
- Car Sharing
- Pipenet system for city logistics
- The setup of traffic monitoring control center (Civitas Renaissance, n.d.)

The city has started to take necessary actions to implement the defined aims. The tools, the progress measure, and outcomes can be seen in Table 8. At this point, it can be stated that the mobility decisions of Perugia has its case specific solutions from upper scale to city scale together with the aims, methods, tools and expected results of the project.

Table 8: The actions including tools, measure progress and outcomes for SUM in Perugia HUL*

Actions	Tools	Measure Progress	Outcomes
Encouraging the Service Car Fleet of the Municipality	-encouraging usage of methane based vehicles in limited traffic zone(LTZ) to reduce fuel consumption and main pollutant emissions starting with municipality vehicles	- municipality vehicles adapted to methane based on the travel from offices to city center -33 retrofitted municipality vehicles, improving equipment of public car, 20 buses retrofitted using cleaner duel fuel technology, 35 citizens awarded with retrofit equipment for their private cars	-More cost effective fleet -Raising awareness of citizens regarding methane adapted vehicles by municipality ledarship
Clean Fuel Technology for Public Transportation Fleet	- Implementing clean alternative fuels to improve regional air quality through reduction of greenhouse gasses, and to enhance customers' attitude through public transport and heritage conservation while improving economic and environmental performences	- Visible application on public transportation for public awareness and acceptance -Transit vehicles on dedicated routes serviced by techicians team	-Increasing public awareness about alternative fuel benefits -Reduction of particulate matter from 40 % to 80 % -in LTZ, Reduction of Smoke up to 50 %,CO_2 up to 14 %, noise up to 40 %,CO emission over 90 %, -Fuel cost reduction up to 31 % and fuel and maintenance cost reduction up to 21 % -Diesel fuel cost reduction up to 55 %
Intermodal Interchanges for Public Transport	-Creating nodes to improve interconnection quality through creation of footpaths, protected corridors, footbridges& advanced information systems -Creation of high quality interchanges between bus network, rail stations, minimetro, escalator& elevator systems -Installation of new telematic information system	-Cupa as pilot area -Tender for company that has implemented: • the stair linking the minimetro station and bus stops, • new bus stops • new gulf for standing of the bus, • raised crosswalk, • two shelters for bus stops, • widening of sidewalks, -VMS(Variable Message Signs) panels and the utility networks -13 intersections providing bus priority at junctions	-More efficient multimodal interchanges -Improvement of public transport network -Increased customer satisfaction -Modal shift from private to public transport -Increase in bus frequency up to 110% -In Bruciate node case, implementation of footbridge is under construction -In Fontivegge node case, implementation of footbridge is under construction
Reducing the Access of Private Car in LTZ	-Installing gates at main access points to LTZ -New software system to calculate length of time for vehicles stay in LTZ, Improvements in road pricing and Platform to control & manage traffic in LTZ for different users as lorries,public transport,touristic buses,private cars	-Gates installed to control who enter &exit LTZ(4 for entrance,8 for exit) -Monitoring centre (SITU) -An awareness campaign for citizens in collaboration with local police - Benefiting from the cost,the exceptions and limitations based on EURO class of vehicles	-Impact on traffic planning better control over how many and which vehicles enter&exit LTZ -More accurate information about criminal events contributing to safety & security -Reducing illegal access in LTZ
Implementation of City Parking Strategy	-Paying and parking for a limited time -Parking spaces reserved for those that are disabled and for lorries	-Parking choices related with availability of parking spaces,the origin/destination,traffic conditions,presence of an efficient PT network and comfortable pedestrian paths to reach the city centre -Defining number and types of parking spaces supplied along the roads	-Improving the efficient management of parking spaces, decrease in illegal parking -Increase in satisfaction among residents, short-stay parkers and traders -Encouraging a modal shift from private car to public transport and walking -Improving traffic circulation -Reducing the number of free parking spaces by 40% -Increasing the number of residential and disabled reserved spaces fivefold
Strategy to avoid the Need for Travel	-Redesigning public services through internet to avoid the need to travel - Selection of the services online to provide web access according to the position of office and the number of people requests'	-Development and testing of new software for easier access by internet to some Council's administrative procedures for citizens but especially for socially disadvantaged groups -Dissemination actions in accordance with bulletins, information campaigns, logos on municipality front offices,web site, metropolitan tv advertisements	-Easier access to public services through internet -Different types of savings in terms of emissions,fuel, time, money for citizens and for administration
Raising awareness of the New Mobility Strategy	-ESC "Clean-Safe-Easy" mobility to inform the customers of new inter-modal network and new services -Promotion of new opportunities to citizens by creating a SUM "brand" with 3 main components - easy, clean& safe- covering 15 Perugia measures -Introducing the concept of an intermodal PT network with an integrated fare system	-Visible logo through posters, stickers and website to create a link between measure and its impact -3 web services to reduce travel -FCU (Regional Railway Operator) joined initial task to increase integration, quality of PT services, users' perception of service quality -Integration of PT with city centre by minimetro line	-Raise both positive awareness and satisfaction with RENAISSANCE measures -Increase citizens' knowledge on SUM and its potential benefits for their quality of life -See continuation of the awareness strategy as a permanent feature of Perugia's transport policy after project concluded
Pipe-net System for City Logistic	-Freight distribution for shops and trade activities within the city center in a flexible, environmentally sustainable and affordable way how commercial operators and citizens could benefit	-Baseline analyses of current situation -Definition of system configuration to fit better logistic requirements of city -Formulation of full feasibility study including cost-benefit analyses	-Increasing public interest and private organisations for radically innovative fast freight transport system

*This table prepared by the author according to data from < http://www.civitas.eu/content/perugia> further information can be reached from this web site (Last Access on 19.08.2014).

Table 8 Continued

Sustainable Commuting Strategies	-Collecting data about home-work journey -Designing home-work journey plan with reference to the case of other cities that adopted same similar plans -Adjustment on the some routes and timetable of buses to make them more attractive and promotion of car pooling -Dissemination actions for proposed actions as information campaigns, web site, metropolitan advertisement	-significant number of employee work city center(almost 600)using private cars -raising awareness strategy to encourage using public transport or other transportation modes as car pooling	-positive impacts on employees' travel commuting pattern -greater satisfaction among employees with their commuting journeys -increasing the number of employers adopting travel plan -increase of the reduction in car fuel consumption and emissions
Road Safety and Security Traffic Control and Monitoring System	-Real time information about level of traffic flows, congestion , any potential safety risks in different road sections and more reliable routes -pilot road for project based on two software system; UTOPIA & MISTIC **-UTOPIA:** receiving and processing data about traffic flows coming from traffic lights at main junctions **-MISTIC: (under testing procedures)**using output coming from MISTIC and data coming from sensors installed along main roads and providing information about traffic forecasts regarding traffic and safety conditions -traffic signals adjusted according to incident level risk	All system completed -Information platform collecting data from VMSs(Variable Message Signs -System collect, asses datafor traffic forecasts - Establishing a system for collecting information and data, analyses and methods to plan mobility models -Establishing new mobility strategies to improve road safety to decrease accidents -10 municipality vehicles provided with automatic vehicle monitoring -40 buses equipped with automatic vehicle location devices -24 safer bus stop designs and 20 variable message panels at stops	-More efficient traffic flow -A more responsive system to events on the road system -Better information to road users
Assessing the Options for More Efficient Road Pavement Markings	-Developing a methodology to verify the efficiency of road pavement markings depending on installation condition and available technologies -An assesment of the global performance of the road markers in terms of visibility, skid resistance, and costs	-Assessment of quality of road markings by means of scientific and experimental approach -Parameters affecting road markers quality-road surface, traffic flow, weather conditions,road lighting - Programme to measure road markings quality at 27 sites -Two new synthetic indicators,CIS-Q(Civitas Indicator for Stripes-Quality) and CIS-C(Civitas Indicator for Stripes-Cost) allowing the rate of global efficiency in terms of technical performance and cost of municipality road markings management because of limited budget CIS-C was dropped from 6.6/10 to 4.9/10	-Increase in demand for materials that will reduce the costs of maintenance
Improvements in Bus Stop Environment	-Making bus shelters and bus stops more attractive by combining design with efficiency -Improving customer's safety perception of bus stops and shelters -Works on 24 bus stops	-Bus stops are the first contact point between the passenger, and bus service - The space, location, the design and the operation of the bus stops influcing the transit system performance,customer satisfaction and customer safety - The location and design of bus stops-succesful and productive integration of public transport into daily life -Shelter improvements together with improvements for pedestrian entrance and exits by architectural and functional aspects- designing bus stops&shelter	The scores for bus stops given by interviewers in 2012 -4 on 7-functionality of shelters -4,5 on 7-perception of the safety at bus stops -4,5 on 7- perception of safety for getting and out bus -4,5 on 7-location of bus stops and the comfort of bus stops with shelters -4,5 on 7-the availability of information on the PT service -4,5 on 7-readiness of the PT staff in terms of provision of information about PT service, The importance of safety perception of PT users realised
Car Pooling	-Car pooling web site, Participatory approach: Municipality of Perugia,University and private companies, Protype gate to control how many people inside car -Cameras taking photos at diffent point for illegal parking for car pooler users	-Analyses of data from the survey on Perugia University employee and students -Web program analyses for journey supply and demand that people want to share their own cars - Travel Plan for 850 municipality employees	-Encouraging car users to share their cars and this result in increase in car occupancy and reduce in traffic -Reduce in consumption and emission -Input for municipality to control the car occupancy
Car Sharing	-Appropriate advertising -Conducting research and development to establish a car club including a fleet of cars located in special parking areas across Perugia to decrease the number of private cars -Prototype gate to detect car occupancy for car pooling scheme	-Car sharing club neighborhood based transport service that allows people to use a car product when needed, without the costs and responsibilities of ownerships -Converting car use from a product into a service	-Reduce in private cars circulation -Improvement in environmental impact over the medium term
The Set up of Traffic Monitoring Control Center	-Increasing the efficiency of the municipality service fleet and PT -Informing passengers,providing dynamic PT information at bus stops -Connecting urban traffic control center with PT to provide PT priority	-25 out of 100 buses in the local area, 7 variable message signs and 13 sensors for traffic risk prediction and information, Monitoring and supervision software development, Development of custom software modules and interfaces, Communication software development, Potential access to the real time monitoring of traffic flows,parking availability,the tracking of public services fleets, All data coming to center providing data input to enable real time , Information to mobility platform to allow for visualisation of PT in the city and dynamic transit information at bus stop for passenger	-Services effectiveness -Cost Reduction -Increase in quality of life

Although the actions and their tools, measure progress with outcomes were explained before, one of the important projects that should be assessed in a detail in this thesis is the construction of the minimetro between the old and new part of the city with taking the advantage of the topographic barrier. It was opened to the users on 2008. It has seven stations (Figure 19). This system has been integrated into the existing transportation system as an option to the private cars. It has been supported by traffic calming interventions, demand management, and information and communication technologies. Namely, the topographic barrier that historic part located on hill, the problem solved by connection with minimetro and in some parts the elevators , and moving staircases were used(Figure 20). In order to support the uses of driverless minimetro, which is a part of public transportation system, intermodal changes in the boundary of the limited trasffic zone, the parking areas(Figure 19) were defined. And the policy, which based on the closer the city center, the higher prices for parking policy applied.

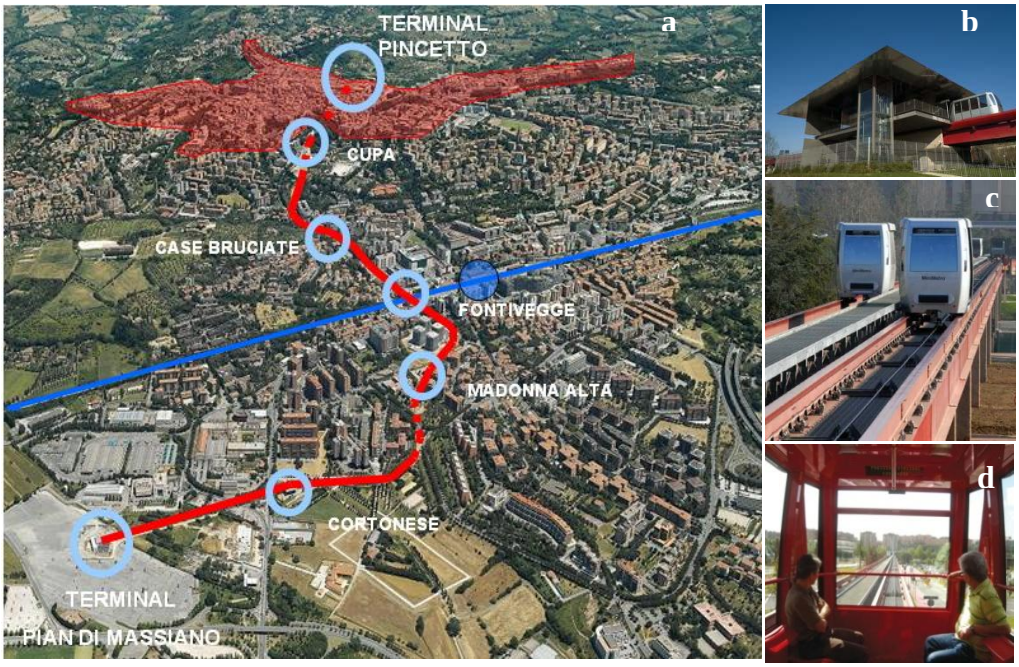


Figure 17: (a) The stations of minimetro (b) Minimetro Station(c) Minimetro on its route (d) People in minimetro (Papa, Transport Innovation in the Historic City of Perugia, 2012)

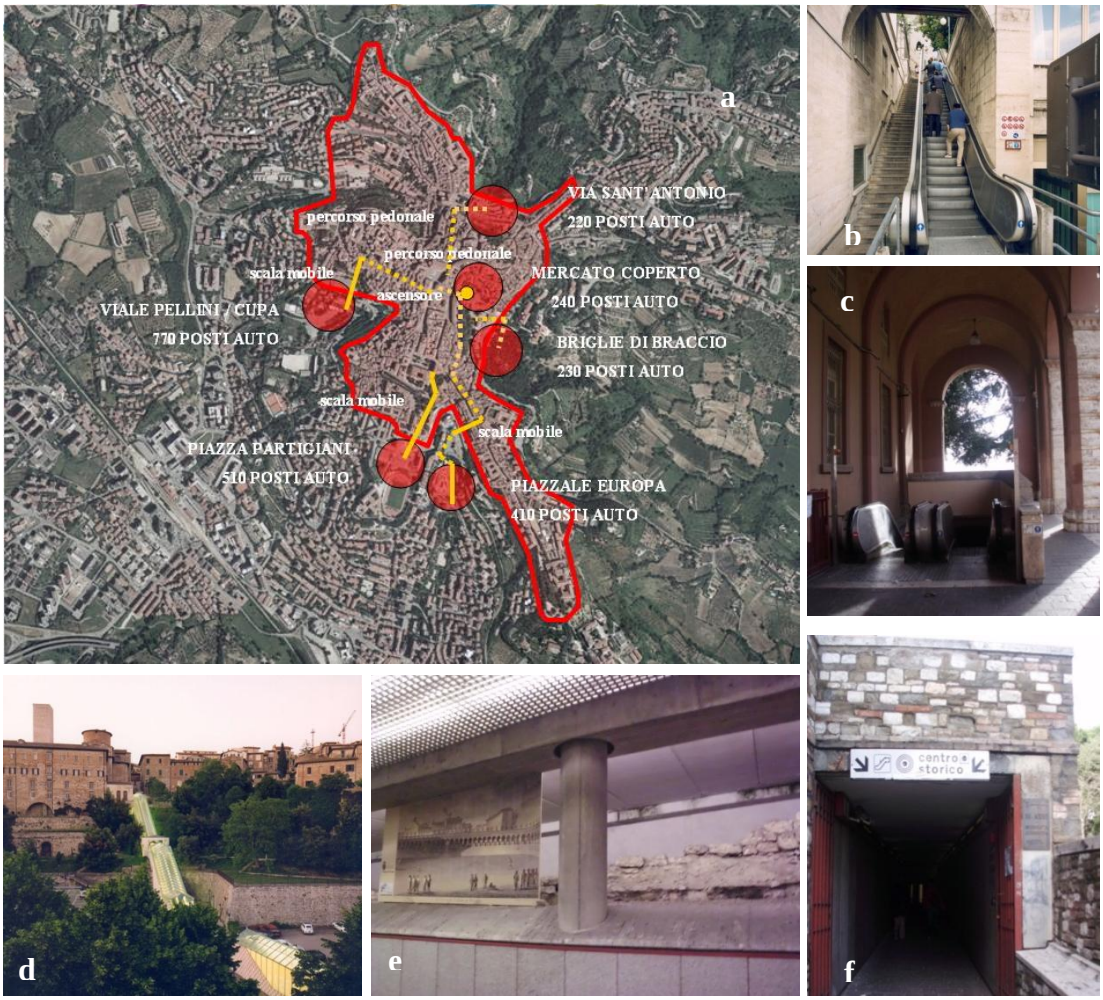


Figure 18: (a) The car parks network and the escalators/elevators system **(b)** Mechanical stairs from current city center with historic center **(c)** Exit point entering into historic center **(d)**Entrance to historic center **(e)** A photo from mechanic stairs between historic and contemporary city **(f)** Mobile Stairs between Cupa and Morlacchi **(a)(b)(f)** (Papa, Transport Innovation in the Historic City of Perugia, 2012) **(c)(d)(e)** (Author, 2013) [40]

It can be said that success of the most of the actions that aims the sustainability for the future of city mainly depended on the people behaviour; therefore, one of the main difficulties seen during the project is **citizen acceptance** because of the direct

[40]The photos of Perugia belonged to the author was taken by author in 2013 during her Erasmus period in Perugia, The connection of the historic and contemporary parts of the city with mechanical stairs is an amazing innovative solution that fulfill the current travel demand between two parts. These are preferred by local and foreign people in their mobility choices between historic and contemporary part. It shows that this kind of innovative solutions if implemented sensitively to historic environment, it promotes and conserves it rather than demolishing contrary to prejudices of people about its negative impacts.

relationship between urban mobility and people daily life habits. Implementation of policies bring some aspects that people should adapt such as fines, congestion charging, and parking fee that have impacts on the mobility choices of people. To encourage and increase the awareness of the people about the project, the brand, which was identified as ***ESC*- E**asy, **S**afe, **C**lean, was demonstrated in the different part of the city with different advertisement methods(Figure 21) since applying new strategies due to effects on people daily life behavior is a delicate step. In addition, there should be effective and strong polices to apply sustainable urban mobility modes by using political commitment, early dissemination and public involvement during planning process.

(a) **(b)**

Figure 19: (a) (b) The presentation of ESC Brand on different tools (**E**asy **S**afe **C**lean) (Papa & Cristea, Towards Competitive and Resource Efficient Urban Mobility, 2012)

In addition, to change travel behavior, some organizations were established, for example, in order to encourage the **non-motorized transportation** usage, ***Cycling Day*** was organized. The city joined the first National Cycling Day in 30 May 2010. The aim of this day is to emphasize the importance of the cycling because of environmentally friendly travel mode. In this day, cyclers had priority in the streets over other travel modes. Civitas Renaissance project officers stayed in a park where the activity culminated. At the end, Civitas Renaissance Team had introduced the 15 principles of Perugia Renaissance project in addition to the other four Renaissance

cities. Moreover, to present the project to people, brochures were arranged to encourage local people about local measures of Civitas Renaissance Project. In addition, in order to raise the awareness of people about the attitude to use common resources, they distributed low energy light bulb labeled Civitas Renaissance special projects stickers to the participants. Thus created increase in the awareness of local people about the project.

Briefly, as a part of CIVITAS RENAISSANCE project which aims to implement sustainable urban mobility modes in historic city centers where there are traffic problems because of the increase travel demand, dependence of automobiles, Perugia is a good example to assess in this thesis. Although the character of Perugia and Antalya are different from each other, the problems are the same, traffic congestion impacts on social and physical environment. In this regard, the attitude of the projects how the problem solved, the principles, the process, and the projects are important inputs for this thesis in order to solve the current mobility problems while conserving and promoting the social, physical character of the historical urban landscapes with its all elements. During the Erasmus period of the author, it was a opportunity to experience the results of project on site personally. During the visit of the municipality of Perugia, the photographs belonged the old situation of Perugia city center with traffic congestion was taken. The photos of Perugia explain briefly the results of the projects that were established in CIVITAS Renaissance process. (Figure 22- Figure 23)

(a) (b)

Figure 20: (a) Corso Vanucci in the past,(Archive of Comune di Perugia), (b) Corso Vanucci today,(Google Earth, 2014)

(a) **(b)**

Figure 21: (a) Looking from Piazza IV Novembre to Corso Pietro Vanucci, (Archive of Comune di Perugia) **(b)** Looking from Corso Pietro Vanucci to Piazza IV Novembre (Author, 2013)

2.4.AN ASSESSMENT BASED ON THE INTERNATIONAL CHARTERS, PROJECTS, MANUALS AND CONFERENCES

2.4.1. Literature Survey

The results of the **literature survey**[41] regarding sustainability, urban mobility and sustainable urban mobility, international charters, manuals, and preferred urban and sustainable urban mobility solutions in historic urban landscapes showed that the most important thing about solutions is being socially, economically, and environmentally sustainable. The main principles can be summarized as the enhancement of non-motorized transportation as walking, cycling, supporting environmentally friendly vehicles, changing travel behavior to use public transportation, and increasing the awareness of the people about sustainable urban mobility, integrated and participatory planning process

From the **conservation literature**[42] including international charters, manuals concerning urban mobility issue**, Washington Charter, 1987,** emphasized that motorized traffic causes physical, economic, and social deterioration; therefore, the traffic should be planned and controlled with the help of sustainable urban mobility tools including pedestrian priority, necessary parking areas. In the document of **Traffic in Historic Town**, 1994, it was stated that priority for pedestrians, lower speed, and traffic calming measures should be enhanced where problems occur. Fewer, smaller, and less illuminated signs, less pedestrian crossing markings and guardrails, fewer road markings should be used without yellow lines. From the document of **EHTF's** (English Historic Town Forum) **Manual for Historic Streets,** the principles drawn can be explained as the necessity of strategic working including traffic management measures in a historic context, linking with community strategies. Also, regulations for parking should be encouraged for management of it in restricted zones. Community engagement should be enhanced during planning process. In addition to them, surfaces, signage should be minimized as possible. Traffic signs, pedestrian signage systems that support the local identity for distinctiveness should be preferred. In addition, as a component of the streets that add value the character of them, public art, lighting should also be evaluated.

[41] For further information see **Table 9**
[42] For further information see **Table 10**

Another important international charter that was hold in **2011, Valetta principles,** emphasized the importance of the urban mobility in historic urban landscapes with being aware of pedestrian movement and slow forms of transport along the site, not appropriate for heavy traffic and their degradation because of car invasion and reduces of quality of life in time.

From the **implemented projects,**[43] the main principles of CIVITAS Renaissance are enhancement of the historic character of the city by supporting sustainable urban mobility modes, supporting energy and environmental innovation, technological innovation, organizational innovation, innovative pricing policies, payment technologies, political process, innovative transport system, management innovation. And one of the implemented projects, **Civitas Renaissance, Perugia, Italy** has been applying its projects with the main principles regarding transformation of car fleet of the municipality and clean fuel technology for the public transport fleet, intermodal interchanges for public transportation, reducing the access of private vehicles in LTZ , implementation of the city parking strategy**,** trip avoidance strategies, raising awareness on the new mobility strategy, sustainable commuting strategies**,** road safety and security, traffic control system**,** assessing the options for pavement markings**,** improvement in the bus stop environment**,** car pooling and car sharing, pipenet system for city logistics.

From Florence example, it implemented a concept of **LTZ,** which is a zone that entrance of motorized traffic limited to rebalance the relationship between motorized vehicles and pedestrian. The main strategies to achieve ensuring the character and appearance of the town by improving accessibility for public transport users, cyclists, pedestrians and disabled people with safe and secure condition, providing parking spaces**,** special rules to enter area for transit and parking. At various points, there are underground and aboveground parking paid lots. In addition, there is a support for the non-motorized transportation usage in the **LTZ** as bicycles, electric vehicles, motorcycles, and scooters allowed entering this area. In addition, cameras controlled entrances. Residents who do not live in LTZ, residents and tourists have different priorities to enter the area for driving and parking at the following times. For

[43] For further information see **Table 11**

example, tourists, have to take a temporary permission to pass in LTZ where their accommodation place located for maximum 2 hours in order to transport their luggage only on arrival and departure dates.

Implementation of **urban rail system,** which is a solution for traffic congestion that taking into account the city cultural heritages above the ground, aim to solve transportation problems without eliminating archeological site underground and promoting the presentation of the edifices either in station or museums by excavations under archeological edifices level

Table 9: Principles drawn from Sustainable Urban Mobility Literature

SUM LITERATURE		
Approach	**Main Principles**	**Process**
Socially,environmentally and economically sustainable	-Enhancing non-motorized transportation as walking, cycling -Supporting environmentally friendly vehicles/clean urban vehicles -Encouraging people to use Public Transportation -Increasing the awareness of the people about sustainable urban mobility	Enhancement of integrated and participatory approach Definition of vision, targets and budget

Table 10: Principles drawn from Conservation Literature

CONSERVATION LITERATURE		
Main Principles		
Washington Charter 1987	**English Historic Town Forum**	**Valetta Principles 2011**
- motorized traffic cause physical, economic, and social deterioration, even demolition of them - planned and controlled traffic by sustainable, non-polluting urban transportation modes -Enhancement pedestrian access -Provision of parking areas -if necessary, motorways to provide access to historic towns without demolishing	**Traffic in Historic Towns, 1994** [1] - priority for pedestrians at all times -speed limits but down to walking speed where appropriate -Indicating clearly at zone entrance that lower speeds apply rather than needing physical measures -traffic calming measures where problems occur - fewer, smaller and less illuminated signs - less pedestrian crossing markings and guard rails -Have fewer road markings and no yellow lines **Manual for Historic Streets, 2008** **-Strategic working** Traffic management measures in a historic context Linking with community strategies A local authority perspective **-Parking** Parking management Implementing restricted zones **-Community engagement** **-Surfaces** **-Signage** -Reducing the clutter of traffic signs -Pedestrian signage systems -Local signage-local distinctviness **-Public Art** **-Lighting**	-pedestrian movement and slow forms of transport along the site, not appropriate for heavy traffic -their degradation because of car invasion and reduce of quality of life in time

[1] This is cited in the publication of Historic Town p101 forum the whole documents can be found at http://www.priorityforpeople.org/wp-content/uploads/2012/10/jun10_buchanan_hcz_report_Part2.pdf

Table 11: Principles drawn from Implemented Projects

IMPLEMENTED PROJECTS		
Approach		
Civitas Renaissance	**LTZ/HCZ**	**Urban Rail System**
-Enhancing the historic character of the city by supporting sustainable urban mobility modes	-Defining a zone that entrance of motorised traffic restricted	-The solution for traffic congestion and taking into account the city cultural heritages above the ground
Main Principles		
-Energy and Environmental ,Technological ,Organizational Innovation,Innovative Pricing Policies ,Payment Technologies -Political Process ,Innovative Transport System ,Management Innovation	-clearly identified zone that trying to rebalance the relationship between motorised vehicles -ensuring the character and appearance of town -improving accessability for public transport users, cyclists, pedestrians and disabled people with safe and secure condition -providing parking spaces	-Solving traffic congestion problems without eliminating archelogical site underground -Promoting the presentation of the edificies either in station or museums -Excavations under archeological edificies level
Perugia	**Florence**	
-Transformation of car fleet of the municipality and Clean fuel technology for the public transport fleet, Intermodal interchanges for public transportation, Reducing the access of private vehicles in LTZ , Implementation of the city parking strategy -Trip avoidance strategies, Raising awareness on the new mobility strategy, Sustainable commuting strategies -Road safety and security, Traffic Control System -Assessing the options for pavement markings -Improvement in the bus stop environment -Car pooling and Car Sharing , Pipenet system for city logistics	- Special rules to enter area for transit and parking -Bicycles, electric vehicles, motorcycles, and scooters allowed to enter this area -Control access points by cameras -Non-resident and tourist access in LTZ Residents who do not live in LTZ have some restrictions to enter the area for driving and parking at the following times - Tourists, take a temporary permission to travel in LTZ where their accommodation place located, get temporary permission for a maximum 2 hours in order to transport their luggage only on arrival and departure dates - at various points, underground and above-ground parking paid lots - division between resident and non-resident for street parking	
Process		
-Participatory approach	An integrated and participatory planning approach	A multidisciplinary approach including engineers, conservation experts including city planners, architect and archelogists

2.4.2. An Assessment Based on the Observations Drawn from the Case of Antalya Kaleiçi and its surrounding

Within the methodology of this thesis, the result of the case area, which will be held in chapter three and four in a detail, will be evaluated here since the framework had been shaped with respect to literature and site survey. During the site survey, the observation gathered will be introduced within the scope cultural properties, functions, users, public realm, and urban mobility system. The site surveys, which were held in different periods of the year, showed that perception of the **cultural properties** is getting difficult because of high rate of vehicle flows, and the impacts on the facades of the traditional buildings because of the chemical reaction could be experienced.

Within the context of the **functions** that Kaleiçi and its surrounding have, it was stated that being located in commercial city center provided mixed use development, but high rate of commercial uses that resulted in increase the travel demand to the site. Every day almost in every hour, there is high rate of traffic in surrounding area of Kaleiçi. Being located in classrooms' region provides the students flow into the area and this can be used as an opportunity to involve young people in the project process.

The diversity of **users** in Kaleiçi can be experienced in its traditional streets. This diversity brings the difficulty of the management of the site with respect to whose different needs. During site survey, it was stated that awareness of local people about Kaleiçi is very low, and the local identity as well. Interestingly, the motorized traffic allowed on the streets that were used mostly by pedestrians.

Since Kaleiçi located in the city center of Antalya, there are many **public realms** in and surrounding of Kaleiçi. Although in the mobility scope, it seems that there are no problems, it should be highlighted that there are many design problems of those areas, which decreases the quality of those sites. For example, the relationship between Kaleiçi and sea, which is a significant component of public realm, is not strong**.** One of the important elements of public realm, Cumhuriyet Square is a living place behind Kaleiçi. There is invasion of the public realms in Kaleiçi where mostly

restaurants, pubs using the streets by putting their tables and chairs. In some streets, the topography of the area forms a barrier to other transportation modes in some streets it is difficult to walk because wrong pavement materials implementation. In some streets, there is no street name and this created difficulty to orient the site. The existence of the different maps with wrong streets' names is another issue that should be taken into consideration. The existence of the variable information signs disturbs the perceptions, and gives physical and visual damages to facades of historic buildings, and traditional streets.

From the observations gathered from site survey about **urban mobility**, it was figured out that traffic congestion occurred **at the entrances** especially on Kalekapısı gate. The dominance of taxi flows in the site, even in the pedestrianized streets and in reverse directions, disturbed the pedestrian movement. There is high rate of vehicle entrances and exits[44]. The peak hour is 23:00-04:00 because of the pubs and residents complain about this situation because of noise, security problem. The existence of illegal parking areas in empty lots deteriorates the perception of urban environment with its different components. The rate of people use nostalgic tramway is very low.

From **the archival survey** including old maps, aerial photos, gravures, traveler's note, it was stated that through time the site has faced many changes in terms of social, physical character. However, the main axis through time did not change. Even, the structured changes, the traces of them could be experienced.

From **the analyses of the conservation and planning decisions** about Kaleiçi from regional scale to urban design projects, it was stated that they have an important effect on the historic urban landscapes with respect to economic, social and physical structure. Since it is common to assess the historic city centers separate from whole city in fact in some separate from its close neighborhoods, it is necessary to make decisions with an integrated and comprehensive approach. Especially, the regional scale projects should be delicate to historic cores during identifying the role of the cities.

[44] According to information gathered during site survey and related institutions, who are officer man at the entrances of Kaleiçi and taxi drivers, in a day, there are almost 1500 entrance and exits, and most of them belonged to taxi, businesses, and visitors.

2.5.A PROPOSAL FOR PROCESS, PRINCIPLES AND TOOLS FOR SUSTAINABLE URBAN MOBILITY IN HISTORIC URBAN LANDSCAPES

2.5.1. A Proposal for Process

Depending on the literature survey including main concepts, international charters and manuals, different implemented urban mobility projects, case area and site survey of Antalya Kaleiçi, the resolved layers of historic urban landscapes related with urban mobility can be determined as cultural properties, urban mobility, public realm, users, functions. Accordingly, some flexible principles and tools can be proposed for the sustainable urban mobility planning in historic urban landscapes that allow local authorities to implement local urban mobility strategies successfully in order to conserve and promote them by decreasing the negative effects of motorized traffic. [45]

In this respect, within the framework of main flexible principles, a mobility approach could be experienced with deep analyses in a space specific context with the help identification of the **cultural properties** in terms of tangible and intangible remains of the historic stratification in current context with their values, problems, and potentials.

Because of the existence of the different **users**, to enhance the inhabitancy in the area, the needs of those users should be meet by learning their expectations, problems, and general profile. Sustainable urban mobility supports the accessibility for everyone and it takes into account the specific needs of users. It should not have any barrier to access and mobility that people face. Specific needs of children, elderly people, young people, the disabled and poor are considered. For understanding historic streets the choices of the resident, retailers, business and office workers, the wider community, visitors, and public bodies are also important (Hebditch, 2002;9).

The functions of the area have an important effect on the urban mobility. While a residential area has a stabile traffic in it, the traffic in the commercial and touristic

[45] For further information see **Table 12**

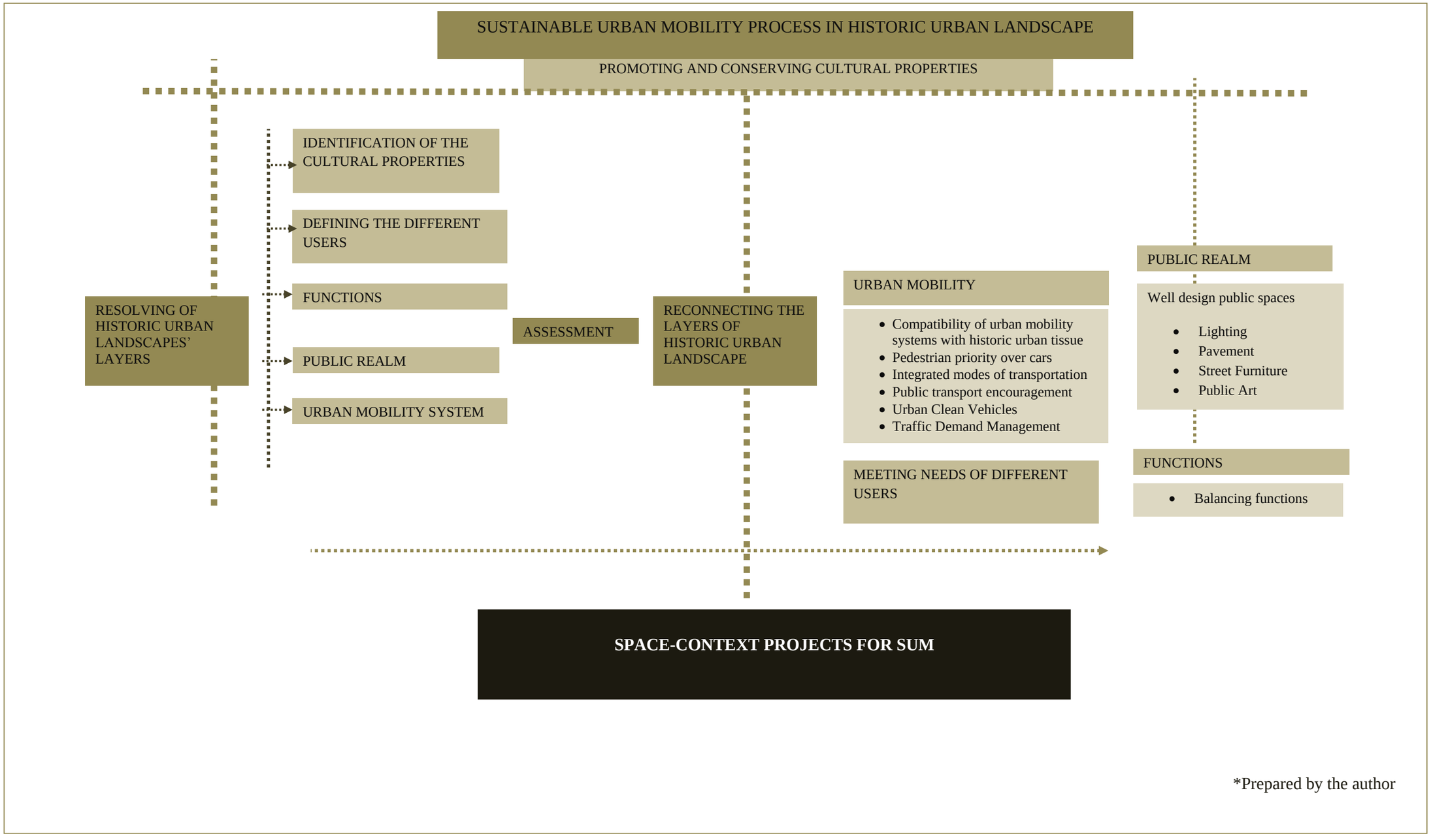
area changes in a season in fact in days of the week. Since travel demand increases as in the touristic and social places, the relation between mobility and functions should be assessed and stayed in a balance in order not to exceed carrying capacity of the urban environment.

Public realm, one of the important elements of the urban tissue, the active and coherent relation between urban mobility system and public realm should be enhanced in order to provide a holistic approach that aims to promote the local distinctiveness of the historic urban landscape as well satisfying the different users' needs. The planning, design, construction, and maintenance of public realms affect the city expression and they contribute to greatly the image, identity of the city and quality of life it offers. Visitors both local and foreign explore it, businesses contribute to it and have economic benefit from it, commuters pass through it on foot, by bike, taxi and local residents have an enjoy time in daily life. A coherent network of streets and spaces without excessive of signs, road markers and barriers support the public realm. New necessary furniture should be minimized with good design features. Also, there should be a coherent between color, style and placing of them. New design should be simple as possible as well as elegant and context appropriateness. Furthermore, the needs of disabled people should be encouraged with design elements as well. Physical measures should be minimal visual interference on the street. Traffic signs and other street furniture should be minimized as possible.

For the **urban mobility,** firstly the mobility between historic and modern city should be identified with its values, problems, and potentials. A solution both for historic core and for contemporary city should be assessed in a regional scale rather than just project scale. A holistic approach can cope with the transportation problems since the city is like puzzle and every part of the puzzle should complete each other. Within the traditional urban landscape, the mobility choices should be carried out according to the vulnerable and unique character of the area. The new modes of mobility should be in coherence with the urban tissue as in original context and should not deteriorate the physical, social, and economic environment. The pedestrian movement should be provided as possible. However, the needs of people who have different special care should be taken into consideration.

After analyses of the literature survey, implemented projects, and analyses regarding mobility in Kaleiçi, the framework for how urban mobility issue can be taken into consideration could be seen in the Table 12.

Table 12: A proposal for process of SUM IN HULs



*Prepared by the author

2.5.2. A Proposal for Checklist

In the previous part, the process of SUM in HUL defined with respect to necessary layers that should be included in an urban mobility system in historic urban landscapes. Accordingly, the general principles that should be taken into consideration when preparing and implementing sustainable urban mobility projects, Integrated planning with clearly defined policies, strategies and actions regarding regional and local priorities, Public participation Including relative stakeholders a checklist including the sub-titles defined according to literature and site survey, which are cultural properties (Table 13), sustainable urban mobility system (Table 14), users (Table 15), functions (Table 16) and public realms(Table 17) were proposed as below:

Table 13: The Principles Regarding Cultural Properties

CULTURAL PROPERTIES
Tangible Remains
• Preserving and promoting the distinctive traditional urban character and tissue and scenic beauty with emphasizing views, vistas, and visual quality of landmarks • Preserving human scale of buildings and public open spaces by respecting the traditional nature of the streets and buildings that defined them • Enhancing the relation between speed and perception of the environment • Using mobility as a tool to present and contribute to cultural assets
Intangible Remains
• Conserving the local name of public realms as street, square, parks' names, • Correction of mistakes • Provision of the conservation of the public realm spaces because of their commemorative value related with contextual relations with environment

Table 14: The Principles Regarding Urban Mobility System between Historic and Contemporary Parts of the City and within Historic Urban Landscape

SUSTAINABLE URBAN MOBILITY SYSTEM
Mobility Between Historic and Contemporary Parts of the City
• Providing accessibility and connectivity between historic and contemporary part of the city **Public Transportation** • Increasing public transport usage • Supporting public transportation including buses, urban rail systems, sea buses rather than automobile dependence **Non-motorized transportation** • Changing the users hierarchy that putting pedestrians, cyclists and public transportation over automobile in the city center and keeping the motorized traffic level at a minimum level • Increasing environmental friendly mobility modes as walking, cycling **Clean Urban Vehicles/Environment Friendly Resources** • Encouraging environmentally friendly fuels **Freight** • Establishing a sustainable logistic system for freight distribution **Parking** • Management of the parking areas **Information and Way finding System** **Collective transport and integration modes including** car sharing and Car pooling
Mobility within Historic Urban Landscape
Compatibility of mobility modes with traditional urban pattern **Non-motorized transportation concerning** changing the users hierarchy that putting pedestrian first and supporting walking, cycling **Management of Freight;** transportation system defining the service hours and service cars that will enter into historic site **Parking;** Management of the parking areas, providing parking areas for residents within walking distance or if exist, in front of their houses **Information and way finding system with the support of** innovative technological system

Table 15: The principles regarding meeting the needs of different users

MEETING THE NEEDS OF DIFFERENT USERS
Identification of the users profile and their expectations
Satisfying the needs of different users
• Providing amenity, convenience and comfort for residents, people who work in the area and visitors • Improving quality of the life for the residents • Enhancing street life, activity and vitality
Quality of mobility for people who need special attention
• Disabled people's needs • Elder people • Children
Safety
Security
Affordable prices by all
Changing Travel Behaviour
• marketing, communication, education and information campaigns • educational programs at schools • City-Brand • Working with local media and Using Social Media

Table 16: The Principles Regarding balancing functions

BALANCING FUNCTIONS
Supporting mixed landuse rather than only touristic and commercial facilities
If it is a touristic place • Keeping tourism facilities at sustainable level • Identfying the type of commercial uses to prevent the unconcerned shops • Restriction on the uses that disturb local residents daily life
Supporting local users to accommodate there, enhancing residential use
Enhancing the public uses as school,municipal offices to make place a livable area

Table 17: The principles regarding improving public realm

IMPROVING PUBLIC REALM
Well designed public spaces
Pedestrian friendly and walkable street networks
Providing a Pattern and Design Book including design standards for all aspects of the public realm inb terms of signage, pavement, lighting, public art, street furniture that encourage sense of place, local distinctiveness and quality

CHAPTER 3

ANTALYA KALEİÇİ HISTORIC URBAN LANDSCAPE WITH ITS CURRENT MOBILITY PROBLEMS

3.1.GENERAL ASPECTS OF ANTALYA KALEİÇİ AND ITS SURROUNDING

The case study area, Kaleiçi located in the center of Antalya, which is a city in the south part of the Turkey in Mediterranean Region. Antalya city center had different cultural properties regarding historical, natural, archaeological sites. As a historic urban landscape in the city center, Kaleiçi which is also 3rd degree archaeological site, Haşim İşçan and Balbey and natural site in the north located (Figure 22). Therefore, contextual relationships of Kaleiçi with those cultural heritage sites should be considered. In addition, having different job opportunities as having industrial areas, agricultural areas and university, migration to city center occurs. In addition, its typical Mediterranean climate because of placed in the south of Turkey and bordered with Mediterranean Sea, it has favourable warm weather conditions to travel. Therefore, Antalya is an attractive place for both local and foreign tourists using airport, bus station, or road transportation with their private cars every year through all the season. For example, in 2014 by August **7 576 913**[46] came Antalya International Airport and Gazipaşa Airport. about **270 000**[47] tourists visited Kaleiçi

[46]Antalya İl Kültür ve Turizm Envanteri, <http://www.antalyakulturturizm.gov.tr/TR,88283/antalya-ve-gazipasa-havalimani-gelen-yolcu-istatistigi.html >(Last access 16.08.2014)

[47] Not official information, conducted from Greater Municipality that they had it by gathering information from hostels' accommodation data

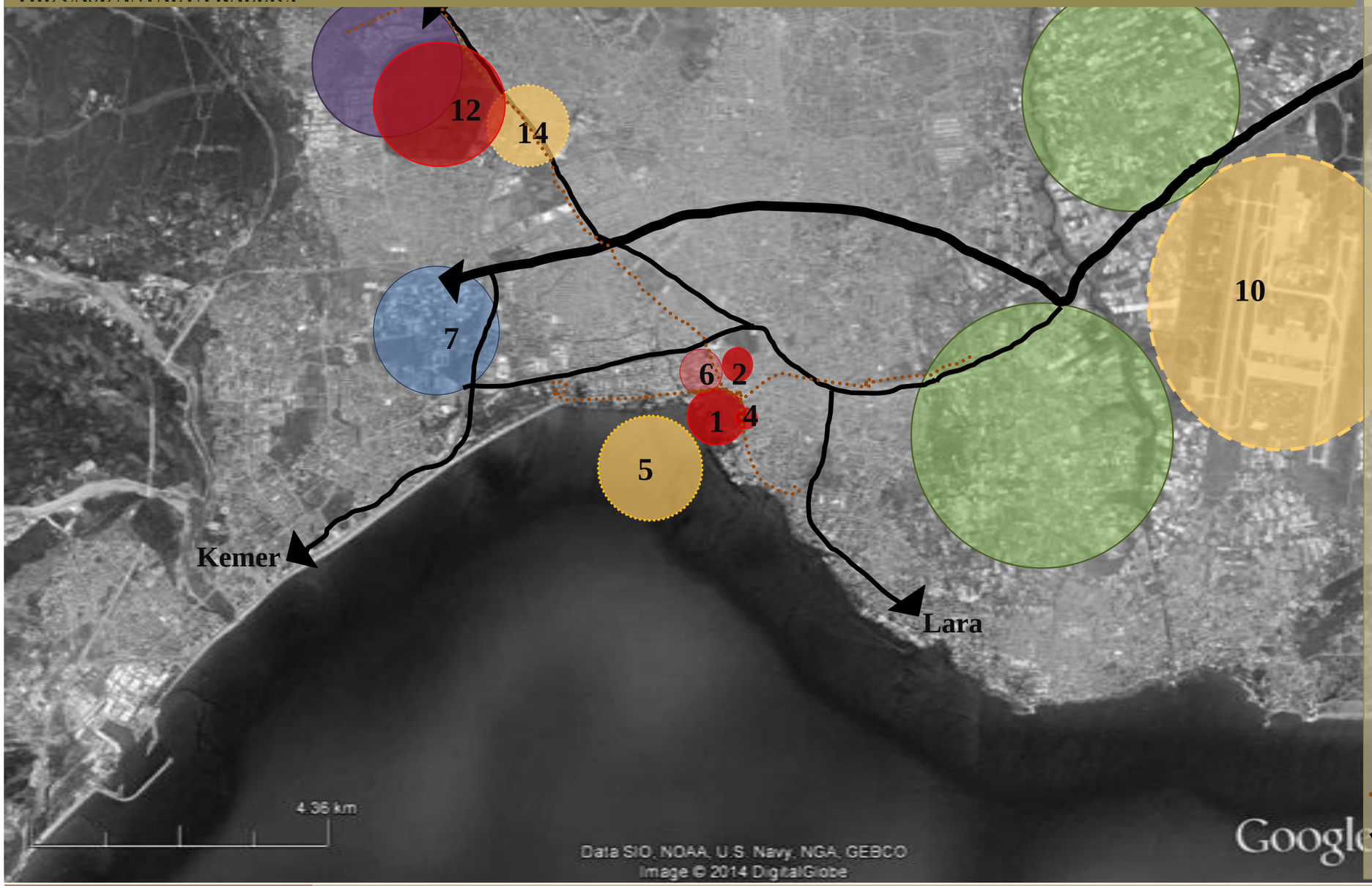


Figure 22: The General Analyses at Regional Scale (Prepared by the author)

This attractiveness of the city center with high travel demand based on the motorized traffic, if not controlled, would be detrimental to the historic urban landscape in terms of air pollution, noise pollution in the short term; damages of social and physical environment in the long term. This will create incompatibility with future sustainability of the historic urban landscape.

Although there are mobility solutions implemented in historic landscape of Antalya, they are insufficient for high travel demand regarding inability to apply new modes of mobility modes because of being an urban and 3rd degree archaeological site. The problems occurred inner citadel of Antalya could be described as according to information gathered during site survey:

- Parking in the inappropriate places as in front of the traditional buildings
- Using empty lots as a parking without any plan approval
- Pedestrian movement difficulty because of motorized traffic
- Allowance of service vehicles without time limitations(Figure 23)
- Deterioration of the urban fabric because of its vulnerable character, and
- Pavement with inappropriate materials in terms of size and content that make difficult to walk in some parts of the area

Figure 23: Traffic problem of Kaleiçi in local media (http://www.kanalvip.com.tr/haberler/gundem/gece-kaleicinde-arac-trafigi-artiyor.html)

Therefore, the urban mobility choices within the historic city center should be decided in a careful and precision way in order not to demolish cultural properties with its different users and promote their values by using mobility as a tool. The number of road-based vehicles that travel into, out of and through historic city center with its surrounding should be decreased into a sustainable level in order to improve environmental, economic, and social quality of the urban life.

Neverthless, any restriction policy on visitors and commuters will harm the local economy of the city due the fact that local economy mainly depend on tourism and commercial facilities. In this regard, the policies, strategies, tools and methods supporting this restriction on mobility should be enhanced by other system that increase accessibility between the historic and contemporary part of the city and mobility within the historic landscape with respect to using environmentally friendly mobility systems to increase the travelers' behavior on conservation of cultural heritage.

Therefore, in this part of the thesis in order to find the most appropriate sustainable urban mobility solutions, the case area will be analyzed in terms of geographical information, historical background, planning and conservation activities focusing on the direct and indirect impacts on mobility, and analyses about current situation of the site.

3.1.1. Location and General Characteristics of Kaleiçi

Bey Mountains that is west part of Toros Mountains which running to parallel to the coast provided a limited settlement area in Mediterranean region The Antalya Gulf was defined in the west by high and steep Bey Mountains (Günay, 1991, s. 10). Therefore, settlements located on Antalya plain and topography of the site has determined the location of Kaleiçi in relation with the coast.

The borders of Kaleiçi can be described as Atatürk Street in the east, Cumhuriyet Street and Tophane Park in the northwest, Hanlar Region in the north, Karaalioğlan Park in the south and yacht harbour in the west (Figure 24).

Figure 24: Boundries of the case area Antalya Kaleiçi (Prepared by author)

Kaleiçi was an important commercial center when sea transportation mostly was preferred thanks to its location on coast, agricultural products processed, marketed in Antalya, and sent to other countries. Antalya was an important city in Roman and Seljuk Period, however, due to having only sea transportation, not having rail network because of its topography, and the increase of the railway system in Ottoman and Republican Period, Antalya became just an Anatolian town (Gül, 2008).

Until twentieth century, Kaleiçi district constituted the most part of Antalya. Because city walls surrounded whole of the historic part until the 1930s, the boundaries of Kaleiçi had been preserved without any significant change. After the demolishment

of the city walls in 1930s, Atatürk Street was constructed in 1940s behind the boundary of the city walls (Argın, 2012).

The most effective change for the case area was seen in the 1980s because of the leading tourism focused development approach for Kaleiçi. Then, Kaleiçi became a place for entertainment, pensions, restaurants, and souvenir shops in time. With this change, social life in historic center has been disturbed in time and it has been functioning as a touristic area since then.

3.2.BRIEF LOOK ON HISTORIC DEVELOPMENT OF ANTALYA KALEIÇI AND ITS SURROUNDING

> *...To recognize the today's Kaleiçi, only learning its yesterday was not enough, yesterday's life, community life, the way of life the first need to be known , The rest from yesterday to today, the one lost, the one changed and unchanged...*[48]
>
> *...Bugünün Kaleiçini tanımak için, yalnız Kaleiçi'nin dününü öğrenmek, bilmek yeterli değil. Dünün yaşamını, dünün toplumsal yaşamını,yaşam biçimini tanımak gerek önce. Dünden bugüne kalanı, yitirileni, değişeni ve değişmeyeni...*
>
> (Bektaş & Others, 1980; 129)

Therefore, it is an obligatory step to analyze the different historic stratification Kaleiçi through history. Namely, Attaliea, one of the cities of Pamphylia, was established on the cliffs with 20-30 m height (Figure 25).

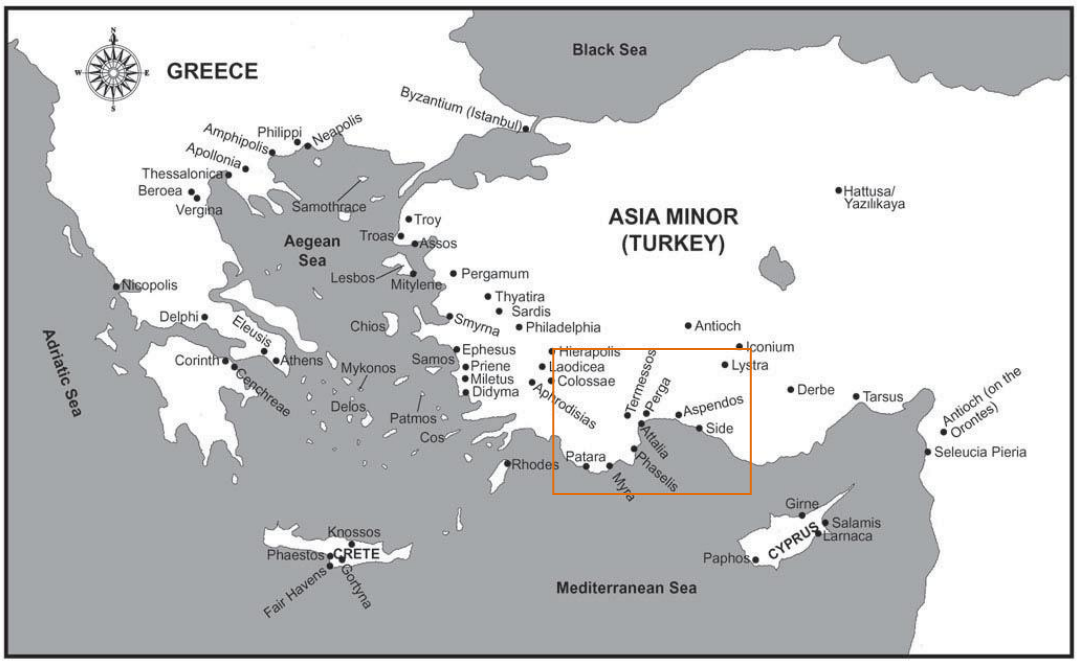


Figure 25: Ancient Greece and Asia Minor (Fant and Reddish, 2003; 366)

[48] Translated into English by the author

The city had been founded and developed because of its strategic location. The city which was founded into the area that gulf laid into the inner part of Anatolia, where the coastal road started. In addition, the roads connected to the inner parts of Anatolia, Aegean Region was constructed in this city (Aru, 1998 cited in Öztekin, 2010).

Accordingly, this strategic location provided a multilayered city character with visible and traceable cultural properties belonging to Hellenistic, Roman, Byzantine, Seljuks, Ottoman, and Republican period. Monumental structures, archeological data, and historic site are the elements that constituted Kaleiçi historic urban landscape. **Monumental Structures** which are the social structures belonged to Seljuks and Ottoman Period; mosques, madrasahs, public baths, church, each of them being a focal point in Kaleiçi. **Archeological Data** belonged to Hellenistic and Roman period and the other settlements intersected on it. **Historic Site** included whole Ottoman city before Republican Period with residential buildings, shops, storage, workshop, social structures, bazaar, square, port, garden (Tankut, 1979; 47)

Antalya, which placed at Mediterranean Coast, in today's Yacht Harbor, had been named as Korykos town in antique period, Attaleia in Roman, Adalya in Seljuk and Ottoman Period undergone important changes (Gül, 2008).

Antalya in Hellenistic Period: From the first period, Antalya hosted many civilizations. Even it was claimed that Antalya founded by II Attolos, the evidences from necropolis area in Doğu Garajı showed that there was settlements in 4th BC century before Attolos as a fisherman village called Korykos (Büyükhörük 1999-200,115-152 cited in Kayır & Salim, 2005; 44)

Although it is impossible to estimate the exact traces of Hellenistic Period, there are some clues about the traces of this period regarding its topography and street pattern (Figure 26-Figure 27). Ion city urban pattern could be seen in the east part of Kaleiçi, where it is easy to construct grid pattern city while due to steep slope there is no grid pattern in west (Süer, 2006).

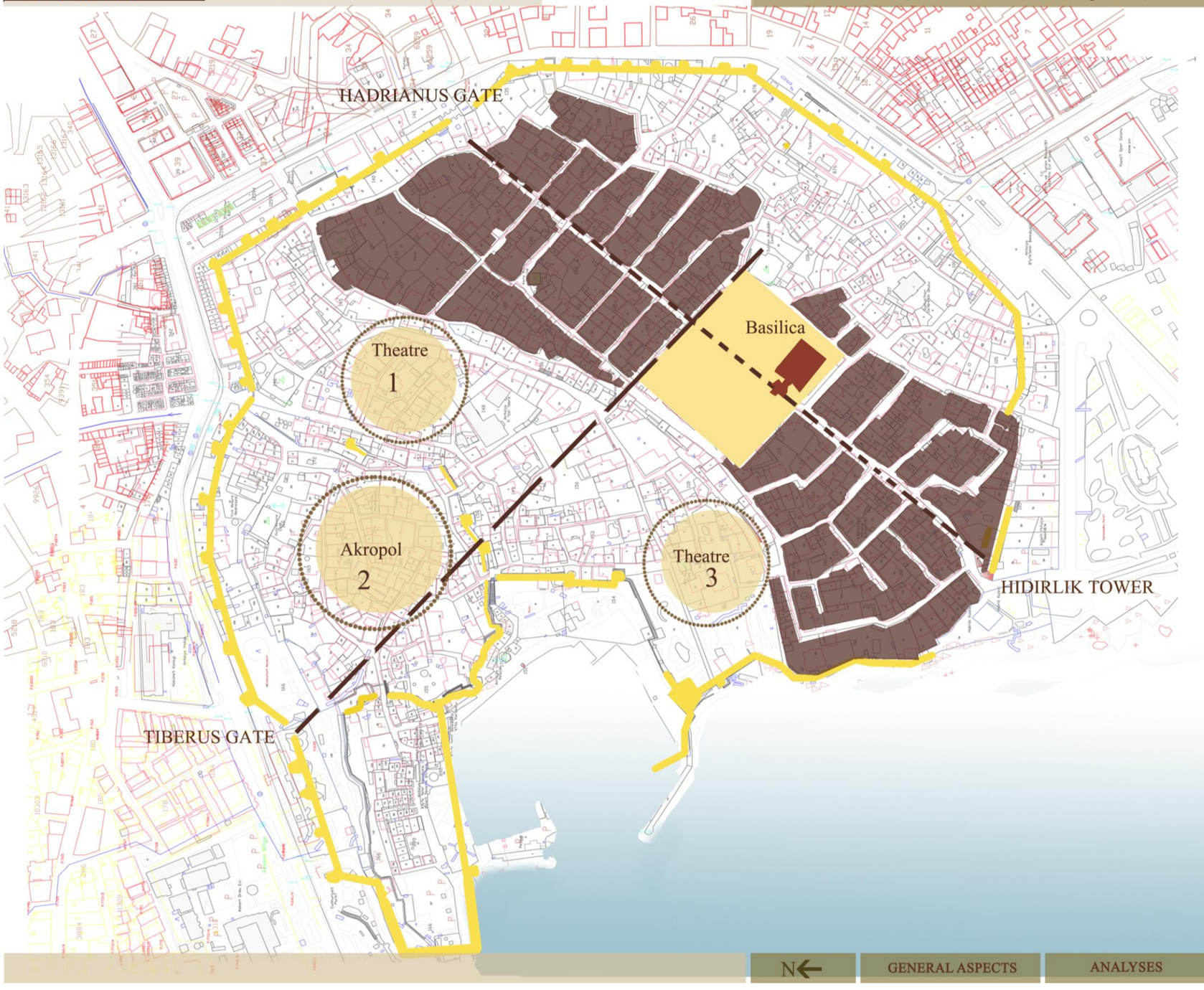
Acropolis, agora, amphitheatre are known as a part of basic urban elements in Hellenistic cities (Süer, 2006). Although there are no confirmations about exact places of these elements in Kaleiçi, they were estimated (Argın, 2012). For example, in Hellenistic cities the acropolis, which is the defence place for the internal and external uprisings, located on the most elevated of the city with high fortification walls because of its easier protection. Therefore, thanks to the being most elevated place of the site, the northern part of Kaleiçi could be the place for the acropolis (Yağcı, 2009; Süer, 2006).

Figure 26: The drawing of Calameus in 1570 (Süer, 2006; 57)

Figure 27: Engraving of by Lucas Vorsterman of Ioannes Peteers drawing entitled to Satalya nel Arcipelago, dating before 1667, (Duggan & Kahya, 2010; 63)

The agora, the center of commercial, political, and social life, which is defined by public buildings, is accepted as hearth of Hellenistic cities. Agora in harbor cities located near the port and the colonnaded road reaching to the agora where temple placed around was an important element in these cities (Wycherley, 1993 cited in Süer, 2006; 60).

Kaleiçi in Roman Period: In BC 79, Attaliea, a harbour city, had been controlled by Roman Empire. The development of city in Roman period continued until A.C. 2. Roman policy about the settling new immigrants into the city brought the need for building external fortification wall on city border in order to protect those people (Yağcı, 2009). In the honor of Emperor Hadrian who visited this area, Hadrianus Gate, built between 117 and 138 AD, was the main entrance of this area. Hadrian gate was a door that connects Pamphylia to Perge, Aspendos, Sillyon, and Side. It was called as Perge Gate or Flowered Gate. The main road between Hadrianus Gate and Hıdırlık tower was called King Road. In present time, Hesapçı Street is the place where the path of this main road can be observed. This street was possibly the main road of Roman period complied with either Cardo or Decumanus axis that shaped Roman cities (Süer, 2006). The findings as columns, stone pieces from excavations in Hesapçı Street show that there were colonnaded street from Roman period under this street. Because of excavations at the intersection of the Zeytin Street and Hesapçı Street, travertine stones found there assumed as the traces of the antique road under Hesapçı Street, which continues until Hıdırlık Tower from findings behind the area. It was assumed that the area behind Kesik Minare was used as basilica in Roman Period, agora in Hellenistic Period (Yağcı, 2009). In recent years the theatre edifices that found in Kaleiçi in Tuzcular Neighborhood, 148 blocks 3, 4, 31 registered in 2011 as monuments belonged to Attaleia antique city (Antalya Council Conservation, n.d.)



KALEİÇİ IN HELLENISTIC AND ROMAN PERIOD

HELLENISTIC PERIOD

Estimated Agora

Estimated Theatre and Acropol

ROMAN PERIOD

Basilica

Estimated Roman City Walls

Roman Period Structures

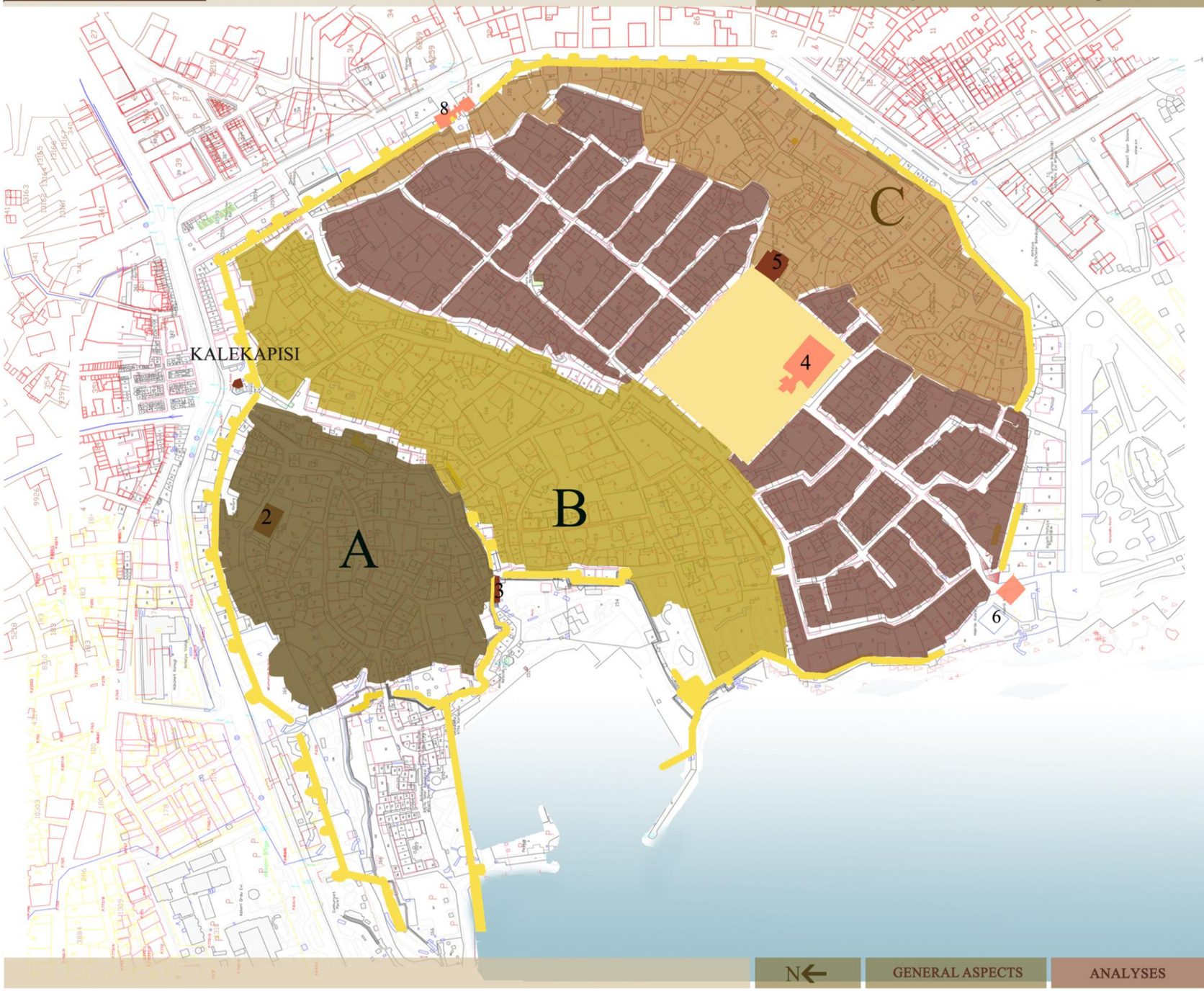
1 Possible location of the theatre , Üreyen&Excavation
2 Possible location of the acropol in Hellenistic period
3 Possible location of the theatre According to Erten

*The maps related to historical stratification of Kaleiçi represented here with respect to data from Süer, 2006, Antalya İl Kültür Envanteri, 2004,Kurt 2010

Figure 28: Kaleiçi in Hellenistic and Roman Period

Kaleiçi in Byzantine Period: After Roman Empire decayed in AD 394, Attalia and its surroundings remained in Byzantine boundary. In the Byzantine period, the religion was an important element that shaped the city (Yağcı, 2009; 34). Since the demolishing most of the church that constructed in this period, it is difficult to see the traces of the religious structure. Most of the Roman basilicas settled in Antalya devastated in this period.

In this period in order to protect the city from Arabian attack, shirt walls were constructed the outer city walls belonged Roman Period. In the 11th century, Kırkmerdiven constructed in order to encourage the connection and commercial flow between Kalekapısı and port by Venetians. Kalekapısı which Evliya Çelebi called it as Suburb Gate (*Varoş Kapısı*) was the only entrance gate into historic core, the other gates that constructed in Roman Period was closed in this period and Clock Tower behind it were built (Yağcı, 2009; 34-35)



TANGIBLE REMAINS OF BYZANTIAN STRATIFICATION

- 1 Clock Tower
- 2 Yivli Minare Church
- 3 Kırk Merdiven
- 5 Isodia Tis Panayas Church

- A Inner City Wall
- B Main Residential Area
- C Out Neighborhood

TANGIBLE REMAINS OF ROMAN STRATIFICATION

- 4 Panagia Church
- 6 Hıdırlık Tower
- 8 Hadrianus Gate
- Estimated Roman City Walls

*The maps related to historical stratification of Kaleiçi represented here with respect to data from Süer, 2006, Antalya İl Kültür Envanteri, 2004,Kurt 2010

Figure 29: Kaleiçi in Byzantine Period

Kaleiçi in Seljuk Period: Seljuks began to control Attalia, which was the first harbor city that Seljuks conquered, in the 13th century by I Gıyaseddin Keyhüsrev (Kurt, 2010). In this period, city had an important international trade role because of its location on the shortest route between Egypt and İstanbul (Öztekin, 2010).

Seljuks applied the similar city concept in Anatolia that they did not demolish the existing city and just settled on the current city with some changes because of cultural and religious priorities (Süer, 2006). For example, Ionnis Tu Teoluğu Church constructed in Byzantine period and transformed into a mosque and the famous minaret called Yivli Minare constructed near this church in this period (Argın, 2012; 68). The other Seljuks monuments constructed are Mevlevihane, Ahi Kızı Tomb and Mosque, Ahi Yusuf Mosque, Karatay Madrasah, Kulliye of Yivli Minare with Seljuks Madrasah, Karamolla Masjid, and Şeyh Şüca Tomb, Zincirkıran Mehmet Bey Tomb, and Imaret Masjid (Argın, 2012; 68-69).

In addition to Attaliea, Perge, Side, Aspendos, Syllion were added to Turkish region. Port had an important role in this period, and people defined city with respect to port. The east part of the route connecting Sinop and Antalya in the 13 th century was the most developed part of Seljuks Empire. This route had a developed transportation network regarding serving international trading route. Major cities that constituted the main spine of Seljuks that starting from Samsun and Sinop continues to Amasya, to Sivas by passing Tokat and Kayseri-Aksaray-Konya-Eğridir-Isparta-Antalya and Alanya. In addition to this route, Kayseri-Malatya and Diyarbakır was another route that used in Seljuk period (Kurt, 2010).

Therefore, due to its location on the major trading route, there were many caravanserai, shops, and bazaars constructed in this period. Concordantly, there are three caravanserai in Kaleiçi belonged to this period, Karatay, Gıyaseddin Keyhüsrev and Seljuk caravanserai that shows the economic significance of the area. In this period because Muslims, Christians, and Jewishs had difficulty about living together, inner city walls constructed and separated the people according to their religion. With this regulation, Turk Muslims located at northwest part and Christian located at the southeast part ((Argın, 2012) (Öztekin, 2010) (Kayır & Salim, 2005)). At the end of the 13th century, the city was conquered by Hamitoğulları Baylik

TANGIBLE REMAINS OF SELJUK STRATIFICATION

1 Mevlevihane
2 Karatay Madrasah
3 Selçuklu Madrasah
4 Gıyaseddin Keyhüsrev Madrasah
5 Ahi Kızı Masjid
6 Ahi Kızı Tomb
7 Ahi Yusuf Masjid
8 Zincirkıran Mehmet Bey Tomb
9 Karamolla Masjid
10 İmaret Masjid

Yivli Minare Church
Isodia Tis Panayas Church

A Turkish Quarter
B Jewish Quarter
C Greek Quarter

TANGIBLE REMAINS OF BYZANTINE STRATIFICATION

Clock Tower
Kırk Merdiven
Byzantine City Walls (Tanyeli Assumption cited in Süer,2006)

TANGIBLE REMAINS OF ROMAN STRATIFICATION

Panagia Church
Hıdırlık Tower
Hadrianus Gate
Estimated Roman CityWalls

*The maps related to historical stratification of Kaleiçi repres here with respect to data from Süer, 2006, Antalya İl Kültür Envanteri, 2004,Kurt 2010

Figure 30: Kaleiçi in Seljuk Period

Kaleiçi in Ottoman Period: Ottoman Empire conquered Antalya in the 15th century as a center of Teke Sanjak and the city preserved its harbor identity in this period. City started to develop out of the city walls, so city walls lost their importance as an urban element. Ottomans protected the urban structure in terms of cultural and natural character of the city and they did not damage monument (Yağcı, 2009; 36).Therefore, it is possible to see the conserved structures from Seljuks period. It was assumed that the city center in this period developed through north (Kayır & Salim, 2005; 44).

Within this period, Muslim population increased and concordantly, the number of religious buildings and public baths increased as well. The commercial center of the city was expanded to west part and the region beyond Kalekapısı was meeting the different needs of local people who belonged to different religions. In this period, the buildings constructed close to each other in narrow streets and having gardens and large inner courtyards. Water channels, which were flowing in almost all the wide streets, were as an element of urban life in this period (Lancroski, 1890, cited in No author). The port was also a significant urban element of the city (Figure 31).

Figure 31: (Lancroski, 1885) (cited in Kültür ve Turizm, Dünden Bugüne Antalya Cilt II; p.460)

After 1914, the inner part of city wall started to lose its importance city walls started to be demolished in this period (Kayır & Salim, 2005; 44)

Figure 32: Kaleiçi in OttomanPeriod

After Republican Period: In the Republican Period, the most important development affected cultural, physical, and social structure of the Kaleiçi, was the exchange of population[49] between 1920 and1930. Many of the Greeks people left their home from the port in September 1922 (Çimrin, 2007a; 274). Between 1935 and 1940, residents complained that the city walls prevented the wind the city walls demolished against payment (Kayır & Salim, 2005; 44) (Figure 33).

Figure 33: When the city walls demolished (This Photo donated by General Directorate of Press and Information to Antalya City Museum Archive, and presented in the Arşivden Gün Işığına, Antalya Photo Exhibition)

In 1940s, after the Second World War like other cities in Turkey, Antalya economy also affected negatively. People had difficulty to buy their needs. However, Haşim İşçan, the governor of Antalya between 1940 and 1945, changed the destiny of the city by founding ‘’Beautification of Antalya Association’’and supported urbanization process (Akıltopu, 1997). In this period, one of the important urban element of the city, Karaalioğlan Park and Atatürk Street were enlarged and İnönü Primary School, Kız Enstitüsü, and Doğumevi Hospital constructed on Ali Çetinkaya Street. By constructing Cumhuriyet Street, new offices, bazaar, and bank structures in front of

[49] Mübadele

the city walls and even in the urban protected site started to be constructed (Yağcı, 2009; 30).

While until 1950s, Antalya had an agricultural development, and economy based on the trade and services with coast city, **after 1950s,** the city vision changed and urban morphology as well.

Between 1960 and **1970** was a period that city faced with unexpected social, cultural, spatial changes caused because of population increase, tourism pressure and urbanization. The temporary solutions for the problems caused cultural and physical destructions in the historic urban landscape because of looking for just renewed city. Especially, the urbanization studies on the boundary of the historic city centers because of the increase of the rant, the main roads transformed into commercial uses and shopping malls including small shop units, offices constructed, and old structures demolished and new structures without any identity occurred instead of old one (Manavoğlu, 2009; 22). In 1970s, the most part of the city had urbanized. Therefore, in this period, historic city center started to lose its historic and cultural values. Since tourism revenue could not be reflected to city center, developing everything in accordance with tourist demand have created significant problems for city center (Gül, 2008). In 1973, because of developments and formations in the legal and institutional structure of the country old plans became useless and the need for new plan arose. After these developments, the planning studies increased in Antalya. In 1974, Antalya Yacht Harbor and Restoration project was the first comprehensive study was started by state support. This triggered the change and regeneration of Kaleiçi (Kayır & Salim, 2005; 46).

3.2.1. Key Points Drawn from the Assesment of the History of the Site and Archival Survey[50]

As all the periods show that Antalya Kaleiçi is a significant town with its components, hosted juxtaposition of the tangible and intangible remains of the different historic stratifications regarding Roman, Byzantine, Seljuk, Ottoman, and Turkish Republic; respectively. Due to this unique historic development of the city, it can be said that Antalya Kaleiçi, unlike all other historic urban landscapes, it has identical strategic and amazing location with continuous inhabitancy throughout its history.

Additionally, from the analyses of archival study, the historic maps, gravures, travelers' words belonged to different periods about Kaleiçi showed the historical period of it with different visual and written documents. From these documents, the relation between topography and the city walls, the importance of the port through history, the climate, the social life, street life, and the values of the cultural properties could be experienced clearly.

[50] The related visual information including old maps, travelers' words can be reached from Appendix C

3.3.PLANNING AND CONSERVATION ACTIVITIES IN KALEIÇI AND THEIR PROPOSAL FOR KALEİÇİ [51]

The first known plan of Antalya belonged to Italian engineer Scarpa, which dated to 1919. After, in 1955, by The Bank of Provinces with the financial support of American Marshall Plan, the competition of ''Antalya İmar Planı'' was arranged. The project that had a degree in the competition chosen because of having sensitive planning approach on cultural, historical, social and climatic characteristic of the city. After, the first plan prepared by The Bank of Provinces and approved by Ministry of Development and Housing[52] in 1957. Those plans started to shape urbanization process of the city with new housing conditions.

In 1973, the registration of Kaleiçi and Marina as a ***Conservation Site***[53] by High Council for Historic Real Estates, Artifacts, and Monuments was **the first attempt for planning and conservation of Kaleiçi**. In 1979, "**Conservation and Development Plan of Kaleiçi"**[54] was approved and come into force by Ministry of Development and Housing in 1982.

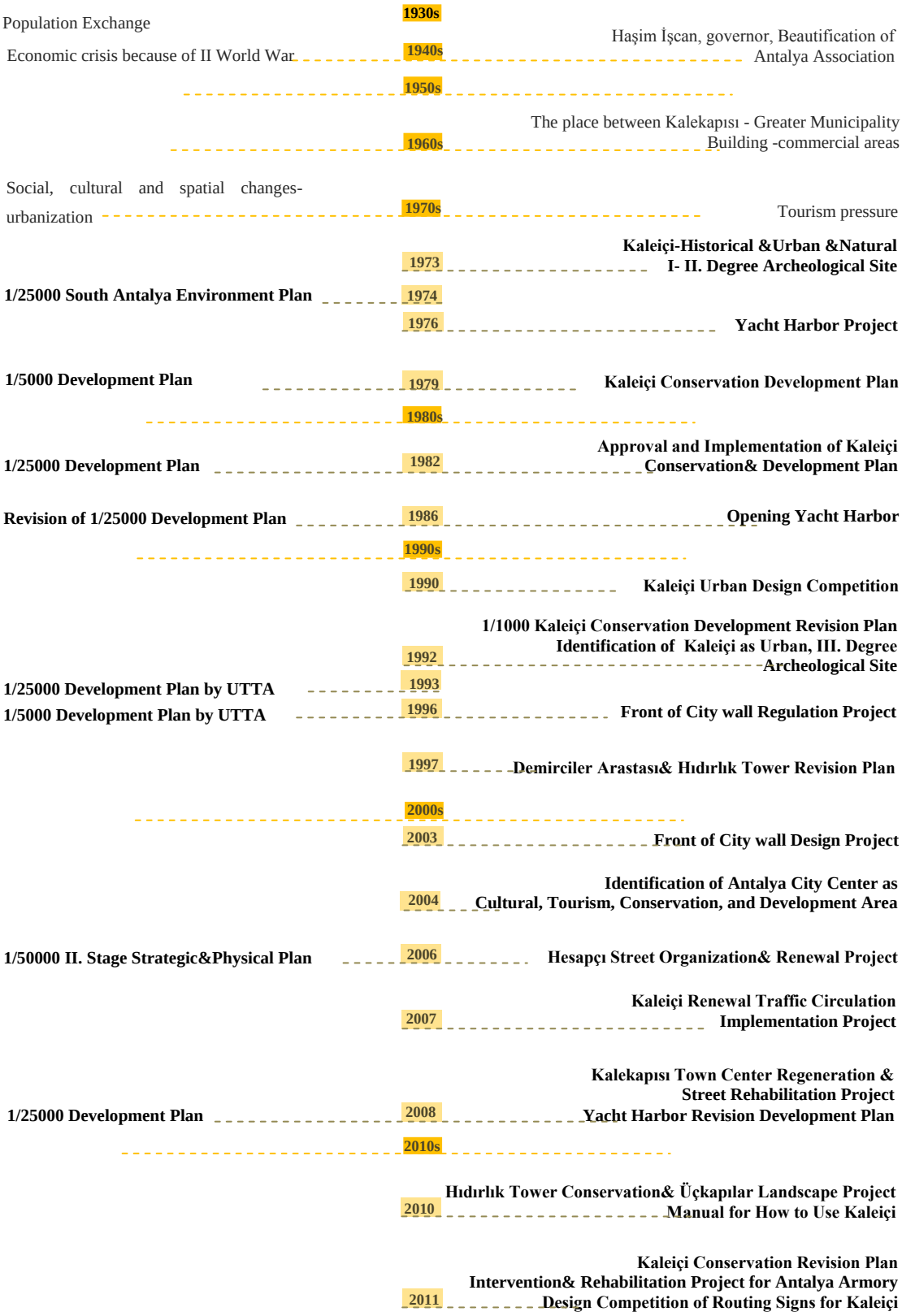
Because of identified as I- II. Degree Archeological Site, Historic, Urban, and Natural Site by different plans' decisions, it was difficult to perceive and assess the site as a whole. Therefore, in 1989, Board of Protection of Cultural and Natural Assets[55] required a plan revision to assess the problems in a whole. Then, according to decision of Antalya Board of Protection of Cultural and Natural Assets Kaleiçi area identified as **Urban** and **III. Degree Archeological Site** in 1989.

A revision conservation plan was conducted by METU Prof. Dr. Mustafa Parlar Education and Research Foundation and approved by Antalya Board of Protection of Cultural and Natural Assets in 1992. In addition, the region including Balbey and Haşim İşçan Urban Sites, Kaleiçi Urban and III Degree Archeological Site, Hanlar

[51] The information about planning and conservation activities were prepared mostly in accordance with the data taken from KUDEB, Unpublished Report of Conservation Revision Plan of Antalya, Kaleiçi during internship period of author in 2012 in KUDEB.
[52] İmar ve İskân Bakanlığı
[53] Sit alanı
[54] Kaleiçi Koruma Geliştirme Planı
[55] Kültür ve Tabiat Varlıklarını Koruma Kurulu

Region, Republic Square, and Karaalioğlan Park identified as **Culture& Tourism Conservation and Development Area** in 2004. (Table 18)

Table 18: The Historical Background of Planning and Conservation Studies



3.3.1. Antalya Development Plan (1976), Kaleiçi and Yacht Harbor Implementation Plan (1976)

The **development plan** for whole city, 1/5000 development plan and 1/1000 Implementation Plan were decided to be prepared in 1969 with deeply analytic studies. The planning studies were started in 1976. Development plan was conducted by urban planner Zühtü Can in 1978 with the main strategy of conserving agricultural areas on east by shifting the development areas and settlements to the west, identifying Lara Band as a natural site.

Kaleiçi and Yacht Harbor Implementation Plan (1976): Kaleiçi and Yacht harbor, and their surroundings defined as **Tourism Center in 1970s** and in 1973 registered as Conservation Area by High Council for Historic Real Estates, Artifacts, and Monuments (HCHRAM)[56]. Since this period, even they have been considered together in registration, planning, implementation process, they always evaluated separately with respect to having different plans, and the implementation continued in this way. The old marina, which was known as İskele in the past, lost its importance because of the construction of the new yacht harbor according to protocol between Cultural, Tourism Ministry, Municipality, The Ministry of Public Works and Settlement[57] and High Council for Historic Real Estates, Artifacts, and Monuments in 1973. In the scope of this project, the area between sea and the fortification walls surrounding the port and the structures on it were handled, some of the traditional buildings restored. In this context, the region starting with the building, which was used as Provincial Directorate of Tourism, through Mermerli Street, and the fortification walls with traditional buildings on it, and Tophane City Walls through İskele Street, defined as ***Tourism Center*****.** 5,5 ha area was expropriated by Tourism Ministry with the aim of touristic investment and environment conservation in the traditional urban fabric. The old harbor was introduced as Yacht Harbor Tourism Center that will provide accommodation and entertainment. Many commercial buildings and warehouses at the northern part of Kaleiçi transformed into cafes, shopping units, restaurants, pubs. The project, which was carried out by contribution of Ministry of Culture and Tourism. There were two stages of this

[56] Gayrimenkul Eski Eserler ve Anıtlar Kurulu
[57] Bayındırlık ve İskan Bakanlığı

project; the first one was clarifying and renovation of Yacht Harbor. The second phase was to restore traditional buildings (Akın, 1998 cited in Süer, 2006). However, the restoration of traditional buildings over the fortification walls could have been started in 1985 (Süer, 2006).

In 1984, due to the fact that the performance of the project, the project was awarded with Golden Apple, which was an important award for a city. In addition, in 1986, it was awarded by the traditional award of Silver Sable by Association of British Travel Writers and in Landscape Award by Sedat Simavi Foundation.

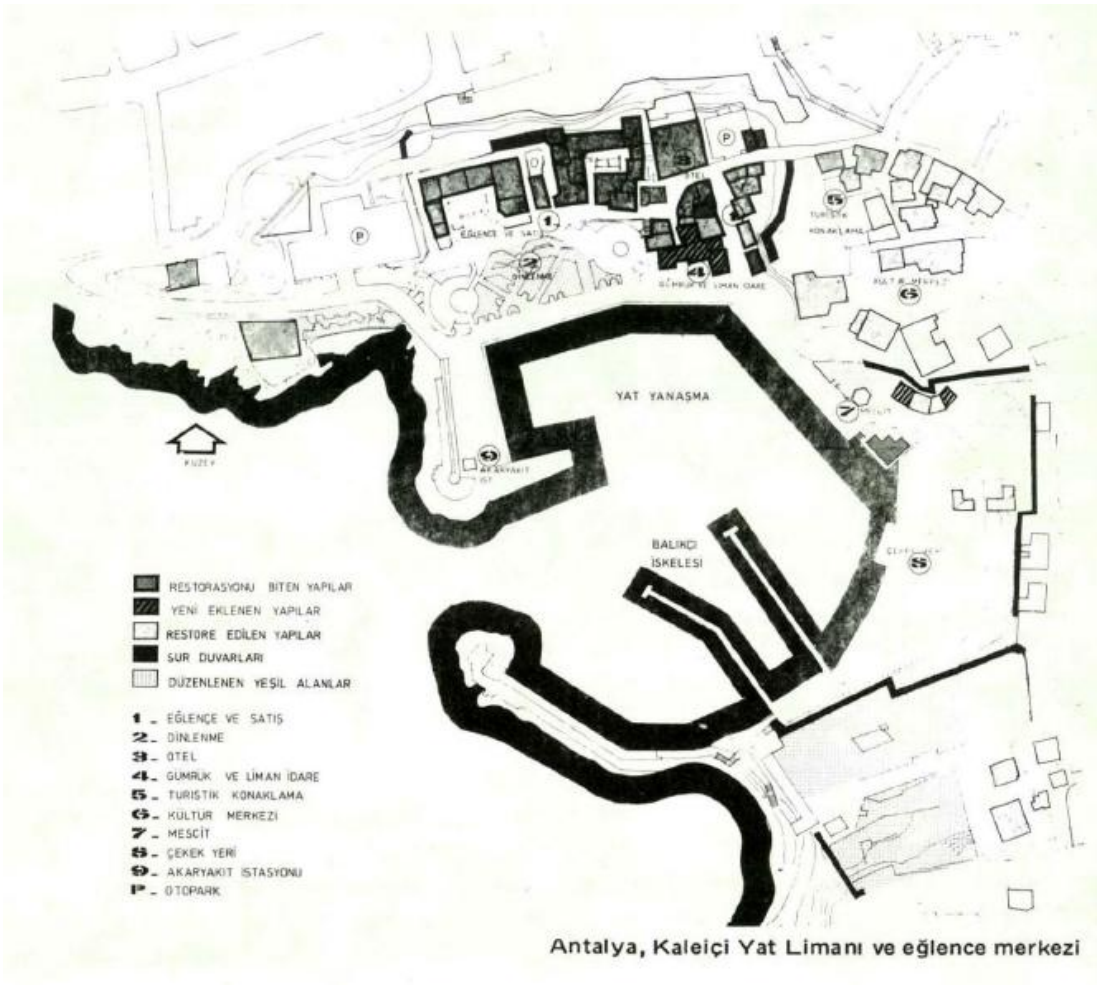
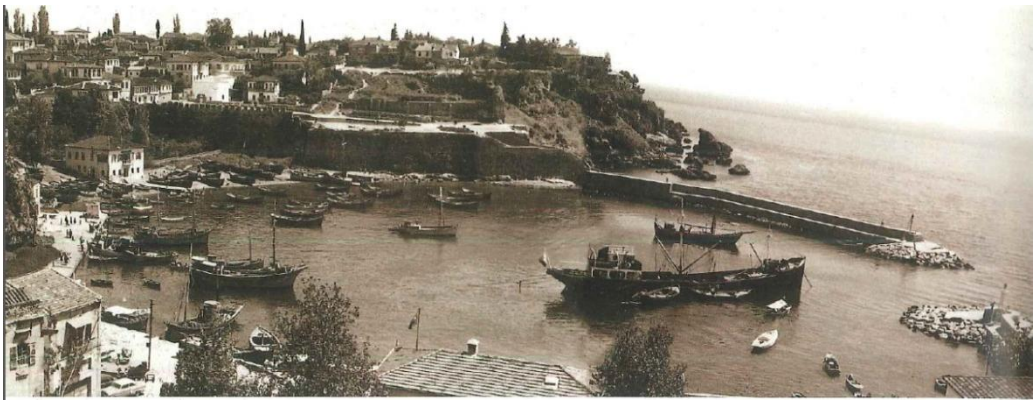


Figure 34: Kaleiçi&Yacht Harbor Layout Plan (Journal of Architecture, Tek Yapıdan Çevre Korumasına, 1984/3-4; 36)

Within this plan, which changed the destiny of Antalya Kaleiçi, day by day, the concept of İskele transformed into a touristic area that local people used it less and less. Before project implementation, there were commercial units, ship production units, storage, masjid, and fish bazaar. After this plan, the profile changed with tourism based development including an amphitheatre, restaurant, coffeehouse, pubs, commercial units including jewelry, souvenir shop, carpet shop and administrative buildings including port authority, customs, passport, coastguard, security building, bank and post office, hotel for accommodation facility with 60 beds capacity(Journal of Architecture, 1984/3-4; 36-37) (Figure 35).



a

b

c

Figure 35: (a) The appearance of port, in the past (b) in 1990s, Archive of Cengiz Bektaş cited in Aru, 1998 (c) Today, Author, 2014

3.3.2. 1/ 5000 Development Plan (1980)

1/ 5000 Development Plan studies that directed development process between 1977 and 1994 were initiated by urban planner Zühtü Can in 1977 and completed in 1979. It was approved in 1980. Until 1994, urbanization continued by renovations and additions to plans were conducted. (Figure 36)

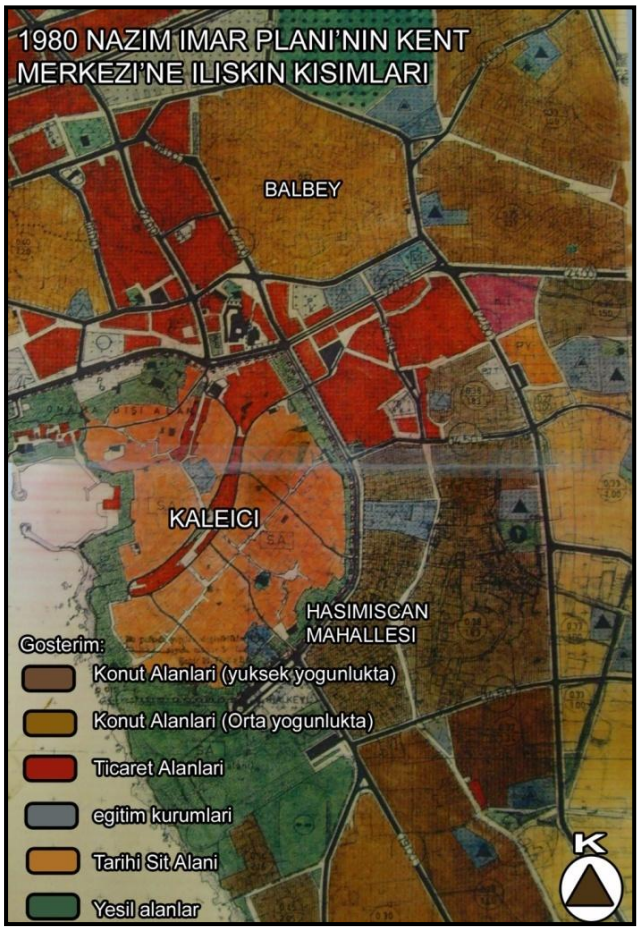


Figure 36: 1/5000 Development Plan (1979) (KUDEB Archive)

In this plan, Kaleiçi was identified as historic site and city walls and its surroundings protected with greenery buffer zone. For **functions**, commercial facilities offered to southeastern of School Region, Kalekapısı, and Şarampol Street. In Kaleiçi, commercial functions were continued through building blocks at north and in some main streets.

3.3.3. 1/ 1000 Kaleiçi Conservation and Development Plan (1979-1982):

In 1973, Ministry of Tourism declared Kaleiçi and Yacht Harbor as Conservation Site. Touristic Development Project for Antalya Yacht Harbor started in those years. Having potentials and negative factors brought the necessity of planning (Table 19). In 1974, Kaleiçi Conservation Development Plan was commissioned to METU team, which was coordinated by Gönül Tankut. The decision of High Council for Historic Real Estates, Artifacts, and Monuments numbered as 1850 in 22.09.1979 "**Conservation and Development Plan of Kaleiçi"**[58] was approved. This plan prepared between 1977 and 1979 and approved by Ministry of Development and Housing in 1982. Implementation studies were started in 1983.

Table 19: The negative factors and potentials defined for Kaleiçi Conservation Site in 1979 plan (Öztekin, 2010; 61)

Negative factors	Potentials
-Absence of an active commercial area which could be continuation of city center -Showing the danger of transforming into a depression area in terms of social and economic life -The presence of young generations -Reduction in the number of home ownership and decrease in time of tenancy so becoming a transition area -Increase in unemployment percentage -Low environmental conditions -Difficult living conditions -The inability to assess cultural and natural resources in detail -Monuments lose in the street pattern -Aging of the physical environment -Complex layout of open spaces and street pattern	-Positioning close to city center -Being superior and attractive in terms of geographical location -Being close to city center in terms of residential use -Being attractive in accordance with historical tissue, cultural and natural resources -Having a respectable amount of green tissue -Locating close to Yacht Harbor -Center area for relaxation, sightseeing and recreational purposes

[58] Kaleiçi Koruma Geliştirme Planı

There were two major goals of this plan as conservation and assessment of historical and natural values of Kaleiçi and developing Kaleiçi with respect to modern life conditions (Öztekin, 2010)(Figure 37).

Within this context, the plan was focusing on the strategies of conserving and sustaining the historical, cultural, natural, and environmental values, converting cultural and historical assets into common resources, reviving the historic core with respect to economic, cultural, and touristic facilities. Additionally, bringing modern urban living requirements to local people creating living historic urban fabric with current Kaleiçi residents were other goals of this plan. The important strategy regarding mobility was organizing mobility and accessibility by arranging pedestrian and vehicular mobility conditions, which were compatible with historical and visual fabric. Furthermore, it aimed integrating studies of Antalya Development Plan Office and Yacht Harbour Project, which was prepared and implemented by Ministry of Tourism (Öztekin, 2010; 61).

Figure 37: 1979 – 1/1000 Kaleiçi Conservation and Development Plan (KUDEB Archive)

In other words, goals of the plan can be summarized as:

- Minimizing the confliction between historical urban fabric and modern life requirements
- Rehabilitating social justice in Kaleiçi neighborhoods
- Overcoming economic collapse
- Rehabilitation of physical environment
- Conserving values of the history, culture and local environment
- Reinforcing Kaleiçi with necessary touristic functions in order to add Kaleiçi into Antalya's Touristic Assets (Tankut, 1979; 47)

Within the scope of balancing functions, tourism functions were seen as a major tool to sustain and develop the site. Increase tourism pressure on Kaleiçi affected the functional change of the traditional houses physically. Thus brought the problems because of the negativities related with not distributing the tourism facilities within the site properly and just focusing on tourism-based development sector that could not be solved in lot scale.

Within the scope of **urban mobility,** in the documents belonged Gönül Tankut with her handwriting, the aim was to increase the accessibility to the site and emphasizing the need for parking areas, removing the traffic congestion, and solving the traffic dilemma.

3.3.4. Hanlar Region Conservation Area Boundary (1989)

Hanlar region is out of Kaleiçi boundary, used as commercial center of the city since 16th century. The region includes monumental structures as Balbey Mosque, Pazar Bath, Ayanoğlu Masjid, Cumhuriyet Bath, Tek Kapılı Han, İki Kapılı Han, and Zincirli Han. The boundary of Hanlar Region Conservation Area designated in 1989 by Conservation Council (Figure 38).

Figure 38: The Boundary of Hanlar Region Conservation Area, (KUDEB Archive

3.3.5. Kalekapısı and Its Surrounding Urban Design Competition (1990)

In 1990, Kalekapısı and its surrounding urban design project competition was organized. The jury assessed projects with respect to a dynamic continuity from past to future rather than choosing historical, present and future trends. Furthermore, the project aimed at developing with tourism by providing people to feel local identity to city center rather than feeling foreignness and discomfort. In this context, *''restoration without demolishing historical background''* and *''conservation that do not prohibit development and renovation''* were two conservation principles taken into consideration during assessment (Gül, 2008; 81). The project prepared by Baran İDİL, Hasan Özbay and Tamer Başbuğ that emphasized the issue determined social identity of Antalya was tourism, the winner of the competition (Gül, 2008;81).. The boundary of this project that aimed rehabilitation, revitalization, transformation of Kalekapısı and its surrounding could be described as in north Old Terminal Area, in west Orduevi, in south a part Cumhuriyet Square and Dönerciler Çarşısı, Karakaş Mosque and Balbey Quarter. (Figure 39-a-Figure 39-b)

(a) (b)

Figure 39: (a) City Center 1/5000 Development Plan, (b) Kalekapısı and its surrounding, 1/1000, The Winner Project, (Architecture Journal, 91/1)

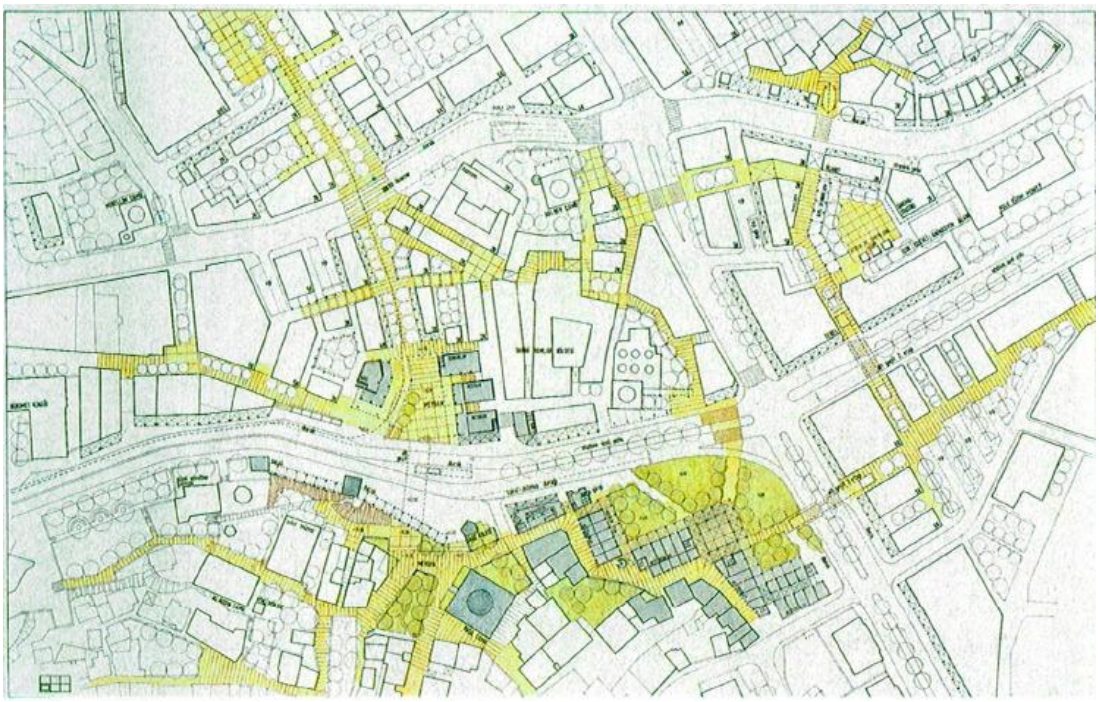


Figure 40: Kalekapısı and its surrounding Environmental Urban Regulation 1/500, The Winner Project, (Architecture Journal, 91/1)

The objectives of this project were;

- Enabling the transformation of physical and functional structure

- Within the framework of conservation and usage, emhasising identity of the contemporary city center
- Minimizing uncertainities related with landuse decisions and development applications
- Defining urban design and architecture principles
- Maximizing the mobility capacity in close medium and long term
- Enhancing and maximizing pedestrian activities and pedestrianization of Şarampol Street(Figure 40-Figure 41)

In Kaleiçi, subprojects were defined and some of them had competition project.
These sub-projects were;

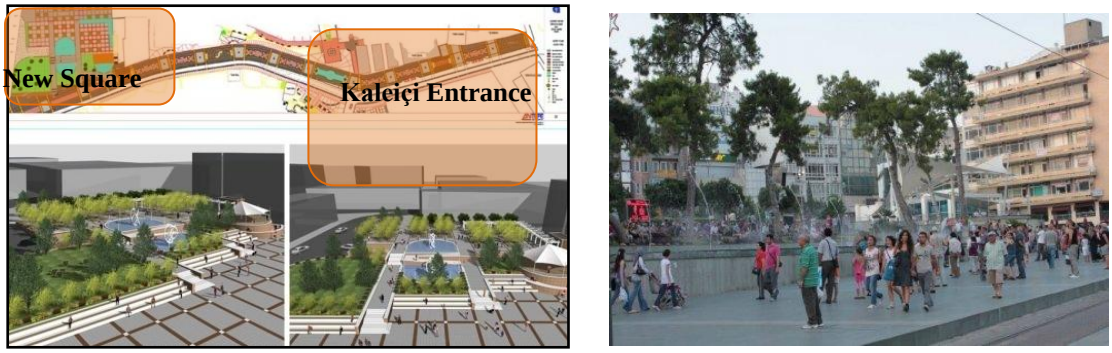
1. City Square and Governor's Building(Valilik Binası)
2. Kalekapısı City Center Renovation-Street Rehabilitation and Implementation Project
3. Vakıf İşhanı
4. Sobacılar Çarşısı Architecture and Engineering Implementation Projects
5. School Region Architecture and Engineering Implementation Projects
6. Doğu Garajı and Halk Bazaar Area Regulation
7. Balbey Quarter

(a) **(b)**

Figure 41: (a) (b) Pedestrianised Şarampol Street today (Personal Archive, 2014)

Those sub-projects

- **City Square &Governor Building Project (2006);** Today Cumhuriyet Square used for public ceremonies, celebrations, gathering point, relaxing area by many institutions and foreign and local people. In addition, this square is a view terrace of Kaleiçi, west part and east part of the city, and cliffs for people. In 2006, in order to enlarge square into a more enjoyable and inspirational square, open spaces were organized and the area where governors' building placed transformed into square area. This decision approved by Conservation Council in 2006. Governor Building was transferred into Gazi Mustafa Kemal Primary school, after the school was restored. Under the area of governors building, there are **two underground parking areas** for 17 buses and almost 100 cars. Exhibition, demonstration areas, relaxing areas around square were supported with greenery and water elements. Within the context of this project, High School for Health Profession was demolished and transformed into parking area. The renovation of buildings facades around Cumhuriyet Square in order to provide integration with square became a current issue. (Figure 42-a and Figure 42-b)



(a) **(b)**

Figure 42: (a) Regulation of Cumhuriyet Square and Governors Building for city square, (KUDEB Archive) (b) The project after implementation (http://www.etkihaber.com/antalya-cumhuriyet-meydani-95569h.htm)

- **Regulation for City Square and Vakıf İşhanı Region (2007);** Vakıf İşhanı in Balbey Quarter located in an important place of the city center. Within the context of transforming Antalya city center into Historic Cultural Center, revision plan was carried out. The decision transforming Vakıflar İşhanı into

square approved in 2007 by Ministry of Culture and Tourism. The building was demolished and the area integrated into Cumhuriyet square with supported greenery areas, relaxing points, small squares, and water elements. From Cumhuriyet Square to Dönerciler Çarşısı, continuous pedestrian movement was provided. In this way, the aim was to reveal Tek Kapılı Han, İki Kapılı Han, Pazar Bath and other traditional buildings. Although the square was provided, the revealing of those monumental structures still is not possible except Hamam structure (Figure 43, Figure 44-a, Figure 44-b).

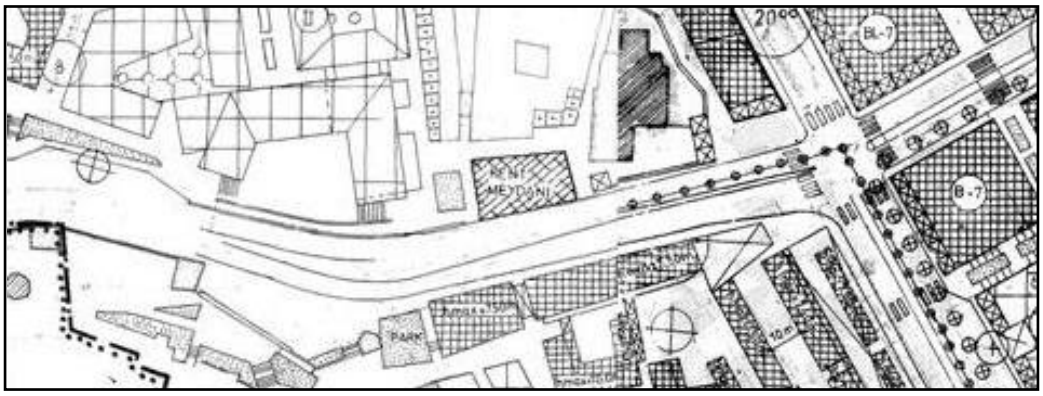


Figure 43: Regulation for City Square and Vakıf İşhanı Region, (KUDEB Archive)

(a) **(b)**

Figure 44: (a) (b) City Square and Vakıf İşhanı Region,(Author, 2014)

- **Kalekapı City Center Renewal and Street Rehabilitation Implementation Project (2008);** this project still is going on. The aim is to; renovate, rehabilitate urban fabric without ignoring historic character of the city, and conserve registered buildings, identify intervention methods of buildings that

will be offered to be registered, make facade renovation according to existing conditions and prepare restitution and building survey according to facade and roof appearance.

- **Environmental Arrangement Project for Hadrian Gate (2010–2011);** In 2010, by Conservation Council, at east part of Hadrian Gate and entrance of Atatürk Street, organization project for sitting places was determined to be implemented within the control of Museum Directorate. It was completed in 15.12.2010.

3.3.6. 1/ 1000 Kaleiçi Conservation Development Revision Plan (1992)

After Kalekapısı and its surrounding Urban Design Project Competition, because of the integrating other plans with new development plan, in 1990 planning studies were initiated for Kalekapısı and its surrounding, 1/5000 Development plan and 1/1000 Implementation Plan were prepared and approved in 01.05.1992 by Municipality Council. (Figure 45)

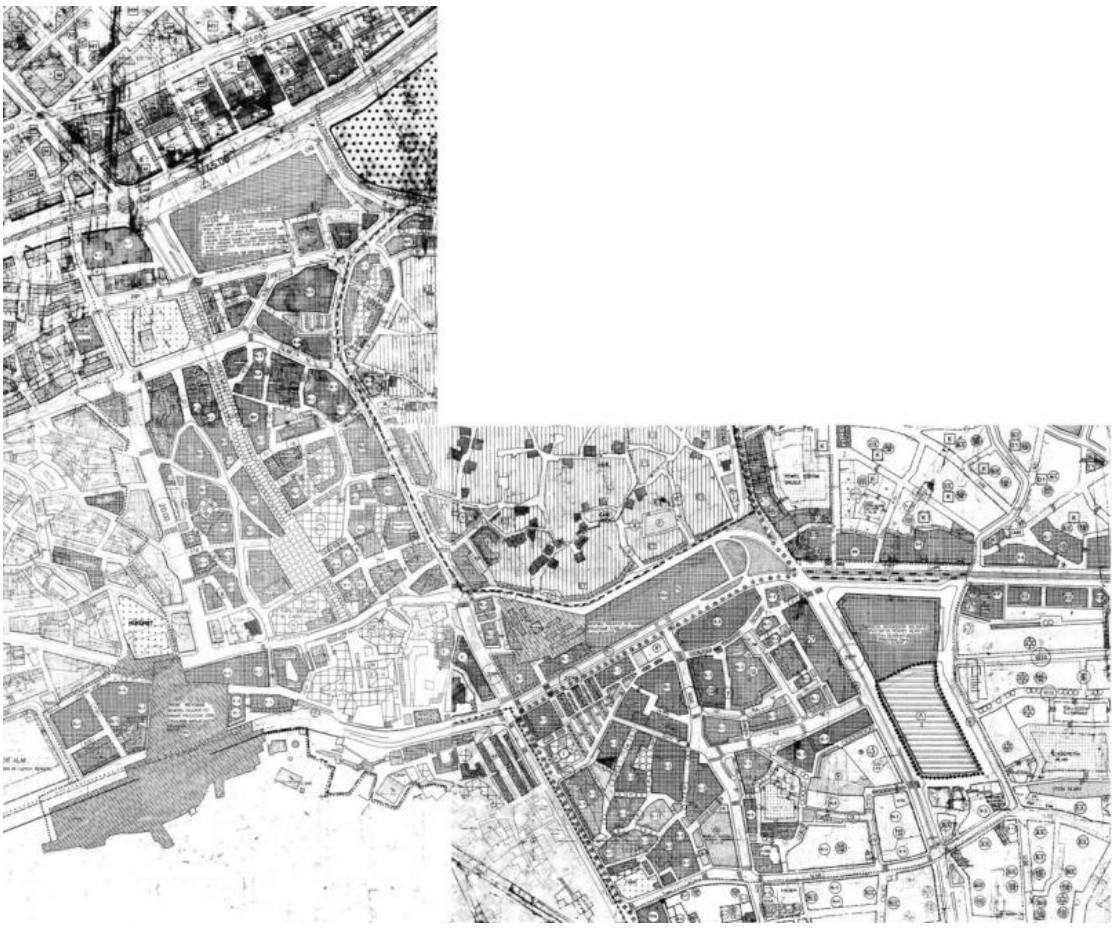


Figure 45: 1/5000 Kalekapısı and its surrounding development plan, (KUDEB Archive)

1/ 1000 Kaleiçi Conservation Development Revision Plan (1992): The reasons why 1979 Conservation Development Plan was revised introduced by planning group as follows (Öztekin, 2010; 64):

- The confliction between Conservation Council lot decisions and plan decisions
- After the plan, within the ten years the change of demand and the uses
- The excess number of expropriated lots which is not in reality to apply
- The confliction between regulations and the decisions of High Council for the Historic Real Estates, Artifacts and Monuments (HCHRAM) legend of the existing plan
- While 1979 plan supporting the house pension, the occurrence of the bigger scaled pensions and the need for hotel management

- The necessity of the dealing with mobility again
- The necessity for the restoration projects and implementations
- The necessity of the defining new housing principles within the site

Furthermore, it was aimed that compounding tourism and commercial in specified sites encouraging and compounding the residential use, and readdressing the residential density (Öztekin, 2010; 64).

Those consequences and needs showed that 1979 plan inserted a tourism function to the site and transformed the residential areas into pensions, hotels, or restaurants. This resulted in obligatory interventions on the traditional residential buildings. Therefore, Kaleiçi Conservation Development Revision Plan was commissioned to METU Mustafa Parlar Education, and Research Foundation, and Conservation Council approved the plan in 1992. Historical, I and II degree archeological site definitions were removed. The whole area defined as Unified and Improved Conserved Site[59].

[59] Birleştirilmiş ve Geliştirilmiş Sit Alanı

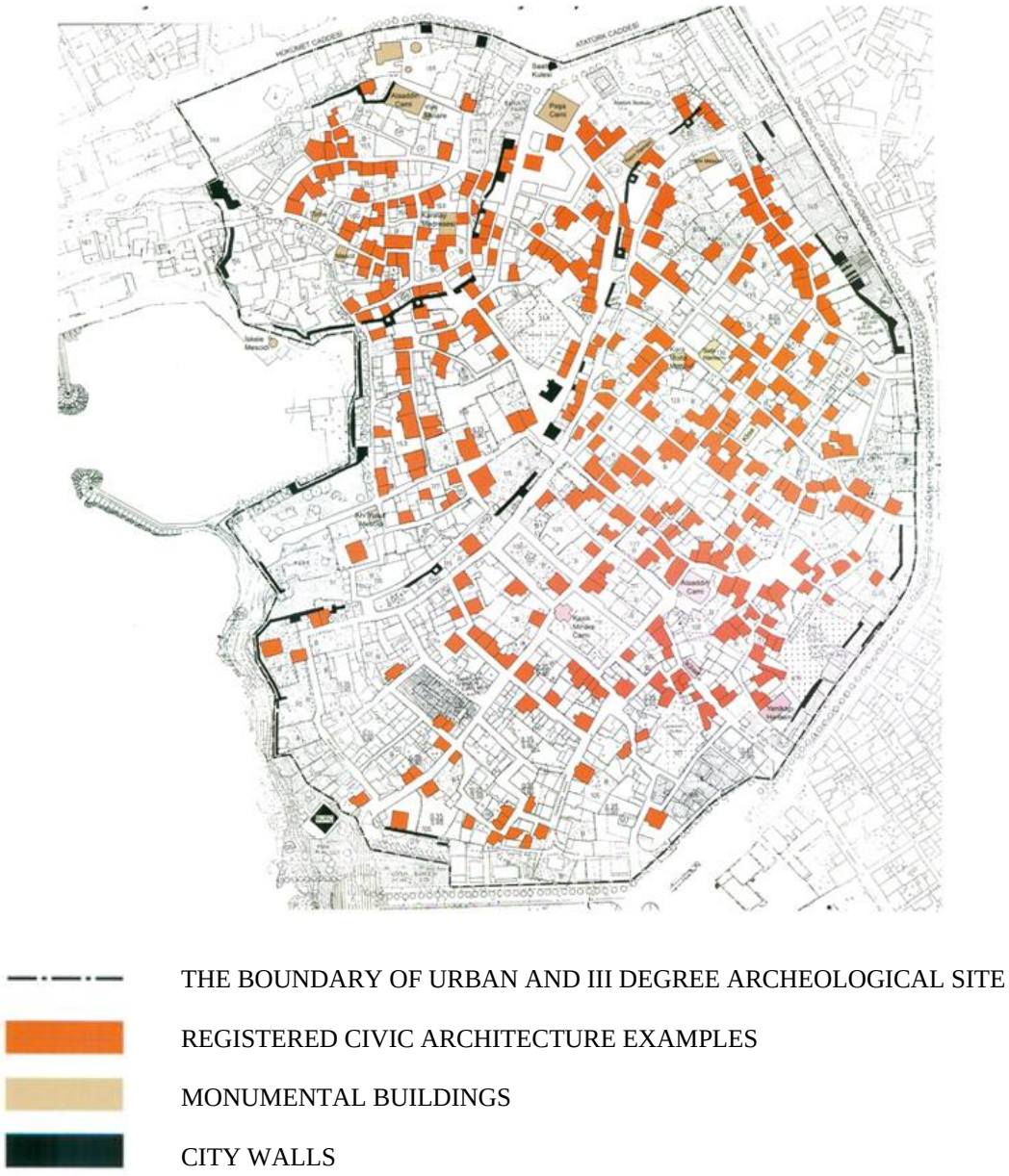


Figure 46: The cultural properties that Kaleiçi has including the boundary of conservation area, registered civic architecture,monumetal buildings and city walls (Antalya Valiliği, 2003; 27)[60]

Changes in the border and definition of the conservation site, similar to 1979 plan, Yacht Harbor and its surrounding that declared as Tourism Site by Tourism Ministry were planned separately from Kaleiçi. The borders of Kaleiçi Urban and III degree

[60] The further information about the registered buildings and sites in Antalya City Center can be reached from Antalya Kültür Envanteri,Merkez,2003 and the legend was translated into English by author.

Archaeological Site were defined at west Mediterranean, at north- Cumhuriyet Street, at west-Atatürk Street, at south-Karaalioğlan Park and the city walls through street that survived until today (Figure 46).

In the mobility manner, it was realized that the building block pattern and street pattern should be conserved, since old maps showed the directions and street scheme that were not changed much in time. Therefore, in contrast to the old plan, opening new roads, widening roads were avoided and pedestrian focused mobility scheme were supported. Moreover, the differentiation between pedestrian road and vehicular road made. In addition, contrary to parking areas that caused too many expropriation, public spaces were used for parking areas, in this context parking area for 140 vehicles were provided.

In the manner of functions, because of the unexpected increase in tourism function in the site, local residents in Kaleiçi decreased that resulted in the social destructions in time, so, in order to decrease the negative effects of tourism on site, new housing decisions were arranged to support the residential role of the site. However, in the restoration, assessment process of cultural assets, the decision of the tourism facility in the site adapted. It was forbidden to allow commercial use in new structures. These kinds of uses only were allowed in the empty lots for new structures that were allocated for commercial uses. Public uses in the site were encouraged in order to enhance and increase the awareness of people about the conservation and restoration of cultural assets. In revision plan, some places were allocated for public institutions.

In the manner of public realm, open commercial areas as bazaar area including traditional commercial units as handcraft, flowering, iron working, bakery, woodwork, selling spices etc were proposed. This brought the living and attractive spaces with meeting different needs of the users. There would be no structuring due to the supervision of public institutions on these spaces. Furthermore, cultural areas were proposed and green areas defined as children parks, passive green area, tea garden, and parking areas. Changes in uses and existences of new demands contributed to lose the meaning of public spaces. Moreover, Kaleiçi bordered with greenery boundary through the city walls located on Atatürk Street at west in order to increase the attractiveness of the site and its conservation condition.

In the manner of conserving and promoting cultural properties; the approach of the classification for conserved structures changed with respect to restoration and use. Since in 1979 plan, the architectural, aesthetic values of the buildings were considered together with intervention type. Also, since the inadequateness of 1/1000 plan on implementation process, the need for the smaller scaled plans as 1/500 occurred. As a consequence, although including specific decision for each lot, investigating and defining interventions for each cultural monument individually which sustained the values of the traditional buildings as well as conserving, in the planning process it could not constitute a qualified and livable traditional fabric (Uyar & Erdoğan cited in Öztekin, 2010; 69).

3.3.7. 1/1000 Urban Design Project for in front of City Walls (1996–2004)

After Antalya Greater Municipality Presidency demanded, the project was prepared by an expert team from METU between 1994 and 1996 and approved by Conservation Council in 1996 and came into force. It took its final version with plan alterations between 1996 and 2004. The project area was started from Dönerciler Çarşısı and continues through Atatürk Street, finished with Hıdırlık Tower (Figure 47). The aim was to reveal city walls, and investigate the project area in a detail by expropriation and demolishing some buildings near city walls, therefore this part of 1992 Kaleiçi Conservation and Development Plan was revised. However, not implementing plan decisions related with high costs expropriation and demolishing some of the buildings, the aim of the plan could not be achieved totally. Although the project area placed within Kaleiçi, the existence of the same base map and same decisions of 1/1000 Kaleiçi Conservation and Development Revision Plan, planning and implementation separately from each other have brought the implementation difficulties in the project area.

Figure 47: In front of City Wall 1/1000 Urban Design Project (KUDEB Archive)

The revision plan of city front wall project and The revision plan of Dönerciler Çarşısı & Hıdırlık Tower (1997): Because of the difficulty to implement the urban design project on the area lies to Clock Tower and Dönerciler Çarşısı, municipality offered the transformation of the area into commercial uses in order to conserve urban fabric. Conservation Council approved the plan in 10.12.1997 with decision number 3610.

3.3.8. Announcing City Center as Culture, Tourism Conservation& Development Area (2004)

In 2004, Antalya city center (about 90 ha) was defined as '***Antalya City Center Culture and Tourism Conservation and Development Area'***[61] (Figure 48) in order to conserve, use the city center with its tourism and commerce quality and deal with city center as whole instead of partial planning. Kaleiçi and Yacht Harbour

[61] Antalya Kent Merkezi Kültür ve Turizm Koruma ve Gelişim Bölgesi

constituted the center of this area. In this context, the boundary of the area can be introduced as Cumhuriyet Square at north,Vakıflar İşhanı, Hanlar Region, Sobacılar Arcade, and Schools Region at east, Haşim İşçan Historic Urban Quarter at southeastern, Balbey Historic Urban Quarter at northeastern, Karaalioğlu Park and City Museum at south (Yağcı, 2009; 41). In the scope of this project, all these areas were reorganized and for Balbey Quarter in 2003 and Haşim İşçan in 2004, Conservation Development Plan was prepared. In 2005, Cumhuriyet Square and Atatürk Street were reorganized. Governor building demolished and this public use transferred into Gazi Primary School. The empty area of this building identified as square. Kaleiçi also was planned by this kind of subscale projects (Argın, 2012; 90).

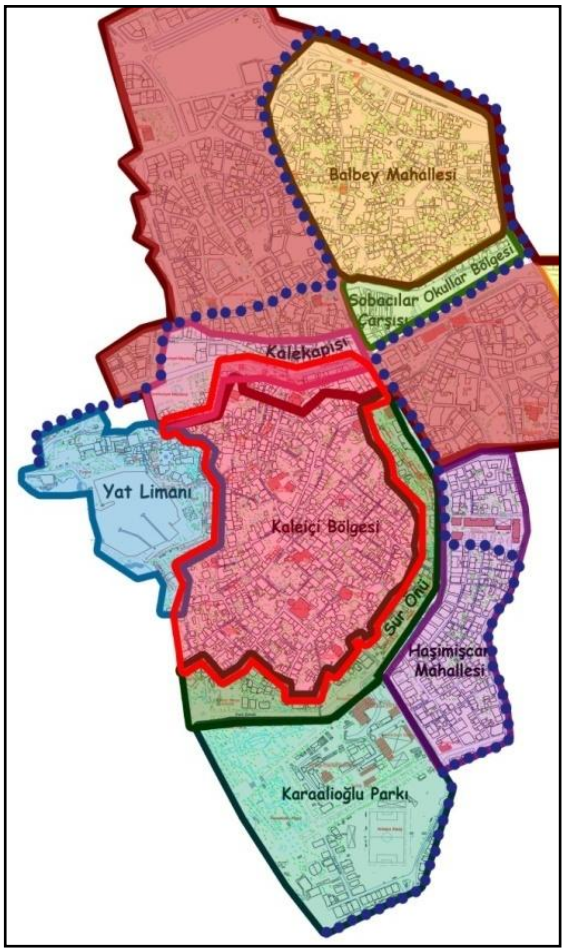


Figure 48: Boundary of Antalya City Center Culture, Tourism Conservation&Development Area (2004), (KUDEB Archive)

3.3.9. 1/ 25000 Development Plan (2005) and 1/ 50000 2nd Stage Strategic and Physical Planning of Antalya Municipality (2006)

In the 1/25000 development plan prepared by Greater Municipality, city center identified as **''*Central Conservation and Transformation Area''*** (Gül, 2008;106)**.** In the scope of this project, the aim was to strengthen city identity, specialized urban fabric, and create qualified working spaces. In order to achieve this aim, working places in city center were decentralized and working areas were distributed in regional context into sub-centers according to their specialization area (Yağcı, 2009; 42) (Figure 49).

Figure 49: Central Conservation and Transformation Area in Development Plan (Yağcı, 2009; 42)

After, the projects that would increase the attractiveness of the area aimed to be implemented. Planning studies were started by Kaleiçi, Haşim İşçan and Balbey Quarter, Kalekapısı, Schools Region, Doğu Garajı.

1/ 50000 2nd Stage Strategic and Physical Planning of Antalya Municipality (2006): 1/50.000 plan prepared by Development Plan Department and approved in 2006. In the context of this plan, Kaleiçi and its surrounding Central Area (M1) City Center Transformation Project Area and the region in Culture, Tourism Conservation, and Development Area were starting to be depressed area. Therefore, Kaleiçi, Balbey Quarter identified as Culture and Art Quarters where entertainment Places, squares, urban landscape, pedestrian streets regulations, subscale urban design, and urban renewal projects would be implemented (Figure 50).

Figure 50: Central Conservation and Transformation Area in Development Plan, (KUDEB Archive)

3.3.10. Kaleiçi Renewal Traffic Circulation Implementation Project (2007)

In the scope of the Regulation, Renovation, and Traffic Circulation Architecture Implementation Project prepared in 2007 by Tabak Construction Office, Kaleiçi mobility infrastructure was redesigned. The main mobility decisions of 1992 Conservation Plan were revised. Only inhabitants and workers of the district had some priorities. Some places arranged for car parking and it was prohibited in any other places. In this regard, some streets were closed to vehicular traffic.

The vehicle traffic in most of the streets was designed as one-way direction because of being narrow that do not allow motorized traffic flow. For the pavement of the area, three different kinds of materials were applied: pavement for just pedestrian flow, pavement for vehicular flow, pavement for both pedestrian and vehicular traffic. Furthermore, in the project, as an element of street furniture, lighting units, and green areas designed. In the first years of the project, restriction on car parking were followed seriously and the density of vehicular traffic reduced, nevertheless in the recent years it is not possible to say the same results since in the area, there are lots of problems related with motorized traffic[62]. In addition to this, there are problems because of the choosing incompatible pavement material. Inhabitants claimed that in the hot weather of Antalya, the stone implemented in the vehicule roads reflect the heat (Argın, 2012; 92). In addition, in some steep streets having high slope, slope was not taken into consideration during pavement process. Therefore, it was too difficult to walk in the streets even in the summer because of skating.

3.3.11. Other Small Scale Projects

Kaleiçi Usage Guidelines (2010)

Antalya Metropolitan Municipality has prepared Kaleiçi Usage Guidelines in 2010 and it started to be implemented in 2011 with the aim of:

- increasing the quality of Kaleiçi Urban and III degree Archeological Site within conservation and use balance;
- improving the living conditions of local residents;
- improving neighborhood interaction within the public welfare framework and neighborhood relations that respect to each other; and
- providing enjoyable, organized, and secure environment for foreign and local visitors coming to Kaleiçi.

The National Design Competition of Information and Directory for Kaleiçi (2011)

The chaos of different size, design of shops' signs, streets without any information signs, and walls with lots of unnecessary signs were emphasized. Therefore, the need

[62] See Chapter 415

for an organization of signs in Kaleiçi was arised. The competition of Information and Directory Signs for Kaleiçi was organized by Greater Municipality, Muratpaşa Municipality and Chamber of Architects, Antalya Branch in order to introduce street names, commercial signs. The competition made in 2011 and the first project chosen within the 12 projects. The signs of Kaleiçi organized according to the result of this competition.

Hesapçı Street Organization and Renewal Project-2006[63]

Within the scope of **urban mobility** and **public realm context, one of the important projects is** Hesapçı **Street Organization and Renewal Project** The project was prepared by Tabak Construction Office in 2006 and approved in 2007. The project area included Hesapçı Street and its surrounding that connect Hadrianus Gate and Hıdırlık Tower. According to excavations' findings, it is known that there was colonnaded street called King Road below Hesapçı Street. In the antique street, with respect to findings, the pavement was decided to be cut-travertine stone in main pedestrian route to give reference to this ancient road (Figure 51).

The water channels distributing water all the streets in Kaleiçi, used for garden irrigation and daily uses. However, those water channels were refunctioned to collect rainwater in this project. In addition, within the context of this project, Hadrianus Gate entrance reorganized in accordance with Hesapçı Street pavement and a glass bridge was constructed to show the bottom of the gate. The aim was to show the present of vehicles traces on ancient road stones. Today because glass lost its transparency, it is very difficult to see the bottom. Association of Historic Towns awarded this project in 2008.

[63] The Information about the project detail derived from Tabak Construction Office web site-<http://www.tabakinsaat.com/tr/projeler/kentsel_tasarim.php?BasicProductItemID=9> Last Access November 27,2014

Figure 51: Kaleiçi Hesapçı Street Regulation and Renewal Project, Before and After Project, 2006 (http://www.tabakinsaat.com/)

Intervention & Rehabilitation Project for Antalya Tophane Surları (2011): The studies on the part of Antalya city walls called as "Tophane Surları" started within the leadership of Doc. Dr. Emre Madran from METU to conserve and create a scientific background regarding repair, determine intervention methods, and identify implementation process. The first stage of project was prepared by KUDEB. Conservation Council approved it in 2011.

Hıdırlık Tower Conservation and Environmental Regulation Project was decided to be prepared in 2010. The project, which is the winner of the I. National Architecture Conservation Award Competition, assessed and approved by Conservation Council of Antalya in 2012. Regulation completed by Metropolitan Municipality.[64]

[64] The winner of the I. National Architecture Conservation Award Compotition was Architect Şebnem Alp prepared the building survey, restitution, and restoration of Hıdırlık Tower with supervisor Prof. Dr. Burhan Varkıvanç.

3.3.12. An Overall Assesment of Planning and Conservation Studies in Antalya Kaleiçi through Their Impacts on Urban Mobility[65]

From Regional Scale to Smaller Scale

Antalya Kaleiçi has succeeded to preserve its historic urban landscape with some changes until today. Although the planning process should have been started with regional scale development strategies to smaller scale plans and projects, for Antalya cases the regional plans which are 1/25 000 (2005) and 1/50000 (2006) were conducted after 1/5000, 1/1000 Development Plan.

As an overall assessment for the planning period of Kaleiçi, it can be said that after 1979 Conservation and Development Plan that analyzed every aspect in terms of physical structure including landuse, heights, green areas, plan type, registered buildings separately in a detail. On the other hand, there is very important issue that was ignored during planning process: the emphasis of the tangible remains of different historic stratification in an integrated approach. In addition, the new uses that tourism based development brought the needs for bigger areas for their accommodation and other services. That resulted in the deterioration of the scale of the building with additions, demolishing of some parts of them. With increase in residences prices, people sold and left their home and the area gradually transformed into touristic area. Although it also supported the continuance of the inhabitancy, because of not being able to include the residents in planning process, those two plans did not achieve this aim. Furthermore, designating the area Urban and 3rd Archeological Site brought some restrictions for residents. Since the costs of repair facilities and new constructions were not meet by public bodies, people preferred to leave their houses that resulted in physical and social environment changes. This tourism-based development changed the role of the site from residential into touristic and commercial area, therefore, the travel demand increased and the mobility infrastructure of the area could not fulfill new travel demand and transportation modes.

[65] For the related table that classified the decisions and impacts regarding Kaleiçi, direct and indirect impacts on mobility, and the analyses of the decisions within the framework of thesis, see Table 20

Additionally, the pedestrianization of Cumhuriyet Street and Şarampol Street are important two decisions for Kaleiçi environment since it has a direct relationship with those two significant public realms. Demolishing of Governor Building and designing this area as a square increased the physical connectivity between Cumhuriyet Street, Cumhuriyet Square, and Kaleiçi. Also providing underground parking areas in this area helped solving the parking problems even a littleş

In 2007, an important step for the urban mobility in Kaleiçi, Circulation Plan was prepared. The differentiation of streets was conducted as pedestrian and vehicular. The main streets used by pedestrian today identified as vehicular streets. In addition, unfortunately the inappropriate pavement materials' uses in terms of size and content created an artificial environment far from the traditional and climatic character of the site. In addition, construction of the light rail system increased the accessibility to the site; however, the options for Kaleiçi residents were ignored when thinking about the profile of the population not having close stops for public transportation discourage people

Table 20: The analyses of planning and conservation activities of Kaleiçi regarding decisions and impacts within the thesis framework (Prepared by the author)

Date	Name of Plan	DECISIONS AND IMPACTS			A CHECKLIST FOR ASSESMENT WITHIN THESIS FRAMEWORK				
		Decisions about Kaleiçi	Impacts on Mobility		Conserving, promoting cultural properties	Meeting the needs of different users	Balancing Functions	Improving Public Realm	Enhancement of Sustainable Urban Mobility
			Direct	Indirect					
1973	**Registration**	Registration of Kaleiçi and Marina as *Protected Area*	-	-the recognition of the area	✓	X	X	X	X
1976	**Statement Plan of Marina**	-some of the traditional buildings restored -the fortifacition walls with traditional buildings on it, and Tophane City Walls through İskele Street, defined as ***Tourism Center*** -6 ha area expropriated for touristic facilities	-	-increasing travel demand in the area regarding increasing attractiveness	✓	✓	X	X	X
1979 - 1994	**1/5000 Implementation Project**	-Kaleiçi identified as historic site -City walls and its surroundings protected with greenery buffer zone -Commercial facilities offered to southeastern of the School Region, Kalekapısı, and Şarampol Street -Commercial functions was continued through building blocks at north and in some main streets	-	-increasing attractiveness	✓	X	X	✓	X
1982	**1/1000 Kaleiçi Conservation& Development Plan**	-First conservation plan of Kaleiçi	-organising mobility, accessability by arranging pedestrian, vehicular mobility conditions which were compatible with historic fabric	-increasing attractiveness	✓	✓	X	✓	✓
1989	**The Border of Hanlar Region Conservation area identified**	-	-	-increasing the awareness and attractiveness integration of the this region with Kaleiçi	✓	-	-	-	-
1992	**1/1000 Kaleiçi Conservation& Development Plan**	-The second conservation and development plan of Kaleiçi	-Understanding necessity of conservation of building block pattern and street pattern - widening and opening new roads, prohibited -supporting pedestrian mobility regarding differentiation between pedestrian and vehicular ways - parking area for 140 vehicles provided	-increase the attractiveness of the area -travel demand increased	✓	X	X	✓	X
1996 - 2003	**1/1000 The Regulation project of Front of Citywall**	-The boundary of Kaleiçi	-	- increase the awareness and attractviness of the city walls -Creating public realm for people	✓	X	X	✓	X
2004	**Culture, Tourism Conservation& Development Region**	-include Kaleiçi and its surrounding as a whole	-	-provide an integrated jolistic aprproach that enhance cultural values	✓	-	-	-	-
2006	**Hesapçı Street Organization& Renewal Project**	Rehabilitation of the street and changing pavement, the glass over the original pavement located through Hadrianus gate	+encouraging pedestrian use	-	✓	-	-	✓	✓
	City Square Project	-	-Under the area of governors building, there are two underground parking area for 17 buses and almost 100 cars	-provide enjoyable areas for people -increase the pedestrian relation with Kaleiçi	✓	X	X	✓	✓

Table 20 Continued

2007	**Kaleiçi Renewal Traffic Circulation Implementation Project**	The pedestrian and vehicular streets identified and pavement	Firstly restriction on car parking followed seriously and the density of vehicular traffic reduced But now many problems related with motorized traffic	-	**X**	**X**	-	**X**	**X**
	Regulation for City Square and Vakif Işhani Region	-this area has direct relation with Kaleiçi through Kalekapısı and Clock Tower,so indirect effect on Kaleiçi	-	-New public realm for pedestrians	✓	**X**	✓	✓	✓
2008	**Kalekapı City Center Renewal and Street Rehabilitation Implementation Project**	-renovate, rehabilitate urban fabric without ignoring historic character of the city make facade renovation according to existing conditions	-	-Facade renovations affect the street perception	✓	**X**	-	✓	**X**
2010	**Environmental Arrangement Project for Hadrian gate**	-Entrance of Kaleiçi	-	-increase the attractiveness, awareness	✓	**X**	-	✓	-
	Hıdırlık Tower Conservation& Environmental Arrangement Project	-A part of Kaleiçi	-	-attract people, create positive image	✓	**X**	-	✓	-
2011	**Instructions for how to use Kaleiçi**	-improving the living conditions of local residents -providing enjoyable environment	-	-organized and secure environment for foreign and local visitors	✓	**X**	-	✓	-
	The National Design Competition of Routing Signs for Kaleiçi	-including design of the information signs for Kaleiçi	-wayfinding signs	-increasing awareness and attractiveness	✓	**X**	-	-	-

3.4.ANTALYA KALEIÇI AND ITS SURROUNDING TODAY

For the further analyses, the physical, social, and environmental elements that constituted Antalya inner citadel area should be defined in a detail manner. The elements having a significant role for Kaleiçi urban tissue, firstly and most importantly, the unique setting that the topography, cliffs, and sea provided to be a port settlement through history. Thus make it necessary to analyze the relationship with sea, cliffs, port. Cultural properties including historical buildings from different period, monuments, natural elements as registered gardens, green areas behind within and behind Kaleiçi that is difficult to see those kinds of green areas in the city centers. Different users should be introduced with their expectations and needs in order to configure a sustainable development in terms of promoting cultural properties with changing behavior on urban mobility modes within historic urban landscape and the mobility between historic and contemporary part. Furthermore, public realm that provides the public connections with active and passive green areas, squares, streets as places should be identified in Kaleiçi to understand the structure. The functions that city center took in time which change the travel demand to and out of the area should also be examined. In this regard, in Kaleiçi case, the current landuse pattern should be clearly identified regarding whether increasing travel demand or not. Moreover, the analyses regarding current urban mobility system within historic urban landscape should be explained with its elements with respect to existing urban mobility network including within the historic urban landscape and the mobility between inner citadel and contemporary part with its routes, stops, street elements.

3.4.1. Cultural Properties

Tangible Remains of Historical Stratification in Current Context

In Kaleiçi, there are a range of cultural properties dated to Hellenistic, Roman, Byzantian, Seljuk, Period of Beyliks, and Ottoman Period as also set in a detail in the first part of chapter 3[66].

The cultural properties of built environment in Kaleiçi are composed of tangible and intangible remains of different historical stratification regarding monuments, traditional residential buildings with their landscapes. There are visible and traceable monuments belonged to Roman period. By walking through Atatürk Street the traces of the city walls continues. From Hadrianus Gate, this is one of the main entrances into Inner Citadel Area to Hesapçı Street, serves as one of the main pedestrian axis of Kaleiçi. It was claimed that it is the traces of decumanus in Roman Period and Kesik Minaret constructed as a basilica on it. Also, Kaledibi Street, Balıkpazarı Street, and the south and north part of Kaleiçi, the traces of Roman period can be seen clearly.

From **Byzantine Period**, there are no so many edifices, only Clock Tower, and Kırkmerdiven could be observed. Today both of them are attractive points as landmark. Kırkmerdiven provided the connection between Yacht Harbor and Kaleiçi settlement with its attractive view through port.

The tangible and intangible traces of Seljuk period could be experienced with Yivli Minaret Mosque, Yivli Minaret, Gıyaseddin Keyhüsrev/Atabey Armağan Madrasah(Figure 53)., Karatay Madrasah(Figure 54)., Seljukid Madrasah (Imaret Madrasah)(Figure 52). Today Mevlevihane now is used State Fine Arts Gallery[67], Ahi Yusuf Masjid, İmaret Masjid, Ahi Kızı Masjid, and Karamolla Masjid are in original function. In addition, Zincirkıran Mehmet Bey Tom was constructed in the period of beyliks.

[66] See Chapter 3.1 History of Kaleiçi
[67] Devlet Güzel Sanatlar Galerisi

Figure 52: Seljukid Madrasah/İmaret Madrasah (googleearth, 2014)

Figure 53: The Portal of Gıyaseddin Keyhüsrev Madrasah (Atabey Armağan Madrasah) (googleearth, 2014)

Figure 54: Karatay Madrasah (http://www.bizimantalya.com/haber-42636-Antalyadaki_sakli_guzellik#.VINhGdKsVvo)

From Ottoman Period, the traditional neighborhood fabric relations with its main urban elements can be observed. The street network, its dead-end street, Balıkpazarı Square with monumental plane tree can be clearly examined. Tekeli Mehmet Paşa Mosque, İskele Masjid, Nigar Hatun Tomb, Aya Yorgi Church, Yenikapı Greek Church (Küçük Rum Kilisesi) Yenikapı, / Gavur Public Bath, Nazır Public Bath, Sefa Public Bath are the monuments that belonged to that period. The commercial center of the city in this period was located on the north today also the commercial facilities continue in this period.

Intangible Remains of Historic Stratification in Current Context[68]

In addition to tangible remains of historical stratification, there are also intangible values in relation with spaces. In the past, people used to describe the places with the help of İskele Masjid and İskele Kahvesi (Fisherman Café) that was used only by men. In this time, there were sandy areas behind İskele where young people and children spend time as swimming and fishing. Mermerli Kahvesi, Mermerli beach, is another important place for people lived in Kaleiçi. For most of the people, Mermerli Beach is a place where people learn how to swim. Mermerli Beach also called as ‘’Banyo’’ by Kaleiçi inhabitants. Because of this, today the street from Balıkpazarı to Mermerli Park is known as Mermerli Banyo Street. The Italian Hospital after a fire called as Yanık Hastane area (Fired Hospital Area). After fire, especially women used this empty area to meet and to spend their time while their children play. However, today it is a green area and lost its meaning. Balıkpazarı Square and Balıkpazarı Bakery because of the importance of the bakery at that time is another important place for the people who lived in Kaleiçi before 1980s. Public Baths as Sefa Public Bath and Nazır Public Bath, İnci Movie Theatre, Saat Kulesi, Yivli Minare, Üç Kapılar and Kesik Minare, and Hıdırlık Tower were node places for people (Argın, 2012). Today Clock Tower, Kesik Minare, Üç Kapılar still serve as landmarks in Antalya. Children were playing football in front of Kesik Minaret, and Üçkapılar (Interview with Duvarcılar, 2014) Today those areas became a touristic icon (Figure 55).

[68] In this part, The thesis of Görsev Argın(Argın,Görsev,2012) ‘’*Changing Sense of Place in Historic City Centers, The Case of Antalya Kaleiçi’’* explained the change in Kaleiçi by defining three users of Kaleiçi as before 1980s, after 1980s and today, became an important source that was used. Whole thesis can be found on http://etd.lib.metu.edu.tr/upload/12614983/index.pdf last access September, 2014

(a) (b)

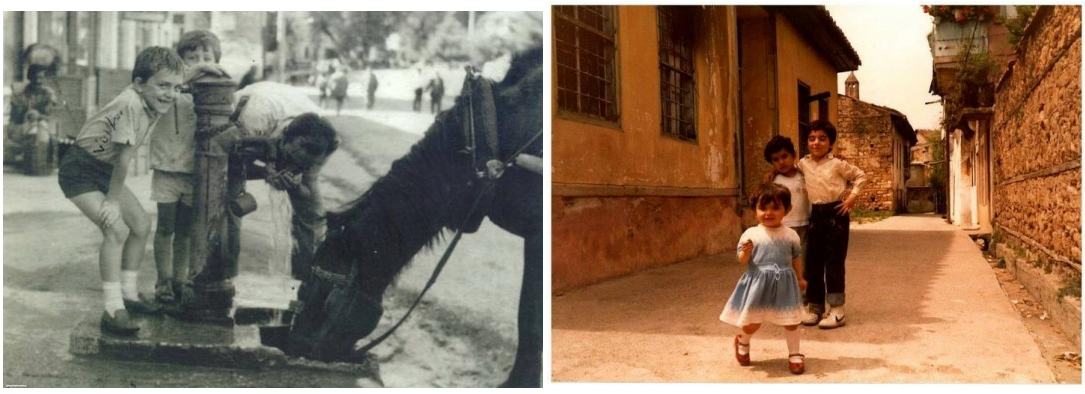
Figure 55: (a) Street use in the past, (METU, City and Regional Planning Archive) (b) Street use today (http://www.panoramio.com/photo/62488074)

Furthermore, another important element that took placed in the memory of the local people was the existence of the water channels that passed through the streets of Kaleiçi until 1990s. They constituted an important role in the daily life of Kaleiçi people. In the hot weather conditions of Antalya, people used them to be cold and socialize. (Figure 56)

> *There were water channels all along the streets of Kaleiçi. We diverted them from one garden to another*[69]
>
> ***Kaleiçi'nin her sokağı boyunca arıklar vardı. Bunları bir o bahçaye çevirirdik bir bu bahçaye***
>
> (Bektaş & Others, 1980; 134)

They used that water to irrigate their gardens. This water came from Düden River through Hadrian Gate into the city. The main channel was located at Atatürk Street where water distributed major channels of Kaleiçi: Hıdırlık Tower and Hesapçı Street. After, all the water reached the port. However, after transportation project in 2007, the water channels stayed under the new pavement. Now only in one street a part of water channels could be seen with respect to glass platform.

[69] Translated into English by author



(a) (b)

Figure 56: (a) A water pump in Antalya before 1980s (Archive of Argın) (b) Empty water channels in 1980s (Archive of Argın)

3.4.2. Users

> *''Sustainable conservation of urban heritage sites require: putting the heritage assets to uses for which a demand exists and the involvement of all social actors in their most efficient capacity and in accordance with their best interests. Only by putting the preserved assets to uses with social or market demand the conservation effort will become sustainable as the users will have incentives to operate and maintain them.''*
>
> (Rojas, 2007; 41)

When the relation between users and historic urban structure was taken into consideration, any intervention that would be applied on those sites should focus on the needs of different users, since the physical and social environment were shaped in accordance with their social, economic, and physical priorities.

From its foundation as a fishery village, Kaleiçi preserved its residential character with physical and social environment until 1980s. In time, due to economic and physical insufficiencies, the neighborhood started to transform into a collapsed area and after 1980s especially the following years of conservation and development plan that provided a touristic role for Kaleiçi, the profile has changed since then until today. Accordingly, the most important conservation problem arised in Kaleiçi is using traditional residential houses for touristic facilities caused the social and cultural changes because of the local residents have left Kaleiçi (Ekinci, 2006).This

economic change triggered retailers to have investments there and in a still-continuing process today. This situation resulted in a desire for residents to have the economic benefit of selling their houses to investors rather than continuing the inhabitancy in Kaleiçi. In the Table 22, the gradual decrease of the local population in time can be assessed clearly.

Table 21: The population of neighborhoods in Kaleiçi HUL, (TÜİK cited in Öztekin, 2010; 89)

Neighborhood Name	**1979**	**1990**	**2000**	**2009**
BARBAROS	5000	1045	689	346
SELÇUK		913	384	148
TUZCULAR		155	54	60
KILIÇARSLAN		1475	969	544
Total	**5000**	**3558**	**2096**	**1098**

Having lost its residential character in time, the population of local residents' decreases brought different users into the site. Because of the unsatisfactory living conditions of the area in terms of services, the local people who stayed in Kaleiçi is composed of mostly 18+ (Table 23). The majority of the population is elder who 50+ is as the chief of the neighborhoods defined[70]. This decrease in population and the profile of elderly users with their specific needs should be considered on a preferential basis to encourage them to inhabit on the purpose of providing the conservation of the area by its original owners.

[70] The information was taken from the chief of Kılıçaslan; Ali Kahraman and Barbaros Chief ;Mehmet Gözübüyük

Table 22: The population of neighborhoods in Kaleiçi HUL, (TÜİK, 2013)

Neighborhood Name	Population in 2013	18+
BARBAROS	278	230
SELÇUK	143	108
TUZCULAR	63	59
KILIÇARSLAN	468	399
Total	**952**	**796**

Accordingly, the functions were reloaded in it come up with different users into the area as increase in the number of local and foreign visitors. In addition, due to being transformed into a commercial center in the core of the city, different businesses' offices, public bodies, investors and many retailers have chosen to locate there. Visitors include touristic visits and business visits with local and foreign one who come for one day or more than one day. Since not only Antalya Kaleiçi, the existence of the many touristic places in the other parts of the city, a quantity of visitors comes to city every year. Moreover, hosting important activities as Gold Orange Movie Festival, international conferences, concerts provide both national and international visitors

Table 23: Users' Profile in Kaleiçi (prepared by the author)

USERS' PROFILE IN KALEİÇİ						
	Residents	**Workers**		**Visitors**		
				Touristic Visit		**Business Visit**
		Retailer	People working in their offices or public bodies	Daily Visit	More than one day	
						
GENERAL	There is very few local people most of them are from another cities The majority of the local people is composed of elder In the past, they sit in front of their houses, talk, listen to music and there were phaeton, lorry There were water channels through streets	They have shopping units Most of them are not from Kaleiçi, live in other parts of the city	They are aware of the traffic problem in the site. Metropolitan Municipality are on the process to take action about this.	The daily visit by local people are not too much, since the awareness of the local people about this site are not enough. Some people even never visited Kaleiçi. To have a coffee, meeting with friends, especially young people and students	Most of them foreign Need accommodation facilities in safe and secure conditions Some of them stay in hotels located in the out of Antalya city center.	Came to a conference foreign or local for a short time Visiting desires in a limited time Find information on the internet
MOBILITY	They want to live in pedestrianized area Mostly, they park in front of their houses Prefer walking	Some of them think that there is no traffic problem Uncontrolled traffic Using private cars, public transportation or walking	Using private cars, public transportation or walking	Private cars, Public transportation regarding light rail, buses or just walking	Long distance visitors use air transportation to come city and come to Kaleiçi by taxi generally	Prefer pedestrianized area Used taxi
COMPLAINTS	Noise especially at night from pubs Invasion of the streets by commercial uses Security problems No health services Drunk people	Noise because of pubs Traffic congestion Invasion of the streets even in wrong direction by taxis Garbage on the streets Pavement problems	Existence of the different users' profile No applicability of the plan's decisions by users Illegal constructions Illegal parking Invasion of the streets by retailers with respect to tables, chairs	Insufficient way finding system Existence of the wrong maps regarding street names	Security problems especially at night	Too hot to visit Garbage in the streets Security problems Not finding information point No information service about surrounding of city center

3.4.3. Functions

There are four neighborhoods in Kaleiçi (Figure 57). Through time, Tuzcular and north part of the Kaleiçi had commercial facilities while Barbaros and Kılıçaslan Neighborhoods were residential districts. However, the residential character of the site has been lost in time. In 1945, the landuses in Tuzcular neighborhood because of the direct relationship with Cumhuriyet and Atatürk Street where city center and Kalekapısı positioned, the commercial facilities were concentrated on the northeast and east part of it and residential uses were positioned in the inner part. Selçuk Neighborhood since having located in the surrounding of port and hosting customs there were commercial facilities behind them and there were some residential uses in the inner part. In this period, Barbaros Neighborhood and Kılıçaslan Neighborhood are the main residential areas with some commercial facilities distribution in them. Accordingly, the rate of residential areas constituted 62%, commercial uses 21%, 15% empty lots, and 2% the other uses including religious, cultural, educational, public institution industrial shops, storage (Öztekin, 2010, s. 78-79)[71].

Figure 57: The neighborhoods in Kaleiçi (Prepared by the author)

[71] The master thesis of Duygu Öztekin(Öztekin,Duygu) ‘’Sosyal ve Fiziksel Çevre Bağlamında Koruma Planları, Antalya Kaleiçi Örneği, YTÜ, 2010 aimed to investigate the affects of conservation plans on historic urban landscape regarding social, physical and economic environment with the case of Antalya Kaleiçi, is one of the main resource used in this thesis

According to landuse analyses prepared for 1979 Conservation Plan[72], the dominance of the residential character can be seen without a doubt (Figure 59). In this period, similar to 1945, the commercial uses became dense at northeast and east of **Tuzcular neighborhood** while the residential uses seen in inner part. **Selçuk Neighborhood** had a mixed use with majority of the commercial facilities. In this time, the increase of commercial uses on two sides of Uzun Çarşı Street can be experienced. In the same way, the residential character of Kılıçaslan and Barbaros Neighborhood had continued in this period. Because of being a residential area, there were two schools: Dumlupınar and Atatürk Primary School.

From land use map belonged to 1992 Conservation Revision Plan, Likewise in before landuses, the commercial facilities concentrated on Tuzcular Neighborhood, Uzunçarşı and İskele Street. However, as a difference from past, the transformation of the residential uses into commercial and touristic facilities regarding accommodation units is an obvious fact. Within the area, the dispersion of the hostels and commercial facilities without any zone-limitation can be experienced (Figure 59).

According to landuse of 2012 that was prepared by KUDEB, similar to landuse map of 1945, 1979, and 1992, the residential uses mostly located between the second inner city walls and outer walls that are southeast and northern east of the area that were named Kılıçaslan and Barbaros Neighborhood. As it can be seen, Selçuk and Tuzcular Neighborhood almost have lost its residential use. The dominance of the commercial facilities due to a tourism-focused development is clear.

This transformation of the area resulted in different functions including commercial uses, public facilities, services, social and cultural uses (Figure 58[73]). From the commercial scope, the uses can be summarized as grocery, carpet shop, leather shop, pubs, cafes, restaurants, jeweler, and bakery. Service facilities include banks, travel agency, and rent a car. Public institutions include Antalya Metropolitan Municipality units as KUDEB, Conservation Council, International Relations, Dumlupınar

[72] The landuse of 1979 belonged to personal archive of Prof Dr Gönül Tankut with her personal notes in Department of City and Regional Planning, METU, who was the leadership of 1979 Conservation and Development Plan Team

[73] Personel drawing based on KUDEB Archive Landuse Map prepared in 2012

Primary School. On the other hand, the dominance of the empty buildings surrounding of the port, and in the north part of Balıkpazarı Square could be experienced.

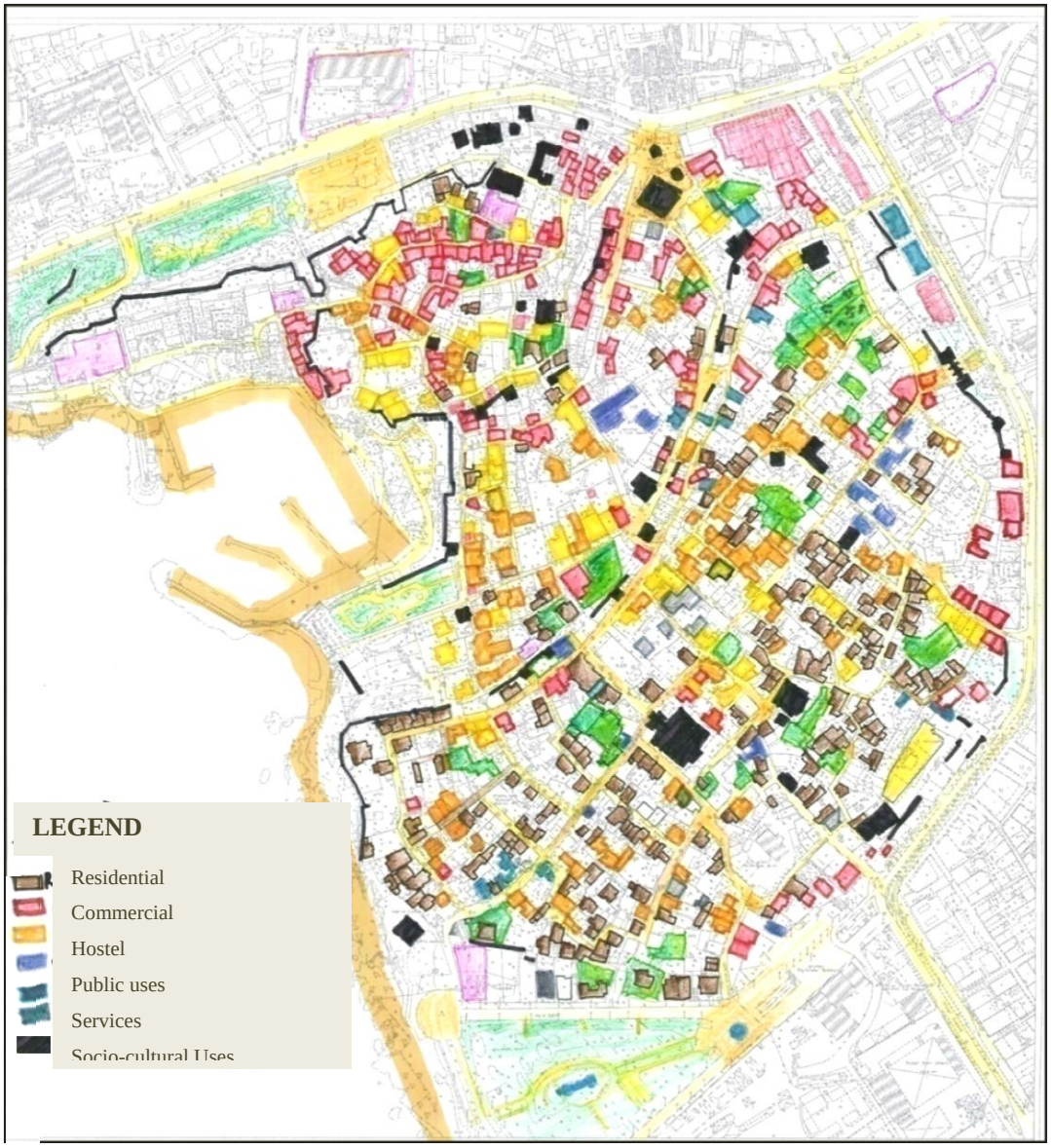
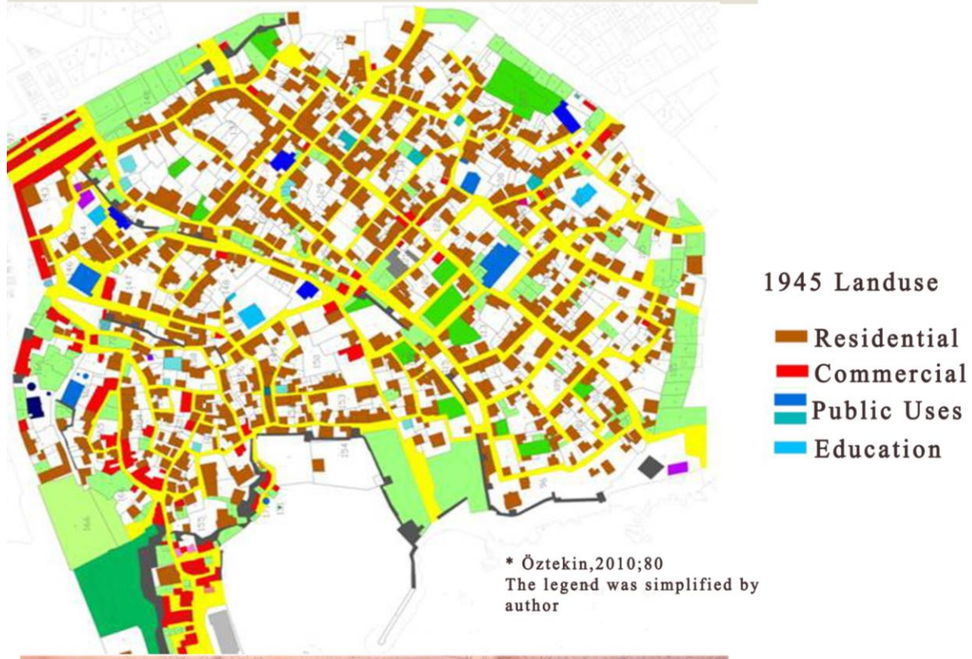
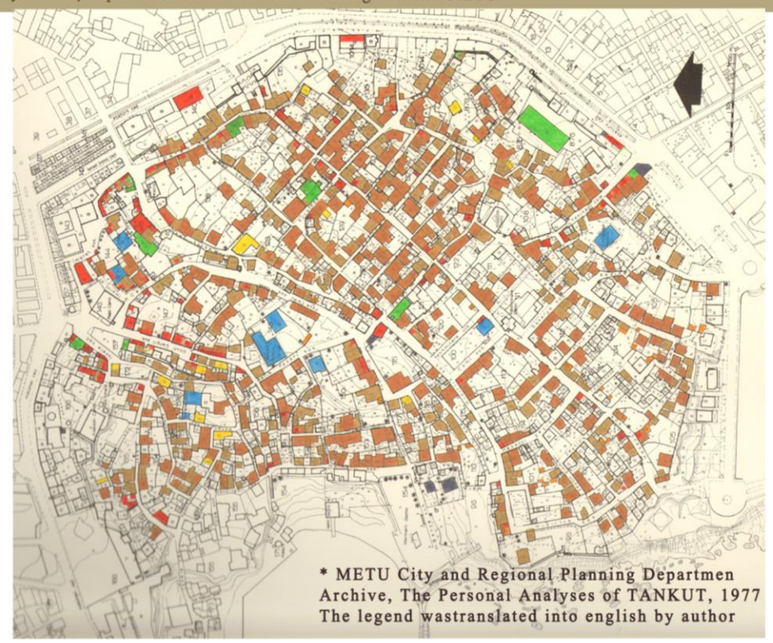
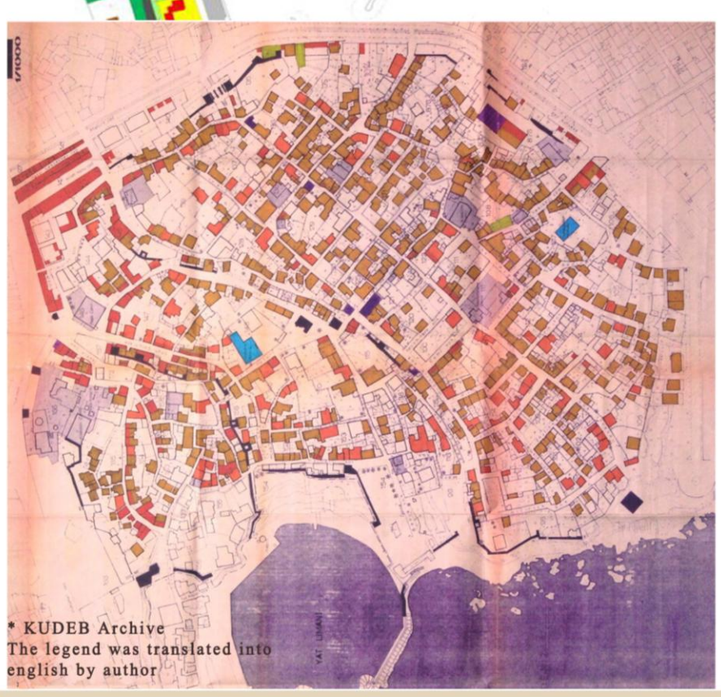


Figure 58: Landuse in 2012[74]

[74] Personel Rendering, based on KUDEB Archive Landuse Map prepared in 2012







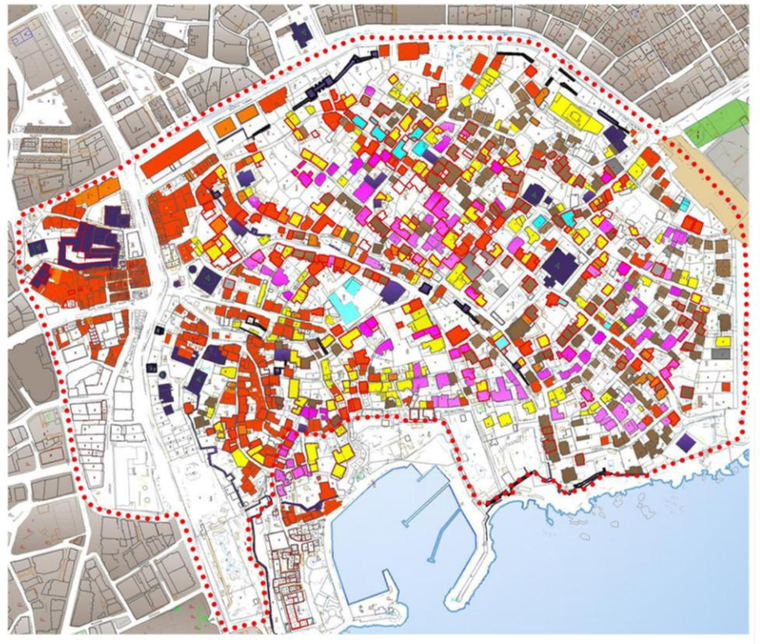


Figure 59: The comparison of land uses in 1945, 1977, 1992, and 2012

3.4.4. Public Realms

> *In other words, Old Antalya or Kaleiçi, in the center of modern city, because of the its relation with sea stayed in most attractive location. Inside or outside of Kaleiçi, until the end of the age, it consisted of streets which are narrow and appropriate with climate, location and nature forms. Flowers over them (mostly consul flowers) or shaded by high walls that overhanged by branches of a tree (mulberry, plum, apricot, palm etc); streets that is formed by bay window, huge doors, eaves, curled like man walking…The streets beginned to develop with a more narrow dead-end-streets (cul-de-sac) Doors opening to streets are the door of hearts…Large, spacious…Doors open to gardens*[75]*…*
>
> *Bir başka deyişle eski Antalya ya da Kaleiçi, çağdaş kentin merkezinde, denizle ilişkisi nedeniyle en çekici yerinde kalmıştır. Kale içinde ya da dışında, son çağa gelinceye dek eski Antalya dar, iklime, yere, doğa biçimlerine uygun sokaklardan oluşur. Üzerlerinden çiçekler(en çok konsolos çiçekleri) ya da bir ağacın(dut, erik serdali, palmiye vb) dalları sarkan yüksek duvarların gölgelediği;cumbaların, koca kapıların, saçakların biçimlediği, bir insan yürüyüşü gibi kıvrılıp giden sokaklar… Bu sokakların daha da dar irimlerle(çıkmaz sokaklarla) filizlendiği olur. Sokaklara açılan kapılar, evlerin gönül kapılarıdır. Büyük geniş…Kapılar bahçelere açılır…*
>
> (Bektaş & Others, 1980; 78-79)

Public realms, as one of the significant elements of the urban tissue both physically and socially, include streets, squares and parks, where everyone have the right to see, use, visit and enjoy without any charge in any time. In the case of in Antalya city center, the public realms are experienced by most of the users in all the time. Visitors both local and foreign one have a desire to discover it especially in the spring and summer, businesses work there contribute to it and economically benefited from it, commuters pass through it on foot, and by bike and lastly and most importantly local residents live and enjoy them in their daily life for different activities.

The streets are the places include more than just transportation activity where people spend time in for different facilities. In this regard, within the case area, the building blocks that are formed according to topography, climate, and location shaped the street pattern. Namely, there are two groups of street form, the first one positioned on the south of Kaleiçi beyond Yacht Harbor with an organic pattern. On the other hand,

[75] Translated into English by the author

in the east the streets, which are perpendicular to Hesapçı Street, have a grid pattern of Roman period structure.

In the first region, streets serve commercial center of the town through history, an organic street pattern is common because of its topography and the effect of fortification walls. The street pattern is compact and irregular so the directions of building blocks are not constant as street direction. The widths of the streets change between 3 and 4 m.

In the second area, in contrast to first region, the streets intersect at perpendicular angle. The width of the streets changes from 3 to 4 m. In addition, there are no constant widths along the street; there are places on the streets that get wider or narrower. Hesapçı Street, which is starting from Hadrianus Gate through Hıdırlık Tower also having Kesik Minaret on it, is the most crowded street in terms of pedestrian use. In addition, the streets opening to city gate as Yenikapı, Hadrian Gate, and Balıkpazarı Public Bath are the main attraction points for the tourists. Zafer Street and Kurtuluş Street are the major streets for pedestrians.

Furthermore, there are various structuring elements in Kaleiçi. These structuring elements provide the eligibility of the urban environment, visual attractiveness and contributing the character and identity of the site. The yacht harbor, cliffs significantly affect the perception of people on urban structure and provides the constituting the cognitive map.

The combination of topography and development pattern composed of different views on the town and its surrounding. In some cases, there are unexpected and amazing vistas and panoramic views. This increased the identity sense, character, and historic urban landscape legibility. In addition, there are natural elements that their conditions change season to season as orange trees in the winter, colorful flowers in the spring and summer. Briefly, the topography of the area and its direct relationship with Mediterranean Sea and the existence of the different tangible and intangible remains of historic stratification provide amazing vistas and panoramas that one never experience anywhere.

The most known panaromic and vista views can be listed as panoramic view from Tophane Park, panoramic views from Cumhuriyet Square, panoramic views from Mermerli Park, vista to Clock Tower, vista to Kesik Minare and vista to Yacht Harbor.

Parks and Green Areas, whether active or passive area, are the open spaces designed for pleasure of people and everyone have a right to use them whenever they want. In today's globalized world, with the increasing urbanization, the greenery spaces in the city centers became less and less. People started to search greenery pleasure places to relax. In this context, Kaleiçi with its unique landscape bordered with Karaalioğlan and Tophane Park and registered gardens with orange trees, pomegranate trees, and colourful flowers put visual and aesthetic values to the streets of Kaleiçi.

In the entrance of Clock Tower, there is a park, which is defined as Artist Park some of which used as tea garden, some part for park. Mermerli Park has an also commemorative value for local residents serving as a parking, restaurant area that has high density of different users in all season. The border of the remains of the city wall in the west including Hadrianus Gate surrounded by green area that has seating elements in east and west part of it, and within the site survey it was conducted that this open area used by especially elder people of Kaleiçi.

Karaalioğlan Park constitutes an important greenery area in the city center with its unique position on the cliffs of Antalya, and direct relation with Kaleiçi historic urban landscape. Its landscape with Republican period style constituted the sense of place for local people. In the entrance of this park, Metropolitan Municipality of Antalya located.

In Kaleiçi, the spaces called as a square **Balıkpazarı Square**. In the past it was a place for selling fish that local economy of the Kaleiçi depend on it. Yanık Hastane area is another space that was used as a gathering open space in the past. Moreover, in the surrounding of Kaleçi, there are two squares. The most important one is Cumhuriyet Square that attracts many of people including local and foreign one. The celebrations of important days take place there. The square with its monument of

Rise today is an important attractive point. The other one is İsmet İnönü Square behind Demirciler Çarşısı, which is an open area that people could use. However, since the area paved with concrete and stone with an artificial landscape, the attractiveness of the square is weak.

Additionally, there are various street furniture elements in Kaleiçi and its surrounding area (Figure 60). Namely, there are many different pavement materials used for footway surfaces. Many of the materials are used standard rather than compatibility with traditional one. There is a mix of street furniture style surrounding cultural properties. Traffic and parking signage have no common design and there are number of signs that attached to the walls of cultural properties. In some street, there is no street name and in some the name of the streets is written wrongly and there is not enough way finding signs including whole area. There is no attention for people who need special care as elder people, disabled people.

Figure 60: Street elements (Author, 2014)

Table24: Public Realms in Kaleiçi and its surrounding
(Prepared by the author)

PUBLIC REALM			
Streets	**Squares**	**Parks**	**Sea and Cliffs**
			
Traditional Organic and grid pattern street layout	Cumhuriyet Square Balıkpazarı Square Square across Cumhuriyet Square	Karalioğlan Park Hıdırlık Tower Tophane Park Mermerli Park	Mediternean Sea with ancient port
Prepared by author			

Name of the Streets

> *The streets hide historical and cultural diversity of the cities inside. They give the opportunity to ask questions of us that enables to decrypt the city. We can ask dozens of questions directly. ''The name of the street, where it comes from?'', '' When set?'', '' Who lived on this street?'', ''Myths about its construction, are there stories?'' What is the level of relations of people living already on the streets with the history of the streets and memories?*

> *...Sokaklar bir kentin tarihi ve kültürel zenginliklerini içlerinde saklarlar. Bize o şehrin şifrelerini çözmemizi sağlayan sorular sorma imkanını verirler. ''Sokakların adı nereden geliyor?'', ''Ne zaman kurulmuş?'', ''Kimler bu sokakta yaşamış?'', ''Kuruluşuna dair efsaneler, hikayeler var mıdır?'', ''Hali hazırda sokakta yaşayanların sokağın geçmişiyle ve hatıralarıyla ilişkisi ne düzeydedir?'' gibi onlarca soru yöneltebiliriz.*[76]

(Bilgili, 2013; 10)

The name of the streets is also an important issue that should be taken into consideration during planning process of historic areas. Since the names have contextual relations with physical, social environment and add value to local identity. Sometimes a space, building, or people that are important for the city give its name to the street. For example, Masjid Street, Kesik Minaret Street in Kaleiçi took their name in accordance with the important buildings that used by residents. The social relations defined the name of the streets as in Dizdarzade Hasan Bey Street, Hasan Bey was a city wall protector in 1600s in Kaleiçi, and the name came from the profession of him. Furthermore, Hamam Street took their name from the location of the building on this street. Uzun Çarşı Street, which has been serving an important street of Kaleiçi through history, took its name from its physical and functional role. Therefore, the street names that have contextual relations with tangible and intangible historic remains should be preserved if there is wrong uses they should be corrected, and the continuance of uses should be enhanced, if there is name that lost in time could be discovered and emphasized instead of misidentified names.

[76] Translated into English by author

Table 25: The possible origin of the street names in Kaleiçi HUL (Prepared by the author)

NAME	THE POSSIBLE ORIGIN OF THE STREET NAMES
TUZCULAR NEIGHBORHOOD	
İmaret	-
Cumhuriyet(In the past Hükümet Street/1977)	The existence of Cumhuriyet Square
Paşa Mosque	The existence of Tekeli Mehmet Paşa Mosque
İsmet Paşa	-
SELÇUK NEIGHBORHOOD	
Mermerli	-
Mermerli Banyo	Mermerli Beach is a place where people learn how to swim. Mermerli Beach also called as ‘’Banyo’’ by Kaleiçi inhabitants. Because of this, today the street from Balıkpazarı to Mermerli Park is known as Mermerli Banyo Street(Argın,2012)
Musalla	-
Ömer Efendi	-
Merdivenli	The existence of the 40 stairs which connect Kaleiçi and İskele
Aydoğdu	-
Tuz Kapısı	-
Faraçlar	**-Faraşlar(Hüseyin Faraş House) Bektaş,106**
Ömer Reis Çıkmazı	-
Karadayı	-
İzmirli Ali Efendi	-
Kaledibi	The existence of the remains of the city walls
Uzunçarşı Street	The existence of commercial units in 1979,1992 and 2012 in this long street(Personal estimation)
Balıkpazarı	The existence of Fish Bazaar in the past
Aralık	-
Aralık Passage	-
Dizdarzade Hasan Bey	**Castellan Hasan(Kale muhafızı Hasan) Before 1604(Armağan,nd)**
BARBAROS NEIGHBORHOOD	
Hamit Efendi(in the mun archive hadi paşa, in 1977 hamit paşa)	-
Akarçeşme	**The existence of çeşme(but demolishing it interview with resident)**
Müze	**The existence of Museum**
Kesik Minare	The existence of Kesik Minaret
Seferoğlu	-
Civelek	-
Mescit	The existence of İmaret Masjid (hemen köşede kontrol et)
Karanlık	-
Kandiller	In the past the existence of kandil **(interview with resident)**
Kandiller Passage	In the past the existence of kandil(**interview with resident)**
Kocatepe	-
Atatürk	**Uzun Cadde(old photo)**

Table 25 Continued

KILIÇASLAN NEIGHBORHOOD	
Hıdırlık	The relation with Hıdırlık Tower
Hesapçı	
Hesapçı Passage	-
Zafer	-
Fırın	The location of the Fırın(bakery)
Zeytin	-
Zeytin Çıkmazı	-
Kurtuluş	-
Kadir Paşa Passage/Kadı Paşa Street(1977)	-
Kadir Paşa/ Kadı Paşa Street(1977)	-
Yeni Kapı	The entrance this street from Yenikapı
Sakarya	-
Hamam	The existence of Hamam in this street
Cami	The existence of Kesik Minerat(Korkmaz,Cuma Mosque)
Seferoğlu	-
Tabakhane	The existence of Tabakhane in the past
Tabakhane Passage	The existence of Tabakhane in the past

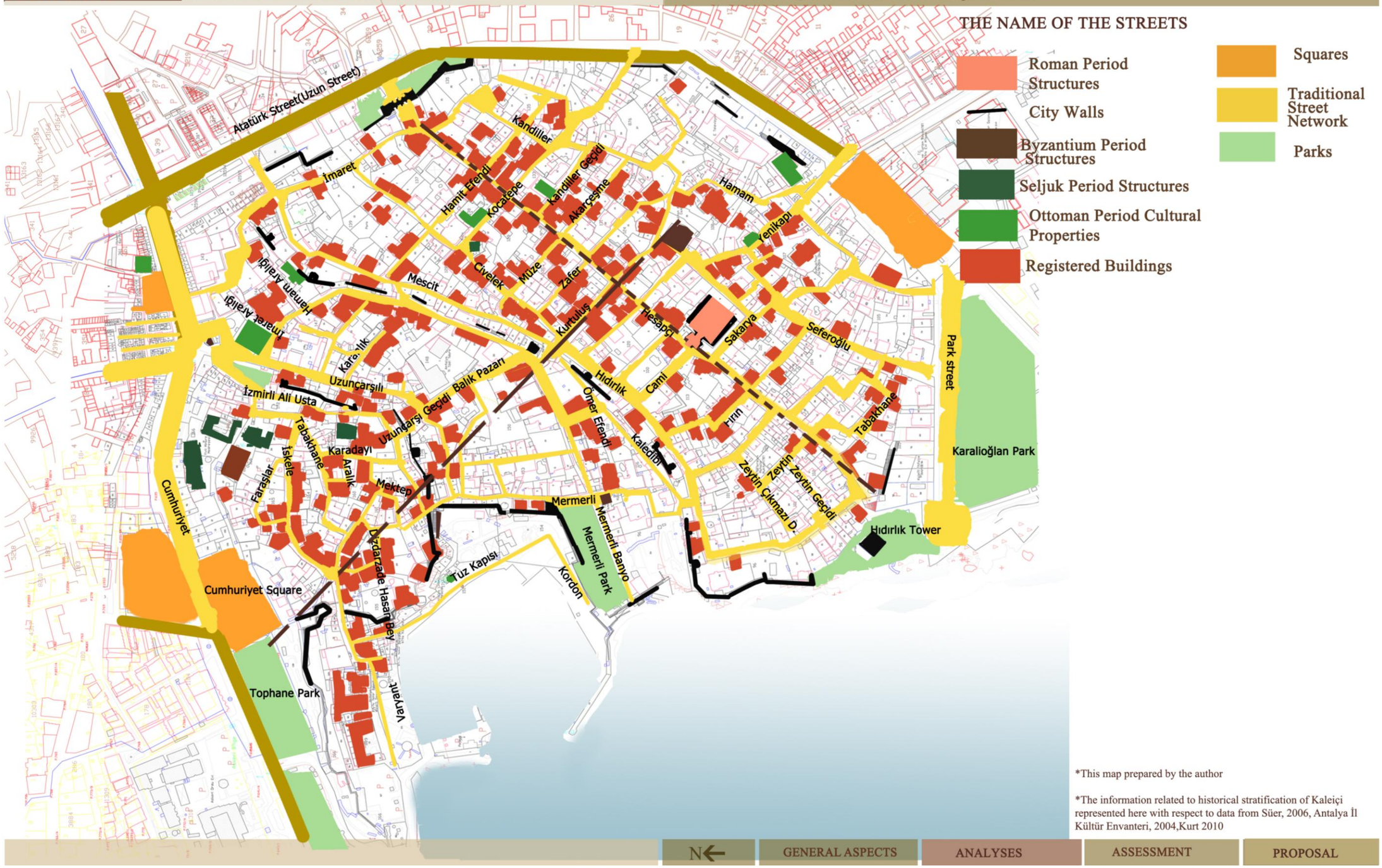


Figure 61: The Street Names in Antalya Kaleiçi

3.4.5. Urban Mobility System Today

Antalya Transportation is an incorporate company established in 2010 and Antalya Greater Municipality has its ownership. With people who work in municipality, it is organized for the land, sea, and air public transportation. This company has taken the responsibility of buses for the public transportation in the city center. Moreover, it operates the Antalya Intercity Bus Station. In addition, it has three sea buses for the sea public transportation. The transportation in the city mostly provided by road and airway transportation and freight transportation mainly depended on road transportation. Marine transportation lines have been developing in a recent time; however, there is no railway system. When considering about transportation because of continuous development process of the city, airway capacity developed with the opening a new terminal. In addition, there are interests to develop road and marine transportation. Furthermore, there are some efforts to implement railway infrastructure system in the city. There are everyday regular bus services from bus station in the city center to İstanbul, Ankara, İzmir, Konya, and Adana, the big cities in Turkey. The motorized-traffic in Antalya has been developing, as it is one of the cities having the maximum motorized vehicles in Turkey.

3.4.5.1.Mobility Between Historic and Contemporary Part of the City

Access and mobility within the city center is naturally complex and challenging, therefore the balance between mobility and spatial structure including cultural properties and public realm with different users should be enhanced in pedestrian and environmentally friendly way. In this regard, a description of the range of interconnected traffic and mobility issues from regional scale to local scale analyses should be connected. In this respect, the mobility system between Kaleiçi and contemporary city are provided with different public transportation modes including light rail system, nostalgic tram, and buses. Although it seems to access historic core easily, there are problems especially between commercial city center and Kaleiçi.

BUSES: There is connected bus network system in Antalya that passes most part of the city. People have ANTKART to use buses and light rail in the city. Especially, in the city center the existence many bus stops increase the accessibility (Figure 62).

Figure 62: Main buses routes, (UKOME Archive)

URBAN RAIL SYSTEM

There two kind of urban rail system in Antalya city center, one of them is light rail and the other one is nostalgic tram, and both of them have direct relations with Kaleiçi and its surrounding area (Figure 63).

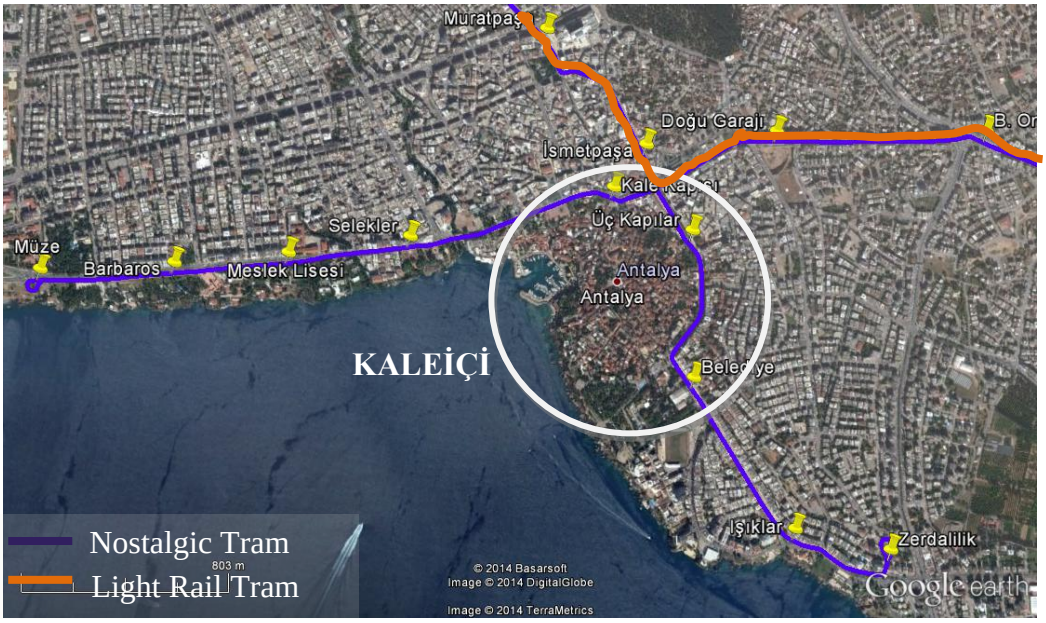


Figure 63: Urban Rail System in Antalya (UKOME Archive)[77]

- **Nostalgic Tram:** It has been serving since 1999. There are 11 stops on this route. Those are museum, Barbaros, High School, Güllük, Republican Square, Castle, Hadrian, Municipality, Işıklar and Workshop Area. The nostalgic tram is important for the further development of transportation system in the historic city center because most of the stops have a direct relationship with the area. There are nostalgic tram in every 30 minutes, there are tram services between Museum and Zerdalilik from 07:00 to 22:00, Zerdalilik and Museum from 07:00 to 23:00.

[77] The location of Kaleiçi, legend and the route of light rail system added by the author.

- **Light Rail System:** It has been serving since 2009. The length of the light rail system is about 11 km and the total number of stops is 16. One of this stop is located close to Antalya Bus Station. In addition, light rail system has direct relationship with the center of the city. However, there are some arguments about the route of the system because of the destroying the most important commercial streets of city as İsmet Paşa and Güllük. In addition, weak connection with west parts of the city and not supported with public transportation system as bus make the light rail system unattractive.

SEA TRANSPORTATION

The project between Kaleiçi Yacht Harbour and Kemer was started in 2009, Kemer, which is one of the most important touristic place in Antalya, that many tourists visit. The sea buses services between Kaleiçi and Kemer; Kaleiçi-Kemer- 09:30-16:30 and Kemer-Kaleiçi-10:45-17:45. Now, there are three sea buses working between these two sites. The names of the buses are Termessos, Aspendos which are significant archaeological sites of Antalya that many visitors want to see them, and Olimpos, which is designated as Natural Site where caretta caretta live. The ticket price is quite affordable. The services frequency could be increased in time, and the transportation with other parts of Antalya could be provided.

NON-MOTORIZED MODES

- **CYCLING:** The first stage of cycling project the route starting from Konyaaltı Municipality and finish at Falez Junction completed in 2010. From Falez Junction to Hasan Subaşı Street, the second stage of the project has been started to be implemented. The routes between Teomanpaşa Street, Milli Egemenlik Street, and Hasan Subaşı Street connections have been applied. The third stage of the project that includes the route between Hasan Subaşı Street and Ali Çetinkaya Street. For the city center, the complete of the third stage would be an important and effective solution (Figure 64).

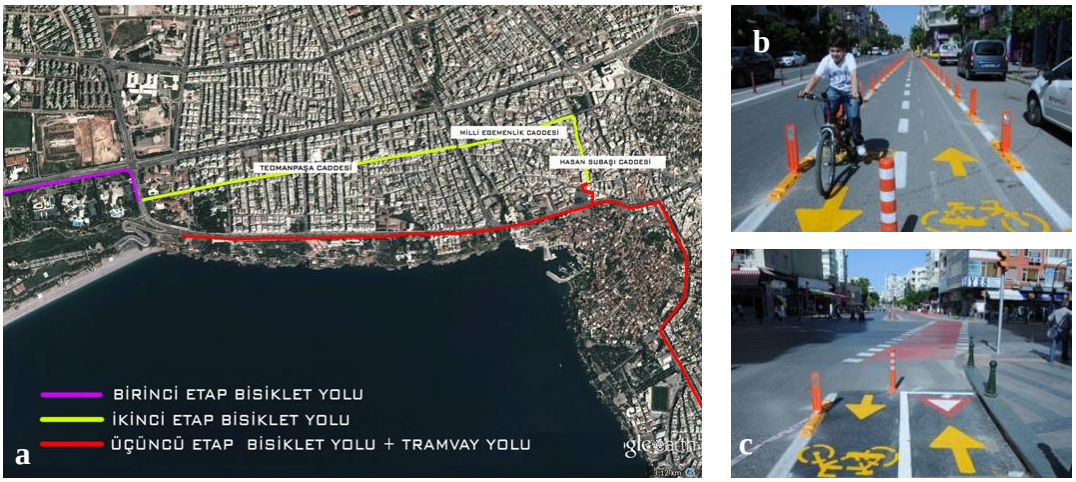


Figure 64: 1st, 2nd, and 3rd Stage of Cycling Projects
(http://www.gundemantalya.com/haber/Yollar-bisiklete-aciliyor/399687)
(b) (c) Implemented Cycling Routes in the City Center
(http://www.antalya-ulasim.com/antalyada-bisikletli-ulasim-yayginlasiyor.html)

- **WALKING:** According to Transportation Plan, which put on the shelf, the main policies and decisions that Antalya Metropolitan Municipality supported for pedestrian movement in the city were based on the International Pedestrian Right. This plan supported the idea that city center belonged to pedestrians and there should be restrictions on the uses of other transportation choices in order to encourage the uses of public transportation system with

interchange points (Figure 65). The pedestrian mobility decisions within the city center defined as firstly the transit traffic should be taken out of the city center, the traffic that pass into the city center should be kept at boundary of city center without allowing it enter into city center. While creating new urban space that is without motorized traffic, the historic, cultural, and commercial character of the city center should be promoted and with pedestrianization projects, the social and urban values should be enhanced. Furthermore, there should be pedestrian priority in the city center in order to improve economic and cultural facilities.

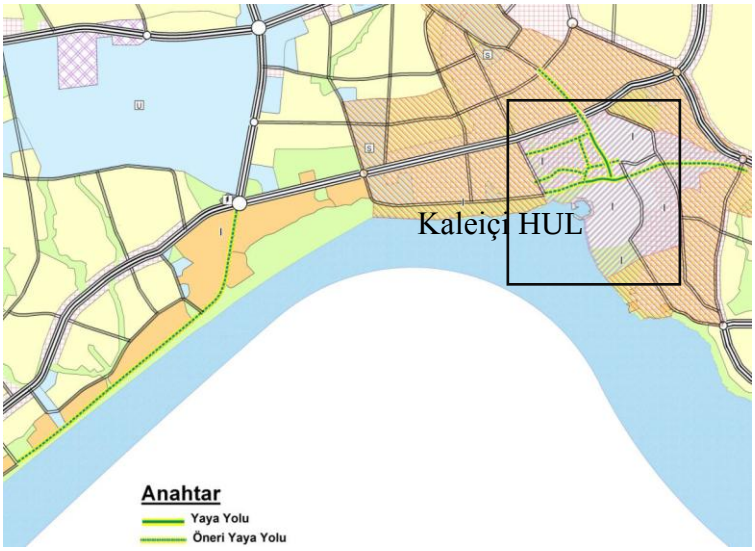


Figure 65: The proposed pedestrian ways those have implementation priority in Antalya in the Major Transportation Plan, (UKOME Archive)[78]

3.4.5.2.Mobility Within the Historic Urban Landscape

Until 1950s, the historic core preserved its walking environment with its physical, functional, and social components. There were bicycles, phaeton that were used for the transportation.

[78] Since the relevant information in Major Transportation Plan Report(now put on shelf)taken from UKOME Department(Transportation Coordination Center)which is in the responsibility of Transportation Services Department , there is no page number.

When it was 1960s, bicycles and motorcycles had now sprung up. In urban transportation, usually coach and bicycle that people called velocipede or the car of evil were used. In Antalya, at that time bicycle had an important role in urban transportation.

1960lı yıllara gelindiğinde, artık bisiklet ve motosikletler de çoğalmıştı. Kent içi ulaşımında genellikle fayton ve halkın velespit veya şeytanarabası dedikleri bisiklet kullanılırdı... Antalya da o zamanlar bisikletin ulaşımda önemli bir yeri vardı.

(Çimrin, 2007; 237)

However, this profile changed in time and Kaleiçi became like a metropolitan area that it is too difficult to walk in the streets of it. One has to look back and front in order to be able to walk. UKOME prepared Major Transportation Plan (however it was not taken into implementation). It was included and analysed in this resesarch in order to see the general view of this institution over city center. In this plan, the historic core and its close surrounding which is defined as *The Red Area/Historic Core Central Public Transportation Area*.(Figure 66)

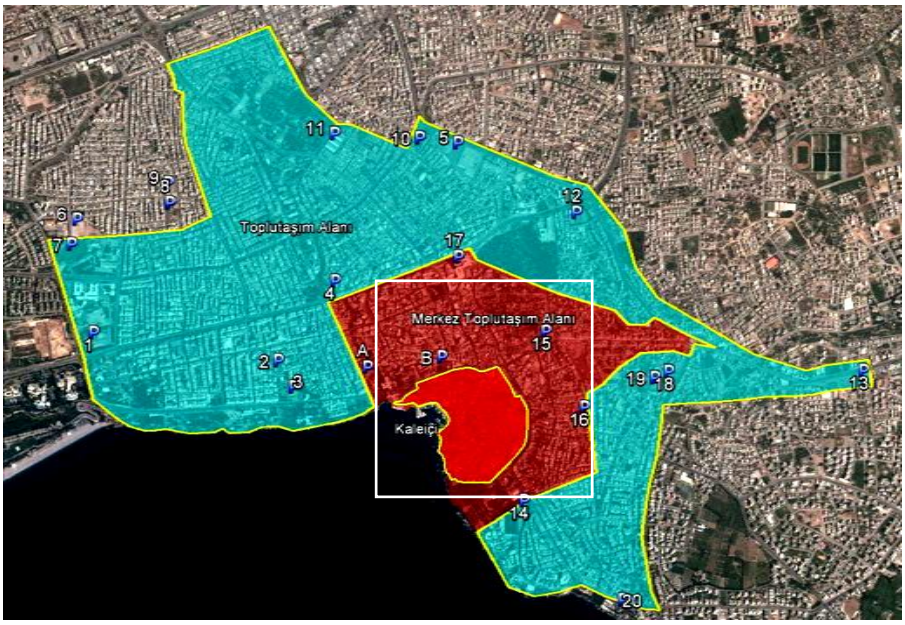


Figure 66: The proposed parking areas in the city center and its surrounding in the Major Transportation Plan, (UKOME Archive)[79]

[79] Since the relevant information in Major Transportation Plan Report(now put on shelf)taken from UKOME Department(Transportation Coordination Center)which is in the responsibility of Transportation Services Department , there is no page number

In this plan, the decisions including Kaleiçi and its surrounding can be summarized as;

- Decreasing the on street parking into a minimum level
- Providing priority in spaces for vehicle delivery on the streets that have an on street parking opportunity
- If there is parking area opportunity, allowing on street just for short time 15-30 min with high amount of parking prices
- Not producing any parking area supply in the red region(open or underground parking areas)
- Planning and constructing new parking areas out of the red region boundary

The decisions about city center that cover historic core and the other region including traffic capacity, on street parking, handling, off road parking, transfer parking, short time parking, long time parking, pricing, controlling and tools were identified within the scope of this plan. In Kaleiçi region and its surrounding, there would be no new construction of the roads. Street parking was banned and handling was allowed only on defined lay by. There would be no transfer parking while short-term parking was encouraged. Accordingly, long-term parking was discouraged with the policy of parking in short time expensive prices and very expensive prices for long-term parking. The controls were decided to be tight and towing was a decision to implement with the tools parking meter (Table 27).

Table 26: The regions defined in the Major Transportation Plan with their specific policies (UKOME Archive)[80]

	RED REGION (Central Public Transportation Area-MTA)(	BLUE REGION (Public Transportation Area--TA)	YELLOW REGION (Out of Public Transportation Area-TAD)
Capacity	No new supply	Controlled capacity supply	New supply on the main entrances to transfer
On street Parking	Should be banned	Should be prohibit, Allowed for short time if there is lane excess	Allowed for short time if there is lane excess
Handling	Only on defined lay by	Only on defined lay by	The places where it is not banned
Off Road Parking	One kind of parking	The large part of supply	If there is an supply
Transfer Parking	No transfer parking	No transfer parking	At the boundary of the center, main corridor, the existence of public transportation transfer parking
Short time Parking	Should be encouraged	Should be encouraged	-
Long Time Parking	Should be discouraged	Should be discouraged	Should be encouraged
Pricing	Short time expensive, long time very expensive	Short time cheap, long time very expensive	Short time cheap, long time free
Controlling	Tight control, towing	Tight control, towing, locking	control, locking
Tools	parking meter, parkometre	Parking meter, parkometre	Parking meter, parkometre, employee

There is no **public transportation,** and bicycle way within the area. The 50% of the streets are allowed to motorized traffic and the other half for the pedestrianized. Street for vehicles and pedestrians were seperated in 2007 within Traffic Circulation Plan of Kaleiçi. (Figure 67) In this respect, Hesapçı Street, Tabakhane, Tuz Kapısı, Ömer Efendi, İzmirli Ali Efendi, Kaledibi, Fırın, and Hamam Street was pedestrianized. However, there is no plan, or reports that support this infrastructure system. The main pedestrian axis defined according to entrances gates. It can be said that if the street section is proper, the entrance of the motorized traffic into the streets was allowed.

[80]Since the relevant information in Major Transportation Plan Report(now put on shelf)taken from UKOME Department(Transportation Coordination Center)which is in the responsibility of Transportation Services Department , there is no page number. Translated into English by the author

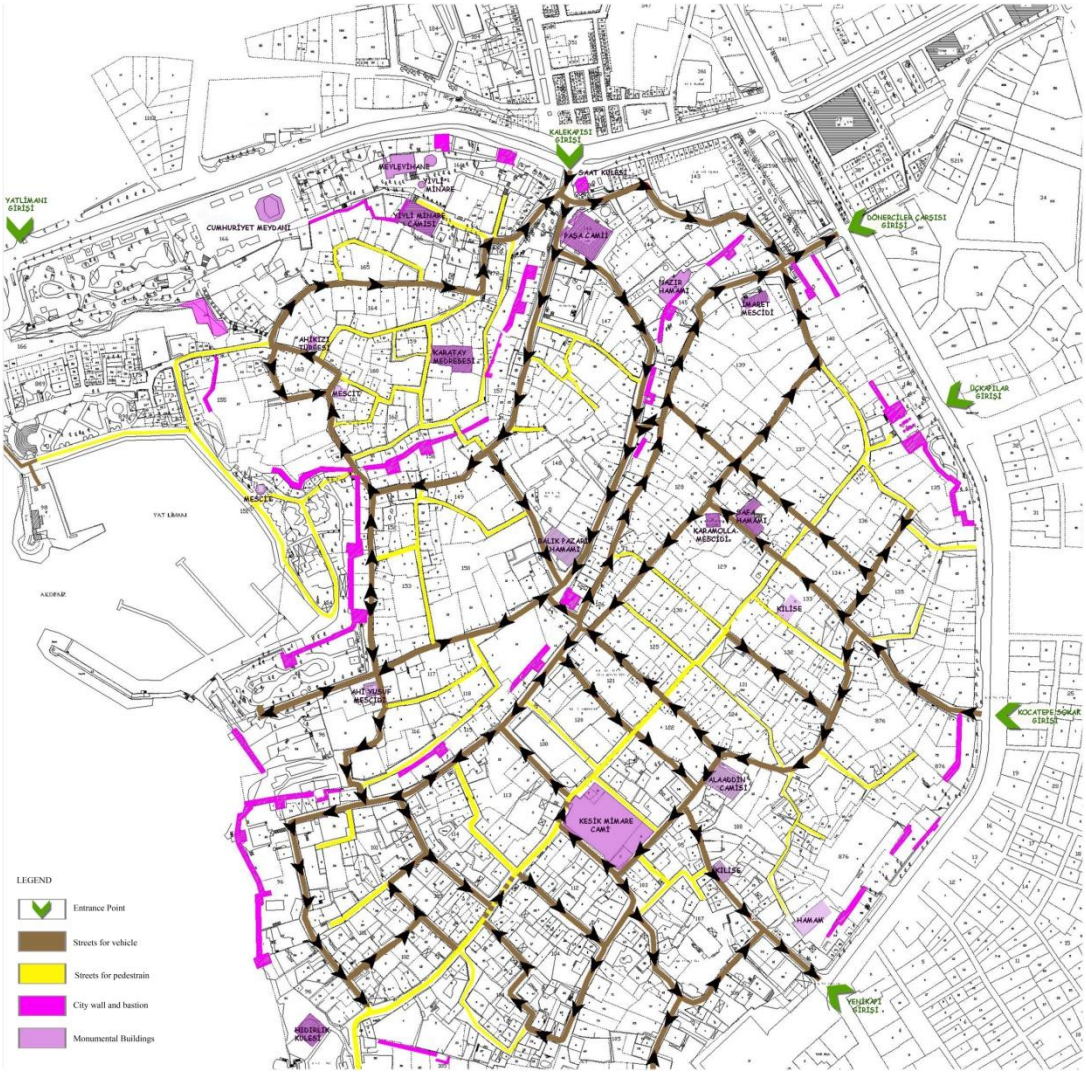


Figure 67: Existing Circulation Plan in Kaleiçi, (KUDEB Archive)[81]

In addition, as supporting this plan, Kaleiçi mobility regulation by Anet[82] included the regulations for handling for vehicles serving to businesses, rent a car, residential-property owners or tenants, businesses, public institution staff, and the amount of parking charging in Kaleiçi.

The regulation for the vehicles serving to businesses is that the vehicles servicing to the businesses as distributor, marketing, fuel, services as food, drink, cleaning materials could enter the area between 06:00 and 12:00 and they will be out of

[81] Translated into English by author

[82] Now the system is managed by Antalya Metropolitan Municipality Anet Incorparated Company, Codes for Kaleiçi Use, in this regard, the detail information about the regulations were derived from the handout of ANET prepared for Kaleiçi

Kaleiçi until 12:30. Out of this determined time, vehicles that want to enter Kaleiçi have to take permission from Kaleiçi Coordination and Control Office. Those vehicles cannot enter Kaleiçi at Sunday and public holidays. The heavy vehicles as whose weights are more than 3500 kg cannot enter Kaleiçi.

According to this regulation, it was stated that vehicles of Rent a Car offices cannot stay in Kaleiçi. The vehicles can be brought to rent a car office in case there are demands of cars by users. However, this rule is just on paper, since there are many rent car offices with their vehicles on the streets.

For the residents, they are allowed to have at most 2 cars in Kaleiçi. Today there are 132 vehicles registered by residents (Table 27). **The Businesses,** they have to take the document from notary to enter Kaleiçi. The **Public Institution Staff** are allowed to have vehicles in case they have the document that shows vehicles belonged that public institution.

For the parking, there is a parking charging regulation in order to reduce the number of vehicles entering to Kaleiçi. For this, at entrances, paid entrance points were established. In this context vehicles staying 0-1 hours do not have no charge, those stay 1-3 hours pay 5 TL, those stay 3-5 hours pay 7 TL and those stay 5+ hours pay 10 TL. However, it can be said that these parking charges do not discourage people to enter the Kaleiçi Historic Urban Landscape.

Table 27: The number of registered vehicles in Kaleiçi[83]

Type	**The Number of Vehicles**
Official Cars	53
İşletme	257
Residents	132
Rent a car	119
Taxi	40
Total	**601**

[83] This data was taken from Anet

However, although there is motorized traffic in the historic city center, there are no enough defined parking areas. This brings some problems to the site as transforming empty lots to the parking areas in illegal way and destroying the area behind parking area

Density

In Kaleiçi, since it has a mixed-use character, there are different users. The users in the area can be classified as residents, touristic visitors who came for one or more than one day, people who have offices or work in public bodies and business visitors. Today in a day within 24 hour, almost 1500 vehicles enter into and exit from site (Figure 68).[84]

Since Kaleiçi is a mixed area there different job opportunities. One of them is the officers and people working in the public bodies. Those users have private cars, or use public transport or if their houses near to their work they prefer to walk. The distribution of the office places and public institutions are not regular however, it can be said that most of the offices and public institutions located close to Antalya Metropolitan Municipality since they have direct relationships for their studies. The location of Conservation Council and KUDEB in Kaleiçi increased the awareness of staff about the area.

Residents settled especially at the southern and the eastern parts of Kesik Minaret, and through history, this area succeed to preserve its residential character. Residents in the area composed of elder people and most of them each other. An interview during site survey showed us the neighborhood relations continued as possible. The elder men in the area sit in front of Üç Kapılar where the bay trees exist. Moreover, they define this area as below the bay tree.

Tourists mostly prefer to see Cumhuriyet Square, Yivli Minare and its surrounding, Clock Tower, Kesik Minaret, Hıdırlık Tower, Mermerli Park and Beach Those are the certain destinations that tourist visited. In Cumhuriyet Square and Mermerli Park mostly, they prefer to take panoramic photos of the Kaleiçi. The first route start with

[84] This information taken from the officers who stayed at İmaret Gate, It was stated that there are too many illegal entrances and exits during day, even it seems to have restrictions, in reality it was too easy to enter to site

Cumhuriyet Square and then visiting Yivli Minare and its surrounding environment where different Seljuk period cultural properties took place and then coming to Clock Tower and walked through Port and take yacht tour From Üçkapılar to Hıdırlık tower through Hesapçı Street with visiting Kesik Minaret is an another route that tourist use it. For accommodation they mostly prefer to use hostel and hotels in the area, or bigger and more luxury hotels out of Kaleiçi Hanlar region and the square that Attolos sculpture took place and Kapalı Yol are the places where many commercial facilities placed that tourists shop and eat. In addition, from Cumhuriyet Street through Demirciler Çarşısı and Doğu Garajı surrounding are another places that tourists use for shopping (Figure 69).

Route 1: Cumhuriyet Square, Yivli Minare and its surrounding, Attolos Sculpture
Route 2: Clock Tower-Kırk Merdivenler-İskele,
Route 3: Üçkapılar, Kesik Minare, Hıdırlık Tower, Mermerli Park and İskele
Route 4: Kalekapısı-Uzunçarşı-Balıkpazarı-Kurtuluş-Yenikapı and Atatürk House
Route 5: Üç Kapılar-Hesapçı Street-Hıdırlık Tower-Karalioğlan Park

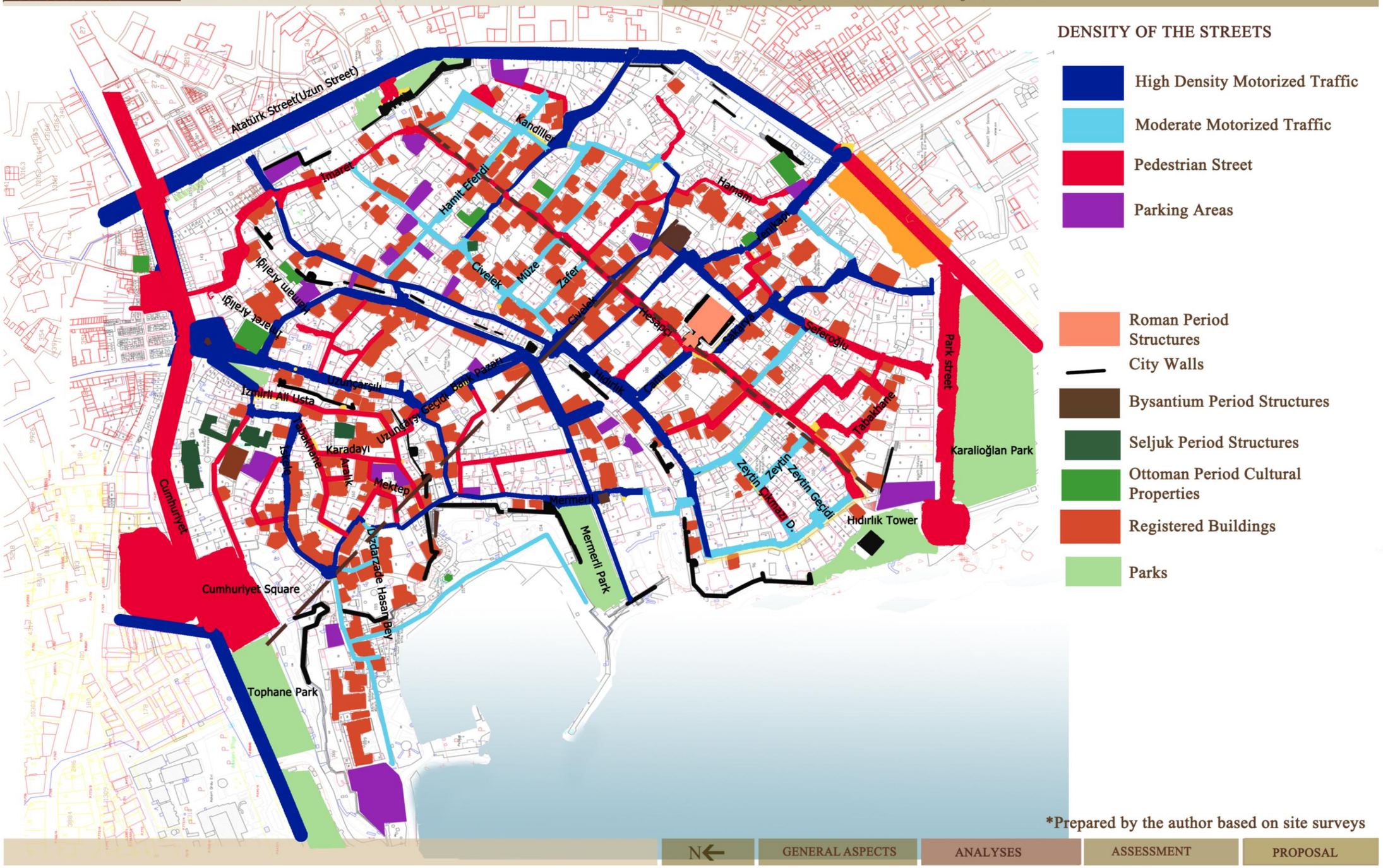


Figure 68: Density of the streets

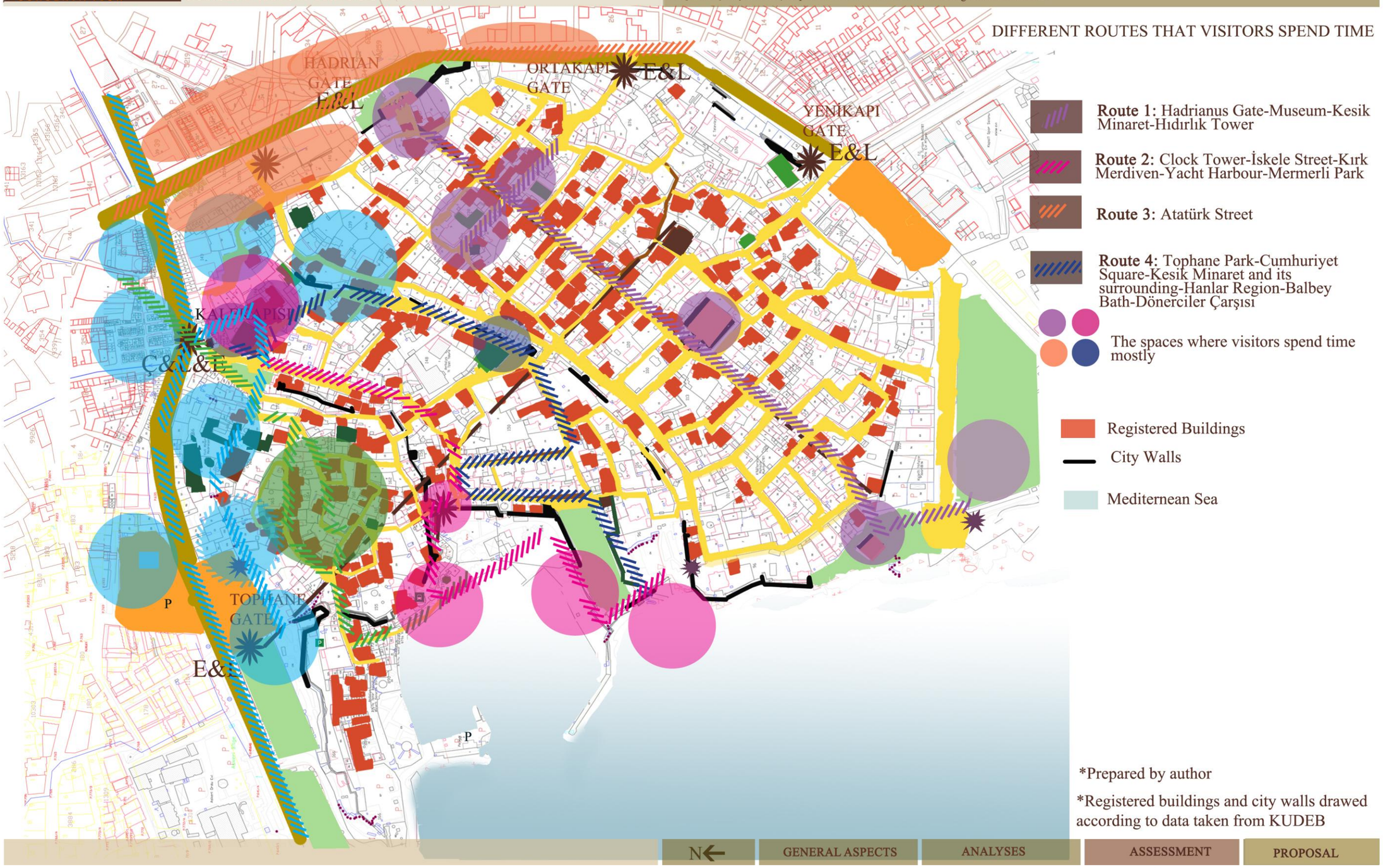


Figure 69: Different routes that visitor spends time

CHAPTER 4

PRINCIPLES, POLICIES, STRATEGIES, AND ACTIONS FOR SUSTAINABLE URBAN MOBILITY IN ANTALYA KALEİÇİ HISTORIC URBAN LANDSCAPE

After analyzing the current condition of the site in the previous chapter, an analysis including the values, problems, and potentials of Kaleiçi should be made as the second stage of the sustainable urban mobility in historical urban landscape. Accordingly, in this section of the site assessment: values, problems, and potentials of Kaleiçi focusing on the problems related with motorized traffic and the significance of Kaleiçi identified and visualized regarding cultural properties, users, functions, public realm, and urban mobility system

4.1. AN ASSESMENT OF THE CURRENT SITUATION

After analyses regarding the layers related with mobility in historic urban landscapes were conducted, there is a need to assess those inbformation in order to provide an effective policies, strategies, and actions of Sustainable Urban Mobility in Antalya Kaleiçi Historic Urban Landscape.

4.1.1. Cultural Properties [85]

Kaleiçi, which draws an authentic image of antique town regarding togetherness of the remains and traces of cultural properties with modern city, is made up of a series of historic layers representing different features and functions of the city. These layers in inner citadel area include the organic and grid urban tissue with its urban mobility system, and relations of its streets. In some part of the area, the traces of the cultural properties can be experienced while in some part it is too difficult to identify the existence of them.

[85] The related visual can be reached from Table 28, Table 29, Figure 70, Figure 71

From **Roman period**, there are visible and traceable monuments. By walking through Atatürk Street, the traces of the city walls could be experienced. From Hadrianus Gate, this is named as Üç Kapılar for local people, is an inspirational entrance gate into Inner Citadel Area. It draws a positive image with its pleasant environment and its identitical architectural details. After, Hesapçı Street, which was decumanus in Roman Period, servicing as main pedestrian axis and Kesik Minaret, which has passed through historic timeline of Kaleiçi, constructed as a basilica on this axis. Then, Hesapçı Street ends with Hıdırlık Tower,which is standing in unique position with its identitical architectural character. Also, Kaledibi Street, Balıkpazarı Street and Square, and the south and north part of Kaleiçi traces of city walls that dated Roman period can be seen clearly. Briefly, in the whole area both stand statutes and traces of this period exist and could be experienced.

Clock Tower and Kırkmerdiven belonged to **Byzantine period. Clock Tower** is one of the important landmarks of Antalya that everyone knows it**, and this can be associated with its position** on the entrance of Kaleiçi where traditional city center and contemporary city center overlapped. Nevertheless, the contextional relation of Clock Tower with its environment has brought some problems because of the wrong implementations. Since the main entrance of Inner Citadel Area is provided through the street that Clock Tower located, there is dominance of the motorized traffic at this point in every hour. Kırkmerdiven is also located in a very important junction since it connected the port and historic urban landscape there is increase pedestrian use on it. Therefore, other solutions should be proposed to connect those sites without demolishing the urban landscape to decrease the pressure on it.

Seljuk Period's tangible traces mostly located where Yivli Minare Mosque, Yivli Minare, Gıyaseddin Keyhüsrev/Atabey Armağan Madrasah, Karatay Madrasah, Selçuklu Madrasah(Imaret Madrasah) Mevlevihane placed, where cultural heritages as monumental buildings constituted the high portion among whole area. The togetherness of those in their landscape makes them attractive points with their unique architectural details. Moreover, most importantly, Yivli Minaret today is considered as a symbol of Antalya. Ahi Yusuf Masjid, İmaret Masjid, Ahi Kızı Masjid, Karamolla Masjid is the other Seljuk period cultural properties and preserved

their original function until today. However, the relationship with Cumhuriyet Street and its surrounding is quite weak because of the natural barriers.

From Ottoman period, the traditional neighborhood fabric and the relations with its main urban elements can be seen clearly. The street network, its dead-end street, square with plane tree can be obviously examined. Tekeli Mehmet Paşa Mosque, İskele Masjid, Nigar Hatun Tomb, Aya Yorgi Church, Yenikapı Greek Church (Küçük Rum Kilisesi), Yenikapı (Gavur) Public Bath, Nazır Public Bath, Sefa Public Bath are the monuments that belonged to this period and their conditions is good. However, there are problems with the presentation of the monuments especially for the public bath. The perception of the baths is quite difficult. **Kesik Minaret Mosque,** which was called as Cumain or Korkut Mosque, is another landmark of Kaleiçi from Roman period until Ottoman period it was used. After a fire at the end of 1800s it was damaged, today the minaret and the walls of the mosque can be seen with its additions from different period.

The problems related with cultural properties because urban mobility and its relative components in historic landscape are parking in most of the cultural heritage frontage. Also because of the excess of signs and façade changes, it is too difficult even impossible to perceive Hanlar Region. In addition, the smokes of the motorized vehicles affect the chemical character of the stones that traditional buildings constructed from negatively.

Table 28: Values and potentials related with cultural properties

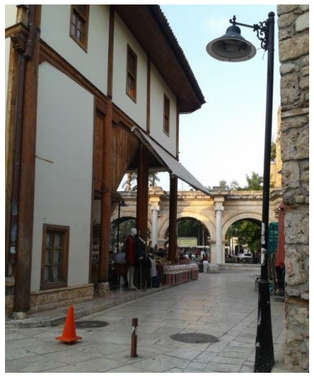
VALUES and POTENTIALS RELATED WITH CULTURAL PROPERTIES

(a)Clock tower&Attalos sculpture as landmarks

(b)Traces of the city wall, Atatürk Street

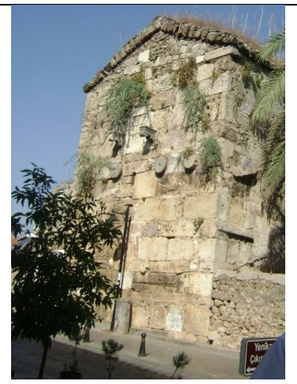
(c)The witness of the history, From Basilica through Korkut Cami to Kesik Minaret

(d)A traditional street



(e)Hadrianus Gate

(f)Nigar Hatun Tomb



(g)The City Remains of Walls

(h)The Remain of the city walls

(i)City wall with civic architecture

(j)Ahi Kızı Masjid

(k)İmaret/Selçuklu Medresesi

(l)Natural&historic&modern togetherness

Figure 70: (a) (b) (c) (d) (e) (g) (h) (i) (l) Personal archive,2014 (f) (http://dunyarehberi.blogspot.com.tr/2010/05/nigar-hatun-turbesi-merkez.html) (j) (http://www.panoramio.com/photo/44928120) (k) (http://yivliminare.blogspot.com.tr/2012/07/7-imaret-medresesi.html)

Table 29: Problems related with cultural properties

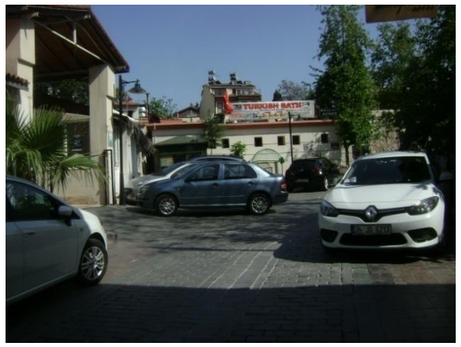
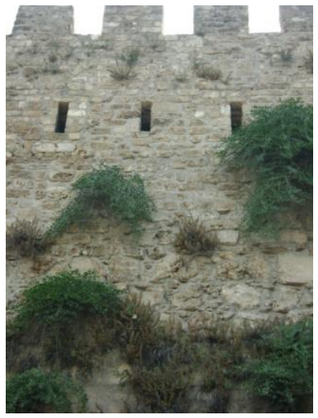
PROBLEMS RELATED WITH CULTURAL PROPERTIES			
 (a)Difficult to identify Public Bath	 (b) Visual and perceptional problems because of deteriorations on city walls	 (c)Constructing new buildings as old	 (d)Restoration of Gıyaseddin Keyhüsrev Madrasah
 (e)Deteriorations on building facade	 (f)Visual and perceptional problems because of deteriorations on city walls	 (g)Using in front of the traditional buildings for parking	 (h)Damaged and Destroyed Cultural Properties
 (i)The entrance of the Hanlar Region	 (j)Construction of new buildings as old	 (k)Parking in front of cultural property	 (l) The low quality of public realm behind cultural property

Figure 71: (a) (b) (c) (d) (e) (f) (g) (h) (I) (j) (k) (l) Author, 2014

4.1.2. Users

As it is stated in previous chapter, there are different users in Kaleiçi historic urban landscape; residents, retailers, officers, people who work in public bodies, visitors. Therefore, it can be said that the togetherness of the range of users created a social interaction among the site (Table 30).

In discussing the problems in historic urban landscape movement, the most interestingly, taxi drivers complained about traffic congestion, and excess of traffic signs. Pedestrians meanwhile identified areas that were seen as dominated by traffic including İskele Street, Uzun Çarşı Street, İzmirli Ali Efendi. These were seen as offering poor pedestrian area. However, today it is difficult to see the local people in street life because of the destruction of the social life related with automobile dependence on area in addition to other reasons. During the site survey, people lived in Kaleiçi claimed about firstly the motorized traffic. Kaya Duvarcılar who was born in 1937 in Kaleiçi and has been living there since then, explained the biggest problem who saw in the area that the illegal parking of the automobiles in front of his houses and dominance of the automobiles in the area. He said that in his childhood, there were water channels in the streets instead of automobiles and children were playing games in Kesik Minaret and its surrounding.

Another kind of users in Kaleiçi is people who work there. During the site survey, they also claimed about the motorized traffic in the site that prevent pedestrian movement in the site and disturb their shopping and enjoying time. In urban mobility context, the needs and expectation of these users should be taken into account. They need fast, safe, secure mobility system between their homes and offices. The cognitive maps of these users should be prepared in accordance with cultural properties and the potential of the users' enthusiastic about new mobility options, since it increases the interests for further projects. With online information system, they can have fast and easy information about mobility choices to historic urban landscape where working places exist.

Urban mobility system should be focused on promoting the sense of place in accordance with cultural properties that city has. The unique and local character of the city should be provided feeling like nowhere else existing in Kaleiçi.

For the visitors, Kaleiçi is an accessible area. Most of the tourists come to the site by touristic tours that stop in Cumhuriyet Square, walked through into the area, and go their accommodation places from there again. However, for the residents there are accessibility problems since there is just tram connection at Cumhuriyet and Atatürk Street that go to Lara when the average age of them considered this is an important problem that should be solved.

Since in time the population of foreign people increased in time, this brings the problems related with local pride. The neighborhood character has been affected negatively that residents claimed. Since the local residents of the area have migrated, the population decreases.

Table 30: Analyses of Kaleiçi Users (Prepared by the author)

ANALYSES OF KALEİÇİ USERS						
	Workers-			**Visitors**		
	Residents	**Retailers**	**Business officers Public bodies**	**Touristic Visit**		**Business Visitor**
				Daily visitor	**More than one day**	
						
Expectation	-Regular trips within and out of HUL -Livable places without noise,congestion and security problems -enjoyable visiting places -Affordable mobility prices -Immediate access to up-to-date travel information -Social and cultural event activities -Parking places for their vehicles	-if they do not live in Kaleiçi they need to be on time at their work places -Affordable mobility prices - Fast, efficient, safe and secure transportation system	-Be on time at their work places - Service availability to their offices -Affordable mobility prices	-Have a relax time, enjoy and discover the city -Discover historic urban landscape, have a relax time and enjoy the city -Affordable mobility prices -Enjoying and relax places -Affordable mobility prices to visit other site of the city	-Have a relax time, enjoy and discover the city -Discover historic urban landscape, have a relax time and enjoy the city -Affordable mobility prices -Enjoying and relax places -Affordable mobility prices to visit other site of the city	-Get to a meeting on time -Discover historic urban landscape, have a relax time and enjoy the city in a short time after businesses -Fast, efficient transport
Tools	-Real time transport information system -awareness about civic pride -Using public realms together with mobility and enhance cultural property values -encourage walking and less car use -Extend ‘mental map’ of the city	-Providing cognitive map and simple routes -Online travel information system -encourage them to use public transportation or cycling	-encourage them to use public transportation or cycling	-Provision of the maps including whole city and mobility system between things -convincing them about the easiness of the city navigation -Provide guides, slow-read mapping and information	-Provision of the maps including whole city and mobility system between things -convincing them about the easiness of the city navigation -Provide guides, slow-read mapping and information	-‘Mental map’ and simple routes -Provide up-to-date travel online information -Simple city centre map with emphasis on cultural properties
Potentials	-Improvement in the daily activities -Increase the awareness about local identity	-Provision of the best choices of mobility with discovering cultural property that city has	-Provision of the best choices of mobility with discovering cultural property that city has	- good impression of city image in the first time	- good impression of city image in the first time	-Provision of the best choices of mobility with discovering cultural property that city has - good impression of city image -encourage longer stay or repeat visit with friends or family

4.1.3. Public Realm[86]

Kaleiçi has a distinctive identity due to the combination of cultural assets on its inspirational topography, Mediterranean Sea, and ancient harbor. This natural beauty of Antalya Kaleiçi landscape setting, the elegance of its Roman, Seljuk, Ottoman, and Republican architecture still affect many visitors including local and foreign one and entrepreneurs. With its traditional conserved street network, squares, vistas and parks, it is an enjoyable unique place to live and visit. Briefly, the values related with public realm in Kaleiçi and its close environment can be summarized as:

- The settlement in a relation with Mediterranean Sea
- Its settling on the cliff ad the relationship with city walls
- The direct relationship of Kaleiçi with Karaalioğlan Park
- The existence of the traditional street network
- The existence of the squares that have been used through time as Balıkpazarı
- Variety of high quality open spaces as the green area in front of Üç Kapılar
- Tophane Park through the view of Kaleiçi
- Having different kinds of plants that Mediterranean climate conditions provide
- Clock Tower, Yivli Minare, Üç Kapılar, Kalekapısı, Cumhuriyet Square, İskele, Karaalioğlan Park are the landmarks of Antalya that almost everybody knows
- Vista points in most of the streets through sea, cultural properties
- The existence of the panoramic view points
- Mermerli Park and Mermerli beach that has an significant commemorative value for local people
- Existence of the nodes as Balıkpazarı junction with Zafer street
- Entrance to Kaleiçi through Clock Tower and Üç Kapılar
- The continuity of the neighborhood relation at public reams

However, despite these noticeable characteristics, the quality of public realm is still variable and the negative impacts of motorized traffic in HUL exist as eroding the

[86] Related visual can be found in Table 31, Table 32 and Figure 72, Figure 73

quality of important pedestrian connections and restrict the potential uses of streets. Users of historic landscape claimed that the streets and spaces, which constituted the places for public life and movement in the site, are not sufficient. The decline of public realm has been worsened in the years with the dominance of the motorized traffic in the site. Many of the streets of Kaleiçi and public spaces have suffered from uncoordinated maintenance and management. In addition, it is possible to see uncoordinated street furniture, signs that have a negative effect on the local character of Kaleiçi that should be removed. In the west, the existence of the narrow street structure and footpaths where the topography became steeper result in the mobility difficulty especially for elder people and people with disabilities and this situation got worse with using inappropriate pavement material that was decided in 2007 Circulation Plan. Therefore, a focused programme of public realm improvement project should be conducted for public spaces of Kaleiçi and its surrounding. In this regard, street furniture and signage should be regularized

Table 31: Values and potentials related with public realms in Kaleiçi

VALUES AND POTENTIALS RELATED WITH PUBLIC REALM

(a) Different social activities for different users

(b) Cumhuriyet Square as a relaxing and meeting point for people

(c)Enjoyable walking areas

(d)Mermerli Park with its greenery environment

(e)Üçkapılar as a sitting and relaxing place for both residents and visitors

(f) Cumhuriyet Street including city walls remains with different cultural activities

(g) The square across Cumhuriyet Square

(h) Old Balıkpazarı Square

(i)General view with city walls,traditional building, sea and natural landscape

(j)Colorful flowers as street elements

(k)Old plan tree

Figure 72: (a) (b) (c) (d) (e) (f) (g) (h) (I) (j) (k) Personal archive,2014

Table 32: Problems related with public realms in Kaleiçi (Prepared by the author)

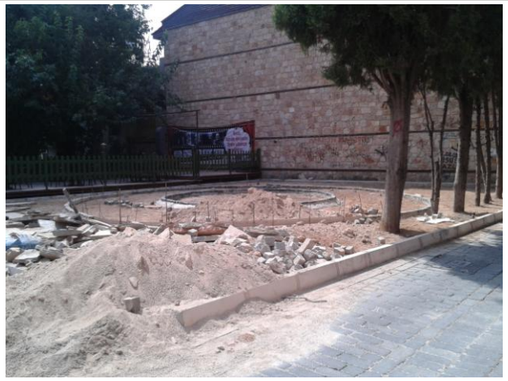
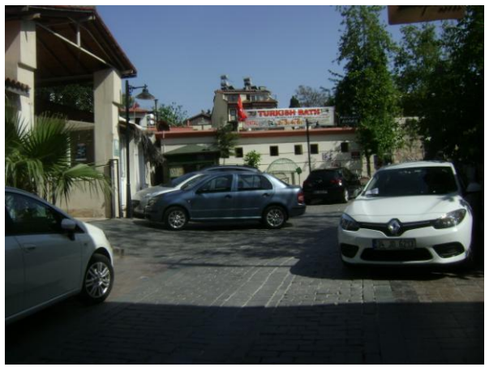
PROBLEMS RELATED WITH PUBLIC REALM			
 (a)Using empty lots without respecting traditional character	 (b) The excess of information signs	 (c)Using empty lots as a parking area	 (d) The inappropriate location of trash bins especially in front of cultural properties
 (e)Transformation of Mermerli Public Beach into private area	 (f) The inappropriate design materials	 (g) Cars parking in the streets randomly	 (h)Inappropriate design of public realms as pool in the traditional pattern
 (i)Invasion of public realm by shops	 (j)Invasion of public realm by vehicles	 (k) Inappropriate pavement materials	 (l) Perception difficulty of Hanlar Region because of excess of signs on the facades

Figure 73:(a) (b) (c) (d) (e) (f) (g) (h) (I) (j) (k) (l) Author,2014

4.1.4. Functions[87]

Kaleiçi and its surrounding accommodate different functions, roles, and specific purposes. Its continuous inhabitance across time is one of the important strengths of the site connected to functional context. It is an increasingly mixed-use neighborhood that hosts many events of city and the direct relationship with the city center make the area an attractive place to visit, to live and to invest. This resulted in provision of the different kinds of functions and respectively different job opportunities and this increased the significance of the site that local administrations, visitors, retailers pay more attention (Figure 74).

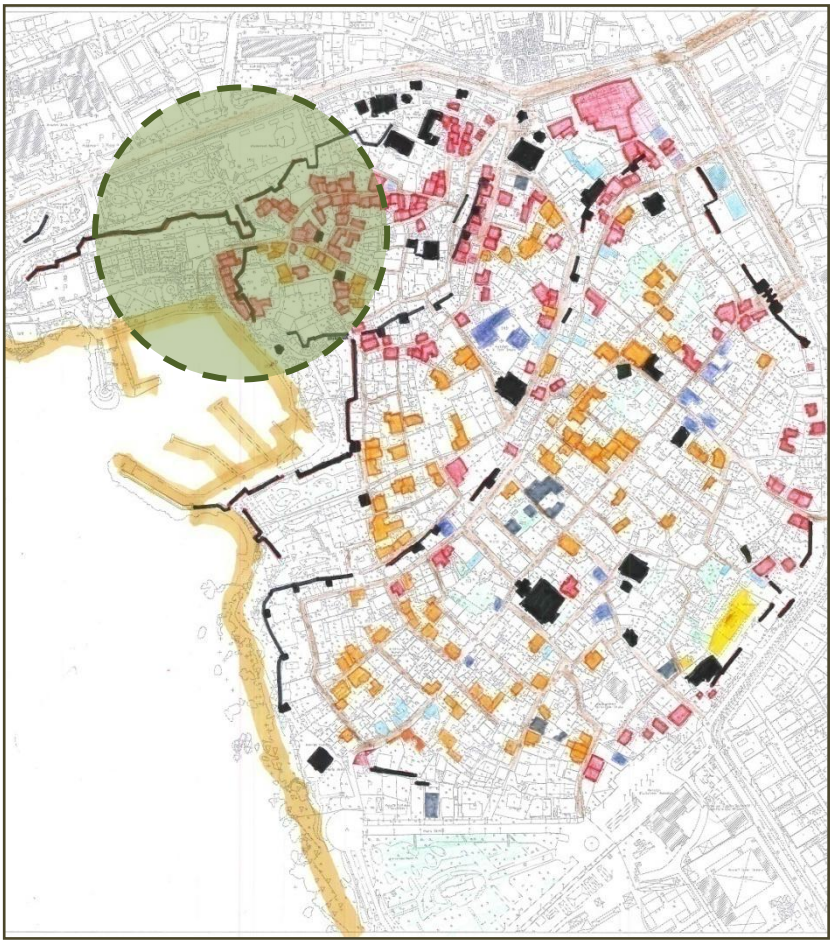


Figure 74: Working areas [88]

[87] Related visual information can be found in Table 33, Figure 76
[88] Personel drawing based on KUDEB Archive Landuse Map prepared in 2012

The mixed-use character in Kaleiçi especially can be seen at east part where Hesapçı Street divided the area into two parts. The area has a mixed-use character with residential, hostels, hotels, retailer units. The residential uses concentrated on the east and south part of the site (Figure 75).

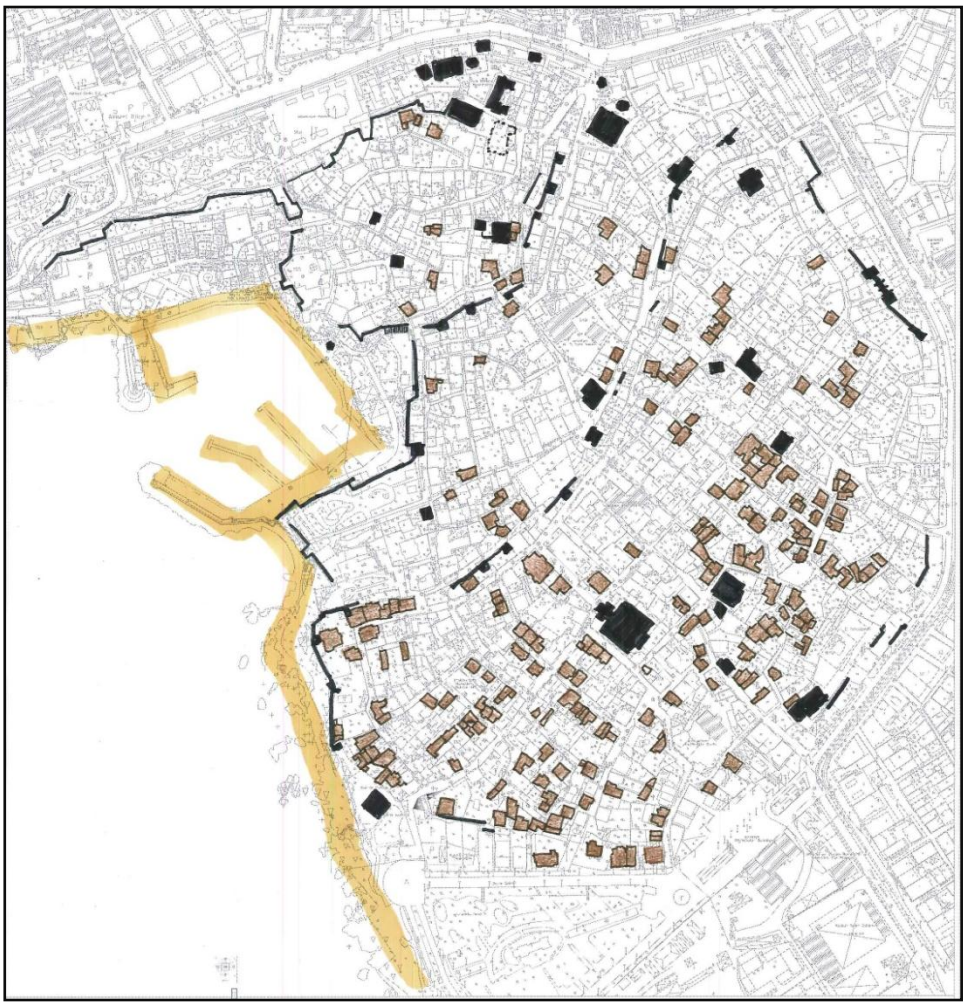


Figure 75: Residential use[89]

This character provides the integration with city center. The existences of the shops, museums, public institutions, social and cultural places, port improve the relations of people with site.

[89] Personel drawing based on KUDEB Archive Landuse Map prepared in 2012

However, day by day, the numbers of the different commercial uses not belonging to the history of Kaleiçi have been increased and the social life disturbed. Furthermore, the existences of the many pubs in Kaleiçi affect negatively daily life. Residents and retailers have been complaining about this situation especially for the noise that these places caused in the late night hour. Another problem, in the past while Mermerli Beach played a significance role that Kaleiçi people learned swimming there, now it is a touristic place where people pay it to use. There are no health services in the area that users could apply, when thinking about the profile of the residents most of them composed of elder people, this situation decreases the population desire to live there. Since there are many shops that have the same goods to sell, misidentification of the area without authenticity became common. This situation with the existence of the unqualified staffs resulted in a negative image for the visitors.

In this respect, the transition of function of Kaleiçi from residential to only touristic uses should be taken into account and stayed in a balance. The needs of residents should be met. Public uses that residents need as school facilities, health services should be encouraged in order to provide livable neighborhoods. There is need for the handwork shops that show the traditional life style instead of nonsense shops that is not belonged to Kaleiçi history in order to conserve and promote the local identity. Moreover, handmade goods, painter in the streets use the facades of the traditional buildings to present their products. There should be presentation areas for them to show their works and sells.

Table 33: Values , Potentials and problems related with functions in Kaleiçi

VALUES and POTENTIALS RELATED WITH FUNCTIONS		PROBLEMS RELATED WITH FUNCTIONS	
 (a)Residential buildings	 (b)School	 (c)Invasion of the streets	 (d)Invasion of the streets
 (e)Job opportunity for people	 (f) museum (http://www.kaleicimuzesi.com/index.php?page=hakkimizda&title=Hakk%C4%B1m%C4%B1zda) 11 01 2015	 (g)The dilemma of the Rent a Car in the historic site	 (h)The existence of empty buildings
 (i)Antalya Metropolitan Municipality	 (j)Residentials	 (k)The dominance of the commercial facilities	 (l)The dominance of the commercial facilities

Figure 76:(a) (b) (c) (d) (e) (f)(g)(h)(I)(J)(k)(l)Author,2014

4.1.5. Urban Mobility System[90]

Mobility between Historic and Contemporary Parts of the City

Because Kaleiçi Historic Urban Landscape is a vulnerable and unique part of transportation system of Antalya, it should be evaluated in accordance with the cultural properties with their different users both in regional and local level.

The existence of Antalya **International Airport** that located at east part of the Antalya, many tourists visit the city from different countries. However, many tourists preferred to go to west part of Antalya that many vacation facilities exist without coming city center. Thus created dense traffic between the east and west with respect to just passing through contemporary city. In addition, the values of the site related with urban mobility between historic and contemporary city can be experienced as the existence of the enjoyable walkable areas, having different kinds of mobility modes as light rail system, nostalgic tram, road transportation, sea transportation, and cycling.

Light rail system connects the north and the city center. The stops located in a relation with most used places as İsmetpaşa, Üçkapılar. However, the west part of the city with city center regarding light rail system is weak; there is only nostalgic tram on this direction starting from Antalya Archeology Museum to Zerdalilik. On the other hand, the connection between east and west also should be enhanced with new light rail networks and in connection with other public transportation modes and non-motorized transportation system.

There is no exact **transportation** network problem between historic and modern city. Nevertheless, automobile dependence increase and lack of integration with other public transportation modes have brought the traffic congestion problem in most of Antalya roads.

From the foundation of the city as a fishery village to today's Yacht Harbor, **Mediterranean Sea** has been one of the important components of the city until today. Now the existence of the three sea buses to Kemer can be increased in time,

[90] Related visual information can be found inTable 34, Table 35 and Figure 77, Figure 78

transportation with other coast cities could be conducted. This decreases road transportation pressure in the city and respectively on Kaleiçi.

The existence of the **cycling** route encouraged people to use them. With new projects, cycling routes could be improved and travel behavior could be changed into cycling. The appropriate conditions for cycling**,** users' desires for the more pedestrian friendly street life, the existence of the municipality project about cycling and light rail system that connect the city center with new development areas are the potentials associated with urban mobility.

Furthermore, the existences of the enjoyable walking environment especially from Konyaaltı Coastal Road provide the experience of the unique blue of Mediterranean Sea and its warm climate and colorful environment. In addition, from Güllük Street and Kapalıyol, which is the major commercial street of the city that many people visit in their daily life to historic core, an enjoyable walking through public realm could be performed.

Mobility within Kaleiçi

In time, automobiles entered into lives and started to be used in Kaleiçi as well. However, after 1980s because of tourism-based development proposed for Kaleiçi, the social and physical structure changed. After, with new tourism functions, travel demand increased and became an important problem that has to be solved. After 2006 Circulation Plan, the problems still could not be solved. Although about 50% of the streets were pedestrianized, the dominance of the motorized traffic exists since the streets that have been used mostly by different users identified for vehicular traffic and the entrance restriction is not strict and also many empty lots used as parking areas. Since Kalekapısı and its surrounding is the administrative and commercial center of the city, this situation increased the transportation problem as congestion and parking. The absence of a clear and coherent pedestrian information and way finding system limits the opportunity to travel city center and its surrounding by walking. Increase in noise pollution because of the dominance of the motorized traffic in the historic part is the problem that many users complained about it. The problems related with motorized traffic in Kaleiçi as also set in previous

chapter, can be briefly summarized as deterioration of the physical environment of the traditional fabric. In addition, using the place located in front of the city walls as parking area, complaints of the citizens about dominance of the car because of the limitations on their social life, dilemma of the existence of *Rent a Car* offices in Kaleiçi are another problems.

Furthermore, transforming empty lots into the parking without any permission of the municipality, the imbalance between pedestrian and motorized traffic, visual pollution because of excess use of signage caused negative image of the site. Moreover, historic street pattern with its unique components, spaces, and people daily life have gradually disturbed. Additionally, there is high level of air and noise pollution and insufficient lighting.

In 1979, parking limited at 6 cars while in 1992 huge and inappropriate parking areas with traditional tissue proposed. There are five parking areas that municipality defined. One of them is in front of the city walls at İskele, one of them is behind Yivli Minare, the other at the entrance of the Karaalioğlan Park, and the remaining is behind Dönerciler Çarşısı. However, there are many illegal parking located on the empty lots and open spaces result in destruction of the pedestrian movement.

Table 34: Values related with urban mobility system

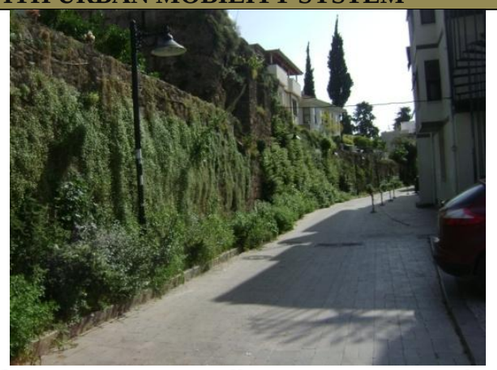
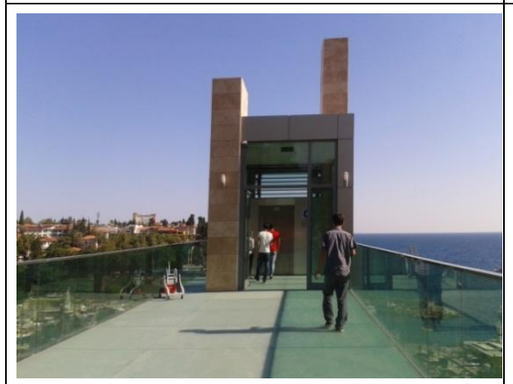
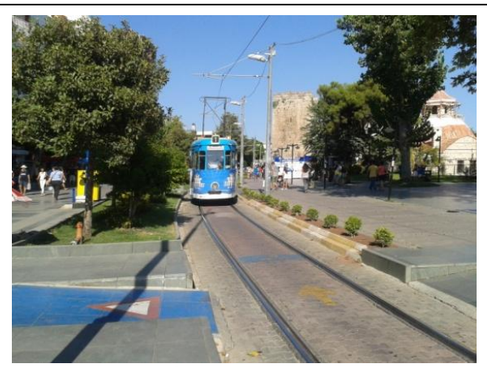
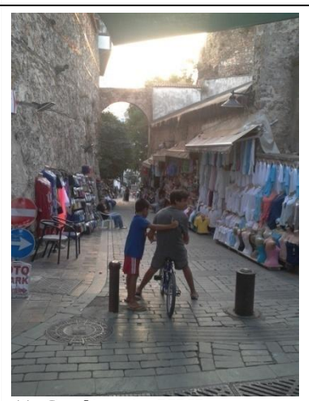
VALUES AND POTENTIALS RELATED WITH URBAN MOBILITY SYSTEM			
 (a)Existence of the electric vehicle	 (b)Impressive walking tours through natural&historical values	 (c)Closeness to the main bus& tram stops	 (Antalya Ulaşım) (d)Sea buses to Kemer
 (e) Combining city center with marina by escalator	 (f)The existence of electronic gates that control the vehicles'entrance	 (g)Existence of the nostalgic tram, direct relationship with HUL	 (h)The existence of the walkable and enjoyable places
 (i)Existince of cycling route	 (j) Cycling in HUL	 (k)Existence of ANTBİS	 (m)Port

Figure 77: (a) (b) (c) (d) (e) (f) (g) (h) (i) (j) (k) (l) (m)Author,2014

Table 35: Problems related with urban mobility system

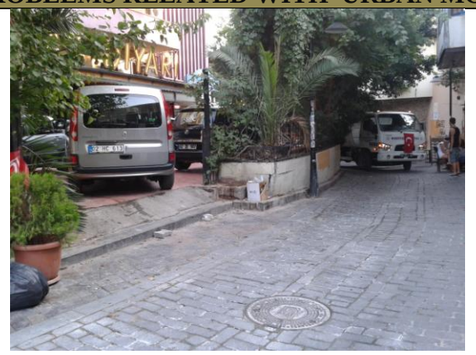
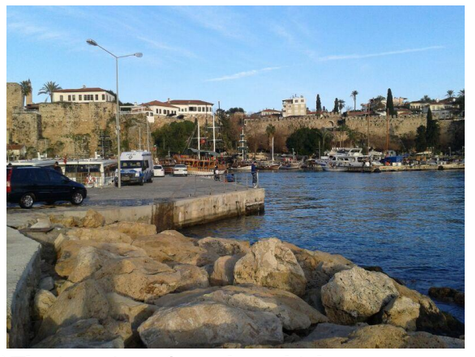
PROBLEMS RELATED WITH URBAN MOBILITY SYSTEM			
 (a) The existence of heavy vehicles	 (b)Traffic Congestion in most of the streets	 (c)Using inappropriate pavement materials in steep streets that cause skating	 (d) Empty lots as a parking area without any permission
 (e) The existence of heavy vehicles	 (f)Parking in front of traditional buildings	 (g) Disturbing pedestrian movement	(h)  Street parking in the main pedestrian routes
 (i)Automobile dependence on the main visitor routes	 (j) The existence of Rent a Car offices	 (k)The existence of Rent a Car offices	 (l)The invasion of port by vehicles

Figure 78:(a) (b) (c) (d) (e) (f) (g) (h) (i) (j) (k) (l) (m)Author,2014

4.1.6. An Overall Evaluation of Kaleiçi[91]

Under heading of the assessing Kaleiçi with respect to components of urban mobility projects, the current situation of Kaleiçi and its surrounding analyzed and categorized as values, problems and potentials within the framework of thesis; cultural properties, functions, public realms, urban mobility systems and users, it could be said that there many problems that Antalya Kaleiçi HUL has. As a one of the problem, the layers related with urban mobility showed us that the main problem is the transformation of the site into uncontrollod depressed, insecure area. As a result of this the increase in travel demand have affected the historic urban environment with its different unique components. For a sustainable solution, the needs of users should be taken into account the strategies and policies should be defined to encourage the inhabitancy of the local residents. These users should be informed about the values of the site where they live and the relation between mobility and cultural property should be introduced.

[91] Related visual information can be found inTable 36

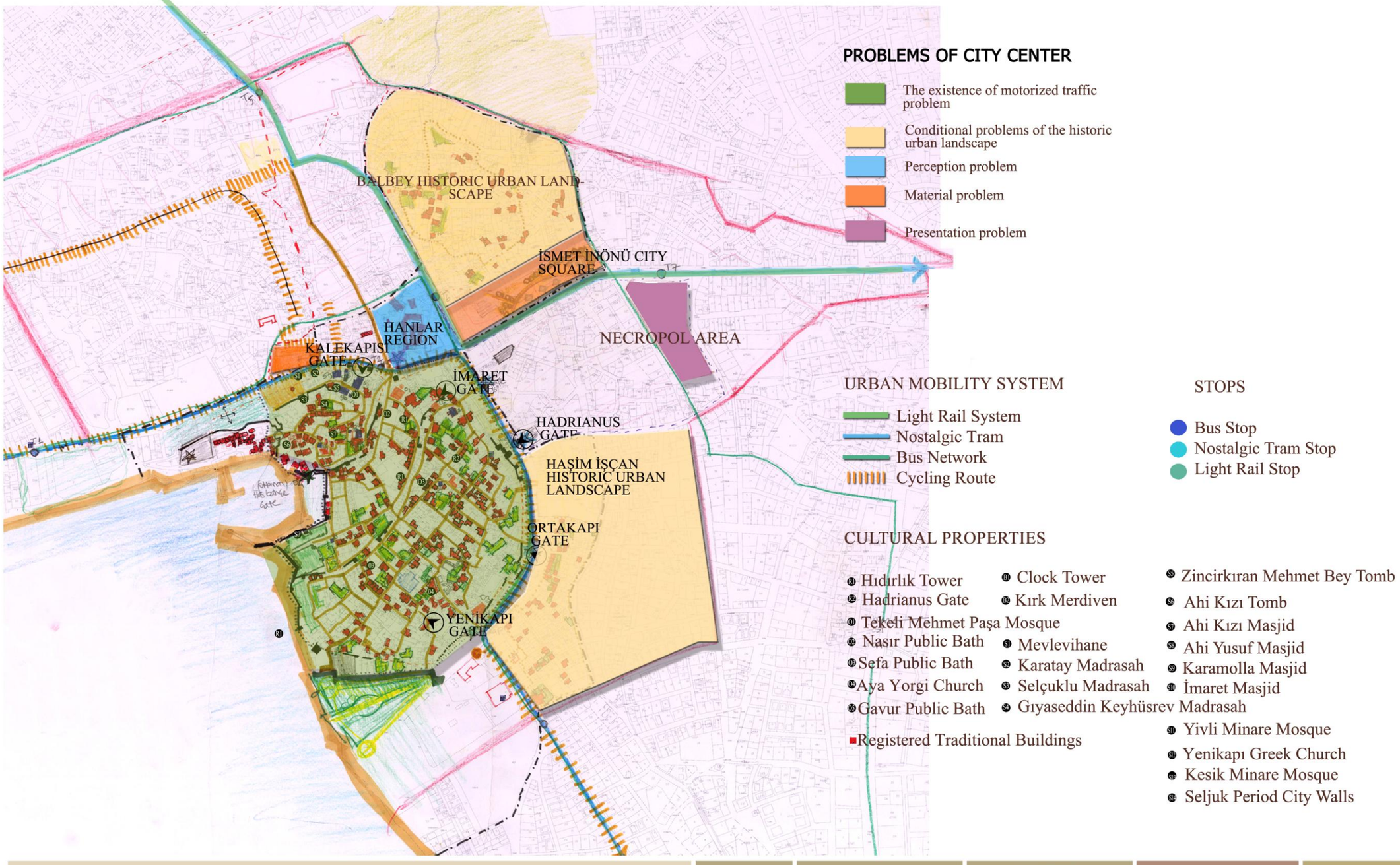


Figure 79: The Problems in Antalya City Center (prepared by the author)

4.2. PROPOSED PRINCIPLES, POLICIES, STRATEGIES, ACTIONS:
SPATIALIZATION OF PRINCIPLES

The historic urban landscape of the site provides a wider point of view about the connection of the different layers of Kaleiçi not only in a historical manner but also in social and economic manner. The togetherness of historical urban fabric in terms of different traditional residential buildings, monuments from different period and natural features provide ***''a mobility opportunity through different cultural and natural assets.''*** Furthermore, the strategic location of Kaleiçi in the core of Antalya, the modern city center, developed on the boundary of Kaleiçi. Namely, the different commercial facilities, public institutions, and services took placed there, new job opportunities rise, and this situation resulted with the existence of different users.

The aim of the analyzing values to be considered while designing an urban mobility project of Antalya Kaleiçi Historic Urban Landscape and general concept behind project together is to manage the impacts of current urban mobility modes on the historic tissue that resulted in destruction of the historic urban landscape physically and socially in a wider scale concerning regional, city and Kaleiçi scale.

As also mentioned in the previous chapters, depending mainly on the objectives and the assessment of the site with its surrounding environment, the statement of the significance should be arranged in a way reflecting the accessibility of the HUL. This could be achieved with respect to meeting the needs of its users and enhanced with enjoyable, distinctive streets and squares, from regional scale to Kaleiçi scale in an integrated and comprehensive approach As mentioned before social, physical and economic problems go from bad to worse in time because of the increase in automobile dependence in the historic core of Kaleiçi. However, Kaleiçi has been offering an amazing conserved historic urban landscape in terms of traces of Roman streets network, Ottoman neighborhood pattern and Seljuk monuments with their users on the cliffs of Antalya in relation with inspirational environment of Mediterranean Sea from past to present.

Namely, in this part of the thesis, the objectives are developed by giving reference to analyses and evaluations of history, conservation and planning studies and current situation. The method based on both the principles drawn from literature review including publications and implemented projects, and site surveys that were conducted especially in peak hour of the day with respect to analytical analyses, drawings, and interviews with different users. In this context, to promote and conserve cultural heritage, it is an obligation to reduce or in fact restrict the automobile dependence in historic vulnerable landscapes where the automobile is not compatible with the historic fabric. This restriction should be enhanced with other driving principles as meeting the needs associated with different of the site, balancing the functions reloaded, and preserving and enhancing well designed, enjoyable, and connected public realms that encourage the restriction of automobile and promote the cultural properties

Table 36: Values to be considered while designing urban mobility project

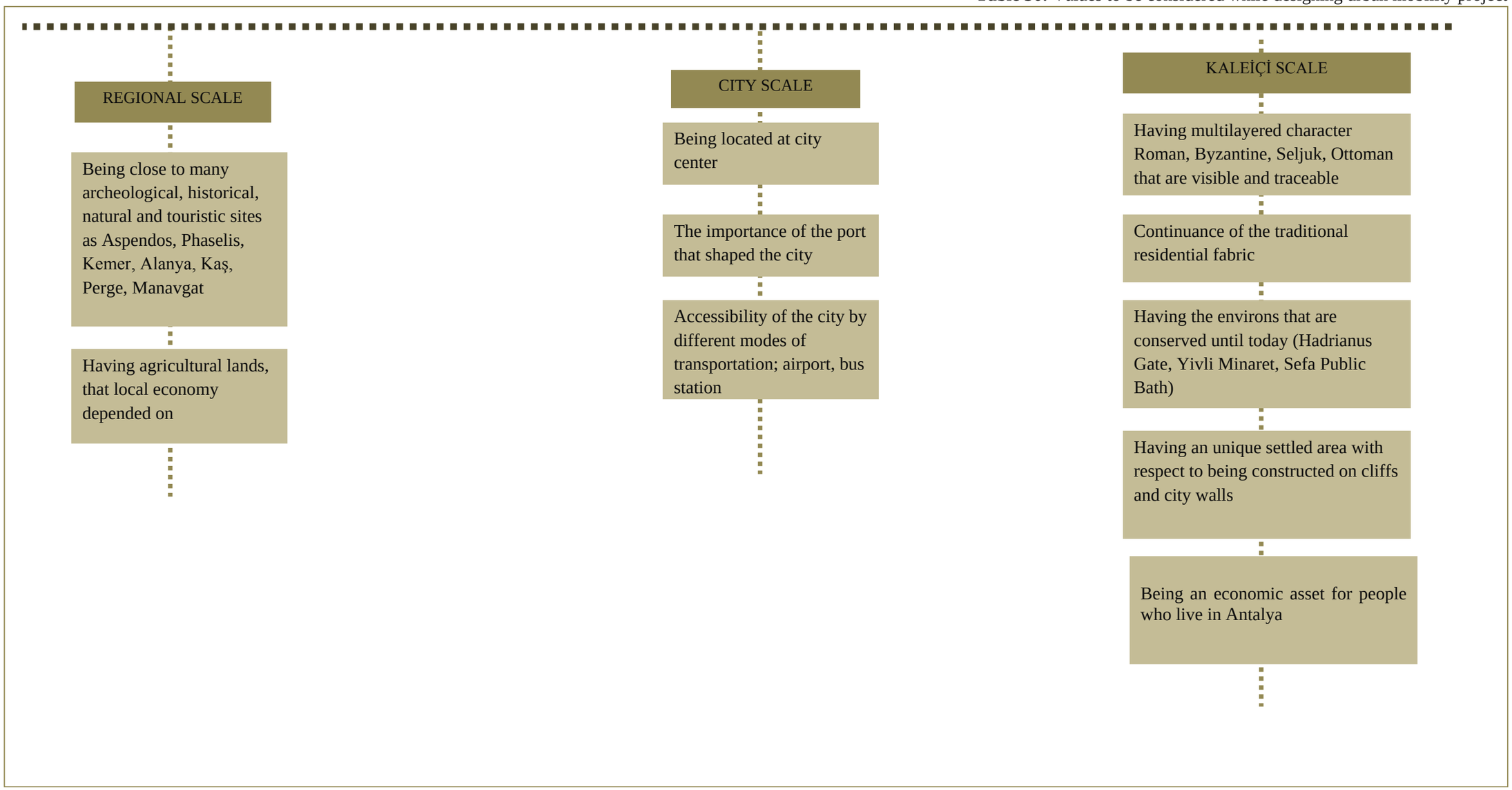


Figure 80: The logo that describe the main logic behind the thesis (prepared by the author)

Conservation

‘’*Preservation, protection, or restoration of the natural environment and of wildlife’’*[92]

Motion

‘’*The action or process of being moved*[93]’’

Therefore, in order to conserve, promote, reveal, and maintain the togetherness of different tangible and intangible remains from different historic stratification in the current context that they are existed; the main objectives regarding the arrangement of the mobility in Kaleiçi HUL with its surrounding environment can be summarized as:

- To prevent the negativities of motorized traffic on the historic urban landscape by **using mobility as a tool and purpose** to be handled thanks to understanding the whole layers of Kaleiçi associated with urban mobility problems

- To **keep in balance the needs of different users** including local residents, retailers, visitors as touristic visit and business visit with conservation and promotion of the cultural properties should be provided and the idea of *The mobility right through Kaleiçi belonged to Kaleiçi’s people who contributed to local identity through time, it is not belonged to motorized vehicles*, so the

[92] http://www.oxforddictionaries.com/definition/english/conservation?searchDictCode=all (Last Access December 13)
[93] http://www.oxforddictionaries.com/definition/english/motion?searchDictCode=all (Last Access December 13)

balance between visitors, investors and residents should be preserved in a sustainable level to provide the continuance of inhabitancy

- **Rehabilitating public realms as streets, squares and parks** that connect different components of the city, serving as a spine where many social interaction of daily life occurred, different users pass through it for different purposes

- **Keeping touristic functions as hostels, commercial facilities in balance** in order not to exceed the carrying capacity of the site in term of travel demand then within the scope of the vision, policies, strategies, actions including defined projects were introduced.

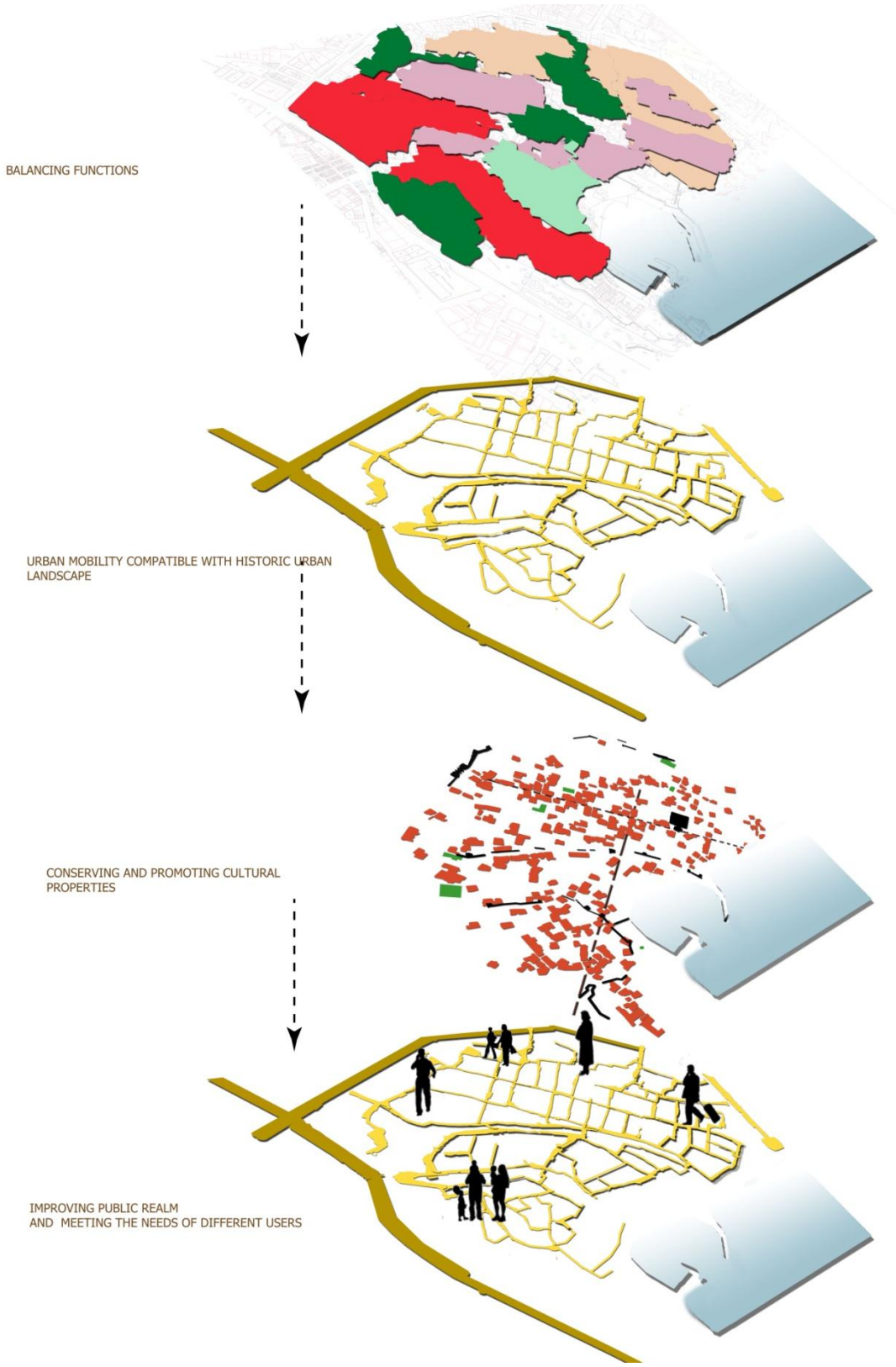


Figure 81: The different layers related with urban mobility in HUL that should be taken into consideration when handling with mobility problems (Prepared by the author)

4.2.1. GENERAL PRINCIPLES AND PRELIMINARY DECISIONS FOR CONSERVATION THROUGH MOTION IN KALEİÇİ

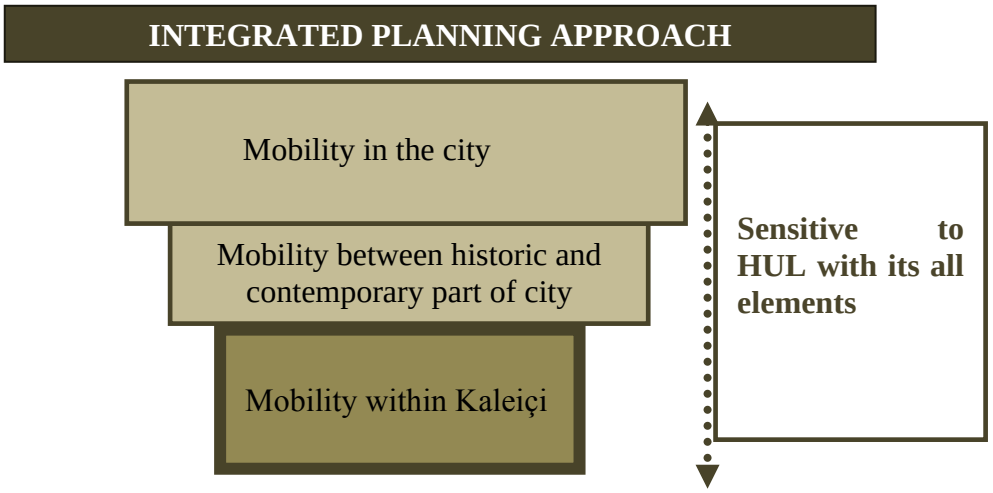
Considering the main objectives of the project, in this thesis three project scales are defined in order to solve the problems of historic urban landscapes related with current mobility modes in an integrated and comprehensive approach. However, in the scope of this thesis, the analyses focused on Kaleiçi and its close surrounding because of the difficulty of the analyses in this scale in a thesis period and necessity of multidisciplinary study approach. Since everything is related to each other, in this thesis only general principles about the region was stated. In further studies, the analyses should be carried out in a greater scale and in a more detail with related disciplines experts.

IP-Integrated Planning Approach

Kaleiçi Historic Urban Landscape is an important part of Antalya city the decisions carried out in regional scale affect Kaleiçi physically or socially It is like a butterfly effect Therefore when analyzing the mobility problems and solutions it should be considered in a wider scale and it should be part of the planning process of the city Within the scope of this thesis three related region defined in order to provide an integrated planning approach,

The general international principles and guidelines, implemented urban mobility solutions in HUL should be conducted in a space-context both in regional and city scale. In addition, the positive sides of the regional projects, development projects, and small-scale project should be enhanced while the projects that give damage the environment and increase the travel demand that resulted in increase in motorized traffic should be eliminated.

Table 37: Integrated approach for the mobility between historic and contemporary part of the city (Prepared by the author)



M2-Mobility between historic and contemporary part of the city

Because of the necessity of the solving, the main problems related with mobility and conservation in an integrated manner, the mobility between historic and contemporary part of the city should be taken into consideration in a wider frame. Namely, the second region, which is main commercial center of the city, defined according to central public transportation route that is defined by UKOME. This region including Kaleiçi can be assessed as the heart of Antalya that many people including local people, visitors. In the future, as problems increase day by day, it is possible to say the conditions would be worse. Therefore, the policies, strategies, and actions should be based on regional scale. In this regard, for the mobility between historic and contemporary part of the city (Table 39 and Figure 81)

A. Intermodal Changes

***A1. Public transportation* (PT)**

- Providing better quality and more reliable public transportation system
- Considerable sensitivity is needed to design and choose the location of bus and tram stops in the city center that surrounds historic core

A1.1. Light Rail System (LRT)

The light rail system should be developed with respect to new routes and increases in frequency.

A1.2. Nostalgic Tram (NT)

- The route for nostalgic tram should be extended through Akdeniz University.
- The conditions should be improved in terms of comfort, security, reliability.
- The number of wagon should be increased.

A1.3. Bus

- The conditions should be improved in terms of comfort, security, reliability

B. Parking Management

- In this are the parking charging should be applied, the prices should be high in order to discourage to prefer coming by private cars
- Providing parking areas out boundary of the canvas in cheap prices or free
- Defining charging amount with respect to the time that private vehicles stayed in city center in order to encourage them to use an integrated system

M1- Mobility within KALEİÇİ Historic Urban Landscape

There are many monumental structures and many traditional buildings placed from different periods. This area can be described as vulnerable that the mobility choices should be adapted to the conditions of the site. Therefore, the motorized traffic in the area should be minimized to a sustainable level that the capacity of the site can carry. In this respect, the entrance of the private automobiles belonging to people who work, visit there should be prohibited. However, the entrance of the residents should be allowed from Yenikapı Gate that is more tranquil than the other gates, and it is nearer to residential district. (Table 39 and Figure 82)

1. ***Compatibility of urban mobility with traditional urban tissue***
    - To conserve and promote historic urban fabric, mobility system in the historic urban landscape should be in coherence with the urban tissue. Since those areas were not formed according to needs of motorized traffic, the mobility should be adapted with regard to their physical, social, and cultural context. Therefore, mobility should be based on non-motorized modes including walking and cycling. To succeed this, identifying key stakeholders and interested public to be involved in the process and pilot project to give presentations and meetings to encourage sustainable urban mobility and conservation and the values of the historic site and awareness raising campaigns and educational programs at schools are necessary.

2. ***Parking Management within Kaleiçi (Charging system as London Model)***
    - Defining parking areas for the residents who have a car
    - Identifying the parking for cyclers to encourage them to use bicycle

3. ***Interchanges point***
    - Enhancement the interchanges points that has a direct relation with Kaleiçi Historic Urban Landscape

4. ***Clean Urban Vehicles (Cv)***
    - Protecting the environment by reducing carbon emissions by encouraging a move to clean urban vehicles

5. Meeting Different Users' Demand

- ***For residents***
    - ✓ Banning the entrances of the private cars into Kaleiçi Historic Urban Landscape except residents and services cars that are allowed
        - In the morning-07:00-09:00
        - In the night -22:00-24:00
    - ✓ Providing free public transportation cards for residents, the people working there
- ***For workers***

-Increasing the frequency of the light rail system

-Increasing the comfortability of the busses

-Providing free public transportation cards for residents, the people working there

- ***For visitors(foreign and local)***

Users with special attention

- **For impairment**
    - ✓ Providing appropriate conditions for people who are disabled as electric vehicle that would ring within the historic urban landscape
    - ✓ For impaired people providing electric based cars as a public transportation in the site
- **For Elder**
    - ✓ Since the majority of people lived in Kaleiçi are elder (more than 60) their special needs should be taken into consideration
- **For children**
    - ✓ Encouraging children to come to school by walking regarding using a method of giving different gifts that would encourage children and their families

6. Promotion, recognition and support of cultural properties while meeting the needs

a1 .Using the urban mobility elements as a tool to promote cultural properties

a1.1. Location of stops, entrances, and exits

- ✓ Enhancing the existence of the cultural properties by giving the name of them to the stops
- ✓ Arrival points to match the image of the city
- ✓ Consider both the arrival and the transfer
- ✓ Management of Coach Tour Buses

a1.2. Identification of different routes

a1.3. The name of the streets

- ✓ Emphasizing the name of the public spaces as streets, squares and parks that cultural, social, economic priorities of local people defined, so not allowing the changes, maintaining the continuance of the name, and if it is wrong making corrections

A2. Improving public realm

- Using appropriate pavement materials with respect to local distinctiveness and climate conditions,
- Providing the balance between the speed and perception of the environment
- Providing sufficient lighting, which is also appropriate with local identity in order to let people live, visit and work in secure conditions, especially in isolated streets
- Establishing a common language of signs used and removing the unnecessary and the one gave damage to traditional buildings
- Interpretation signs in specified gathering areas to orient people about accessibility and the facilities that city has
- Improving the conditions of the parks with respect to cleaning them regularly
- Putting trash bins regularly without giving any damage cultural properties
- Encouraging the recycling of the paper, plastic

- Conserving and promoting the natural elements of Kaleiçi as sea and cliffs with traditional built environment

A3 .Balancing functions

- Taking *Rent a Cars* offices out of Kaleiçi, not allowing any rent a car in Kaleiçi,
- Limiting the touristic uses in the site in terms of preventing mass tourism accommodation
- Defining the limits of the uses of streets by commercial facilities that would be held in Kaleiçi
- Taking the taxi stops out of Kaleiçi, for people who need special should apply Kaleiçi Coordination Center

7. Introducing the project with the help advertiser tools

- **Creating a City-Brand** for each measure, through promotional products including posters, stickers, advertisement on billboard, and the website, etc
- Organizing different cultural events at different places of the city to enhance people about new modes of mobility with emphasizing cultural assets
- Working with local media
- Using Essential Tools for Citizen Communication
- Using Social Media
- Working with External Bodies
- ANTALYA Visitor Web Site

B. Information and Communication Hubs

- The hub points will provide information and communication opportunity for the users. The information including mobility choices, accommodation, things to do in the city, dining will be provided. Moreover, the complaints of the different users will be taken into account.

- Effective Communication with Citizens, Effective Messages

8. **Founding Kaleiçi Coordination Center:** The founding Headquarters of the mobility management serves as the seat of a forum for cooperation and interaction between different regional planning organizations and economic stakeholders in the transportation business and providing information to public and private companies on different mobility options including car-pooling, car sharing, bike hiring and also provide and present different visitor process[94] who come from out of city, in the city, people working out of the Kaleiçi HUL in order to control and affect people about different and impressive mobility choices

[94] Related visual information can be reached from Table 40

Table 38: Policies, Strategies, and Actions to Propose SUM in Antalya Kaleiçi HUL (Prepared by the author)

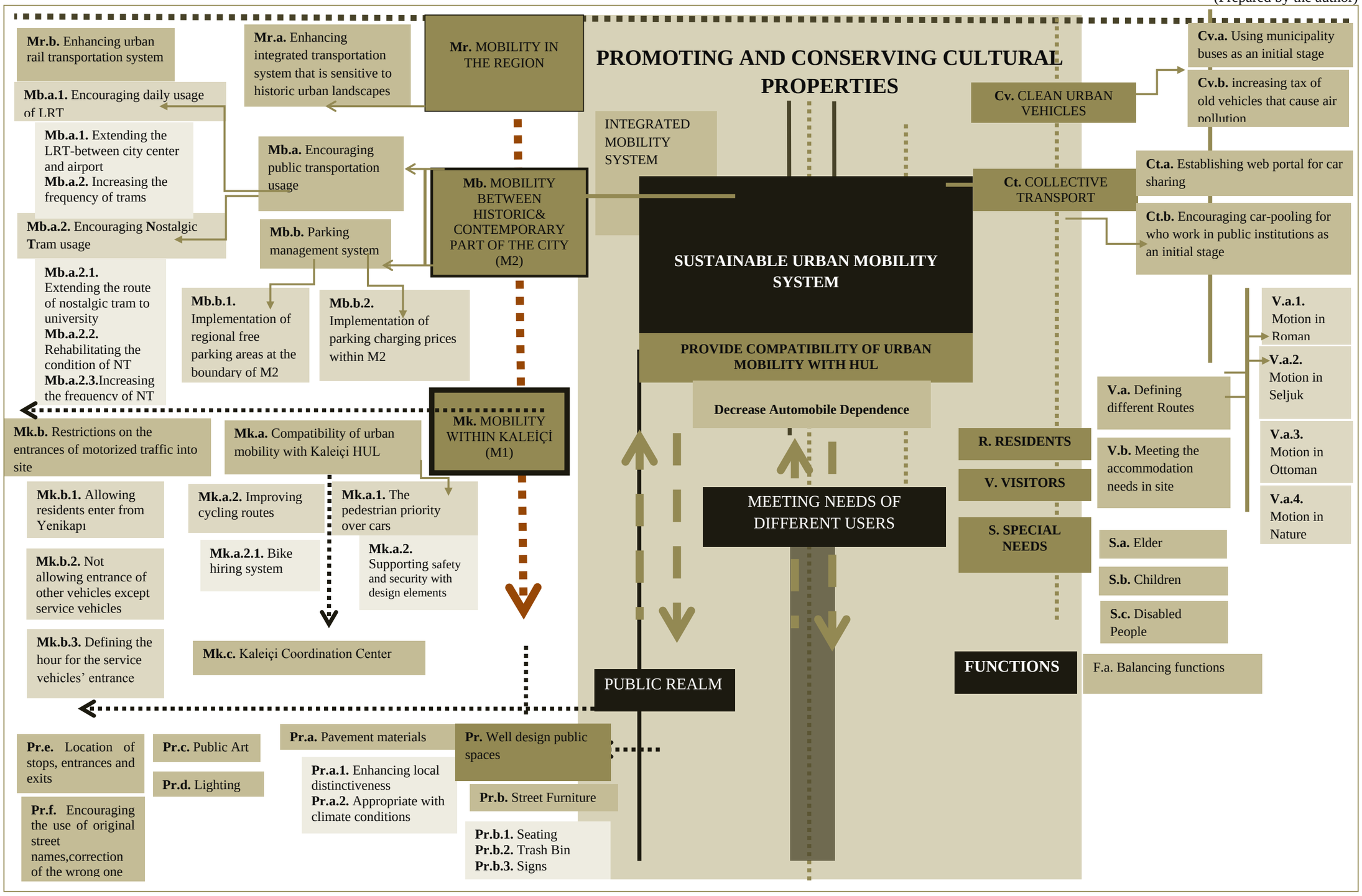
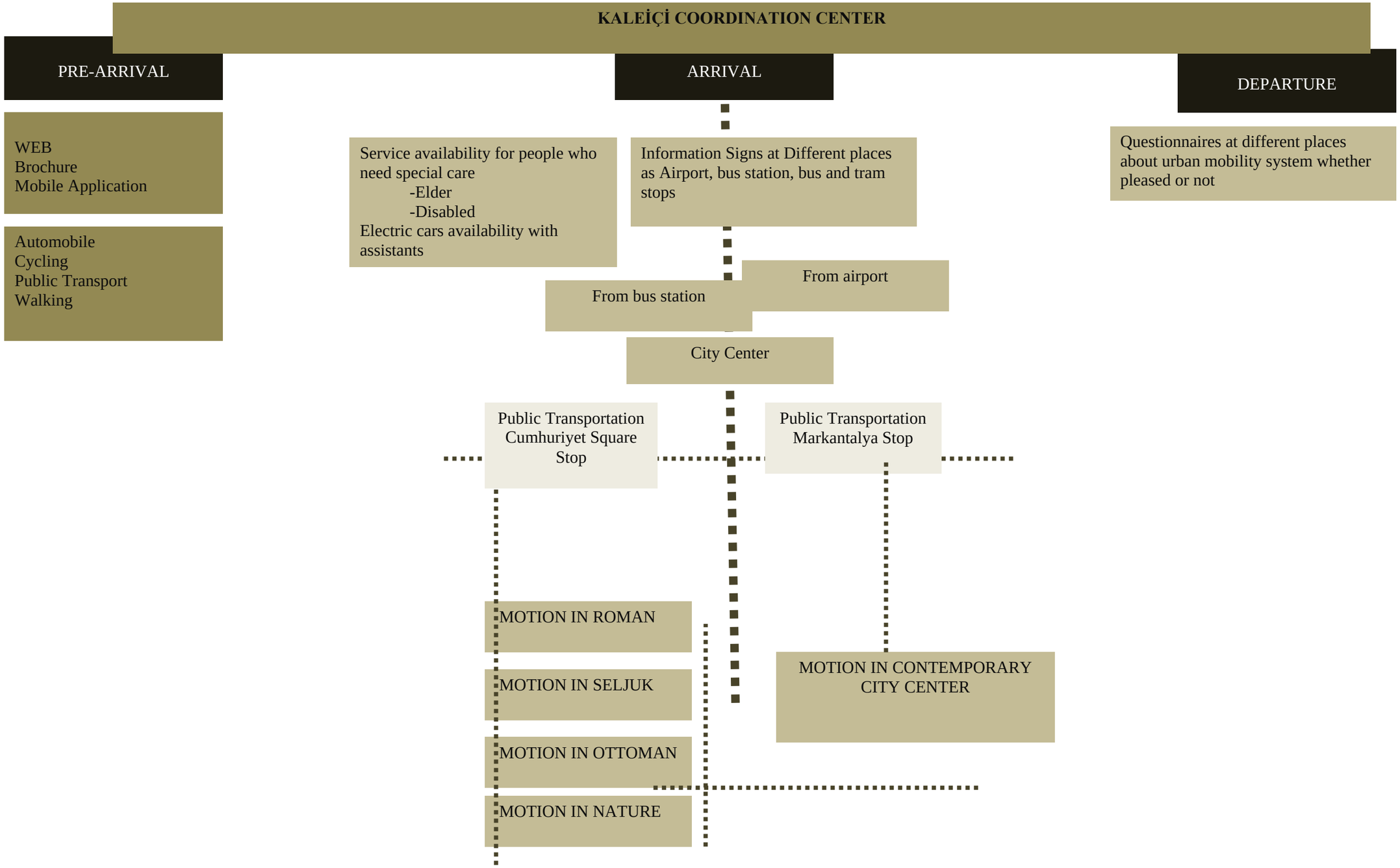


Table 39: A proposal process for a visitor who comes out of the city (Prepared by the author)



PRINCIPLES AND PRIORITIES CONCERNING MOBILITY IN CITY CENTER SCALE(M2)

Antalya and its surrounding area is a wonderful space to spend tour time all the season. In this thesis, Antalya is tried to be a walking and cycling city and offers a rewarding experience for pedestrians and cyclists. The city is served by good transportation system including urban railway system with repect to light rail and nostalgic tram that promote the different layers of the city has.

M1-Kaleiçi Historic Urban Landscape

Since Kaleiçi is a vulnerable place the motorized traffic is prohibited.The whole area pedestrinaised however the entrance of the residents is allowed and parking areas will be provided in smaller scale project with detail analyses.

M2-Historic and Commercial City Center

Since the thesis aimed integrated and comprehensive approach, the mobility should be solved in upper scales. The surrounding area of Kaleiçi which is Antalya Historic and Commercial City Center, the mobility options should be considered together .

A. INTERMODEL CHANGES

A.1. Public Transportation(PT)

Providing better quality and more reliable PT

Considerable sensibility is needed to design and choose the location of bus and tram stops in the city [illegible] that surrounds historic core

A.1.1. Light Rail System(PT_Lr)
The LRT should be developed with respect to new routes an[illegible]eases in frequency

A.1.2.Nostalgic Tram(PT_Nt)
The route for nostalgic tram should be extended through Akdeniz University
The Conditions should be improved in terms of conmfort, securitry, reliability
The number of wa[illegible]should be increased

Sea Buses
The relation with other coastal towns should be improved

CULTURAL PROPERTIES IN ANTALYA CITY CENTER

- City Walls
- HUL_1 Kaleiçi Historic Urban Landscape
- HUL_2 Balbey Historic Urban Landscape
- HUL_3 Haşim İşçan Historic Urban Landscape
- N^A Necropol Area

URBAN MOBILITY SYSTEM

Street Network
- Primary Roads
- Secondary Roads
- Pedestrianized Traditional Streets

Cycling Route

10m walking distance

Parking Areas

Light Rail System
- Lr^1 Sigorta
- Lr^2 Şarampol
- Lr^3 Emniyet
- Lr^4 Muratpaşa
- Lr^5 İsmet Paşa
- Lr^6 Doğu Garajı
- Lr^7 Burhanettin Onat
- Lr^8 Meydan

Nostalgic Tram
- Nt^1 Müze
- Nt^2 Barbaros
- Nt^3 Meslek Lisesi
- Nt^4 Selekler
- Nt^5 Cumhuriyet Square
- Nt^6 İsmet Paşa
- Nt^7 Üç Kapılar
- Nt^8 Belediye
- Nt^9 Işıklar
- Nt^{10} Zerdalilik

Exit from HUL
Entrance to HUL

Figure 82: Principles and Priorities Concerning Urban Mobility in City Center (prepared by the author)

URBAN MOBILITY SYSTEM

Interchanges points
Stops
Cycling Hiring Points
Light Rail System& Nostalgic Tram Stops
Sea Buses
Buses

Street Network
Motorized Traffic
PedestrianizedTraditional Streets
The apparent facades that defined by traditional residential buildings
Stairs
Entrances
Sightseeing buses routes

PARKING AREAS

Z_r1 Z_r2 In these regions parking Area for residents should be defined in further projects

Parking area that should be removed since it give physical damages to cultural properties and prevent the perception of them

COMPATIBILITY OF UM WITH HUL

Pedestrianised Area since Kaleiçi was not designed according to conditions of the motorised traffic needs

MEETING THE NEEDS OF DIFFERENT USERS

The points where the needs of different users with specific needs should be taken into consideration by assistants

Impaired People
Children

PROMOTING&CONSERVATION OF HUL

Balancing Functions

The blocks that mass tourism functions should be limited since in these areas there is dominance of residential uses

The blocks that commercial type should be defined in order to control the irrelevant and destroying commercial types and the invasion of the streets should be prevented

Improving Public Realm

S_r Squares that should be rehabilitated in terms of design, connectivity with other types of public realm, materials that was used

St_p Street pavements that should be rehabilitated since they are not designed according to topography and climate conditions

S_c The name of the streets,which their names was written wrongly in different maps, should be corrected

Marketing Information

HUBS Hb The HUB points will provide information and communacation opportunity for the users The information including mobility choices, accommodation, things to do in the city, dining will be provided Moreover the complaints differents users will be taken into accounnt in those points

TANGIBLE REMAINS OF ROMAN STRATIFICATION

19 Hıdırlık Tower
20 Hadrianus Gate
Estimated Decumanus
Estimated Cardo
GATES sited in Süer,2006
Lancroski-L
Evliya Çelebi-Ç
Fikri Erten-E

TANGIBLE REMAINS OF BYZANTINE STRATIFICATION

Clock Tower
Kırk Merdiven

TANGIBLE REMAINS OF OTTOMAN STRATIFICATION

1 Tekeli Mehmet Paşa Mosque
2 Nazır Public Bath
3 Sefa Public Bath
4 Aya Yorgi Church
5 Gavur Public Bath

TANGIBLE REMAINS OF SELJUK STRATIFICATION

6 Mevlevihane
7 Karatay Madrasah
8 Selçuklu Madrasah
9 Gıyaseddin Keyhüsrev Madrasah
10 Ahi Kızı Masjid
11 Ahi Kızı Tomb
12 Ahi Yusuf Masjid
13 Zincirkıran Mehmet Bey Tomb
14 Karamolla Masjid
15 İmaret Masjid
16 Yivli Minare Mosque
17 Yenikapı Greek Church
18 Kesik Minaret Mosque

Figure 83: Principles and Priorities Concerning Urban Mobility in Kaleiçi (prepared by the author)

CHAPTER 5

CONCLUSION

The changes in social, economic priorities brought the difficulty of conservation of historic urban landscapes with their different physical and social components. As an important part of this change, the mobility demand and supply has changed over time. Namely, the changes in social life triggered people to have private cars. Moreover, being exposed to tourism-based development, which is common destiny of many historic sites, increased the travel demand into those sites where the traffic density exceeds their carrying capacity. Since those were constituted according to the conditions of the period when the streets were not only a movement space but also a part of daily life activities, the effects of the automobile dependence became worse in time, which affected the physical and social features of those areas negatively. Hence, the social life in streets lost as automobile became the owner of the streets. Also, their physical disability, and unable to meet new increasing travel demand with motorized traffic because of lack of infrastructure have caused the deteriorations of their physical environment. In this context, because of formed in their traditional character and culture without car and other modern traffic elements, the mobility infrastructure of historic urban landscapes is not appropriate to motorized traffic loads.

In order to reach a comprehensive study to propose a framework for SUM IN HULs, each HULs with their urban mobility problems should be evaluated with respect to their own characteristics. This process should start with the comprehension of the HULs with their different layers that should be considered while handling with mobility problems of those. After, assessments of these layers should be carried out with the help of information collected in a multidisciplinary process. As a final point, principles and priorities should be identified to succeed the main aim, which is the solving the mobility problems while contributing to conservation and promotion of cultural heritage by means of different projects in different scales.

In this regard, in addition to literature survey, which also helped the drawing of the framework, the sample case study of this thesis, which is Antalya Kaleiçi Historic Urban Landscape, provided a detail manner in order to define, investigate, and discuss the general framework for SUM in HULs. Since Antalya Kaleiçi became touristic place after 1980s, the preferences of foreign and local visitors for this site have increased, then the social life started to be lost, residential areas were transformed into commercial places, meeting the needs of touristic facilities. Accordingly, motorized traffic caused by those reloaded functions increased day by day. Since through history, the mobility was based on walking, the existence of motorized traffic changed the perception of the neighborhood. In this regard, as a physical problem, the monuments that belonged to different period and pedestrian movement have been affected negatively. For that reason, the case study gave us the chance of to investigate the proposed framework for SUM IN HULs. Namely, the stages of proposed sustainable urban mobility framework for each historic urban landscapes composed of three parts *comprehension of HUL, assessment of HUL, proposals for HUL.*

In this connection, with the help main principles drawn for Antalya Kaleiçi and its surrounding, not only the current mobility problems will be solved but also conservation, preservation, and sustainability of cultural properties of the Inner Citadel Area and Antalya City Center will be discovered, enhanced, and promoted. Besides, local residents, retailers, and visitors will be impressed with the improvements and interventions included in the proposed mobility system for Kaleiçi and its surrounding. Therefore, this will change the behavior of people to use sustainable urban mobility modes while conservation and promotion of cultural properties with their different values and significances.

In conclusion, the sustainable urban mobility in historic urban landscapes should be assessed as a recently developing issue under the broad range of the matters in the urban conservation literature. This study analyzed the importance of the impacts of current mobility solutions on the historic urban pattern. In particular, as it is experimented with the sample case study, Antalya Kaleiçi Historic Urban Landscape, sustainable urban mobility in historic tissue should be appraised as a crucial and obligatory part of *''Conservation and Management Plans''*. This research has

presented *the framework for SUM IN HULs* with main flexible principles and tools that allow local authorities to put into practice the local urban mobility strategies, which eliminate the negative impacts of motorized traffic on HULs while guaranteeing the conservation and promotion of them. In this sense, the process, flexible principles, and arguments of this thesis could be explained as follows:

- The mobility issue in HULs should not be regarded only as a transportation problem, but it also should be analyzed under the scope of a spatial entity where the historic and cultural accumulation of HULs could be experienced,

- *To comprehend different layers related with urban mobility* after general features of the sites including historical background, planning and conservation attempts, **cultural properties** in terms of tangible and intangible remains of the historic stratification in current context should be identified. In addition, the needs and problems of **different users** as residents, retailers, visitors as an initial stage to change the travel behaviour to enhance the conservation of traditional culture and cultural assets that local economy depends on should be figured out. Furthermore, **public realms** including streets, squares, parks and green areas, as a significant part of urban fabric, should be identified with their different components in order to carry out integrated and comprehensive solutions for mobility and conservation points of view. Moreover, as an important problem of the most the HULs, the different **functions** in HULs and its surrounding that trigger the increase in travel demand should be classified with the help of defined zones. In this respect, these analyses should be figured out in a **multidisciplinary approach**- people from different professional background including planning and conservation, architecture, archaeology, ecology, sociology and related engineering departments. Additionally and importantly, the current **urban mobility** system should be examined with respect to mobility between HULs and contemporary part of the city and mobility within HULs to reach an integrated, effective, and comprehensive process.

- As the *assessment stage of HULs*, the cultural properties, different users, functions, public realms, and current urban mobility system should be assessed within the scope of their values, problems, and potentials.
- For *the proposal part*, to solve the current mobility problems in HULs while conserving, and promoting the cultural properties of HULs, the main principles and priorities with different tools can be summarized as:

    - ✓ The **integrated approach** including mobility between HULs and contemporary part of city should be carried out with different mobility systems including non-motorized modes, urban rail system, sea transportation and road transportation.

    - ✓ **Urban mobility** choices that will be implemented in historic urban tissue should be **compatible** with HULs fabric. Enhancement of non-motorized mobility systems walking and cycling and provision of the regional parking areas at the boundaries defined zones should be supported.

    - ✓ The **functions** in HULs, mainly the transition of those areas into touristic and commercial centers, should be kept **in a balance** with some restrictions,

    - ✓ **Public realms** should be **improved** by minimizing the use of traffic, and information signs, and street furniture. They should enhance the local identity of HULs.

It should be also emphasized that this study is a one-step of further analysis- based on extensive researches of people from different professions. With exercising this framework on different historic urban landscapes where relevant mobility problems exist, the system can be improved case by case. It should be kept in mind that since each space is different from each other in contextual relations in terms of different users, public realms, function, and cultural properties, the strategies, tools, methods and projects should be case specific.

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APPENDIX A

LATIN VOCABULARY FOR PUBLIC REALMS

Latin Term	English Translation	Activities in Addition to Passage	Words Used in Opposition
via	street, broad way, boulevard, avenue	triumphal processions; erecting honorary statues; religious processions; wedding parties; social observation; parading of criminals and executed bodies; prostitution; begging; main entrances to houses	semita; angiportum; vicus
platea	street, broad way, boulevard, avenue, courtyard in a house	making public announcements; religious processions; wedding parties; social observation; parading of criminals and executed bodies; prostitution; main entrances to houses	semita; angiportum; vicus
semita	alley, lane, sidewalk	commerce; industry; prostitution; feasting	via; platea
angiportum or angiportus	street, alley, lane	rear entrance to houses; hiding of weapons, abandoning of babies; murder	via; platea
vicus	street, quarter of a city, neighborhood	residence; commerce; industry; bathing; parading of criminals; display of executed bodies; brawling; plays on temporary stages	via; platea; angiportum

Figure 84:, Latin vocabulary for plazas and specific sections of streets (Kaiser, 2011; 27)

Latin Term	English Translation	Activities in Addition to Passage
pons	bridge	begging; fishing; religious ceremonies
fundula	street without an outlet, dead-end street, cul-de-sac	—
clivus	street ascending a slope, a ramp	—
gradus/ scalae	flight of stairs	exposure of executed criminals' bodies
forum	forum, plaza, square	trials; elections; political campaigns; giving of speeches and eulogies; erecting statues; religious ceremonies; commerce; banking; impromptu street performances
campus	open space, plaza, square	voting; campaigning; political meetings; military exercises; entertainment; funerary rites; burying Vestal Virgins who broke their vows
area	open space, construction site, plaza	dancing; walking; playing games; socializing; parking country carts to exchange for litters to be used in city

Figure 85: Generic Latin vocabulary for urban streets (Kaiser, 2011; 27)

APPENDIX B

SURVEY SHEETS

	ODTÜ RESTORASYON YÜKSEK LİSANS PROGRAMI	**St** **Streets**

TARİHİ KENT MERKEZLERİNDE SÜRDÜRÜLEBİLİR ULAŞIM ÜZERİNE BİR PLANLAMA ÇERÇEVESİ ANTALYA KALEİÇİ İÇİN BİR ÖNERİ

Sokak adı		Merdivenli sokak	Çıkmaz sokak		
Tarih			Foto no		

Sokak Elemanları	Rogar kapakları:	kaldırım:
	Üst örtü(malzeme:bez,yeşil):	arkeolojik kalıntı:
	Elektrik direği:	sokak lambası
	Ağaç:	çeşme:
	Telefon direği:	çöp kutusu:
	Bank:	
	Saksı:	
	Baba:	

Sokak tabelası var mı?

Sokak nasıl tanımlanmış	Her iki taraf geleneksel yapı ve ticari	Bir taraf geleneksel yapı, kültürel varlık(arkeolojik alan)
	Her iki taraf geleneksel yapı/konut	Kamusal alan mevcut

FİZİKSEL ÖZELLİKLER	**HAREKETLİLİK** Yaya Araç
Vista var mı:	Yaya dolaşımı az/orta /yoğun
Kültürel varlık var mı:	Araç az/orta /yoğun
Eğim az/orta /yoğun	Sokağa park eden araçlar mevcut (Tek/Çift taraflı)
Döşeme Yürünebilir mi(kaygan)	Trafik levhaları var mı?
Otopark için ayrılmış alan var mı	Bisiklet dolaşımı mevcut Motosiklet dolaşımı mevcut
Dükkanların sokak kullanımı nasıl:	**Sokakta sosyal yaşam mevcut mu** sokakta sohbet eden esnaf: yaşayan: oyun oynayan çocuk:

Notlar:

Figure 86: Survey Sheet for Public Realms

ODTÜ RESTORASYON YÜKSEK LİSANS PROGRAMI — **FARKLI KULLANICILAR**

TARİHİ KENT MERKEZLERİNDE SÜRDÜRÜLEBİLİR ULAŞIM ÜZERİNE BİR PLANLAMA ÇERÇEVESİ ANTALYA KALEİÇİ İÇİN BİR ÖNERİ

OTEL	Adı: kapasite/yatak: En çok hangi aylarda yoğun:
	Turistler araca ihtiyaç duyuyor mu?
	En çok hangi noktalar arasında kullanıyor :
	Otele kayıtlı araç var mı/varsa kaç tane/nereye park ediyorsunuz?
	Ulaşımla ilgili yapılacak bir çalışmaya katkıda bulunmak ister misiniz
	Bu evi nasıl elde ettiniz Önceki kullanımı
Notlar:	

TÜCCAR	İsim/soyisim: Görev: Kaç yıldır Kaleiçinde çalışıyor?
	Nereli
	Kaleiçine neyle geliyorsunuz
	Ulaşım sorunu olduğunu düşünüyor musunuz
	Nasıl bir Kaleiçi isterdiniz
	Kaleiçinde koruma çalışmasına katılır mısısnz? Evet/Neden: Hayır/Neden:
Notlar:	

YAŞAYAN	İsim/Soyisim:
	Ulaşımda yapılacak yeniliklere katılır mısısnz? Evet/Neden: Hayır/Neden:
	Kaleiçindeki yaşam şartlarından memnun musunuz
	Aracınız var mı/nereye park ediyorsunuz
	Hangi ulaşım şeklini tercih ediyorsunuz

NGO	İsim/Soyisim: Derneğin adı/Ne için kurulmuş:
	koruma çalışmalarına daha önce katıldınız mı? Ne zaman?
	Kaleiçinde yapılacak koruma çalışmasına katılmak ister misiniz? Evet/Neden: Hayır/Neden:
Notlar:	

TAKSİCİ	İsim/Soy isim: Taksi adı:
	Toplam araç sayısı
	Günde kaç kes sefer yapıyorsunus
	nereli kaç yıdır kaleiçinde çalışıyorsunuz
	en çok tercih edilen istikametler, nereler görülmek isteniyor
Notlar:	

TURİST	İsim/Soy isim: Yabancı ise hangi ülke:
	Kaleiçini neden tercih ettiniz?
	Gelmeden önce Kaleiçi hakkında bilgiye sahipmiydiniz? Kaleiçindeki en büyük problem nedir(gürültü, trafik,kirlilik)
	Kaleiçinde ne kadar ve nerede kalıcaksınız?
	Antalya da ve Kaleiçinde nereleri gezmeyi planlıyorsunuz?
	Kaleiçiyle ilgili bilgi alacağınız bir nokta bulabilirdiniz mi?
	Kaleiçine rahatça ulaşabildiniz mi Başka nereleri gezmeyi planlıyorsunuz
	hangi ulaşım şeklini tercih ettiniz Sadece yaya ulaşımı ister miydiniz
Notlar	

Figure 87: Survey Sheet concerning different users

APPENDIX C

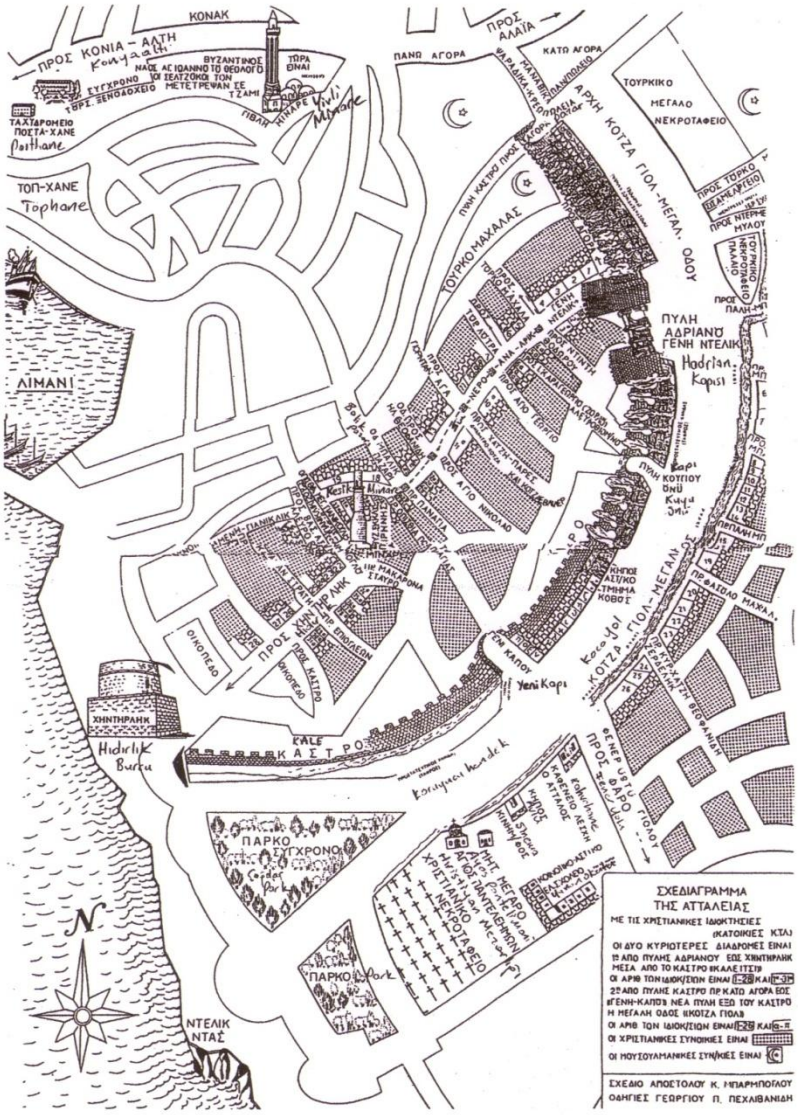
OBSERVATIONS DRWAN FROM THE CASE AREA REGARDING ARCHIVAL SURVEY

Table 40: The Words of İbn Havkal, Kitâbu Sûret el-Arz, 10th Century

Traveler İbn Havkal, Kitâbu Sûret el-Arz, 10. Century	
The translation of text at Suna-İnan Kıraç Museum	**Translation to English**
Ülkenin en fazla vergi gelirleri, Trabzon ve Antalie'den alınmaktaydı. Antalie kenti, İslam memleketlerinde dolaşan gemilerinden, Şam (Suriye) ülkesi sahillerinden getirilen her şeyden vergi tahsil etmekteydi. Mavnalar ile savaş gemileri ve teknelerinden elde edilen ganimetler de vergiye tabiydi. Alınan vergiler, taşınan malın, gemilerin ve Müslüman kölelerin değerine göre hesaplanmaktaydı. Bunlara hükümdarlık tarafından konulan gümrük vergisi de ilave edilmekteydi...	The maximum tax revenue is taken from Trabzon and Antalie. The city of Antalie charged with tax the ships of Islamic countries and everything brought from Syria coast. Barges with the spoils war ships and boats also were subject to tax. Taxes were calculated according to the value of carried goods, ships, Müslim slaves. Their sovereign also added custom duties to those...

Table 41: The words of Vincent de Stochove, Voyage du Levant, 1662

Traveler Vincent de Stochove, Voyage du Levant, 1662	
translation of text at Suna-İnan Kıraç Museum	**Translation to English**
... Türklerin Attalie adını verdikleri Satalie, hep Küçük Asya'nın en güzel kentlerinden biri sayılmıştır. Eskiden Pamphylia adı verilen bölgede ve kentin adını taşıyan Akdeniz'in en ünlü ve en tehlikeli körfezinin kıyısında yer alır. Bir kayanın üstüne kurulduğundan ve birçok kuleyle desteklenmiş çifte surlarla çevrili bulunduğundan dolayı avantajlı bir konuma sahiptir.Kıyı tarafında antik tarzda inşa edilmiş, Türkler hiç onarmadığından yıkılmaya yüz tutmuş büyük bir kale vardır. Liman küçüktür ve ancak küçük tekneleri alabilir, kıyıları güvenliksizdir çünkü kör kayalarla doludur. … Kentin içi eskiden üç ayrı surla üçe ayrılmış. Evler kötü inşa edilmiş ve alçak, sokaklar dar ama hoş. Çünkü her tarafta bütün sokakların neredeyse üstüne kadar uzanan ve yolları dehliz haline getiren büyük portakal ağaçlarıyla dolu bahçeler var.	Satalia that Turkish people called Attalia always had been considered one of the most beautiful cities oıf Asia Minor.It is located at a region called formerly Pamphylia that was most famous and most dangerous gulf shores of Mediternean. Since it was found on a rock and surrounded by double walls that were supported by many towers it had an advantageous position.There was a big devastated castle, built on shore-side in an antique style, because Turkish people did not repair it. Port is small however, it can service small boats, and coast is insecure because it is filled with lots of blind rocks. … The interior of the city formerly divided into separate three parts by three different walls. Houses built poorly and low, streets are narrow and pleasant. Since there were gardens filled with big orange trees extending almost up to the top each side of all streets and roads.

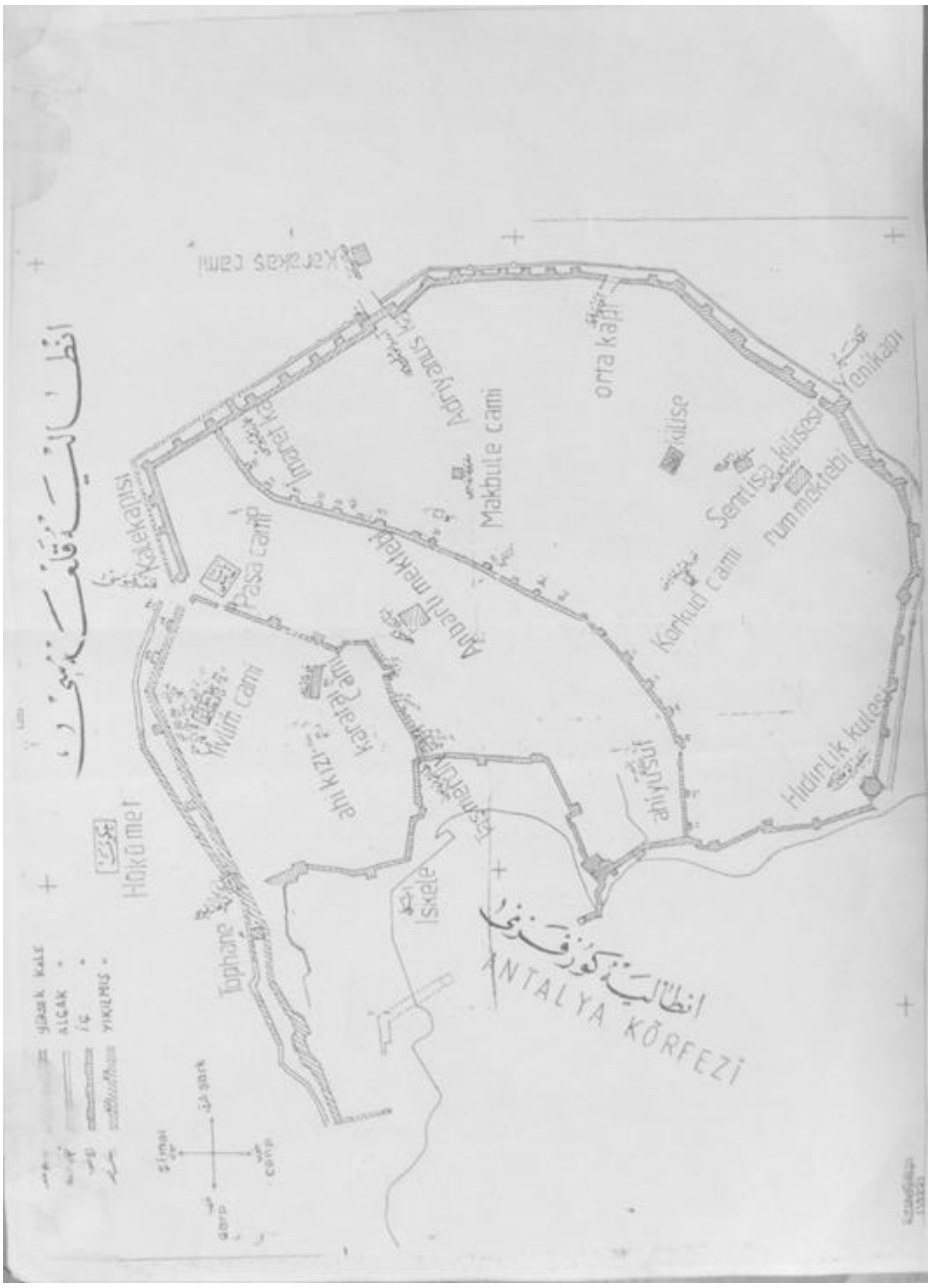


Şekil 25: Yunanca Harita (K.Dörtlük'den)

Figure 88: The Maps in Greek (Dörtlük, n.d. cited in Yılmaz, 2000)

Figure 89: Old Maps of Antalya at Topkapı Palace

Figure 90: The Map in Antalya Livası (Erten, 1997)



APPENDIX D

THE ANALYSES OF THE STREETS ACCORDING TO INFORMATION GATHERED FROM SITE SURVEYS

STREETS in TUZCULAR

Table 42: Survey Sheet for Paşa Cami Street

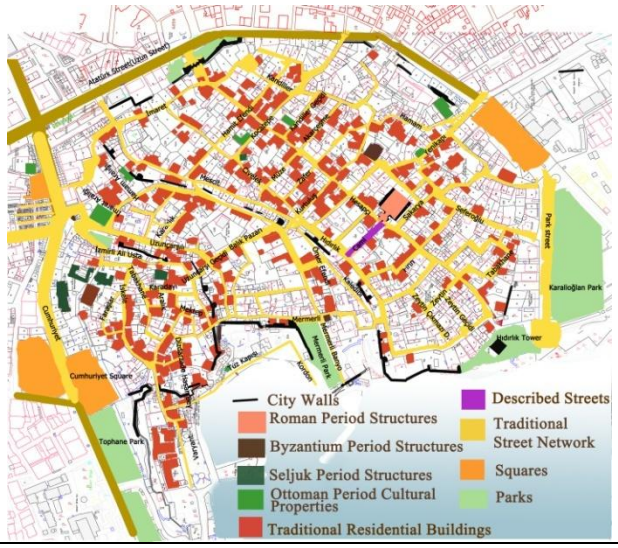
<table>
<tr><td colspan="8">Name: Paşa Cami</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Users</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">Traditional Residential Buildings</td><td rowspan="2">There is dominance of Residentials with commercial uses</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P
V
M</td><td>P
H</td><td>M
H</td><td></td><td></td><td></td><td>B</td></tr>
<tr><td colspan="8">Key Map
 
</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 43: Survey Sheet for İmaret Street

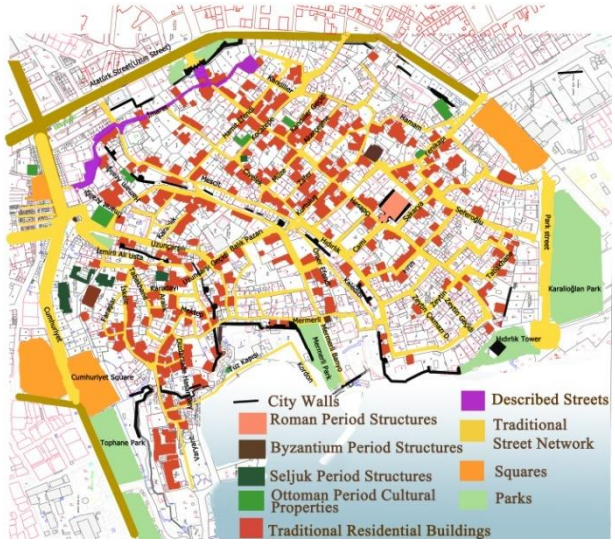
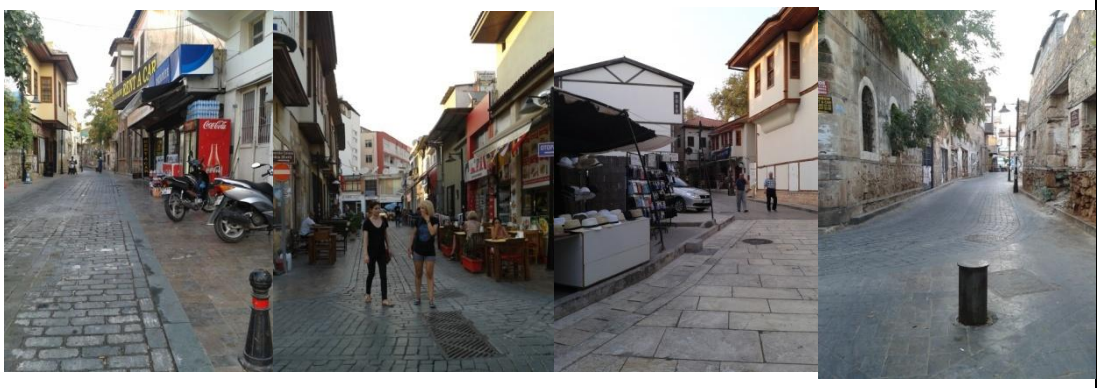
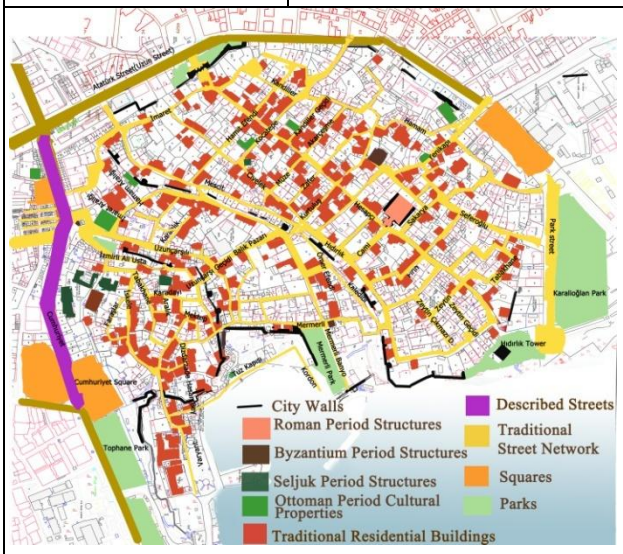
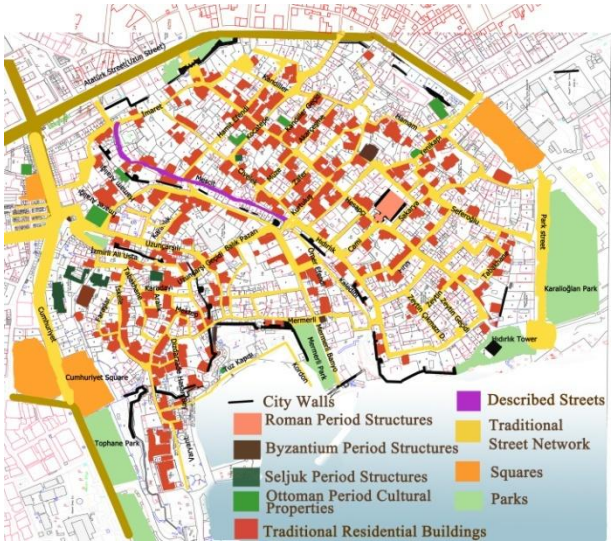
<table>
<tr><td colspan="8">Name: İmaret</td></tr>
<tr><td rowspan="2">Cultural Properties</td><td rowspan="2">Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td rowspan="2">The existence of Hadrian Gate, Traditional Residential Buildings</td><td rowspan="2">Mixed Use</td><td>P
V
M</td><td>P
H</td><td>M
Y</td><td></td><td>P</td><td>S
M</td><td>B</td></tr>
<tr><td colspan="3"></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="4">Key Map
 
</td><td colspan="4">Notes
Since it placed at the entrance of Kaleiçi where the commercial city center and Hadrian Gate intersect, this street has high density of users</td></tr>
<tr><td colspan="8">  </td></tr>
<tr><td colspan="8">(a)(b) (c)(d)Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 44: Survey Sheet for Cumhuriyet Street

<table>
<tr><td colspan="8">Name: Cumhuriyet</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Users</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">The Remains of City Walls, Clock Tower, Han</td><td rowspan="2">Commercial, social and cultural uses including eating, shopping and relaxing places</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P
V
M</td><td>P
H</td><td>M
H</td><td>N</td><td>A</td><td></td><td>B</td></tr>
<tr><td colspan="2"> 

Key Map</td><td colspan="6">Notes
It is a very important street in the city center Since it has the most important monumental buildings on it Also its relation with cliffs, Mediterrenean Sea and Cumhuriyet Square increases the significances of it However the square across Cumhuriyet Square, its pavement just including hard landscape elements decrease the quality of the urban space</td></tr>
<tr><td colspan="8">Use Pedestrian-P
Vehicle-V
Motorcycle-M
Bicycle-B
Density-D- High –H (5 in a min)
Medium-M(3 in a min)
Low-L(1 in a min)
Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P
Average-A
Steep-S
Street elements-St- Lamp-L
Shelter-S
Waste bin-W
Fountain-F
Tree-T
Electric Post-E
Telephone Post-T
Remain-R
Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M
Archeological Remain-AR
Traditional Building-TB
Registered Tree-RT</td></tr>
</table>

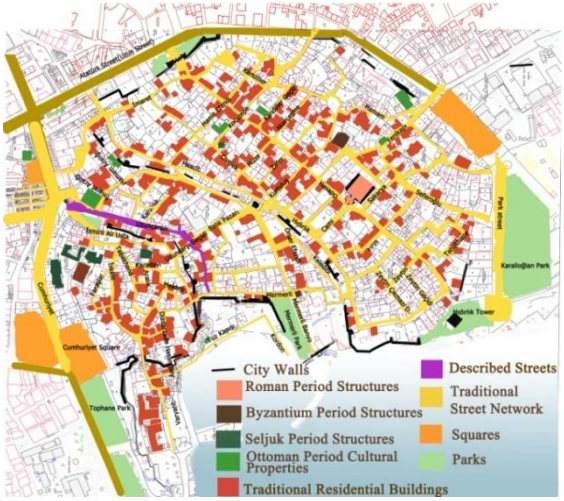
Table 45: Survey Sheet for Mescit Street

<table>
<tr><td colspan="8">Name: Mescit</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Users</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB
AR</td><td rowspan="2">Mixed Use</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>PM</td><td>P</td><td>M</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>H</td><td>H</td><td>Y</td><td>P</td><td></td><td></td></tr>
<tr><td colspan="8">Key
 

Map</td></tr>
<tr><td colspan="8"> 

 </td></tr>
<tr><td colspan="8">(a)(b) (c)Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

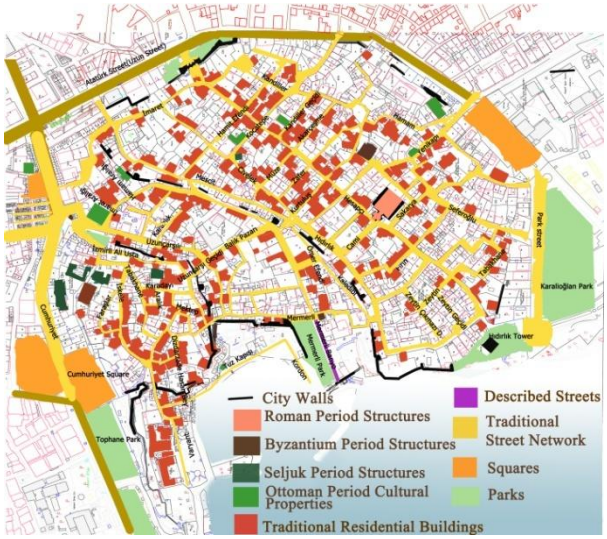
Table 46: Survey Sheet for Uzun Çarşı Street

<table>
<tr><td colspan="8">Name: Uzun Çarşı</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Users</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="3">Traditional Residential Buildings</td><td rowspan="3">Mainly commercial uses</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td rowspan="2">P
V
M</td><td>P</td><td>M</td><td rowspan="2">-</td><td rowspan="2">A</td><td rowspan="2">S</td><td rowspan="2">L
S
W</td></tr>
<tr><td>H</td><td>H</td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5">There are so many vehicles entering into site without any control and there are two taxi stands where people can use

Commercial uses invades the streets with putting their product on the streets, and facades of the traditional buildings</td></tr>
<tr><td colspan="8">  </td></tr>
<tr><td colspan="8">Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Fountain-F Telephone Post-T Shelter-S Tree-T Remain-R Waste bin-W Electric Post-E Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Registered Tree-RT Traditional Building-TB</td></tr>
</table>

STREETS in SELÇUK

Table 47: Survey Sheet for Mermerli Banyo Street

<table>
<tr><td colspan="8">Name: Mermerli Banyo</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB
Mermerli Park</td><td rowspan="2">There is dominanvce of the residential uses of the buildings with commercial uses on their entrance floors</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P
M</td><td>P
H</td><td>M
H</td><td></td><td>A</td><td></td><td>L</td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5">Notes: 8 vehicles in front of the traditional houses

Mermerli Park is an important valuıe for people who live in Antalya Kaleiçi</td></tr>
<tr><td colspan="8">  </td></tr>
<tr><td colspan="8">(a)(b) Author, 2014 (c) googleearth,2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 48: Survey Sheet for Mermerli Street

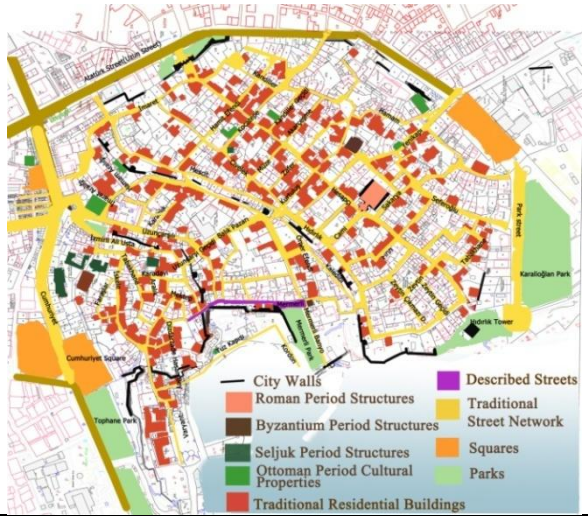
Name: Mermerli								
Cultural Properties	**Functions**	**Use**			**Urban Mobility System**			
Traditional Residential Buildings **A-The Remains of city walls**	**There is dominance of empty buildings, and also there are hostels**	**U** **P** **M**	**D** **P** **H**	**M** **H**	**St-p** **Y**	**Sl** **A**	**P** **S**	**St-e** **L**
Key Map 								
Notes: There are tables of the shops on the streets that prevent pedestrian movement								
 								
Photos: Author, 2014								
Use Pedestrian-P Motorised -M **Density-D-** High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) **Street parking-St-p-**Yes-Y No -N								
Slope-Sl- Plain-P Average-A Steep-S **Street elements-St-** Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC								
Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT								

Table 49: Survey Sheet for Musalla Street

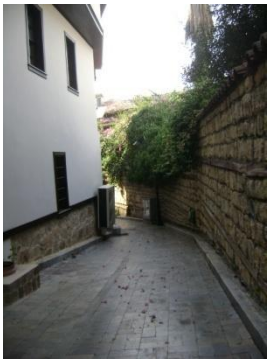
Name: Musalla									
Cultural Properties	**Functions**	**Use**			**Urban Mobility System**				
Traditional Residential Buildings	**Mixed use**	**U P**	**D P L**	**M L**	**St-p Y**	**Sl M**	**P S**	**St-e L**	
Key Map		**Notes:** The vehicle of resident in front of the house.The street are slippery							
    									
(a)(b) (c)Author, 2014									
Use Pedestrian-P Motorised -M **Density-D-** High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) **Street parking-St-p-**Yes-Y No –N									
Slope-Sl- Plain-P Average-A Steep-S **Street elements-St-** Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC									
Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT									

Table 50: Survey Sheet for Merdivenli Street

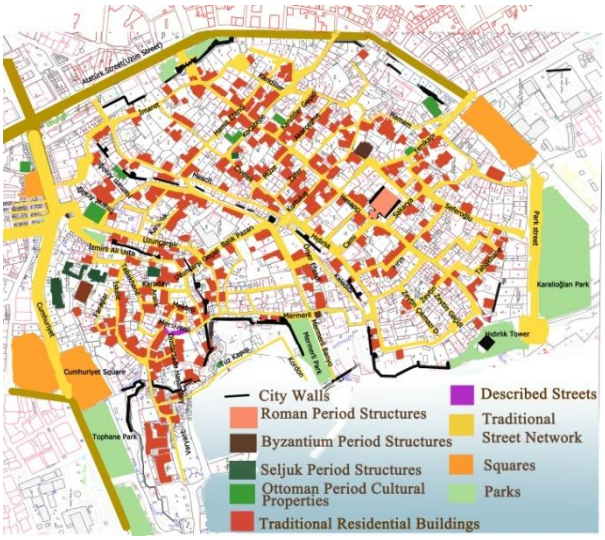
<table>
<tr><td colspan="8">Name: Merdivenli</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">Traditional Residential Buildings</td><td rowspan="2">Commercial Uses</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P M</td><td>P H</td><td>M H</td><td>M</td><td>A</td><td>S</td><td>L</td></tr>
<tr><td colspan="5">Key Map
 
</td><td colspan="3"></td></tr>
<tr><td colspan="8"> 
</td></tr>
<tr><td colspan="8">Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table **51:** Survey Sheet for Aydoğdu Street

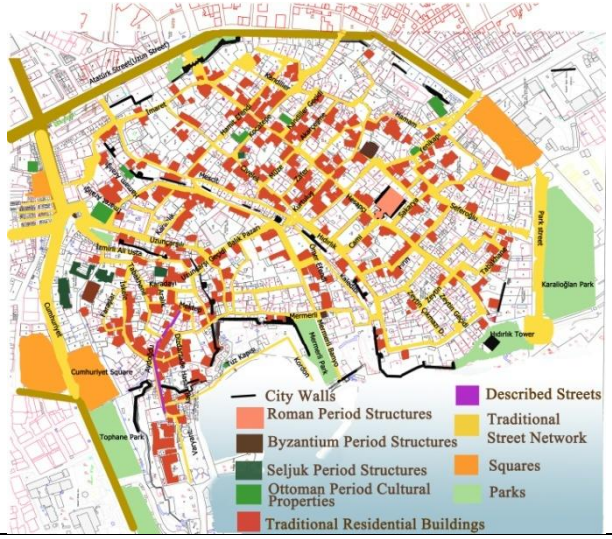
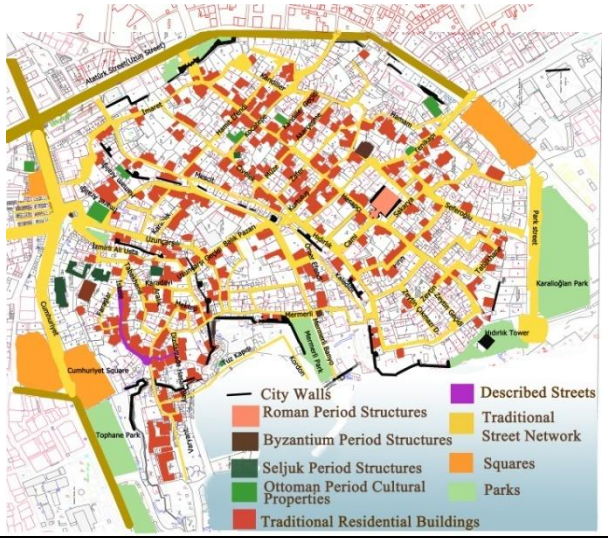
Name: Aydoğdu								
Cultural Properties	**Functions**	**Use**			**Urban Mobility System**			
		U	**D**		**St-p**	**Sl**	**P**	**St-e**
TB, Monument(Mosque)		**P**	**P**	**M**				
		M	**H**	**A**	**-**	**A**	**S**	**L**
Key Map								
								
  								
Author, 2014								
Use Pedestrian-P Motorised -M	**Density-D-** High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min)				**Street parking-St-p-**Yes-Y No -N			
Slope-Sl- Plain-P Average-A Steep-S	**Street elements-St-** Lamp-L Shelter-S Waste bin-W		Fountain-F Tree-T Electric Post-E		Telephone Post-T Remain-R Upper Covers-UC			
Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT								

Table 52: Survey Sheet for İskele Street

<table>
<tr><td colspan="8">Name: İskele</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">Traditional Residential Buildings</td><td rowspan="2">Commercial Uses</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P M</td><td>P H</td><td>M H</td><td></td><td>A</td><td></td><td></td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5">Notes

The street has apparent traditional conserved facades that should be taken into account as an important value</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table **53:** Survey Sheet for Faraşlar Street

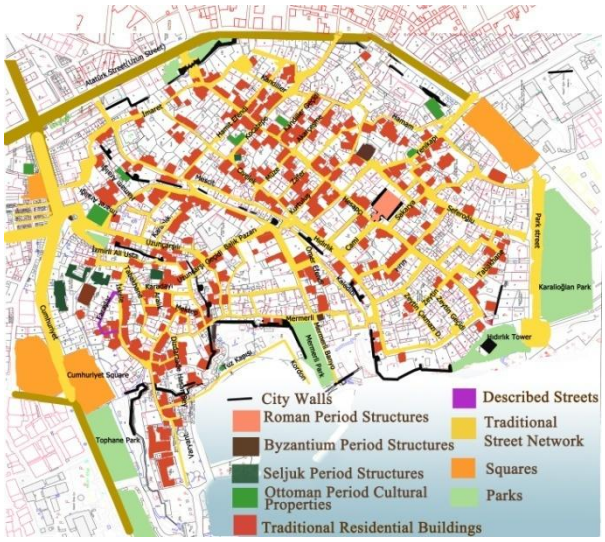
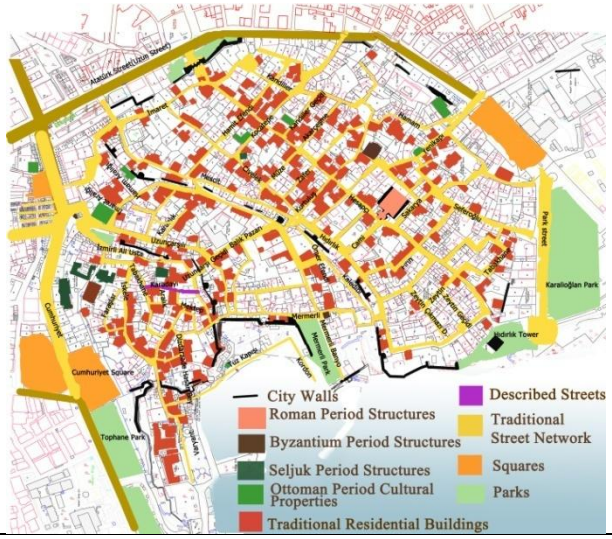
<table>
<tr><td colspan="8">Name: Faraşlar</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">Traditional Residential Buildings</td><td rowspan="2">Mixed use including commercial and residentials</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P</td><td>P</td><td>M</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5"></td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 54: Survey Sheet for Karadayı Street

<table>
<tr><td colspan="8">Name: Karadayı</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">Traditional Residential Buildings</td><td rowspan="2">Mixed use</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td></td><td>P</td><td>M</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="4">Key Map
 
</td><td colspan="4">Notes

There is problem related with the pavement material that is not compatible with climate conditions</td></tr>
<tr><td colspan="8">  </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 55: Survey Sheet for Kaledibi Street

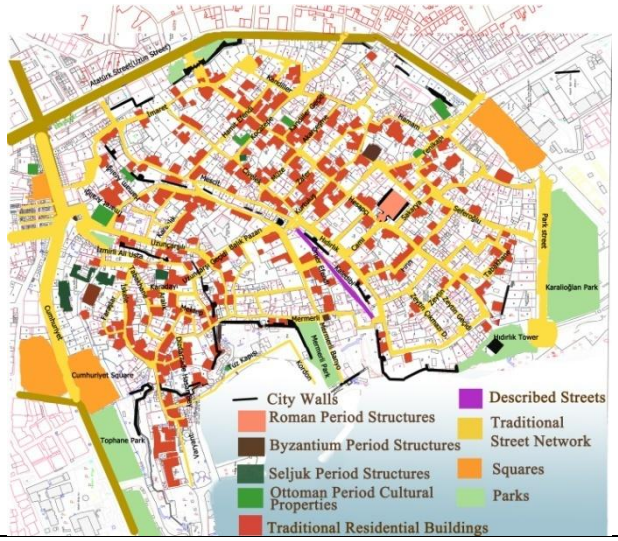
<table>
<tr><th colspan="8">Name: Kaledibi</th></tr>
<tr><th>Cultural Properties</th><th>Functions</th><th colspan="3">Use</th><th colspan="4">Urban Mobility System</th></tr>
<tr><td rowspan="2">Traditional Residential Buildings
A-The remains of city walls</td><td rowspan="2">Mixed use</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P</td><td>P</td><td>M</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="4">L</td><td>-</td><td></td><td>A</td><td></td><td></td></tr>
<tr><td colspan="8">    </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 56: Survey Sheet for Balıkpazarı Street

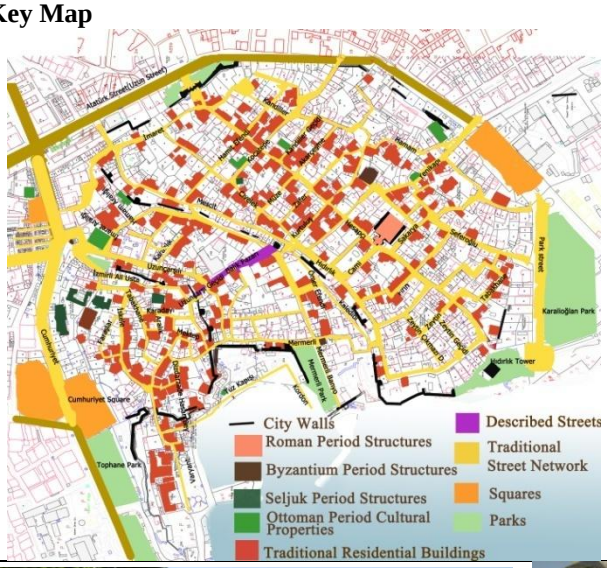
<table>
<tr><td colspan="8">Name: Balıkpazarı</td></tr>
<tr><td rowspan="2">Cultural Properties</td><td rowspan="2">Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td rowspan="2">Traditional Residential Buildings
RT- Registered Tree</td><td rowspan="2"></td><td>P
M</td><td>P
H</td><td>M
H</td><td>M</td><td>P</td><td>S</td><td>F
L</td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="4">Notes: Closeness to the Balıkpazarı Fırını and registered tree, in the past it was a square where there is fish bazaar</td></tr>
<tr><td colspan="8">   </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 57: Survey Sheet for Aralık Street

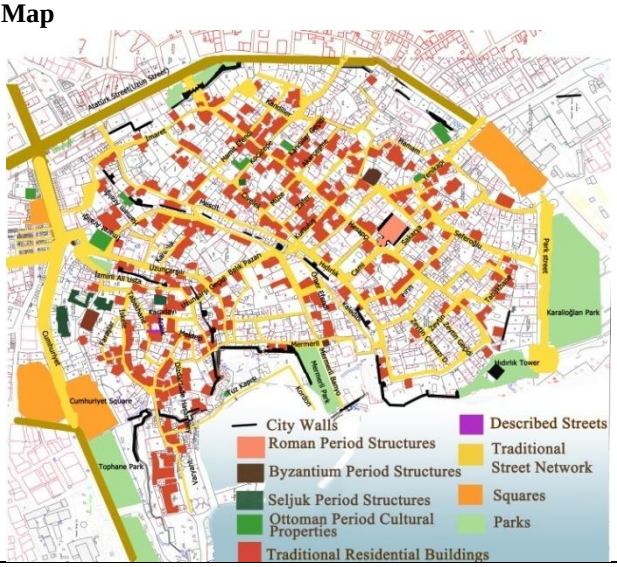
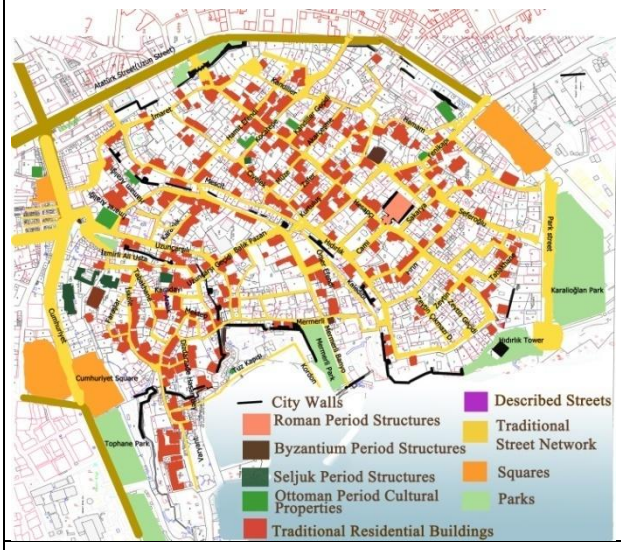
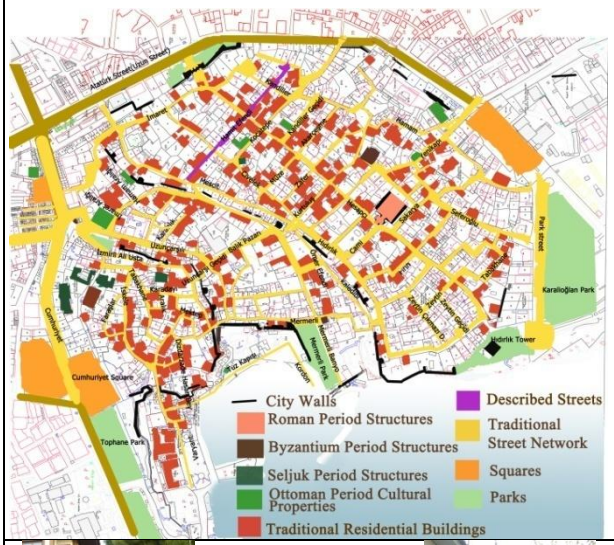
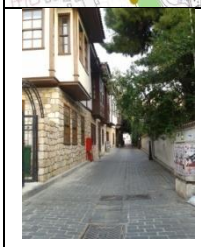
Name: Aralık								
Cultural Properties	**Functions**	**Use**			**Urban Mobility System**			
Traditional Residential Buildings		**U**	**D**		**St-p**	**Sl**	**P**	**St-e**
		P	**P**	**M**				
			M	**-**	**N**	**P**	**S**	**BL**
Key Map 								
  								
Photo: Author, 2014								
Use Pedestrian-P Motorised -M	**Density-D-** High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min)				**Street parking-St-p-**Yes-Y No -N			
Slope-Sl- Plain-P Average-A Steep-S	**Street elements-St-** Lamp-L Shelter-S Waste bin-W		Fountain-F Tree-T Electric Post-E		Telephone Post-T Remain-R Upper Covers-UC			
Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT								

Table 58: Survey Sheet for Aralık Passage

<table>
<tr><th colspan="8">Name: Aralık Passage</th></tr>
<tr><th>Cultural Properties</th><th>Functions</th><th colspan="3">Use</th><th colspan="4">Urban Mobility System</th></tr>
<tr><td rowspan="2">Traditional Residential Buildings</td><td rowspan="2"></td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P</td><td>P</td><td>M</td><td>Y</td><td>A</td><td>SS</td><td></td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5"></td></tr>
<tr><td colspan="8">    </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

STREETS in BARBAROS

Table 59: Survey Sheet forHamit Efendi Street

<table>
<tr><td colspan="8">Name: Hamit Efendi</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">Traditional Residential Buildings</td><td rowspan="2"></td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td></td><td>P</td><td>M</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5"></td></tr>
<tr><td colspan="8"> 




 </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 60: Survey Sheet for Akarçeşme Street

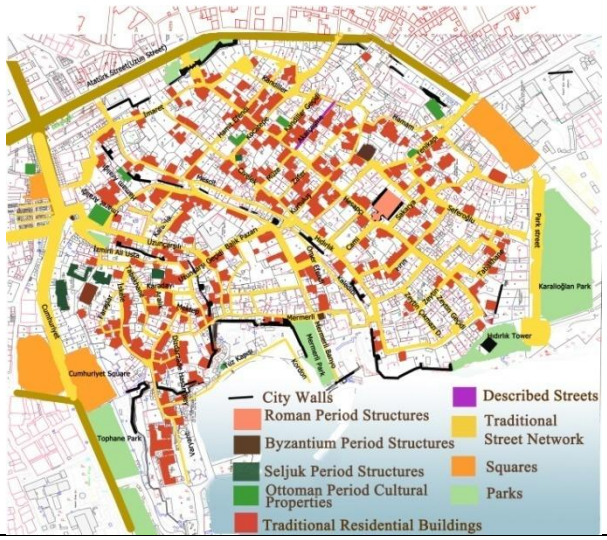
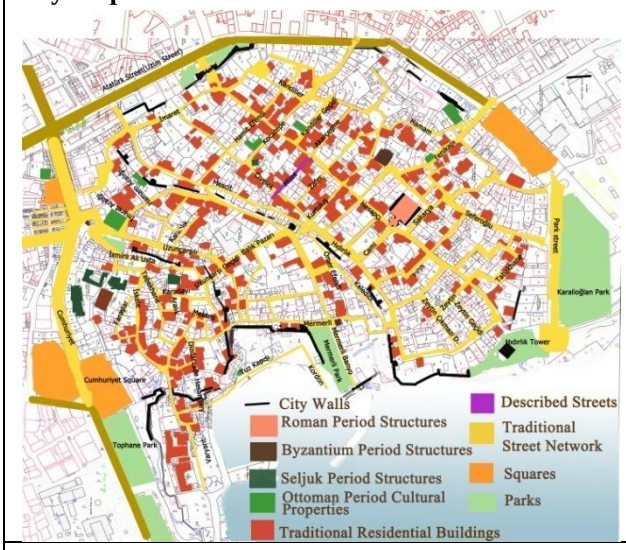
<table>
<tr><td colspan="8">Name: Akarçeşme</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">Traditional Residential Buildings</td><td rowspan="2"></td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td></td><td>P</td><td>M</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5"></td></tr>
<tr><td colspan="8">    </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 61: Survey Sheet for Müze Street

Name: Müze									
Cultural Properties	**Functions**	**Use**			**Urban Mobility System**				
		U	**D**		**St-p**	**Sl**	**P**	**St-e**	
			PY	**M**					
Key Map 									

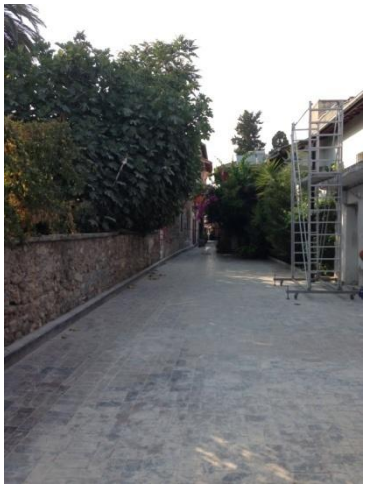
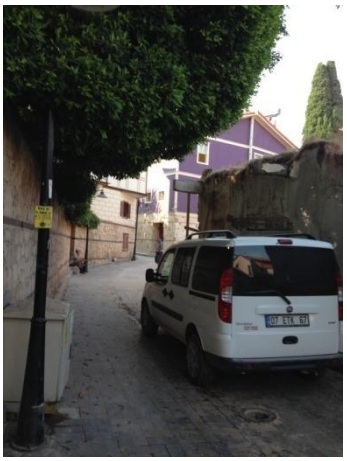
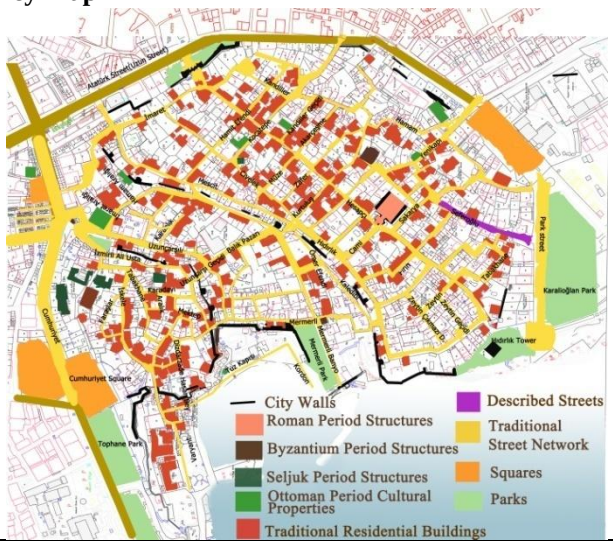

 

Photo: Author, 2014									
Use Pedestrian-P Motorised -M	**Density-D-** High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min)				**Street parking-St-p-**Yes-Y No -N				
Slope-Sl- Plain-P Average-A Steep-S	**Street elements-St-** Lamp-L Shelter-S Waste bin-W		Fountain-F Tree-T Electric Post-E		Telephone Post-T Remain-R Upper Covers-UC				
Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT									

Table 62: Survey Sheet for Seferoğlu Street

<table>
<tr><td colspan="8">Name: Seferoğlu</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">Traditional Residential Buildings
A-</td><td rowspan="2">Mixed use</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td></td><td>P</td><td>M</td><td></td><td></td><td></td><td>UC</td></tr>
<tr><td colspan="4">Key Map
 
</td><td colspan="4">Notes:

It is an important street since it has direc relatşons bwith Kesik Minaret view</td></tr>
<tr><td colspan="8"> 

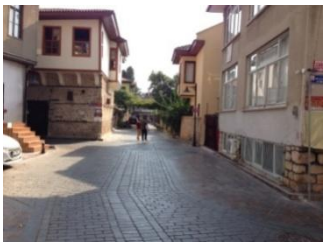
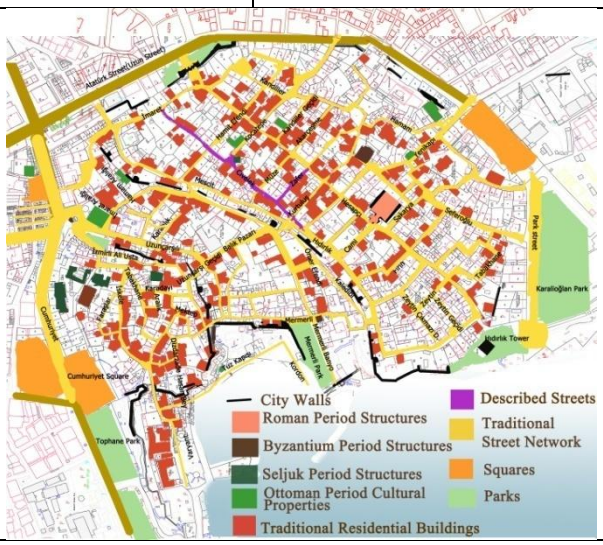


 </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Registered Tree-RT Traditional Building-TB</td></tr>
</table>

Table 63: Survey Sheet for Civelek Street

Name:Civelek								
Cultural Properties	**Functions**	**Use**			**Urban Mobility System**			
TB	**There is dominance of the residential , commercial uses in this street**	**U**	**D**		**St-p**	**Sl**	**P**	**St-e**
			P	**M**				

Key Map



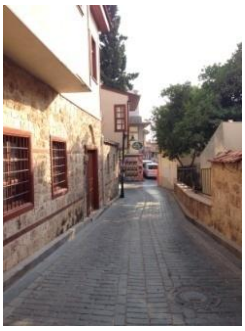


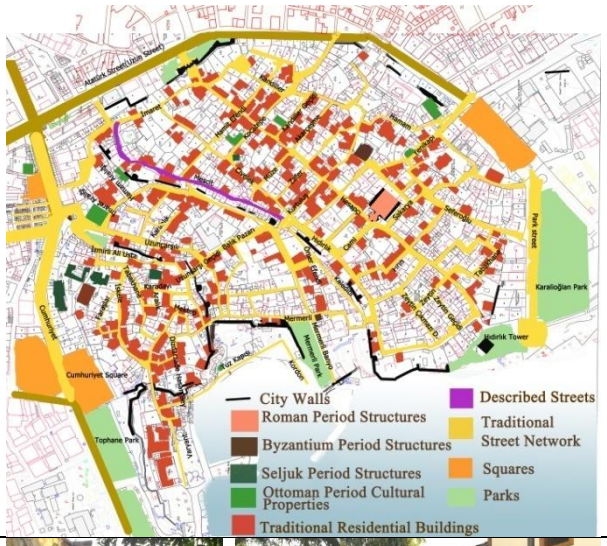
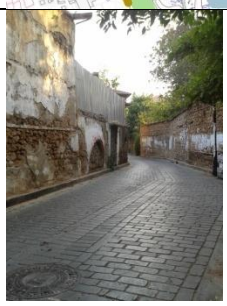
Photo: Author, 2014

Use Pedestrian-P Motorised -M **Density-D-** High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) **Street parking-St-p-**Yes-Y No -N

Slope-Sl- Plain-P Average-A Steep-S **Street elements-St-** Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC

Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT

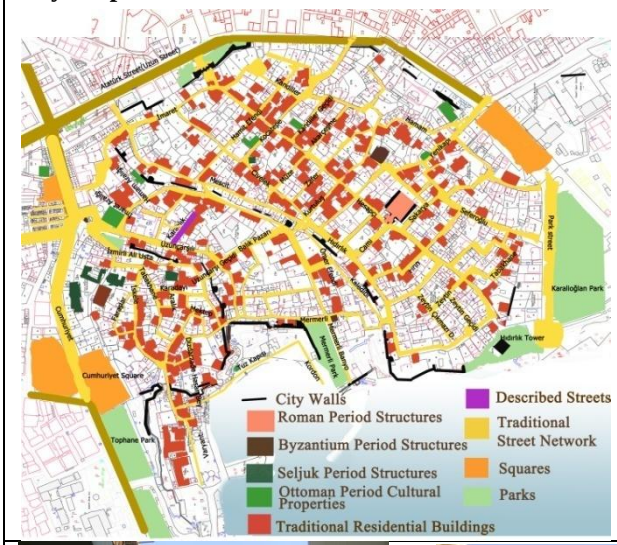
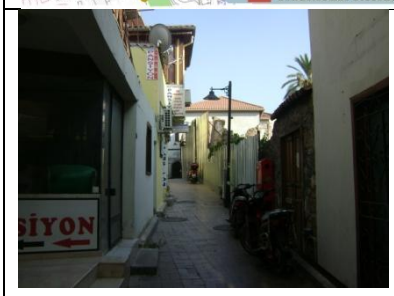
Table 64: Survey Sheet for Mescit Street

<table>
<tr><td colspan="8">Name: Mescit</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB
A-The remains of gthe city wall</td><td rowspan="2">Mixed use but it can be said that there is dominanee of the commercial uses</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td></td><td>P</td><td>M</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>H</td><td>H</td><td>Y</td><td>H</td><td>S</td><td>BL</td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5"></td></tr>
<tr><td colspan="8"> 




 </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 65: Survey Sheet for Karanlık Street

<table>
<tr><td colspan="9">Name: Karanlık</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB</td><td rowspan="2">Mixed use with residential, conmmercial and empty buildings</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P</td><td>P</td><td>M</td><td rowspan="2">M</td><td rowspan="2">P</td><td rowspan="2">S</td><td rowspan="2">L</td></tr>
<tr><td></td><td>L</td><td>-</td></tr>
<tr><td colspan="4">Key Map
 
</td><td colspan="5">Notes: Dead end street</td></tr>
<tr><td colspan="9"> 

 </td></tr>
<tr><td colspan="9">Photo:Author, 2014</td></tr>
<tr><td colspan="9">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="9">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="9">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 66: Survey Sheet for Kandiller Street

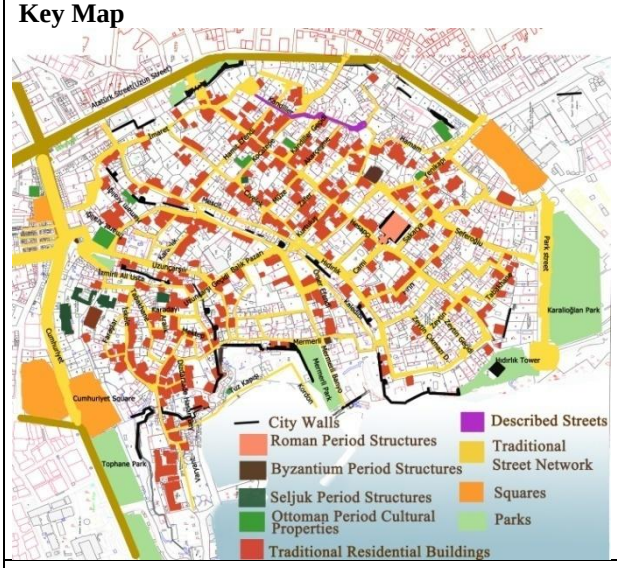
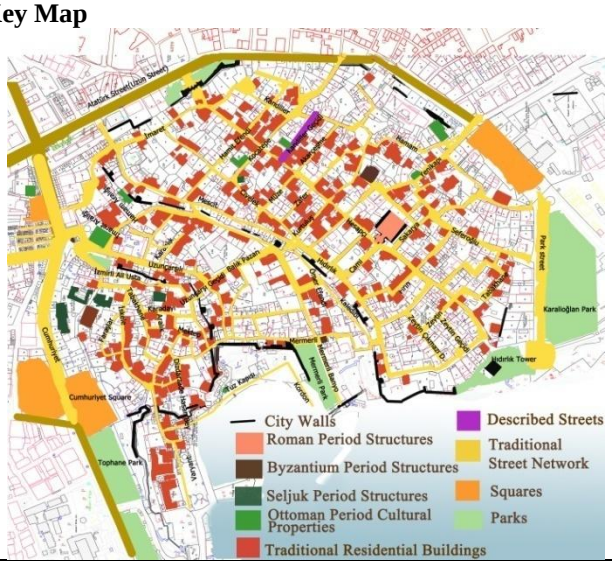
<table>
<tr><td colspan="9">Name: Kandiller</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="5">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB</td><td rowspan="2">Mixed use including residential, commercial uses and also thete are empty buildings</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td></td><td>P</td><td>M</td><td>Y</td><td>A</td><td></td><td></td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="6"></td></tr>
<tr><td colspan="9">   </td></tr>
<tr><td colspan="9">Photo:Author, 2014</td></tr>
<tr><td colspan="9">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="9">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="9">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 67: Survey Sheet for Kandiller Passage

<table>
<tr><td colspan="8">Name: Kandiller Passage</td></tr>
<tr><td rowspan="2">Cultural Properties</td><td rowspan="2">Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td rowspan="2">TB</td><td rowspan="2"></td><td rowspan="2">P
M</td><td>P</td><td>M</td><td rowspan="2">Y</td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td>L</td><td></td></tr>
<tr><td colspan="8">Key Map
 
</td></tr>
<tr><td colspan="8"> 

 </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table **68:** Survey Sheet for Kocatepe Street

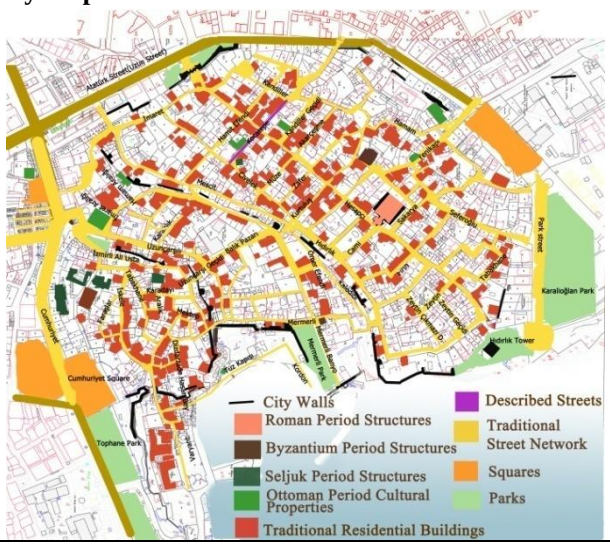
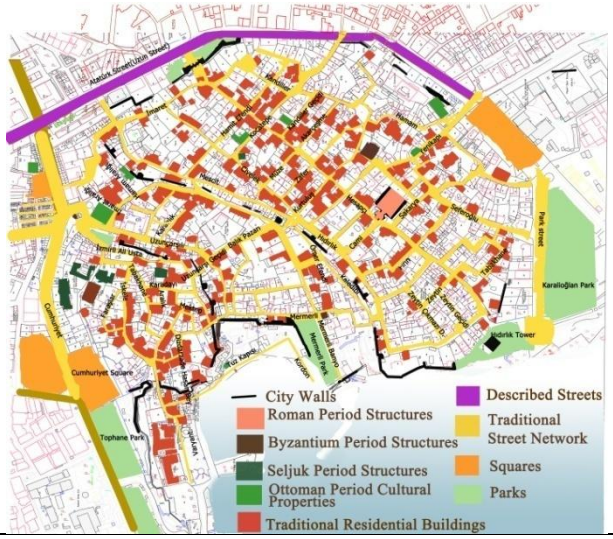
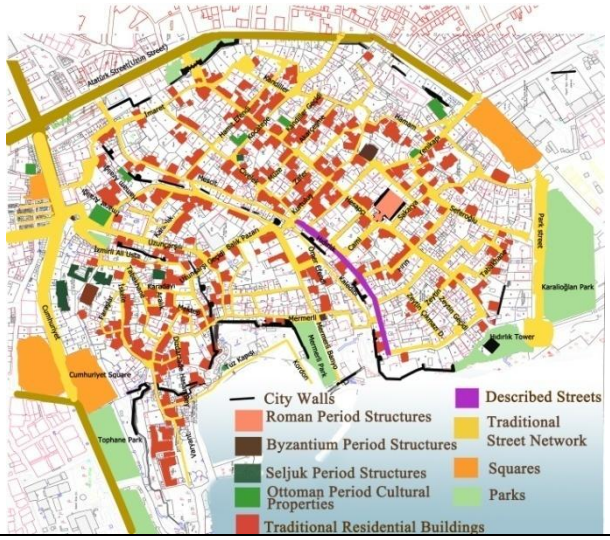
Name: Kocatepe								
Cultural Properties	**Functions**	**Use**			**Urban Mobility System**			
TB		**U**	**D**		**St-p**	**Sl**	**P**	**St-e**
		P	**P**	**M**				
		M	**H**	**H**	**Y**	**P**	**S**	
Key Map 								
   								
Photo: Author, 2014								
Use Pedestrian-P Motorised -M	**Density-D-** High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min)				**Street parking-St-p-**Yes-Y No -N			
Slope-Sl- Plain-P Average-A Steep-S	**Street elements-St-** Lamp-L Shelter-S Waste bin-W		Fountain-F Tree-T Electric Post-E		Telephone Post-T Remain-R Upper Covers-UC			
Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT								

Table 69: Survey Sheet for Atatürk Street

<table>
<tr><th colspan="8">Name: Atatürk</th></tr>
<tr><th>Cultural Properties</th><th>Functions</th><th colspan="3">Use</th><th colspan="4">Urban Mobility System</th></tr>
<tr><td rowspan="2">A-The remain s of the city walls
Traditional Residential buildings
Water Channels</td><td rowspan="2">Mainly commercial facilities located</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P
M</td><td>P
H</td><td>M
H</td><td>Y</td><td>P</td><td>A</td><td>L
W
R</td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5">It is one of the important streets of city center that has a direct relation with Kaleiçi</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No –N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

STREETS in KILIÇARSLAN

Table 70: Survey Sheet for Hıdırlık Street

<table>
<tr><td colspan="8">Name: Hıdırlık</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB
A</td><td rowspan="2"></td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P
M</td><td>P
H</td><td>M
H</td><td></td><td>P</td><td></td><td></td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5">Notes:

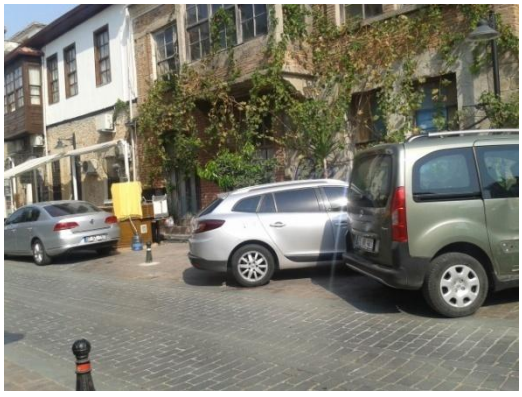
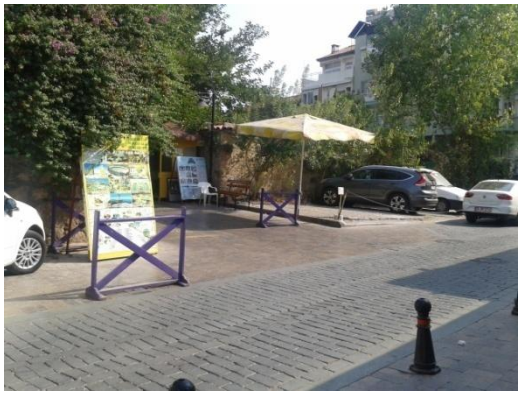
It is an important street since it has a direct relation with Tower</td></tr>
<tr><td colspan="8">   </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 71: Survey Sheet for Hesapçı Street

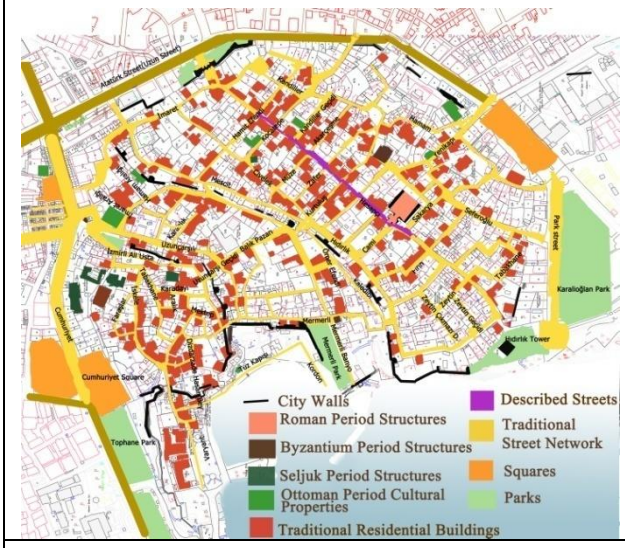
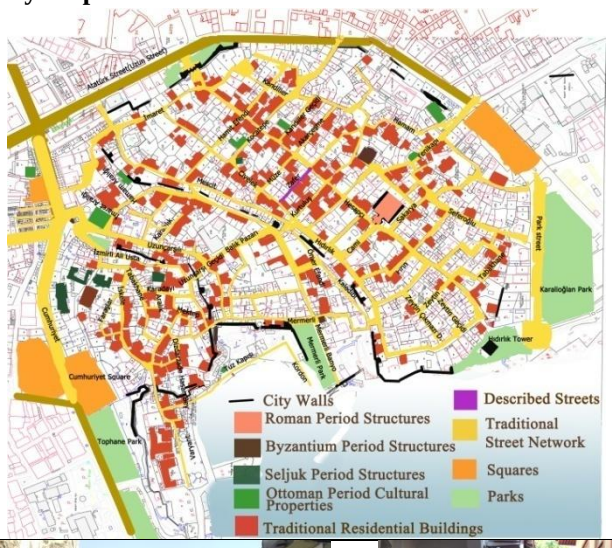
<table>
<tr><th colspan="8">Name: Hesapçı</th></tr>
<tr><th>Cultural Properties</th><th>Functions</th><th colspan="3">Use</th><th colspan="4">Urban Mobility System</th></tr>
<tr><td rowspan="2">TB</td><td rowspan="2">Mixed use concerning commercial, residential, hostels and social cultural uses</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td></td><td>P</td><td>M</td><td></td><td></td><td>M</td><td></td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5">Notes: Helenistic street
Connection with Hadrian gate
Kesik Minaret
Showing multilayered character of Kaleiçi
Old water channels removed from street during project</td></tr>
<tr><td colspan="8">   </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 72: Survey Sheet for Zafer Street

<table>
<tr><td colspan="8">Name: Zafer</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB</td><td rowspan="2">Mixed use composed of residential and hostel</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P</td><td>P</td><td>M</td><td rowspan="2">Y</td><td rowspan="2">P</td><td rowspan="2">S</td><td rowspan="2">B</td></tr>
<tr><td>M</td><td>H</td><td>H</td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5">Notes: there is taxi stop (Kaleiçi taxi) Closeness to the Balıkpaarı Fırını and registered tree</td></tr>
<tr><td colspan="8"> 



 </td></tr>
<tr><td colspan="8">Photo:Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P
Motorised -M
Density-D- High –H (5 in a min)
Medium-M(3 in a min)
Low-L(1 in a min)
Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P
Average-A
Steep-S
Street elements-St- Lamp-L
Shelter-S
Waste bin-W
Fountain-F
Tree-T
Electric Post-E
Telephone Post-T
Remain-R
Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M
Archeological Remain-AR
Traditional Building-TB
Registered Tree-RT</td></tr>
</table>

Table 73: Survey Sheet for Fırın Street

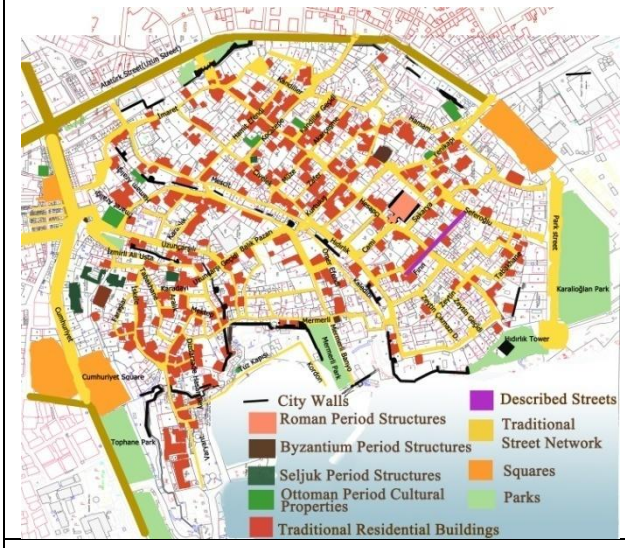
Name: Fırın								
Cultural Properties	**Functions**	**Use**			**Urban Mobility System**			
Traditional Residential Buildings	**Mixed use but mainly residential**	**U**	**D**		**St-p**	**Sl**	**P**	**St-e**
		P	**P**	**M**				
		M	**H**	**H**	**Y**	**A**	**S**	
Key Map 		**Notes:**						

Photo: Author, 2014

Use Pedestrian-P Motorised -M

Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min)

Street parking-St-p-Yes-Y No -N

Slope-Sl- Plain-P Average-A Steep-S

Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC

Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT

Table 74: Survey Sheet for Zeytin Street

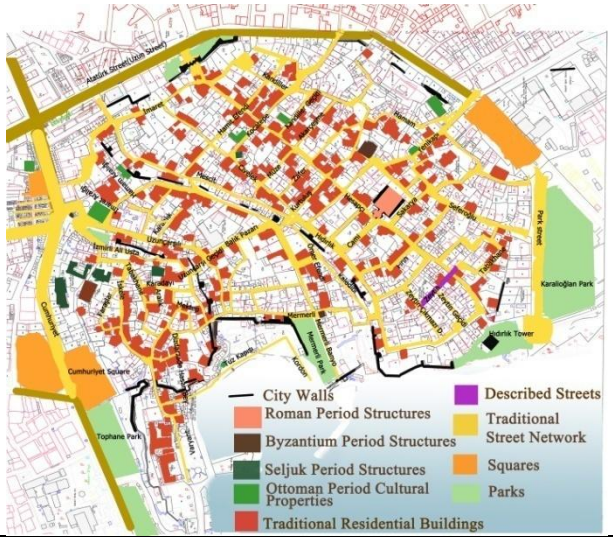
Name: Zeytin								
Cultural Properties	**Functions**	**Use**			**Urban Mobility System**			
Traditional Residential Buildings	**Mixed Use but mainly residential use**	**U**	**D**		**St-p**	**Sl**	**P**	**St-e**
		P M	**P A**	**M H**	**Y**	**A**	**S**	
Key Map 								
								
Photo: Author, 2014								
Use Pedestrian-P Motorised -M	**Density-D-** High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min)				**Street parking-St-p-**Yes-Y No -N			
Slope-Sl- Plain-P Average-A Steep-S	**Street elements-St-** Lamp-L Shelter-S Waste bin-W		Fountain-F Tree-T Electric Post-E		Telephone Post-T Remain-R Upper Covers-UC			
Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT								

Table 75: Survey Sheet for Kurtuluş Street

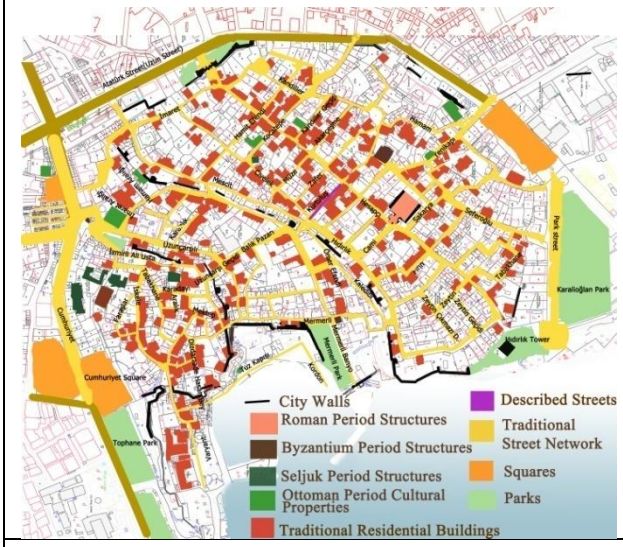
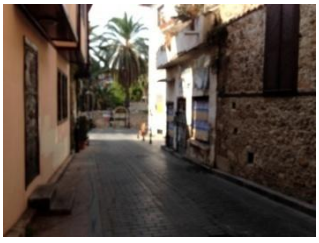
<table>
<tr><td colspan="8">Name: Kurtuluş</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB</td><td rowspan="2">Mainly commercial uses and hostels</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P M</td><td>P H</td><td>M H</td><td>Y</td><td>A</td><td>S</td><td>B L</td></tr>
<tr><td colspan="8">Key Map
 
</td></tr>
<tr><td colspan="8">    </td></tr>
<tr><td colspan="8">Photos Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 76: Survey Sheet for Kadir Paşa Street

<table>
<tr><td colspan="8">Name: Kadir Paşa</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB</td><td rowspan="2">Mixed use</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P M</td><td>P A</td><td>M A</td><td>Y</td><td>A</td><td></td><td>B</td></tr>
<tr><td colspan="4">Key Map</td><td colspan="4">Notes:

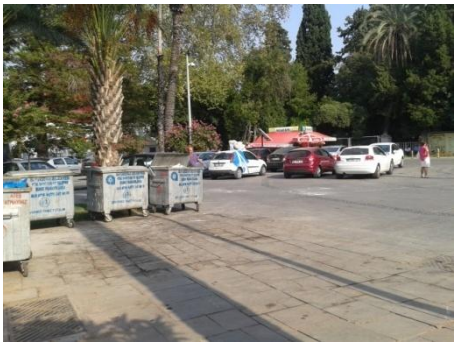
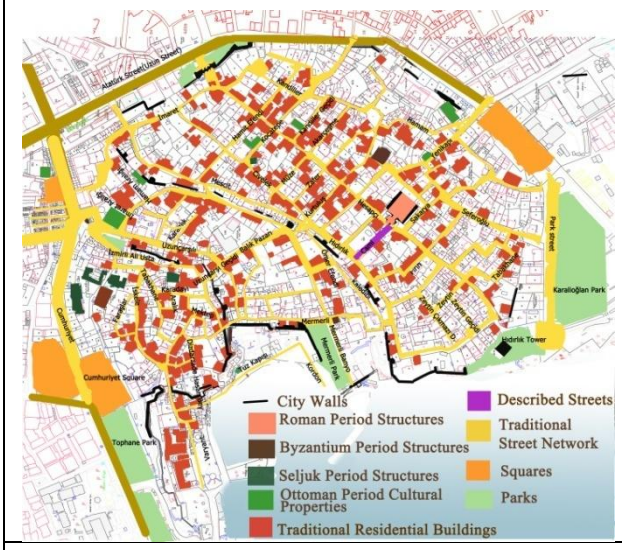
It is an important street since it is part of Antalya metropolitan Municipality and this is used by Municiplaity as a Parking area, however this area can be assessed as an important public realm which has direct relationships with municipality, Kaleiçi and Karalioğlan Park</td></tr>
<tr><td colspan="8">  
   </td></tr>
<tr><td colspan="8">Photos Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table **77:** Survey Sheet for Cami Street

<table>
<tr><td colspan="8">Name: Cami</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB</td><td rowspan="2">Mixed but mainly residential uses</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>M</td><td>P</td><td>M</td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td></td><td>H</td><td>H</td></tr>
<tr><td colspan="3">Key Map
 
</td><td colspan="5">Notes:

It is an important street since it has a vista point to Kesik Minaret and its geometry prove the Roman Period grid city development</td></tr>
<tr><td colspan="8">  </td></tr>
<tr><td colspan="8">Photos Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table **78:** Survey Sheet for Tabakhane Street

<table>
<tr><td colspan="8">Name: Tabakhane (at east)</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="3">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB</td><td rowspan="2">Mainly commercial uses</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P</td><td>P</td><td>M</td><td rowspan="2">-</td><td rowspan="2">A</td><td rowspan="2">S</td><td rowspan="2">UC</td></tr>
<tr><td></td><td>H</td><td>-</td></tr>
<tr><td colspan="3">Key Map</td><td colspan="5">Notes:

There is invasion of the streets by the products of the retailers that disturb the pedestrian movement and perception of the historic urban environment</td></tr>
<tr><td colspan="8">   </td></tr>
<tr><td colspan="8">Photos Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P
Motorised -M
Density-D- High –H (5 in a min)
Medium-M(3 in a min)
Low-L(1 in a min)
Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P
Average-A
Steep-S
Street elements-St- Lamp-L
Shelter-S
Waste bin-W
Fountain-F
Tree-T
Electric Post-E
Telephone Post-T
Remain-R
Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M
Archeological Remain-AR
Traditional Building-TB
Registered Tree-RT</td></tr>
</table>

Table 79: Survey Sheet for Tabakhane Street

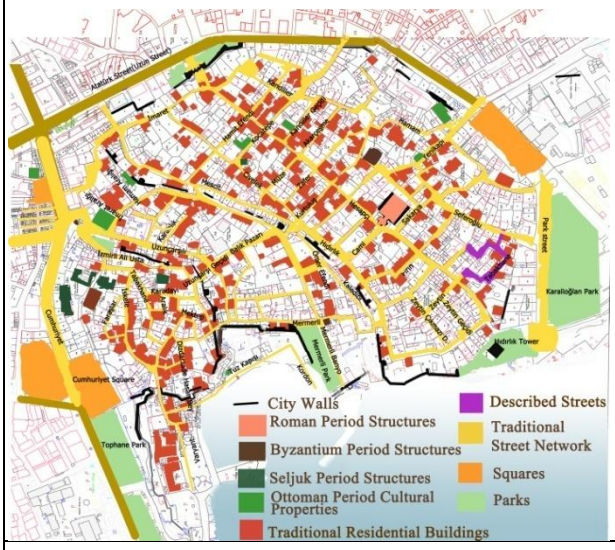
<table>
<tr><td colspan="8">Name: Tabakhane (at west)</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB</td><td rowspan="2">Mixed use</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td></td><td>P</td><td>M</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="2"></td><td></td><td></td><td>H</td><td>Y</td><td>P</td><td>S</td><td></td></tr>
<tr><td colspan="2">Key Map
 
</td><td colspan="6"></td></tr>
<tr><td colspan="8">   </td></tr>
<tr><td colspan="8">Photos :Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 80: Survey Sheet for Tabakhane Passage Street

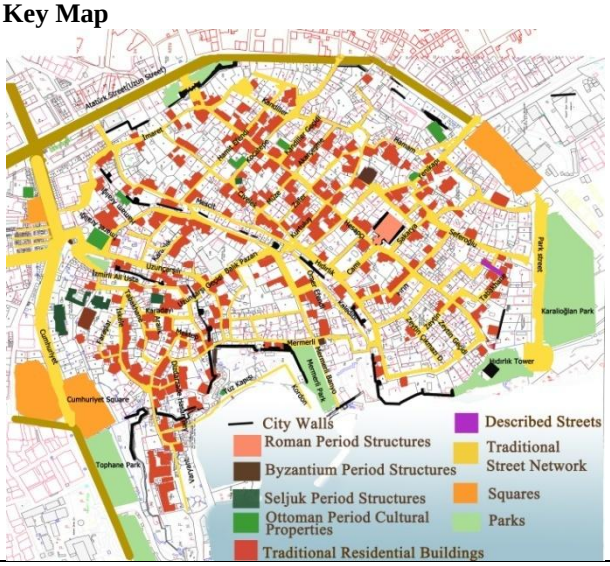
<table>
<tr><td colspan="8">Name:Tabakhane Passage</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="2">TB</td><td rowspan="2">Mixed Use</td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>PL</td><td>PL</td><td>ML</td><td>Y</td><td>P</td><td>S</td><td>L</td></tr>
<tr><td colspan="4">Key Map
 
</td><td colspan="4"></td></tr>
<tr><td colspan="8">  </td></tr>
<tr><td colspan="8">Photo: Author, 2014</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

Table 81: Survey Sheet for Clock Tower Entrance

<table>
<tr><td colspan="8">Name: Clock Tower Entrance</td></tr>
<tr><td>Cultural Properties</td><td>Functions</td><td colspan="3">Use</td><td colspan="4">Urban Mobility System</td></tr>
<tr><td rowspan="3"></td><td rowspan="3"></td><td>U</td><td colspan="2">D</td><td>St-p</td><td>Sl</td><td>P</td><td>St-e</td></tr>
<tr><td>P</td><td>P</td><td>M</td><td rowspan="2"></td><td rowspan="2">A</td><td rowspan="2">S</td><td rowspan="2"></td></tr>
<tr><td>V</td><td>H</td><td>H</td></tr>
<tr><td>B</td></tr>
<tr><td colspan="3">Key Map</td><td colspan="5">Since it is entrance of the site for both motorised and pedestrian traffic there is high amount of congestion at this point, it is possible to see all kinds of vehicles at this points therefore this should be controlled</td></tr>
<tr><td colspan="8">  
</td></tr>
<tr><td colspan="8">Author, 2014(</td></tr>
<tr><td colspan="8">Use Pedestrian-P Motorised -M Density-D- High –H (5 in a min) Medium-M(3 in a min) Low-L(1 in a min) Street parking-St-p-Yes-Y No -N</td></tr>
<tr><td colspan="8">Slope-Sl- Plain-P Average-A Steep-S Street elements-St- Lamp-L Shelter-S Waste bin-W Fountain-F Tree-T Electric Post-E Telephone Post-T Remain-R Upper Covers-UC</td></tr>
<tr><td colspan="8">Cultural Asset-CA- Class-C-Monument-M Archeological Remain-AR Traditional Building-TB Registered Tree-RT</td></tr>
</table>

APPENDIX E

VISUAL DOCUMENTS AND ANALYSES

Figure 91: Air Photo in1981

Figure 92: Air Photo in 2014 (google earth)