HUMAN TERRITORIAL FUNCTIONING AT THE SCALE OF RESIDENTIAL ENVIRONMENTS

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

NIHAN OYA MEMLÜK ÇOBANOĞLU

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY
IN
CITY AND REGIONAL PLANNING

JANUARY 2019

Approval of the thesis:

HUMAN TERRITORIAL FUNCTIONING AT THE SCALE OF RESIDENTIAL ENVIRONMENTS

submitted by **NIHAN OYA MEMLÜK ÇOBANOĞLU** in partial fulfillment of the requirements for the degree of **Doctor of Philosophy in City and Regional Planning Department, Middle East Technical University** by,

Prof. Dr. Halil Kalıpçılar
Dean, Graduate School of **Natural and Applied Sciences** _____

Prof. Dr. Çağatay Keskinok
Head of Department, **City and Regional Planning** _____

Prof. Dr. Z. Müge Akkar Ercan
Supervisor, **City and Regional Planning, METU** _____

Examining Committee Members:

Prof. Dr. Adnan Barlas
City and Regional Planning, METU _____

Prof. Dr. Z. Müge Akkar Ercan
City and Regional Planning, METU _____

Prof. Dr. Ali Cengizkan
Architecture, TEDU _____

Prof. Dr. Baykan Günay
City and Regional Planning, TEDU _____

Prof. Dr. Aydan Balamir
Architecture, METU _____

Date: 30.01.2019

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

Name, Surname: Nihan Oya Memlük Çobanoğlu

Signature:

ABSTRACT

HUMAN TERRITORIAL FUNCTIONING AT THE SCALE OF RESIDENTIAL ENVIRONMENTS

Memlük Çobanoğlu, Nihan Oya
Doctor of Philosophy, City and Regional Planning
Supervisor: Prof. Dr. Z. Müge Akkar Ercan

January 2019, 291 pages

Beginning from the late 20th century, increasing dynamism and mobility in the daily life of urban residents along with the advances in transportation and communication technologies deemphasized the decisive role of spatial proximity in the establishment of social relations as well as access to resources. Nevertheless, contact with the near home environment is still important for the cognitive, emotional, and moral development of individuals. Correspondingly, man-environment relations also took new conceptions which has left contemporary cities with the problems of loss of spatial control, diminishing sense of community and alienation. Along with this process, spatial organization of residential environments has also transformed significantly. Today, organization of residential environments in the form of continuous fabric such as in the traditional neighborhoods have left its place to formation of cellular developments in the form of gated communities and mass housing developments. Yet, residential areas are of critical importance since they form the secondary territory of urban dwellers after their homes and constitute a large portion of the urban built environment. In this regard, the concept of 'territoriality', which can be utilized in both understanding and regulating man-environment relations, emerges as one of the premise spatial behaviors that strengthen place attachment. Thus, the main aim of this research is to reveal how individuals perceive,

behave and transform their near home environments in relation to the concept of 'territoriality' in different spatial layouts. For this purpose, territorial functioning will be inquired based on a comparative case study in Kavaklıdere and Çukurambar Districts in Ankara.

Keywords: Human territoriality, Residential Environments, Kavaklıdere, Çukurambar

ÖZ

EGEMENLİK BÖLGELERİNİN KONUT ÇEVRESİ ÖLÇEĞİNDE İŞLEYİŞİ

Memlük Çobanoğlu, Nihan Oya
Doktora, Şehir ve Bölge Planlama
Tez Danışmanı: Prof. Dr. Z. Müge Akkar Ercan

Ocak 2019, 291 sayfa

20. yy.'ın ikinci yarısından itibaren ulaşım ve haberleşme teknolojilerindeki gelişmelerle birlikte kentlilerin gündelik yaşamına giren dinamizm ve hareketlilik, mekânsal yakınlığın sosyal ilişkilerin kurulmasında ve sosyal donatılara erişimdeki belirleyici rolünü zayıflatmıştır. Buna karşın, bireyin yakın çevresi ile kurduğu ilişkinin ve aidiyet hissinin bireylerin bilişsel, duygusal ve ahlaki gelişiminin önemli bir parçası olduğu bilinmektedir. İnsan-mekan ilişkilerindeki bu dönüşümler günümüz kentlerini ve kent sakinlerini, mekânsal denetimin yitirilmesi, kamusallığın çökmesi ve yabancılaşma problemleri ile karşı karşıya bırakmaktadır. Bu dönüşümlere paralel olarak, konut alanlarının tasarımında da belirgin değişimler gözlemlenmektedir. Günümüzde, konut alanlarının tasarımında geleneksel mahallelere özgü çevresindeki kullanımlar ile bütünleşik ve sürekliliği olan dokular yerine, toplu konut ve kapalı site biçiminde, dağınık, kendi içine kapalı, parçacı ve konut yaşamını konutun içerisi ile sınırlayan dokular üretilmektedir. Bu kapsamda, insan ve mekan ilişkilerinin hem çözümlenmesinde hem de denetlenmesinde kullanılan 'egemenlik bölgesi' kavramı mekana ilişkin aidiyet hissini güçlendiren öncül mekânsal davranışlardan biri olarak ortaya çıkmaktadır. Bu bağlamda, bireylerin evlerinden sonra ikincil egemenlik bölgeleri olan ve aynı zamanda kentsel yapılı çevrenin büyük bir bölümünü oluşturan konut çevreleri kritik önem taşımaktadır. Bu araştırma kapsamında, bireylerin konut çevrelerini nasıl algıladıkları, kullandıkları ve dönüştürdükleri 'egemenlik bölgesi'

kavramı çerçevesinde ve mekânsal organizasyon biçimleriyle ilişkili olarak ortaya konulmuştur. Bu kapsamda, Ankara'nın Kavaklıdere semti ile Çukurambar semti karşılaştırmalı olarak incelenmektedir.

Anahtar Kelimeler: Egemenlik Bölgesi, Konut yakın çevresi, Kavaklıdere, Çukurambar

To my family

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to my advisor, Prof. Dr. Z. Müge Akkar Ercan for all her incredible supports, guidance and patience throughout this research. I wish to express my special thanks to the members of my doctoral steering committee, Prof. Dr. Adnan Barlas and Prof. Dr. Ali Cengizkan for their valuable comments and contributions in each committee and the time they patiently devoted to this study. I also wish to thank the other members of the examining committee, Prof Dr. Baykan Günay and Prof. Dr. Aydan Balamir for their guidance, advice and encouragements. I consider myself lucky to have been in close contact with all these pioneers of the field during my research whom also endeared the discipline to me beginning from my undergraduate years.

During my research, I received the upmost support from my students from the Gazi University. They have not only helped the conduction of the endless questionnaires volunteeringly but each of them also shared my enthusiasm throughout the research. Those bright and kind young people happen to be my hope for the future. I would also like to thank my professors and colleagues at Gazi University, Department of City and Regional Planning for an intellectually stimulating, supportive and solidarist work environment. In this regard, I owe special thanks to Prof. Dr. Nilgün Görer Tamer and Assoc. Prof. Dr. Burcu Özüduru for their supports and encouragements. Besides, to my not only colleagues but also friends, Fahriye Yavaşoğlu, Beril Kapusuz Balcı and Su Ertürkmen for all their help, endless support and friendship. I would also like to thank to, Burcu Yavuz, Sezen Savran and Esin Duygu Döner for their contributions to this thesis and also for their moral support.

Yet, I owe special thanks to the ‘thesis crew’ for their great support and help as well as friendship throughout this difficult process: Duygu Kalkanlı, Berçem Kaya and Didem Türk. I will always be grateful to meet these special women. At this point, I would also like to thank İbrahim Çavdaroğlu and Eren Can Kepenek for turning the

most miserable times into happy ones during this difficult process. Besides, during my thesis research, I also had the chance to be a part of Chamber of City Planners Ankara Branch. I would also like to thank my friends from the chamber for giving me the opportunity to extend my horizon on the planning discipline as well as their friendship. At this point, I owe special thanks especially to Özlem Yalçınkaya, Gözde Güldal, Emre Sevim, Ender İplikci and Deniz Kimyon.

In addition to the colleagues and friends from the field, I need to thank my lifetime friends for being always there for me. To Onur Can Sert, without whom I could not pass the past years as fun and entertaining as I have spent with him, to my partner in crime Pınar Berberoğlu, and to Miran Dzabic, Cihan Şimşek, Murat and Cansu Ayhan for creating such entertaining moments. Also, to my dearest fellows since I cannot remember; Sinem Laçin, Görsev Argın, Eda Uçak and Yasmin Dadaş for being there for me no matter the distance.

Last and foremost, I would like to express my deepest gratitude to my family for their endless love and belief in me. First, to my beloved Baran Çobanoğlu for his endless patience, encouragement and love, without him it would have been impossible for me to overcome the difficult times as well as enjoying the happy ones. To my mother Günizi Memlük for being so caring and supportive, to my sister and brother in law İpek and Ali Doğramacı for always being there for me and their lovely children Memo and Ela for giving me the most joy in life. Besides, I would like to thank Çobanoğlu family and especially Ayşe and Sezai Çobanoğlu for giving the warmth of a second family.

Lastly, I would like to show my deepest gratitude to my father, Yalçın Memlük to whom I had to say goodbye so soon. He has been my hero and my role model all my life. I hope you feel me somehow and smile at least for a second. I hope one day I can become such a good person and an enthusiastic academician as you. I will miss you forever.

TABLE OF CONTENTS

LIST OF TABLES

TABLES

LIST OF FIGURES

FIGURES

CHAPTER 1

INTRODUCTION

'We shape our buildings, and afterwards our buildings shape us'
— Winston Churchill

In his seminal book *'Urban design: The American experience'* Lang (1994) defines the main role of urban design as to enhance and enrich the contribution of the built environment on the experience of its users by creating more livable and delightful environments. In order to guide urban designers to attain this aim, primarily the human experience of space in different settings needs to be further investigated. In this regard, Lang (1994) argues that to explore the role of physical layout on everyday life, the foundations of urban design have to shift from prejudices and casual observations of the environment more on to advanced empirical research on the human experience of the built environment. Hence, these explorations are defined as necessary for the assessment of the efficiency of different urban patterns to satisfy, inhibit, and support human needs through built form. From this point of view, the role of the urban designer is set as one of an applied behavioral scientist (Lang, 1994). In a similar manner, Keller (1968: vii) denotes that in order to attain intrinsic knowledge upon human settlements, *'in addition to discerning how they operate, satisfactory levels of these ways of operating and the way they could best operate, and trying to understand why they operate the way they do'* is a critical issue. In this context, the tendency of the field of environmental psychology to rely on applied inquiries on man and his environment is also claimed to be associated with the focus of the field on the ways to improve management of the surrounding environment to better fit human needs (Bell et. al., 1990).

On the contrary, planning and urban design studies principally rely on norms and standards to guide decision-making processes rather than assessments on human experience in order to meet human needs and attain user satisfaction through the built

environment. A widely accepted assumption is that, these norms and standards may guarantee meeting human needs and user satisfaction universally, whereas these rules are often bent in order to fit the constraints of technological efficiency, scale economies, and market potentials. Albeit, although there are consistencies among the demands of urban residents, they are often unique and context specific. Therefore, universal rules to guide planning decisions falls short in satisfying the needs of specific users of a setting. Thus, the resulting environment guided by these norms and standards needs to be assessed in terms of their reflections on everyday life to reveal beneficial insights and also to gain validity. In this regard, Buttimer (1972) states that in order to assess the success of design implications and reveal beneficial insights, *emphatic understanding of the urban life as lived experience* is important.

In this context, investigations on the mutual and reciprocal relationship between the design of the built environment and human experience, that is the cognition and behavior patterns, in that environment takes a crucial role within the planning studies. This bidirectional relation is briefly explained by Porteous (1977) under two successive processes, primarily man transforms its environment by specialized forms of behavior, that is the design and planning of urban environment, therefore the environment itself is a human artifact either planned or unplanned and in return the designed environment influences human behavior. Edney (1974: 966) explains this multifaceted relationship between physical environment and human behavior as follows; '*environments and contiguous behaviors serve each as determinants and effects.'* In a similar manner, Lee (1963-1964/1973:100) claims that '*architects and planners manipulate space, and in return space governs behavior'*. Hence, this interrelation can also be defined as a socio-spatial dialectic in which social life structures the place and in return place shapes the social life. Yet, it would be presuming either to claim physical layout as the sole determinant of human cognition and behavior or to approach human cognition and behavior separate from the place.

The understanding of the relation between the built environment and human experience has evolved significantly within the last century. At the beginning of the early 20th century, the physical environment was regarded as manipulating human behavior thus as a mechanism for achieving desired socio-spatial goals within the field of environmental design. From this perspective, the built environment was regarded by the Modernists as a stimulus to which people will respond in the way that the designer intends. For instance, as a reaction to the negative consequences of unplanned urban growth including social as well as environmental problems in the industrialization era, 'community planning' was brought to the forefront in order to suppress these deficiencies and recreate urban communities.

In this regard, Perry developed the neighborhood unit formula with the aim of forming planned communities to overcome the social and environmental problems of modern cities (Skaburkis, 1974). The neighborhood unit concept was proposed as a means to achieve social ends (Banerjee and Baer, 1984). One of the main intentions of forming planned neighborhoods was to recover the social decays of the modern communities[1]. Nevertheless, the role of physical and spatial design in fostering social cohesion may be '*auxiliary rather than autonomous*' (Keller, 1968: 146). As a result, much of the criticism on Modernist Movement is based on reliance of the movement on environmental determinism, the role set for the urban designer as a social engineer, and its failure to meet human needs. Yet, the interrelation between physical layout and social behavior of inhabitants is far more complicated than assumed and needs further investigation which lies at the heart of environment-behavior studies. Besides these criticisms, the basic goal set by the Modernists to create a well-functioning and poetic world and advocacy of public interest in the political realm should remain at the core of urban design studies rather than recent market-oriented approaches. (Lang, 1994).

[1] Likewise, many theories including Tyler's (1939 cited in Skaburkis, 1974) 'territorial contiguity', assumed that if a group of people reside within proximity to each other and share the same amenities, they will later form a community.

The critique on Modern Movement and its deterministic understanding of human-environment relations shifted the orientation of the investigations on the relation more onto subject-oriented, humane explorations on behavioral and cognitive aspects of human experience in relation to the built environment. From this point forth, examining the environmental behavior of humans in relation to the physical layout has been at the focus of both human geography and environmental psychology studies.

Human geography is a social science primarily concerned with human's spatial behavior and the interest on the exploration of micro-spatial behavior of individuals rather than larger human populations in order to understand the evolution of larger landscapes has arisen within this field from the early 1970s onwards (Anderson and Tindall, 1972). Correspondingly, resulting from the growing search in the field of environmental design on the ways to explain human interactions with the physical environment and in order to better adapt environmental design to meet human needs, research on environmental behavior arose also in the field of psychology again in the second half of the 20th century (Stea and Blaut, 1973). Yet, until the emergence of the discipline of 'environmental psychology' at the beginning of the 1970s, theories were falling short of explaining the impact of physical environment on behavior, and physical surrounding was treated merely as a background variable.

In this context, the concept of 'territoriality' which is at the focus of this study, that is established within the ethological studies in the 1920s and later translated to the field of environmental psychology, was put forth as a concept which fills the gap between linking the attributes of molar environment (physical dimensions of a territory, its appearance, boundaries, and geographic relationship to others) with organism's behavior (Edney, 1974).

Following the studies exploring environment and behavior, articulating this knowledge into design processes has been an ongoing challenge. In this regard, Horayangkura (2012) states that this knowledge is applicable to especially two phases

of design process which are the programming phase before the final design and post-occupancy evaluation (POE) phase that is concerned with testing the fit between environment and behavior after occupation. POE is often based upon the assessment of satisfaction, performance, and transaction (adaptation) levels. The other approach which is concerned with the programming phase that takes environment and behavior knowledge, such as the information from the potential occupants and social context, as an input into the design process is often termed as 'social/behavioral design'. Unlike the formal design process, social/behavioral design is better at addressing human needs and thus creating more humane and habitable built environments. Hence, the social/behavioral approaches to understanding human-environment relations can lead the way to the formulation of more responsive and people-centric design guidelines (Horayangkura, 2012).

To sum up, investigations on human-environment relations has been at the focus of many disciplines from human geography to environmental psychology from the 20th century onwards and formed the basis for urban design studies both at the programming and post-evaluation phases. These interrogations mainly rely on the lived experience of the users through the examination of the user's spatial behaviors and cognitions. Such investigations are crucial for both achieving and assessing success in satisfying human needs through urban design. Yet, 'territoriality' emerges as a critical phenomenon from which both the fields of environmental design and environmental psychology benefits since it helps designers both to uncover and organize the interrelation between the built environment and human experience.

In addition to these, it is also important to note that human-environment relations are also time- space variant. Hence, the profound changes in the societal and economic order transformed both the urban order and the human-environment relations throughout the history. For instance, within the pre-industrial period, place and organizational patterns were interlinked, while later in the industrial era place was ordered with regard to functional divisions, and thus people order and place order were

separated (Castell, 2010). The 'people order' which means the intermingling of all people from different classes in the same place left its place to a 'place order' that is the segmentation of people and activities by location (Lofland, 1973 cited in Taylor, 1988:167). Subsequently, new settlement patterns such as predominantly residential zones emerged in relation to this new order (Taylor, 1988). As a result, today much of the city growth is piecemeal and uncoordinated, whereas urban patterns have been and still are being governed by certain norms of behavior, sets of rules and by the nature of real estate market (Lang, 1994). In this context, beginning from the late 20th century, the increase in the mobility and changing societal patterns which transformed the urban order also affected human-environment relations. Although people are still dependent on place, the relation between human behavior and physical environment has taken a whole set of different connotations.

Beginning from the late 20th century, along with the advances in transportation and communication technologies, the importance of 'place' for social and economic relations have been widely debated and many claimed that spatial proximity was no longer important for these relations. In this regard, Webber (1964) claimed that the notion of propinquity has lost its place to accessibility in the maintenance of social communities and although there are still place based communities' individuals are part of multiple and various communities of interest that are not territorially defined and which function at various spatial ranges, as a result '*a community without propinquity'* is possible. The declining importance of 'place' and other classical 'locational factors' from the late 20th century onwards is often associated with the social and demographic shifts, increase in mobility, advances in communication technologies and the spread in virtual worlds, and globalization of capital increasing geographic fluidity of economic and social life[2]. Hence, the role of environmental design and 'place' in manipulating human behavior to achieve desired social goals lost its significance more than ever before.

[2] During this epoch, *'whether modern city dwellers lost their territorial associations and now that cities can ben planned as one undivided lump'* emerged as a controversial issue (Lee, 1963-1964/1973:91).

Despite the theories de-emphasizing the importance of place which pave the way to lack of control over physical space and its negative consequences, there is a considerable amount of research disclaiming those theories. Hence, Brain (2005) states that attachment to particular places has been asserted as a very vital part of cognitive, emotional, and moral development of individuals in the modern society, as a medium that we maintain our sense of ourselves and our orientation to the world, and a tie to the social world that can be sustained even as the people around us pass away. For instance, contemporary research by Badger and Quoctrung (2018) explores the dependence of Facebook friends to geographic location within the U.S.A. In this research, a map is produced showing the index of connectedness by location based on the data of friendship links between pairs of anonymous Facebook users in April 2016. The results of the study reveal that residing location is still a determinant factor for acquaintances and connecting with other people (Figure 1.1).

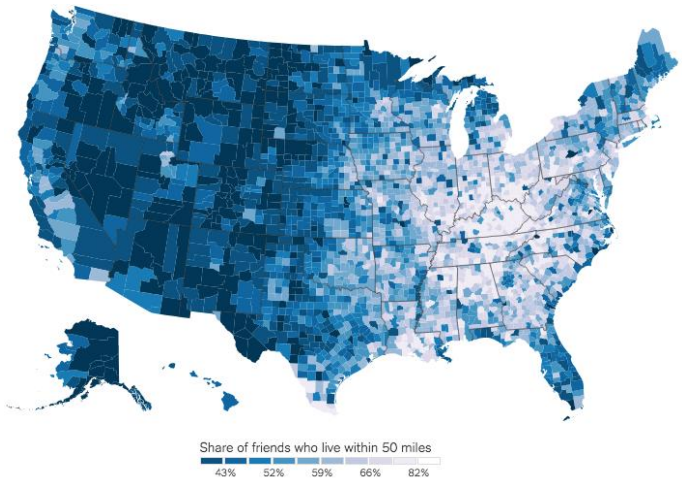


Figure 1.1. Map prepared by Badger and Quoctrung (2018) showing the share of Facebook friends living within 50 miles in the U.S.A.
(Source: https://www.nytimes.com/interactive/2018/09/19/upshot/facebook-county-friendships.html?smid=fb-share)

As a result of de-emphasizing the importance of place, one of the most important problems of postmodern cities arises as the lack of control over space. Due to the lack of spatial control, arbitrary developments and production of stereotypical

environments having identity, sustainability and security deficiencies overspread upon urban areas, resulting in the lack of places that people can attach to.

Perturbation in the physical environment stems from many reasons while one of the prominent ones is the loss of clear boundaries between public and private territories, lack of interface zones in-between these territories and inappropriate distribution of public territory within urban space. For instance, the way of promoting security and control of space has been induced to surveillance mechanisms and guards, while the fact that environmental design and sense of territoriality can reduce crime and motivate people to control and defend their own environment and enhance their sense of belonging and security is often disregarded (Newman, 1972; Gifford, 1997; Farkisch et al., 2015). According to Gifford (1997), resulting from these approaches to environmental design urban dwellers are now facing high levels of stress resulting from high rates of urbanization, decreasing familiarity with the environment and people residing at the same place (alienation), safety problems, pollution, car dominance over streets etc. These deficiencies which are related to environmental design affected the sense of community as well. According to Brain (2005), what is lost is not the sense of community which implies our relatively personal ties of solidarity and familiarity, but civility which connotes to our relations with everyone else, with strangers: in both the actual spaces and in the metaphorical public space of politics. Correspondingly, the main problems in urban areas today is defined by Lang (1994) as the loss of community, uneven distribution of power to make decisions regarding urban areas, and inability of the urban environment to serve diverse sets of people with variant needs that change over time.

All in all, the main problems facing contemporary cities can be regarded as the lack of spatial control, loss of boundary mechanisms and interface zones, the diminishing sense of community and alienation resulting from the new urban order excluding locational factors and importance of spatial proximity. Hence, in order to assess why recent functioning of urban space falls short in meeting residents needs and result in

many negative consequences, the field of urban design should re-focus on the exploration of spatial behaviors and lived experience of urban residents.

Parallel to the profound changes discussed previously, the transformation in the urban order is rather visible through the ways urban residential environments are designed and subsequent human behavior and cognition at this scale. In this regard the questions of *what impacts housing has upon human behavior and what aspects of the physical environment at this scale are important in producing those changes considered desirable* became critical (Lee, 1963-1964/1973). Hence, systematic observation studies are needed to examine the relation between physical environment and human behavior at the scale of residential living space, in order to evaluate these new forms of housing and to make accurate generalizations for the future.

In this context, urban residential environments have an important place in the daily life of urban residents since they form the secondary territory after their homes. These environments are critical since they are the main locus of everyday life which shape both our being and our relation with the wider community and city at large beginning from early childhood. They also constitute a major part of the building stock in urban areas. According to Schorr (1966/1970), there are three main impacts of housing environment on residents. Firstly, the housing environment has impacts on stress; health; and feelings of satisfaction at the individual scale. These impacts are related to direct physical attributes of the housing such as its space, maintenance, facilities and arrangement. Secondly, the physical attributes may affect the privacy and crowding, housekeeping, as well as habits of the residents. Lastly, the relationship of the neighborhood with the rest of the city also affects its residents in terms of social and family relations, which is often referred as the ‘neighborhood effect’.

Furthermore, planning issues at this scale are crucial for the residents since it is directly related to their quality of life and also economic wellbeing especially for the homeowners. Besides, the aims of planning at neighborhood level, both in the creation

of new ones and preserving the old, also goes beyond achieving good physical design or individual satisfaction to counter wider problems facing cities, nations and even the world such as: alienation, crime, poverty, political apathy and perceptions of powerlessness, economic marginalization, and environmental degradation (Rohe, 2009). Planning efforts at this scale are also more responsive to local problems since problems are relatively small and engaging the community is easier.

Moreover, the underlying logic behind the subdivision of urban areas into smaller spatial (residential) units by planners is the presupposition that the availability and accessibility of certain services and facilities within a delimited area would promote concentrated use of them and besides encourage local attachment. Hence, how to achieve *'an equitable distribution of facilities and services geared to meaningful local subunits and stimulate local cooperation'* is a key issue that planning has to adopt at this scale (Keller, 1968:6). In this regard, in addition to spatial behaviors governed in each residential setting, how each setting provides certain facilities and amenities at the residential scale is another important field of inquiry.

Despite the significance of the scale of residential environments, defining the geographically specified neighborhood and its content is a difficult task which is the reason behind the variety of definitions on the notion (Park and Rogers, 2014). As argued by Keller (1968) early as in the second half of the 20th century; residential areas are no longer separable from the mainstream of larger urban life and local areas are no longer of primary importance, and thus provision of very few facilities are vital at this scale. Besides, the existing physical neighborhoods are no longer the sole providers of information, identity, and social relations while the only definite spatial neighborhoods units are the isolated ones such as slums, suburbs or immigrant ghettos. Thus, the local self-contained units of the past are often regarded as anachronistic from the beginning of the modern era. Hence, though the human scale is still an important notion it does not necessarily coincide with the local scale in the modern metropolis (Keller, 1968). Yet, there has been an ongoing nostalgic and even romantic longing

for the good old neighborhoods, while the idea of developing a new design paradigm, for both the development of new and rehabilitation of the old residential areas, providing the satisfaction of the historic neighborhoods and meeting today's necessities has been left idle by urban designers.

Nevertheless, there are studies focusing on the evaluation of residential environments or so-called neighborhoods in order to investigate the different levels of satisfaction regarding the physical and social needs of the residents. These evaluations are conducted in various ways, while they are mainly based on three aspects which are: the planning perspective (functional aspects such as the quality of and access to local services, physical aspects such as the visual quality of the neighborhood, density etc.), the social aspects of the neighborhood (such as social meaning, neighborliness, sense of community and also the political life in the neighborhood), and environmental perception of local environments (for instance; image of the local area which can be designative (such as cognitive organization of space) or appraisive (feelings toward the area such as neighborhood satisfaction) (Talen and Shah, 2007) (Figure 1.2).

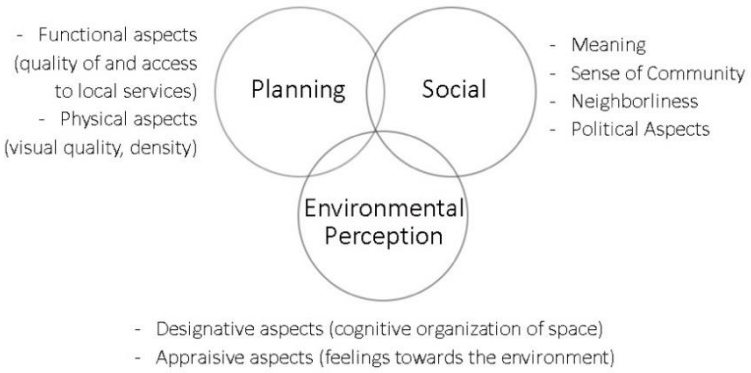


Figure 1.2. Different perspectives for the evaluation of residential environments (Drawn by the author based on Talen and Shah, 2007)

In addition to these perspectives residential environments are evaluated, there are also different strategies and measures used in these evaluations. In this regard, Nicotera

(2007) puts forth different strategies employed for measuring the construct of residential environments with respect to different conceptions of 'neighborhood' as an 'objective entity' or a 'subjective experience'. Hence, the environment–place duality is set as a framework which can be used to choose between these measures[3]. In this context, Nicotera (2007) claims that placing neighborhoods in an environment–place continuum and employing mixed quantitative and qualitative measures of neighborhood accounting for both neighborhood structural characteristics and social processes is needed in order to provide divergent ways of evaluating neighborhood as well as designing interventions that are able to change macro structures which can also result in individual micro-solutions (Figure 1.3).

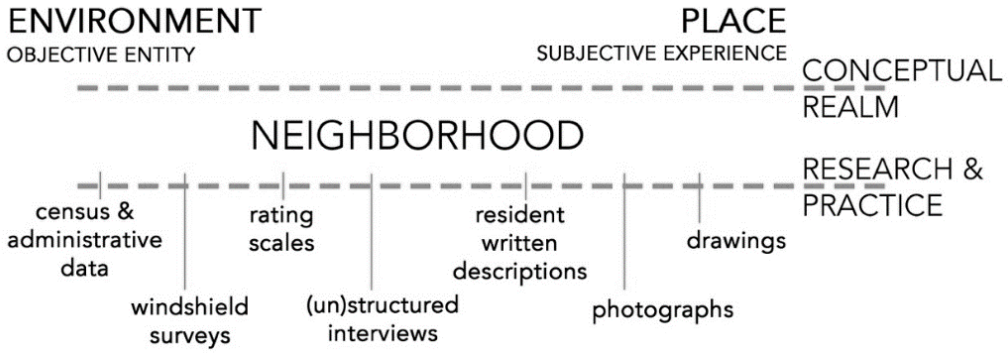


Figure 1.3. Different strategies and measures used in research and practice based on the conception of neighborhood (Drawn by the author based on Nicotera, 2007)

[3] Measures of neighborhood as environment, such as census data, social indicator data, and wind shield surveys, are most often associated with large sample, quantitative research that leads to prediction of developmental outcomes and theory testing. These measures mainly focus on structural neighborhood conditions from an outsider's perspective and falls short in explaining lived experience within a particular locale, residents' perceptions and meanings attached to that locale and uncovering social processes and social networks within that locale. Besides, these measures are used to predict and create interventions for individual level outcomes and changes while structural neighborhood characteristics may predict different individual outcomes. On the other hand, measures of neighborhood as place, such as neighborhood rating scales, residents' written descriptions and cognitive maps are associated with both large sample quantitative studies and smaller sample qualitative studies. These measures enable examination of the social processes within the environment and residents' meanings and perceptions of the locale. However, these measures do not provide generalizable developmental outcomes. Moreover, these measures could both represent neighborhood as place (resident taken and interpreted photos) or neighborhood as environment (researcher taken and interpreted photos) depending on the method employed (Nicotera, 2007).

In this context, 'territoriality' which provides both an 'insiders' perspective and the display of 'structural' characteristics of place is an important spatial behavior both for understanding and regulating the dynamics of human-environment relations arises as a critical tool for the assessment of residential environments. Yet, the notion is redefined within the scope of this thesis to provide an integrated understanding from both the planning as well as social and cognitive aspects of the residential environments.

In general terms, territoriality refers to the control of the environment by individuals or small groups in order to regulate social interactions which in return foster place attachment, place identity, sense of security and provide stimulation for the individual and the community at large. Territoriality is briefly defined by environmental psychologists as *'a set of behaviors and cognitions a person or group exhibits, based on perceived ownership of physical space'* (Bell et al., 1990:256). The sense of territoriality can be based on both emotional attachment and familiarity with the space, as well as from more abstract forms of control over space through monetary; legal and institutional power over space (Madanipour, 2003). Territorial appropriation is also part of territorial functioning in humans, that is defined by Lefebvre (cited in Castell, 2010:5) as *'urban inhabitants' resistance to the power elites' faceless domination of urban spaces, it is when they claim their right to the city and create places out of abstract spaces'*. In this regard, territorial appropriation can be seen as a means of creating common spaces out of abstract space, while it may also threaten publicness if one group's appropriation excludes others from that space (Castell, 2010).

Human territoriality is also a dynamic notion, transforming with respect to spatial and temporal context. For instance, according to Hall (1969) since the increase in the use of automobiles while traversing the space has separated the kinesthetic space and visual space, man's spatial experience is separated from both direct environmental experience and human contact. Besides, the design of physical environment has also significant influence on territorial behavior and cognition of man. Briefly put,

individual characteristics along with societal patterns, mobility, and the way physical environments are designed can be listed as the exogenous parameters guiding territorial functioning especially at the scale of residential space.

According to Hall (1969), in order to understand the territorial needs of urban residents better and to address deficiencies of the existing ones and rebuilding cities, a further exploration of man's needs and many sensory worlds with respect to cultural differences is crucial. In this regard, finding suitable methods for computing and measuring human scale in all dimensions and meshing human scale with the scale imposed by the automobile and sprawl is needed (Hall, 1969). In order to do develop these methods, investigation on human behavior and cognition in everyday life again takes a critical role;

> *'Suffice it to say that when planning, transportation, and design professionals plan new towns and cities, they usually structure them so that they read well at an altitude of 30,000 feet. The methods used by ordinary people on the ground are perhaps more relevant and, apparently, more interesting*' (Appleyard, 1970:116).

All in all, in order to set up a substructure for the design of new settlements more responsive to the human needs of the recent era and addressing wider urban problems faced today which are related to environmental design, investigations on the relation between physical environment and behavior and cognition patterns of urban dwellers at the scale of residential environments will be further evaluated based on the concept of territoriality within the scope of this study.

1.1. Problem Definition: The Rationale for the Focus on Residential Environments

> *'Any movement to change the way we design and build human settlements inevitably implies a sociology and, to be sure, a politics'*
> — Brain, 2005:218

> *'How natural are these ties? - natural ties of the neighborhood community - Can we do without them? Will the children of tomorrow miss the local neighborhoods more than we miss the villages of our grandparents?'*
> — Keller, 1986:7

In the recent era, urban landscapes are rapidly transformed to address globalization, intercity competition and requirements of post-modernity. This fast-paced transformation results in social segregation and disparities, diminishing sense of community and alienation, lack of spatial control, loss of boundary mechanisms resulting in security and socio-environmental sustainability issues. As a part of urban restructuring processes to meet the changing demands, patterns of urban residential developments and therefore territoriality at the scale of residential space has also transformed significantly. In this regard, Coulton et al. (2013) state that neighborhoods, both as a social and geographic concept, and also 'neighborhood effects', are at the focus of both recent research and practice in terms of their connection with inequalities in health and well-being of urban residents.

The functions that a housing environment should satisfy can be listed as: *shelter; housekeeping; accommodation; connection; meaning; and recreation* (Rofe, 1995). On the other hand, the housing unit isn't the sole source to serve these functions, the streets; parks; day-cares; restaurants; laundries serve as the extensions of the house and help to satisfy these functions. These functions are heavily dependent on the housing-unit in some cases; while more dependent on the home-related facilities in others. The difference between *home-based* and *facility-based* provision of residential functions also affects the quality of experience and each has different social outcomes and also appeals to different sets of people (Brower, 1996).

Today, organization of residential areas as continuous fabric such as in the traditional neighborhoods has left its place to the formation of cellular developments in the form of gated communities and mass housing developments unsustainable in ecological terms with the lack of feeling of community. Neighborhood organization has been left idle, while housing estates with fortified walls are constructed all over urban areas. In other words, facility-based organization of residential areas has left its place to home-based ones which in return affected the quality of experience and satisfaction of housing needs in urban residential areas. In a similar vein, Saghatoleslami et. al.

(2014:78) depicted this transformation in Iranian neighborhoods as well and state that; *'changes in the physical structure of neighborhoods caused change of the concentrated neighborhood division into decentralized unites'.* According to Porteous (1977:79), with the massive social; technological; and political changes in the 20th century the traditional neighborhood solely remains under '*ethnicity, poverty, lack of mobility and preference for kinship ties based on spatial proximity*'. Besides, these traditional neighborhoods are often under the pressure of urban transformation (Figure 1.4).

Figure 1.4. Single apartment resisting urban transformation in a traditional neighborhood: Fikirtepe, Istanbul (Source: https://zete.com/wp-content/uploads/2014/07/kentsel-d%C3%B6n%C3%BC%C5%9F%C3%BCme-direnen-ev-2.jpg)

In the production of residential environments, the form of traditional neighborhoods has left its place to insular subdivisions and residential enclaves based on economic segregation which neglect the basic principles of sustainability, livability, quality of life, community for the sake of economic progress, while there is also a fallacious common understanding which undertakes these notions as contradictory. Yet, Greenberg (1995) claims that the principles of proximity and connectedness also have been replaced by fragmentation and separation both in the expanding periphery and renewed or decaying center of the cities.

Consequently, the transformation in residential development patterns from facility-based to home-based; continuous fabric as in the traditional neighborhoods to cellular developments in the form of gated communities and mass housing developments also caused shifts in terms of territoriality of urban residents. In this regard, Hall (1969:129) defines the impact of changing patterns of design in residential areas on territoriality as follows;

> *'The world's population are crowding into cities and builders and speculators are packing people into vertical filling boxes- both offices and dwellings. If one looks at human beings in the way that early slave traders did, conceiving of their space requirements simply in terms of the limits of the body, one pays very little attention to the effects of crowding. If, however, one sees man surrounded by a series of invisible bubbles which have measurable dimensions, architecture can be seen in a new light. It is then possible to conceive that people can be cramped by the spaces in which they have to live and work. They may even find themselves forced into behaviors, relationships or emotional outlets that are overly stressful.'*

Nonetheless, urban residents are no longer dependent solely on their residential environment for their needs and human needs are far more complex and wider ranged to be met at a single territory. Today, people rather use multiple territories with the help of advances in mobility and communication technologies while home environments still have a distinct position in daily life. Yet, it is proved by empirical data that even though people are not dependent on their residential area for social contact or livelihood, residents still believe in the importance of their residential area in terms of their quality of life (Banerjee and Baer, 1984).

Furthermore, the absence of a good neighborhood environment may result in even more exclusion of less advantaged groups from the socio-economic life of the city. Besides, there are certain essential capabilities and value-creating energy of well-formed communitarian neighborhoods that cannot be duplicated by any other technology and also beyond the scope of other communications media (Greenberg, 1955) (Figure 1.5).

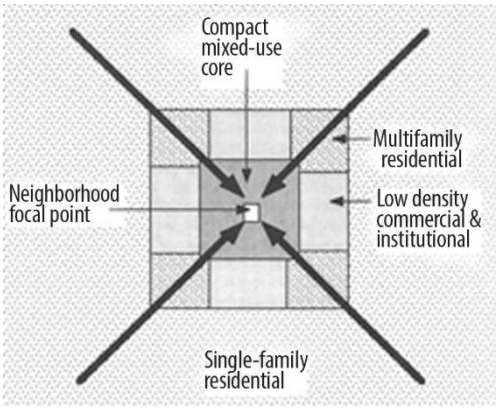


Figure 1.5. The schematic structure of a well-formed neighborhood by Greenberg (1995: 134).

In addition to squeezing residential functions into the limits of the home, thus delineating a territory without taking into account human scale or territorial needs, the recent developments in residential areas also form an image of a bad replica of the radical modernist visions. The developments are formed as '*a combination of private dwellings like landed rockets from the sky within the vast public lands in which there is no intermediary zone between the private zone and the public domain. At the door step you leave the private zone, you enter the public domain'* (Castell, 2010:7).

Within these new residential areas, the private domain takes on the role of the old neighborhoods and functions as a local group territory in the form of well-equipped homes offering various facilities from laundry to social interactions within single building, while commercial and other services maintained at the neighborhood scale are also transferred to the city scale. Hence, it can be claimed that the change in the way urban residential environments are designed with the changing role of the private domain resulted in the erosion of the semi-public domain (Castell, 2010) whereas the importance of semipublic spaces in urban planning has been advocated by prominent theorists including; Jacobs (The Death and Life of Great American Cities, 1961), Gehl (Life Between buildings, 1971) and Madanipour (Public and private spaces of the city, 2003).

Beside the problems related to quality, satisfaction, and erosion of semi-public domain the transformation in the way urban residential environments are designed had also societal outcomes. According to Castell (2010), the 'new neighborhoods' emerged in this era in the form of gated communities and mass housing developments are made up of 'imaginary communities' which are sustained by perceived similarities in life-style, that is induced to similar patterns of consumption and cultural cues, rather than shared activities and practices[4]. Yet, these 'new neighborhoods' limit the unknown experience and encounters with strangers, other sections of the community, which may force residents to question their values and identities (Kohn, 2004). Thus, it can be claimed that these new developments foster social segregation and alienation. As a result, the gap between the newly developed and depriving old neighborhoods have been expanding in terms of both the distribution of facilities and social cohesion.

Along with this process, the fast-paced transformation of the urban landscape, increasing mobility, and profound social changes have impacted the sense of territoriality as well as territorial functioning of urban residents in the recent era. Territorial functioning of urbanites has transformed significantly in relation to both profound changes in the society as well as the way physical environments are designed. In this context, the way residential environments are designed not only affected the notions of a sense of community and quality of life, but also transformed the ways residents perceive, utilize, and behave in their residential territory. Thus, it can be claimed that the new residential developments are lacking a sense of territoriality in terms of appropriation of space by its residents. Whereas, the appropriation of near-home territories by residents creating semi-public, semi-private zones is set as essential both for the development of local social networks and security issues (Castell, 2010). Hence, the fact that sense of territoriality can foster place

[4] In this regard, gated communities are defined by Castell (2010:13) as '*manifestations of the small group realm; enabling legal and physical protection of economic rights to shared neighborhood attributes.*

attachment and the feelings of identity; security and stimulation within these environments have been left idle in these new developmental patterns.

In this context, parallel to the shifts in the conception of human-environment relations as well as the ways urban residential environments are produced, the questions of how do urban residents perceive, behave and transform their residential environments in the recent era? and what is the relationship between territorial functioning and spatial layouts? are at the focus of this thesis.

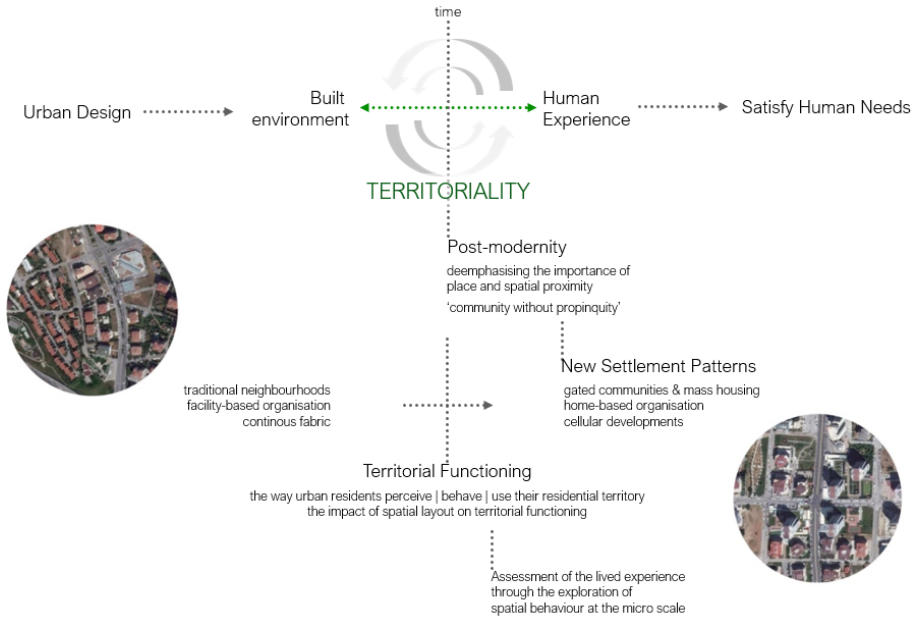


Figure 1.6. Outline of the problematic of the thesis

In the Turkish case, the transformation on the design of residential environments began with the introduction of neo-liberal policies in the 1980s with the articulation of national economy to global economy which restructured the socio-economic and political dynamics while the reflections of these policies became apparent after the 1990s. The reflection of these policies on urban space became visible in the form of greater and more speculative investments especially in the housing sector, macro-scaled public infrastructure projects, and rapid and massive urban transformation in

the housing areas. Bigger and more speculative investments in the housing sector resulted in higher rents and emphasized new meanings on housing. Meanwhile, spatial segregation between different social classes became more concrete in these residential developments in the form of high-security apartment blocks and gated communities surrounded by surveillance mechanisms. Thus, the segregated luxury housing areas and the squatter areas around the periphery became the two main forces shaping the macro form of the cities in Turkey (Arıkan, 2013).

In terms of residential environments in Turkey, there are three major problems according to Tekeli (2009). First, the supply of different types of housing for different income groups, especially for the most vulnerable groups, could not be met with recent housing policies. Second, urban macroform is negatively affected by the recent housing developments scattered along the periphery. Last but not least, high quality residential environments could not be developed, while the existing ones are under the threat of fast-paced transformations. For instance, when the housing supply in Ankara is examined with respect to population growth between the years 2002-2011: 483.085 apartments were built which could accommodate a population growth of 1,593,371 people; however, the population growth occurred in the same period was only 756 956. Thus, there is an excess supply of housing in Ankara (Ankara Kalkınma Ajansı, 2013). In this regard, it can be claimed that the housing demand is supplied in terms of quantity in Ankara; however, the housing problem is more related to the quality of these developments and their success in meeting diverse human needs.

Furthermore, lack of identity is another significant problem in these new housing developments since similar designs are implemented in all cities regardless of their context. Hence, the urban landscape in the recent era started to converge with the standard; ready-made housing estates with a vertical sprawl transforming the skyline, while historic neighborhoods are under the threat of fast paced transformations.

Along with the fast-paced transformation of traditional neighborhoods and development of new ones in the form of gated communities and mass housing developments, another major transformation regarding residential environments in Turkey began with the introduction of new legislative regulations regarding residential areas. The prominent one is the Law no. 6306 on Transformation of Areas under Disaster Risk enacted in 2012. Along with the enactment of this law, massive urban transformation processes started in Turkey from the parcel to the neighborhood scale. There has been controversial use of the law in order to transform older neighborhoods within the inner-city for the sake of economic gain rather than use value. Besides, implementations at the parcel scale were aiming mainly to increase the building heights and floor space rather than creating better living spaces for all. These implementations caused a decrease in the environmental quality as well as infrastructural problems. Another law that had a direct impact on the residential environments is the Law No. 6360 on the Establishment of thirteen Metropolitan Municipalities in 13 Provinces and 26 Districts and Amending Certain Laws and Decree Laws published in the Official Gazette on 6 December 2012 and No. 28489. With this Law, metropolitan city borders have been extended to encompass the administrative borders of the province. In this regard, special administrations in rural settlements have been abolished and the duties of the provincial special administrations have been transferred to metropolitan municipalities. Hence, villages and small towns are transformed into 'neighborhood' status. In this regard, the notion of neighborhood took a brand-new meaning becoming an even fuzzier concept and the significance of administrative boundaries at neighborhood scale became a controversial issue both in the central and peripheral urban areas.

To sum up, fostering social segregation, decreasing quality of environment, inability to meet human needs, erosion of semi-public domain, diminishing significance of administrative boundaries, fast-paced transformation, lack of identity, and loss of sense of community and alienation can be denoted as the major problems that arose in Turkey with the transformation of residential development patterns from facility-

based to home-based, continuous fabric as in the traditional neighborhoods to scattered cellular developments.

In this context, the investigations on the relation between physical environment and human behavior and cognition patterns of urban dwellers, territorial functioning, at the residential scale will be further assessed within this research focusing on the two districts in the capital city of Turkey, Ankara both from a traditional and a contemporary residential area with different physical layouts.

1.2. Aim of the Research and Main Research Questions

'We cannot revive the naïve past.
We dare not promise an unrealizable future. But to make peace with our task of designing the ordinary we must seek more intimate knowledge of it'
— Habraken, 2000:3

Hall (1969:168) claims that '*in order to meet the human needs, spatial design has to set principles to maintain a healthy density, a healthy interaction rate, a proper amount of involvement and continuing a sense of identification*'. In order to set these principles and provide insights for the future residential developments, the main aim of this thesis is to investigate the way humans interact with their environments at this scale and try to grasp their lived experience as an 'insider'. Thus, the relation between physical environment and human behavior and cognition patterns in that environment, in other words territorial functioning in residential environments at the age of postmodernity is further investigated within the scope of this thesis.

The notion of territoriality is at the focus of the study since it enables the interrogations on space both from the perspectives of human experience and spatial organization. Yet, the thesis aims to redefine the term to comprise both the people and place-oriented connotations of the notion. Besides, examining the extent and content of forms of territorial functioning in newly developed and traditional layouts and putting forth the territorial association of urban residents will provide insights to discuss the

dependence on near-home territories and the importance of spatial proximity in terms of both housing needs and attachment to place.

On the other hand, there are also exogenous factors that have an impact on territorial functioning of urban residents. In addition to social organization patterns and mobility, the design of the physical environment is also a significant attribute shaping the relation between space and behavior. Yet, another important aim of this study is to put forth the relationship between the territorial organization of space and human territorial functioning. Hence, territorial functioning will be investigated with respect to its relation to territorial organization of the urban space through the conduction of a comparative case study in divergent urban fabrics (Figure 1.7).

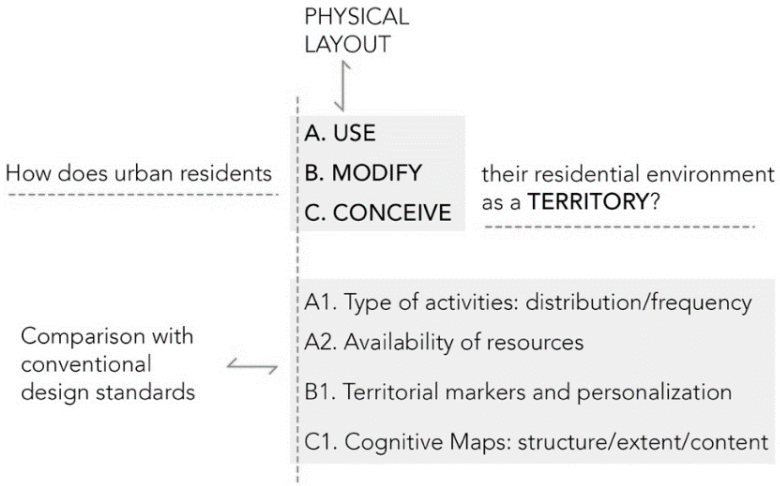


Figure 1.7. Investigating territorial functioning at the scale of residential environments

In this regard, territorial functioning of urban residents in their near-home territories will be examined based on a comparative case study in Ankara, Turkey within the scope of this research. The case study areas are selected to represent both home-based and facility-based provision of residential functions as well as having continuous fabric such as in the traditional neighborhoods and the cellular developments in the form of gated communities. With the evaluation of territorial functioning in each

residential area, it is aimed to understand different behavior and cognition patterns of residents in different physical settings to be able to assess existing residential developments and evaluate insights for the future residential developments in the case of Ankara and rest of Turkey.

In this context, further research questions that will guide the investigations can be listed as follows;

- As a result of changes in social structure, increasing mobility, and advances in communication technologies providing virtual networks urban residents are no longer dependent on a limited territory for their needs, they rather use multiple territories at various scales.
    - What are the new forms of territoriality at the age of postmodernity? What is the content and extent of urban resident's territory? Are we still dependent on space?
    - What is the significance of residential environments in urban resident's territorial network?
- Design of residential environments has transformed from facility-based organization as in the continuous fabric of the traditional neighborhoods to home-based provision of housing needs as in the form of scattered cellular developments such as gated communities and mass housing developments.
    - Did urban residents lose their territorial associations with their near-home territories or are they still dependent on near-home territories?
    - Is the notion of 'mahalle' (neighborhood) disappearing, residential areas becoming solely dormitories? Whether provision of certain services and facilities within a catchment area still valid?
    - How do urban residents perceive / behave in their near-home territory?
        - How do residents perceive their residential territories? Do residents still conceive their residential living spaces as a meaningful territorial unit?

- How subjective definitions of neighborhood boundaries are constructed and used by residents living in diverse urban fabrics?
- Can we talk about a consensus about the conception of residential territories among its residents? What parts of the territorial unit are included/excluded in their spatial cognition?
- What are the impacts of socio-economic and demographic characteristics of residents on the cognition of residential territory or territorial behavior?

- What aspects of physical environment has an affect on human territorial functioning at the scale of residential living space? What are the impacts of physical characteristics of the surrounding context on territorial functioning?
  - How do different spatial organization of residential areas affect territorial functioning? How the changes in residential developments affected the sense of territoriality? How different territorialities are formed in different residential areas, such as traditional neighborhoods and contemporary ones?
  - Which types of physical environments enhance or weaken residents' territorial attachment?

In this context the below mentioned hypothesis will be inquired within the scope of this research;

H1: Urban residents still conceive their residential living space as a meaningful territorial unit. They can demarcate the territorial boundaries, significant landmarks and activity nodes within their residential environments.

H2: There is a consensus among conception of residential territories among its residents, while the degree of consensus reveals information about the level of territoriality.

H3: Territorial functioning of urban residents differ with respect to physical organization patterns of each residential environment both in terms of territorial cognition and behavior.

1.3. The Method of the Research and Structure of the Thesis

The main aim of this thesis, as previously discussed, is to investigate human territorial functioning at the scale of residential environments with respect to different territorial organizations of space. In order to attain this aim, primarily human territorial functioning is re-defined through a model proposition based on the existing literature from the fields of environmental psychology and design. The model combines the different aspects of territorial functioning in humans both at the behavioral and cognitive levels as well as exogenous factors which have direct impacts on this functioning. Later, parameters for each aspect is clearly defined in order to provide more operational tools for the assessment of different settings.

The adoption and redefinition of the notion of territorial functioning allow the assessment of residential environments both through the lens of environmental psychology and environmental design. In this context, residents' patterns of territorial functioning (both cognition and behavior) at the meso scale (near-home territory, home-base) within different spatial layouts are examined through a case-oriented comparative study. In this regard, empirical research based on both self-report measures as well as observational techniques and later comparative analysis is conducted for each case. Besides, these interrogations refer to the post-occupancy evaluation of the existing residential fabrics.

During the empirical research, an interpretative approach to the phenomenon of residential space is adopted in order to better apprehend the lived-in space and experience of urban residents at this scale. In doing so, the human experience of the physical environment is interrogated with a bottom-up perspective and a user-centric approach. Besides, the cognitive and behavioral patterns of individuals are derived to attain an understanding of territorial functioning at the social group level and provide an understanding of residential environments, so called neighborhoods, as a social construct. In addition to these, the relation between territorial functioning and

territorial organization of space is correlated with a probabilistic rather than a deterministic approach.

In this context, this thesis comprises of two main parts. In the first part, primarily the notion of territoriality both as a spatial behavior regarding its foundations and significance in the field of environmental psychology and as a spatial strategy that is used in the territorial organization of urban space (the hierarchical order between different territories in urban space) within the field of environmental design are discoursed. Later, based on the discourses in the literature, concerning both the behavioral and spatial aspects of the notion, an integrative model is proposed in order to assess human territorial functioning at the residential scale. Human territorial functioning is discussed mainly based on how residents perceive / utilize / behave in that territory.

In the second part of the thesis, a case-oriented comparative research is conducted to investigate the impact of different spatial layouts on human territorial functioning in residential environments with the aim of both to evaluate the existing fabrics and to provide insights for future design considerations within residential areas. In this section, primarily the brief history of the case residential areas, which are Kavaklıdere and Çukurambar districts located in the south and southwest part of Ankara with diverse physical layouts is presented. Later, both districts are inquired in terms of both territorial organization of space and human territorial functioning.

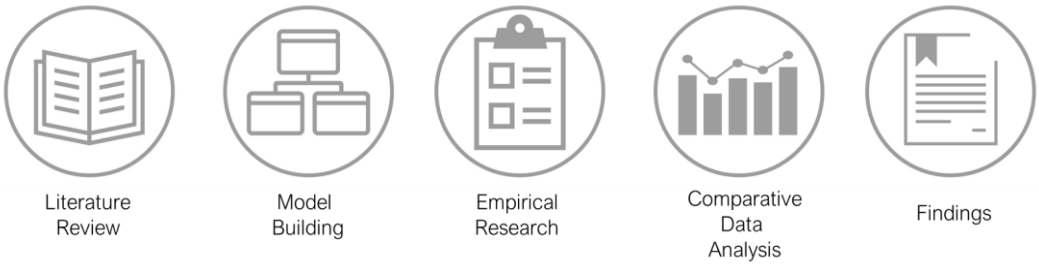


Figure 1.8. The structure of the thesis

CHAPTER 2

TERRITORIALITY: UNDERSTANDING AND REGULATING MAN-ENVIRONMENT RELATIONS

There are intrinsic behavior patterns of organisms such as display and aggression, which make living in a shared space difficult to maintain, but there are also ways to handle these controversies among the members of the species living in the same place, such as means of social regulation including development of hierarchies and spacing mechanisms (Hall, 1969). In this regard, spatial behaviors utilized for social regulation include territoriality and dominance behavior (Sommer, 1969). Theories on territoriality claim that, almost all animal species including homo-sapiens tend to assert exclusive jurisdiction over physical space both individually and in groups (Porteous, 1976). Yet, territoriality which is a basic behavioral system in all living organisms including man appears as a prominent mechanism for spatial regulation and thus social organization within shared space.

Spatial regulation involves control of space which is dependent on the ability to defend space against unwanted intrusions. Yet, the space controlled is territorial. Hence, the very act of inhabitation, which is the occupation of a space and controlling entrances to and exits from it, is fundamentally territorial. Hence, territorial organization of space is one of the most instinctive and historic behavior of man towards the built environment (Habraken, 2000).

In this context, theoretical discussions based on the notion of territoriality which is a premise tool for both understanding and organizing human-environment relations is further elaborated in this chapter.

2.1. The Foundations of Territoriality

Territoriality is a notion with diverse and speculative connotations discussed under ethological, evolutionary, organizational and behavior-setting theories. Territoriality can be briefly defined as the exclusive control of a portion of land by an individual, a pair or a group, the notion is intraspecific since the use of territory by others from the same species is restricted while other species may often freely enter, and the notion involves both direct or indirect display of aggression for the control and defense of that specific land (Porteous, 1977). Territoriality and the scale and type of control differentiate with respect to '*the genuine characteristics of the species, habitat, climate, population, social organization, food supply and many other factors'* (Edney, 1974).

Territoriality involves the behavior and attitude patterns of individuals or groups based on the perceived, attempted, or actual control of a definable physical space, object or an idea arising from habitual occupation, defense, personalization, and marking of that specific site (Gifford, 1997). In other words, territoriality is laying claim to, marking for identification and defending a particular physical territory (Hall, 1969; Brower, 1980). Territoriality is about how people use, organize themselves within a space and how they give meaning to their space (Farkisch et al., 2015). In a similar vein, according to Bell et al. (1990), human territoriality can be defined as the behavior and cognition patterns of a person or a group based on ownership over a physical space.

Hence, Gold (1981 cited in Hirschon and Gold 1982) puts forth three main perspectives to contextualize the notion of territoriality. Initially, territoriality is the basic framework for daily life. Territoriality is both the expression of the social order and the basis for everyday activities. Secondly, territoriality is a mechanism to achieve certain goals such as regulation of access to space; inhibit crowding and provide privacy. Third, territoriality is a form of communication, a language to express ownership and indicate identity.

In return, the term territory mainly refers to a specific delimited space or geographical area which is the primary, secondary or latter domain of individuals or small groups. Territory is the area that is defended as an exclusive preserve. On the other hand, different territories share adjoining boundaries, hence *'formation of a territory is at the same time provision of a periphery'* (Flachsbart, 1969:413). Lay (1998:187) defines territory as '*the expression of social organization in spatial terms.*' The term conveys the idea of ownership, involve personalization, control of boundaries, and concerns about intrusion and defense (Altman, 1975). According to Habraken (2000), territory connotes to the inhabitation and control over space by an agent, spatial extension of that agents' self, in which boundaries are often marked. Yet, marked boundaries must be backed up with real control for the total control of a territory (Habraken, 2000).

Moreover, types of infringement over a territory include invasion, violation or contamination; whereas defense could be preventive, reactive or by the use of social boundary mechanisms (Gifford, 1997). Territoriality, whether achieved through dominance, mutual consent, aggression, or administrative authority establishes which individuals have access to what areas of a physical setting, thus to what extend the needs of each will be satisfied in that setting (Proshansky et. al., 1970). Therefore, territory is an area claimed and used almost exclusively by individuals and groups (Sell, 1983). Hence, territorial behavior is related to the use of senses in order to distinguish between different spaces or distances and access to those spaces (Hall, 1969).

2.1.1. **The Significance of Territoriality**

Territoriality serves diverse functions while these functions change with respect to each species and different scales. In this regard, territorial functioning in humans is far more complex than a response to an intrinsic behavioral pattern but rather a spatial strategy to satisfy human needs at diverse scales. In this sense, territoriality provides three main satisfactions to its occupants at all levels from body space to national

loyalties which are: identity, security and stimulation (Porteous, 1976). Consequently, '*security is felt strongest at the center of a territory, whereas stimulation is strongest at the borders'* (Ardrey, 1966 cited in Edney, 1974:961). Stimulation is achieved through making, modifying and defending the territory, whereas territorial control enables security and privacy especially at the territorial core. Besides, the control over an exclusive space confirm and support individual's self-conception of his identity (Porteous, 1977) as well as promoting group identity (Edney, 1976). In other respects, territoriality contributes to the achievement and maintenance of the social order and social roles, the psychological health of the individual (stimulation, security, and identity), delimitation of the space in which to exercise everyday functions, and the desired level of privacy (Edney, 1974).

Territoriality enables predictable and efficient resource distribution (Edney, 1976). In terms of resources, territorial functioning also has implications for resource allocation and resource conservation. Yet, allocation of some resources into 'territories' better serves resource management and diminishes the risk of resource overuse (Taylor, 1988).

Throughout the history and prehistory human communities tend to assert territorial behavior for the exploitation of resources. Hence, the nature; scale and importance of the territory differ with respect to the key resources available on the site central to the community's economy. In this regard, the territorial behavior densifies with the increase in resource density within the territory while the amount of resource predictability also has an impact on the mobility of the group for the sake of access to different resources within different territories (Dyson-Hudson and Smith, 1978 cited in Bintliff, 1999). In this regard, analysis of the limits and size of the territory in archeological studies rely mostly on the 'Catchment Analysis' (put forth by Vita-Finzi and Higgs, 1970). Based on this theory, hunter-gatherer settlements are associated with territories of up to a 10-kilometre radius from the home base, pastoral herder sites with some 7.5-kilometre radius of territory, while farming communities with a 5-

kilometre territorial radius. Yet, the Greek polis extends approximately to a 'chora' or territory typically from 2-3 km (Figure 2.1) to 5-6 km in radius. These distances are formed based on the principles of least effort and land rent. Besides, these map distances may differ in terms of walking time due to the physical attributes of the site (Bintliff, 1999).

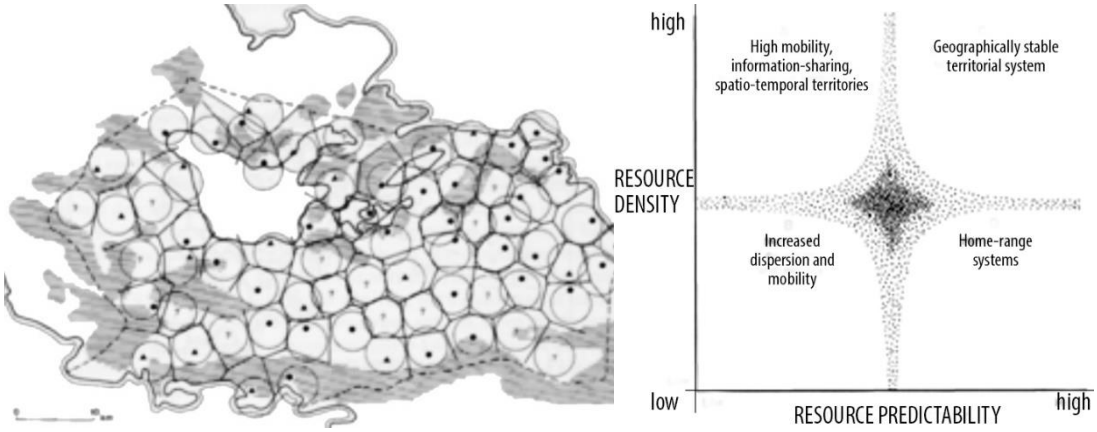


Figure 2.1. (On the left) Settlement territories in the classical era of Boeotia, Greece drawn based on the 2.5 km Radius pre-defined as the village-city subsistence territorial extent for that period (Bintliff, 1999:517). (On the right) Territorial systems according to resource allocation (Bintliff, 1999:510).

Hence, based on the evolutionary dynamic of the settlement systems, these static distances of the ‘catchment analysis’, transformed into dynamic ‘nested’ patterned networks (Bintliff, 1999). In this regard, three main shifts regarding the modern territorial structure are claimed as: (i) increasing number and variety of supply forms penetrating into the territory, (ii) increasing number and variety of foreign elements, such as global networks of commercial and institutional organizations, penetrating into the local scale and diminishing the scope of local territorial control, (iii) increasing size of buildings disordering array of supply forms and diminishing territorial control on the smaller domestic scale (Habraken, 2000).

In addition to exploitation of resources, territoriality also serves as an interaction (social) organizer. It enhances the sense of identity with the help of geographical

fixation; and gives a sense of competence for the inhabitant resulting from familiarity with the environment which is similar to the term 'home-field' advantage in sports (Gifford, 1997). All in all, the need for territoriality arises from necessities related to both social regulation and individual satisfaction.

Furthermore, Taylor (1988) defines important positive outcomes of small group territorial functioning as follows;

> Psychological outcomes: Reduction of personal stress at home since the activities outside and inside are controlled, which also foster individualization process of the individuals by the provision of privacy.
>
> Social - Psychological outcomes: Promotion of group identity and bonding since small group territoriality is the expression of group solidarity and cohesiveness
>
> Social - Ecological outcomes: Maintenance of behavioral settings within a territory is at high levels due to both habitual use and attachment to that specific space.

In general, purpose of territorial behavior is mainly associated with regulating social interaction within shared space. Hence, it can be defined as a self-other boundary regulation mechanism; a spatial strategy referring to intertwining of physical attributes and clear boundaries with people belonging to a place (Altman, 1975; Farkisch et al., 2015). As a social regulation mechanism, territoriality provides both the minimum space needed that is less distracted by others, thus provides and maintains a certain level of comfort and privacy; and a larger space to satisfy other social drives and motives in a limited physical setting at the same time (Proshansky et. al., 1970). In other words, territoriality acts as a mean towards achieving a desired level of privacy by regulating social interaction which in return avoids social conflict and miscommunication (Altman, 1975). In this regard, spatial separation is instrumentalized to provide different settings for different activities; achieve different levels of privacy needed for each activity; thus, to prevent conflict (Brower, 1980). Yet, the tension between the invader and the territory controller vary in relation to

many factors. For instance, regarding human territoriality at the city scale, lot layout and type of boundaries and degree of penetration between public and private domains vary among different cultures (Porteous, 1976).

As discussed previously, territoriality promotes a sense of personal identity since the development and maintenance of an identity is directly related to the acquisition of places and things which enable individuals to define and evaluate their self-identity and communicate it to others (Proshansky et. al., 1970). Thus, laying claim to particular places, beds and chairs not merely guarantee the satisfaction of biological and social needs, but also to preserve a sense of personal identity (Altman and Haythorn cited in Proshansky et. al., 1970). It is also claimed that well founded sense of space and well-defined conception of personal territories foster a well-defined sense of the self (Sell, 1983).

Moreover, in a similar vein to the ideas set forth by Newman (1972) in the theory of 'defensible space', Taylor (1988) claims that territorial functioning, when applied to every day practices, may serve to analyze and overcome certain social problems and might lead to effective solutions if coupled with other 'tools'. In this regard, he claims that problems of disorder such as crime; fear of crime and vandalism has direct relations with territorial functioning. For instance, when a common space is perceived as a group territory, sense of group identity is likely to emerge as well as a sense of place and belonging between the residents which in return increases surveillance (Edney, 1976; Cooper and Sarkissian cited in Lay, 1998). Besides, territoriality at the scale of residential space strongly enhances resident's sense of satisfaction, place attachment and social cohesiveness (sense of community) which is also directly related to the physical organization of the setting (Ono, 2001). Thus, territorial functioning can be used for the reduction of larger scale problems of disorder by influencing the perception and behavior of the offender with the presence of both people, 'eyes on the street', and territorial behaviors such as surveillance mechanisms

or territorial markers informing the offender of the caring and willingness to intervene to intrusions of the residents (Taylor, 1988).

In addition to these, Bell et. al. (1990) puts forth the main functions of territoriality as follows;

> Territoriality reduces environmental load by creating a sense of order that decreases the amount of complexity of the stimulants and makes it easier to cope with the environment
>
> Territoriality reduces stress on a personal level by providing the control over the number of stimuli to be contended and also the provision of the desired level of privacy
>
> Regarding ethological considerations, territoriality prevents aggression as well as affording identity
>
> According to the control models, territoriality facilitate performance of chosen behaviors which is beneficial for humans.

2.1.2. **Human Territoriality**

> *'Man is a kind of animal that lives by what he knows, by what he can guess and by the plans he makes. He is a restless, searching animal. He has been selected for speed; he is quick to perceive and quick to decide. He tends towards oversimplification, toward prejudice, and toward going off half-cocked. He has been called aggressive and territorial, and probably correctly. But he is also loyal to his group, and size of the group to which he is loyal may vary widely. He is fascinated by violence and intolerant of boredom. He is quick and efficient, at his best under difficult circumstances, eager to learn, to explore, and to act.*
> *He seeks and creates order'*
> — Kaplan, 1973:77-78

Territoriality is born out of ethological studies. Animals utilize territoriality mainly for regulating density, coordinating activity spaces, holding the group together, express status, and provide protection and defense of the resource base (Hall, 1969). Although ethological studies provide a basis for understanding human territoriality, human nature is far more complicated which differ in various aspects. Despite the fact that establishment of a territory is intrinsic for the survival of all species and functions in humans similar to animals, the way territoriality takes shape and is translated into

physical space varies widely due to the impact of culture and civilization in humans (Madanipour, 2003). Territorial behaviors differ in humans since they are not solely hereditary but also modified by culture and learning. Hence, human territoriality is defined as a set of transmitted answers to particular problems which vary across different cultural contexts (Gold, 1982). In this regard, territoriality studies should take into account species-specific ecological adaptations that affect spatial, temporal, social and behavioral aspects of activity patters (Sell, 1983).

Taylor (1988) claims that, hominids demonstrated territorial functioning, exclusive use of an area centered around the home base, due to certain advantages such as reduced exposure of offspring to predators, more time for parenting, decreased hazards from travelling, and spatially and temporally stable allocation of resources. Yet, a larger territorial system was developed within small groups in order to cooperate for hunting and defense against predators or resource competitors. In this regard, territorial system based on small groups may have increased the fitness of these groups and allowed them to evolve. Hence, territoriality is a spatial behavior grounded on small group structure which emerged from cooperation not competition and it facilitated group functioning. Later, as civilization emerged and larger groups started to live first in villages than in larger units as well as labor division, the importance of territory as a resource base declined and territories based on functional groupings emerged. According to Gold (1982:50), '*anthropologists overemphasized the role of kinship over territoriality for the preindustrial societies as the major principle of social organization'* while territoriality is also directly associated with intra and intergroup relations. For instance, some groups did aggressively maintain their territories while others were content with loosely defined ones in that period. In this regard, territorial control was mainly dependent on the exact resource endowment available and forms of cultural adaptations. Yet, social groups may co-act to exploit resources or allow movement between different groups rather than direct exclusive use of territory (Gold, 1982).

In this context, there are two lines of thought regarding human territoriality, embracing a nature-nurture controversy. Part of scholars address the notion as an expression of biological functions, while the others refer to it as a manifestation of sociocultural patterns that vary across space and time (Van Vliet, 1983). First line of thought regard human territoriality as an instinctive predisposition, a basis for social regulation, a means of channeling aggression, and a mechanism for resource allocation. Hence, human territoriality is regarded as homologous to animals. The others approach human territoriality as analogous to animals due to cultural processes and learning abilities enabling adaptations in humans. According to these scholars, although there are similarities between the two notions, the underlying processes are significantly different in animal and human territoriality (Gold, 1982). Yet, man exhibits territorial behavior driven from an instinctive base, while it is heavily modified by cultural conditioning (Porteous, 1977). In this regard, humans are predisposed toward territorial behaviors through instinct whereas learning determines the intensity and form of territorial actions. Hence, animal territoriality serves mainly survival functions while in humans it is used as a tool for 'organization' and 'order' on various dimensions (Bell et. al., 1990).

In animal studies, territoriality refers to laying claim to, marking for identification and defending against intrusion a portion of space by animals and these acts are associated with survival instincts such as mating, guarding food supplies and protecting the nest. Whereas, human territoriality is defined by Hirschon and Gold (1982) as being far more varied, less consistent and less predictable. For instance, in addition to the survival instincts, human territoriality serves far more complex social needs including identity and self-actualization processes as well as purely symbolic purposes such as conveying status. Human territoriality is also less consistent and more adaptive, since it has developed gradually over time and passed over generations through the process of socialization. Human territoriality involves claiming space by occupancy, which may be permanent or temporary, and also personalization and marking for conveying this message is achieved through symbolic means. In addition to these, human

territoriality also does not include physical aggression in terms of defense, it is rather flexible and exercised only under specific circumstances (Hirschon and Gold, 1982). In this context, human territoriality and animal territoriality are analogous rather than homologous.

Animal territoriality is connected to physiological needs such as survival, while human territoriality is rather linked with higher needs such as identity; status and recognition (Gold, 1982). Human territoriality is analogous to animal territoriality also with respect to relations between territorial ownership; territory size and social status. For instance, the size and allocation of offices is a reflection of the extent of the business and the status of the office occupant. On the other hand, large territories are not always a sign of higher social status, for instance a large country estate may be exchanged for a penthouse based on preferences of the user and the physical location is also a mediating factor in this process (Edney, 1974). Humans also use a complex amalgam of types of ownership and status relationship for laying claim upon a territory. The most unique type is that of 'rented space', where an area that belongs to somebody is used by another for a prescribed period in return for a fee (Sommer, 1969).

Human beings also have distinctive territorial needs such as tendency to systematic territorial exploration; enlargement and modification. In addition to this, man also perceive, conceive and organize each territory differently (Anderson and Tindall, 1972). The main distinct features of human nature related to territoriality are listed by Sell (1983) as; *tool making, abstraction of thought, learning over instinct, change in behavior along life cycle and relation between home and the resource base*. Resulting from ability to make tools, territorial behavior in humans can also be exhibited on things rather than solely on places. In addition to this, people can bring familiar things into new territories in order to adapt. Humans can also reshape the environment into familiar patterns in order to fit. In return, reproduction of the environment also fosters attachment to that environment. Abstraction of thought enables humans to attain

territorial feelings over ideas, unfamiliar environments (such as the whole national land), and even the creation of abstract territories by dreaming and remembering. Although territorial behavior may be based on instinct, territorial behavior in humans is far more flexible due to the ability of learning over instinct. In addition to behavior in territory, the range, utilization and attachment to territory also vary greatly along the lifespan of humans. The last but not least distinction is that people are becoming less and less dependent on a single territory for their necessities. Although home-base still has a special meaning, people roll between multiple territories. In this regard, human territoriality cannot be seen solely as innate, but a continuum of degrees of identification with places based on transactions among people and places (Sell, 1983). Thus, identification of the different resource bases is an important subject of human territoriality studies.

In this regard, Gold (1982:46) claims that human territoriality briefly comprises of '*the network of paths and places to visit and use'*. These paths and places may sometimes overlap, while the contradiction is resolved through temporal and spatial orders. In other words, *'particular forms of bounded space that people establish / use / move about in'* are called as territory (Scheflen and Ashcraft, 1976:4). Hence, it can be claimed that human territoriality is a dynamic notion which transform with respect to different time intervals and locations.

Human territoriality is occasionally associated with active defense particularly by those who acknowledge direct links between human and animal territorial functioning. On the contrary, the notion of 'laying claim' to a site by communication of ownership, access and control over the area is more valid in humans than active defense. Laying claim to an area can be in various forms such as creating, maintaining, or highlighting boundaries, or use of signs, markers, labels (Taylor, 1988). In this regard, behaviors that maintain territorial form are defined by Scheflen and Ashcraft (1976) as; (i) cues and signs, (ii) monitors and disciplinary actions, (iii) synchrony, (iv) gating, (v) cognitive images and (vi) conceptions and affects. These behaviors help describing,

modifying and manipulating territorial forms as well as using and abusing them (Scheflen and Ashcraft, 1976).

Besides territoriality, its rules; mechanisms and symbols that are used are also distinctive in humans which also have a dynamic character that evolve over time (Gold, 1982). For instance, territory, which can be regarded as the extension of the organism, is marked by visual, vocal and olfactory signs. Hence, territorial marking is an essential part of territorial behaviors. Yet, in animals territorial marking involve urination, defecation, release of glandular secretions or vocal cues. Similarly, humans also personalize or mark their territory in order to communicate 'ownership' by its occupants or users. However, man has invented indigenous ways of marking his own territory. Distinct from animals, man has created material extensions of territoriality by his ability to reshape the territory as well as visible and invisible territorial markers. In this regard, humans rather use symbols, objects, and artifacts such as; insignias, fences, and nameplates. In addition to this, distinction between private property that is the territory of an individual, and public property that is the territory of the group is carefully made, and removal of boundary markers and trespass upon the territory of another man are punishable acts in human societies (Hall, 1969; Altman, 1975). Yet, territorial behavior may solely be used to achieve purely symbolic purposes in human beings (Brower, 1980).

In this context, boundary relations appear as a prominent notion in human territoriality. Hence, according to Sell (1983) territories are well-defined spaces when their boundaries are known by their occupants. In this regard, Taylor (1988: 275) puts forth the creation and maintenance of boundaries in human territoriality as follows;

> '*Territorial functioning, at the most basic level, involves a segmentation of space; locations are differentiated into those 'belonging to' or used by one person or group, or another. As part of this allocation process boundaries are created or maintained. They are selectively permeable: Certain people at certain times, or for certain purposes, are allowed to enter one spatial segment from another, or to cross the boundary. The boundary may be clear-cut or fuzzy, agreed upon or disputed,*

acknowledged by others or ignored, and consistent or variable. Nonetheless, this process of spatial differentiation is fundamental to territorial functioning'.

Furthermore, it is also important to note that boundaries are not solely used for absolute separation between different territories but they may also act as interface zones in which diverse territories and their occupants intermingle. For instance, Farkish et al. (2015) put forth in their study that traditional neighborhood centers as semipublic territories function as a boundary between public and private territories, thus foster and encourage resident's territoriality feeling. Thus, boundaries do not make a territory more or less accessible but rather define its borders to accommodate its specific use and provide the needed level of privacy. In this regard, Karrholm (2007:447) denotes that,

> *'It seems that making accessible (and, in this respect, making public) cannot be equated with the erasing of boundaries. In fact, the opposite seems more likely: The access to space has to be subdivided (in time or space) to accommodate different uses and to make room for as many different categories of users as possible. A certain degree of territorial differentiation and super positioning could very well bring about a much greater degree of accessibility. Spatial rules and conventions are necessary if we are to be able to act (and co-act) at all'.*

All in all, Edney (1974) states that the main distinguishing factors between animal and human territoriality can be listed as follows;

- Human territoriality has a learned rather than a genetic basis.
- Territoriality in humans is unlikely to be associated with aggression, except extraordinary times such as warfare. Passive defense is often adopted in human territoriality. Yet, humans are the only organisms that totally invade others territory as in the times of warfare.
- Animal territoriality primarily serve biological needs (shelter, food sources), whereas for humans' territories may serve secondary purposes such as recreation.
- Animals usually use single territory and for continuous periods of time, while humans maintain several territories (home, office etc.) in different locations and more temporarily (e.g., tables at a restaurant).

At this point it is also important to note that even though all people embody a sense of territoriality, the notion is also not generic but varies with respect to other determinant factors. These factors include, i. Personal Factors (age, sex, personality and competence of the individual), ii. The Social Context (social climate, social class, and level of competition for resources among the group), iii. The Physical Context (discussed within the defensible space theory developed by Oscar Newman which put forth the effect of physical layout on territorial feeling and behavior of individuals which in return affect the infringements over that territory), and iv. Cultural Factors (also have an impact on territoriality but rather on a small scale) (Gifford, 1997).

Altman (1968 cited in Skaburkis, 1974) also defines four sets of factors that have impact on territoriality. Primarily, there is the situational context which comprise the properties of the environment. The impact of subjective factors on the assessment of these properties is also non-negligible. Secondly, there are the properties of the organism which refers to the social group within that territory. The qualities of the social group, social needs and the social roles they inhibit are also very effective. Besides, territoriality is also used as a means of social organization within these groups. Later, there are antecedent factors driven from the instinctive behaviors of people such as forms of intrusion, the concept of privacy and utilization of territorial boundaries. Lastly, there are behavior forms which refer to the use, occupation and defense of that territory. Possession of a specific territory is communicated either verbally or nonverbally (with the use of territorial markers and symbols).

In addition to these, territorial claims in humans may be either permanent as in the scale of personal space or temporal such as the occupation of sidewalks by commercial uses (Habraken, 2000). As in the case of occupation of sidewalks by stores or cafes, '*built form may suggest territory but it is the ongoing act of occupation that fixes the actual extent of the* claim'. Hence, the built environment demarcates the boundaries of territories, however these margins may shift temporally with the acts of agents, in

other words we can observe *'shifting spatial claims in relation to stable form'* (Habraken, 2000:130) (Figure 2.2).

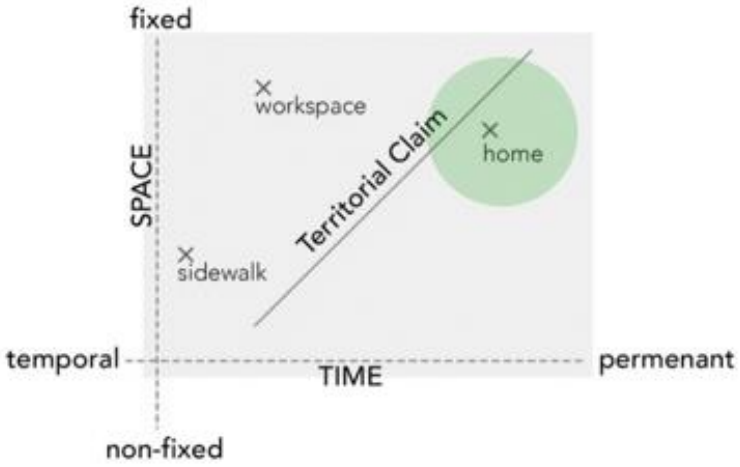


Figure 2.2. Shift in territorial claims along with space-time
(Drawn by the author based on Habraken, 2000).

In this context, Taylor (1988) puts forth the different approaches to human territoriality based on conceptualizations of the notion according to its position on the continua's regarding the *make-up, interpersonal function, linkage with space and spatial extent* of territoriality (Figure 2.3).

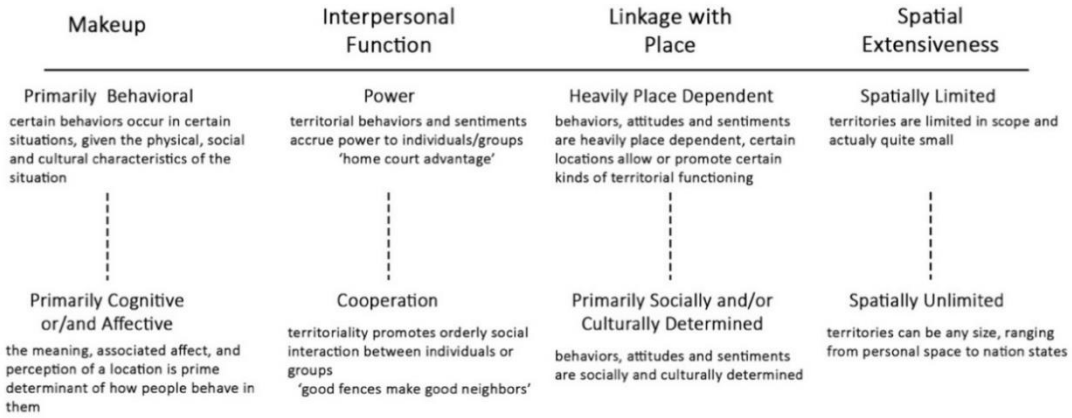


Figure 2.3. Dimensions of human territoriality (Drawn by the author based on Taylor, 1988).

In terms of make-up of the notion, human territoriality is a broad term comprising both behavior and cognition patterns related to a place (Gifford, 1997; Taylor, 1988). Yet, basic concepts related to human territoriality can be listed as '*space (fixed or moving), defense, possession, identity, markers, personalization, control, and exclusiveness of use'* (Edney, 1974:962). Hence, the term has many connotations and definitions while some of them and key concepts are summarized in the following table;

Table 2.1. Conceptions on human territoriality and key concepts

author	conceptualization	key concepts		
Parr, 1965/1970	*territory is the space an individual or a member of a closed-knit group (family, gang etc.), in joint tenancy, claims as his or their own, and defend (Parr, 1965/1970:12).*	laying claim to an area	defense	
Stea, 1965/1970	*territorial behavior is the desire both to possess and occupy portions of space is pervasive among man (Stea, 1965/1970:38).*	possession		
Brower, 1965	*a tendency on the part of organisms to establish boundaries around their physical confines, to lay claim to the space or territory within these boundaries, and to defend it against out- siders (Brower, 1965:9 cited in Edney, 1974:962).*	laying claim to an area	defense	establishing boundaries
Sommer, 1966	*territory is an area controlled by an individual, family, or other face-to-face collectivity. The emphasis is on physical possession, actual or potential, as well as defense (Sommer, 1966:61 cited in Edney, 1974:962).*	possession	defense	
Altman, 1968	*encompasses temporally durable, preventive, and reactive behaviors including perceptions, use, and defense of places, people, objects and ideas by means of verbal, self-marker and environmental prop behaviors in response to properties of the environment, and is geared to satisfying certain primary and secondary motivational states of individuals and groups (Altman,1968:10 cited in Skaburkis, 1974:39).*		behaviors including perceptions, use and defense	over places, people, objects and ideas
Hall, 1969	*behavior by which an organism characteristically lays claim to an area and defends it against members of its own species (Hall, 1969:7).*	laying claim to an area	defense	
Proshansky Ittleson, and Rivlin, 1970	*territoriality in humans is defined as achieving and exerting control over a particular segment of space (Proshansky, Ittleson, and Rivlin, 1970: 180).*	control		particular segment of space

Table 2.1. (continued) Conceptions on human territoriality and key concepts

author	conceptualization	key concepts		
Pastalan, 1970	*a territory is a delimited space which an individual or group uses and defends as an exclusive preserve. It involves psychological identification with the place, symbolized by attitudes of possessiveness and arrangements of objects in the area (Pastalan, 1970b: 4 cited in Edney, 1974:962).*	exclusive use	defense	delimited space
Edney, 1974	*set of behaviors that a person (or persons) displays in relation to a physical environment that he terms 'his', and that he (or he with others) uses more or less exclusively over time (Edney, 1974:959).*	set of behaviors	exclusive use	
Altman, 1975	*the term territory is mainly discussed with reference to a specific place or geographical area which can be the domain of individuals or groups, the term conveys the idea of ownership, involve personalization, controlling of boundaries, and concerns about intrusion and defense (Altman, 1975:105-6).*	ownership	Personalization, control of boundaries, concerns about intrusion and defense	specific place or geographical area
Brower, 1980	*the act of laying claim to a geographic area, marking it for identification and defending it when necessary (Brower, 1980:179-80).*	laying claim to an area	defense	marking for identification
Hirschon and Gold, 1982	*the process and mechanisms by which people establish, maintain and defend territories - is best regarded as an analogy, when applied to human behavior, constituting a culturally derived and learned solution to particular human problems. In particular, territoriality is seen as part of man's ability to endow space with symbolic meaning (Hirschon and Gold, 1982: 63).*	culturally derived and learned	establishment, maintenance and defense of territories	endow space with symbolic meaning

Table 2.1. (continued) Conceptions on human territoriality and key concepts

author	conceptualization	key concepts		
Gold, 1982	*Many activities are organized on a territorial basis, and a significant proportion of human behavior is directed, explicitly or implicitly, towards partitioning space and towards maintaining the territories and boundaries so formed…Territory implies a defended and bounded space with connotations of attachment and exclusiveness. Hence, territoriality refers to the processes and mechanisms by which people establish, maintain and defend territories… Mammal territoriality encompass the network of paths and places to visit and use; they may overlap while the contradiction is resolved through temporal and spatial orders (Gold, 1982:44-46).*	attachment and exclusiveness	defense, habitual use	establishing and maintaining boundaries
Taylor, 1988	*…an interlocked system of attitudes, sentiments, and behaviors that are… specific to a particular, usually delimited site or location which… in the context of individuals in a group or a small group as a whole… reflect and reinforce, for those individuals or groups some degree of excludability of use, responsibility for, and control over activities in these specific sites (Taylor, 1988: 81).*	attitudes, sentiments, and behaviors	excludability of use, control	delimited site

Despite the fact that human territoriality is a complex and variable notion dependent on various factors, there are generally acceptable dimensions of human territoriality common to all. In this regard, Sell (1983) put forth six main dimensions of human territoriality which include: *territorial definition and marking; defense and control; resources and territory; territory and social activity; psychological qualities; territoriality and self-identity* which the author discusses as follows;

> *Territorial definition and marking:* Territory is a well-defined space whose boundaries are well known to its occupants. Although boundaries may change over time and overlap with other territories, territory is a well delimited area whose boundaries are well known and often marked.
>
> *Defense and Control:* Control of territory can be maintained by exclusive use, dominance, marking, avoidance and many other mechanisms. Although aggressive defense is often noted in ethological studies as a control mechanism, it is utilized as a last-resort mechanism by animals. Besides, control of territory is more important in humans than overt defense in normal situations. Aggressive defense is utilized only at times that are considered deviant and criminal such as burglary or war, when threats can't be solved by relying on social intercourse to maintain claim. Humans rather use verbal and nonverbal communication (displays, rituals, manners etc.) and marking behaviors to maintain control. Control of the territory provides a way of organizing the environment around the needs and goals of the occupant such as access to resources, provision of privacy and social interaction, and maintenance of a stable base within an individual can operate and develop. Control over territory may also be exchanged temporally, especially in common spaces.
>
> *Resources and Territory:* Claim to a specific territory provides access to certain resources and allocation of resources among groups, in return certain resource needs of a group defines the territorial configuration and behavior. Familiarity with the territory provides an advantage while exploiting these resources and feeling more responsible and in control of these resources also increases the conscious management and conservation of them.
>
> In the urban era, although there are complex and wide range of needs and access to multiple territories for those needs and also territorial behavior variances developmentally and temporally, spatiotemporal fixing of occupancies and functions is still important for the orderly exchange of

materials, ease and comfort of the users. Additionally, multiple territories are used mainly for secondary needs and especially children and elderly still rely to their primary territories (near-home) to satisfy their needs.

Territory and Social Relations: Territoriality serves to organize social patterns within delimitated boundaries in two ways: territory is a mean for both social recognition and interaction. Primarily, territoriality serves for group identification. For instance, religious, ethnic and working-class groups are mainly associated with their neighborhoods within the urban area, likewise belonging to a certain territory, neighborhood, also functions as an indicator of social status. Secondly, it is used for controlling group interaction through integrity, dominance and privacy regulation. While individual territories function to isolate the occupant of the territory, group territories function to bind the occupants whom share the same territory. The form and attachment to territory is directly related to the form of social life within that territory, and the size and allocation of territories is related to the social hierarchy.

Psychological Qualities: Territorial bond that is formed between the occupant and its territory, resulting from familiarity and comfort due to habitual and intensive use of the area, provides certain psychological qualities. These qualities include; reducing the complexity of the environment and thus easing the decision-making processes with the feeling of continuity and ability to predict and control future events, optimal level of arousal, feeling of safety, ability to perform habitual behaviors and routines, freedom of choice for behavior. Formation of a psychological bond also results in the defense of and attachment to that territory.

Territoriality and Self Identity: Territory promotes the formation of self-identity and thus enables the occupant to be recognized as an individual by others. Territoriality provides the needed level of privacy, thus allows the occupant to be alone, which enables the development of one's sense of self. Hence, a well-defined territory supports a well-defined ego. Territory, that is the physical environment, also reinforces a person's self-image or the image one wishes to project on others or develop. In this regard, territory can be defined as a self-place system in which intensity of association with the place helps define self-identity. Attachment to certain places is also resulting from the degree of relation between a territory and sense of identity. (Sell, 1983).

Moreover, there are also related environment – behavior concepts to territoriality, that are often used interchangeably, which are; personal space, jurisdiction, home range, attachment to place and privacy. Their similarities and differences are discussed by Taylor (1988) as follows;

> Both *personal space* and territoriality are notions related to claim over a space and exclusive use of that a space. Intrusion is regarded as a disturbing act in both cases while physical environment is utilized to help delineate or clarify boundaries. However, personal space is attached to the individual and rather mobile while territory refers to a more delimited and bounded area which can be left behind. Besides, the size of the personal space is much smaller than that of a territory in most cases.
>
> *Jurisdiction over space* is defined as the right of access to a particular bounded area, similar to territories. They are larger than personal spaces but smaller than territories. However, jurisdictions are dependent on the functional role assigned to the holder, therefore they are more temporary and withdrawn when the role assigned is accomplished such as in the case of the electrician or the plumber given access to the home territory for a short while.
>
> *Home range* refers to a larger area including daily activity areas of individuals which are regularly visited. Hence, home range is the arena in which different territories are nested.
>
> *Attachment to space* has resemblances with territorial attitudes, whereas attachment is applicable to larger scales such as nations and less dependent on physical space.
>
> The relation between *privacy* and territorial functioning is two-fold. Degree of desired level of privacy sought may determine territorial functioning, while once in that territory occupants also enjoy other benefits.
>
> *Behavior settings* are regularly occurring, temporally and spatially bounded person-environment units. Territorial functioning serves to maintain behavior settings by territorial markers signaling appropriate kind of behavior in a setting and by physical and behavioral processes that support the behavior setting programs (Taylor, 1988).

All in all, 'human territoriality' can be briefly put forth as in the following flow diagram;

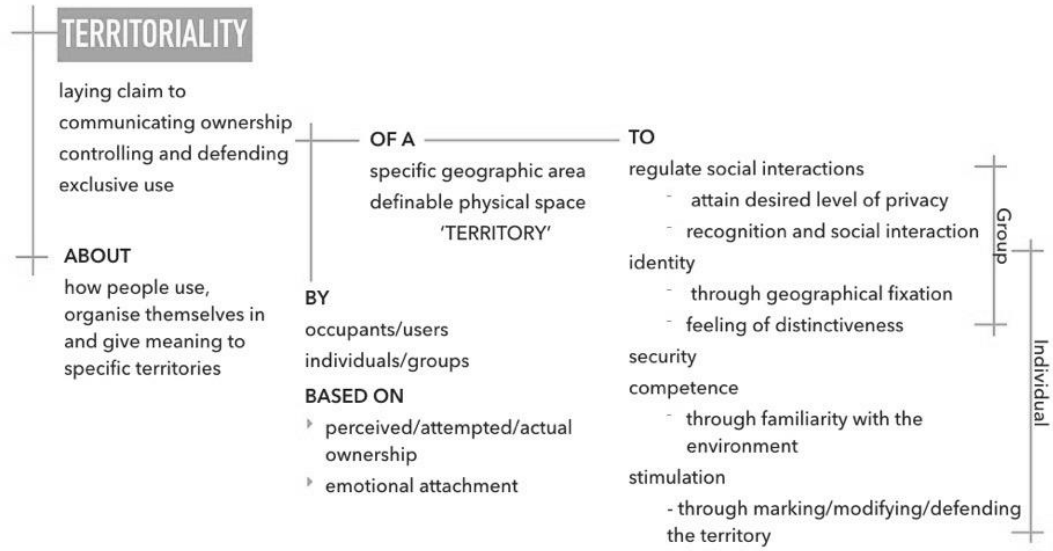


Figure 2.4. Human Territoriality

2.2. Territoriality and Spatial Organization

There are three main lines of thought regarding man environment relations which area: 'environmental determinism'; 'environmental possibilism' and 'environmental probabilism'. Yet, physical determinism falls short in explaining complex interplay of environment, actor and behavior. In addition to this, it ignores the influence of social characteristics and personal attributes such as competence level of the individual in this relation (Porteous, 1977). Hence, the relation between physical environment and territorial functioning cannot be induced to one of a deterministic relation, but is more of a probabilistic relation. In this regard, '*the environment can be manipulated to promote or hinder certain behaviors*' (Porteous, 1977:58) rather than as a determinant of behavior.

Territoriality is a basic notion both guiding man-environment relations and enabling us to understand these relations. Territoriality functions at various scales from intra-

individual (the individual), inter-individual (the small group) to the community level while at each level it is context and content specific (Edney, 1974). Mechanisms that operate at each scale have differences, whereas the effects and benefits often overlap. At each scale, territoriality reduces the amount and complexity of information an individual has to process by providing order and predictability with its spatial and cognitive organization qualities, and yet promotes the efficiency of the individual to develop more advanced behaviors and adaptive efforts (Edney, 1976). In addition to this, also the feelings of responsibility, recognition of users, and control over intruders lessen as one moves away from the lower levels of territoriality such as the house (Taylor, 1988).

Hence, it is one of the most important principles of human organization of environments corresponding to a wide range of scales from private ownership such as a fenced yard of the home to the neighborhood at micro level, to social groups, political units at national scale and even international scales such as the iron curtain at macro level (Sell, 1983).

Figure 2.5. The Citadel Gate, Cairo, 1864
(Source:http://monovisions.com/wp-content/uploads/2017/05/cairo-egypt-in-the-19th-century-1860s-1880s-vintage-everyday-life-05.jpg)

Dynamics related to territoriality at each scale differs in terms of both cognition and behavior patterns. In this regard, physical form of space is one of the main determinants of how that space will be used, while the functions and meanings are

also affected by social and cultural patterns (Castell, 2010). Though the impact of physical form on territorial functioning is non-negligible, it has a variant effect with respect to scale of territory. In this context, Porteous (1976:385) puts forth the relation between the scale of territory; territorial control and physical environment based on Hall (1969) as follows;

> '*At lower levels of territoriality, such as personal space, personal control is predominant, but fixed space is absent. At more extensive levels of territoriality, such as the individual's daily range or orbit, fixed-feature space is dominant, but personal control is strongly reduced because of the presence of others*.'

2.2.1. **Territorial Production and Types of Territories**

> *'The human body implies territorial presence.*
> *Therefore, being in a public space is partaking in a game of instant territorial reconfiguration, shifting as people use things: sitting on benches, waiting for buses, parking cars, entering telephone booths, standing by the sidewalk.*
> *A game of fleeting spatial claims and territorial inclusions follows the flow of use within the contextual setting of a given public space'*
> — Habraken, 2000:160

Karrholm, (2007) argues that, territorial production occurs everywhere while these territories can be either permanent or temporary. Territorialities are produced in different ways; in different contexts; by different means; and at diverse scales such as a nation, an urban district, a parking space, or someone's favorite bench. Moreover, Karrholm (2007) defines four different forms of territorial production. Primarily, territorial strategies and tactics are intentional attempts to mark a territory. Territorial strategies are impersonal and planned at a distance in time and/or space from the territory produced, whereas territorial tactics are personal relationships between the territory and the person or group who mark it as theirs. On the other hand, territorial associations and appropriations represent productions that are not planned or made with the intent of producing a territory. Territorial appropriation produces territories through a repetitive and consistent use of an area by a certain person or group, these territories are perceived by its users as their own such as one's home, one's street, or one's regular table at a restaurant. Territorial association represents an identifiable area, characterized by a certain usage but are not perceived by any person or group as

"their own" such as bathing places, climbing trees, or a gravel path in the parks. In addition to these, different forms of territorial production may operate at the same place at a same or different time (Table 2.2).

Table 2.2. Forms of territorial production (Drawn by the author based on Karrholm, 2007: 441)

Forms of Territorial Production	**Impersonal Control**	**Personal Control**
Intended Production	TERRITORIAL STRATEGY	TERRITORIAL TACTICS
Production Through Use	TERRITORIAL ASSOCIATION	TERRITORIAL APPROPRIATION

In addition to the way they are produced, the scales in which territories are formed and conceived also vary significantly. For instance, home is the basic focus of territoriality, thus many studies show that cognitive maps are most detailed in the home range especially for women and children (Porteous, 1976). In order to better interrogate the territorial functioning especially in the field of environmental studies, various classifications that define different territorial scales are referred to.

In this regard, Altman (1975) puts forth a threefold typology for territories within a hierarchical order as; primary, secondary and public territories. Those territories are identified based on the duration of occupancy, the cognitive impacts of the space on the occupants and visitors in generating a sense of ownership, the amount of personalization, and the likelihood of defense when violated. In other words, distinction is based on the degree of control and use by occupants and relative duration of users' claims on space.

> *Primary territories:* Owned and used exclusively by individuals or groups, clearly identified as theirs by others, controlled on a relatively permanent basis, and central in everyday lives of the occupants (E.g. home). Long terms absence of primary territory may result in lack of self-esteem and self-identity.
>
> *Secondary territories:* Less central in everyday lives, relatively exclusive with semipublic quality. Durable quality of ownership but not continuous or permanent since main users may vary over time and although individuals or

groups have some sort of control, ownership and regulatory power, it is not as if in the primary territories (e.g. home territories, classrooms).

Public territories: Almost anyone has free access and occupancy rights but their use is restricted by laws, customs and regulations and use of these territories are usually limited in time (Altman, 1975).

Brower (1980) defines a fourfold typology for the division of the territory based on control over space, particular type of occupants, and distinctive territorial signs that serve as cues for behavior. These categories include; *Personal Occupancy, Community Occupancy, Occupancy by Society* and *Free Occupancy Territories.* Occupancy types are not intended to serve as general classifications for physical settings since form of occupancy may change over time, but to divide space for the hierarchical regularity and control of the environment. Brower (1980) describes two types of public territories: occupancy by society (such as streets and parks) and free occupancy settings (such as deserted beaches).

Lyman and Scott (1967 cited in Sommer, 1969: 43) also asserts four types of territories in human societies: *public territories, home territories, interactional territories, and body territories.* Public territories such as courtyards and parks provide citizens with freedom of access but not necessarily of action. Home territories are public areas taken over by groups or individuals, such as children's clubhouses, bars and coffeehouses. In each case the regulars have a sense of intimacy and control over the area. Interactional territories are areas where social gatherings may occur; they have clearly marked boundaries and rules of access. Lastly there are body territories, which are most private and inviolate spaces that belong to an individual.

These classifications on territories are also related to the proxemics studies which investigate the spacing mechanisms in humans during interpersonal interactions. Proxemics studies can be briefly defined as the study of nature, degree, and effect of spacing mechanisms in humans and how these mechanisms are related to environmental and cultural factors (Proxemics, n.d.). The prominent theory of

proxemics is developed by Hall (1969), putting forth different distances in man with conspecific attributes. Hence, a four-fold typology is developed by Hall (1969), including; *intimate distance; personal distance; social distance; and public distance* (Figure 2.6). For instance, personal space can be defined as the invisible bubble surrounding the individual to which intrusion is limited, its size varies among different species while it may also change with respect to seasonal or other rhythms as well as according to groups hierarchy (Gold, 1982). Hence, this classification on diverse distances also corresponds to different territories at the micro-scale in which humans initiate different behaviors.

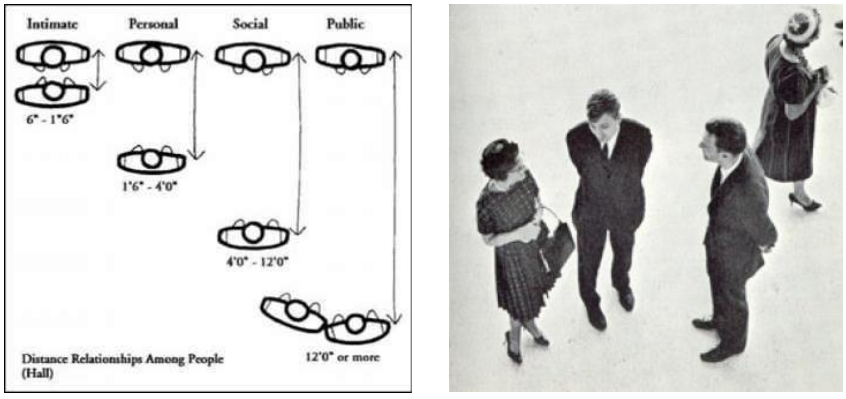


Figure 2.6. Proxemics by Hall (1969).
(Source: (On the left) http://www.northernarchitecture.us/interior-design-2/images/3095_66_172.jpg, (On theright) http://proxemics.weebly.com/uploads/1/8/7/4/1874719/1877266.jpg?330x323)

In this regard, Hall (1969) also defined three types of space/territory, which provide the desired physical configuration for the different needs associated with each level of proxemics:

> *Fixed Feature Space* is one of the basic ways of organizing the activities of individuals and groups, which includes material manifestations such as building groups and interior division of buildings, layout of cities as well as hidden, internalized designs that govern the behavior of man.
>
> *Semi Fixed Feature Space* is formed through mobile materials such as furniture. Besides, what is fixed feature in one culture may be semi fixed for another (for instance, the movable walls in Japan).
>
> *Informal Space* connotes to the distances maintained in encounters with others.

In a similar vein, Goffman (1971) sets the concept of 'claims' at the center of social organization and territories as the prominent type of these claims. Hence, he classifies territories in terms of their organization. In this regard, three main types of territories are defined as: (i) *Fixed Territories*; staked out geographically such as yards or houses, (ii) *Situational Territories*; fixed equipment in a setting such as park benches and restaurant tables, and (iii) *Egocentric Territories*; which move with the claimant such from personal space to possessions like handbags and purses.

Last but not least, Newman (1972) puts forth a hierarchical typology for territories referring to four main categories (Figure 2.7) with each level having different degrees of personalization, ownership, and control; *Private spaces*, such as one's home, a student's room, or a workstation are those that are likely to be highly personalized and also highly defended. Supporting territories are either *Semiprivate or Semipublic*. Semiprivate spaces refer to residents' lounges in dormitories, swimming pools in residential complexes, or areas of privately-owned space, like the front gardens of houses that are under the surveillance of others; while semipublic spaces include such places as corner stores, local taverns, and sidewalks in front of houses. Semiprivate spaces tend to be owned in association, while semipublic are not owned by the users, who nevertheless, still feel they have some possession over them. *Public spaces* are peripheral territories which are not possessed or personalized or claimed by users. Newman (1972) claims that clear hierarchical definition of territories in urban space is the key to achieving security which is a fundamental human need.

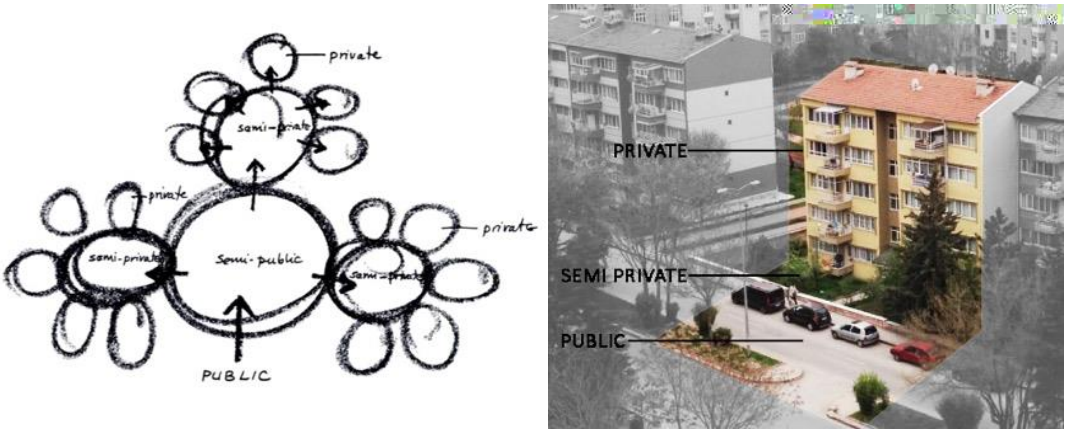


Figure 2.7. Spatial hierarchy created through the formation of different territories.
(On the left) Souce: http://we-aggregate.org/media/files/2ab4b2e9e55386b530eee85ea608d368.jpg)

Moreover, Taylor (1988) defined four types of settings in which territorial functioning occur according to their 'centrality' (referring to importance of a setting); (i) *Spaces within residential settings*, (ii) *Spaces immediately outside residences*, (iii) *Regularly used settings* (workspace etc.) and (iv) *Public locations, temporary territories*. Regarding this classification, space becomes less multifunctional moving towards the spaces that are of highest centrality to the lowest (such as the home vs public library). Besides, group boundaries also dissolve and boundaries between occupants and non-occupants become less visible. Although similar causal processes regarding territorial functioning are applicable to settings of varying centrality, both territorial strategies and consequences of territorial functioning and the salience of type of consequences (psychological, social psychological, ecological) vary according to the type of space (Taylor, 1988).

Besides their formations, territorial boundaries between different territories such as the private and public realms may shift both horizontally and vertically over time. These shifts also result in variances in territorial depth. In the horizontal axis, lot divisions can be shifted in times of urban densification for building bigger or more masses within the same territory of the block, public streets can be enlarged towards the private lots due to traffic, dead end streets can be transformed into controlled

spaces of the small community, such as in the Dutch 'woonerf' implications, or neighbors may negotiate to shift the boundary or even remove it at the backyards of the dwellings. In the case of urban densification, increasing density not only results in the enlargement of the private territory but also leads to an increase in the territorial depth. In the vertical axis, private territory may run over the public territory in the form of 'covered streets' or sidewalks can be temporarily under the occupation of private use (Habraken, 2000).

All in all, it is also important to note that the main principle of territorial organization of urban built environment can be noted as the continuity, that is the flow, between different territories from the most private to public. Yet, the territorial claims, duration of this claim and defense mechanisms to protect each claim is divergent at each scale (Table 2.3).

Table 2.3. Territorial categories and territorial claims at each level

Author	Territorial Category	Territorial Claim High → Low			Duration of Territorial Claim Temporary → Permanent			Defense High → Low		
Altman	Primary	■					■	■		
Newman	Private	■					■	■		
Rappoport	Family Private	■				■		■		
	Individual Private	■					■	■		
Altman	Secondary		■			■			■	
Newman	Semi Public		■			■				■
	Semi Private	■				■			■	
Rappoport	Urban Semi Public		■			■				■
	Group Public		■			■				■
	Group Private	■				■			■	
Altman	Public			■	■					■
Newman	Public			■	■					■
Rappoport	Urban Public			■	■					■

2.2.2. **Territorial Organization of Urban Space**

Urban space takes its form with the use of territorial boundaries. These boundaries can be physical such as the city walls and gated residential developments, symbolic as for

the periphery and the center or psychological as between residential areas with diverging socio-economic profiles. Besides, territoriality occurs in urban space at different levels; '*from informal small scale, social network-based level as in the street block neighborhoods to larger scale in the form of property ownership to national boundaries*' (Castell, 2010:3). Yet, territorial organization has unique connotations at each scale of the urban environment (Figure 2.8).

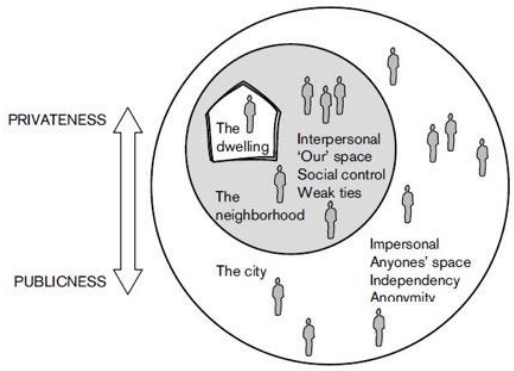


Figure 2.8. Different scales of territories in urban space (Castell, 2010:10)

In this context, there are different conceptualizations developed for understanding man–environment relations with respect to territorial organization of urban space. In this regard, there are four main theories developed by Parr (1965/70), Stea (1965/70), Roos (1968 cited in Porteous, 1977), and Porteous (1977) respectively (Figure 2.9).

Observation of different territorialities produced by individuals, as well as their orbit in-between these territories is prerequisite in order to develop an extensive understanding of man-environment relations within a specific territory. In this context, Parr (1965/1970) developed a simple model for explaining the individual's interaction with his environment based on territoriality. In this model, the space claimed and defended by individuals or groups as their own is defined as the 'territory', while the wider space through which an individual habitually or occasionally roams is defined as the 'orbit'. Furthermore, the orbit may contain two or more territories (e.g. home, office); as well as the traversed or irregularly occupied spaces. The model also

propounds elaborate investigation on frequency and duration of tenure as well as the perception of the environment both in terms of the territory and the orbit.

The territorial organization of urban space cannot be studied without taking into account the attributes of the physical environment. The physical environment effects and even shapes territorial functioning especially at smaller scales. Hence, it can be claimed that different designs of the environment, reveals different territorialities. In this regard, Stea (1965/1970) puts forth a conceptualization based on the territorial behavior of urban dwellers on a daily basis. In the model, inhabited portion of space by an individual or a group is defined as the 'territorial unit' which has its inhabitants, occupants and occasional visitors; the cumulative of frequently visited territorial units and paths taken to reach them make up the 'territorial cluster', while the sum of total territorial clusters of a given community make up the 'territorial complex'.

Stea (1965/1970) also highlights that, these territorial units have certain properties such as: size, shape, number of units, extensiveness, type of boundary, and differentiation and relatedness which has direct influences on territorial functioning. Furthermore, he notes that the perceived nature of units, clusters and complexes can be examined through the use of mental maps. In addition to this, a change in the defining characteristics of territorial units effects the behaviors that occur within it, and conversely change in the behavior pattern alters the territory. In other words, the alteration in shape, size, boundedness and differentiation of the territorial cluster or the territorial unit alters the behavior of individuals. For instance, the increase in the permeability of external boundaries of territories within office spaces results in the loss of autonomy and psychological stress related to the restriction of alternative behaviors and restriction of freedom of movement.

Although, the model developed by Roos (1968 cited in Porteous, 1977) is similar to the previous models in terms of delineating a prime territory and an orbit based on this base territory, the model further elaborates the micro environment of individuals and

defines the orbit not solely as paths but rather as a delimited area. The model defines territorial organization within the environment basically under four main components: range as the total area traversed; territory as the area that is defended; core area as the area mostly occupied by the individual; and home as the area slept in.

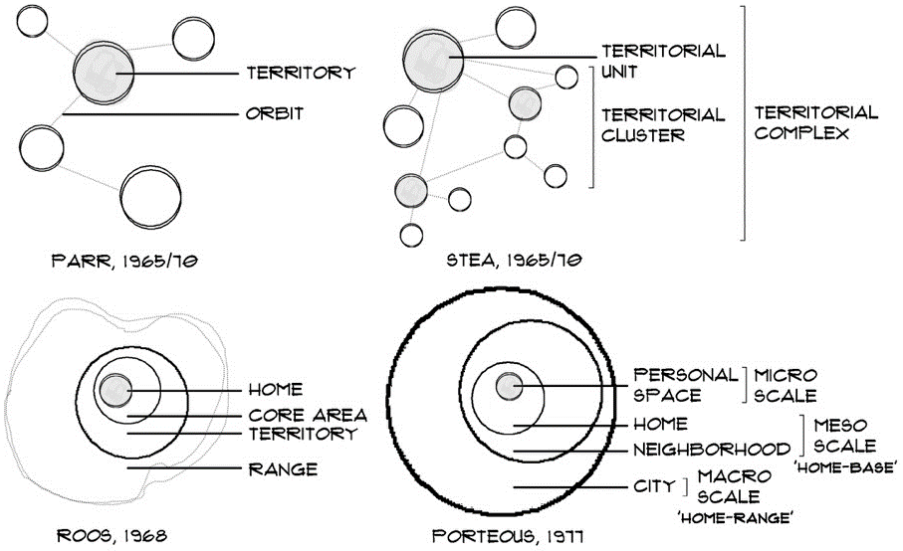


Figure 2.9. Main theories on territorial organization of urban space
(Drawn by the author based on Parr, 1965/70; Stea, 1965/70; Roos, 1968; and Porteous, 1977).

Another conceptualization is developed by Porteous (1977) which presents a trifold series of nested spaces in daily life, each scale having its specific territorial connotations that are the micro space of the personal space, meso space of the housing territory such as in the neighborhoods and the macro space of the city. Each scale defined by Porteous (1977) can be briefly discussed as follows;

The Micro Scale: Personal Space

Primarily, there is the micro space which is the personal space actively defended against intrusions for securing acquired level of privacy and in which level of personalization is high. Micro space not only covers the personal bubble of privacy around the body zone, but can also refer to a wider territorial unit such as an office or a bench, and even reach collective scales such as a small group occupying a restricted

space. Thus, personal space is rather mobile when it is not associated with fixed feature elements of the environment (Porteous, 1977).

The Meso Scale: Home Base

Secondly, there is the meso space which is the larger semi-permanent and semi-static space actively defended by an individual or a small primary group. Territorial units of meso space are mainly static but they can also be relocated at intervals; such as the house and the yard. Meso space is often termed as the home-base, corresponding to an area operating as the base for the individual or a small group in which mainly housing needs such as resting, reproducing etc. are met (Porteous, 1977).

Home base refers to both extensions of the house such as its facade and yard, and also to the more collective level of near-home territories in which other needs are satisfied within a proximate reach. In this regard Taylor and Brower (1985:183) states that:

> *'Home does not end at the front door but rather extends beyond…those exterior spaces adjoining the home: porches, steps, front yards, back yards, driveways, sidewalks, and alleys. These spaces are of crucial interest for two reasons. First, they immediately adjoin the home; consequently, what happens in these outside spaces strongly influences the quality of life in the home. Second, they represent spaces where the two major types of settings in residential life—the private, personal, and owned versus the public, shared, and open to the community—interpenetrate. Consequently, these settings are of considerable interest for understanding the dialectic between individuals and local society'.*

In this regard, Taylor (1988) claims that, outdoor residential spaces such as the front yard, porches, alleys, sidewalks and the street itself are part of the home and these spaces form the bridge between the individual or the household and the immediate local society. Hence, within these spaces the private world of the dwelling is nested into the shared space of the local society - the neighborhood (Hirschon and Gold, 1982). Moreover, territorial organization of outdoor residential environments can be identified with respect to patterns of functional activity, behavioral types of

socialization occurring within that territory and dwellers attribution towards that territory (Lay, 1998:187).

Yet, home base can also be divided into smaller units. In this regard; three types of territories are used in the study of the neighborhoods in Baltimore by Taylor et. al. (1981) as: *home; near-home and off-block territory*. Another study is conducted by Kusenbach (2008) in which a four scale hierarchy is used referring to sub-categories for the home base including: '*enclaves*' of people with similar lifestyle and socio-economic status or the cultural quarters; '*walking distance neighborhoods*' resulting from residents walking and nodding habits; '*street blocks'* that is the block neighbors knowing each other by face and sharing same amenities, and '*micro-settings*' which is the smaller groups with more connections within the street block (Table 2.4).

Table 2.4. Hierarchy of urban communities (Kusenbach, 2008:232)

Dimensions **Zones**	**Practical Use**	**Sentiments**	**Neighborly Interaction and Relationships**	**Collective Events and Representations**
Micro settings	Mutual visibility of private and semi-private routines	Trust, dependency	Passive contacts, sociability, Proactive neighboring, friendships	Informal gatherings, nicknames, 'reputation' of places
Street Blocks	Leaving and arriving, short outings, children's play	Tolerance, responsibility	Friendly greetings, sociability, reactive neighboring	Block-based social events, defense in emergencies, block captains
Walking Distance Neighborhoods	Recreation (walking) daily needs	Familiarity	Recognizing others, nodding relationships	Formal organizations, newsletters, neighborhood events, names or nicknames
Enclaves	Lifestyle necessities, shopping, errands, leisure	Comfort, belonging	Identification of peers, assumed connection and understanding	Holidays, festivals, landmarks, area names or nicknames

The notion of the home base has also been an important input for spatial planning, especially for the neighborhood planning studies. One of the most important issues

that neighborhood planners have been concerned with is the limits of walking distance for children, in order to determine the appropriate distance, standards, to locate playgrounds and schools (Van Vliet, 1983). Hence, previous studies reveal that, increase in the extension of home base of children is based on factors such as; *socioeconomic status and social-class related variables* such as car ownership and child-rearing values, *urban and suburban living* which differentiates the distance to reach activity spaces, and also *age and sex* (Van Vliet, 1983).

Besides, territoriality at this scale manifests itself in various forms. In this regard, maintenance of the home, the space in front of the home and even the sidewalk in front of the home; personalization of the exterior of the house (façade) to indicate the identity of the owner ('the personal imprint on the external environment') are the most common forms of manifestations (Hirschon and Gold, 1982). The variations at this scale is discussed by Habraken (2000:194) as follows;

> *'The relationship between form and territory is inherent in forms of enclosure: housing compounds, halls, and rooms are defined by perimeter walls. Network forms, such as the street net that defines urban blocks, still represent enclosure forms. But at a scale larger than physical enclosure, networks and supply forms may invite territorial interpretation in their own right'.*

In this context, meso scale comprises of both the '*housing of the individual and the small primary group*' in the form of clustered apartments or isolated mansions; and the '*near home territory'*. Besides, when a group shares a common sense of belonging to a territory a *'group home-base'* emerges as in the ethnic and small street neighborhoods. (Porteous, 1977). In other words, home base can reach collective levels such as the scale of the neighborhood.

The Macro Scale: Home Range

Lastly, there is the macro space which is the total area where the individual traverses beyond the home base for simple purposes such as acquiring food or satisfying other drives. The territory covered at the macro space is termed as the home range. Home

range is not a discrete unit of space completely occupied or defended, but rather connotes to the public arena where the individual occupancy is restricted to paths and nodes and the area is defended only temporarily at nodal areas during occupancy (Porteous, 1977).

Home range can be defined as the area encompassing the regularly visited locations of an individual. For instance, the home and adjoining spaces, working space and regularly visited bar of a person. Planners and geographers often refer to it is as the 'activity space' of the individual, and the sites in the home range which are more intensively used are referred as the 'core areas'. Hence, home range adjoins and surrounds viable territories of the individual. In other words, different territories are nested within the home range. The degree of control over and excludability also differs between the home range and lower scale territories. The resources in home range are public and do not need exclusion, whereas the resources in lower scale territories are more selective and may need some amount of excludability (Taylor, 1988).

Gelwicks (1970:149 cited in Anderson and Tindall, 1972:1) defines home range as the '*series of linkages and settings traversed and occupied by the individual in his normal activities*'. In addition to these, home range can be continuous: a compact area as for children, as well as discontinuous: a set of separated noted as for adults (Anderson and Tindall, 1972). Besides, the extension of home range is regarded as *'a prerequisite of a healthy physical, social and cognitive development for humans'* (Bruner and Connoly, 1974 cited in Van Vliet, 1983: 567).

2.2.2.1. Territorial Organization of Urban Space at the Meso Scale

'*Once form is present, life makes use of it, adjusting it and adjusting to it, offering ever-changing territorial interpretation within its relative constancy'*
— Habraken, 2000:156

The most important notion regarding the territory and the design of built environment is the provision of territorial boundaries. In this context, the importance of clear

boundaries and the hierarchical regularity of the environment through division of public, private and semi-private territories both at concrete and symbolic levels have been at the focus of environmental design studies (Madanipour, 2003; Newman, 1972; Salvesen, 2002 cited in Farkisch et al., 2015). At this respect, provision of public and private territorial zones within the territorial continuum both benefit from and contribute to the individual and collective residential quality of life (Taylor and Brower, 1985). Yet, development of spatial hierarchies through boundary mechanisms which enable the provision of different levels of territories from private to public is a vital issue especially at the scale of near home territories (home-base) (Figure 2.10). Yet, it is important that residential environments have the public spaces for holding the community together and fostering social cohesion; as well as private spaces, which refer to homes, secured from intrusions of outsiders.

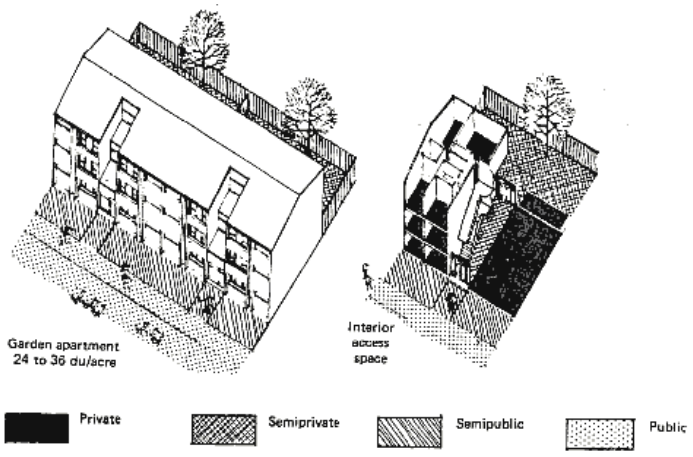


Figure 2.10. Spatial hierarchy in near home territories.
(Source: http://www.defensiblespace.com/images/cds/chap1/figure-i-10.gif)

In this context, design considerations related to territoriality are listed by Ono (2001) as; presence of clear demarcation lines between different types of territories that residents maintain a sense of identification with space and prevent intrusion, maintenance of both private and public domains providing a gradual transition between each, facilitation of use through encouraging residents to use especially semi-

private and semi-public zones, and flexibility of space for personalization enabling residents to modify their environments. (Table 2.5)

Table 2.5. Potential design considerations related to residents' territoriality for spaces around the dwellings (Ono, 2001:23).

Site boundary	Install border plants, a gate or fences to create site boundary to prevent unwanted intrusion and establish community territory
Dwelling Arrangement	Create recessed area on ground level so that residents can establish their own territoriality within
Entrance area	▪ Provide environmental cues that help residents personalization (entries with skeleton porches or roofed overhangs for window boxes, hanging planters or other personal additions) ▪ Provide enough space around the front door for such elements as a doormat ▪ Provide transition point, from public domain to private domain such as a private front path, a front porch, a foyer. Even if spatial dimension is limited, grade change may be applied to create transition of residents' territory. Additional features may also be applied, such as planters, overhang or recess off the access deck. ▪ Provide individual entries as much as possible
Front yard	▪ Leave personal planting strip between dwelling and public open space ▪ Allow front yards to be sloped or terraced toward the street to enhance their display function and extend their territoriality from dwelling
Back yard	Provide screening for backyards where private activities are likely to occur
Others (sidewalk, parking lot)	▪ Provide each ground level dwelling with a separate front path ▪ Locate pedestrian ways so that residents often walk through communal areas on route to parking, laundry and mail box
Regulation	Permit residents to modify their front and backyard, or to add their personalization to their front door.

Built environment sets certain boundaries for the demarcation of different territories within residential areas, while these boundaries may shift or even dissolve with certain behaviors such as entering someone's house on notice or placing plants on the doorstep or a bench on the sidewalk. In this regard Habraken (2000:132) denotes that '*territory interprets architecture, but by no means in strict obeisance to it'*. Hence, human occupation and behavior defines the territorial relations; '*architectural and urban space function in much the same way, offering an articulated context on which inhabitants impose territorial interpretations'* (Habraken, 2000:132).

Furthermore, Habraken (2000) claims that boundary mechanisms between different territories creates an asymmetrical relation upon being on the opposite sides of the boundary. This asymmetry also implies a hierarchy; territories are composed of smaller territories which are also situated in larger territories. This nested character of territories can be investigated based on the *'territorial depth of space'* that is the number of boundaries needs to be crossed while moving from outer public space to the innermost private territory. Hence, different territorial structures are directly related to urban from. Different spatial organizations, such as row house urban tissue or courtyard houses tissue, provide various types of territorial depths with each scale creating different territories (Habraken, 2000) (Figure 2.11).

Figure 2.11. (On the left) Territorial Depth; 3 crossings are needed to reach C from A (Habraken, 2000:139); (On the right) Different territorial sequences (Scheerlinck, 2012:1)

In this context, plot layout, territorial structure of lot divisions: walls etc. and ground floor arrangements are the major physical parameters that define the territorial depth (Figure 2.12 and 2.13). In addition to physical form, patterns of use and occupation also determines the variety of territorial configuration. The same housing form may have different territorial or functional interpretation (Habraken, 2000). Habraken (2000) further explains this interrelation as follows;

> *'Within a flat urban territorial structure, historic Amsterdam's canal house form functions like a well-articulated container. Because it reflects no predetermined territorial model, it easily accommodates a range of lower-level territorial situations. Courtyard house environment, as typified in Tunisia,*

exhibits more depth in the urban spaces while the houses are very territorial in form' (Habraken, 2000: 148).

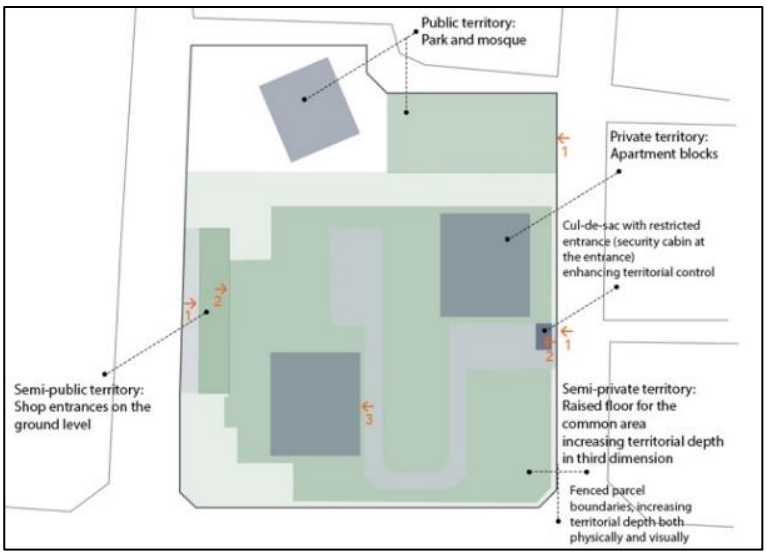


Figure 2.12. Territorial depth on a plot in Çukurambar including a gated community namely Hayat Sebla Evleri (Drawn by the author).

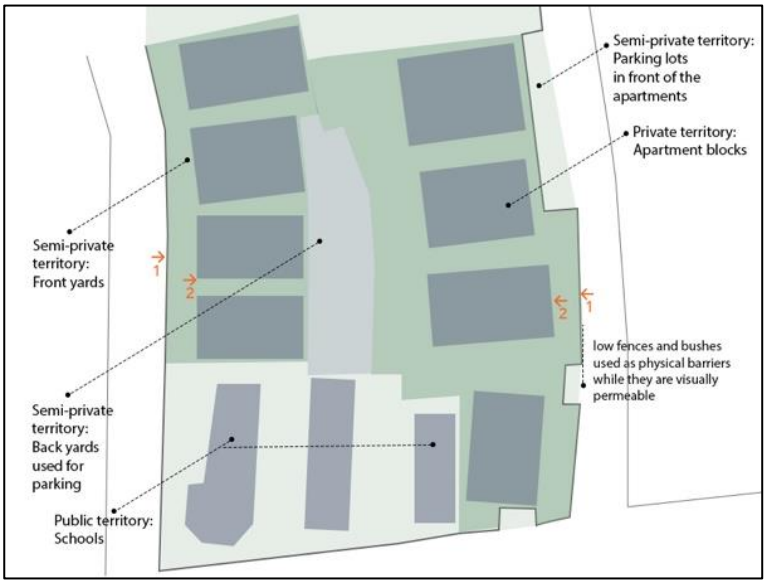


Figure 2.13. Territorial depth on a plot in Kavaklıdere along Büklüm street (Drawn by the author).

One of the major physical parameters that both separate and connect different territories as an interface zone at the meso scale are building facades (Figure 2.14). Building facades are no longer solely private territories but an interface zone that connects the private territory of the house to the public territory of the street. In this regard, Habraken (2000:164) states that;

> '*In a fully urban environment, building and street are closely married: the façade forms part of a street wall, at the edge of domestic territory. In the suburb, that street wall is dissolved and a front yard mediates between house and territorial boundary'*

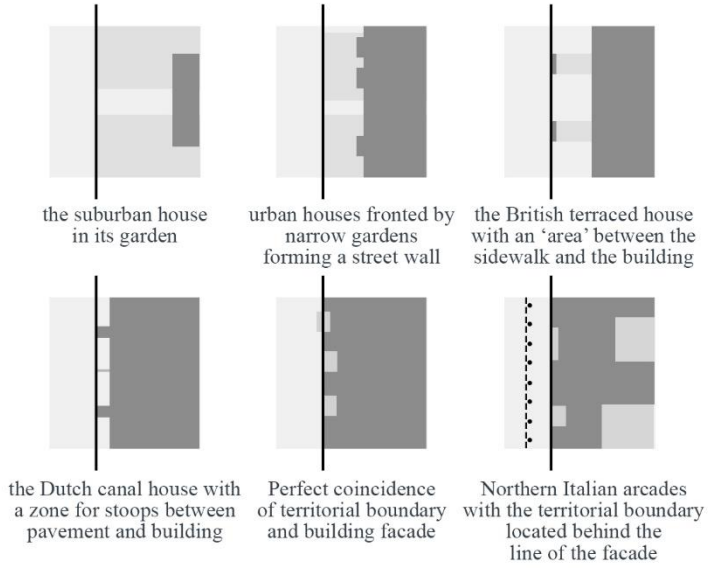


Figure 2.14. Variances on the relation between territorial boundary and building façade (Drawn by the author based on Habraken, 2000:165)

On the other hand, the relation sequence between territorial demarcation and building form is rather fuzzy, whether demarcation comes first or after the form is settled varies in each case. For instance, Habraken (2000) indicates that in the 18th century Beijing, urban tissue was based on walled-in compounds that are accessed through gates. Primarily, walls standing alone was settled for territorial demarcation, which defined the extent of the compound, and later the inner space was articulated as a sequence of courtyards with extensive territorial depth. In this case, territorial demarcation

preceded the form of buildings. Besides, various built forms and control distributions may occur within the same territorial structure (Figure 2.15).

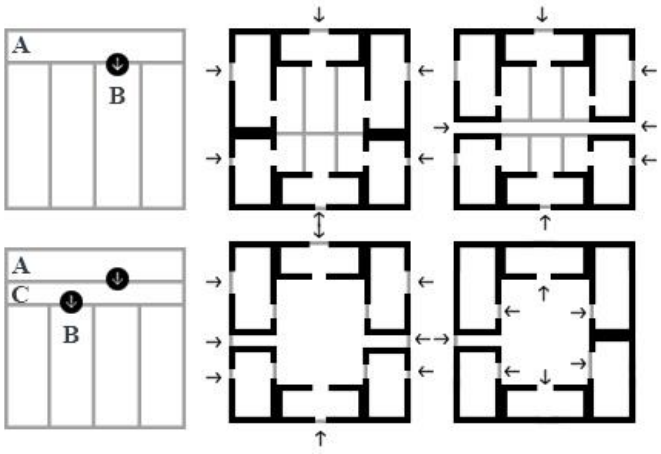


Figure 2.15. Territorial variations on the urban block: A is the public space, B is the private while C is the shared space (Drawn by the author based on Habraken, 2000:173)

In this context, it can be claimed that different spatial organizations are used as a tool to create both different kinds of territories and territorial depths. Besides, diverse territorial depths can be achieved based on the organization of space within the same territorial unit. In order to separate and join different territories for diverse functions certain types of environmental design tools are utilized for territorial demarcation. Yet, boundary mechanisms are the premise tools in the creation of territories and depths in residential environments. Yet, each residential environment has its unique territorial organization providing different territories and transition in between those territories.

Furthermore, Scheerlinck (2012) claims that territorial depth is more than the number of territorial boundaries crossed on the traditional private | public sequence, but rather depends on the complex configuration of proximity, permeability and delimitation of boundaries on physical, visual and territorial levels. Besides, the quality of depth configuration is also related to the amount, the nature, the integration value and the structural quality of the collective spaces. Yet, in addition to the existence of collective space, multiplicity of depth configurations with various spacing mechanisms such as

configuration of proximity and permeability enriches the urban experience at both individual and collective levels (Scheerlinck, 2012) (Figure 2.16).

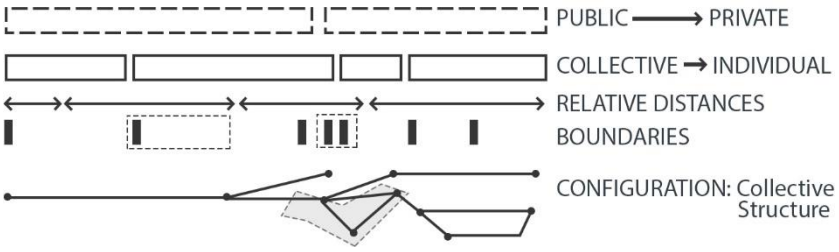


Figure 2.16. Reading depth configurations (Drawn by the author based on Scheerlinck, 2012:12)

Besides, territorial depth is also a dynamic parameter which can alter (increase or decrease) in time as a result of interventions such as densification (intensification of use which often result in subdivision of territory creating a new shared zone/collective space) or re-appropriation of shared space to enlarge private territory by various urban agents (Scheerlinck, 2012).

In certain instances, there may be limitations on the territorial autonomy. Besides, intrusion of territory by foreign physical elements do not have to be always unwanted. Local territory may be occupied by extraneous elements such as infrastructure at all scales resulting from the play between technology, economics and situations of control and territorial entrances may be admitted for the import of goods for use[5]. For instance, urban residential water lines are mainly distributed under the street, public space, rather than in the boundary of the private lot. In other words, territorial structure and supply form are correlated especially at smaller scales of the house and street level, while at larger scales this relation vanishes as large-scale utility infrastructures move

[5] Habraken (2000) claims that the relation between supply forms in terms of both infrastructure and favorable topography are also related to the configuration of the territorial organization of space. Territorial decisions, such as location decisions for new settlements, are made based upon many parameters including proximity to existing infrastructures of supply and transportation. Hence, it can be claimed that '*infrastructures of supply inform establishment of a territory'* (Habraken, 2000: 195).

across territorial boundaries with autonomy. Yet, territorial intrusions for infrastructure is allowed for the sake of installation costs and efficiency in various forms depending on the pattern of control. The form of intrusion is also related with the form of the dwelling, such as row houses having each their own branch passing through their territory, while high-rise apartment dwellings are served in a form by which horizontal boundaries are continually crossed (Habraken, 2000).

2.2.2.2. Residential Area as a Territory

> '*Territory experienced as an environmental structure*
> *– rather than as a political, market or military domain –*
> *occurs at the relatively small human scale, tied to such fields of common settlement'*
> — Habraken, 2000: 205

Residential areas or near home territories (home-base) which refer to the meso scale within the urban space are the second most important territories of urban residents after their homes. Residential environments are an important domain of quality of life experiences, besides good residential environments enhance individual's life satisfaction as well as the overall sense of well-being (Banerjee and Baer,1984). Thus, territorial organization of space is of the most importance at this scale. Hence, the idea of planning by neighborhoods, subdividing the city into manageable and identifiable bounded units, has been influential in planning and design of the earliest settlements till today.

Yet, in order to create more comfortable living environments various divisions into social and physical units is used while the 'neighborhood unit' is a prominent one of these urban subdivisions (Saghatoleslami et. al., 2014). However, defining behaviorally meaningful and unambiguous boundaries on residential environments to derive better fit indicators and interventions have been a troubled task for planners and policymakers due to variations among local actors (households, businesses, property owners and local government as both the producers and consumers of the neighborhood) on the perception of these boundaries (Galster, 2001).

Defining residential areas as a delineated area with specific boundaries have been a difficult task whereas measures such as physical boundaries, statistical areas, character areas (based on building type), community facility service areas (such as the elementary school), land-use and ethnic group residing in certain locales have been used. In this context theories have been developed by many scholars in the field of urban planning which try to set the extent of boundaries for urban residential environments as well as central elements it should contain can be summarized as in the following table; (Table 2.6).

Table 2.6. Summary of neighborhood models in planning theory
(Source: Park and Rogers, 2014:28).

	Author	Population	Area	Central Elements	Boundary
Garden City	Ebenezer (1898)	5000	64ha (5 min)	Primary School Other facilities	Road
NB Unit	MacKenzie (1920) 'Industrial Housing'	-	53 ha	NB Center	Green
	Perry (1929)	5000-9000	64ha (5min)	Elementary School Residents associations	Road
	Stein (1949)	-	202ha 809ha 3 NB (town)	Elementary School High School 1-2 Commercial Center	-
	Engelhardt (1943)	 6000 12000 (2 NB) 20000 (4 NB) 24000 (Community)	50ha 202ha 809ha - -	Playground and Nursery Elementary School Small Shopping Middle School High School Shopping Centre 3-4 High School	- - - - -
	Nelson (1945)	1200-5000 5000-25000	- -	Children based facilities Daily shopping High School Social and recreational facilities Shopping center Health center	- -
Other	Jacobs (1961)	100000	Mobility	Political voice	-
	Alexander, Ishikawa, and Silverstein (1977)	500 500-1500 5000-10000	6ha Min 6ha -	Face recognition Local Group Local forum	Street - Historic Geography

Table 2.6. (continued) Summary of Neighborhood Models in Planning Theory
(Source: Park and Rogers, 2014:28).

	Author	Population	Area	Central Elements	Boundary
New Urbanism	Carltrophe (1993)	-	64ha	Transit Stop with commercial (TOD)	-
	Duany and PlaterZyberk (1994), Nellesen (1994)	-	64ha	Elementary School Small Shopping Bus Stop	Road
	Farr (2007)	400 dwelling	16-80ha	Transit corridor Shared school with adjacent NBs	Green
Retail	Spreiregen and De Paz (2006)	7500-20000 2000-100000	7284ha (6 min driving)	NB Center Community Center	- -
	Gibbs (2011)	25000 5000 15000-2000	- 809-1618ha (Urban to rural) 1618-3237ha (Urban to rural)	Corner Store Convenience Center Neighborhood Center	- - -

One of the most influential models that attempt to identify the parameters of a self-contained delimited area, the neighborhood, was Perry's neighborhood unit formula (Figure 2.17), influenced by the ideas of Ebenezer Howard, which was developed in the early 20th century as an ideal neighborhood model that provides '*all the public facilities and conditions required by the average family for its comfort and proper development within the vicinity of its dwelling'* (Perry, 1929 cited in Rohe, 2009: 211).

Perry's main concern was to adapt neighborhoods to the automobile age by creating 'superblocks' by separating vehicular and pedestrian circulation, providing open spaces and developing community life around the neighborhood school. Yet, in terms of boundaries, the model focused on delimitation of the area based on a five minutes walking distance to a primary school. Although often criticized Perry's model formed the basis of neighborhood planning until the 1960s (Silver, 1985). The unit was largely adopted as a template for post-World War residential developments (Rofe, 1995). The model was proposed as an '*antidote to the monotony and drabness of housing estates built between the two world wars'*. The unit was developed both as a service area

relying on '*efficiency and utility'*, and as a '*social arena fostering local ties'* (Keller, 1968: 125-127).

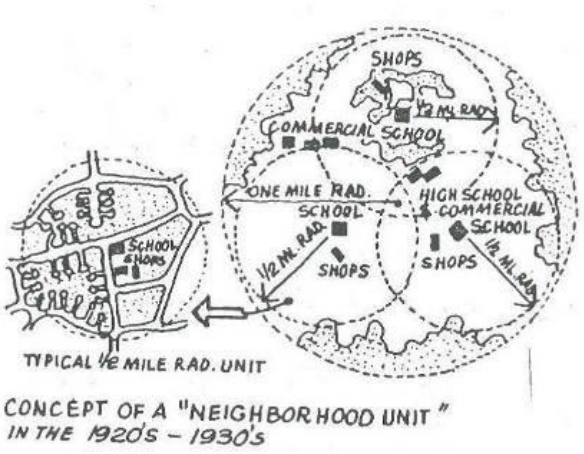


Figure 2.17. 'Neighborhood Unit' by Perry
(Source: http://upload.wikimedia.org/wikipedia/en/e/e3/New_York_Regional_Survey,_Vol_7.jpg)

In spite of its massive adoption and implementation, the model has been criticized for being anti-urban and having a romantic approach that tries to recreate small town life in urban areas, its physical determinism and design-oriented conception. Besides, the notion of 'self-contained' community proposed by Perry was also criticized as fostering social homogeneity within neighborhoods. Perry's model was also highly debated regarding the substantial amount of clearance needed for the model's implementation. Thus, in the 1940's, incremental approaches were suggested to reduce the amount of dislocation caused by the redevelopments in the neighborhoods. Another criticism was that the model disregarded mobility of urban dwellers and the instability of social relations (Rohe, 2009; Silver, 1985). In this regard, the in addition to implications based on garden city movement, the 'neighborhood unit model' has also influenced the new towns movement in the 1940s. On the contrary, another criticism on the 'neighborhood unit' model was based on its practical validity with regard to pace of urbanization, increasing population growth, increasing fluidity of people, various tastes and resources of households making it difficult to define the

facilities that form the nucleus of the unit, and the risk of confined units resulting in social segregation (Keller, 1968).

Alexander et. al. (1977) also proposed a model for well-defined neighborhoods (Figure 2.18) in which the following characteristics must be regarded;

> Approximately 500 residents are needed in order to be able to organize to bring pressure on the city hall or local governments. Referring to a small area, nearly to two to three blocks around the house that is approximately 280 meters' diameter.
>
> Protected from heavy traffic by restricted access into the neighborhood and keeping major roads outside these neighborhoods while major entrances should be marked by gateways.
>
> Boundaries between neighborhoods should be non-residential uses to form a kind of public meeting ground where different groups come together.
>
> Have a visible center that is a common space, a greenery or a small public square.
>
> Houses and workshops should be arranged in clusters of about a dozen at a time.

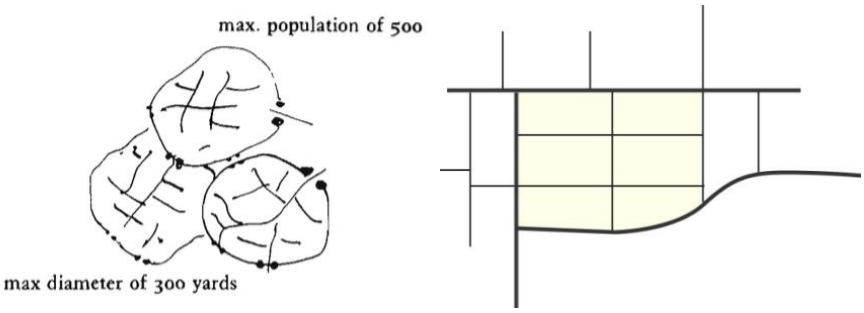


Figure 2.18. Well-defined neighborhoods and restricted access into the neighborhoods (Alexander et. al., 1977:85, 88).

Although not well-known as the 'neighborhood model' which is widely recognized and implemented, there were attempts in the second half of the 20th century for the formulation of a more flexible and adaptive residential designs. For instance, Crane (1960) developed a framework based on the assumption the infrastructure is more

permeant than residential cells thus it should be used the main organizational element (Figure 2.19). Besides, this model set forth that the main aim while planning new residential environments should be designing the city for change and adaptability (Crane, 1960 cited in Banerjee and Baer, 1984).

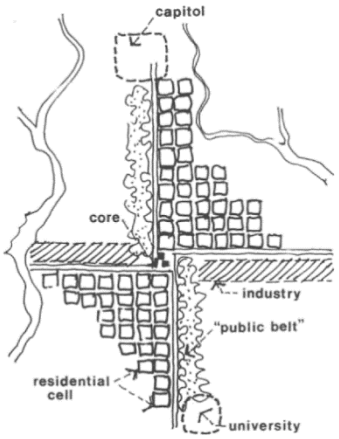


Figure 2.19. A hypothetical redesign of Chandigarh, India by Crane based on the proposed model (Crane, 1960 cited in Banerjee and Baer, 1984: 173)

Another model proposal was developed by Banerjee and Baer in 1984 (Figure 2.20). The main features of the model are as follows;

> Optimal connection between the dwellings and necessary public and private facilities
>
> Dwellings are not based on a hierarchy or building block type of organization
>
> The corridors or nodes of services and facilities set the basis for spatial organization, while these corridors or nodes are not the exclusive domain of any single territorial residential unit
>
> Rich amounts of and high capacity services and facilities provided which reflect the diversity of residents
>
> Homogenous residential cells are not intended but mosaic of 'residential clusters' is acknowledged. These clusters by design, density, affordability or some other commonly shared characteristic form a homogenous physical unit. Yet, no presumption is made regarding the social cohesion or 'neighborliness' in these clusters (Banerjee and Baer, 1984: 188-189).

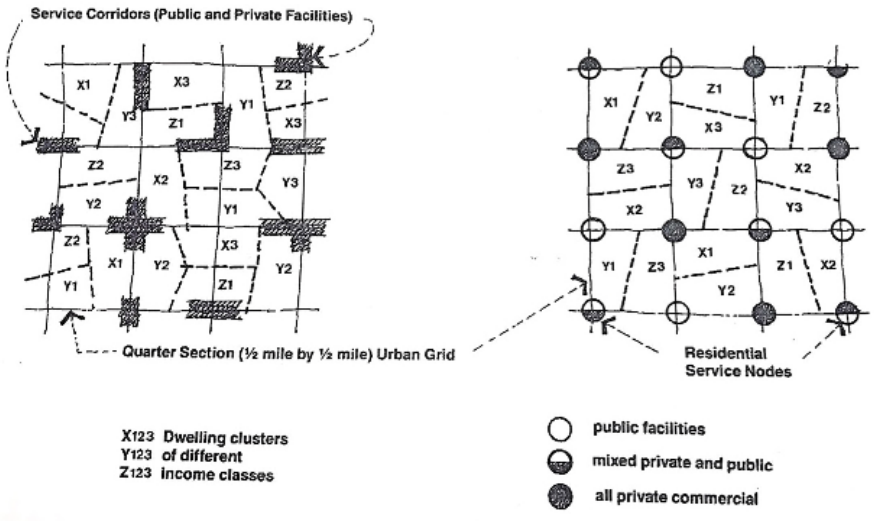


Figure 2.20. Alternative proposal for residential environment design by Banerjee and Baer (1984:188)

Moreover, clearly defined but permeable neighborhood boundaries are listed as one of the prominent principles in APA's (2015) "Guidelines for Great Neighborhoods". It is claimed that existence of such boundaries enhances discernable locale, sense of boundary and a sense of place (Talen et al., 2015). Hence, New Urbanists also promote bounded neighborhoods as a strategy for promoting neighborhood identity, whereas they claim that such boundaries should be seamless and integrative rather than isolating (Morris, 2013 cited in Talen et al., 2015).

In this context, the extent of the boundary is important as well as its type. It is argued that residential unit's boundaries should be large enough to engage residents and support local services; while small enough to maintain a shared identity (Weiss et al., 2007 cited in Park and Rogers, 2014). Regarding the external boundaries of the neighborhood, optimal size proposed by Perry based on the five minutes walking distance to a primary school has been replaced by a concern for neighborhood functionality. In this regard, it is claimed that the neighborhood should contain a population that can support a critical mass of walkable destinations which is approximately 50-64ha (Duany, Plater-Zyberk, and Speck, 2010 cited in Talen et al., 2015). In addition to this, the upper limit for boundaries of a neighborhood to function

well is determined by U.S. Green Building Council's (USGBC) Leadership in Energy & Environmental Design (LEED) rating for Neighborhood Development (LEED-ND) as 129 ha (Welch et. al., 2010).

There are different types of territorial boundaries at the scale of residential territories. These boundaries can be natural (wilderness, farmland etc.), as well as manmade (roads, parks etc.). Boundaries are associated mainly with visible features such as roads, streams, and railroad tracks, but also with nonvisible features such as property lines or historically recognized governmental boundaries of city, township, or school district. In this regard, official clear boundaries such as census units, buffer zones from individual parcels, and other already defined geographic units such as subdivisions, planning districts, named neighborhoods, or zip code areas are commonly utilized in empirical research, however they fall short in representing the actual boundaries of the unit in the daily life of its residents. Yet, they may solely be used as a limit of physical or perceived access. On the other hand, residents' perception often extends beyond these boundaries (Park and Rogers, 2014).

The preference of administrative boundaries in especially neighborhood studies results from the availability of large amount of information such as crime reports and housing values, however resident's perceptions, although it may vary depending on the location of the area and sociocultural characteristics of its residents, may offer a more meaningful and relevant representation of the unit (Coulton et. al., 2001). In terms of boundaries related to everyday life use of residential environments, Alexander et al. (1977 cited in Park and Rogers, 2014) argues that, locating different land uses such as a corner grocery or a street café at the edge of the neighborhood can also function as a distinguishable boundary and create a recognizable edge between the neighborhoods.

In terms of territorial extent of the residential area Perchaux et. al. (2016) defines three types of definitions:

(i) *'Classical' residential exposure area:* Approximately 1000 m street network buffer around each participant's home which corresponds to a 15 min walk.

(ii) *Perceived residential exposure area:* The perceived residential neighborhood boundaries obtained from participants' self-drawing.

(iii) *Activity space exposure areas:* Activity space exposure areas defined using buffers around activity destinations which included all regular activity places reported by the participants. While, since the degree of exposure depends on the time spent at the location or on the frequency of visit, varying buffer radiuses were used depending on the types of activity locations.

In this regard, Galster (2001:2121) puts forth a framework to indicate distinct spatial scales of the boundaries for different aspects of neighborhood by defining the neighborhoods as a *'bundle of spatially based attributes associated with clusters of residences, sometimes in conjunction with other land uses.'* Yet, the geographical scale across which an attribute is measured varies; *'structural characteristics may vary dramatically over a few meters, whereas public educational quality may only differ among enrolment zones for elementary schools and air quality may be virtually constant across vast swathes of a metropolitan area'* (Galster,2001:213), besides the durability of each attribute is also different which yields a challenge for the bounding of the neighborhood. Thus, Galster (2001) presents a framework based on 'multi-scaled' boundaries with respect to bundle of attributes associated with a delimited space which vary also with respect to the actions of local actors as well as time.

To sum up, the extent of residential environments, so called neighborhoods, may be defined with respect to physical landmarks or features of the neighborhood, social networks of the residents, spatially based attributes or rather through 'cognitive maps' of the residents designating physical boundaries. Yet, the phenomenological approaches that investigate the subjectively designated boundaries are grounded on the lived experience of the residents (Campbell et. al., 2009).

In addition to these, territoriality is not homogenous among residential environments. There are also specific types of residential environments with certain levels of access and use. As discussed in the previous sections, in the recent era the form of residential territories has transformed from traditional neighborhoods to gated communities and mass housing developments, which in return produce different territorialities.

In this regard, Charmes (2010:371) states that, *'exclusionary residential territories'*, in the form of enclaves or pods, 'exist along a continuum, ranging from no-through streets (cul-de-sacs), superblocks, environmental areas, gated communities and privately managed communities' in urban space. Besides, principles of New Urbanism are similar to these formations. In these exclusionary residential territories namely cul-de-sacs, environmental areas and gated communities and suburban developments, territorialities are often achieved through street layout such as gating of residential streets to transform them into cul-de-sacs and placing barriers and gates at the entrances of these sites. Barriers such as fences and gates are not utilized solely for blocking access for the formation of an insulated territory, but also to avoid through traffic with the formation of cul-de-sacs. Later, these exclusive areas are separated from the urban fabric with the use of thoroughfares along with green buffers surrounding these sites (Charmes, 2010).

Formation of exclusionary residential areas in the form of cul-de-sacs, superblocks and gated communities has both advantages and disadvantages. Primarily, when combined with single-use zoning, these areas become mono-functional enclaves which results in the loss of an urban public realm and the increase in car dependency. On the other hand, these areas allow functional specialization, assertion of specific territorial rights to their residents and delineation of clear territorial boundaries also allow establishment of an exclusive communal territory within the site under communal ownership (Charmes, 2010).

All in all, residential territories have transformed significantly in terms of both territorial extent and type of boundaries as well as their territorial organizations. Each type of territorial organization resulting in certain human experiences.

2.3. Conclusive Remarks

Territoriality is a phenomenon born out of ethological studies, while translated later into the field of environmental psychology as a spatial behavior asserted by almost all animal species including homo-sapiens. In fact, the very act of habitation and delimitation of each domain is territorial. In return, territory refers mainly to a specific delimited area on which individuals or small groups exert jurisdiction, lays their claim and uses as an exclusive resource base. Territoriality serves various human needs from regulation of social interactions at the group level to feelings of security, competence and stimulation at the individual level. The sense of territoriality, attachment to a specific territory, is not always as a result of actual ownership, while it can be based on more symbolic means such as perceived ownership or emotional attachment to a specific territory.

In addition to these, territorialities occur at different scales in urban space and different territories are simultaneously produced in each scale. Each type of territory has its own claims, manifestations of these claims and defense mechanisms to protect this claim. Thus, urban space consists of different territories nested in each other which are divided both spatially and symbolically to attain the desired levels of control over space and the ongoing activities in that space. Furthermore, territorial organization of urban space refers to division of space into particular territories from private to public and demarcation of each territory with certain defense and control mechanisms such as boundary mechanisms. In this regard, design of built environment sets certain boundaries for the demarcation of different territories, while these boundaries may shift over time.

The territorial organization of space at the residential scale is crucial to sustain living in a delimited and shared space, whereas, defining the extent and content of the residential territory have been one of the main tasks of urban planning. Today, both the territorial extent and type of boundaries as well as territorial organization of residential environments transformed significantly with the transformation of residential development patterns from facility-based to home-based, continuous fabric as in the traditional neighborhoods to scattered cellular developments. In return, human territorial functioning, cognitive and behavioral patterns, and as a result territorial attitudes at this scale transformed significantly. In order to assess the changes in human territorial functioning with respect to changes in the territorial organization of urban space at the residential scale, primarily human territorial functioning will be redefined in order to comprise both people-oriented and place-oriented connotations of the notion, and later operational tools to assess territorial functioning will be further elaborated under a model proposal in the following chapter.

CHAPTER 3

HUMAN TERRITORIAL FUNCTIONING

Taylor (1988:1) defines territorial functioning as '*a class of environment-behavior transactions, concerned with the issues of personal or group identity, cohesiveness, control, access and ecological management*'. In his seminal book 'Human Territorial Functioning', Taylor (1988) sets the main attributes of the notion as follows;

> Territorial functioning is highly place specific which vary across time and cultures. Territorial behaviors, markers, and cognitions are specific to particular, small scale delimited areas. Yet, the scale of territorial functioning is more applicable to micro scale delimited areas such as the home or the street block.
>
> Territorial functioning both emerges from and shapes social dynamics. In other words, territorial functioning is a group-based mechanism both socially determined and maintained. Yet, the scale of territorial functioning is linked with small, face to face groups and individuals.
>
> Territorial functioning is explained under instinct based, group-selection based, sociological and cultural evolutionary perspectives. According to Taylor (1988), territorial functioning has an evolutionary basis rather than being solely instinctive. It is a set of learned, goal-oriented processes.
>
> Physical, social, cultural and class related conditions in a residential context influence the form, extent and strength of territorial functioning.
>
> Territorial functioning has psychological, social psychological and ecological outcomes that contribute to person-place relationships and also to well-being of individuals and small groups. Territorial outcomes / consequences can be either proximal or distal. The salient consequences are dependent on the centrality of that specific territory. For instance, moving from places where people-place transactions are higher to lower, such as from private spaces like the house to the temporary settings within public space psychological consequences lessen, whereas ecological consequences became rather important.
>
> Territorial functioning reflects and reinforce some degree of excludability of use, responsibility for, and control over activities for individuals or small groups in specific sites (Taylor, 1988).

On a previous study, Taylor and Brower (1985) define territorial functioning, at the block and neighborhood scale, as a coherent system including *attitudes* (feeling of responsibility, perceptions of control), *behaviors* (responding to intrusions and perceptions of control), and *markers* (signs, embellishments etc.) which are affected from contextual factors (Figure 3.1). The authors claim that, territorial functioning is interposed between the individual and the local society, as near-home territories interpose physically between home and the larger neighborhood setting.

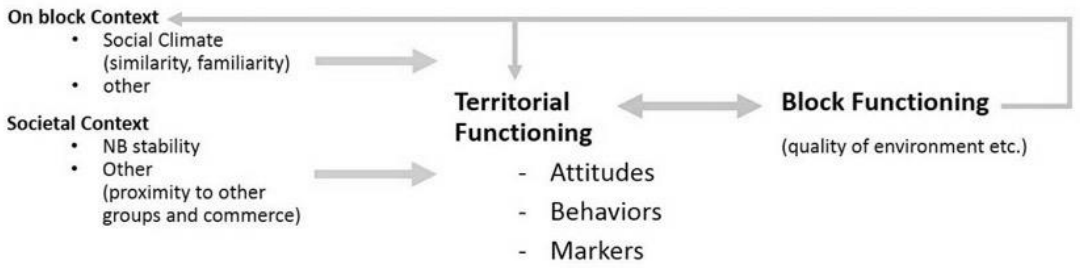


Figure 3.1. Local territorial functioning (Drawn by the author based on Taylor and Brower, 1985:195)

Furthermore, in their study Taylor et. al. (Taylor et. al, 1981 cited in Taylor, 1988:176) investigated territorial functioning at the street block level with an empirical study in Baltimore. Territorial functioning was examined at the block level starting from the outside home territories (steps or yard in front and backyard), near-home territories (sidewalk or alley in front or back of the house), to the off-block territories (nearby corner store or playground regularly used by the resident). At the scale of the block, different dimensions of territorial functioning, for instance high demand gardening, was recorded and later rated for each case. Afterwards, these indicators were correlated with territorial cognitions of residents and also with problems associated with the locale by the residents. The results of the study reveal that, due to the nature of territorial functioning there is a direct correlation between behavioral, attitudinal and physical components.

Later in his book, Taylor (1988) developed a casual model investigating particular factors that shape territorial functioning and the consequences of this functioning

(Figure 3.2). Primarily, there are the determinant elements including cultural, social, intrapersonal/individual and physical variables. These exogenous variables shape the 'meaning', 'image' of a particular territory and influence the extent to which this area is viewed as a territory by individuals/groups and the type of territory associated with that place. Hence, they shape 'place image' of an area and territorial cognition is part of that image. Territorial cognitions are the mediating factors that shape the attitudes towards a territory. Yet, territorial cognitions suggest, support or justify particular territorial behaviors. Territorial behaviors include verbal/nonverbal/paraverbal, setting changing and maintenance behaviors. Consequently, these behaviors have certain consequences. These consequences are ecological, social psychological (reduction of conflict by boundary mechanisms) and psychological (stress reduction by achieving desired level of privacy or publicness according to the needs of the individual) which in return have implications on both antecedent elements and place image.

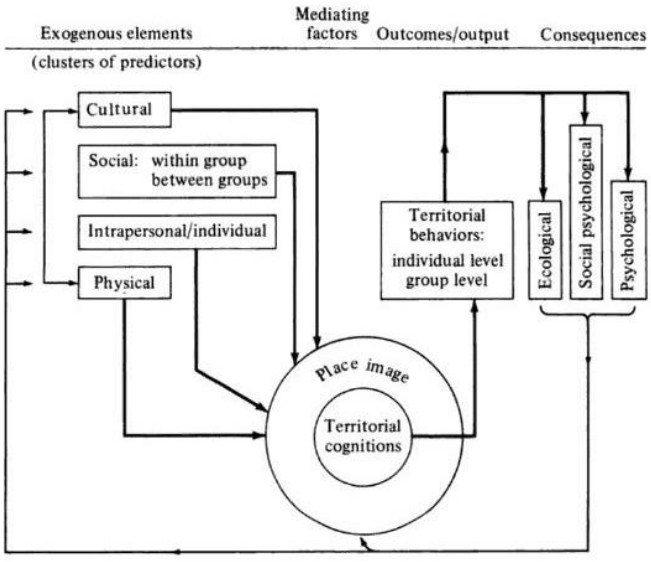


Figure 3.2. Conceptual model of human territorial functioning (Taylor, 1988:92)

According to Taylor (1988), although similar basic elements of territorial functioning are involved at outdoor residential spaces in terms of *determinants and consequences*,

territorial functioning at this scale has specific manifestations. These manifestations mainly include; '*marking behaviors', 'cognitions or attitudes', and 'actual behaviors.'* Yet, these three basic elements are interwoven and support each other. In this context, determinants and consequences of territorial functioning at the scale of near home territories is set by Taylor (1988) as follows:

Predictors | Determinants;

i. *Cultural and Subcultural Factors:* The form and extent of exterior displays and behaviors vary across subcultural (ethnic) as well as cultural groupings.

ii. *Personal and related constructs:* Individual factors are associated with extent and strength of territorial functioning in which tenure type and social class are the prominent ones, while social composition and physical design of the residential context are more significant rather than the single individual.

iii. *Physical Design Factors*: Physical features have a multilevel influence on territorial functioning since they influence both cognitions over and behaviors in a space. The connection between physical environment and territorial functioning is rather contingent than deterministic and also related to other conditions of the setting.

    a. Siting and Land use: Areas such as 'vacated areas' or 'vacant lots' in the residential fabric as the gaps in resident's territorial control.

    b. Street form and volume of pedestrian and vehicular traffic: Higher volumes of pedestrian and vehicular traffic reduce territorial functioning, since traffic, whether vehicular or pedestrian, drives people into their houses, feeling less attachment to the block as 'theirs' and reduces use of outdoor spaces.

    c. Boundaries: Boundaries may enhance behavioral freedom and perceived privacy, and perhaps place attachment. Boundaries can be set with the help of physical (fences, hedges, gates etc.) or symbolic (row of stones or a change in the pavement height, texture or material) barriers.

iv. *Social Factors*: Spatial expansion of the domain of territorial functioning is also related with the aspects of group structure (such as feeling similar to the neighbors, number of acquaintances in the neighborhood).

v. In addition to these, *time* leading to changes in the physical or social context, as well as passage of time itself and changes in the level of place attachment also has implications over territorial functioning (Taylor, 1988).

Consequences;

Territorial functioning can both serve the individual by buffering the individual from the local stressors and also the immediate society by the production of public goods such as local predictability. Taylor (1988:197) states that, '*Territorial functioning links the household members to the immediate local society, and at the same time, reduces the likelihood of exterior stressors negatively influencing interior household functioning*' (Taylor, 1988:197). In this regard, consequences of territorial functioning are discussed under a threefold typology;

i. *Psychological Consequences*: Territoriality act as a 'stress reduction mechanism' by providing some degree of control over territory and privacy which enhance the sense of security, orderliness and quality of life inside the house for the residents. Besides, the extent of such control varies across different blocks and neighborhoods. In addition to this, territorial markers and personalization enable residents to 'express their self-identity'.

ii. *Social Psychological Consequences*: Territoriality behaviors serve to express group identity and solidarity which enhance group cohesiveness and reduce potential conflicts between individuals or groups. Yet, expression of solidarity is related to the salience of group norms. Territorial activities such as beautification, upkeep and maintenance are such norms formed between residents which also has ritualistic overtones that enhance the feelings of solidarity. In this regard, Taylor (1988:197) denotes that, '*small groupings of residents on street blocks, or at the sub block level, generate social forces that result establishment of norms… these norms are part and parcel of the standing pattern of behavior or setting program and, in addition, provide physical and behavioral cues to outsiders about how to behave appropriately there'*.

iii. *Ecological Consequences*: Territorial behaviors and markers serve to maintain the standing behavior pattern and the behavior settings by directive and non-directive channels informing residents and outsiders

about the appropriate behaviors within a territory and fostering desired level of participation to it (Taylor, 1988).

Another significant study investigating human territorial functioning is developed by Je (1986). In this research, again a model for the assessment of territorial performance of different spatial types of street layouts is developed and later an empirical research is conducted in Philadelphia. The model is derived from an earlier study by McCormick in 1976 that investigates the relation between physical environment and its effects on human performance and work output. The model consists of three main variable sets including environmental, predispositional and behavioral variables and examines their interactions (Figure 3.3).

The model works in a circular pattern in which human behavior affects and is affected by its environment, while human perception and cognition are mediating factors in this relation. The type of relation between variables is categorized into three transactions. The transaction between environments to predisposition, that is the transmission of environmental stimuli to individuals, is a passive transaction. The transaction from predisposition to territorial behavior is an active transaction, which enables individuals to extract meaningful signals from potential information. In this regard, people actively interpret a wide range of information depending upon their needs and competence levels. For instance, people with high income may employ security guards as an expression of territoriality. The transaction from territorial behavior to environment is an automatic transaction resulting from behaviors and attitudes of the individuals. Hence, people's change of, choice of, control of, protection of, personalization of, attitude toward, or adaptation to their environment are results of the active transaction and in turn become environmental messages. Furthermore, these three transactions simultaneously occur within a closed loop system and determine a level of territorial performance in an environmental setting.

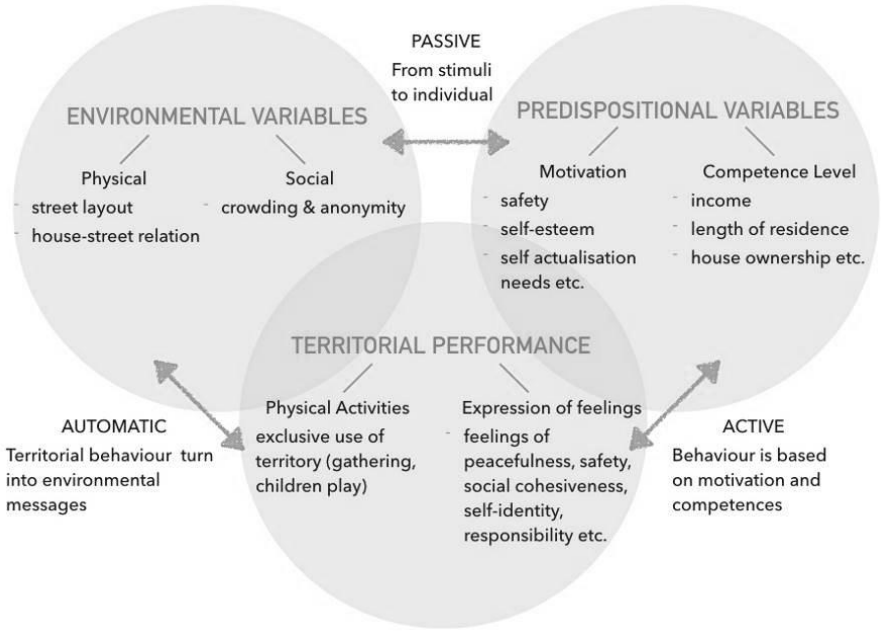


Figure 3.3. Model developed by Je (1986), for the assessment of Territorial Performance (Drawn by the author based on Je, 1986)

In another study, Lay (1998) also investigated the social and physical definition of residential space as a territory, regarding the 'use', 'modification' and 'maintenance' of space in residential environments within different physical layouts. Territorial behaviors are traced in terms of existence of territorial markers, maintenance, creation of behavior settings, personalization and perception of security within the territory. The results of the study reveal that, legible layout of the environment as well as spatial hierarchy has a positive impact on the appropriation of space as a territory as well as enhancing frequent use and maintenance.

In a recent study, Iranmanesh (2012) examined human territorial functioning at the scale of residential environments in the walled city Nicosia, North Cyprus. In this regard, primarily a model depicting the interrelations between both the physical definition and residents' definitions of the residential territory is put forth (Figure 3.4). In terms of residents' definitions, territorial cognitions as well as social interactions are examined in relation to the individuals characteristics including age, sex, period of

living and social roots of the residents. On the other hand, physical territoriality is examined in terms of personalization, maintenance and signs. Besides, 'mental territory' is inquired in terms of rootedness and memories of the territory in residents' minds.

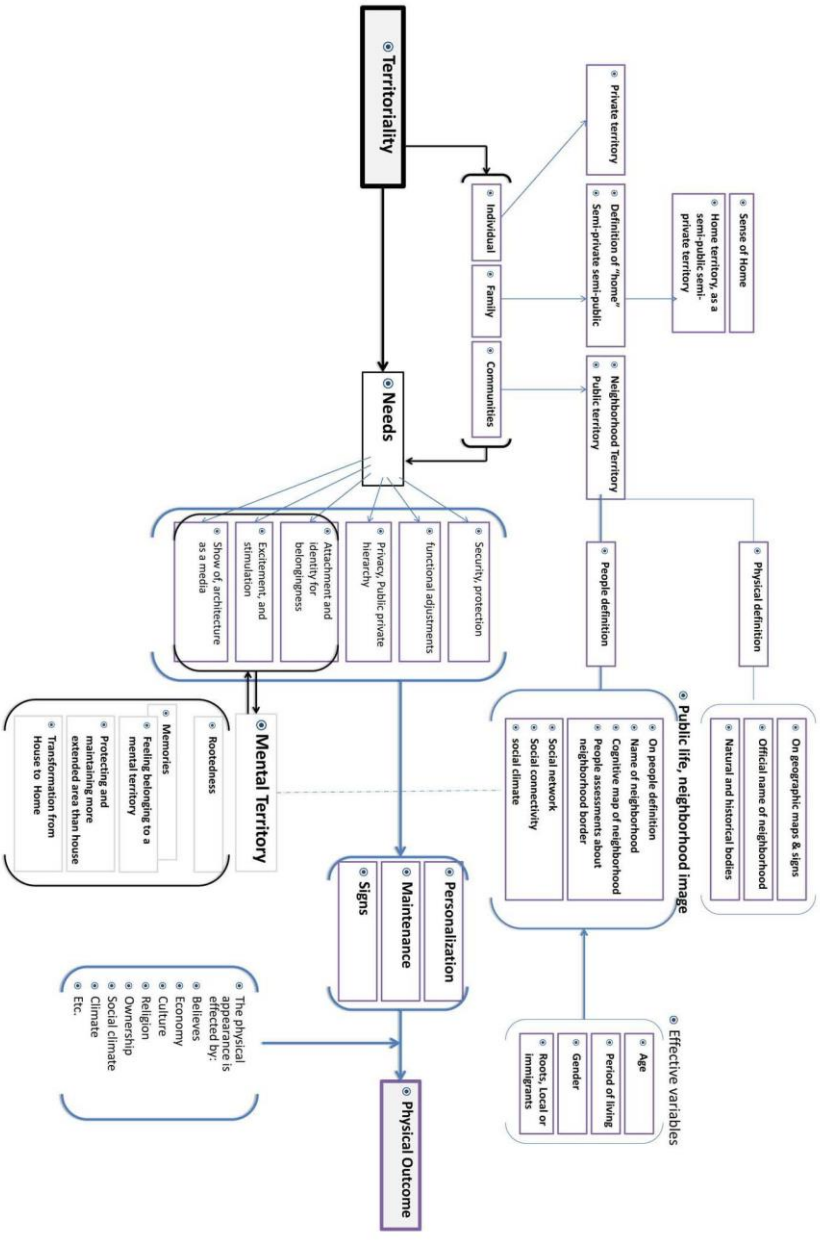


Figure 3.4. Territorial functioning at the residential scale (Iranmanesh, 2012:31)

To sum up, human territorial functioning has behavioral, cognitive and affective dimensions. Territorial functioning is a combination of both cognitions and behavior patterns related to a place that are shaped by these cognitions. In return, these have environmental, societal and psychological consequences both in the form of attitudes and self-esteem at the individual level and community building and social order for living in a shared space at the social group level. Besides, there are also exogenous factors which influence territorial functioning that can be briefly listed as: societal (both individual preferences and affordances, as well as social group attributes), environmental (physical setting) attributes and mobility. In this context, territorial cognition and behavior patterns and tools for the evaluation of each is further discussed in the following sections in order to develop a model for the assessment of human territorial functioning at the scale of residential environments.

3.1. Territorial Cognition and its Visual Representations

> *'How do people relate different parts of the city to each other, how do they 'place' themselves within the urban environment; in other words, how do they mentally structure the city?'*
> — Appleyard, 1970:100

The required knowledge for survival and everyday spatial behavior of man includes the information on location (distance and direction) and attributes (descriptive and evaluative) of each phenomenon. This information can be collected through senses and from (in)direct information, whereas it can be expressed and interpreted through mental maps. Besides, it is also important to note that this knowledge is temporary which changes with respect to learning and time (Downs and Stea, 1973b).

In this regard, information handling in humans is explained under two main processes; perceptual process and adaptive decision making (Figure 3.5). Perceptual process is the initial act for identification of the current situation based on past experiences to guide future experience. The identification of total pattern of the stimuli, especially in the recent era, is unique, diverse and uncertain by nature, while man's capability on the amount of time and storage he can devote for each experience is also limited. In

this regard, man must operate in a more schematic basis. Hence, he calls for a 'schema', an 'internal representation' for processing the information, including the spatial information, more efficiently. Consequent to the perception and identification of the situation, the adaptive decision-making process follows. This process embraces three mechanisms, *prediction of potentials* from the network of associations between situations in the memory, *evaluation of these potentials* based on correspondence with the past experiences and internal motivational coding (whether the consequence will be pleasurable/painful), and lastly *taking action* depending on the comparisons, criteria and strategy used. Hence, this 'schema', 'embedded information' is a prerequisite to develop adaptive behaviors. Within this process, the information about the representations of objects and situations from the past experiences that are embedded in humans in a non-planar network like structure is often called the 'cognitive schemata/maps'. Information handling with the help of cognitive maps is set both as a survival mechanism by helping the development of adaptive behaviors and prerequisite for relieving man's intolerance to ambiguity (Kaplan, 1973).

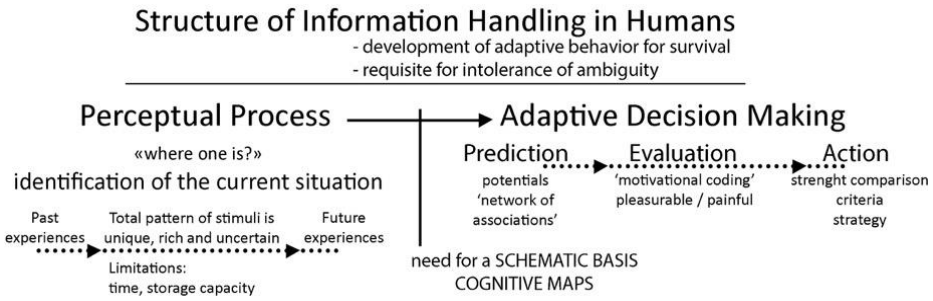


Figure 3.5. Information handling in humans (Drawn by the author based on Kaplan, 1973).

In the theory of perceptual learning the interaction between man and environment is described in a threefold process: perception, cognition and spatial behavior (Figure 3.6). Primarily, individuals receive inputs from the environment in the perception process guided by schemata and motivated by needs, later these information (inputs) are evaluated in the cognition process which than determines the spatial behavior (actions and responses) of individuals. Yet, the embedded information from previous

evaluations (learned) and innate information make up the schemata in the mind that conditions the decisions on spatial behaviors that is also affected by the individual's motivations and needs (Lang 1987 referring to Gibson, 1966).

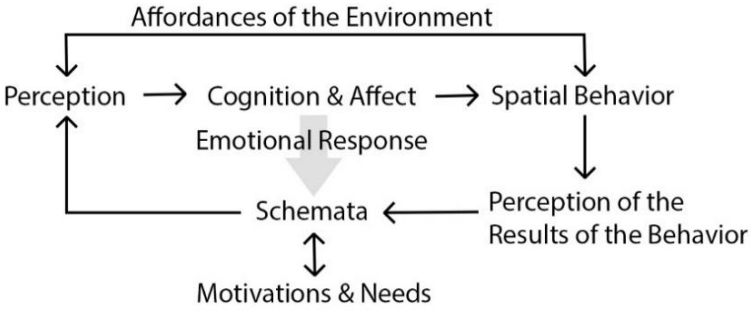


Figure 3.6. Fundamental process of human behavior (Lang 1987:84 referring to Gibson, 1966)

In this context, visual representations of cognitive maps by individuals related to nature and attributes of the spatial environment, that is often called cognitive mapping and mental mapping, are used in substantial amount of environmental studies. Yet, properties of the cognitive maps include: *generic quality of representation, the schematic character, motivational coding of representations that is affected both from knowledge and preferences, and the network like structure of the past experiences* (Kaplan, 1973). Spatial cognitive maps are also a part of cognitive maps. Yet, man stores a bulk of information related to his physical environment regarding *what leads to what and relations between them* (Kaplan, 1973).

The terms often used in environmental studies regarding the cognition of the spatial environment can be listed as; cognitive mapping, mental mapping and spatial imagery. Primarily, the term 'spatial image' referring to the visual representation of mental image is set forth by Boulding in 1956 and later used in 1960 by Lynch. Hence, these visual representations are examined in order to discuss the 'imageability' of the spatial environment. The term 'spatial image' was often criticized for being limited to spatial perception while falling short in terms of explaining spatial cognition and excluding the impacts of human aspects on this process, and also for handling visual input as the

sole generator of cognitive spatial representation. Therefore, the term left its place to cognitive maps (Downs and Stea, 1973c). Cognitive maps are briefly defined by Evans (1980: 259) as;

> *"Cognitive map has remained as a general descriptor of the cognitive processes involved in the acquisition, representation, and processing of information about actual physical settings"*

Cognitive mapping is defined by Downs and Stea (1973b) as a process in which relative locational information and attributes of spatial environment are *acquired, coded, stored, recalled, and decoded* by the individual. The mapping process starts from the transformation of absolute space into relative space that determine our behavior in the mind. Mapping process comprehends any/all of the processes of; change in scale, rotation of perspective, abstraction and symbolization. Yet, cognitive maps of the same environment are not identical to the physical properties of that environment and vary among individuals and groups due to biases, prejudices, and personal experiences.

Moreover, Stea and Blaut (1973) states that, spatial learning and thinking are not identical to visual learning and thinking. Thus, cognitive maps are not solely related to visual perceptions of space but also interrelated with other sensory inputs including; time, movement, descriptive modes, value systems etc. In addition to this, cognitive maps are also related to individual's sensitivities, inherited initial condition and also to exogenous structures (Kaplan, 1973). Yet, knowledge about spatial environment and the way it is visualized and symbolized is based on individual's past experiences in and with the space as well as the physical location (and the barriers of space and time associated with that location) and social position (the image of the environment also differ among distinct social groups) of the individual (Orleans, 1973). For instance, Appleyard (1970), in his study of inhabitants' mental maps of Ciudad Guayana, put forth that perceptual distance from a similar social area is perceived apparently less than actual distance by higher social groups, whereas perceptual distance from a lower social group is perceived greater than the actual distance.

Hence, in addition to the characteristics of the physical environment, other factors which have influence on the development of schemata can be listed as;

> *Mobility:* the means available and used for traversing the space such as walking or driving has direct impacts on the development of the schemata.
>
> *Perceived complexity of the route while traversing the space:* in addition to distance, directness of the route to reach a point also impact perception of and preference between routes.
>
> *Desirability of the goal object*; people make use of spaces and facilities in direct proportion they are presented in space within a reasonable distance. Hence, the amount and quality of facilities present in a space directly influence the use of these spaces on a daily basis, therefore foster the inclusion such spaces in the schemata of the residents. Lee (1963-1964/1973).

Cognitive maps are defined as '*complex, highly selective, abstract, generalized representations in various forms'* (Downs and Stea, 1973b:18). Stea and Blaut (1973) defines these maps as '*psychological holograms*' since they are conceptual three-dimensional projections of the physical environment. Besides, they claim that conceptual maps are even four-dimensional since they are continuously changing and also adaptive to this alteration.

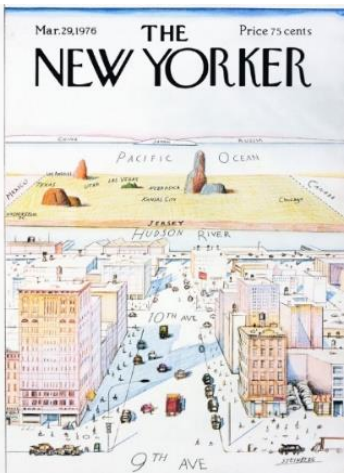


Figure 3.7. New Yorker magazine cover by Saul Sternberg (1976), 'View of the World from 9th Avenue', showing Manhattan as the center of the world which demonstrates people's perception of familiar places with grater degrees of complexity (Source: http://www.mappery.com/map-of/A-View-of-World-from-9th-Avenue-Map)

In this context, Appleyard (1970) defined elements that people utilize while drawing mental maps of their local areas or city into two main categories: *sequential elements* such as roads, tramlines; and *spatial elements* such as buildings and landmarks. In this regard, sequential elements resemble *paths and nodes* while spatial elements refer to *landmarks, districts and edges* which are previously defined by Lynch (1960).

Cognitive maps embrace quite a lot of information about the structures, patterns, and processes of man's spatial decisions; however, knowledge about formation of these mental maps in the mind; the degree to which they are unique or general and the way they impinge upon and are reflected in man's decisions is rather poor (Gould, 1973). Besides, Evans (1980:262) also discusses that the nature of these representations is also ambiguous;

> *"It is evident that human beings have cognitive representations of various physical settings they have experienced. These representations may function as schemata that help facilitate and organize information extraction and storage of real-world scenes. Controversy exists over the nature of these representations, particularly whether they are imaginal, functional analogues of actual stimuli with second order isomorphic structure or if they are propositional statements about real-world information".*

In this regard, the relation between cognitive representation of the spatial environment and human behavior has a twofold character. On one hand, there are behaviorally generated cognitive representations of space that include the interpretation of how these representations are formed in space and what is included in these representations, on the other hand, there are behavior generating cognitive representations including cartographic maps designed to imply particular impressions and cognitions such as political maps (Downs and Stea, 1973c).

In environmental cognition studies, cognitive maps are often used as a method to examine the legibility of the physical environment, while there are also some exogenous variables investigated within these studies. In this regard, Evans (1980) discussed these exogenous variables under three main titles:

Different Stages of Knowledge Acquisition: Developmental (children and elderly) and familiarity (length of residence) variables are often studied with respect to map accuracy and content of the map. Increasing accuracy in cognitive maps is associated with age and experience while actual use of setting based on daily activity patterns rather than length of residence should be taken into account in these studies

Individual Variables: Gender and cross-cultural differences are examined within these studies especially in terms of the extent of cognitive maps. Yet, studies examining cultural differences should also be considering mapping experience, travel mode and extent of home range of these subjects.

Physical Features: Physical features are mainly investigated based on two variables; environmental structure (such as grid structure of the street layout) and landmarks. These studies reveal that the size, shape and functional uniqueness are the memorable characteristics of landmarks (Evans,1980).

3.1.1. **Territorial Cognition of Residential Environments**

Territorial cognition of residential environments as a delimited area with specific boundaries by its inhabitants is one of the most important preconditions to define that area as a meaningful territorial unit. In addition to this, though territorial cognition is unique to each individual, consensus among the residents and the extent and type of territorial boundaries also reveals the significance of that area as a socio-spatial whole. In this regard, territorial cognitions in near home territories are the perceptions and relations of residents with a particular delimited area, whereas these cognitions may also result in certain affections to the locale such as feelings of security, satisfaction, responsibility, association or problems associated with the area (Taylor, 1988). Yet, territorial cognition of residential areas is often studied in relation to its implications on residential satisfaction, attachment to territory, feelings of safety, development of children and youth as well as environmental quality.

In terms of territorial definition of residential areas, which often connotes to the scale of the neighborhood, Keller (1968:12) states that; '*neighborhood can be defined as a demarcated spatial unit where neighbors reside and neighboring takes place. Yet, the boundaries of this area can be more definite with long established traditions, while it*

can also be more fluid, more vaguely defined and perceived differently by its inhabitants'. In a similar vein, Pebley and Sastry (2009:6) claims that;

> '*…contemporary urban sociologists view neighborhoods as places with inherently flexible and generally ambiguous boundaries. Neighborhood definitions vary depending on context and on the observer. The delineation of neighborhoods is a consequence not only of geography but also of a continual social process through which residents, non-residents, and commercial and governmental interests define and redefine neighborhoods.'*

In this regard, discussions on type and extent of territorial boundaries of urban residential environments, so called neighborhoods, have been at the focus of planning studies; whereas the conceived boundaries rather than the administrative boundaries of the near-home territories are much more significant for understanding the dynamics of housing environments and to assess success of these territories in meeting human needs. In this regard, cognitive mapping studies take a crucial role regarding the investigations on the extent and content of territorial boundaries of residential environments defined by its residents.

According to Gifford (1997), neighborhood is not solely a physical or legal area (a school district or an electoral area) but also has psychological dimensions. One of these dimensions is their spatial-cognitive nature. In this regard, there are many studies which try to investigate resident's perception, cognition and definition of their own neighborhoods. Hence, territorial definition of neighborhoods is better to be grounded on the conceptions of its occupants. In this regard, territorial aspects that repeat itself and make up the neighborhood can be revealed by the use of mental images and physical-social activities of its occupants (Sell, 1983). The importance of shared image of the neighborhood by its residents is discussed by Rofe (1995:118) as follows;

> '*The neighborhood cannot be understood as a clearly defined territorial entity corresponding to a group of people with close social ties. Instead, it has a much looser structure, based on shared images of the area that are born out of repeated movements along its streets. As such, it is created out of elements that exist at several overlapping and interrelated scales: a building cluster, a street face block, an intersection, a city square, a neighborhood park, a main street, a local institution. While these shared elements exist at different levels*

of scale, they are not organized hierarchically. Instead, they overlap to create a continuous fabric'.

Residential environment, neighborhoods, are defined by Keller (1968) as distinctive areas with particular physical and social components, whereas the distinctiveness may stem from; '*geographical boundaries, ethnic/cultural characteristics of the inhabitants, psychological unity among residents or concentrated use of an area's facilities'* (Keller, 1968:87-90). Whereas the boundaries can be physical (streets, railway lines, parks separating an area etc.) or symbolic (historical and social traditions making people view the area as distinctive). Yet, these two boundaries usually reinforce each other (Keller, 1968). According to Keller (1968), in order to determine the boundaries of identifiable subunits both objective (statistical and census tract data, terrain characteristics, spatial distribution of activities of residents) and subjective (respondents indicating the boundaries) indicators can be used. Yet, subjective indicators are often utilized to check on the accuracy of the objective indicators. Besides, subjectively defined boundaries are often smaller than the neighborhood and more at the scale of the street (Keller, 1968). Hence, Coulton et al. (2013:140) claims that, if studies on neighborhoods addressing issues of improvement and well-being of residents both in research and practice rely on simplified assumptions on the neighborhood boundaries as census geography or political jurisdictions, these operations may fall short in terms of *'measurement errors, misspecification of models and practical problems of looking for results or impact in the wrong places'* since the presupposed size do not always match with the experience of residents.

Yet, in order to measure the scale of perceived boundaries of neighborhoods either ordinal scale and continuous measures obtained from open-ended-questions or respondents' cognitive maps are used (Coulton et. al., 2013). For instance, Guest and Lee (1984) investigated in the Seattle metropolitan area whether urban residents' neighborhood conceptions are based on social (based on human interaction), physical

(as a territory) or institutional (e.g. school catchment area) definitions and variations among these definitions in terms of geographic size. In order to do so, primarily respondents were asked to define their neighborhood based on open-ended questions and later the results were content analyzed and coded into four types: (a) geographic area, territory; (b) nearby people; (c) sense of community as indicated by friendliness, cohesion, concern for one another; (d) institutions as indicated. Later, respondents were asked about the boundaries of their neighborhoods and answers were recoded into nominal categories. The respondents tended to describe their neighborhoods spatially in terms of blocks. Yet, although substantial amount of research claim that urban residents are no longer dependent on their local areas for social ties and services, the results of the study reveal that residents were able to define their neighborhoods based primarily on spatial or human-social, and later on institutional definitions. Besides, the study also revealed that the scale of territory and territorial conception varies in relation to the local activity patterns (range of activities within proximity), social demographic characteristics of the residents (life cycle stage, gender, length of residence etc.) and the layout of the physical environment. Besides, Guest and Lee (1984) also claims that, along with the advances in communication and transportation technologies, it is expected that neighborhoods will be defined more as spatial than social units in the future.

Although, residents' definition of their near home territory is expected to be similar, they may be inconsistent in some occasions. For instance, in their study Lee and Campbell (1997) investigated how residents define their neighborhoods in terms of abstract definitions as well as symbolic and physical identities they attribute through a survey conducted in Nashville. Hence, the results of the study reveal that respondents were consistent on naming their neighborhood in abstract terms while length of residence and membership in residents' association were positive factors in naming the neighborhood. However, physical attributes such as size (the area defined varied from a single block to 200 blocks, and the attributed size was found to be positively related to homeownership and membership in residents' association) and map

complexity (which is found rather to be positively related to age and education mainly) differed vastly. This inconsistency was defined by Lee and Campbell (1997) as '*respondents' definitional idiosyncrasies.* Despite residents' definitional idiosyncrasies and uniqueness of these maps, investigations on consensus among residents about the territory are crucial in order to better understand and address the issues concerning that specific locale | territory.

In addition to these, territorial cognition of residential environments also varies with respect to the location of the territory in the urban area. In their study, Haney and Knowles (1978) investigated the neighborhood perception of residents in inner city, outer city and suburban neighborhoods of Green Bay, Wisconsin by asking the interviewees to draw and describe their neighborhoods and later elaborating these results. The results of the study reveal that centrality of the neighborhood differs the content of the territory, such as number of features and important locations included in the maps, while the degree of consensus among residents on the boundaries in each case is relatively high even though the size of territory differs (Figure 3.8). In this regard Haney and Knowles (1978: 201) states that;

> *'From city to suburb the imageability of the neighborhood does not differ, it is both high and consensual. But the content of the image does change; suburban neighborhoods are seen as larger and less negative.'*

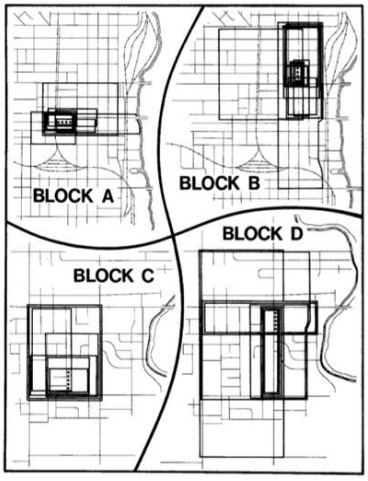


Figure 3.8. Neighborhood boundaries drawn by immediate neighbors
(Haney and Knowles, 1978: 211)

In this regard, the variation among residents' perception of their residential territory with respect to both individual (life cycle stage, gender, participation in and exposure to neighborhood, socio-economic status and cultural background) and neighborhood (tract area, density, type of settlement, percentage of vacancy, residential stability) characteristics as well as regional variations are examined in an extensive research conducted by Pebley and Sastry (2009) in the United States and later in sample neighborhoods within Los Angeles. In this regard, Pebley and Sastry (2009) claims that investigations on residents' perceptions are important since they reflect the residents experience of place which in return impact the place related choices and actions of these residents. The results of the study reveal that regional variations on perception of neighborhood size is low while the variation among residents living in cross proximity (the sample neighborhoods in LA) is higher. Yet, the perceived size is rather small in all surveys, compromising several blocks around the home. Besides, individual (especially social-economic status, participation and ethnicity as well as education) and neighborhood (especially vacancy rate and type of settlement) characteristics have a significant effect on residents' size perceptions. For instance, *'more socially marginalized respondents and those less geographically mobile view their neighborhoods as smaller. Residents of larger census tracts and those with higher vacancy rates see their neighborhoods as larger, while residents with higher percentages African American and poor view their neighborhoods as smaller'* (Pebley and Sastry, 2009:1). Hence, marginalized groups are more likely to be affected by the conditions in their near home territories thus, neighborhood-level social programs targeting these groups may need to focus on smaller areas.

Furthermore, incorporating the ambiguity of neighborhood boundaries in analysis and decision-making processes can lead to better results. In addition to these, consensus on neighborhood names is also examined within the study and the results show that level of agreement on given names is high and greater than on the perceived size of the neighborhood while marginalized groups were less likely to report a neighborhood name (Pebley and Sastry, 2009).

In this context, the use of resident's cognitive maps as a source of investigating the territorial definition of residential environments with a user-oriented perspective is commonly used in the fields of urban sociology, environmental design and environmental psychology. Thus, different examples based on this method in terms of methodology and their results is further discussed in the following section.

3.1.2. **Cognitive Mapping as a Method for Territorial Definition**

Territory is defined as a space whose boundaries are well-defined and well known by its occupants (Sell, 1983). In this context, cognitive maps are utilized as a source for investigating the territorial delimitation and use of space by its occupants in a substantial amount of research in the field of both urban sociology, environmental design and environmental psychology.

The relation between environmental design and safety has been proclaimed by many theories starting with Jacobs (1961), who argued that architectural form and spatial design had the ability to break down community cohesiveness and destabilize informal social control, to Newman's (1972) seminal work on 'defensible space' which culminated the idea by putting forth the relation between built form, social composition, and criminal activity. In this regard, Petherick (2000) examined the influence of environmental design features on the student's fear of crime and avoidance behavior in University College of the Cariboo Campus through a cognitive mapping study. Hence, the prospect and refuge model developed by Nasar and Fisher in 1992 was utilized within the research. In the research, primarily specific sites are chosen and their degree of prospect and refuge are measured, later a questionnaire was conducted to examine the perceived safety levels within the selected areas to test the hypotheses derived from the model. The results of the study reveal that fear levels were correlated to the amount of prospect (open-view) and refuge (protection, hiding place) afforded in these areas and avoidance behavior was the most significant response to these fears. In the second part of the study, avoidance behavior of students was measured with the use of mental maps, in addition to closed-ended questions

(Figure 3.9). In this regard, students were given a site-plan of the UCC campus and asked to identify areas they would not walk through, walk by, or avoided altogether. Later, the results were quantified, interpreted and spatial patterning of fear on campus was obtained as a result. The findings reveal that, the design of certain areas reduced perception of safety and thus promoted avoidance as a coping behavior (Petherick, 2000). Hence, the use of cognitive maps to depict the relation between environmental design and safety has revealed important results for planning interventions at the micro-scale.

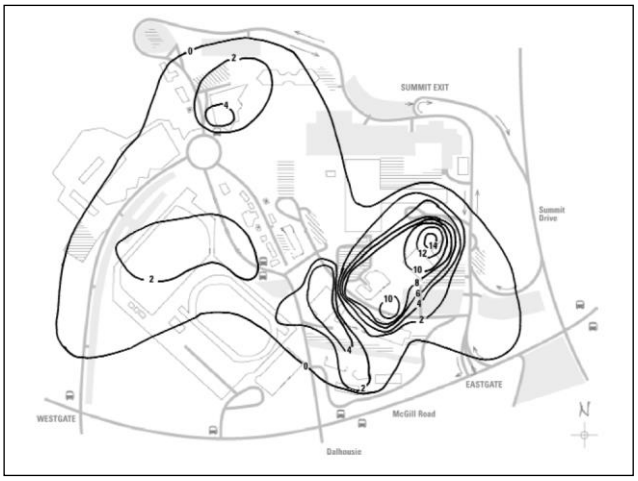


Figure 3.9. Spatial patterning of fear on campus based on student's cognitive maps (Petherick, 2000:106)

The territorial cognition studies are conducted under various scales from the near home territories to home range scale which refers to the city at large. In this regard, the perception of home range indicates *'the nature of internalized gestalt or mental map of the complex real world by individuals. This provides a base data on areal extent, structure and function of the paths and areas that are traversed, occupied or used regularly by individuals or groups of individuals'* (Anderson and Tindall, 1972:1). In other words, cognitive maps are basic constructs that people used to organize their residential area conceptually (Banerjee and Baer, 1984).

At the scale of residential living space, territorial definition is often studied in relation to its implications on residential satisfaction, attachment to territory, safety and environmental quality. Furthermore, Bowden (1972, cited in Park and Rogers, 2014) claims that, even eleven-year-olds can draw neighborhood boundaries and have an awareness of the concept of a neighborhood. In this regard, territorial definition of especially residential areas can be grounded on the conceptions of its residents. Hence, territorial aspects that repeat itself and make up the neighborhood can be revealed by the use of mental images and physical-social activities of its occupants (Sell, 1983). In other words, cognitive maps are helpful tools in depicting the tacit knowledge of territorial inhabitants into research.

In this context, Lee (1968/1970) investigated the relation between physical patterns and social participation in his study of Cambridge neighborhoods based on neighborhood schemata drawn by residents during interviews (Figure 3.10). The study primarily examined the size and composition of the physical areas corresponding to neighborhood schemata (variation of mean neighborhood area delineated by residents on cognitive maps) with respect to physical (density including various settings from urban, suburban and slum areas. etc.) and subject variables (age, length of residence etc.) on the schemata.

The results of the study reveal that, although personal perception of the neighborhood vary, repeated transaction with certain people and places make the neighborhood an organized socio-spatial whole. The study also reveal that the neighborhood is circumscribed by delineating a territory rather than a population aggregate or density of dwellings like planners (1963-1964/1973). In this regard, Lee (1963-1964/1973: 99) claims that;

> '*…people do not organize the social/spatial world into 'networks', or 'chains', or 'communalities', but into organized units which are continuous and filled, and having more or less clearly defined boundaries. They do not distinguish, normally, between social and physical space. Schemata show similarities in so*

far as they occur among the same sort of people in the same kind of environment, otherwise they are unique'.

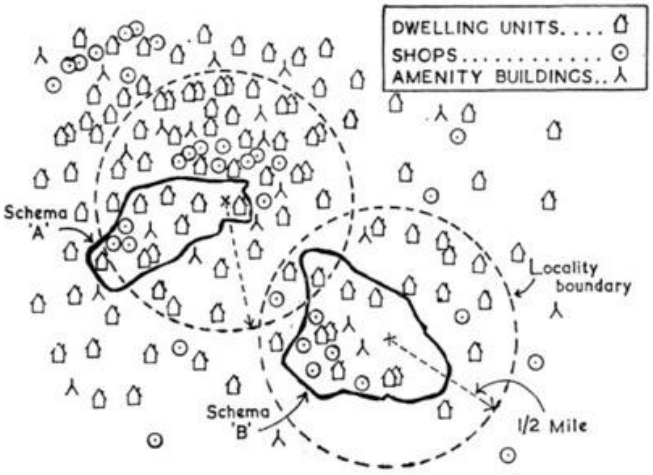


Figure 3.10. Neighborhood Schemata (Lee, 1968/1970)

Furthermore, according to Lee (1954 cited in 1963-1964/1973), these studies can be used as a base for the planning discussions on how large a neighborhood should be, impact of distance on behavior, the impact of vertical development on the cognition of the living environment, the walking distance paradigm with respect to changing mobility patterns of the residents in the new era, the relation between local involvement and the pattern of the physical environment and many others. Hence, neighborhood schemata investigations have many further implications for planning.

Later, Coulton et. al. (2001) carried out a pilot study in Cleveland to examine different methods of defining neighborhoods using resident's maps, and later compared the results between resident's maps in each neighborhood and with census-tract definitions of those neighborhoods. In this regard, Coulton et. al. (2001) states that although administrative units (census tracts in this case) are defined regarding the natural-political boundaries and local history, and used in most of the researches due to the large amount of data available such as crime reports, housing values etc.; resident's perceptions are more accurate in terms of producing more meaningful, relevant, and closely representative boundaries of the neighborhood. Census tracts are

meaningful in terms of attaining statistical data by providing similar population sizes with demographically and socioeconomically homogeneous populations while they are less compatible with the unique view of residents of their residential areas (Coulton et. al, 2013). In this context, the study used neighborhood maps drawn by 140 residents, which were collected from randomly selected seven census-defined block groups in Cleveland. Respondents were all parents of minor children who were again randomly selected and even dispersion of respondent's location along the blocks was taken into account. During the study, a base map covering an area of eight-mile radius around the respondent's house, and having street names and a few landmarks for orientation were prepared, then respondents were asked to draw what they believed were the boundaries of their neighborhoods. The respondents were reminded to draw a completely enclosed perimeter. Later, each respondent's map was traced into MapInfo and the area, perimeter, and centroid were calculated for each resident map, in addition to the common area for each block group. The coefficients of variation for each dimension is calculated to examine the consensus between respondents in each case (Figure 3.11). In the second part of the study, four methods for drawing neighborhood boundaries were developed based on residents' maps: i. determining the common area using the portion of the map that was included within the boundaries of 70% of the residents' maps; ii. Drawing a circle with the size of the average area from the average centroid of the residents; iii. Identifying the street boundaries used by 70% of the resident maps and then drawing the consensus map, using these streets; iv. Using the boundary of the largest map. The first two methods were found more accurate for the study. The results of the study reveal that, resident's maps defining neighborhood boundaries covered different areas than census defined units and produced different social indicator values. Although most residents' homes were near the centroids of their maps, there is a clear variation both between and within neighborhoods on the size of residents' maps and the shape of the boundaries that they drew.

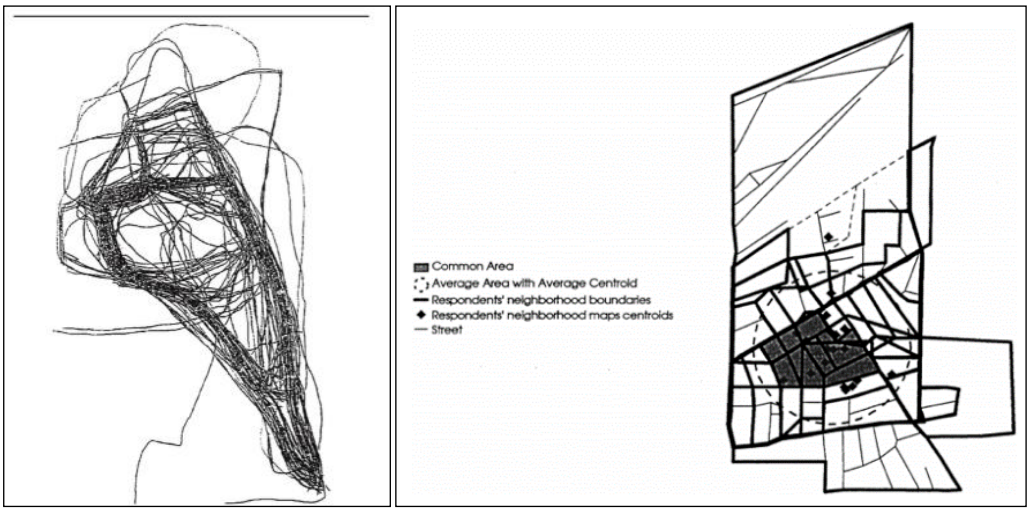


Figure 3.11. (On the left) Residents cognitive map of their neighborhood (Source: Coulton et. al., 2001:377) (On the right) Perceived Neighborhood Boundaries based on Cognitive Maps of residents (Uzzell et. al., 2002:38).

In their study, Uzzell et. al. (2002) examined the particular role of place identification, social cohesion, and residential satisfaction on sustainable environmental attitudes and behaviors. In order to investigate this interrelation a questionnaire was conducted in two neighborhoods in Guildford, then a structural equation model was utilized to put forth the relation between the observed variables (questionnaire data) with latent variables (place identification, social cohesion, residential satisfaction and sustainability), and chi-square values are analyzed to estimate how the data fit the model. The results of the study reveal that, place-related social identity (a function of pre-defined latent variables) form an important dimension of environmental attitudes and behaviors, while the role of place identification and social cohesion may vary depending on the characteristics of the residents and nature of the environment. In this study, place identification at the neighborhood scale was investigated with the use of cognitive maps, open ended and rating scale questions. Place identification is measured by asserting from residents the distinctive features of their neighborhoods including the name of their neighborhood, its territorial extent (respondents were asked to draw on a map the boundaries of what they considered to be their neighborhood) (Figure 3.11), their functional use of the neighborhood (respondents

were asked to name places they frequent and places that residents use and visit were recorded) , and its psychosocial properties (respondents were asked to specify their sense of attachment and belonging to the neighborhood, and to assess how they think outsiders perceive their neighborhood). Hence, the two neighborhoods differ in terms of; clarity of limits and the extent of perceived geographical limits (both its size and accordance with administrative boundaries), consensus on naming the neighborhood, and environmentally distinctive features that are referred which in return impact the place-related social identity as well as environmental attitudes and behaviors (Uzzell et. al., 2002).

Talen and Shah (2007) tracked local home area/neighborhood of residents to evaluate neighborhood boundaries, elements, activity patterns and neighborhood assets and deficiencies using an interactive interface through GIS in Urbana, Illionis (Figure 3.12). The term 'neighborhood' in this study refers to any local area, urban subunit, extension of the home area rather than the administratively defined geographic unit. The results of the study reveal that, neighborhood boundaries are rather individually constructed and the elements used to define these boundaries are dependent more upon physical features while some respondents also used individual activity patterns, characteristics as well as personal ties with other residents. Besides, there are certain activity areas more locally dependent such as parks, and the assets of the neighborhood are defined based mainly on positive physical features while negative aspects are mainly based on social aspects such as neighbor relations during the study.

Another study based on residents' conceptions of their residential environments is conducted by Jenks and Dempsey in 2007. During the research, mapping exercise is conducted in 6 residential areas from Oxford and Sheffield (Figure 3.12). Later, a comparative analysis is done. In this regard, the mean area covered by the boundaries set in the residents' maps (RNB) is examined with respect to boundaries derived according to 6 objective methods: i. Spatial method (the area including solely housing), ii. Social method (census tract areas), iii. Spatial method+ 400 meters, iv.

Spatial method+ 800 meters, v. Social method+ 400 meters and vi. Social method+ 800 meters. The results of the study reveal that, boundaries set in the residents' maps is the most proximate to the boundaries derived from method iii. Thus, the authors claim that not only the physical parameters but also a buffer zone (400 meters) should be considered while planning or developing policies for the residential areas.

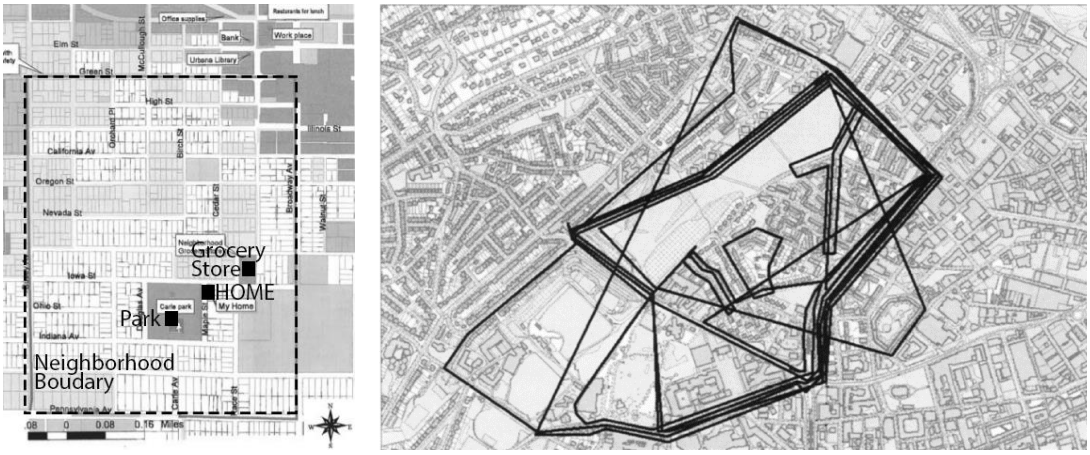


Figure 3.12. (On the left) Respondents Map (Talen and Shah ,2007:601),
(On the right) Residents neighborhood boundaries (Jenks and Dempsey, 2007:169).

According to Lohmann and Mcmurran (2009) approaching neighborhood phenomenon with a perspective solely based on a portion of land with clearly demarcated and consistent borders misses the meaning and social component of the neighborhoods as well as residents' agreement. On the other hand, approaching the phenomenon with a schema-based emphasis disregard the role of reliable, stable boundaries on operationalization. In this context, Lohmann and Mcmurran (2009) claims that, neighborhoods should be approached as socio-spatial schemas as claimed by Lee (1973). Hence, in their study they propose aggregate resident defined mapping as a new method that can guide both research and interventions at the neighborhood scale. In this study they applied resident defined mapping both as a pretest (1998) and posttest (2004) to measure both the perception of neighborhoods boundaries and social cohesion before and after the construction of a freeway in a suburb in Los Angeles (Figure 3.13). According to the results of this study, lower sense of community and

smaller neighborhood areas were detected for the residents living adjacent to the freeway with respect to other parts of the area and also to pretests. Yet, this study puts forth both the significance of resident defined mapping studies as a tool in terms of both understanding 'phenomenological' neighborhoods with their unique qualities and identifying 'hot spots' outlined by residents for planning interventions which otherwise could have been easily gone unnoticed with conventional research techniques.

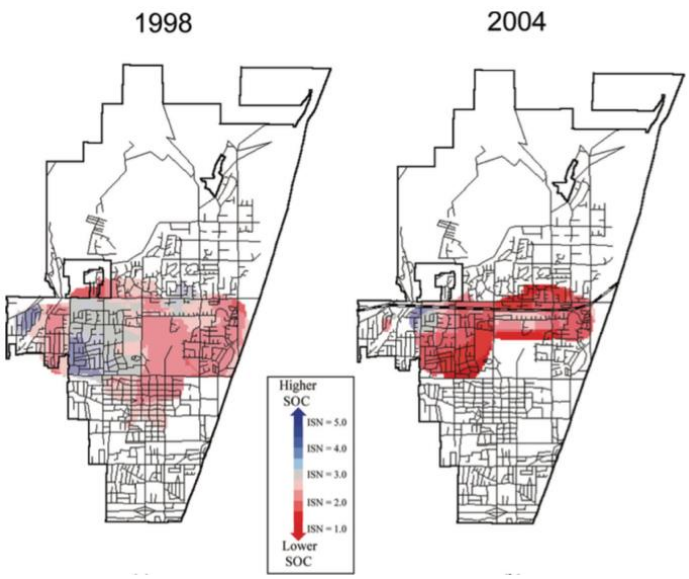


Figure 3.13. Resident-defined neighborhood map reflecting the change in sense of community and areal extent of neighborhood for residents who started to live adjacent to a freeway since 2002 (Lohmann and Mcmurran, 2009: 75).

In this context, Campbell et. al. (2009) claims that subjectively defined neighborhood boundaries and consensus on the boundaries have powerful impacts on a variety of outcomes at diverse scales. For instance, it may influence adolescent development and the parenting strategies of the residents, the attitude of residents regarding the social life in the area and the willingness of residents to engage in local collective action, the availability of social services as well as revealing information about the level of community attachment.

Hence, in a comparative case study, Campbell et. al. (2009) also investigated the subjectively defined boundaries in four neighborhoods of Denver, Colorado by conducting qualitative interviews and cognitive mapping exercises. The study examined the degree of consensus among residents on the spatial boundaries of the neighborhoods and the factors that has impact on the designation process, the stability of boundaries along the in-depth interviews, and the comparative similarity between subjectively defined and administrative boundaries. Regarding the consensus on boundaries, whether there is an *overlapping core* shared in subjective maps, and these maps indicated shared boundaries among residents (commonality of markers used to demarcate the boundaries) was inquired (Figure 3.14).

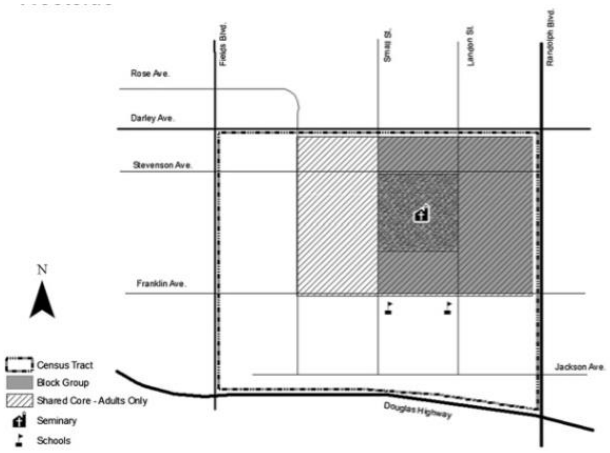


Figure 3.14. Subjectively defined neighborhood boundaries (Campbell et. al., 2009: 470).

The results of the study reveal that, the designation of boundaries is diverging, whereas there is a significant amount of consensus. Adults tend to agree more than teens about the boundaries, while most adults and adolescents share at least one boundary which is typically a busy street or boulevard, and residents tend to share core areas that sometimes include but are not limited to census- defined block groups. The findings also reveal that there is a substantial number of commonalities in terms of factors used by residents to construct the boundaries. Yet, these factors not only influence subjective definitions, but also has direct impacts on the boundary consensus and boundary shifting. In addition to these, the results of the study show that designation

of boundaries is affected both form contextual forces and personal experiences. In this regard, main factors that influence the designation of boundaries are listed as; the physical and institutional characteristics of the neighborhood (built and natural structure), social composition of the neighborhood (class, race, ethnicity etc.), fear of crime, length of residence and symbolic identity of the neighborhood (Campbell et. al., 2009).

In this regard, Minnery et. al. (2009) puts forth two main conceptualizations regarding neighborhoods and each has its own understanding of the boundaries which is important in the formulation of planning interventions. First, neighborhoods are approached as spatial units from the social construct. In this regard, neighborhoods refer to a physical and spatial unit with identifiable boundaries and also a social unit in terms of neighboring relations and neighborliness. Within this perspective, location and scale are important, while boundaries are set by the 'boundary makers' such as in the form of administrative boundaries. Secondly, neighborhoods are approached as an urban planning technique, a pragmatic planning and design tool. In this regard, functional characteristics of the unit are important and the main aim is to integrate land use, facilities, movement systems and residents within a delimited area. Hence, boundaries are defined by some rational planning metric such as the 'walking distance' or the 'school catchment area'.

Furthermore, Minnery et. al. (2009) argues that a better understanding of the local residential areas can be gathered through the investigation of how residents themselves identify their neighborhoods and its boundaries. Hence, Minnery et. al. (2009) conducted a survey depicting residents' perceptions of their neighborhood boundaries in Brisbane, Australia. During the survey, home locations and neighborhood boundaries were analyzed in terms of form, areal extent and communality (Figure 3.15). In addition to this, boundaries were correlated with other survey data including basic demographic information, shopping and recreational locations, layout and

development of the area, opinions about the area, minimum and maximum distances from the dwelling to the boundary. The results of the study indicate that;

There is lack of agreement over the *extent and orientation of the boundaries* of the neighborhood, while the *type of barriers used to set the boundaries* show similarities in the form of main roads and creeks. Thus, it is claimed that neighborhood boundaries are individual rather than group constructs. Besides, there is a *shared 'core area'* agreed by the majority of the residents (over half of the respondents' maps overlapped in the focal area) which is again defined by physical barriers. In this regard, it is claimed that planning policies should focus to the 'core' rather than boundary-defined interventions.

There are two types of forms used to bound neighborhoods; *abstract boundaries* where the resident had a general idea about the extent of the unit while did not linked it to physical features, and *road-based boundaries* which are based on physical barriers such as roads and creeks. Majority of the respondents used abstract forms, hence it is claimed that perception of the boundaries is not always connected to physical cues. Besides, residents perceived boundaries also do not match with *administrative boundaries*

Centrality of the home location was also low among residents' maps. Hence, it is claimed that residents do not perceive their neighborhood as their home-area.

Neighborhood *boundaries and socio-demographic characteristics* were not clearly related.

Perceived boundaries also differentiated from the assumptions of the *neighborhood planning standards*. Although boundaries are set based on the 5-10 min walking distance (500 meters) in planning theory and implementations, the results reveal that the mean maximum distance to the perimeter is nearly 1500 meters. In this regard, it is claimed that the scale of the neighborhood is based on driving distance rather than walking (Minnery et. al., 2009).

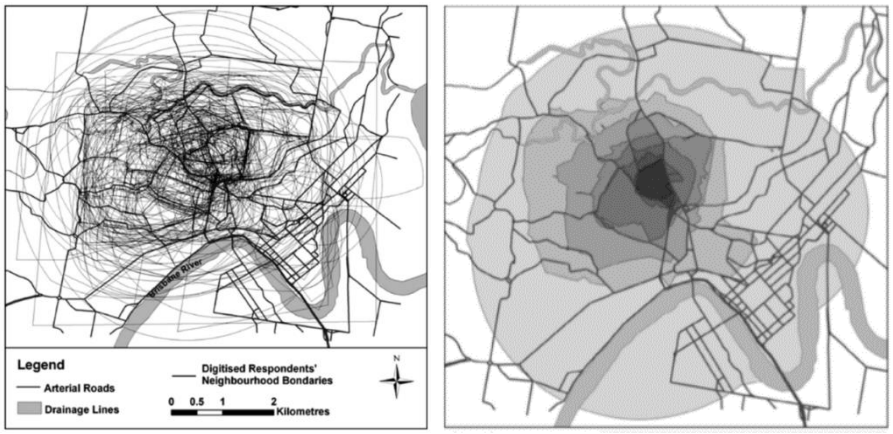


Figure 3.15. Residents perceived neighborhood boundaries (Minnery et. al.,2009: 481,483)

In their recent study, Coulton et. al. (2013) studied the scale of neighborhoods based on residents' perceptions based on 6000 digitized respondent maps using GIS tools from 10 cities in US especially from low-income neighborhoods (Denver, Des Moines, Hartford, Indianapolis, Louisville, Milwaukee, Oakland, Providence, San Antonio, and Seattle/White Center). Besides, they also investigated the impact of attributes of geographical context and individual characteristics such as census tracts, socio-economic profile of residents, physical and social characteristics of the surrounding environment on the scale of the perceived boundaries of the neighborhood. In terms of individual level predictors, the results demonstrate that individuals who have more education and income, who are younger and have lived in the neighborhood longer, and who are more engaged in their communities have larger perceptions of their neighborhood. At the scale of residential context, the results demonstrate that denser population, and more multi-family and vacant housing and mixed land use result in smaller areas perceived as neighborhoods. The results of this study also reveal that, residents within the same context vary considerably with respect to their perceived neighborhood scale and hence the authors states that;

> '*Beyond revealing that a one-size-fits-all definition is likely to be a misspecification, this study suggests that collections of blocks may be better approximations for neighborhoods as experienced by residents than the commonly used census tract definitions*.' (Coulton et. al., 2013:149).

From a different context than the previous studies focusing on the Western cities, Saghatoleslami et. al. (2014) used residents' cognitive maps to compare the validity of administrative boundaries to the lived experience of inhabitants through a survey-based case study in four selected neighborhoods in the city of Mashhad, Iran (Figure 3.16). The aim of the study was to examine the consistency and consensus between the administratively defined boundaries of neighborhoods set by experts and urban managers from a top down perspective whom approach neighborhoods mainly as spatial subdivisions to resident defined boundaries through cognitive maps which represent the place where the social life of inhabitants occurs from a bottom up perspective.

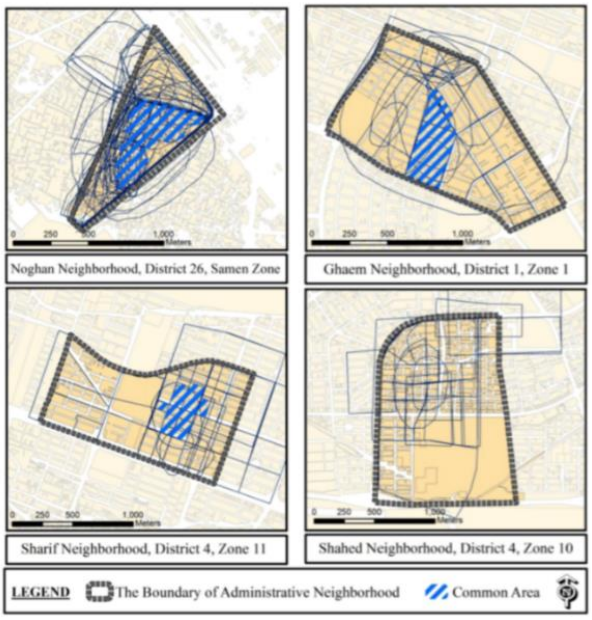


Figure 3.16. Neighborhood boundaries in resident's cognitive maps and shared core with respect to administrative boundaries in four selected neighborhoods in the city of Mashhad, Iran (Saghatoleslami et. al., 2014).

Findings of the study indicate that the mean extent of neighborhood in residents' cognitive maps was between 20% to 45% the extent of municipality-based neighborhood approximately. Thus, residents perceived territorial boundaries of their neighborhood much smaller than the territory of the administrative neighborhood.

Saghatoleslami et. al. (2014) also claims that, since the neighborhood is a socio-spatial concept, in which physical and social dimensions dynamically interact, both designations on the boundaries of the residential area should be interwoven to define the ambiguous boundaries of neighborhoods.

Another rather recent project is developed by two cartographers in Boston, with the title ‘Bostonography’, which aims to create visual representations of the life and land, and to expose and explore the geographical sense of place in the city. Within the scope of this project, a recent online crowd-sourced neighborhood mapping project is initialized with the title ‘Map your neighborhood’. In this regard residents were asked to draw the boundaries of their neighborhoods online and results were overlaid in order to measure the amount of overlap and calculate the level of consensus for each neighborhood (Figure 3.17). In addition to this, to investigate the landmarks that define a neighborhood, the map also allows respondents to drop a point marker at specific places which can be either the central point of the neighborhood, or just a place strongly associated with the neighborhood. Yet, optional questions about length of residence are added in order to give more weight to longtime residents, or to map how boundaries may have shifted over time; and respondents can also share stories or comments about their neighborhoods. The promoters of the project claims that, if enough people contribute to the map, it would provide a data set of how the city is seen collectively which could be used by policymakers and such. The results of the study reveal that, old, central neighborhoods are easily defined and tend to have distinctive visual identities; while the others are less clear (Woodruff and Wallace, 2015).

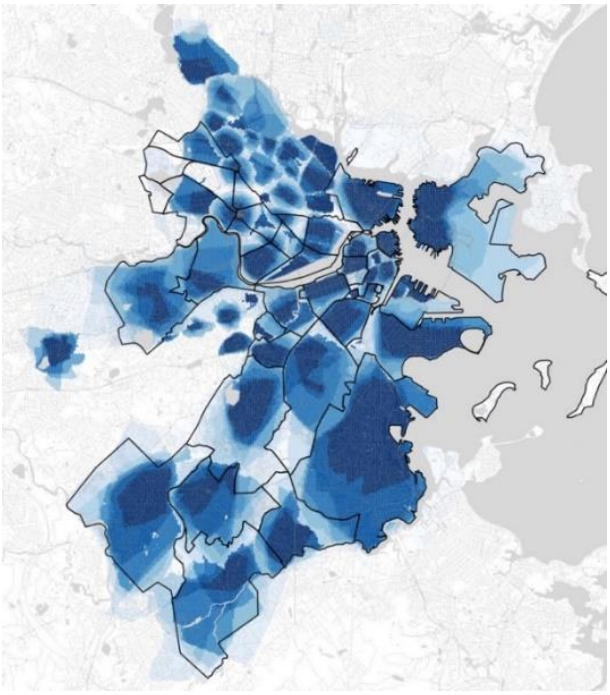


Figure 3.17. Consensus map of neighborhoods boundaries vs administrative boundaries (Source: http://bostonography.com/wp-content/uploads/2017/04/hoods2017vsOfficial.jpg)

Another study is conducted by Van Gent et. al. (2016), in order to investigate the variances between different social groups residing in the same neighborhood in terms of their neighborhood territory perception (Figure 3.18). In this regard, Geuzenveld, a recently renewed post-war neighborhood on the periphery of Amsterdam was set as the case area. Hence, residents were asked to draw the boundaries on a map of what they perceived to be their neighborhood in addition to several survey questions on affiliation and attachment. The online survey featured a drawing tool based on Google Maps technology, while in the face-to-face interviews' respondents drew on a printed map. Boundaries were analyzed by constructing maps based on overlapping perceptions using ArcGIS software. Yet, survey results of each social class within the renewed neighborhood differ in terms of what is included and what is excluded; perception of boundaries; and neighborhood attitudes. In addition to this, limited interaction and the symbolic boundaries between established residents and newcomers in such a socially mixed neighborhood manifest itself on these cognitive maps. The

results of the study reveal that, the spatially-perceived boundaries are structured by; social position of the residents, location of the respondents, housing type and tenure, length of residence, physical markers and barriers, daily routines such as shopping habits and commuting choices. It is also claimed that, these boundaries resemble the social relations and symbolic boundaries between different social groups which indicates deep socio-spatial fault lines. Resulting from these fault lines, it is stated that Geuzenveld shows fragmentation rather than social integration, and renewal resulted in a middle-class enclave within a poor neighborhood (Van Gent et. al., 2016).

Figure 3.18. Neighborhood perception of different social groups in the Geuzenveld neighborhood (Van Gent et. al., 2016:258).

To sum up, cognitive mapping as a method for territorial definition is crucial in terms of addressing planning issues at the scale of residential areas since it reflects the residents own experience of place, besides this method is better at locating hotspots of dissatisfaction by residents. Yet, not only the boundaries of the territorial unit and consensus among residents (Table 3.1) but also the content within the defined

boundaries provide many inputs for planning interventions. For instance, what is included or excluded from the territory and what constitutes the core of the territory may provide fruitful insights for future planning studies. In addition to these, although each schema is unique for each resident, overlapping areas as well as differences with respect to indiviudual's characteristics such as age, gender or income reveals important insights. In addition to this, the location of the residential area within the urban space is also an important parameter with respect to the size of the perceived residential area or the neighborhood.

Table 3.1. Summary of the previously discussed studies in which an average perceived neighborhood size is investigated

Author	**Case**		**Average Perceived Neighborhood Size**
Lee (1968/1970)	Cambridge		Less than half a mile (>~ 130 ha)
Haney and Knowles (1978)	Green Bay, Wisconsin	Inner city Outer city Suburb	20 acres (~ 8 ha) 48 acres (~ 19 ha) 155 acres (~ 63 ha)
Guest and Lee (1984)	Seattle		Less than half a mile (<0.79 square miles, ~ 205 ha)
Banerjee and Baer (1984)	Los Angeles	Lower income Higher income	0.05 square miles (~ 13 ha) 13 square miles (~ 3.3367 ha)
Lee and Campbell (1997)	Nashville		14.8 blocks
Coulton et al. (2001)	Cleveland		0.32 square miles (~ 83 ha)
Talen and Shah (2007)	Urbana, Illionis		10-400 acres (~ 10 - 161 ha)
Lohmann and Mcmurran (2009)	Los Angeles suburban area before (1998) and after (2004) the construction of the freeway	**City scale**	**City scale**
		before construction	0.50 square miles (~ 129 ha)
		after construction	0.89 square miles (~ 230 ha)
		Near the freeway	**Near the freeway**
		before construction	0.61 square miles (~ 158 ha)
		after construction	0.36 square miles (~ 93 ha)
Minnery et al. (2009)	Brisbane, Australia		Mean max. distance to perimeter: 1500 meters (~ 706 ha)
Pebley and Sastry (2009)	Los Angeles		Several blocks from home
Coulton et al. (2013)	10 cities in US (Denver, Des Moines, Hartford, Indianapolis, Louisville, Milwaukee, Oakland, Providence, San Antonio, and Seattle/White Center)		0.90 square miles (~ 233 ha)
Saghatoleslami (2014)	Mashhad, Iran		36 ha

3.2. Territorial Behavior

'To use built form is to exercise some control, and to control is to transform'
- Habraken, 2000:7

Territorial behavior in humans refers to verbal and paraverbal, setting changing and maintenance behaviors (Taylor, 1988). Yet, territorial behavior mainly involves marking and personalization, exclusive use of territory as well as control and defense of that territory (Gifford, 1997; Farkisch et al., 2015; Brown et al. 2005 cited in Farkisch et al., 2015).

Territorial behaviors both regulate social interactions and provide the stability of the social organization within a territory. They function both by preventing unwanted social encounters with boundary control mechanisms and also by eliciting social interaction. Territorial behaviors include demarcation and/or the adornment of space by territorial markers. Such markers and personalization, such as fences around the dwelling, 'saving a seat' or family photos at the office desk, enable non-verbal communication, sent environmental messengers to users and outsiders about the ownership of the territory and personal or group identity of the owner (Greenbaum and Greenbaum, 1981). Yet, territorial marking is an important part of territorial behavior which enables inter/intra territorial control territories by means such as signs and barriers which in return foster place attachment.

On the other hand, control and defense of territory are the main territorial behaviors in humans. Yet, territorial control is more common in humans rather than aggressive defense and dominance. Defense of territory in humans is often managed by nonviolent means such as language for negotiation, customs to guide behavior and legal systems to resolve disputes. On the other hand, control can be either active or passive and exerted not solely over territory but over space, ideas, and other resources within a territory. Besides, the level of territorial control is directly related to the type of territory (whether it is primary, secondary or public) (Gifford, 1997). Moreover, the

control over territory is secured by two means, which are marking and personalization and defense of space (Porteous, 1976).

According to Brower (1980), control over territory is regulated by the 'appropriation of space' which includes three main elements which are; occupancy, defense and attachment (Figure 3.19). Within this context, occupancy is classified based on the controls that operate within that space as: personal occupancy, community occupancy, occupancy by society and free occupancy. Whereas, defense can be in the form of surveillance and control of boundaries, rules governing admissions and the use of territorial signs. Attachment to place is defined as the feeling of possessiveness that an occupant has toward a particular territory because of its associations with the self-image or social identity. In this regard, strengthening the sense of attachment of occupants is also necessary for the purpose of making a place more defensible. The other way around, high levels of attachment to place results in higher personalization of space by its occupants which in return serve as a sign of occupancy.

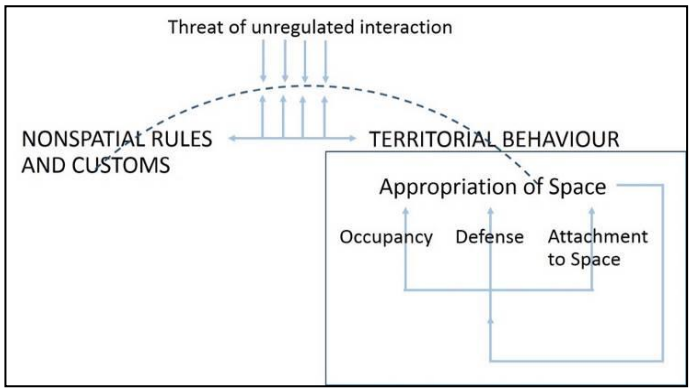


Figure 3.19. Control of territory (Drawn by the author based on Brower, 1980:184)

The efforts to directly control access and activities of others in a specific territory is the basis of territorial behaviors. In this regard, production of both markers and signs are referred as territorial behaviors (Taylor, 1988). In this context, the most common behavior for declaring territorial claims and communication of ownership of a space is through personalization and marking of that territory (Gold, 1982). Territorial

markers are used to indicate ownership and to pass signals to outsiders that the place belongs to someone, in order to prevent territorial violation (Altman, 1975). Personalization and marking, not only notices others of claim over a territory, but also provides other psychological benefits such as ‘feeling at home’ and ‘home-field advantages’ (Gifford, 1997). Territorial claims are also made uniquely at each scale. For instance; property ownership can be claimed through formal market transactions as well as by walls and security systems (Castell, 2010).

Yet, territorial markers are the basic manifestations of claim over a territory. Those markers appear as natural landmarks such as rivers, visual cues such as claws and bites on trees and acoustic cues in animals. Markers serve as a sign that a place is claimed, indicates its limits, regulate social processes and activities within its limits and reflects the identity of its owner. Territorial markers help the control of activities by signaling type of activity that is allowed and not allowed within that territory; besides markers such as barriers and physical arrangements both limit and facilitate interaction. Despite the concrete territorial markers in animals, humans rather use signs. Such markers appear in the form of signs, barriers and personalization of the territory which include environmental props such as nameplates, fences etc. as well as graffiti. Markers are also boundary definers between different domains (public to private) within the spatial hierarchy (Sell, 1983).

Territorial markers include: behavioral traces, levels of maintenance, signs of beautification, signs of identification and barriers which send messages to both outsiders and other residents in shared environments (Taylor and Brower, 1985). For instance; placing an object or substance such as leaving coats or books on chair or table (Gifford, 1997) as well as distribution of objects, ornamentation and gardening can be listed as such behaviors which indicates that a space is used, owned or cared for (Taylor et. Al., 1981). There are also other instruments for creating boundaries (Farkisch et al., 2015) such as fences, hedges, signs, controlled access pathways and guards that are examples of preventive markers (Altman, 1975).

Territorial markers refer both to physical and symbolic barriers, and signs to control behavior in space (Lynch, 1960; Madanipour, 2003). Yet, territorial barriers are distinctive in terms of their visibility and permeability (Edney, 1974). On the other hand, signs are often utilized for the establishment and maintenance of spatial order between different territories. Signs are manifestations of who is allowed and how to behave within a specific territory. Signs can be formal and tangible such as signboards telling 'Ladies' or 'Private Road', while they can be more informal and less tangible such as women avoiding to cross dark paths at night or street gang's graffiti on the walls excluding other street gangs from each other's territory (Castell, 2010). In other words, territorial demarcation can be physical in terms of barriers as well as symbolic like being psychologically discouraging (Lay, 1998).

As discussed above, territorial markers can be physical elements, such as signs, locked gates, high fences, high demand gardening, seasonal decoration and upkeep, which derive mainly from the desire of boundary regulation. Hence, territorial markers are the visible consequence of behaviors such as maintenance, decoration, modification and beautification. They convey messages about the boundaries, appropriate behavior in a territory and other information about the territory, while how these messages are decoded relies both on the perceiver (resident, stranger, or other residents) and the context. Besides, the overall distribution of these signs in a particular locale is more important than a single evident sign at a specific place (Taylor, 1988).

Goffman (1971: 41) defines territorial markers as follows; *'claim to a preserve by a putative possessor is made visible by a sign of some kind, which, following the ethological practice, may be called a 'marker'*. Hence, he sets two kinds of territorial markers:

> *Central Markers* which announce a territorial claim and the territory radiating outward from it (towel on a beach chair)
>
> *Boundary Markers* that mark the line between two adjacent territories (bars used in supermarket checkout counters) (Figure 3.20).

In this regard, central markers can be used to provide a locus of orientation and help define the activity within the area (Schflen, 1976 cited in Sell 1983).

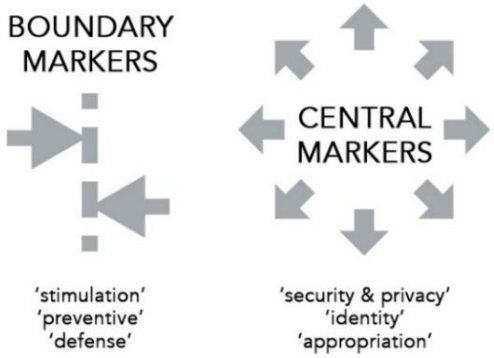


Figure 3.20. Types of territorial markers (Drawn by the author based on Goffman, 1971)

Furthermore, personalization is also a way of marking space, but one that reveals the identity of the one who marks it, such as employees decorating working space with pictures or mementos, or gang graffiti as a sign of control over that territory (Gifford, 1997) (Figure 3.21). Personalization of space is assertion of identity and a means of ensuring stimulation; while defense of space includes both psychic (rituals entering a home such as knocking, personalization of the house may also assert psychic security) and physical security means (Porteous, 1976).

Personalization is the act of reflecting identity, history and aspirations of the individual through environmental cues and making the place 'his/her own'. The main purpose of personalization is to express identity to the outside world as well as reinforcing a sense of identity by presenting cues from memories and feelings about the self, stimulation of memories through personalized environments (Zeisel, 2006). Personalization behavior provides '*feeling of security, symbolic-aesthetic'* and also '*adjusts the environment to fit activity patterns better*' (Lang, 1987).

Figure 3.21. Personalization of work territory (Photos taken by the author in 2017)

Besides, *routinization and socialization* are also important behaviors and practices, ways in which humans personalize, use and control different territories (Karrholm, 2007). In this sense, the routine behavior patterns on a neighborhood street, such as people sitting in groups on the corner or children playing on it, which constitute part of the streets meaning and identity, is also a control mechanism. In this regard, Taylor and Brower (1985:191) noted that; '*Life on the block is a complex pattern of overlapping, largely rhythmic routines',* emphasizing the importance of routines on the territorial claim over space.

3.2.1. **Territorial Behavior in Residential Environments**

Key components of urban residential territorial functioning involve '*the control over access to territories and activities ongoing within those territories as well as problems in the absence of such measures (e.g. vandalism and fear)*' (Taylor et. Al., 1981: 290). In this context, territorial behaviors including exclusive use of territory as a resource base and control and defense through marking of the territory by physical and symbolic barriers, signs, and personalization are rather significant for territorial functioning in residential environments.

Based on the previous discussions, residential territories are the primary resource base exclusively used by its residents. Besides, the claim to a specific territory provides access to certain resources and in return certain resource needs of a group defines the territorial configuration and behavior (Sell, 1983). In this context, residential territories are where the daily facilities are accessed by urban residents and the functional distribution and access to diverse resources becomes an important issue. Hence, it is claimed that neighborhoods (residential territories) should have the functionality to support daily living needs and mix of uses to hold a community. Although, residential territories are not the sole source for daily needs of its residents as a result of increasing mobility and online services, immediate reach to certain functions is vital especially for vulnerable groups such as elderly and low-income groups with less mobility. It is also important to note that these functions should also be easily accessible with an emphasis on pedestrian orientation.

According to Lee (1968/1970), people utilize residential territories to satisfy a wide range of needs with minimum effort. Hence, the continual locational coding that arises from this activity precipitates in the form of a socio-spatial schema, while these schemes are also affected from the physical environment and personal characteristics of the residents. In this regard, it can be claimed that daily activities and use of facilities are a crucial part of territorial behavior and also implies a socio-spatial schema for the residential environment. In this regard, the use of near home territories as a resource base is investigated based on the activities and facilities used frequently within the territory. In order to do so, activity maps; trip diaries and GPS tracking are used to determine the territorial behavior of urban residents.

In this context, a study is conducted by Anderson and Tindall (1972) which examines the home range of children by using mental maps, overlay drawings and analysis of functional structure of activity nodes. During mapping, children were asked to draw areas traversed, occupied or used regularly including minor paths, activity nodes, landmarks and danger areas. Later, the maps are analyzed with respect to scale and

extent, detail and elements included, boundaries and orientation. The results of the study reveal that, each attribute differs with respect to individual characteristics of children (age, gender, class etc.), mobility, settlement density and social/ cultural norms. Besides, functional distribution of activities and frequency of use were also examined in order to reveal the differences between urban and suburban settlements in terms of territorial behavior (Figure 3.22).

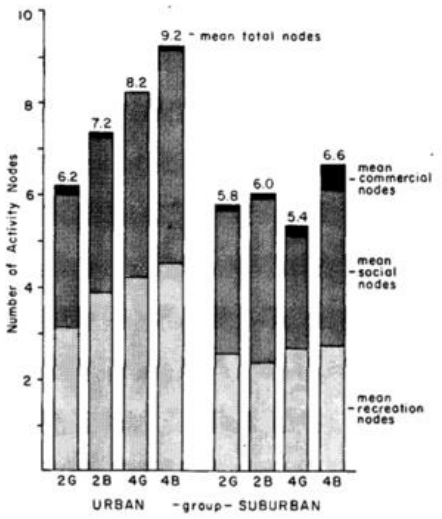


Figure 3.22. Functional structure of activity nodes (Anderson and Tindall, 1972).

In a similar vein, Van Vliet (1983) also measured the mean distance traveled and frequency of use for selected activities with respect to residential location through mental map analysis' in order to examine the difference between the home range of teenagers from city and suburban neighborhoods in Toronto in relation to their home location, age, sex and social class. Hence, not only the availability, distribution and utilization of resources within a residential area but also time and difficulty in reaching these resources as well as the location of the residential area within urban space are major factors shaping territorial behaviors.

In this regard, an earlier study is conducted by Ross (1962) in which the 'natural' areas model developed by Park and Burgess, which refer to locales that are recognized as

communities by their inhabitants such as the ghettos, was tested through a survey conducted in Boston for the identification of such local communities in terms of respondents naming, bounding and intensive use of local facilities of their neighborhood. The results of the study reveal that, residents of the area can name units with natural boundaries (such as major streets, parks and river as predicted in the natural area model) consistently while naming has also a status ascriptive function. On the other hand, use of local facilities was rather low, that is limited to convenience items such as food shopping and church use. Yet, the low levels of use of local facilities was not solely related to the limited opportunities in the area or the existence of a community but rather related to the adjacency of the study areas to the downtown area (Ross,1962).

Control and defense are the other important components of territorial behavior which becomes concrete especially at the micro-scale of residential environments. In terms of territorial control and defense, the most common behavior in residential environments is the use of boundary control mechanisms including territorial markers and personalization.

At the residential scale, the boundary set for the area to be controlled and defended often connotes to plot lines and appears in the form of fences and walls (Porteous, 1977). In their study, Mumcu Uçar and Özsoy (2006) examined the boundary mechanisms in housing environments for the case study of Bahçelievler district in Ankara. Based on their study, boundaries of the residential territory of the occupants are separated structurally from the public space of the street and the private space of the next-door neighbor in the form of walls, fences, bushes etc. Structural dividers are in various forms and enables many different opportunities, since they are formed and/or transformed from the original design by the home owners themselves.

Yet, the marking of territorial claims at this scale connotes to boundary mechanisms such as fences, hedges, signs and controlled access pathways at the housing scale;

while it may even reach the scale of the local community through common markers such as community gardens or murals (Figure 3.23).

Figure 3.23. Communal territorial marking and personalization at the scale of residential environments: (On the left) Community Garden in Paris, (On the right) Mural in 100. Yıl neighborhood in Ankara (Photos taken by the author, 2016).

Personalization is also a type of marking based on the transformation of the environment by means such as beautification or declaration of group identity with the use of nameplates, graffiti etc. On the other hand, personalization at the scale of home as a territorial unit often extends from the interior design of the house to the facades of the building, balconies and yards (Porteous, 1977).

In this regard, Greenbaum and Greenbaum (1981) investigated the interrelation between personalized spatial markers, social interaction and group identity in their study, based on the observations of the personalization and the level of maintenance in the semi-private areas in a Slavic-American neighborhood. The results of the study reveal that, spatial markers are associated with the amount of social interaction, whereas home ownership, ethnic identity and residential stability are also associated with the level of marking in a specific territory.

In addition to these, control and defense of territory at the scale of residential environments can also take shape at the more organizational levels, such as in the form of neighborhood associations within and between neighborhoods. Those associations strengthen the capability of residents to speak up for planning actions that are against their will and other unwanted intrusions regarding the shared territory. Besides, these associations empower social cohesion and place attachment which in return foster residents will to modify and maintain their shared territory. For instance, many neighborhood initiatives were born in Turkey as a part of grass root political actions that arise along with Gezi Park protests in 2013 (Figure 3.24).

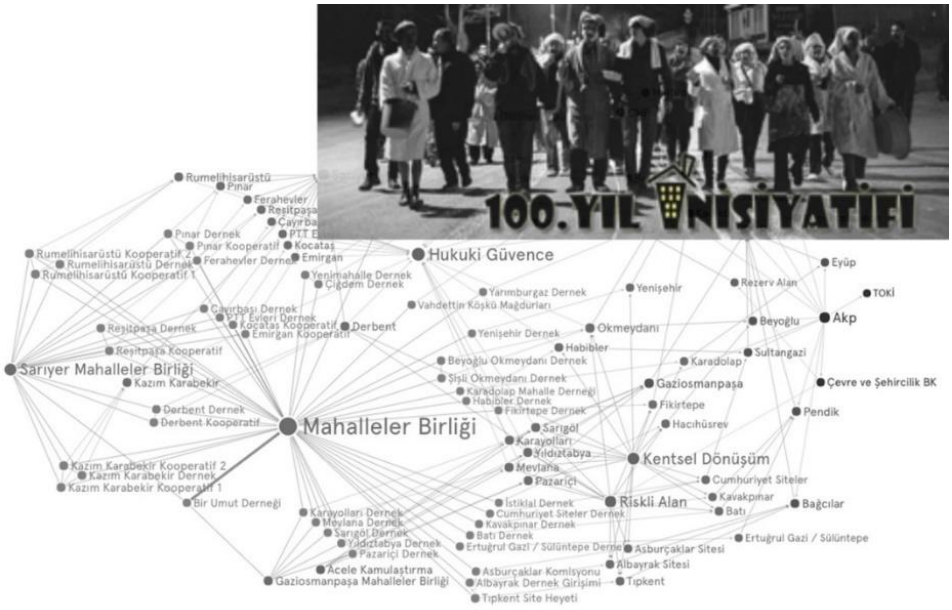


Figure 3.24. Control and defense of territory at the scale of residential environments: Neighborhood Associations. (Below) The Relational Map of Neighborhood Associations in Istanbul (Source: https://graphcommons.com/graphs/ab1eb063-745b-492c-8b0f-7ec080097841).
(Above) Neighborhood Associations of 100. Yıl Neighborhood, Ankara (Source:https://www.facebook.com/yuzyilinisiyatif/photos/a.642109932495101.1073741826.642105582495536/642110245828403/?type=3&theater)

3.3. A Model Proposal for the Assessment of Territorial Functioning at the Scale of Residential Environments

Based on the previous discussions, a preliminary model for the assessment of territoriality is proposed within the scope of this thesis derived from the previously examined attributes of human territoriality and previous models developed for its assessment (Figure 3.25). The model aims to redefine human territorial functioning and its parameters as well as operational assessment tools in order to comprise both the people-oriented and place-oriented connotations of the notion. The model is developed to be used for the assessment of territorial behavior and cognition patterns of urban residents, which are the main components of territorial functioning, at the scale of residential environments during the post-occupancy phase. Later the impact of fixed feature space, that is the physical environment, on territorial functioning is further investigated based on a comparative case study in the following chapters.

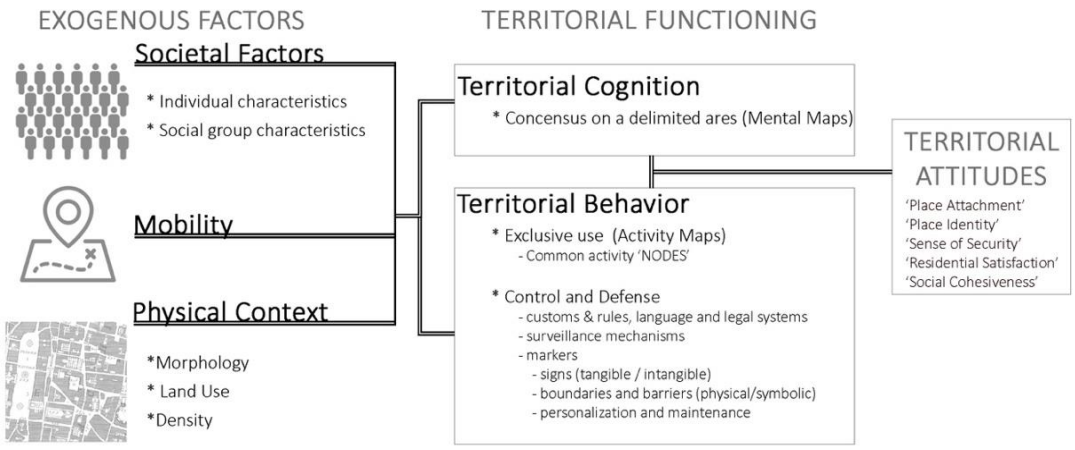


Figure 3.25. Model for the Assessment of Territorial Functioning

In this context, the model consists of three main variable sets which are interrelated: exogenous factors, territorial functioning and territorial attitudes. In this regard, exogenous factors set the stage for and have direct implications on both territorial functioning and attitudes, whereas territorial cognitions and behaviors have a reciprocal relation. In addition to this, territorial functioning also results in certain

attitudes toward a territory. It is also important to note that, the model does not infer successive processes between the notions while both territorial functioning and territorial attitudes are reproduced simultaneously in time in relation to the changes in the exogenous factors.

To begin with, exogenous factors refer to societal and spatial factors in general. Societal factors comprise both the social group characteristics habiting in the same territory as well as individuals own characteristics such as age, gender, occupation, and other individual competences such as income, length of residence within that territory, tenure type and car ownership.

In this regard, interpersonal factors as well as intrapersonal attributes play an important role on territorial cognitions. For instance, some people may feel more responsibility for their territories than other residents, whereas social composition of the group also impacts territoriality. In terms of social composition, it is argued that problems related to lack of territorial control decreases by the increase in perceived homogeneity and stability in near-home territories. Yet, social climate (overall perceived homogeneity of the social group) and neighborhood context (stability) has significant impacts on territorial functioning especially in urban residential environments. For instance, territorial functioning may be more efficient in stable neighborhoods as a result of clearer insider/outsider distinction, higher place attachment and participation in local management (Taylor et. Al., 1981).

In terms of spatial factors, mobility patterns have significant impacts on both territorial cognition and behavior. In this regard, Stea and Blaut (1973:58) claims that, same sensory stimulation from the same environment may result in different degrees of perceptual attainment with respect to differences in the way of interaction with the experienced environment. For instance, environmental learning is directly related to the mode of transportation through which a place is experienced such as walking or driving on a bus. Therefore, mode of transportation while traversing a territory or

reaching activity nodes within a territory is an important parameter which has direct impact on territorial functioning. Besides, the volume of pedestrian and vehicular traffic in an area also influences territorial cognitions, therefore behaviors of residents. In addition to this, morphology of the physical environment, that is also related to the territorial organization of space, is set forth as one of the most important variables which has impact on territorial functioning. While, physical layout of the territory (building, plot, and street relations), land use as well as density are set as the sub-parameters. Besides, the affordances of the environment that is the number and composition of opportunities/activity nodes within a territory and inhibiting / promoting structure of these opportunities is also influential on territorial functioning.

In this regard, Taylor (1988:93) defines the importance of spatial organization on territoriality as follows; '*The physical parameters of a location influence its salience as an identifiable and separate space, its defensibility, and to extent to which particular behaviors in the space can be carried out*'. Yet, the focus of this study is also on the influence of different physical organizations on territorial functioning which will be further examined in the following chapters.

Secondly, territorial functioning is a combination of both territorial cognitions and behaviors. Cognition of a space as a territory is related to the delimitation of that area as a bounded space in the minds of its occupants. In this regard, investigation on consensus over the boundaries of a territory can reveal insights about the scale and content of that territory. On the other hand, territorial behavior refers both to the exclusive use of territory as a resource base and control/defense of that territory. Exclusive use is related to the functional structure and frequency regarding the use of resources, while control and defense is often achieved through marking in the form of signs (tangible or intangible), barriers (physical or symbolic), personalization and maintenance. In this regard, assessment of territorial cognitions can be based on cognitive mapping exercises, while investigation on territorial behaviors is often inquired through activity maps as well as exploration of territorial markers.

It is also important to note that, territorial functioning also results in certain type of territorial attitudes and foster or hinder place attachment towards a territory. Moreover, territorial behaviors such as *'neighboring, identification of the name and boundaries of the area, concentrated use of the facilities'* within a territory are not the causes of certain kinds of territorial attitudes, such as neighborhood cohesion, but they rather refer to the expressions it (Keller, 1968).

In this context, territorial functioning (behavior and cognitive patterns) in relation to exogenous factors will be discussed further in the following chapters based on the proposed model in a comparative case study at the scale of residential living space. In order to do so, the parameters of the variable sets in the model and research tools to be used for each are explained in detail in the following table;

Table 3.2. Parameters of the variable sets within the proposed model for the assessment of territorial functioning

	PARAMETERS				RESEARCH TOOLS			
	Primary	Secondary	Description		DO*	Q*	SD*	MA*
A. EXOGENOUS FACTORS	**A1 SOCIETAL**	A1. a Individual	Age, Gender, Education Level, Occupation, Income, HH* Type, Tenure Type, Car ownership, Length of residence, Time spent in the Residential			X		
		A1. b Social Group	Residing Population	• Distribution of HH type • Age / Gender distribution			X	
			Socio-Economic Condition	• Property value for m2 • Average educational level			X	
			Identity	Image of the district within Ankara	X			
	A2 SPATIAL	A2. a Physical Context	Morphology	• Territorial Organization ▪ Street layout (continuity, form; street, cul de sac etc.) ▪ Dominant architectural form (type, height, allocation) ▪ Territorial Depth (private, semi private/public, public)				X
				• Boundaries ▪ Topographic thresholds ▪ Physical boundaries surrounding the area such as major roads, greenery areas				X
			Land use	• Mix-use | Diversity of opportunities within the catchment area			X	
			Density	• Gross / Net Density				X
			Location	• Urban / Suburban character				X
		A2. b Mobility	Transportation	• Volume of pedestrian and vehicular traffic	X			
				• Distance traveled to reach certain activities		X		
				• Provision of multi-modal transportation facilities	X			

*HH: Household, DO: Direct Observation, Q: Questionnaire, SD: Secondary Data, MA: Morphological Analysis

Table 3.2. (continued) Parameters of the variable sets within the proposed model for the assessment of territorial functioning

		PARAMETERS			RESEARCH TOOLS				
		Primary	Secondary	Description	DO*	Q*	SD*	MA*	CM*
B. TERRITORIAL FUNCTIONING	TERRITORIAL COGNITION	**B1 TERRITORIAL BOUNDARIES & SHARED CORE**	B1. a Areal extent	• Average area size and comparison with planning standards • Common Area: Consensus among residents					x
			B1. b Shared Core	• The extent of the shared/common area					x
		B2 TERRITORIAL LANDMARKS	B2. a Landmarks	• Number of landmarks mentioned • Type of landmarks mentioned					x
	TERRITORIAL BEHAVIOR	**B3 EXCLUSIVE USE AS A RESOURCE BASE**	B3. a Activity Nodes	• Functional structure of activity nodes (recreational, commercial, administrative facilities etc.) • Frequency of use • Mode of transport to reach activities		x			
		B4 CONTROL AND DEFENSE	B4. a Surveillance Mechanisms		x				
			B4. b Markers	• Boundary Markers / Physical and symbolic barriers ▪ Fences, hedges, gateways, limited access areas, signs ▪ Permeability/ Visibility	x				
				• Central Markers / Personalization ▪ Murals, exterior decorations, gardening	x				
				• Maintenance	x				

*DO: Direct Observation, Q: Questionnaire, SD: Secondary Data, MA: Morphological Analysis, CM: Cognitive Mapping

CHAPTER 4

RESEARCH METHODOLOGY

This research aims to investigate both the cognitive and behavioral patterns (territorial functioning) of urban residents in their residential environments. Besides, human territorial functioning at the residential scale is affected by both the physical and social context in which the individual is located as previously discussed in the model proposal (Chapter 3.3.). Hence, within the scope of this research residential environments are investigated at the post occupancy phase in terms of human territorial functioning through the lens of behavioral science with a user-centric and descriptive approach. Besides, another aim of this research is to examine the interrelation between exogenous physical and social parameters on human territorial functioning. In order to do so, residents' patterns of territorial functioning at the meso scale (near-home territory, home base) of residential environments are examined within different spatial layouts (territorial organization of space) through a case-oriented comparative study. In this regard, primarily empirical research for the evaluation of each residential case and later comparative analysis is conducted.

In order to assess territorial functioning according to the parameters set in the previous chapter, multiple data collection methods are employed. Data is collected through both qualitative and quantitative methods including: direct systematic observation, questionnaire and spatial analysis which is summarized in the following table (Table 4.1). In this regard, questionnaires are conducted to assess people-oriented territoriality (territorial functioning) in the districts. The questionnaire includes two main parts: primarily demographic information as well as territorial behavior patterns are investigated, later a cognitive mapping study is conducted for the assessment of territorial cognition. Yet, systematic observation is conducted to assess the control and defense mechanisms (such as markers and surveillance mechanisms). Besides, spatial

analysis is conducted within the area to set the place-oriented territoriality (territorial organization of space) in the districts. Consequently, 300 questionnaires are conducted in each district and the results are processed and analyzed with the help of IBM SPSS Statistics 21.0 program and the last part containing the cognitive maps are digitized in ArcMap 10.4 for further inquiries.

Table 4.1. Data collection methods based on the inquired notion

Inquired notion	**Data Collection Method**		**Data Processing Medium**
Territorial Boundaries Shared Core Territorial Gaps	Questionnaire	Cognitive Mapping	GIS
Territorial Landmarks	Questionnaire	Cognitive Mapping	GIS
Exclusive Use as a Resource Base	Questionnaire	Matrix type of questions: the type of activities and services utilized as well as frequency of use, time interval preferred, mode of transportation and time to reach each activity.	SPSS
Control and Defense: Surveillance Mechanisms Boundary and Central Markers	On site Systematic Observation	Survey Sheets Photographs	Drawings and Photographs

4.1. Questionnaire Design

The questionnaire (Appendix A) consists of four main parts and 18 questions. The first part is investigating the individual exogenous factors through mainly demographic questions. The first 8 questions are related to basic demographic information (age, gender, occupation, HH type, HH size, tenure type) while the 9th question is on length of residence while questions 10 to 12 are on car ownership. The second part (question 13) is for the assessment of exclusive use of near home territories. In this part matrix type of questions are used to ask both the type of activities and services utilized within the residential area in addition to frequency of use, time interval preferred, mode of transportation and time to reach each activity in the same row.

In the third part, residential satisfaction is examined through Likert scale, dichotomous and open-ended questions. Primarily, respondents are asked about their satisfaction level from the residential area (question 14) and later they are asked whether they plan to move to another part of the city and the reason why (questions 15, 16). Finally, the positive/negative aspects of the area are inquired based on multiple choice and open-ended questions (questions 16, 17).

In the last part, respondents are asked to draw on a map the location of their house, the perceived boundaries of their residential environment, important reference points (landmarks) in the area and areas avoided or feared while passing in order to examine their territorial cognition. For better orientation, respondents are given a A3 sized base map. The total area covered in the base map is larger to be considered as a conventional neighborhood but rather at the scale of a district (district is used for the term 'semt' in Turkish which connotes to combination of few neighborhoods, to refer to a part of the city often with similar socio-economic as well as physical attributes), in order to prevent directing the respondent to conventional neighborhood boundaries in defining their residential areas during the stage of cognitive mapping as well as omitting problems that can arise for the residents located at the edges of the district. Besides, each district consists of identifiable neighborhoods. In this regard, Kavaklıdere district consists of Barbaros, Kavaklıdere ve Remzi Oğuz Arık neighborhoods, and Çukurambar district consists of Çukurambar and Kızılırmak neighborhoods.

4.1.1. **Data Collection and Input Data for the Questionnaires**

The questionnaires are conducted face-to-face with the residents above the age 18 residing in Kavaklıdere and Çukurambar districts. Sample size for each district was calculated as 267 with respect to population size (within 90% confidence interval and 5% margin of error), later 300 questionnaires are conducted in each district for higher accuracy. The responses of the first three parts of the questionnaire are entered to IBM SPSS Statistics 21.0 program and the last part containing the cognitive maps are

digitized in ArcMap 10.4 for further inquiries. Later, two sets of analyses are carried out. One focused on the GIS information derived from the cognitive maps of the respondents such as perceived neighborhood size. The other linked the GIS information to data contained in the questionnaire responses.

Table 4.2. Population of Kavaklıdere and Çukurambar Districts (TUIK, 2017)

Barbaros Neighborhood	5994
Kavaklıdere Neighborhood	6675
Remzi Oğuz Arık Neighborhood	5525
Kavaklıdere District	**18194**
Çukurambar Neighborhood	13283
Kızılırmak Neighborhood	6494
Çukurambar District	**19777**

In terms of selecting the respondents, systematic sampling is used during the questionnaires to obtain a representative sample of households in each district. Primarily the districts chosen for the case study are divided into sub-regions smaller than administratively defined neighborhoods based on major physical barriers (major roads etc.) as well as changing characteristics in the built environment. Questionnaires are divided into these sub regions with a percentage parallel to the housing density within that sub region. Yet, different number of pollsters are assigned to each sub-region with respect to the number of questionnaires. Later, each street in the sub region is assigned to a pollster in order to provide an even spatial distribution of the respondents. At this stage, the location of the homes of the respondents along the street were chosen based on a random opportunity sampling method, depending on the willingness of contribution from the residents on each street (Figure 4.1 and 4.2).

The questionnaires for the case of Kavaklıdere District is conducted during April,2018 and the case area is divided into 7 sub-regions for the distribution of questionnaires. The questionnaires for the case of Çukurambar District is conducted during December,

2017 and the case area is divided into 6 sub-regions for the distribution of questionnaires.

Sub-region	Number of questionnaires completed
Barbaros_1	51
Barbaros_2	45
Kavaklıdere_1	14
Kavaklıdere_2	26
Kavaklıdere_3	50
Remzi Oğuz Arık_1	94
Remzi Oğuz Arık_2	20
Total	**300**

Figure 4.1. Sub- regions of the case study area of Kavaklıdere District and number of questionnaires completed in each sub-region (Kavaklıdere, Remzi Oğuz Arık, Barbaros Neighborhoods).

Sub-region	Number of questionnaires completed
Çukurambar_A	45
Çukurambar_B	53
Çukurambar_C	75
Çukurambar_D	16
Kızılırmak_A'	45
Kızılırmak_B'	66
Total	**300**

Figure 4.2. Sub- regions of the case study area of Çukurambar District and number of questionnaires completed in each sub-region (Çukurambar and Kızılırmak Neighborhoods).

4.2. The Selection and Brief History of the Case Study Districts

The production of urban space and the socio-economic and political context are in a symbiotic relation adapting to changes in each structure. Yet, the production of new residential environments is concurrent with both the main orientations of macroform development of urban areas and the socio-economic and political agendas of the decision makers. Hence, we cannot undertake neither the site selection of the new residential areas nor their physical organization apart from the socio-economic and political context of the cities. With this in mind, this research focuses on two residential areas that are formed in different eras which reflect the socio-economic as well as political characteristics of their contexts both spatially and temporally.

In this regard, production of new residential environments in Ankara has also followed a similar pattern. Yet, the residential areas emerged parallel to the planning decisions regarding main developmental axis of the city as well as changes in the social and economic dynamics. Hence, the case study areas for the research are selected as two prominent examples which are formed in different time periods in Ankara. The Kavaklıdere district that is a middle-class district associated with the early-republican era (formed in the 1950s) and has a continuous fabric as in the traditional neighborhoods, and Çukurambar District which has transformed into a high rise, 'prestigious', luxury residential area after the 1990's with high amounts of gated-communities, a typical example of contemporary residential development areas in Ankara, are selected for the case study (Figure 4.3). In this context, the selection of these two case study areas with different spatial layouts resembling the era in which they are formed is to reveal the differences in terms of territorial functioning and to associate these results with the affordances and territorial structure of each environment.

Kavaklıdere district (Kavaklıdere, Remzi Oğuz Arık and Barbaros Neighborhoods) is located at the south of Ankara next to the city center Kızılay (approximately 3 km).

The district hosts many embassies as well as important governmental and other institutional buildings. The district also hosts two main streets of Ankara; Atatürk Boulevard which is the main developmental axis of Ankara from the early republican era till today passes through the district, while Tunalı Hilmi Avenue (former Özdemir Street which took the name in 1964) which is one of the most vivid streets of Ankara that functions as a sub-center with its commercial and cultural activities is also the main backbone of the district. Although, parcel-based transformations started within the district from the 2000s onwards, which generates a threat to the artifacts of civil architecture, Kavaklıdere preserved most of its physical and social fabric till today.

Figure 4.3. (Above)General view from Kavaklıdere (Below) General view from Çukurambar (Photographs taken by Ayşecan Akşit, 2018 and the author, 2017)

Çukurambar district (Çukurambar and Kızılırmak neighborhoods) is located on the southwest corridor of Ankara, within also close distance to the city center Kızılay (approximately 7 km). The district is in close proximity to many commercial (shopping malls and office buildings) and administrative (such as Ministry of Social Security and Labor and Ankara Chamber of Commerce) centers as well as universities. Yet, two major universities of Ankara which are Çankaya and Ufuk are located within the area, while Middle East Technical University (METU), TOBB, Hacettepe and Bilkent universities are in close proximity. The area is surrounded by Eskişehir highway that is the main developmental axis of Ankara from the 1990s onwards on the North and Konya highway on the East, by 100. Yıl neighborhood and METU campus on the West, and Çiğdem neighborhood on the South. Recently in 2013, a highway is constructed passing through the district which led to many conflicts between the inhabitants and the local authorities since the highway was unscaled creating higher volumes of traffic, passing also through the METU forest, which would create health and safety problems within the district. The highway was also dividing Çukurambar and Kızılırmak neighborhoods from 100. Yıl and Çiğdem neighborhoods (Köse and Yurttaş, 2014).

Furthermore, both districts are formed concurrently with the main developmental axis of Ankara in each period. Kavaklıdere developed as a residential district due to its location along the Atatürk Boulevard which was the main development axis of Ankara in the early-republican era. Whereas, Çukurambar is located on the south of Eskişehir highway which became one of the main development axis of Ankara after 1990s, contemporary with the transformation of Çukurambar from a squatter neighborhood into a high rise, ‘prestigious’, luxury residential area (Figure 4.4).

All in all, the case study areas are selected as for being alike in terms of their location within the urban fabric, articulated to the main developmental axis as well as located near the city center, besides being prominent examples reflecting the residential area design approaches of their periods. On the other hand, the districts are also selected as

for being distinct in terms of territorial organization of physical environment (Chapter 5.1.2.2). Hence, the spatial development of each district in relation to the social-economic and political context in each era will be further discussed in the following sections.

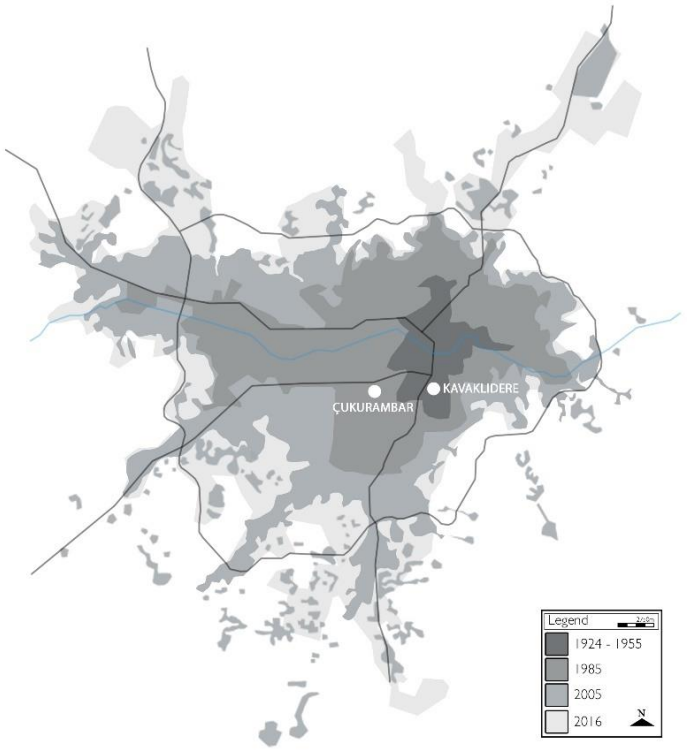


Figure 4.4. The location of the districts and the macroform development of Ankara

4.2.1. **Brief History of Kavaklıdere District**

After the declaration of Ankara as the capital of the newly founded republic in 1923, the city was designed to be the 'model' to guide the rest of the urbanization processes throughout the country with its urbanization in secular, modern, Western style emphasizing the national identity and creating the needed modern spaces for the new 'citizens' of the Republic. Hence, the planning efforts in the early years of the Republic for Ankara is described by Günay (2014:14) as; *'to build an exemplary town that would generate a modern and contemporary living environment, to develop a new*

set of social norms which could be used in other urban centers, and to symbolize the achievements of the republic in the creation of this new town.'

The development of Ankara in this period took its form under three main plans which are, Lörcher Plan (1924-1925) proposing a compact city with the new center around the central station and arrangement of lands required for the new public buildings, Jansen Plan (1932) continuing the main emphasis put forth by Lörcher but expanding the center to the south (Yenişehir-Kızılay) from the old city center (Ulus) while the area near central station is left as an ecological corridor due to natural forces, and Yücel Uybadin Plan (1957) which proposed densification and expansion in the inner city districts resulting from the urbanization pressures in addition to proposition of District Height Regulation Plan (Günay, 2014)[6]. Yet, Kavaklıdere as a district developed correspondingly and parallel to the outcomes of these plans.

In this context, till the second half of the 1930s, when Kızılay (Yenişehir) transformed into the new city center according to the Jansen Plan, Kavaklıdere district had a rural character. Yet, Kavaklıdere (creek with poplar trees) district took its name from the creek that passes through the area along todays Tunus Avenue with many poplar trees. Hence, in his well-known novel 'Ankara' Karaosmanoğlu (1972:48) describes Kavaklıdere in the 1930s as follows;

'…Then they entered a small poplar grove.
A thin and clear water was flowing from the middle of it.
Mr. Hakkı said the name of this place: Kavaklıdere and added: Çankaya starts from this point'. Indeed, out of the poplars the topography was changing and a steep slope was starting…'

Kavaklıdere district located at the south of the new city center of Ankara, Kızılay (Yenişehir) in the Jansen Plan was not proposed as a development zone neither in the Lörcher Plan nor in the Jansen Plan, but the area developed parallel to the

[6] In the later decades, Ankara Master Plan 1990 (1982) which proposed corridor development towards the west and Ankara 2023 Master Plan (AGM, 2007) was approved by the Municipal Council, which proposes almost limitless growth along the south-western corridor were also approved.

developmental propositions of these plans. Hence, the area was considered as part of the green belt system of the city and solely a small road was opened in the place of today's Tunalı Hilmi Avenue in the Jansen Plan (Resuloğlu, 2011).

Figure 4.5. Kavaklıdere District in Jansen Plan, 1932
(Source: https://architekturmuseum.ub.tu-berlin.de/index.php?p=79&POS=35)

The district back then consisted of single apartments located within large vineyards. Yet, the housing pattern of the district in this period is described by Karaosmanoğlu (1972:99) as follows;

> '*For instance, within the villas located between Yenişehir to Kavaklıdere it was impossible to found a house without a tower or an eave. These houses with towers and large eaves were similar to each other and came out of the hands of an architect, located in the middle of the ditches surrounding them, they resembled the feudal lord castles*.'

Since many vineyards were located in the area, the Kavaklıdere Wine Factory started business by the daughter of Tunalı Hilmi Bey (a member of the parliament whom the main avenue of the district is named after) Sevda and her husband Cenap And in the 1929 within the district. Kavaklıdere Wine Factory was located on the site where the Sheraton Hotel and Karum stands today. The winery continued its production in the area till the 1980s when the factory moved to the outskirts of Ankara (History, 2014).

In addition to this, the family that run the company was also living in the district and their house was designed by Emin Onat in 1952. The *'*Cenap And House*'* is still one of the significant buildings in the district which combines the traditional Turkish house characteristics with traditional German housing architecture and is a unique example of the Second National Architectural Style in Turkey (Cenap And Evi, n.d.)

Hence, Resuloğlu and Altan Ergut (2015) states that, in addition to being one of the peculiar buildings that forms part of the district's identity, the factory also had a significant impact on the daily lives of the residents which have left strong impressions on their memories. Besides, particularly in the 1950s, the factory was *'creating a genuine atmosphere both in its spatial quality, with vineyards and gardens, and by affecting the social life in Kavaklidere'*. (Resuloğlu and Altan Ergut, 2015:36).

Figure 4.6. Kavaklıdere Wine Shop
(Source: https://i2.wp.com/adimadimgurme.com/wp-content/uploads/2016/10/Eski7.jpg)

Consequently, following the opening of Atatürk Boulevard in 1932 and development of Kızılay as the new city center, the developments towards the south of the city accelerated. Afterwards, embassies started to locate on the south section of the boulevard in the 1940s. Hence, the developments spread from Yenişehir (Kızılay) towards Kavaklıdere- Çankaya region in the form of villas for the new government and embassy officers (Uzun, 2005). As a result, the area transformed from a suburb of

vineyards into a prestigious residential area after the 1930s until the late-1950s. Besides, the formation of the boulevard not only had an impact on the residential developments but also on the on the physical and social transformation of the Tunalı Hilmi Avenue, that is the main arterial of the district, which in return transformed the character of the district in the following decades (Resuloğlu and Altan Ergut, 2015)

Although the district no longer had a rural character, it still consisted of single-family houses in gardens, except the embassies and the 14 May Houses, till the beginning of the 1950s. Yet, the district had a suburban character with single houses with large gardens (especially vineyards) remained until the second half of the 1950s

In the 1950s Turkey underwent major socio-economic and political transformations with the introduction of the multi- party regime as well as liberalization of the national economy. These transformations also impacted the form of constructions in that period. Besides, from the beginning of the second half of the 1950s, as a result of increasing population in major cities due to the high amounts of migration from rural areas, Ankara as the capital of the Republic started to fall short in meeting the housing demand for these new residents which resulted even in the formation of informal housing areas at the periphery of the city. Resulting from urbanization processes, along with the changes in the life-style, the design of residential environments transformed significantly with the increasing number of multi-storey apartment blocks rising in the urban landscape as well as densification in the central areas.

Along this process, Kavaklıdere, since located at a proximal distance to the city center Kızılay, began to transform from a suburban character to a ‘modern’ residential district. The district transformed parallel to the transformations in the urban arena and particularly by the Yücel and Uybadin Plan of 1957. In this regard, multi-storey apartment blocks started to rise in the area. These developments in the district were either in the form of parcel-based constructions or housing cooperatives to build an apartment block. The primary high-rise apartment blocks in the district were Hayat

Apartment Block designed by Emin Onat with seven floors, University Apartment Block and İlbank Apartment Blocks with eight and nine floors. These apartments were all constructed by housing cooperatives.

Figure 4.7. Hayat Apartment Block
(Source:https://hurriyetemlak.cubecdn.net/image.ashx?type=44&image=Images\0\2\5\1\6\3\4\2\7763 8816-712b-4ee8-99a4-ceec5af6692e.jpg)

These new apartment type of houses also created a new type of residential profile in the area which are middle and upper-income groups whom *'chose to live in this newly developing part of the city, away from the populated earlier centers, in the new apartment blocks constructed for, for example, high bureaucrats such as parliamentary or university members'* (Resuloğlu, 2011:100).

Yet, the construction of apartment blocks not only transformed the physical layout of the district but also transformed the social profile of the residents as well as daily life in the area which transformed the identity of the district significantly. In this regard, Resuloğlu and Altan Ergut (2015:41) states that;

> *'The identity of Kavaklıdere as a new residential district in urbanizing Ankara was formed within the context of the mid-twentieth century, when these new houses emerged as examples of pioneering modernist architecture of the post-war period, which was the product of social change, and which simultaneously housed and hence facilitated the 'modern' lifestyle of the time'*

In the 1980s, Turkey again underwent structural economic and political changes with the adoption of neo-liberal policies. Parallel to these transformations, building regulations were also to adapt these structural changes and to meet the demands of the market conditions. Hence, in the late 1970s, the building heights along the Tunalı Hilmi Avenue were raised to be maximum seven storey which increased the number of offices and commercial buildings significantly which in return transformed the avenue into a large-scale commercial axis. In this regard, Tunalı Hotel (1969) and Kuğulu Pasagge (1978) were opened along the avenue in this period (Later in the 1991 Karum mall was opened in the location of the wine factory). In addition to commercial facilities, Akün Cinema (today used as a theater building) was opened in 1975 along with previously opened cinemas (Kavaklıdere Sineması and 6 other cinemas) along the avenue.

Kuğulu Park, located on one of the main green axes of Jansen Plan and including a pond formed by Kavaklıdere creek was arranged as a public garden in 1958. Yet, in 1975 the park was redesigned and Vienna Municipality donated two swans to the municipality and Kuğulu Park was named after them. However, during this period some of the land that belonged to the Polish Embassy and the Park were taken away for construction of a road. The area of the park was diminished from 2,1 hectare to 1,7 hectares. Yet, the park was registered as a natural protected area in 1976 (Çapanoğlu,2009). Hence, it can be claimed that Kuğulupark also transformed from a district park to an urban scale park in this period.

As a result, from the late 1970s onwards, the district gained a new identity with its cultural, recreational and commercial activities as a sub-center rather than a quiet residential area. In this regard, from the late 1950s to the late 1980s, Tunalı Hilmi Avenue formed a significant public place in Ankara, acquiring residential as well as cultural, recreational and commercial functions to act as an urban sub-center in the city (Resuloğlu, 2011). Hence, Resuloğlu (2011:2) claims that;

'The Tunalı Hilmi Avenue is not just any street; it has played a vital role in the life of the Kavaklıdere district as well as of Ankara in the larger scale, because the Avenue has been one of the loci of Ankara's public/social life'

In this context, Kavaklıdere managed to preserve most of its physical and social fabric till today as one of the most prestigious housing districts of contemporary Ankara as well as a sub-center. However, parcel-based transformations started within the district from the second half of the 2000s which generates a threat to the artifacts of civil architecture in the area. Besides, the crowding of the district due to Tunalı Hilmi Avenue results in relocation of higher-income residents to the suburban centers of Ankara at the periphery.

All in all, the transformation of the district is summarized by Resuloğlu and Altan Ergut, (2015) in two phases as follows;

1st Phase: early 1950s – from a rural area of vineyards to a residential district with suburban character

1,2 storey detached housing except Kavaklıdere Wine Factory, Cenap And House, May 14 Houses

2nd Phase: late 1950s – from a suburban residential district to a 'modern' residential district

High-rise apartment blocks emerge including University, Hayat and İlbank Apartment Blocks.

To which we can add the third phase of development of Tunalı Hilmi Avenue as a sub-center and the last contemporary phase of parcel-based transformations in the 2000s (Figure 4.8).

Figure 4.8. Spatial development of Kavaklıdere District

4.2.2. **Brief History of Çukurambar District**

Çukurambar and Kızılırmak neighborhoods used to be agricultural lands till the 1960s. In this period, these neighborhoods were productive agricultural lands with wheat fields and storehouses for cereals. Yet, the name Çukurambar in Turkish connotes to 'a place with granaries - geographically located on a pit land', thus a name implying both the area's topography and historic land-use (Tan Erşahin, 2002; Köroğlu and Ercoşkun, 2006; Durmaz,2014).

Beginning from the 1950s, economic growth policies and industrialization processes resulted in mass migration from rural to major urban areas and fast-paced urbanization in Turkey. Hence, major cities fall short in meeting the housing demand for these vast number of new residents. As a part of these socio-spatial changes, a unique housing form emerged namely "gecekondu" (squatter areas) in which migrated groups built their own dwellings mainly on publicly owned land. In this period, Ankara, since being the capital, witnessed this process significantly. As a result, Çukurambar district

hosted mainly ‘gecekondu’ developments till the 1990s. Gecekondu formation started initially in Kızılırmak neighborhood while Çukurambar gecekondu settlement developed more rapidly afterwards (Tan Erşahin, 2002; Köroğlu and Ercoşkun, 2006; Durmaz,2014) (Figure 4.9).

Figure 4.9. Few ‘gecekondu’s are still existing in the area (Photograph taken by the author in 2018)

During its ‘gecekondu’ years, the area had an organic pattern with maximum two-storey buildings with gardens, paths and social areas that were created unofficially by inhabitants (Gökçe, 2007). In terms of spatial organization: building plots varied between 80 – 500 m^2 with an average of 180 m^2, the average floor area of the buildings was 75 m^2, and population density was approximately 188 people/ha. In terms of social cohesion, there was a high sense of community and solidarity between the residents. In this regard, the inhabitants of the area had founded an association of the neighborhood namely ÇAKDER; Association for the Embellishment of Çukurambar ve Kızılırmak Neighborhoods (Çukurambar ve Kızılırmak Mahalleleri Güzelleştirme Derneği) in the beginning of the 1960s, in order to solve the social, spatial and administrative problems of the ‘gecekondu’s and gain bargaining force with the mayor candidate of Ankara for necessary urban services before the elections in 1964. Hence, infrastructure improvements, pavement and provision of social facilities were

introduced to the area as a result of these efforts in the upcoming years (Tan Erşahin, 2002; Köroğlu and Ercoşkun, 2006). Considering the increasing number of population residing in the area, the area was announced as an official neighborhood of the Çankaya district in 1972 (Köroğlu and Ercoşkun, 2006).

In 1973, with the introduction of 1990 Structural Plan of Ankara by the Ankara Metropolitan Planning Office proposing decentralization of Ankara along two main corridors on the southwest and northwest directions, Çukurambar's location gained a new meaning within the urban context and the area witnessed even more accelerated urban development.

Consequently, the prominent urban transformation types in the major cities of Turkey form 1960s till the 1980s was: the transformation of vacant lands on the periphery into 'gecekondu' neighborhoods, rehabilitation or redevelopment of these neighborhoods into apartment type of housing, or total urban renewal accompanied with gentrification. In this regard, many legal instruments were introduced in order to transform squatter (gecekondu) areas into proper apartment stocks. Primarily, Law of Gecekondu (no.775) was enacted in 1966 by which these areas were legalized and commercialized through improvement plans. However, these plans were limited to provision of infrastructure and redevelopment at the 'parcel scale' without a comprehensive approach. Later, a series of amnesty laws were enacted between the years 1983 to 1988 with the aim of solving the ownership problem of these areas by legalizing the existing stock with a more holistic approach. However, the implementations were mainly driven by the market forces and failed to control land speculation and provide adequate housing for the low-income groups (Ataöv and Osmay, 2007; Köroğlu and Ercoşkun, 2006).

In this context, an 'improvement plan' was prepared for Çukurambar in 1984 at 1/ 1000 scale (Çukurambar-Karakusunlar Improvement Plan). Within this plan, the minimum plot area was set as 2500 m^2, minimum distance from houses to the street

was 10 meters and minimum distance among the houses was 5 meters. In this improvement plan, two storey houses were planned. Besides, it accepted the local development plan and allowed developments only for planned areas (Şenyapılı, 1996 cited in Kölmek, 2011). However, the 1984 'improvement plan' was found insufficient and a 'revision plan' for Çukurambar was prepared by the Greater Ankara Municipality in 1/5000 scale in 1993 (Çukurambar- Karakusunlar Revision Plan) and implementation plans were also prepared in 1/1000 by Çankaya Municipality (Çukurambar- Karakusunlar Implementation Plan).

The revision plan proposed higher densities for the area[7], the density proposed was 250 people per hectare (even 500 people per hectare at some parts) while the density of old 'gecekondu' settlement was about 170 people per hectare and the density that the improvement plan proposed was 200. Distance between the buildings to the street was set as 10 meters, while the distance between buildings as 8 meters (Figure 4.10). The decision of densification in the area was legitimized based on the location of the neighborhood as being close to the city center and on the west development corridor of Ankara resulting in high rent values. Yet, the new housing pattern was in the form of separated high-rise building blocks placed in the middle of the block which resulted in the repetition of a typical mass on equally divided islands inadequate in terms of spatial quality (Tan Erşahin, 2002; Kölmek, 2011).

Çukurambar differed from concurrent 'gecekondu' neighborhoods since: the major transformation took place under the 'revision of the improvement plan' which led redevelopment at the parcel scale unlike other large scale urban transformation projects implemented in 'gecekondu' neighborhoods of Ankara at the same period (such as in Portakal Çiçeği Valley), and the 'gecekondu's were built mainly on

[7] In the implementation plan, the average plot size was set as 3000 m^2, Floor Area Ratio (FAR) was set as 1.75 and 1.8 at some plots while maximum height for the buildings varied between 22 to 34 meters(Tan Erşahin, 2002.

privately owned land bought from the field owners rather than publicly owned land (Tan Erşahin, 2002; Köroğlu and Ercoşkun, 2006).

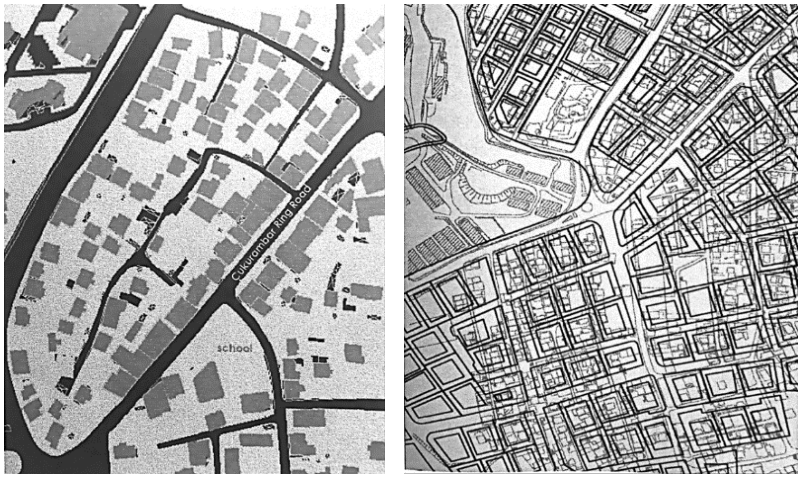


Figure 4.10. (On the right) Çukurambar 'Gecekondu' area in 1990s (On the left) Juxtaposition of Gecekondu and the proposed fabric of Çukurambar (Tan Erşahin, 2002: 106,135)

Hence, Çukurambar as a former 'gecekondu' area has witnessed two major socio-spatial transformation processes; (i) transformation from rural settlement to urban gecekondu area beginning from the 1960's, (ii) transformation from gecekondu area to a high rise, 'prestigious', luxury residential area after 1990's (Köroğlu and Ercoşkun, 2006).

After the 2000's, urban transformation in Turkey was even more institutionalized with many legislative regulations such as the 'Law on Conservation by Renovation and Use by Revitalization of the Deteriorated Historical and Cultural Immovable Property' (No: 5366) and the 'Law on Transformation of Areas under Disaster Risk' (no. 6306). Yet, the aim of urban transformation has changed from upgrading the dilapidated areas or squatters to being a strategic agenda for transforming any area in urban space and utilized mainly for increasing the land rents by the designation of areas as well as densification by increasing the building heights in order to open the way to enlarge the extent of trade in the construction sector neglecting the negative socio-spatial consequences such as inadequateness of the existing infrastructure in these areas for

these densifications as well as gentrification which results in the relocation of the former residents.

Consequently, in 2000s the district went under major transformation and gentrification with 'Çukurambar Urban Transformation and Improvement Project' which was approved on 16.02.2007 by Ankara Metropolitan City Council, referring to the transformation of 255 ha land. As a result, the main development pattern of the area transformed into the form of high-rise apartments fenced and filled with surveillance mechanisms, as well as luxurious cafes and restaurants on the ground floor. By 2014, 15% of residential buildings were 5-6 storey and 80% of them were 9-10 storey (Durmaz, 2014). Besides, the population of Çukurambar increased from 2400 at the beginning of 1980s to 4919 in 2000 and the population reached 13.623 in 2014 (Afacan, 2015). Besides, plan changes enacted in the area resulted in the transformation of land allocated for public services to luxurious residences such as 22-storey Gökteşehir Residences and 27-storey Hayat Sebla Houses. In addition to this, business and commercial centers as well as luxury cafés and restaurants have been opened in the area which caused overcrowding and sustainability difficulties in terms of urban transportation (Durmaz, 2014).

After the transformation, Çukurambar and Kızılırmak Neighborhoods had two prominent identities: a conservative neighborhood which initiated with the move of parliamentarians from a conservative view political party to these neighborhoods and luxury neighborhood addressing to middle-high income people due to high continuous increase in real estate values and luxurious commercial units. Although most of the neighborhood is composed of prestigious high-rise residences, few 'gecekondus' still exist within the area. Besides, the number of former gecekondu residents settling in Çukurambar and Kızılırmak are claimed to be no more than 20%, since the former residents sold their houses to buy more apartments in cheaper locations or could not cope with the new luxurious lifestyle and moved to other parts of the city (Durmaz, 2014).

Today, Çukurambar and Kızılırmak are among the most luxurious neighborhoods of Ankara. In the area, two different social groups reside; those who live in the areas that have already transformed, and the others that are in the process of transformation. This segmentation is fostered with new spatial developments in the area leaving no room for social interaction between these groups. As a result, the majority of the people that used to live in this district are forced to move to the other parts of the city since they cannot compensate the new luxurious lifestyle (Köse and Yurttas, 2014). Besides, many politicians prefer living in this district because of its prestigious connotations and critical location (Dündar, 2010). Thus, the neighborhood is a unique case in which these different forms of housing coexist in the urban fabric of Ankara. In this regard Çukurambar is defined by Tan Erşahin (2002: 94) as '*a residential district, a continuing construction site, and an area of transformation'*.

Figure 4.11. Development of Çukurambar District

CHAPTER 5

TERRITORIAL FUNCTIONING IN THE CASE OF KAVAKLIDERE AND ÇUKURAMBAR DISTRICTS IN ANKARA

In this chapter, territorial functioning at the meso scale will be examined based on the case study conducted in Kavaklıdere and Çukurambar districts through the framework of previously proposed model on human territorial functioning (Chapter 3). In this regard, primarily the main characteristics of exogenous factors will be described and later territorial cognition and behavior patterns in each district will be investigated. Besides, the results of territorial functioning will be discussed in a comparative manner and in relation to the exogenous factors.

5.1. Exogenous Factors in Territorial Functioning

As discussed in Chapter 3, exogenous factors that has impact on human territorial functioning refer to the societal and spatial factors in general. In order to assess the impact of exogenous factors, primarily societal factors in terms of both social group and individual scales will be put forth in this section. Secondly, in terms of spatial factors, which refer to the place-oriented territoriality of residential environments, the diversity of opportunities within the catchment area and territorial organization of built environment will be further analyzed in this section. Later, the impact of those exogenous factors on territorial functioning will be discussed in the following sections (Chapter 5.2 and 5.3).

5.1.1. Societal Factors

Societal factors comprise of both the social group characteristics habiting in the same territory such as distribution of age and sex, education levels as well as individuals own characteristics such as age, gender, occupation, and other individual competences such as income, length of residence within that territory, tenure type and car ownership. The social group characteristics are briefly described based on secondary

data of the residing population in each district, while at the individual scale the questionnaire respondents' characteristics are described in this section.

5.1.1.1. Social Group Characteristics of the Residents in Kavaklıdere and Çukurambar Districts

In terms of social-group characteristics the descriptive statistics about the distribution of age with respect to sex, distribution of educational levels and average real estate prices are discussed for each district in this section.

The population[8] in the districts are similar in terms of the distribution of sex, whereas Kavaklıdere has a more aging population while in Çukurambar the age group between 0-19 is significantly higher (Figure 5.1). On the other hand, the education levels of districts[9] also have a similar distribution, whereas the number of individuals with an education below a high school degree and the number of individuals with a graduate degree are higher in Çukurambar (Figure 5.2).

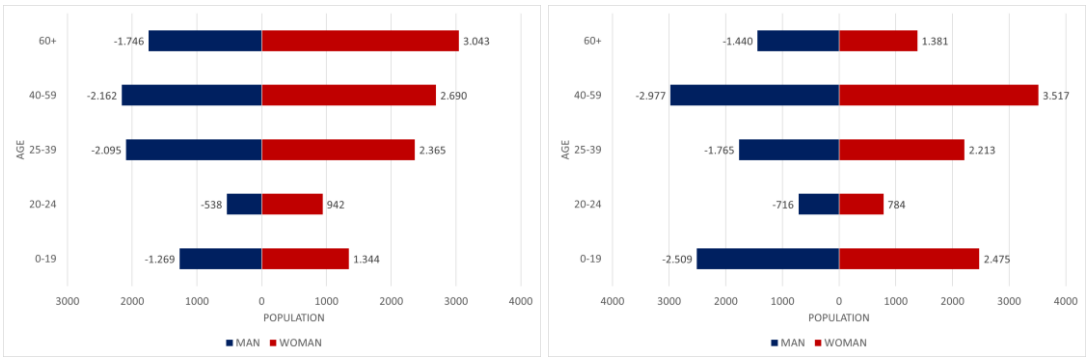


Figure 5.1. Population pyramid for Kavaklıdere and Çukurambar Districts (TUIK, 2017).

[8] In Kavaklıdere, 43% of the population is man and 57% are woman. In addition to this, 14% are in the age group between 0-19, 8% are in the age group between 20-24, 15% are in the age group between 25-39, 27% are in the age group between 40-59 and 26% are in the age group 60+. In Çukurambar, 48% of the population is man and 52% are woman. In addition to this, 25% are in the age group between 0-19, 8% are in the age group between 20-24, 20% are in the age group between 25-39, 33% are in the age group between 40-59 and 14% are in the age group 60+.

[9] In Kavaklıdere, 10% of the residents are primary school, 8% are middle school and 25% are high-school graduates while 40% have a bachelor's degree and 12% have graduate degrees. In Çukurambar, 12% of the residents are primary school, 8% are middle school and 21% are high-school graduates while 36% have a bachelor's degree and 15% have graduate degrees.

Figure 5.2. Education levels of the residing population in Kavaklıdere and Çukurambar Districts (TUIK,2017)

Although there is no update information about the income level of the residents, some inferences can be derived based on housing prices in the districts. In this regard, housing prices per unit (₺/m^2) in Çukurambar is significantly higher (almost double) than in Kavaklıdere which is related with the higher amount of new buildings in Çukurambar, as well as luxurious and prestigious identity of the district.

Table 5.1. Housing prices and density in Kavaklıdere and Çukurambar Districts (Source: https://www.endeksa.com/tr/)

	Kavaklıdere District			**Çukurambar District**	
Neighborhoodg	Kavaklıdere	Barbaros	Remzi Oğuz Arık	Çukurambar	Kızılırmak
Average Gross Area (m^2)	120	120	120	176	180
Average Unit Price (₺/m^2)	2513	3000	2765	3936	4667
Average Price (₺)	301.560	360.000	331.800	692.736	840.060

5.1.1.2. Individual Characteristics of the Questionnaire Respondents Residing in Kavaklıdere and Çukurambar Districts

In terms of individual factors, descriptive statistics of the questionnaire respondents in both districts are summarized in this section (Appendix C). In overall, the

distribution of respondents among districts are similar while there are some variances at some respects.

To begin with, the distribution of sex among the respondents[10] are similar and almost even in both districts, while the percentage of woman respondents is insignificantly higher in Çukurambar. In terms of age[11] distribution of age among respondents is similar in both districts, while distribution of age groups is almost even except the respondents within the 18-24 age group with lower percentages. In Kavaklıdere, the significantly lower percentage of young respondents is parallel with higher amount of aging people residing in the area. Regarding education levels of the respondents[12], the distribution among education groups is similar in both districts. Yet, the distribution among education groups is not even, more than half of the respondents are with a bachelors or graduate degrees in both cases that is parallel to the distribution among the population residing in the areas. Hence, the respondent groups are representing the residing population of districts with their similarity in terms of distribution of sex, age and of educational levels.

Moreover, in terms of their occupations[13] respondents represent a significant variety ranging from public employees, private sector employees, retired people, housewives to students. Besides, the distribution among different occupational groups is also

[10] In Kavaklıdere, 48.7% of the respondents are woman and 51.3% are man. In Çukurambar, 54.3% of the respondents are woman and 45.7% are man.
[11] The respondents in Kavaklıdere are 8.3% in the 18-24, 29.7% in the 25-39, 37.3% in the 40-60 and 24.7% in the +60-age group. The respondents in Çukurambar are 14,0% in the 18-24, 21,3% in the 25-39, 37,0% in the 40-60 and 27,7% in the +60-age group.
[12] 5.7% of the respondents are literate or secondary school graduates, 28.0% are high school graduates, 8.3% are primary school graduates, 46.0% have a bachelor's degree and 12.0% have graduate degrees in Kavaklıdere. 10.3% of the repondents are literate or secondary school graduates, 25.3% are high school graduates, 14.3% are primary school graduates, 40.3% have a bachelor's degree and 9.7% have graduate degrees in Çukurambar.
[13] 7.0% of the respondents are public employees, 12.7% are private sector employees, 10.7% are business owners, 7.7% are students, 9.3% are free-lancers, 19.7% are retired, 8.0% are housewives, and 25.0% have other occupations in Kavaklıdere. In Çukurambar, 5.7% of the individuals are public employees, 7.7%are private sector employees, 3.7% are business owners, 13.3% are students, 6.7% are free-lancers, 25.0% are. retired, 14.7% are housewives, and 23.3% have other occupations.

similar in two districts with variances in some particular cases. For instance, the number of business owners among the respondents is significantly higher in Kavaklıdere, which may be related with the higher number of small-scale businesses located within the district. In addition to this, the number of housewives is higher among the respondents of Çukurambar.

The average household size among the respondents[14] is 2,77 in Kavaklıdere and 3,51 in Çukurambar. The average household size among respondents is lower than the average of Ankara, that is 3,11 in 2017 (TUIK,2018), in Kavaklıdere, while it is higher in Çukurambar. Besides, the number of household types of single individuals and individuals living together are significantly higher among the respondents of Kavaklıdere, while the number of married couples with children is considerably higher among Çukurambar respondents. Since the sample groups are representatives of the residing population, the higher number of single individuals and individuals living together as well as smaller household size in Kavaklıdere can be seen as a result of tendency of younger people to move back to the city center in Ankara. In this regard, there is an ongoing transformation at the parcel scale in Kavaklıdere. During these transformations' older houses of the district with larger gross areas are transformed into smaller units in the form of residences to meet the needs of the new coming population. Hence, these transformations are very recent and ongoing thus needs to be further investigated for the upcoming researches in the area. Yet, the higher number of married couples with children among Çukurambar respondents is parallel to the higher mean of household size among the respondents of the district that is also parallel to the socio-economic profile of the residing population of the district.

[14] Among the respondents of Kavaklıdere, 11.7% of the households are single person, 8.7% are single-parents, 22.7% are married couples, 42.3% are married couples with children, 5.0% are extended families and 9.7% are individuals living together and others. In Çukurambar, 3.3% of the households are single person, 6.0% are single-parents, 15.7% are married couples, 62.9% are married couples with children, 9.7% are extended families and 2.3% are individuals living together and others.

In addition to these, the respondents comprise both houseowners and tenants while more than half of the respondents in both districts are houseowners[15]. The number of houseowners is significantly higher in Çukurambar, while the lower number of houseowners in Kavaklıdere is again an indicator of older population residing in Kavaklıdere moving to the peripheral areas of Ankara while younger people renting more houses within the city center. Furthermore, majority of the respondents in Çukurambar are living in the same area for 10-20 years while in Kavaklıdere the majority have been living in the area for more than 20 years[16]. This difference is related to the planning history of the districts, Kavaklıdere is a district formed as early as the 1950s onwards whereas Çukurambar completed its transformation from a squatter area from the 1980s till the 2000s. Yet, majority of the respondents in both cases are familiar with their residential environments for long periods of time as houseowners.

Lastly, the percentage of car ownership[17] is lower among the respondents in Kavaklıdere. Besides, respondents having more than one car is also higher in Çukurambar which can be related to the socio-economic profile of the respondents derived from both the larger household sizes and higher housing prices.

To sum up, the respondent groups are representing the residing population of districts in terms of basic demographic characteristics (distribution of sex, age and of educational levels) and the respondents also represent variety of occupational groups. In this regard, the distribution of age among the respondents in Kavaklıdere with higher percentage of older people is resembling the aging population living in the area.

[15] 55.0% of the respondents are house-owners, 34.0% are tenants in Kavaklıdere. 70.7%of the respondents are house-owners, 16.7% are tenants in Çukurambar.
[16] In Kavaklıdere, 8.7% of the respondents are residing in the district for 0-1 years, 10.3% for 2-3 years, 21.7% for 4-9 years, 19.0% for 10-20 years, 40.3% is living in the district for more than 20 years. In Çukurambar, 6.0% of the respondents are residing in the district for 0-1 years, 5.3% for 2-3 years, 21.3% for 4-9 years, 57.3% for 10-20 years, 10% is living in the district for more than 20 years.
[17] 40.7% of the respondents in Kavaklıdere do not have a car and 84.3% of the car owners have 1 car while 15.7% of them have 2 or more cars. Yet, 13.3% of the respondents in Çukurambar do not have a car and 86.7% of the respondents have 1 car while 36.9% of them have 2 or more cars.

Besides, respondents in two districts mainly diverge in terms of average household size and household size which is related with the housing preferences of young people moving back to the city center and Kavaklıdere's transformation parallel to this. Moreover, majority of the respondents in both cases are significantly familiar with their residential environments since they have been residing in the area for long periods of time as well as being houseowners. Yet, the higher percentage of car ownership and percentage of respondents having more than one car is higher in Çukurambar that is resembling the socio-economic profile of the respondents as well as car-dependency in the district in terms of access to certain activities and services within the district which will be further investigated in the following sections (Chapter 5.2.2.1).

5.1.2. Spatial Factors: Place Oriented Territoriality of the Residential Environments

Territorial functioning has both cognitive and behavioral aspects in terms of human-environment relations at the residential scale which is affected by both societal and spatial exogenous factors. Spatial factors, that is the place-oriented territoriality of the residential environments, refer to both territorial organization of urban space in terms of both the diversity of opportunities within the catchment area (affordances of the environment) as well as territorial configuration of the built environment at the meso scale. Yet, the two case studies are selected within the scope of this thesis since having diverse territorial organizations of space. In this regard, the place-oriented territoriality of both Kavaklıdere and Çukurambar districts are investigated in this section in order to draw inferences for the relation between territorial functioning and territorial organization of space in the following sections.

5.1.2.1. Diversity of Opportunities within the Catchment Area (Affordances of the Environment) in Kavaklıdere and Çukurambar Districts

On the overall, both Çukurambar and Kavaklıdere are prestigious districts preferred mainly by middle-upper income social groups which provide the basic needs for its residents in terms of daily shopping, education, recreational activities (both districts

comprise a main road with cafes and restaurants (Tunalı Hilmi and Muhsin Yazıcıoğlu Avenues) whereas Çukurambar has higher amount of green spaces for its residents) health as well as work opportunities (opportunities at close proximity are also regarded as within the residential territory by the respondents of the survey which will be examined in the next section). Yet, the two districts diverge in terms of particular opportunities. For instance, in addition to primary and high schools there is also two university campuses located within Çukurambar district which creates an opportunity for higher education within the area. In addition to this, the district is located on the south of Eskişehir highway on which there are higher number of work opportunities (business towers and public institutions located along Eskişehir highway). Besides, there are shopping malls within and close to Çukurambar which are also seen by the respondents within their territory (Figure 5.3 and 5.4).

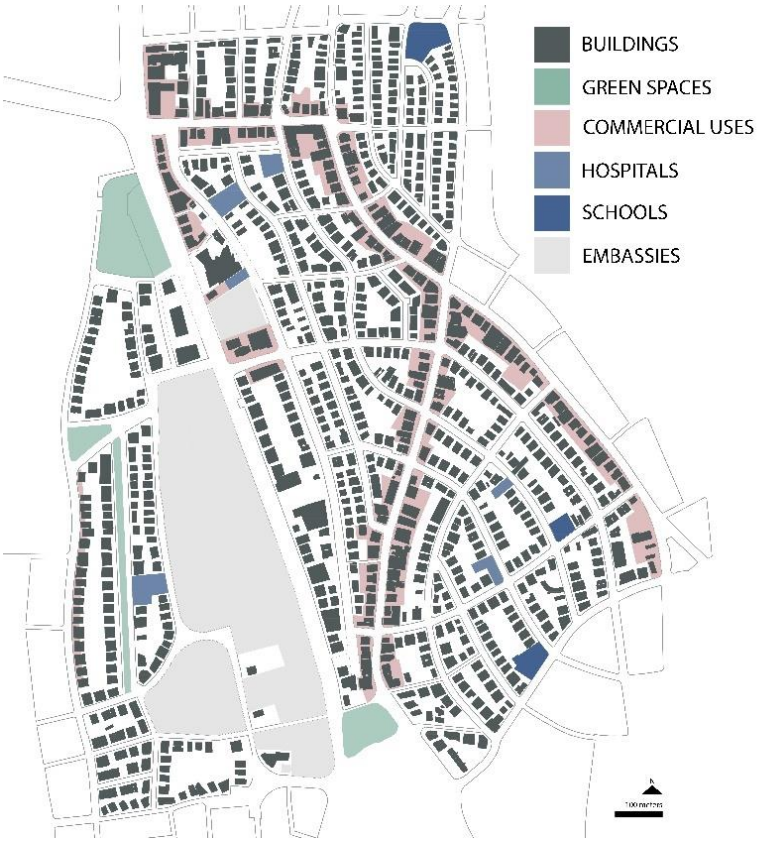


Figure 5.3. Distribution of main facilities in Kavaklıdere District

Figure 5.4. Distribution of main facilities Çukurambar District

In addition to affordances of the area, the satisfaction of respondents from the residential area is also evaluated during the questionnaires with a Likert scale question. The results of the questionnaire reveal that, majority of the respondents in both cases are very satisfied with their residential area, whereas only a small portion is very dissatisfied with their environment[18] . In a similar vein, only 22% of the total respondents plan to move to another district in Ankara[19] (Figure 5.5). Hence, it can be claimed that the affordances of the environment are at the same time seen as satisfactory. by the respondents of the questionnaire residing in both of the districts.

[18] 47% of the respondents in Kavaklıdere and 31,3% in Çukurambar are very satisfied with their residential area. Only, 3,3% in Kavaklıdere and 5% in Çukurambar are very dissatisfied with their environment

[19] 23,3% of the respondents in Kavaklıdere and 20,7% in Çukurambar plan to move to another district in Ankara.

Furthermore, there is no statistically significant difference between respondents in terms of levels of satisfaction with respect to individual characteristics[20] or personal competences[21] in both districts. The only statistically significant difference between satisfaction levels is of women and men (Mann Whitney U test, $p < 0.05$) in Kavaklıdere. In this regard; the level of satisfaction from the residential area of women (M=5) is significantly higher than the level of satisfaction of men (M=4) in Kavaklıdere (Appendix F).

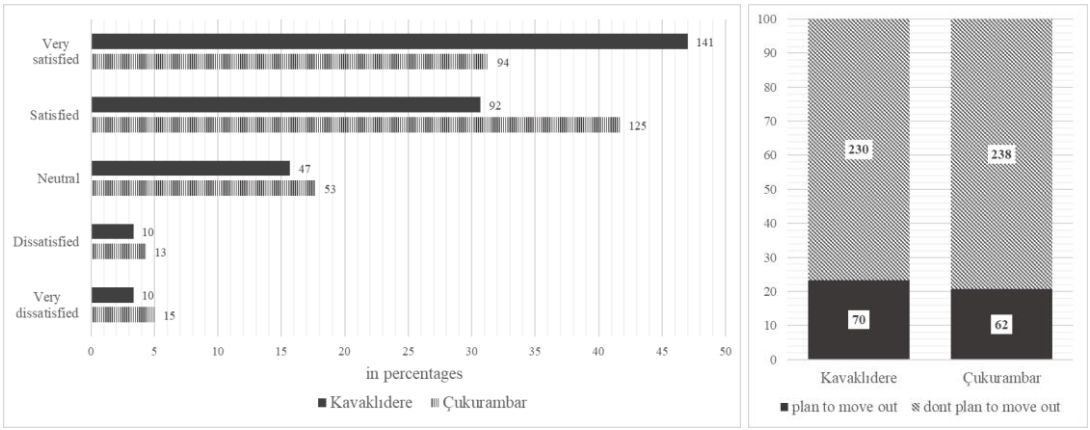


Figure 5.5. Satisfaction from the residential area and plans to move out from the area of the respondents in Kavaklıdere and Çukurambar Districts

In addition to neighborhood satisfaction, respondents are also asked to state the positive and negative aspects of their residential environments. The most frequently mentioned positive aspects in both districts are the *easy access to facilities* as well as *environmental quality*. In terms of variances, in Çukurambar respondents are more satisfied with the amount of green spaces and easy access to education, while in Kavaklıdere respondents are more satisfied with their neighbors as well as easy access to their work spaces. On the contrary, according to the respondents of the questionnaire, the prominent negative aspects of their residential environments are

[20] Such as age groups, educational levels, occupation groups, household sizes, household types, or length of residence ($p > 0.05$, Kruskal Wallis Test)

[21] There is also no statistically significant difference in satisfaction levels with respect to ownership status ($p > 0.05$, Kruskal Wallis Test) and between those who own a car and do not ($p > 0.05$, Mann Whitney U test) in both districts.

inadequate parking area and *noise*. Yet, respondents in Kavaklıdere are more dissatisfied with the inadequacy of parking and lack of green spaces as well as noise, while Çukurambar respondents claims more environmental pollution in their area. Environmental pollution stated by the respondents of Çukurambar refer mainly to air and noise pollution which is related to the major construction sites located within the district (Figure 5.6 and 5.7).

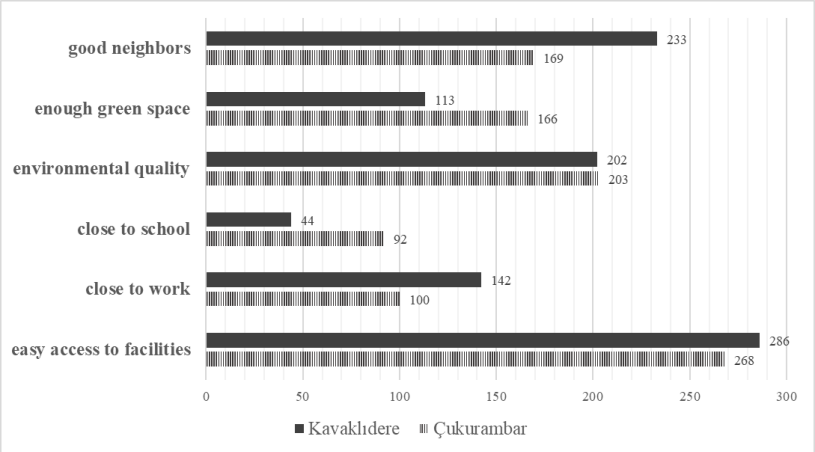


Figure 5.6. Positive aspects of their residential environment declared the respondents in Kavaklıdere and Çukurambar Districts (in frequencies).

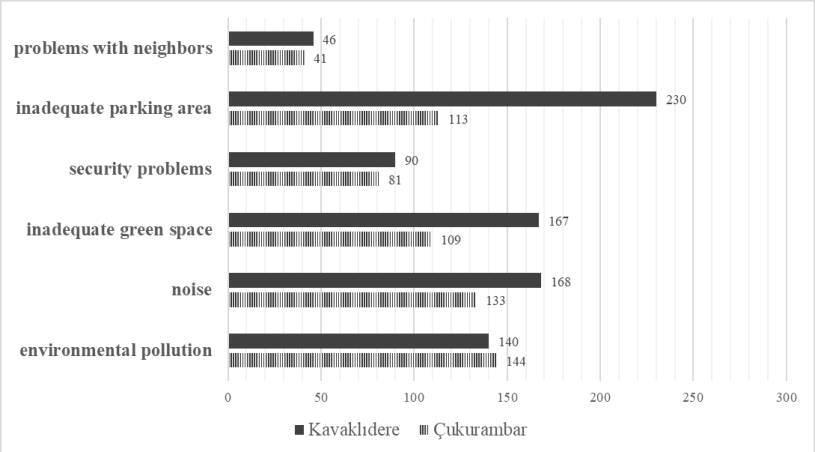


Figure 5.7. Negative aspects of their residential environment declared the respondents in Kavaklıdere and Çukurambar Districts (in frequencies)

In the meantime, respondents also added their own opinions on the negative and positive aspects of their residential areas. In this regard, additional negative aspects related to Kavaklıdere District is stated by the respondents as follows: *'inadequate parking space and noise due to the nearby restaurants and hospitals' , 'building and infrastructure are outdated', 'the average age is too high', 'roads and sidewalks are poor', 'too crowded and filthy at the weekends', 'rents are too high', 'public transportation is inadequate, you need to reach Kızılay (city center) first to go somewhere'.* These negative aspects are also similar to the responses given for the reasons to plan to move out from the area. On the other hand, positive aspects added by the respondents of Kavaklıdere are: *'the buildings are old but the streets are beautiful', 'like the center of the city', 'many shopping opportunities', 'very decent environment', 'nobody interferes with anyone'* and '*environmental quality is good*'.

Negative aspects added by the respondents in Çukurambar District, which are also corresponding with the reasons to move out, are as follows: *'services (health, shopping, etc.) are close but all private', 'stray dogs', 'construction noise', 'people who don't live in the area come too often', 'too much workplace', 'very difficult to walk, no sidewalks on the street', 'Syrian neighbors', 'skyscrapers glass reflects all the light at summer, while we cannot get enough light at winter due to their height', 'parks are deserted especially at night', 'Muhsin Yazıcıoğlu avenue is very noisy and always with traffic', 'valet parking of the restaurants occupies even the sidewalks', 'too crowded, capacity is over, infrastructure is inadequate'*. Besides, the additional positive aspects are stated by the respondents as follows: *'central/good location', 'easy access to city center', 'easy access to facilities', 'public transport is good', 'close to my brother's school', 'close to my wife's work place', 'very close to cafe, hospital and shopping malls'*. Hence, both the negative and positive aspects stated by the respondents are coherent with the affordances of the districts as well as infrastructural problems arising from densification in both sites.

All in all, both districts provide the adequate facilities and services within their catchment areas and majority of the respondents are satisfied with their residential environments especially in terms of *easy access to facilities* as well as *environmental quality*. On the other hand, the respondents are mainly disturbed by the concentration of *non-residential uses* within the district creating parking and noise problems. In addition to non-residential uses, *densification* especially in Kavaklıdere district creates also *infrastructural problems* such as parking and lack of green spaces, whereas in Çukurambar district respondents are facing problems related to *environmental pollution* arising from major *construction sites* located in the district.

5.1.2.2. Territorial Organization of the Built Environment in Kavaklıdere and Çukurambar Districts

As discussed in the previous chapters, one of the main aims of this thesis is to put forth the relationship between the territorial organization of space and human territorial functioning. In order to so, the case studies are chosen in order represent urban fabrics with different territorial organizations to attain comparable results. Hence, the differences in territorial organization of space in Kavaklıdere and Çukurambar districts will be further examined in this section.

To briefly put, territorial organization of space is the hierarchical division of space into certain types of territories from private to public and demarcation of each territory with certain defense and control mechanisms such as boundary tools or rather through environmental design (as discussed in Chapter 2.2.2.1). In this regard, design of the built environment sets boundaries for the demarcation of different territories, while these boundaries may shift over time. At the residential scale, through the demarcation of different territories, attaining privacy at the private territory of the house, adequate provision of public territory as well as creation of intermediary zones in-between these two are critical issues that environmental design has to adapt.

In this regard, the prominent types of territorial organization of the built environment is examined and classified for Kavaklıdere and Çukurambar districts. In terms of territorial organization, there are eight main types depicted in each district (Figure 5.8 and 5.9). Along these types, although the number of territorial boundaries crossed on the traditional private | public continuum (territorial depth) are similar in both cases, the prominent types of districts diverge in terms of proximity, permeability and delimitation of boundaries on physical, visual and territorial levels[22].

In Kavaklıdere, narrower front yards as well as smaller parcel sizes creates smaller semi-private territories in contrast with the larger front yards and parcels in Çukurambar. On the contrary, the larger semi private territories of Çukurambar are both physically and visually impermeable due to hard physical boundary markers such as high walls and fences in addition to long distances both vertically and horizontally between private territory of the house to public territory of the street which creates s deaf interface zone between the private and public territories. For instance, parking areas within the front yards of gated communities in Çukurambar increases the size of semi-private zones while creating again a deaf interface zone between the private and public spaces. On the other hand, squatter dwellings form a unique type of territorial organization in Çukurambar with higher permeability.

Moreover, the narrow front yards and even sidewalks are transformed into parking areas due to crowding in Kavaklıdere district in certain cases which results in even smaller semi private territories as well as leaving the semi-private zone to the use of cars rather than pedestrians. On the contrary, there are quite few examples of front yards with sitting places located in Kavaklıdere district which provides for an active and more permeable interface zone between the private and public territories. Besides,

[22] As discussed in Chapter 2.2.2.1, According to Scheerlinck (2012) territorial depth is more than the number of territorial boundaries crossed on the traditional private | public sequence, but rather depends on the complex configuration of proximity, permeability and delimitation of boundaries on physical, visual and territorial levels.

softer boundary markers such as planting or lower fences or walls also increases visual and physical permeability between different territories. Hence, private and public territories are closely knit in certain cases such as in the case of corner buildings in Kavaklıdere that has unique characteristics.

In this context, Barlas (2006: 12) states that '*the expression of territorial needs in the built environment is through intermediary spaces* which *maintain the continuum between public and private realms.'* Thus, the loss of such intermediary spaces or physical and visual barriers that obstruct the permeability between public and private territories in the case of Çukurambar both destroys the nested character of space as well as the affordance of the physical environment to provide social interactions. It is also important to note that differences in terms of territorial organization of space affects territorial functioning in terms of both cognition and behavior since it is directly related with the experience of that space.

In other words, the passive intermediary zone between the public and private zones in Çukurambar with respect to active zones in Kavaklıdere has impacts on the residents' experience of their near home territories. Hence, these districts with different territorial organizations will be further investigated in terms of both cognitive and behavioral patterns of their residents at the residential scale to compare the outcomes of territorial organization of space on territorial functioning in the following sections.

Figure 5.8. Types of territorial organization in Kavaklıdere and Çukurambar District

KAVAKLIDERE DISTRICT

single block
demarcated with low fences
without gated entrance on
the front
small front-yard
entrance area is
directly connected to the
sidewalk

single block
demarcated with low fences
and without gated entrance
on the side
small front-yard
front-yard is
connected to the
sidewalk

single block
demarcated with low fences
without gated entrance
narrow front-yard
front-yard is connected to the
street through parking space

single block
demarcated with low fences
small front-yard with
sitting area
front-yard is
connected to the sidewalk

ÇUKURAMBAR DISTRICT

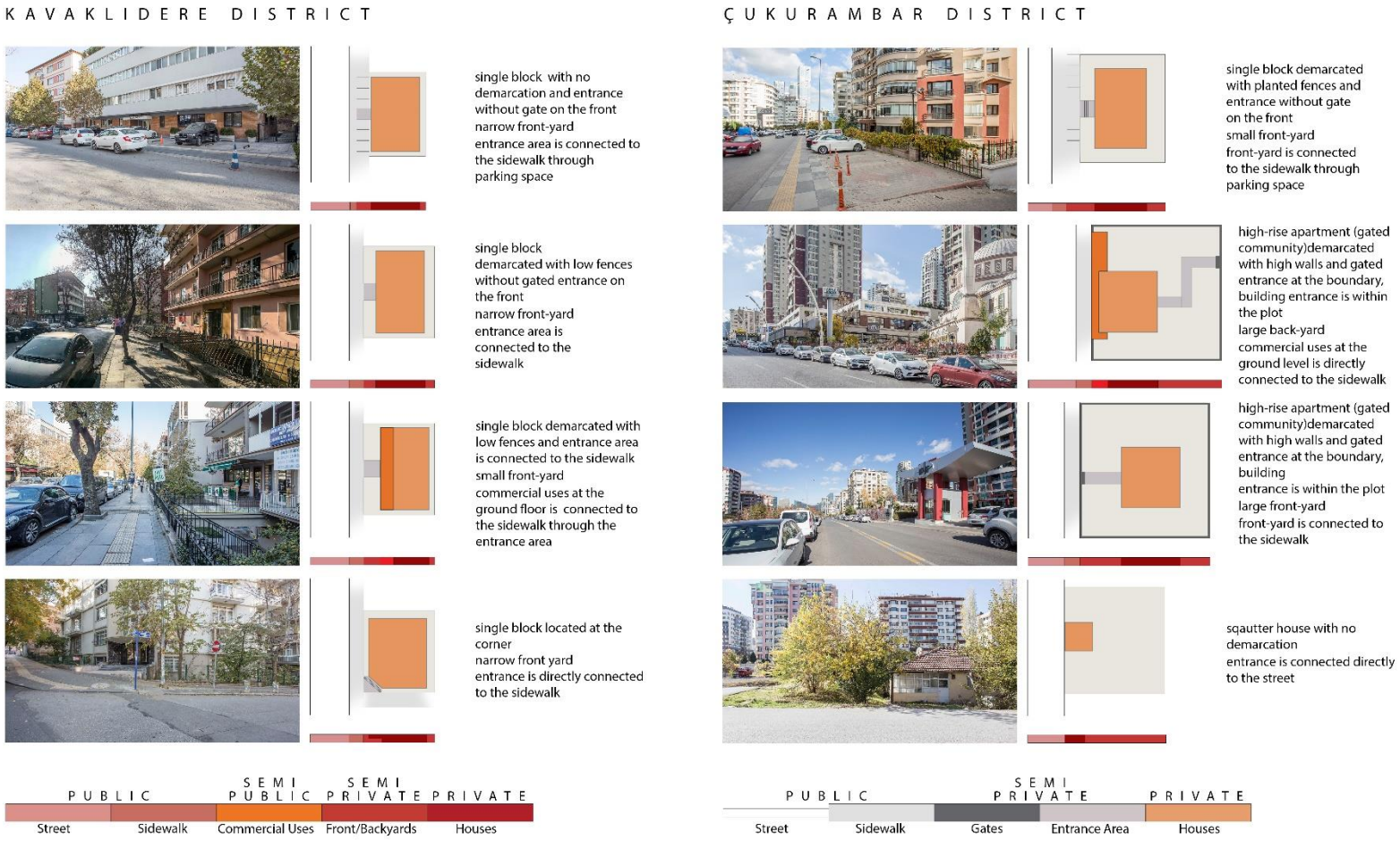
single block
demarcated with high
walls and gated
entrance on the front
small front-yard
entrance area is
connected to the
sidewalk

single block
demarcated with
planted fences
and gated
entrance on the side
small front-yard
front-yard is
connected to the
sidewalk

single block
demarcated with fences
without gated entrance
small front-yard
front-yard is
connected to the street
through
parking space

single block
demarcated with fences
and gated entrance
large front-yard with
parking area
front-yard is
connected to the street
through parking space

Figure 5.9. Types of territorial organization in Kavaklıdere and Çukurambar District



5.2. People Oriented Territoriality of Residential Environments in Kavaklıdere and Çukurambar Districts

Following the explorations on exogenous factor both societal and spatial, people-oriented territoriality that is the territorial functioning of respondents is investigated at the residential scale for each district in this section. In this regard, both cognitive and behavioral patterns of respondents are further examined with respect to previously discussed exogenous factors.

5.2.1. Territorial Cognition

In order to investigate territorial cognition patterns of residents of their residential environments, a cognitive mapping study was conducted during the questionnaires in Kavaklıdere and Çukurambar districts. Hence, territorial cognition of respondents is further examined in terms of types of designating boundaries, territorial extent of perceived residential environments as well as consensus on these boundaries, shared core of the territory, territorial landmarks and territorial gaps in this section.

5.2.1.1. Types of Designating Boundaries

As discussed in the previous sections, Appleyard (1970) studied the ways in which people structured their cities based on inhabitants' maps of their local areas and the whole city. Hence, the results of his study put forth two main types of residents' maps in terms of structuring the city which are; the maps predominantly using sequential elements (roads) or spatial elements (individual buildings, landmarks, or districts).

In a similar manner, the types of structuring that are utilized by the respondents during designating the boundaries of their residential areas are investigated in this research. During the questionnaire's respondents used different types of structuring while designating boundaries whereas there are certain prominent patterns. In this regard, four main types of structuring (Figure 5.10) is used to bound neighborhoods;

> **Abstract boundaries**: home-centered approximate sized abstract shape is drawn by the respondents

Road-based boundaries: respondents connected the frequently used and well-known streets in order to set the boundaries of the area

Function-based boundaries: respondents draw an abstract form to include location of certain frequently visited places (parks, hospitals, schools etc.)

Daily-routine based boundaries: respondents draw the path among the daily used facilities along with frequently passed streets to reach those facilities.

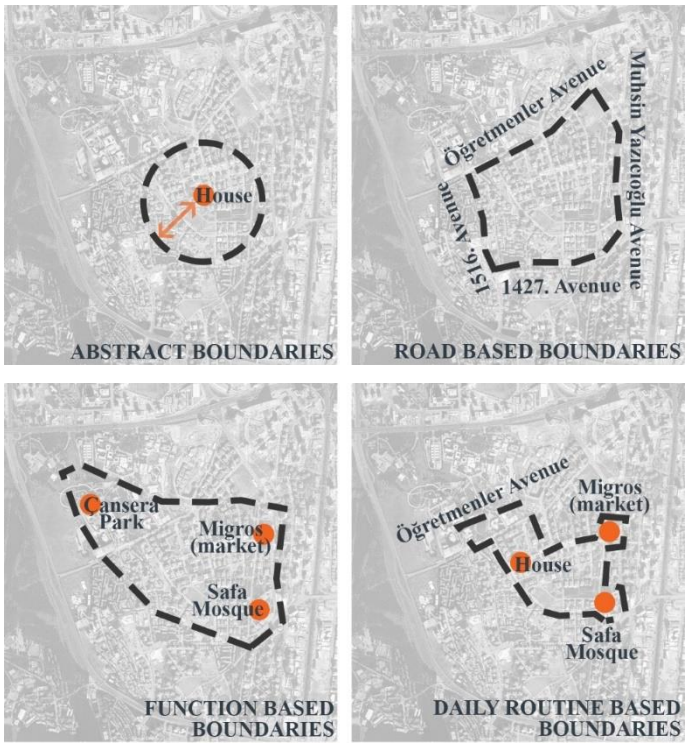


Figure 5.10. Types of designating boundaries during the questionnaires

Furthermore, it can be claimed that the road-based and daily routine-based constructions of the respondents are similar to the sequential cognitive maps while abstract and function based designations resemble more of spatial cognitive maps defined by Appleyard (1970).

5.2.1.2. Territorial Extent of Respondents Maps

As a part of investigations on territorial cognition, respondents of the questionnaire were primarily asked to draw the territorial extent of their residential environment. During the questionnaires the term ‘neighborhood’ was avoided and the given base

map was almost 3 times larger than the actual administrative neighborhood boundaries in order not to canalize the responses to conventional boundaries of the residential areas. As a result, respondents draw boundaries ranging from 2 to 483 ha. The drawn boundaries are than digitized (Figure 5.11 and 5.13) and overlapped to acquire a consensus map (Figure 5.12 and 5.14) for future inquiries[23].

In terms of bounding their residential areas respondents used different types of structuring during the questionnaires as discussed in the previous section, while there are shared boundaries referred by the majority of the respondents in each district. In Kavaklıdere, road-based as well as function-based boundaries are utilized. Most of the respondents referred to Güvenlik Avenue (commercial street) at the west, Esat Avenue at the east, Karum (shopping mall) and Kuğulupark at the south, and Olgunlar Street and Kocatepe mosque at the north for bounding the residential area. In Çukurambar, mainly road-based boundaries are used during the questionnaires. In this regard, 1516. Avenue (the main spine of 100. Yıl neighborhood) at the west, Muhsin Yazıcıoğlu Avenue (commercial street located in Kızılırmak neighborhood) at the east, 1505. Avenue at the south and Öğretmenler Aveue (dividing the residential area from the large non-residential uses located at the north of the district) at the north are mainly set as boundaries by the respondents.

In this context, the results reveal that major streets are conceived as the main boundaries of the residential territory in both cases, whereas existence of a monumental structure acting as a landmark, such as in the case of Kocatepe mosque in Kavaklıdere or a historical site with strong identity such as in the case of Kuğulupark may also orientate residents by acting as boundary mechanisms through marking the starting or ending point of the residential territory.

[23] The drawn boundaries are digitized in ArcMap 10.4 as polygons (Figure 5.11 and 5.13). Later, in order to calculate the territorial extent of each map, 'count_overlapping_polygons' tool is used and each area is colored with respect to the number of polygons overlapping in that area to acquire a consensus map (Figure 5.12 and 5.14).

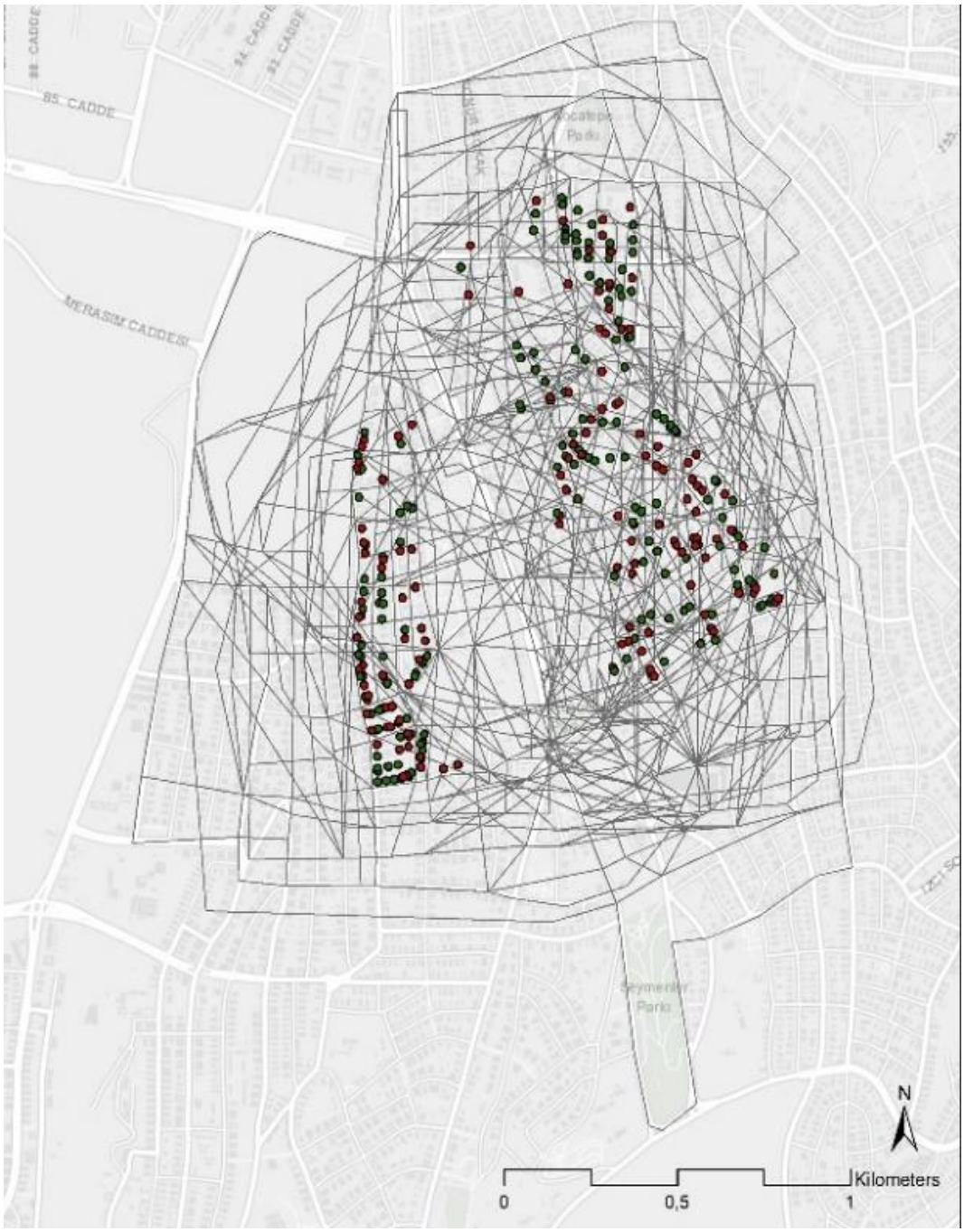


Figure 5.11. Perceived boundaries of the residential environment, home location and gender of the respondents in Kavaklıdere District

Figure 5.12. Consensus map of residents perceived boundaries in Kavaklıdere District

Figure 5.13. Perceived boundaries of the residential environment, home location and gender of the respondents in Çukurambar District

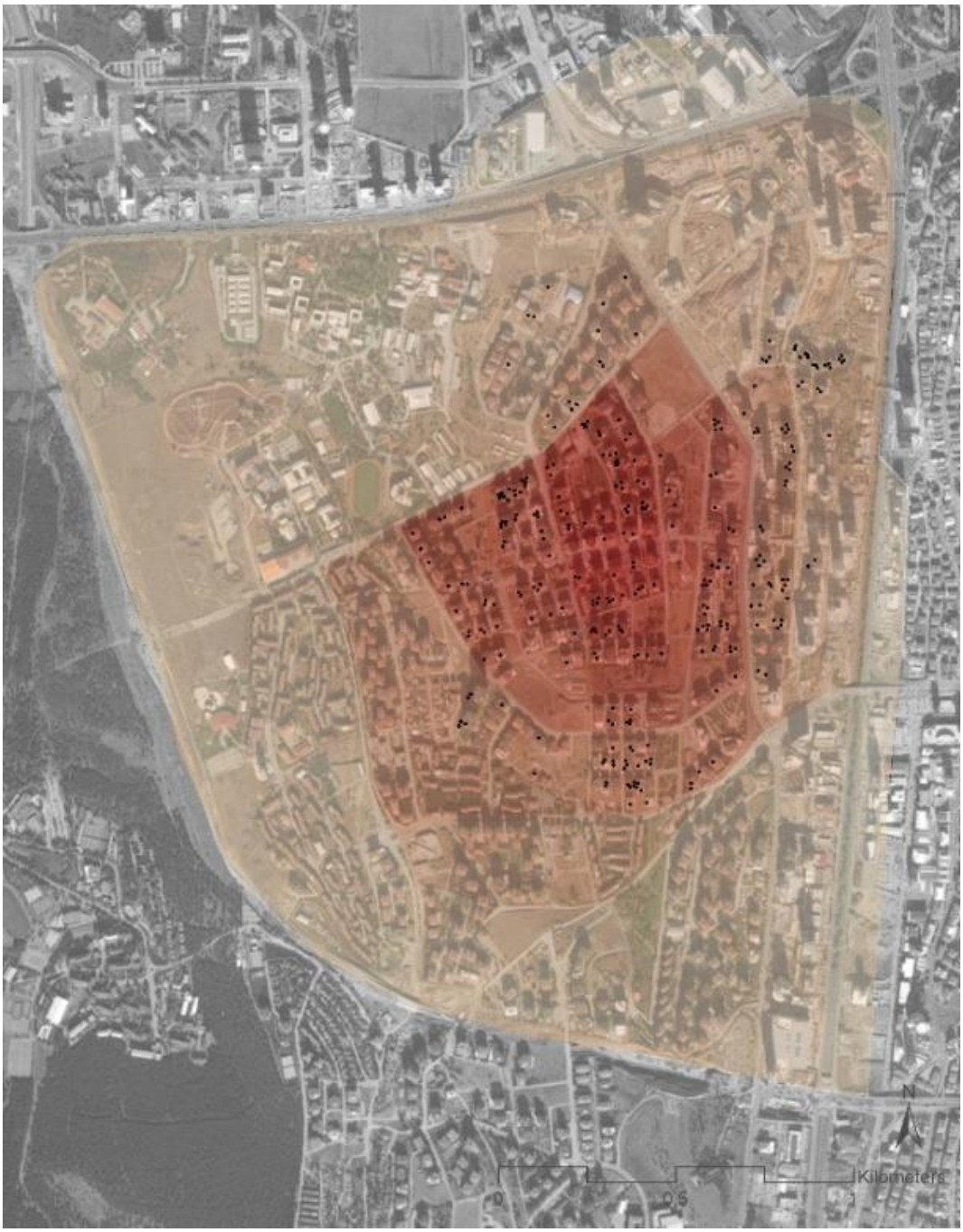


Figure 5.14. Consensus map of residents perceived boundaries in Çukurambar District

After the digitalization of the respondent maps, areal extent of each map is attained. In terms of territorial extent of the resident's maps, the average size of the perceived boundaries is 75 ha. Hence, the size of the perceived territorial unit is similar to the assumptions of the neighborhood planning standards (5-10 min walking distance that is 500 meters, approx. 64 ha). Whereas, it is also important to note that 35.7% of the boundaries set by the respondents are above 80 ha. Hence, a significant number of respondents are claiming a larger unit as their residential territory.

In this regard, the average size of the perceived boundaries in Kavaklıdere decreases to 60 ha while it increases to 90 ha in Çukurambar. In Kavaklıdere, majority of the boundaries (70,7%) are below 80 ha, while in Çukurambar nearly half of the respondent's maps (42%) are above 80 ha. Thus, it can be claimed that in Kavaklıdere the perceived size (territorial extent) of the residential area is similar to the assumptions of planning theory that is shaped by the walking-distance principle, while in Çukurambar it exceeds this size and refers more to a driving-distance scale (Table 5.2, Figure 5.15).

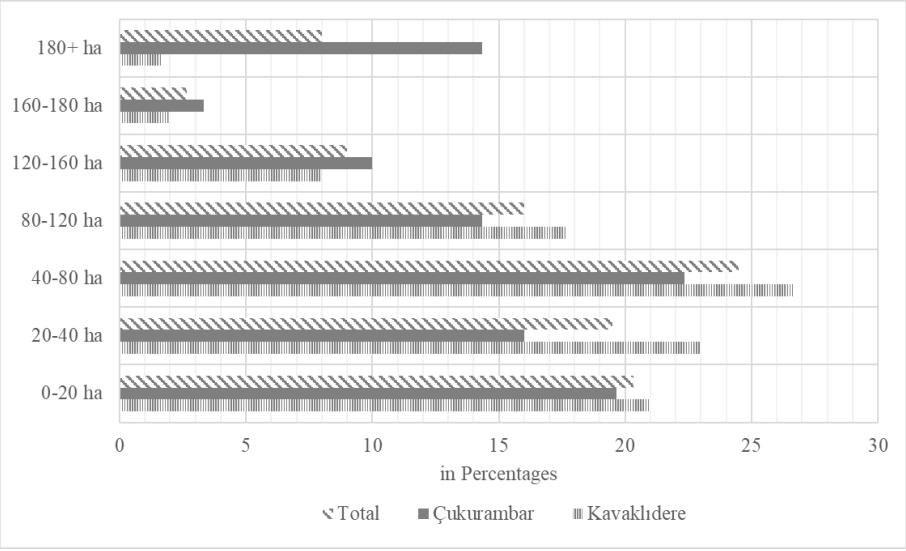


Figure 5.15. Distribution of territorial extent in Kavaklıdere and Çukurambar Districts

Table 5.2. Extent of perceived boundary in Kavaklıdere and Çukurambar

District	**Kavaklıdere**		**Çukurambar**		**Total**	
Extent of Perceived Boundary	Frequency	Valid Percent	Frequency	Valid Percent	Frequency	Valid Percent
0-20 ha	63	21,0	59	19,7	122	20,3
20-40 ha	69	23,0	48	16,0	117	19,5
40-80 ha	80	26,7	67	22,3	147	24,5
80-120 ha	53	17,7	43	14,3	96	16,0
120-160 ha	24	8,0	30	10,0	54	9,0
160-180 ha	6	2,0	10	3,3	16	2,7
180+ ha	5	1,7	43	14,3	48	8,0
Total	300	100	300	100	600	100

Furthermore, the boundaries designated by the respondents do not often match with the administrative boundaries. In this regard, the average size of the perceived boundaries in Kavaklıdere District is similar to the size of the administrative boundaries of Kavaklıdere and Remzi Oğuz Arık neighborhoods while it is larger than Barbaros neighborhood. However, in Çukurambar the average designated boundaries are smaller (almost half size) than both Çukurambar and Kızılırmak neighborhoods administrative boundaries (Table 5.3).

In the case of Çukurambar, smaller perceived size of the residential territory than administrative boundaries of the neighborhoods can be related to the large non-residential uses located at the north of the district such as Çankaya University campus and MTA (General Directorate of Mineral Research and Exploration).

Table 5.3. Extent of administrative and perceived boundaries in Kavaklıdere and Çukurambar

District	**Kavaklıdere**		**Çukurambar**	
Extent of administrative boundary	Kavaklıdere	52 ha	Çukurambar	204 ha
	Remzi Oğuz Arık	58 ha	Kızılırmak	112 ha
	Barbaros	36 ha		
Maximum extent of perceived boundary	284 ha		483 ha	
Minimum extent of perceived boundary	3 ha		2 ha	
Average size of the perceived boundary	60 ha		90 ha	
The extent of shared core	20 ha		17 ha	
Total average size of the perceived boundary	75 ha			

5.2.1.3. Shared Core Area in Respondents Maps

There is lack of consensus over the extent of the boundaries among the respondents, while there is a shared ‘core area’ agreed by the majority of the respondents in both cases. The shared ‘core area’ connotes to the center of the residential territory most of the residents use in their daily lives and intermingle in terms of social interactions.

The size of the core area is also similar in both cases. In Kavaklıdere district the core area connotes to a 20 ha and in Çukurambar to a 17 ha area. However, consensus on the core area is higher in Çukurambar (overlapping 171 to 210 times among the respondents) than Kavaklıdere (overlapping 131 to 170 times among the respondents). If we consider the amount of consensus over the area (the area overlapping 131 to 170 times) to set the boundaries of the core area, the core of Çukurambar district extends to 64 ha (Figure 5.16).

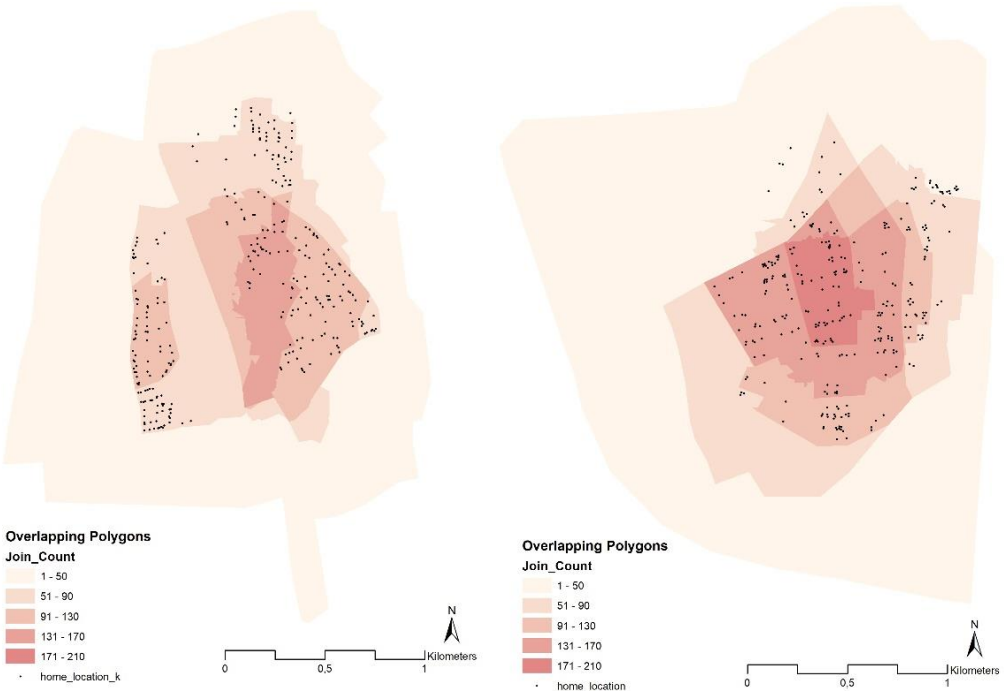


Figure 5.16. Distribution among the consensus maps and core areas in Kavaklıdere and Çukurambar

The core area of Kavaklıdere district extends along Tunalı Hilmi Avenue from Esat Crossroads to Kuğulupark. Tunalı Hilmi Avenue is a busy commercial avenue on which lots of cafes, restaurants and shops are located. Yet, Kuğulupark is one of the most well-known and historic parks of Ankara. On the other hand, the core area of Çukurambar extend along the two main shopping streets (1425. and 1459. Avenues) including also Teoman Öztürk Park. This area contains also many commercial facilities, but dominantly stores for grocery and other shopping as well as cafes and restaurants. The larger core-area (64 ha) defined depending on the amount of consensus over the area, extends to 100. Yıl neighborhood boundary on the west and to include the western part of Muhsin Yazıcıoğlu Avenue, a commercial avenue on which cafes, restaurants and shops are located, to the east.

The results of the study reveal that, the shared core area depicted by the respondents in both residential districts refers to a nearly 20 ha area with mostly commercial uses. Hence, it can be claimed that the commercial axis at the core of the residential areas act as the center of the districts.

5.2.1.4. The Impact of Individual Factors on the Perceived Size of the Residential Territory

In order to measure the impact of individual characteristics on the perceived size of the residential territory further statistical analysis are carried out. To begin with, the data attained from the questionnaires did not provide the normality assumption in the Kolmogorov Smirnov normality test and therefore nonparametric tests are used during the analysis.

In Kavaklıdere district; as a result of the Mann Whitney U test no statistically significant difference is found in terms of perceived residential territory size between women and men and those with one car or more ($p > 0.05$), whereas there is a statistically significant difference in terms of perceived residential territory size between car owners and non-car owners ($p < 0.05$). Accordingly, perceived residential

territory size of the respondents who own a car (M = 55.5 ha) is significantly larger than the territory size of the non-car owners (M = 39 ha).

According to the results of Kruskal Wallis test, there is no statistically significant difference in terms of perceived residential territory size between education levels, household size, household type, ownership and length of residence groups (p> 0,05), while there is a statistically significant difference (p <0.05) between age groups and occupations in Kavaklıdere. In this regard; the perceived residential territory size of the individuals aged 18-24 (M = 20 ha) are significantly smaller than the size of individuals who are 25-39 (M = 53,0 ha), 40-60 (M = 53 ha) and 60+ (M = 43 ha) years old. Besides, the perceived residential territory size of the students (M = 22 ha) are significantly smaller than public employees (M = 53 ha), free lancers (M = 50,5 ha), retired respondents (M = 62 ha) and others (M = 69 ha). Yet, the perceived residential territory size of private sector employees (M = 39 ha) and business owners (M = 36.5 ha) are also significantly smaller than retired (M = 62 ha) and other (M = 69 ha) occupational groups.

In this context, larger perceived residential territory size of the respondents who own a car is related with the access to a larger area. Whereas, younger and student respondents tend to perceive a residential area which connotes to a block-scale while older and retired respondents perceive a smaller unit which refers more to a walking-distance neighborhood. This result can be interrelated with the use of multiple-territories in the daily lives and higher mobility of younger people while older and retired people are more dependent on their near-home residential territories in terms of access to certain services and facilities.

In Çukurambar, as a result of the Mann Whitney U test there is no statistically significant difference in terms of perceived residential territory size between car owners and non-car owners as well as those with one car or more (p> 0.05). Yet, there is a statistically significant difference in terms of perceived residential territory size

between men and women (p <0.05). In this regard; the size of women's perceived residential territory size (M = 54 ha) is significantly smaller than that of men (M = 74 ha). The smaller size of perceived territory by woman can be a result of higher number of housewives among the respondents of Çukurambar whom use their near-home territories more actively while man travel larger distances in terms of reaching to work and other territories.

Table 5.4. The impact of individual factors on the perceived size of the residential territory

	Çukurambar perceived size of the res. ter.			**Kavaklıdere perceived size of the res. ter.**		
	n	**Median (Min-Max) in ha**	**Z,x^2; p**	**n**	**Median (Min-Max) in ha**	**Z,x^2;p**
Sex						
Female	163	54 (2-354)	-2,081;	146	45 (3-222)	-0,252;
Male	137	74 (2-483)	**0,037***	154	49,5 (4-284)	0,801
Age Groups						
1) 18-24	42	62,5 (2-255)		25	20 (3-90)	11,888;
2) 25-39	64	69 (5-347)	2,327;	89	53 (5-219)	**0,008****
3) 40-60	111	57 (4-354)	0,507	112	53 (4-284)	
4) 60 +	83	64 (2-483)		74	43 (6-178)	**Diff.; 1-2,3,4**
Education						
1) Literate/Middle School	31	43 (6-198)	9,532;	17	63 (3-121)	
2)High School	76	59,5 (2-347)	**0,049***	84	41 (4-156)	
3)Primary School	43	61 (11-345)		25	35 (6-146)	9,652; 0,051
4)Bachelors Degree	121	64 (4-483)	**Diff.; 1-5**	138	53,5 (5-284)	
5)Graduate Degree	29	101 (17-333)		36	59 (6-165)	
Occupation						
1)Public Employee	17	59 (5-347)		21	53 (10-228)	
2)Private Sector Employee	23	69 (9-286)		38	39 (5-165)	18,961;
3)Business owner	11	102 (17-298)		32	36,5 (7-114)	**0,008****
4)Student	40	76 (5-347)	5,420;	23	22 (3-111)	
5)Freelancer	20	37 (15-289)	0,609	28	50,5 (4-156)	**Diff.; 4-1,5,6,8 2,3-6,8**
6)Retired	75	56 (2-483)		59	62 (6-284)	
7)Housewife	44	59 (11-281)		24	52 (6-146)	
8)Other*	70	71,5 (2-354)		75	69 (4-222)	
Household Size						
1	10	25,5 (7-245)		35	53 (6-228)	
2	66	67,5 (2-256)		100	50,5 (4-284)	
3	78	67,5 (5-483)	8,681; 0,070	87	50 (4-194)	3,307; 0,508
4	84	75,5 (4-354)		64	46 (3-222)	
5 +	62	44,5 (2-347)		11	25 (8-131)	

Table 5.4. (continued) The impact of individual factors on the perceived size of the residential territory

	Çukurambar perceived size of the res. ter.			Kavaklıdere perceived size of the res. ter.		
	n	Median (Min-Max) in ha	Z,x^2; p	n	Median (Min-Max) in ha	Z,x^2;p
Household Type						
One person	10	25,5 (7-245)	5,173; 0,395	35	53 (6-228)	6,366; 0,272
Single parent	18	90,5 (15-256)		26	33,5 (6-135)	
Married couple	47	60 (2-244)		68	57 (4-284)	
Married couple with children	188	63 (2-483)		127	54 (4-222)	
Extended family	29	57 (13-347)		15	31 (3-163)	
Other (individuals living together)	7	70 (18-221)		29	36 (15-153)	
House Ownership						
Home owner	212	62,5 (2-483)	0,488; 0,922	165	43 (4-284)	4,101; 0,251
Tenant	50	69 (5-354)		102	50 (3-219)	
ojman	19	59 (2-345)		14	77 (7-146)	
Other	19	53 (9-289)		19	26 (4-144)	
Length of residence						
0-1 years	18	28 (9-354)	6,694; 0,153	26	43 (7-135)	4,584; 0,333
2-3 years	16	49,5 (6-257)		31	65 (10-219)	
4-9 years	64	62 (5-347)		65	51 (3-284)	
10-20 years	172	65 (2-483)		57	40 (4-228)	
20 years +	30	82 (2-318)		121	49 (6-222)	
Car Ownership						
No	40	54,5 (12-354)	-0,161; 0,872	122	39 (3-222)	-2,273; **0,023***
Yes	260	64,5 (2-483)		178	55,5 (5-284)	
Number of Cars						
1	164	60,5 (2-347)	-0,834; 0,404	150	58,5 (5-284)	-0,633; 0527
2 +	96	71 (4-483)		28	43,5 (6-165)	

In addition to this, according to the results of the Kruskal Wallis test, there was no statistically significant difference in terms of perceived residential territory size between age groups, occupations, household sizes, types of households, ownership status and length of residence (p> 0.05), whereas there is a statistically significant difference (p <0.05) only between education levels in Çukurambar. The perceived residential territory size of the respondents who are literate or secondary school graduates (M = 43 ha) is significantly smaller than the size of the respondents with graduate degrees (M = 101 ha). This result can be related to the university campuses

located at the surrounding of the area, which are often perceived as within their residential area by the students of higher education.

5.2.1.5. Territorial Landmarks

In the second part of the cognitive mapping respondents are asked to designate what features of the built environment they recalled as territorial landmarks. Hence, respondents are asked to point *'important reference points in their residential areas such as memorable buildings, streets or open spaces, or places they use while giving directions to someone'*. However, only a few well-known landmarks were pre-existing on the base map, in order to better orientate the respondent, as well as overcoming the difficulties of map reading and drawing by the respondents.

Table 5.5. Number of landmarks mentioned in Kavaklıdere and Çukurambar

Districts	**Kavaklıdere**		**Çukurambar**	
Number of Landmarks Mentioned	**Frequency**	**Valid Percent**	**Frequency**	**Valid Percent**
0	89	30	50	17
1	111	37	112	37
2	81	27	89	30
3	15	5	36	12
4	3	1	11	4
5	1	0	1	0
6	0	0	0	0
7	0	0	1	0
Total	300	100	300	100

In Kavaklıdere District majority of the 300 respondents (70%) were able to identify a landmark in their residential area, whereas the number of landmarks mentioned ranges from 0 to 5. In terms of types of landmarks; 36% mentioned a building, 32% mentioned a street, 15% mentioned an area referring to both a building and an open space, 10% mentioned an area referring to both a street and an open space while only 7% mentioned an open space as a landmark (Table 5.7). Yet, the most frequently mentioned landmarks are; Esat crossroads, Tunalı Hilmi Avenue, Kocatepe Mosque, Güven Hospital and Kuğulupark (Table 5.6 and Figure 5.17).

Table 5.6. Most frequently mentioned landmarks in Kavaklıdere District

Most Frequently Mentioned Landmarks	Type of Landmark	Frequency
Esat Crossroads	*crossroads* street & open_space	23
Tunalı Hilmi Avenue	*main road* street	19
Kocatepe Mosque	*mosque* building	19
Güven Hospital	*hospital* building	17
Kuğulupark	*park* open_space	15
Güvenlik Avenue	*main road* street	15

Table 5.7. Types of landmarks mentioned in Kavaklıdere District

Types of Landmarks Mentioned in Kavaklıdere District	Frequency	Valid Percent
OPEN_SPACE	**23**	**7**
Park	22	
Car Park	1	
STREET_& OPEN_SPACE	**35**	**10**
Crossroads	33	
Bus Stop	2	
BUILDING_& OPEN_SPACE	**49**	**15**
School	25	
Embassy	21	
Mall	2	
Public Housing	1	
STREET	**107**	**32**
Main Road	75	
Street	32	
BUILDING	**121**	**36**
Hospital	33	
Cafe /Restaurant	29	
Mosque	19	
Market	8	
Institution	7	
House of a Politician	4	
Bank	4	
Arts & Culture	2	
Gas Station	2	
Store	1	
TOTAL	**335**	**100**

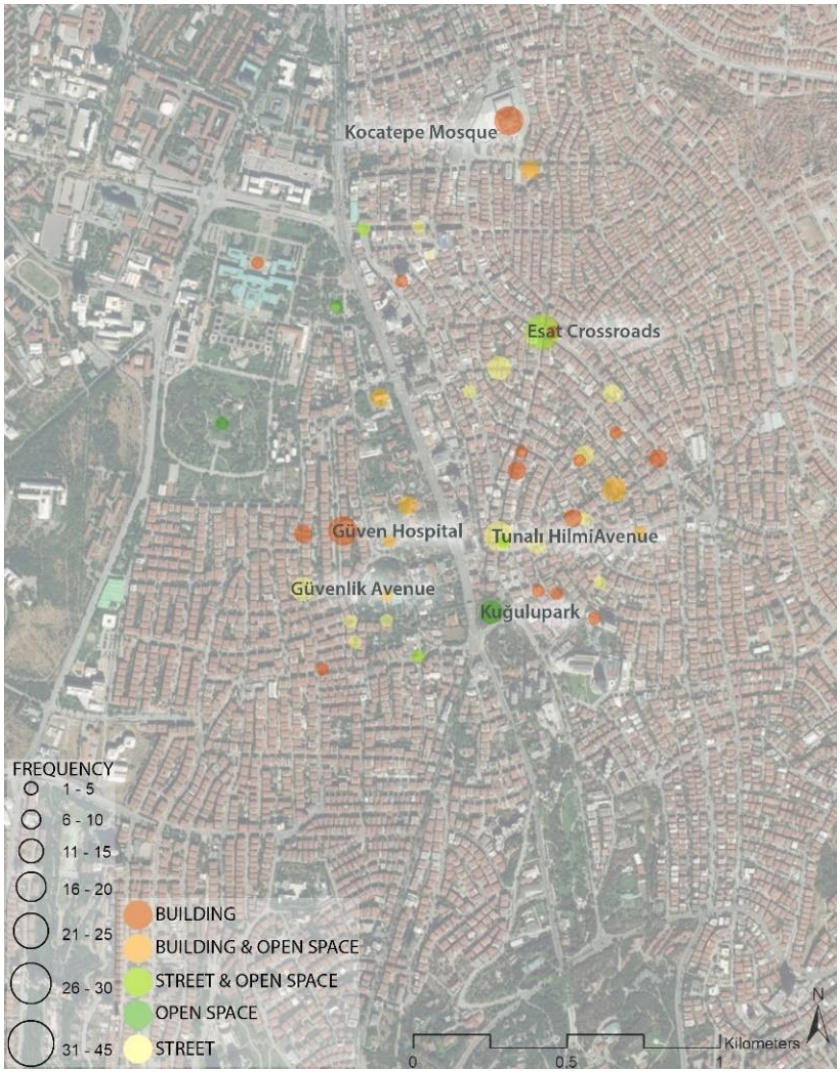


Figure 5.17. Territorial Landmarks in Kavaklıdere District

In a similar way, majority of the 300 respondents (83%) in Çukurambar District were able to identify a landmark in their residential area whereas the number of landmarks mentioned ranges from 0 to 7. In terms of types of landmarks; 57% mentioned a building, 21% mentioned an area referring to both a building and an open space, 14% mentioned a street, only 8% mentioned an open space and almost none of the respondents (only 2) could mention an area referring to both a street and an open space (Table 5.9). The increase in the number of buildings mentioned as landmarks in Çukurambar than Kavaklıdere can be resulting from street names given based on a

numbering system rather than actual names which makes it harder to memorize a street as a landmark. Hence, the only streets mentioned as landmarks are the main roads.

Furthermore, there is higher consensus over the most frequently mentioned landmarks which are; Nişantaşı Pazarı (market), Liva Pastry Shop (café and restaurant), Safa Mosque and its park, MTA (General Directorate of Mineral Research and Exploration), Muhsin Yazıcıoğlu Avenue and Arjantin Elementary School. Yet, the number of buildings within the most frequently mentioned landmarks are also higher in Çukurambar (Table 5.8 and Figure 5.19).

Table 5.8. Most frequently mentioned landmarks in Çukurambar District

Most Frequently Mentioned Landmarks	Type of Landmark	Frequency
Nişantaşı Bazaar	*store* building	41
Liva Patisserie	*café / restaurant* building	35
Safa Mosque and Park	*mosque and park* building & open_space	29
MTA	*institution* building & open_space	26
Muhsin Yazıcıoğlu Avenue	*main road* street	26
Arjantin Elementary School	*school* building	19

Table 5.9. Types of landmarks mentioned in Çukurambar District

Types of Landmarks Mentioned in Çukurambar District	Frequency	Valid Percent
OPEN_SPACE	**38**	**8**
Park	25	
Market Place	11	
Sports Field	2	
STREET_& OPEN_SPACE	**2**	**0**
Crossroads	1	
Pedestrian Bridge	1	
BUILDING_& OPEN_SPACE	**95**	**21**
Mosque and park	29	
Institution	26	
School	17	
University	10	
Mall	8	
Housing	5	

Table 5.8.(continued) Types of landmarks mentioned in Çukurambar District

Types of Landmarks Mentioned in Çukurambar District	Frequency	Valid Percent
STREET	**62**	**14**
Main Road	62	
BUILDING	**256**	**57**
Cafe /Restaurant	70	
Store	48	
Market	38	
Mosque	25	
Hospital	21	
School	20	
Taxi Stop	9	
Business Centre	8	
Cargo	6	
Hotel	3	
Old Police Station	2	
Tax Office	2	
Institution	1	
Neighborhood Representatives	1	
Political Party Headquarters	1	
Post Office	1	
TOTAL	**453**	**100**

Figure 5.18. The most frequently mentioned landmark in Kavaklıdere, Esat Crossroads and in Çukurambar; Nişantaşı Bazaar.

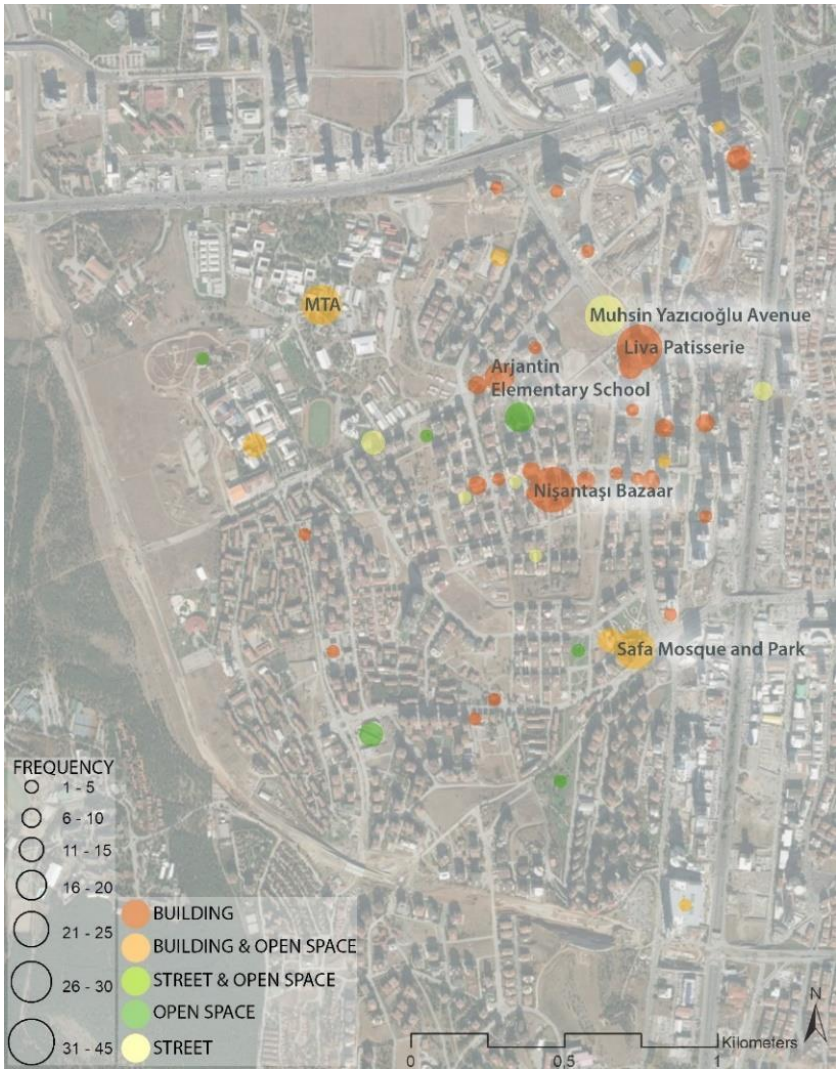


Figure 5.19. Territorial Landmarks in Çukurambar District

To sum up, in terms of distribution among most frequently mentioned landmarks by the respondents [24] nearly half of the respondents refer to a building and secondly to a street whereas open spaces and areas referring both to a street and an open space are the least mentioned by the respondents. In this context, the dominance of buildings perceived as landmarks, as well as open spaces such as parks not being perceived as

[24] In the overall distribution among most frequently mentioned landmarks 7,7% are open spaces, 4,7 % are an area referring both to a street and an open space (such as crosssroads and busstops), 18,3 % are an area referring both to a building and an open space (suchas schools, malls etc.), 21,4% are streets and 47,8% are buildings.

landmarks points out to the lack of open spaces that people can refer to as landmarks and inadequate distribution of open public territories in residential environments. In addition to these majority of the most frequently mentioned landmarks in Kavaklıdere (except Güvenlik Avenue and Güven Hospital) are located within the shared core area derived from the respondent's maps, while in the case of Çukurambar the landmarks are more dispersed in the district with only the most frequently mentioned landmark (Nişantaşı Bazaar) located within the shared core area derived from the respondent's maps.

Moreover, the impact of individual characteristics on the number of landmarks mentioned are further statistically analyzed. Yet, as a result of the Mann Whitney U test; there is no statistically significant difference in terms of number of landmarks mentioned between women and men, car owners and non-car owners ($p > 0.05$) in both districts. Besides, Kruskal Wallis test results show no statistically significant difference between age groups, educational status, occupations, household size, household types, ownership, length of residence regarding number of landmarks mentioned ($p > 0.05$) in both districts (Appendix D).

5.2.1.6. Territorial Gaps: Fear and Discomfort Zones

In the last part of the cognitive mapping, respondents were asked to demarcate and explain areas in their residential areas where they feel uncomfortable or insecure while crossing or areas avoided especially at night. Since, these zones are avoided by the respondents during their daily lives and excluded from the residential territory by the respondents they are referred as 'territorial gaps' within the context of this study. The areas depicted by the respondents are than digitized and overlapped to designate areas where respondents feel the most uncomfortable[25] (Figure 5.20 and 5.21).

[25] These areas are digitized in ArcMap 10.4 as polygons and, later 'count_overlapping_polygons' tool is used and each area is colored with respect to the number of polygons overlapping in that area to designate areas where respondents feel the most uncomfortable.

In this context, very few responses were given in terms of territorial gaps during the questionnaires. Thus, it can be claimed that security is not seen as a premise problem within the districts. In addition to this, respondents living in Kavaklıdere district explained why they feel secure in the area as *'people living in this area are elite and have been living in this area for long periods of time, everybody knows each other'*, yet people residing in Çukurambar explained their opinion on the subject as *'elite people are living here, even politicians'*.

Although the number of territorial gaps is low in both cases, there is differentiation between the two districts. In Kavaklıdere, only 41 respondents demarcated an area as fear or discomfort zones among the 300 respondents while in Çukurambar this number increases up to 113. Besides, the most frequently demarcated areas are overlapping only 7 times in Kavaklıdere, while this number also increases to 19 in Çukurambar.

The most frequently mentioned territorial gaps in Kavaklıdere are embassies located at the west of the district along Atatürk Boulevard due to security emergencies occurring time to time as well as bars and restaurants along Tunus Avenue which are declared as discomfort zones due to late closing hours creating noise pollution in the area, parking problems for the residents as well as crowding. In Çukurambar, the most frequently mentioned territorial gaps are vacant lots either next to a construction sites or areas on which few squatters are existing. Yet, parks are also referred as discomfort zones due to inadequate lightning and stray dogs.

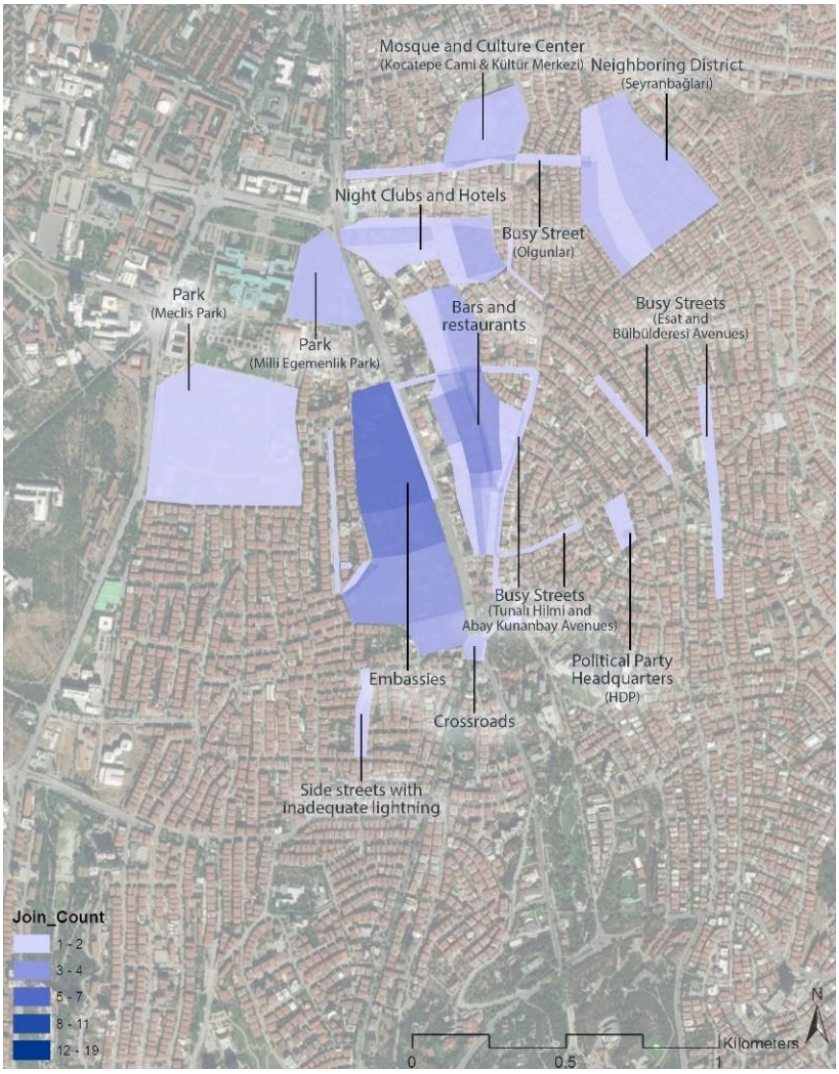


Figure 5.20. Territorial Gaps in Kavaklıdere District

To conclude, territorial gaps depicted by the respondents living the districts are areas where the residents feel the most uncomfortable or insecure. In Kavaklıdere, it is the embassies as well as non-residential uses especially with night time uses while in Çukurambar it is the large vacant lots and construction sites. Hence, these areas should be considered as the locus for planning interventions in these residential districts.

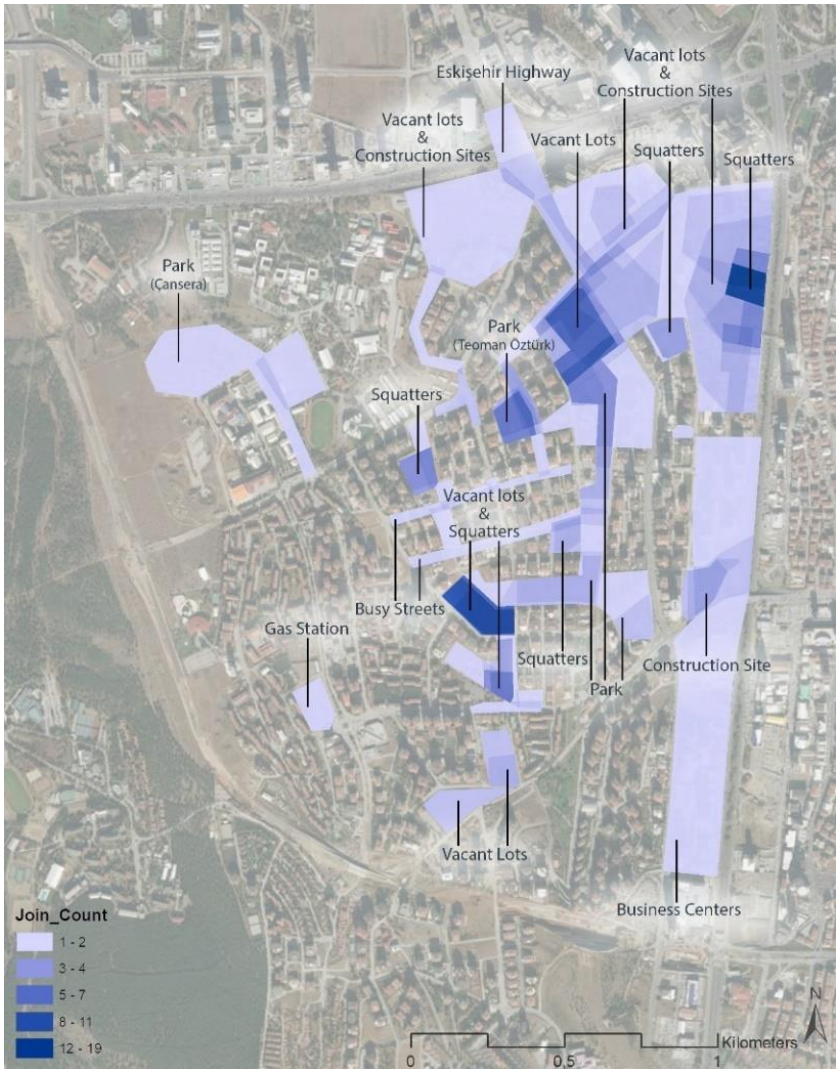


Figure 5.21. Territorial Gaps in Çukurambar District

5.2.2. **Territorial Behavior**

Territorial behavior in residential areas include exclusive use of territory as a resource base as well as control and defense mechanisms asserted over the territory. Control in residential areas do not refer to active mechanisms but rather connotes to boundary and surveillance mechanisms. Yet, marking (boundary and central markers/personalization) can also be listed as such mechanisms. Besides, control and defense of territory at the scale of residential environments can also take place at the more organizational levels, such as in the form of neighborhood associations. In this

context, exclusive use of territory as a resource base in terms of functional structure of activity nodes, frequency of use, mode of transport to reach activities as well as control and defense mechanisms in the form of boundary and central markers are further examined in this section for Kavaklıdere and Çukurambar districts.

5.2.2.1. Exclusive Use as a Resource Base

Territoriality provides access to certain resources as well as exclusive use of that resources. Yet, spatial proximity has become a less important function in terms of access to resources and people are no longer solely dependent on their near home territories but rather use multiple territories for diverse needs. However, people and especially disadvantaged groups (such as children and elderly) are still dependent on their near home territories especially for their basic needs. Besides, easy and comfortable access to resources is also favorable in terms of housing preferences of urban residents. Furthermore, not only the availability and distribution of resources but how residents exclusively use these resources becomes and important issue. In this context, exclusive use of territory is further investigated based on the functional structure of activities in residential territories as well as frequency of use and mode of transport to reach each activity in this section based on the questionnaire responses of residents of Kavaklıdere and Çukurambar districts.

The results of the questionnaires reveal that, over the 17 pre-defined activities, mean frequency of total number of activity nodes is 8 in both Kavaklıdere and Çukurambar. Besides, majority of the respondents utilize more than half of these activities (6-10 activities)[26] Yet, a smaller percentage of respondents are utilizing more than half of these activities[27], and again a small percentage of the respondents[28] utilize less than 5 of these activities. Hence, it can be claimed that majority of the respondents use their residential territories as a resource base for significant amount of activities.

[26] 78% of the respondents in Kavaklıdere and 66% of the respondents in Çukurambar utilize more than half (6-10 activities) of the pre-defined activities.
[27] 8% of the respondents in Kavaklıdere, 18% of the respondents in Çukurambar utilize 10 activies.
[28] 14% of the respondents in Kavaklıdere and 16% in Çukurambar utilize less than 5 of these activities.

In addition to number of activities engaged within the residential territory, type of activities is categorized under 6 main headings (recreational, commercial, social, services, work and religious) based on their purposes in order to examine the functional structure of these activity nodes. The functional structure of the activity nodes yields similar results in both districts, predominantly on recreational and commercial purposes (Figure 5.22).

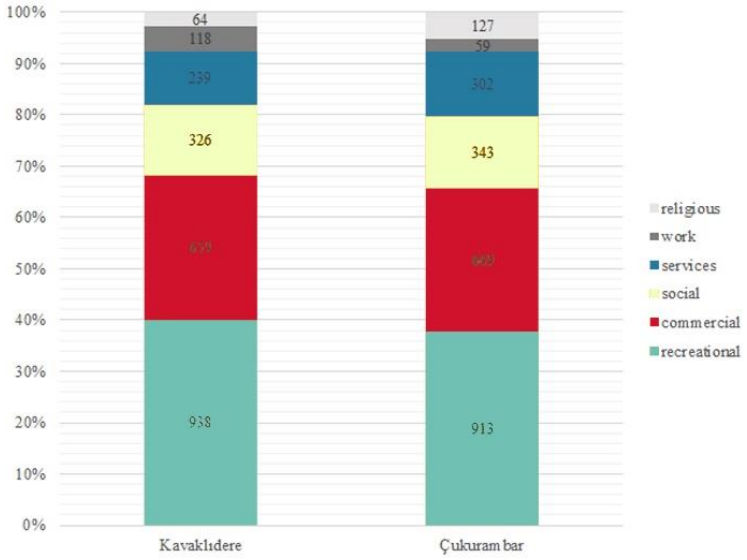


Figure 5.22. Functional structure of activity nodes in Kavaklıdere and Çukurambar Districts

Although functional distribution of activities is similar, there are certain differences between the type of activities utilized in each district (Figure 5.23). For instance, shopping activities other than daily grocery shopping (clothing, electronics etc.) are done 19 percent more within the residential territory in Çukurambar. The reason behind this difference can be associated with the malls located at the north (Armada and Next Level) and south (Taurus) of the district which are often included in the territorial maps of the respondents. In Kavaklıdere there are also stores and a mall (Karum) while they are smaller scale and provide less spectrum of goods.

The use of residential territory for work purposes is also 19 percent more in Çukurambar, which can be explained by the business towers as well as many public

institutions located within the district as well as on Eskişehir Highway at the north of the district while Kavaklıdere is a less mixed use but dominantly residential district except Tunalı Hilmi Avenue. Respondents in Çukurambar district also use their residential territory 21 percent more for religious purposes which can be associated with the socio-cultural group residing as well as higher number of mosques located in the area.

Private services (such as hairdresser, tailor etc.) are 15 percent more used in Kavaklıdere. This may be resulting from a greater number of small-scale businesses located in Kavaklıdere district. Regarding recreational activities; strolling is done 15 percent more in Kavaklıdere whereas open-air sports are done 13 percent and playgrounds are 11 percent more used in Çukurambar. The higher amount of strolling in Kavaklıdere can be related to the walkable environment of the district with larger sidewalks with greenery as well as active front yards both increasing the feeling of security as well as providing stimulation. Yet, the higher number of open-air sport activities can be related to larger park areas located within the district and more use of playgrounds to the higher number of children between the 0-9 age range in Çukurambar (2304) than Kavaklıdere (1131) as well as to the higher number of married couples with children among the respondents of Çukurambar.

Socio-cultural activities are attended 13 percent more in Kavaklıdere which may be resulting from 2 main theaters (Akün and Şinasi Theaters) as well as many art galleries located in the district. Lastly, educational facilities are 14 percent more utilized in Çukurambar which can be associated with the two university campuses (Çankaya and Ufuk Universities) located within the district in addition to one (METU) located at the southern part of the district, while education purposes are met in Kavaklıdere district only at the scale of primary to high school.

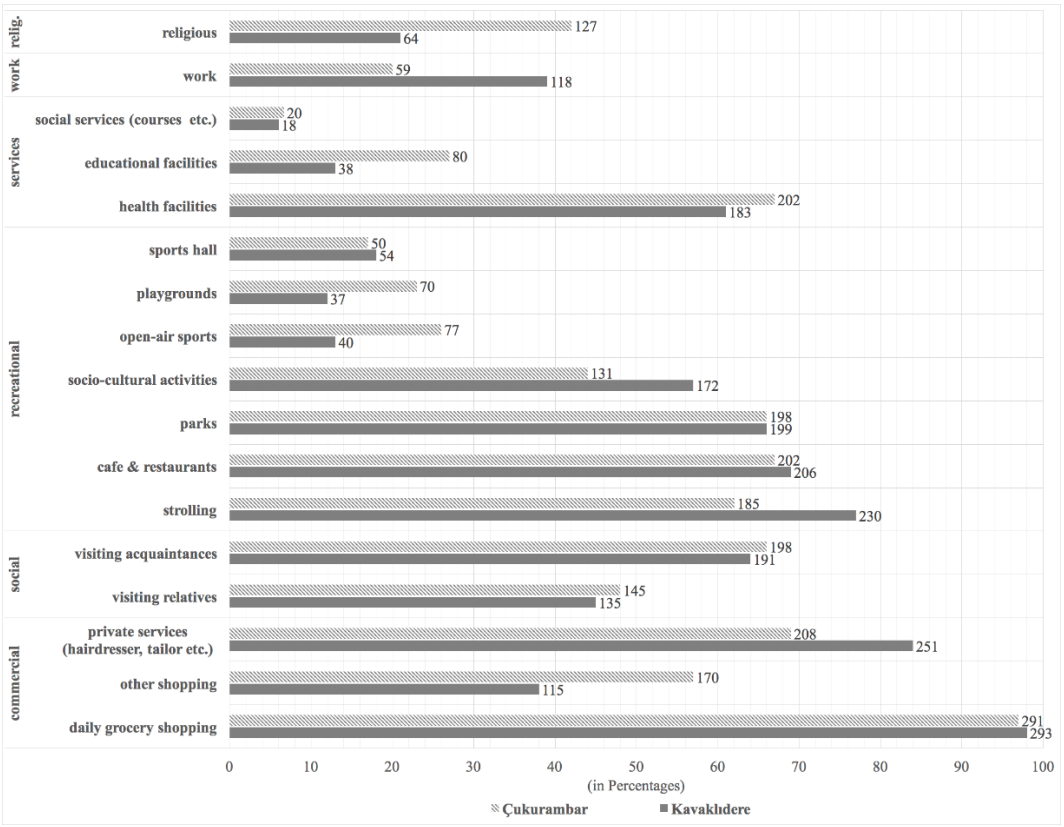


Figure 5.23. Type of activity nodes frequently used by the respondents in Kavaklıdere and Çukurambar Districts

Furthermore, there are some inferences related with the perception of respondents regarding certain activities. For instance, the use of health facilities is mainly mentioned for community health care centers rather than hospitals. Yet, the attendance to socio-cultural activities, especially in Çukurambar, refers to the cinemas located within the malls located near the district. In addition to socio-cultural functions, malls are also referred for the shopping as well as café & restaurant activities in this district. Besides, large parks located at the periphery of Çukurambar also regarded as within the residential territory by the respondents.

All in all, it can be claimed that both districts are actively and exclusively used as a resource base especially for commercial and recreational purposes by the respondents. Yet, although people are not solely dependent on their near home territories in terms

of access to certain services and facilities, they tend to actively engage with the ones at a proximal distance and the older population as well as less mobile groups are still dependent on their near-home territories. Besides, the significant differences in certain activities are related with the affordances of the environment. For instance, existence of large green spaces results in higher number of open-air sport activities mentioned by the respondents. On the other hand, a larger area than the administrative boundaries and even larger area than the perceived boundaries delimited in the cognitive maps are perceived as a resource base by the respondents. Hence, this result provides an important input for the residential environment designs based on the catchment area and walking distance neighborhood paradigms and their interpretations for the provision of certain goods and services at a smaller scale. In addition to these, it is also important to note that malls located within and at a close distance to the districts are seen as the locus for various types of activities starting from its commercial uses to socio-cultural and recreational purposes. Hence, the allocation of variety of functions under a privately-owned roof with predominantly car-access is also a matter planning and environmental design studies at the residential scale should consider.

In addition to functional structure of activity nodes, frequency of use, mode of transport and time to reach activities are also investigated for each case. According to the findings of the study, in Kavaklıdere majority of the activities are done 2-3 times a week while there is not a significant preference difference between the weekdays and weekends. On the other hand, the share of ‘on foot’ is primary in modes of transportation to reach activities and its share is ranging between 53,9% to 97% (except strolling). As a result, most of the activities are regarded as within 5-15 minutes reach. In Çukurambar, majority of the activities are done once a month while there is also not a significant preference difference between the weekdays and weekends. However, although the share of ‘on foot’ as a transportation mode is still primary, the share of ‘car’ as a transportation mode is more proximate to ‘on foot’. Yet, the share of ‘on foot’ transportation is ranging between 48,3% to 91,5% (except

strolling). Yet, majority of the activities are regarded as within 5 minutes reach which can be resulting from dependence on car (Figure 5.24, Table 5.10 and 5.11).

In this context, the results reveal that majority of the activities in Kavaklıdere are accessed on foot while in Çukurambar the prominent mode of access is by car. When the larger areas perceived as residential territory by the respondents of Çukurambar combined with the results showing car-dependency in reaching activities, it can be claimed that Çukurambar respondents both perceive and use their residential territory in terms of driving distances while in Kavaklıdere the smaller areas perceived as residential territory as well as the prominent type of access to activities on foot refers to perception and corporeal experience of residential environment at a walking distance scale.

Figure 5.24. The frequency of use, time preference, time to reach and mode of transport to reach certain activities declared by the respondents in Kavaklıdere and Çukurambar districts.

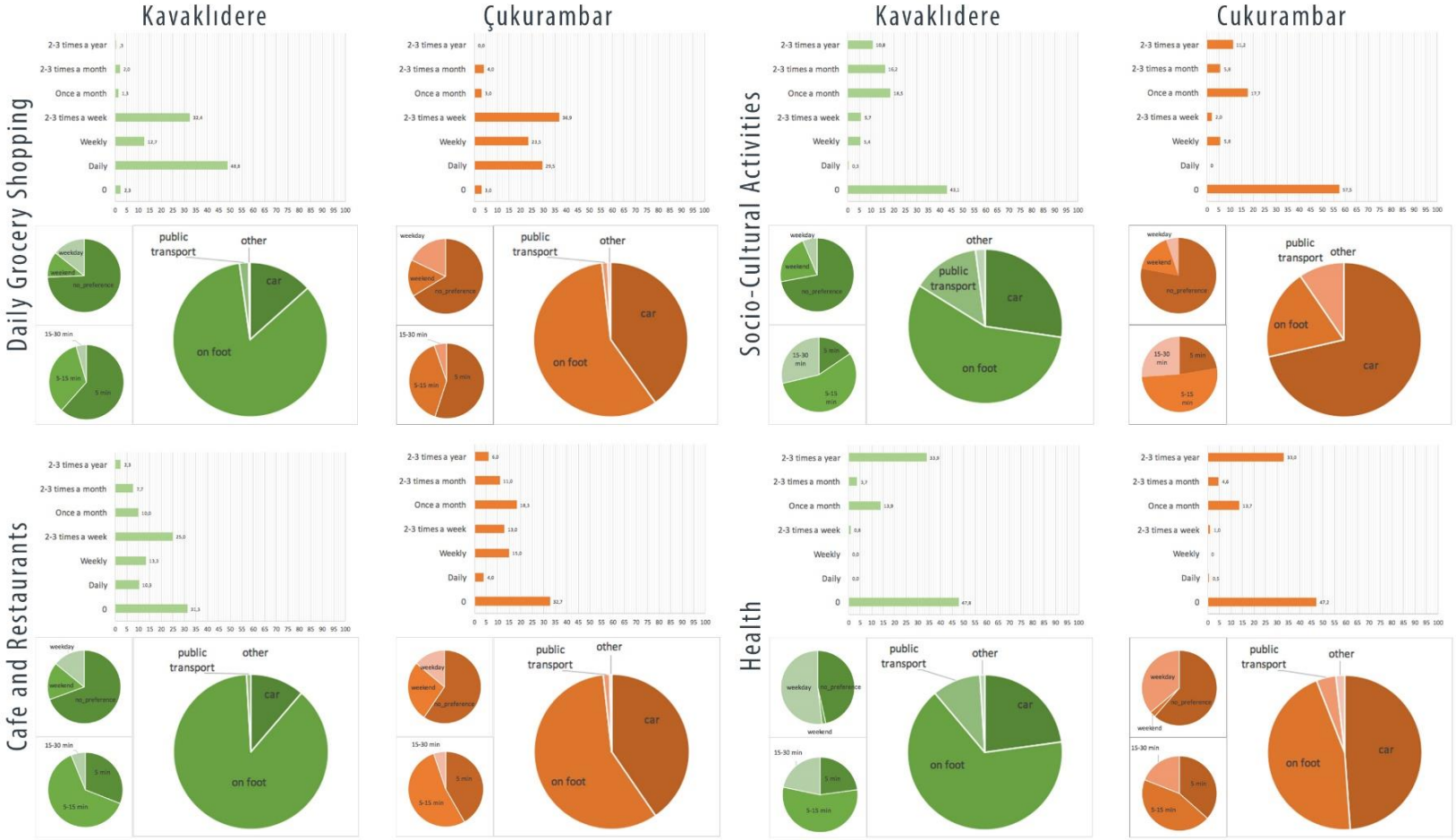


Table 5.10. Frequency of use, mode of transport and time to reach activity nodes in Kavaklıdere District

KAVAKLIDERE																			
	Utilization		**Frequency of Use (Valid Percent)**							**Time preferred (Valid Percent)**			**Mode of transportation (Valid Percent)**				**Time to reach (Valid Percent)**		
type of activity node	Freq.	Valid Percent	None	Daily	Once a week	2-3 times a week	Once a month	2-3 times a month	2-3 times a year	Both	Week ends	Week days	Car	On foot	Public Trn.	Other	5 min	5-15 min	15-30 min
daily_ grocery_shop.	293,0	97,7	2,3	**48,8**	12,7	32,4	1,3	2,0	0,3	**75,0**	11,0	14,0	13,4	**84,4**	1,9	0,3	**61,6**	34,0	4,4
private_services	251,0	83,7	16,7	1,4	7,2	6,1	**42,0**	13,7	13,0	**58,7**	17,0	24,3	6,6	**89,6**	3,5	0,4	43,0	**48,2**	8,8
strolling	230,0	76,7	23,3	**46,7**	7,0	18,3	1,7	2,3	0,7	**84,3**	8,3	7,3	2,6	**97,4**	0,0	0,0	**48,3**	29,6	22,2
cafe_restaurants	206,0	68,7	31,3	10,3	13,3	**25,0**	10,0	7,7	2,3	**79,0**	11,3	9,7	11,3	**87,8**	0,9	0,0	31,0	**62,9**	6,2
parks	199,0	66,3	33,8	17,7	14,0	**18,1**	5,4	6,0	5,0	**77,0**	16,0	7,0	2,5	**97,0**	0,5	0,0	23,5	**65,5**	11,0
visiting_ acquaintances	191,0	63,7	36,5	5,7	10,7	**17,7**	16,1	9,0	4,3	**74,7**	16,3	9,0	19,5	**75,7**	3,8	1,0	27,8	**55,7**	16,5
health	183,0	61,0	47,8	0,0	0,0	0,8	13,9	3,7	**33,9**	**67,3**	1,0	31,7	22,8	**66,0**	10,2	1,0	22,8	**55,4**	21,7
socio_cultural_act.	172,0	57,3	43,1	0,3	5,4	5,7	**18,5**	16,2	10,8	**72,0**	21,7	6,3	27,3	**56,6**	14,1	2,0	15,5	**55,7**	28,7
visiting_relatives	135,0	45,0	55,7	7,8	9,8	7,8	**10,5**	5,4	3,0	**81,3**	12,7	6,0	28,7	**66,7**	4,7	0,0	37,7	**47,1**	15,2
work	118,0	39,3	60,7	**38,7**	0,0	0,7	0,0	0,0	0,0	**87,0**	0,0	13,0	18,6	**74,4**	6,2	0,8	**54,2**	36,4	9,3
other_shopping	115,0	38,3	62,9	1,0	4,1	1,4	**16,3**	5,4	8,8	**81,3**	12,0	6,7	27,3	**53,9**	18,0	0,8	12,9	**53,4**	33,6
religious	64,0	21,3	78,7	3,0	**10,7**	2,0	1,7	0,7	3,3	**85,3**	1,3	13,3	4,7	**93,8**	1,6	0,0	**54,7**	37,5	7,8
sports_hall	54,0	18,0	82,0	1,7	3,7	**8,3**	1,3	1,3	1,7	**92,3**	2,7	5,0	12,3	**75,4**	10,5	1,8	20,4	**55,6**	24,1
open_air_sports	40,0	13,3	86,7	4,3	**5,0**	2,0	1,3	0,7	0,0	**94,0**	3,0	3,0	22,5	**72,5**	5,0	0,0	29,3	**43,9**	26,8
education	38,0	12,7	87,3	**12,7**	0,0	0,0	0,0	0,0	0,0	**87,3**	0,0	12,7	7,7	**71,8**	7,7	12,8	23,7	**52,6**	23,7
playgrounds	37,0	12,3	87,7	1,0	4,7	**5,0**	1,3	0,0	0,3	**94,3**	4,0	1,7	16,2	**83,8**	0,0	0,0	27,0	**56,8**	16,2
social_services	18,0	6,0	94,0	0,0	1,7	**2,0**	1,0	0,0	1,3	**95,7**	1,0	3,3	5,6	**77,8**	16,7	0,0	11,1	**44,4**	**44,4**

Table 5.11. Frequency of use, mode of transport and time to reach activity nodes in Çukurambar District

ÇUKURAMBAR																			
	Utilization		Frequency of Use (Valid Percent)							Time preferred (Valid Percent)			Mode of transportation (Valid Percent)				Time to reach (Valid Percent)		
type of activity node	Freq.	Valid Percent	None	Daily	Once a week	2-3 times a week	Once a month	2-3 times a month	2-3 times a year	Both	Week ends	Week days	Car	On foot	Public Trn.	Other	5 min	5-15 min	15-30 min
daily_ grocery shopping	291,0	97,0	3,0	29,5	23,5	**36,9**	3,0	4,0	0,0	**67,3**	15,3	17,3	40,2	**58,0**	1,2	0,6	**55,0**	39,7	5,3
health	202,0	67,3	47,2	0,5	0,0	1,0	13,7	4,6	**33,0**	**73,6**	1,7	24,7	**48,9**	45,2	4,1	1,8	36,6	**44,4**	19,0
cafe restaurants	202,0	67,3	32,7	4,0	15,0	13,0	**18,3**	11,0	6,0	**72,7**	18,0	9,3	40,4	**57,8**	1,3	0,4	41,7	**53,1**	5,2
visiting_ acquaintances	198,0	66,0	34,5	7,4	12,5	7,8	**16,6**	12,8	8,4	**71,3**	19,0	9,7	39,2	**58,1**	2,2	0,4	40,5	**45,4**	14,1
parks	198,0	66,0	34,4	20,4	11,9	**22,1**	4,8	4,1	2,4	**82,3**	11,0	6,7	10,8	**88,2**	0,5	0,5	**67,0**	27,5	5,5
strolling	185,0	61,7	38,9	**25,7**	6,1	20,9	4,1	3,7	0,7	**87,3**	6,3	6,3	3,8	**96,2**	0,0	0,0	**54,6**	29,9	15,5
other_shopping	170,0	56,7	46,1	2,1	11,4	5,7	**16,1**	8,9	9,6	**66,0**	21,3	12,7	**65,1**	21,9	11,5	1,6	27,7	**50,8**	21,5
visiting_relatives	145,0	48,3	52,0	8,4	**11,7**	9,4	10,1	6,7	1,7	**78,7**	14,0	7,3	44,0	**53,1**	2,3	0,6	**44,7**	38,2	17,1
socio_cultural_act.	131,0	43,7	57,5	0,0	5,8	2,0	**17,7**	5,8	11,2	**78,0**	16,7	5,3	**71,4**	19,0	9,5	0,0	22,4	**51,5**	26,1
religious	127,0	42,3	58,6	8,1	**20,9**	4,4	1,7	1,0	5,4	**78,2**	0,7	21,1	6,2	**91,5**	2,3	0,0	**72,1**	23,3	4,7
education	80,0	26,7	74,1	**22,9**	0,0	2,4	0,3	0,3	0,0	**74,3**	0,3	25,3	37,1	**48,3**	5,6	9,0	39,5	**46,9**	13,6
open_air_sports	77,0	25,7	74,3	8,0	5,3	7,7	1,7	1,7	1,3	**91,7**	3,7	4,7	20,0	**78,8**	1,3	0,0	**49,4**	33,8	16,9
playgrounds	70,0	23,3	77,2	7,7	5,0	**8,1**	1,3	0,0	0,7	**92,7**	5,3	2,0	12,7	**87,3**	0,0	0,0	**74,6**	23,9	1,4
work	59,0	19,7	80,3	**19,3**	0,0	0,3	0,0	0,0	0,0	**91,3**	0,0	8,7	34,4	**62,3**	3,3	0,0	**70,0**	26,7	3,3
sports_hall	50,0	16,7	83,6	2,0	4,3	**7,7**	1,7	0,3	0,3	**91,7**	2,3	6,0	**67,9**	28,3	3,8	0,0	**50,0**	32,0	18,0
social_services	20,0	6,7	94,0	0,3	**3,7**	1,0	1,0	0,0	0,0	**95,3**	0,7	4,0	**65,2**	30,4	4,3	0,0	20,0	**60,0**	20,0
private services	1,0	208,0	32,9	0,4	6,4	2,1	**37,1**	9,3	11,8	**64,3**	15,3	20,3	39,1	**57,3**	3,6	0,0	40,2	**49,8**	10,0

5.2.2.2. Control and Defense

Control and defense of territory in humans is rather obtained by passive mechanisms which connotes mainly to boundary delimitation tools and mechanisms. As Flachsbart (1969:413) states, different territories share adjoining boundaries, hence *'formation of a territory is at the same time provision of a periphery'*. Yet the connection between the territory and its periphery is controlled through the hierarchical organization of space into different territories through urban design as well as boundary mechanisms. In this regard, central and boundary markers as well as surveillance mechanisms are the main tools utilized at the scale of residential environments for the control of boundaries.

Marking behavior at the residential scale refers both to *central markers* that 'announce a territorial claim that radiates outward from it' and *boundary markers* that 'mark the line between two adjacent territories' defined by Goffman (1971). Boundary markers are used at the residential scale both to separate the private territory of the housing plot from the public territory of the street as well as between two private territories of adjacent plots. In this regard, although territorial depth is similar in both districts, the districts diverge in terms of proximity, permeability and delimitation of boundaries at physical, visual and territorial levels[29] (as discussed previously in Chapter 5.1.2.2).

In this context, the type of boundary markers used in each district will be further investigated in this section. Besides, central markers which are signs of appropriation of space appear in the form of both personalization and maintenance at the scale of residential environments. Hence, central markers both at the private and public scales are also examined in this section. In this regard, both the boundary and central markers are analyzed through on-site systematic observation and later categorized in terms of

[29] Territorial depth is described by Habraken (2000) as the number of boundaries needs to be crossed while moving from outer public space to the innermost private territory while Scheerlinck (2012) claims that territorial depth is more than the number of territorial boundaries crossed on the traditional private | public continuum but rather depends on the complex configuration of proximity, permeability and delimitation of boundaries on physical, visual and territorial levels.

prominent types in each district. Besides, it is also important to note that in addition to spacing mechanisms and marking territorial control and defense can also be attained on the more organizational levels in the form of neighborhood associations at the scale of residential environments which is also discussed in this section.

In this context, boundary markers are primarily used to demarcate the line between public and private territories at the residential scale. In both districts' similar types of tools which are: walls, fences and hedges are used to demarcate the boundary between the private and public territories (Figure 5.25). In Çukurambar prominent types of boundary markers between private and public territories are in the form of high walls and fences as well as locked or automated gates at the entrances. Yet, the majority of the boundary markers used in Çukurambar are less permeable both physically and visually than the ones used in Kavaklıdere. In addition to this, the use of surveillance mechanisms at the boundaries is also more common in Çukurambar. On the contrary, lower walls and mainly iron fences with planting appear as the prominent types of boundary markers in Kavaklıdere. Besides the entrance areas are more permeable both physically and visually that are mainly in the form of iron gates with ornaments.

Thus, in addition to large semi-private zones with passive uses such as parking in Çukurambar (as discussed previously in Chapter 5.1.2.2) the use of harder boundary markers between public and private territories creates a passive interface zone between these territories. Yet, the active front-yards with softer boundary markers which enables both physical and visual permeability enables the formation of an active interface zone between private and public territories in Kavaklıdere.

Figure 5.25. Different types of boundary markers used between the private and public territories in (on the left) Kavaklıdere and (on the right) Çukurambar Districts
(Photographs taken by B. Beril Kapusuz Balcı and the author, 2018)

Boundary markers are also used to demarcate the line between two adjacent private territories at the residential scale. Again, same type of tools such as walls, fences and hedges are used to demarcate this boundary (Figure 5.26). whereas the tools used between two private territories are softer (more permeable both visually and physically) than the ones used between public and private territories in Çukurambar while surveillance mechanisms are again added. On the other hand, smaller side-yards and softer boundary markers between adjoining private territories in Kavaklıdere implies privacy concerns at this scale.

Figure 5.26. Different types of boundary markers used between two private territories in (on the left) Kavaklıdere and (on the right) Çukurambar Districts
(Photographs taken by B. Beril Kapusuz Balcı and the author, 2018)

To sum up, the use of boundary markers for territorial control enables provision of security and privacy at the residential scale while the type of marker used designates the urban experience at both individual and collective scales. In this regard, territorial control of the private space is attained by impermeable boundary markers, and surveillance mechanisms in Çukurambar while the fact that environmental design and sense of territoriality can also reduce crime and motivate people to control and defend their own environment and enhance their sense of belonging and security is

disregarded. In addition to this, the use of hard elements as boundary markers also destroys the nested character and continuity between different territories and when combined with the passive intermediary zones in the district decreases the defensibility of space as discussed by Newman as well as prohibiting social interactions that may occur in these zones. On the other hand, the narrower side-yards between private territories in Kavaklıdere creates shorter distances between balconies and windows of apartment blocks facing each other which creates inadequate spacing for providing privacy while narrower and active front yards with softer boundary markers between the private and public territories enhance the defensibility of space through ‘eyes on the street’.

Moreover, central markers at the scale of residential districts can appear in both private and public territory. Besides, personalization is also a type of central marker which reveals insights about the identity of the one marking. Hence, central markers are signs of appropriation of space and sense of territoriality both at the individual level of the private territory and collective level of the public territory.

In this regard, the prominent types of central markers in Kavaklıdere at the private territory can be listed as: sitting areas in the front-yards facing the street, potted plants used both for boundary demarcation between different use areas such as parking and entrance area of the buildings and also for decoration, iron gates with ornaments at the entrances, personalization of the balconies with flower pots on the front façade facing the street, as well as name plates with unique typography (Figure 5.27). Hence, it can be claimed that the use of central markers at the individual scale of the private territory is high and in multiple forms in Kavaklıdere which connotes to the appropriation of space and sense of territoriality at the private scale of the housing plot.

Figure 5.27. Central markers at the private territory in Kavaklıdere District
(Photographs taken by B. Beril Kapusuz Balcı and the author, 2018)

On the other hand, in Çukurambar central markers in private territory can be listed as: iron and automated gates with security cabins at the entrances, brick walls used for demarcation between public and private territories as well as brick gates (Figure 5.28). Hence, although there are sitting places and decorations in some of the front-yards they are not visible along the street due to high fences and walls, thus they cannot be regarded as central markers used for territorial claim that radiates outward from the territory. Hence, it can be claimed that the use of central markers at individual scale of private territory is lower in Çukurambar and although there are some cases in which central markers exist, they are not communicating identity and thus appropriation of space since they are not visible from the adjoining territories.

Figure 5.28. Central markers at the private territory in Çukurambar District
(Photographs taken by B. Beril Kapusuz Balcı and the author, 2018)

In terms of central markers at the collective level of the public territory, graffiti or street writings are the prominent types at the scale of residential space. In this regard, various forms of street art can be observed at the public territory in the form of graffiti, stair coloring and street writings in Kavaklıdere (Figure 5.29). On the contrary, central markers at the public scale are scarce in Çukurambar, while there is one small park on which street writing and a board with a painting is observed (Figure 5.30). In this regard, personalization at the public scale that is the existence of central markers can be regarded as a sign of group identity, spatial attachment as well as social cohesion. In this regard, lower number of central markers in Çukurambar at the public scale indicates lower levels of social cohesion, spatial attachment and indication of group identity and belonging.

All in all, central markers, or personalization, are reflections of spatial appropriation as well as attachment to particular space (Barlas,2006). In addition to this, stimulation from the physical environment is achieved through making, modifying and defending

the territory (Porteous, 1977). In this context, the higher number of central markers in Kavaklıdere district both at the individual level of the private territory and collective level of the public territory implies higher degrees of place attachment and stimulation from the surrounding environment at the residential scale.

Figure 5.29. Central markers at the public territory in Kavaklıdere District
(Photographs taken by B. Beril Kapusuz Balcı and the author, 2018)

Figure 5.30. Central markers at the public territory in Çukurambar District
(Photographs taken by B. Beril Kapusuz Balcı and the author, 2018)

Furthermore, at the organizational level both districts have its own neighborhood association which are; Çukurambar and Kızılırmak Neighborhoods Development Association (ÇAKDER) founded in 2007 and Kavaklıderem founded in 1996. Besides, during the Gezi Park demonstrations that took place from June 2013 onwards in Turkey many local initiatives, and particularly neighborhood solidarity initiatives were formed in many cities. Parallel to this, a local initiative was formed with the name 'Kuğulupark Initiative' in Kavaklıdere which organized many 'park forums' and other types of gatherings in that period. In this regard, it can be claimed that social cohesion is attained at the organizational level in both districts.

5.3. Summary of Research Findings and Conclusive Remarks

'Although the neighborhood unit is a useful organizing device in some instances, there is a far richer panoply of constructs that the designer can capitalize on and even improve on in the course of creating the residential environment'
— Banerjee and Baer, 1984:114

In this chapter territorial functioning of respondents residing in Kavaklıdere and Çukurambar districts in terms of both cognitive and behavioral patterns in relation to the exogenous factors both societal and spatial are discussed. Hence, the results of the empirical study are summarized and further discussed in this section.

Spatial Factors: Diversity of Opportunities within the Catchment Area and Territorial Behavior: Exclusive Use as a Resource Base

Affordances of the Environment

- Both Çukurambar and Kavaklıdere *provides the basic needs for its residents* and majority of the respondents *are very satisfied with their residential areas and do not plan to move to another part of the city in both cases*.
- Yet, the two districts *diverge in terms of particular opportunities within the catchment area*. For instance, Çukurambar district has higher amount of green spaces, two university campuses, shopping malls, business towers and public

institutions within and close to the district which creates more opportunities for higher education, shopping and working while Kavaklıdere provides a greater number of opportunities in terms of socio-cultural activities.

Functional structure of activity nodes

- The results of the questionnaire reveal that, respondents actively use their residential territories and the functional structure of the activity nodes yields similar results in both districts. The results also reveal that *residential territory is used as a resource base predominantly for recreational and commercial purposes.*
- Yet, the two districts *diverge in terms of particular activities* done within the area.

  For instance, shopping activities other than daily grocery shopping are done more within Çukurambar resulting from the malls located within and near the district. The use of residential territory for work purposes is also higher in Çukurambar resulting from business towers as well as many public institutions located within and near the district.

  On the other hand, higher amounts of strolling can be associated with the walkability in Kavaklıdere district with larger sidewalks with greenery as well as active front yards both increasing the feeling of security as well as providing stimulation. Besides, socio-cultural activities are attended more resulting from theaters as well as many art galleries located in the district.

Hence, it can be claimed that *type of activities done and their frequencies within the residential territory is directly affected from the affordances of the environment.* Thus, existence of variety of functions within and at a close proximity to the district has a facilitative impact on overt behavior of residents in terms of exclusive use of residential territory through the type and frequency of activities conducted in the area. Besides, not only the resources located within the residential territory, such as in the case of parks, universities and malls in the case of Çukurambar, but also *certain opportunities located at the periphery of the district are also exclusively and actively*

used by the respondents. Thus, a buffer zone at the periphery of the residential territory can also be regarded as an exclusive base for higher needs of the urban residents.

Spatial Factors: Territorial Organization of the Built Environment
Territorial Behavior: Boundary and Central Markers

Territorial Organization of the Built Environment

- Territorial depth is similar in both districts in terms of 'number of boundaries needs to be crossed while moving from outer public space to the innermost private territory' as defined by Habraken (2000) whereas the districts diverge in terms of 'proximity, permeability and delimitation of boundaries on physical, visual and territorial levels' as discussed by Scheerlinck (2012).
- In terms of proximity, narrower front yards (semi-private zones) and smaller parcel sizes in Kavaklıdere results in smaller semi-private zones in contrast with the larger front-yards with parking spaces, playgrounds located within the housing plot in Çukurambar.

Boundary Markers

- In terms of permeability, the majority of the boundary markers used in Çukurambar are less permeable than Kavaklıdere both physically and visually with higher walls and fences as well as locked or automated gates at the entrances. In addition to this, the use of surveillance mechanisms is also more common in Çukurambar.
- Same type of tools is used to demarcate the boundary between two private territories whereas the tools used between two private territories are softer (more permeable both visually and physically) than the ones used between public and private territories in Çukurambar while surveillance mechanisms are again added. On the other hand, the narrower side-yards between private territories in Kavaklıdere creates shorter distances between balconies and windows which creates inadequate spacing for providing privacy.

Thus, intermediary zones, semi-private territories, in Çukurambar are both visually and physically separated from the public territory with hard elements used as boundary markers such as high walls and gated entrance areas and when combined with the increased distances between private and public territories both vertically and horizontally in the territorial organization of space creates a *deaf/passive interface zone between the private and public territories*. On the contrary, front yards with sitting places located in Kavaklıdere district and softer elements used as boundary markers provides for an *active and more permeable interface zone between the private and public territories.* In this regard, territorial control of the private space is attained by impermeable boundary markers, and surveillance mechanisms in Çukurambar while the fact that environmental design and sense of territoriality can also reduce crime and motivate people to control and defend their own is disregarded.

Central Markers

- In Kavaklıdere, central markers in private territory can be listed as: sitting areas in the front-yards facing the street, potted plants used both for boundary demarcation and personalization of the entrance areas and balconies, iron gates with ornaments at the entrances as well as name plates with unique typography. At the public scale, various forms of street art can be observed in the form of graffiti, stair coloring and street writings.
- In Çukurambar, central markers in private territory can be listed as: iron and automated gates with security cabins at the entrances, brick walls used for boundary demarcation as well as gates. Hence, although there are central markers in some of the front-yards they are not visible from the street due to boundary markers, thus they cannot be regarded as central markers used for territorial claim that radiates outward from the territory. Besides, central markers at the public scale are scarce in Çukurambar.

Hence, it can be claimed that the *higher number of central markers both at* the individual level of the private territory and collective level of the public territory in

Kavaklıdere district *implies higher degrees of place attachment and stimulation at the residential scale.*

Territorial Cognition: Types of Designating Boundaries

- The main type of designating boundaries in both districts is road-based while in Kavaklıdere function-based boundaries are also utilized.
- The major roads with heavy car traffic are set as the major thresholds for bounding residential territories by the respondents.

Thus, it can be claimed that *major roads are perceived as the prominent elements in bounding the residential territories* in the recent era. On the other hand, identification of well-defined boundaries is a positive aspect of territoriality, however major roads are less permeable elements in terms of connecting the territory to adjacent territories thus becoming *separators rather than boundaries*.

Territorial Cognition: Territorial Extent of the Perceived Area
Territorial Behavior: Exclusive Use as a Resource Base
Societal Factors: Individual Characteristics of the Respondents

Territorial Extent

- There is lack of consensus over the extent of the boundaries among the respondent's (boundaries ranging from 2 to 483 ha.) The inconsistency on the extent was defined by Lee and Campbell (1997) as *'respondents' definitional idiosyncrasies'* as a result of the individual characteristics of the respondents.
- In terms of territorial extent, total average size of the perceived boundaries is 75 ha which is similar to the assumptions of planning theory that is shaped by the walking-distance principle (5-10 min walking distance that is 500 meters, approx. 64 ha). Yet, the average size of perceived boundaries in Kavaklıdere decreases to 60 ha while it increases to 90 ha in Çukurambar. Thus, it can be claimed that the

perceived size (territorial extent) of the residential area refers to a 'walking-distance scale' in Kavaklıdere, while in Çukurambar it exceeds this size and refers more to a 'driving-distance scale'.

- Besides, the boundaries designated by the respondents do not often match with the administrative boundaries. In this regard, the average size of the perceived boundaries is similar to the size of the administrative boundaries of the neighborhoods in Kavaklıdere while in Çukurambar the average designated boundaries are smaller than both neighborhoods administrative boundaries which can be related to the large non-residential uses in the district.

Frequency of Use, Mode of Transport and Time to Reach Activities

- In Kavaklıdere majority of the activities are done 2-3 times a week while in Çukurambar, majority of the activities are done once a month whereas there is not a significant preference difference between the weekdays and weekends in both districts.
- The share of 'on foot' as a transportation mode is primary in both cases, however the share of 'car' as a transportation mode is higher in percentages and more proximate to 'on foot' in Çukurambar.

The impact of individual factors on the perceived size of the residential territory

- In Kavaklıdere, car ownership and age are the determinant factors on the perceived size of the residential territory. Respondents who own a car significantly perceive larger areas whereas young aged (18-24 and also students correspondingly) respondents perceive smaller areas. In addition to these, retired people also tend to perceive bigger areas as their residential territory than other occupational groups.
- In Çukurambar, sex and education are the determinant factors on the perceived size of the residential territory. Hence, woman tend to perceive significantly smaller areas as their residential territory than men. Besides, respondents with

graduate degrees tend to perceive bigger areas as their residential territory than other educational levels

Based on these results, it can be claimed that in Çukurambar, and most of the newly developed residential areas in Ankara, there is a high dependence on car to reach activities which makes it especially difficult for disadvantaged groups whom rely on near-home territories as their primary resource-base. This can be associated with car-ownership; however, car ownership of the respondents is similar in both Kavaklıdere and Çukurambar districts. Thus, it can be claimed that the dependence on car is mostly related with the design of the physical environment. Yet, car dependence in Çukurambar can be a result of both the narrow sidewalks adjoined by deaf/passive interface zones bounded with high walls or fences as well as vacant lots increasing the fear of crime and creating unpleasant environments for walking.

Hence, when the larger areas perceived as residential territory by the respondents of Çukurambar combined with the results showing car-dependency in reaching activities, it can be claimed that Çukurambar respondents both perceive and use their residential territory in terms of driving distances while in Kavaklıdere the smaller areas perceived as residential territory as well as the prominent type of access to activities on foot refers to perception and corporeal experience of residential environment at a walking distance scale.

Besides, in the case of Kavaklıdere car ownership can be enlarging the size of the perceived area since the opportunities within reach becomes higher with car access. Besides, older people, especially the retired, are both more dependent and more actively using their near-home territories thus resulting in larger areas perceived as residential territory. Yet, it is also important to note that even if they perceive a larger area that area still connotes to a walking-distance scale. In the case of Çukurambar, larger areas perceived as residential territory by the respondents with graduate degrees can be related to the university campuses located at the surrounding of the area, which

are often perceived as within the residential territory, while smaller areas perceived as residential territory by woman can be a result of higher number of housewives among the respondents. In addition to these, the impact of individual factors on the perceived size of the residential territory are not as significant as the impact of spatial factors.

Territorial Cognition: Shared Core Area
Territorial Cognition: Territorial Landmarks

Shared Core

- The size of the core area is similar in both cases (17-20 ha) while consensus on the core area is higher in Çukurambar. The core area of Kavaklıdere district extends along Tunalı Hilmi Avenue that is a busy commercial avenue and similarly core area of Çukurambar extend along the two main shopping streets (1425. and 1459. Avenues). Hence, it can be claimed that the *shared core is mainly concentrated along commercial uses within the residential territories*.

Territorial Landmarks

- In both cases majority of the respondents were able to identify a landmark in their residential area. Yet, majority of the respondents refer to a building and secondly to a street whereas open spaces and areas referring both to a street and an open space are the least mentioned by the respondents. Thus, it can be claimed that *buildings are the most memorable spatial elements in terms of landmarks,* while both districts lack open spaces with memorable layouts or characteristics to refer as a landmark.

In this regard, both the dominance of buildings perceived as landmarks and open spaces such as parks not being perceived as landmarks as well as lack of open public spaces at the shared core area of both districts points out to *inadequate distribution of open public territories in residential environments.*

Territorial Cognition: Territorial Gaps

- The number of areas demarcated as fear or discomfort zone, territorial gaps, are much higher in Çukurambar (113 respondents) than Kavaklıdere (41 respondents).
- The most frequently mentioned territorial gaps in Kavaklıdere are embassies due to security issues and bars and restaurants along Tunus Avenue which are declared as discomfort zones due to late closing hours creating noise pollution in the area, parking problems for the residents as well as crowding. In Çukurambar, the most frequently mentioned territorial gaps are vacant lots either next to a construction sites or areas on which few squatters are existing. Yet, parks are also referred as discomfort zones due to inadequate lightning and stray dogs.

Hence, it can be claimed that *non-residential uses* creating infrastructural problems such as parking as well as noise and crowding and *vacant lots and construction sites* are the prominent types of territorial gaps in residential territories. On the other hand, *depiction of territorial gaps from the perspective of the residents provides more accurate and relevant insights for planning interventions*

Moreover, the relation *between perceived residential area size, satisfaction from the residential area, total number of landmarks mentioned and total activity score* (total number of activities done within the district) of the respondents is further investigated[30]. (Table 5.12).

The results of the analysis reveal that there is only a low positive correlation between total activity and satisfaction scores ($r = 0,206$; $p < 0,001$) in Çukurambar, whereas in Kavaklıdere there is a low-level positive correlation between the number of landmarks and the perceived residential area size ($r = 0,177$; $p < 0,01$). In this context, it can be claimed that, although at a low level, the higher number of activities results in higher

[30] In order to do so, Spearman's rho Correlation Coefficient (which is used to determine the degree of non-causal relationships between two numerical variables) is run during the analysis.

satisfaction from the residential area in Çukurambar. Whereas, the higher number of landmarks also enlarges the area perceived as residential territory in Kavaklıdere.

Table 5.12. Spearman's rho Correlation Coefficient analysis between perceived residential area size, satisfaction from the residential area, total number of landmarks mentioned and total activity score

			1	**2**	**3**	**4**
Çukurambar	1.Perceived Residential Area Size	r	1			
		p				
	2. Satisfaction from the Residential Area	r	0,057	1		
		p	0,326			
	3. Total Activity Score	r	0,060	0,206	1	
		p	0,298	**0,000*****		
	4. Total Number of Landmarks Mentioned	r	-0,009	-0,096	0,004	1
		p	0,881	0,098	0,945	
Kavaklıdere	1.Perceived Residential Area Size	r	1			
		p				
	2. Satisfaction from the Residential Area	r	0,005			
		p	0,934			
	3. Total Activity Score	r	0,103	-0,012	1	
		p	0,073	0,842		
	4. Total Number Of Landmarks Mentioned	r	0,177	0,045	0,024	1
		p	**0,002****	0,436	0,683	

***:p<0,01 ***: p<0,001*
r: Corelation Coefficient,
p: Significance Level

r	***Strength of Association***	***Direction of Association***
0,00	*No relation*	*r= - negative relation*
0,01 – 0,29	*Low relation*	
0,30 – 0,69	*Moderate relation*	*r= + positive relation*
0,70 – 0,99	*High relation*	
1,00	*Strong relation*	

To sum up, the summary of the findings of the empirical study are summarized in the following tables (Table 5.13 and 5.14).

Table 5.13. Territorial Cognition Patterns in Kavaklıdere and Çukurambar Districts

		Kavaklıdere	Çukurambar
TERRITORIAL COGNITION	Territorial Boundaries and Shared Core		
	Areal Extent of the Perceived Boundaries of the Residential territory	75 ha (5-10 min walking distance that is 500 meters, approx. 64 ha).	
		Smaller, 'walking – distance scale' (60 ha)	Larger, 'driving – distance scale' (80 ha)
	Types of Designating Boundaries	Road based Function based	Road based
	Match with Administrative Boundaries	Similar to the size of the administrative boundaries of the neighborhoods	Smaller than the size of the administrative boundaries of the neighborhoods due to non-residential uses
	Shared Core	Similar sized shared core (17-20 ha) Along the main shopping streets	
		Lower consensus	Higher consensus
	Impact of individual factors on size of the Perceived Boundaries	Car ownership (direct proportion) Age (direct proportion) *Retired people also tend to perceive a larger area as their residential territory	Sex (men>women) Education (direct proportion)
	Territorial Landmarks	1. Buildings 2. Streets 3. Building & Open Space 4. Street & Open Space 5. Open Space	1. Buildings 2. Building & Open Space 3. Streets 4. Open Space 5. Street & Open Space
	Territorial Gaps	Lower amount of demarcation Embassies Pubs & Restaurants	Higher amount of demarcation Vacant lots & Construction sites Squatters Parks (lightning and stray dogs)

Table 5.14. Territorial Behavior Patterns in Kavaklıdere and Çukurambar Districts

				Kavaklıdere	Çukurambar
TERRITORIAL BEHAVIOR	Exclusive Use as a Resource Base			Used as a resource base predominantly for recreational and commercial purposes	
				Functional structure of activity nodes is directly related with the affordances of the environment	
		Functional Structure of Activity Nodes		Private services (such as hairdresser, tailor etc.), strolling and socio-cultural activities are attended more.	Shopping activities other than daily grocery, work, religious, educational, open-air sports, playground facilities are used more.
		Frequency of Use		Not a significant preference difference between the weekdays and weekends	
				2-3 times a week	Once a month
		Mode of Transport and Time to Reach Activities		Share of 'on foot' as a transportation mode is primary in both cases	
				Share of 'car' as a transportation mode is lower in percentages than 'on foot'	Share of 'car' as a transportation mode is higher in percentages and more proximate to 'on foot'
	Defense and Control	Boundary Markers	Public → Private	More permeable visually and physically - lower walls and fences, bushes are used as separators An active interface zone between these territories	Less permeable visually and physically - higher walls and fences as well as locked or automated gates at the entrances - more use of surveillance mechanisms A passive interface zone between these territories
			Private → Private	Permeable visually and physically Shorter distances between balconies and windows which creates inadequate spacing for providing privacy	Softer than markers used between public and private territories More use of surveillance mechanisms
		Central Markers	Private Territory	Sitting areas in the front-yards facing the street, potted plants used both for boundary demarcation between different use areas and for decoration, iron gates with ornaments at the entrances, personalization of the balconies with flower pots on the front façade, name plates with unique typography	Iron and automated gates with security cabins at the entrances, brick walls used for demarcation between public and private territories as well as gates
			Public Territory	Graffiti, stair coloring and street writings.	Street writings

CHAPTER 6

CONCLUSION

'It is universally accepted that the values lost to our period must be restored:
the human scale, the rights of the individual,
the most primitive security of movement within the city.
Behind this desire stands the unchanging constancy of human life which demands
fulfillment. Today, it is hard to fulfill these needs.
The future way of life consists in the recovery of the intimacy of life'
— Gideion, 1941: xxxiv

Habraken (2000) states that the very act of inhabitation itself, occupation and control of a space, is territorial. Thus, territorial organization of space is one of the most instinctive and historic behaviors of man towards the environment. In this regard, the notion of territoriality which is at the focus of this thesis is a premise tool in both understanding and regulating man-environment relations. Based on the discourses in the environmental psychology literature, territoriality can be briefly defined as laying claim to, communicating ownership, exclusive use of a specific geographic area, a definable physical space, which is termed as the 'territory' by individuals or groups based on perceived or actual ownership which in return helps to regulate social interactions (by providing both privacy and interaction), enhance the sense of identity and feeling of competence through familiarity with the environment, promote the feeling of security and provide stimulation through marking, modifying and defending that territory. As a result, human territorial functioning has psychological, social – psychological as well as social-ecological (Taylor, 1988) outcomes.

Territoriality is defined by Bell et. al. (1990: 256) as the *'set of behaviors and cognitions an organism or group exhibits, based on perceived ownership of physical space'*. In this regard, territorial functioning in a delimited space refers mainly to behavior and cognition patterns of a person or a group which is also affected by the exogenous factors both societal (social group and individual factors) and spatial

(territorial organization of physical environment). Yet, the territorial organization of space affects territorial functioning especially at smaller scales while the other way around territorial functioning transforms the territorial organization of space. Hence, it can be claimed that different designs of the environment, reveals different territorialities, and territorial functioning and territorial organization of space is simultaneously reproduced by urban residents at the scale of residential environments.

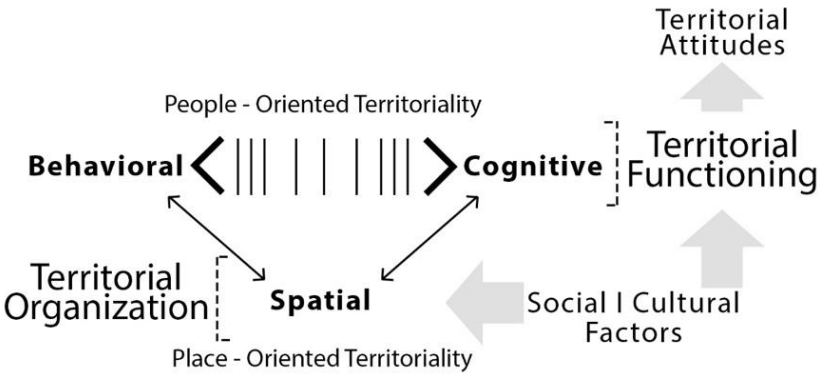


Figure 6.1. The relation between territorial organization of space and human territorial functioning

In this context, the main aim of the thesis is to examine the way humans interact with their environments and try to grasp their lived experience of that environment. Hence, the relation between physical environment and human behavior and cognition in that environment, in other words territorial functioning, at the scale of residential living space is further examined. Yet, in the 21st century with the major increase in the dynamism and mobility of urban residents along with the advances in technology resulted in the dissolving of the boundaries in the urban space. Thus, territorial functioning as a boundary control mechanism has also transformed significantly. Residential environments, which is at the focus of this research, as a territory is hard to define in the recent era in which people behave in multiple territories constantly. In this regard, the notion of residential environment is also adopted in a wider conceptualization within the scope of this study rather than the administrative neighborhood tracts. Hence, investigating territorial functioning of urban residents in

their residential environments at the age of postmodernity in which multiple territories are used by the highly mobile residents and the importance of spatial proximity on access to resources as well as social relations is diminishing, is the primary objective of the research. In order to do so, primarily the concept of territoriality is theoretically discussed in the previous chapters (Chapter 2 and 3) and an integrative model to assess human territorial functioning at the scale of residential environments is developed based on these discussions (Chapter 3). The model is developed based on the adoption and redefinition of the notion of territorial functioning which allows the assessment of residential environments both in terms of cognitive and behavioral patterns of its residents in relation to exogenous socio-spatial factors through the lens of environmental psychology and environmental design.

Furthermore, another important aim of this thesis is to put forth the relationship between the territorial organization of the physical environment and human territorial functioning. Today, organization of residential areas as continuous fabric such as in the traditional neighborhoods has left its place to formation of cellular developments in the form of gated communities and mass housing developments. Hence, a case oriented comparative study between two urban fabrics with diverse territorial organizations is conducted, as a post occupancy evaluation, in order to further investigate territorial functioning at the scale of residential environments. In this regard 600 questionnaires are conducted in two districts of Ankara which area, Kavaklıdere associated with the early-republican era (formed in the 1950s) and has a continuous fabric as in the traditional neighborhoods, and Çukurambar which has transformed into a high rise, ‘prestigious’, luxury residential area after the 1990’s with high amounts of gated-communities, a typical example of contemporary residential developments in Ankara. The total area covered in the case studies is larger to be considered as a conventional neighborhood but rather at the scale of a district which consists of identifiable neighborhoods (district is used for the term ‘semt’ in Turkish which connotes to combination of few neighborhoods, to refer to a part of the city often with similar socio-economic as well as physical attributes). In this regard,

Kavaklıdere district consists of Barbaros, Kavaklıdere ve Remzi Oğuz Arık neighborhoods, and Çukurambar district consists of Çukurambar and Kızılırmak neighborhoods.

The results of the empirical study are discussed under two titles which are: place-oriented territoriality and people-oriented territoriality in the previous chapters (Chapter 5.1.2 and 5.2 respectively). In terms of *place-oriented territoriality* both territorial organization of urban space in terms of both the diversity of opportunities within the catchment area (affordances of the environment) as well as territorial organization of the built environment at the meso scale, while in terms of *people-oriented territoriality* both territorial cognition and behavior patterns are investigated in each district.

6.1. Reflection on the Findings of the Research

The results of the research reveal important inferences for both planning theory and praxis. To begin with, Taylor (1988) claims that territorial functioning is highly place-specific. Correspondingly, the results of the empirical study also reveal that different designs of the environment (territorial organization of space) reveal different territorialities. In particular, the findings reveal that territorial functioning in terms of both cognitive and behavior patterns diverge between contemporary residential environments organized in the form of '*enclaves*' and comprising mainly gated communities (as in the case of Çukurambar) and traditional urban residential environments (as in the case of Kavaklıdere) with continuous fabric that are organized similar to '*walking distance neighborhoods*'[31].

In terms of cognitive patterns, the empirical research primarily investigates the extent and content of residential territory in the mind of its residents through cognitive maps. In this regard, there are many ways of designating boundaries for the residential

[31] The classification on residential environments is derived from the work of Kusenbach (2008) previously discussed in Chapter 2.2.2.

environments[32]. Hence, the phenomenological approaches that investigate the subjectively designated boundaries are grounded on the lived experience of the residents and have powerful impact on a variety of outcomes at diverse scales [33] (Campbell et. al., 2009). In addition to this, territorial cognition of residential environments as a delimited area with specific boundaries by its inhabitants is one of the most important preconditions to define that area as a meaningful territorial unit.

In this context, this research also has a similar phenomenological approach and tries to investigate the subjective definitions of the residents on their residential environments in order to grasp the lived experience of the locals. In this regard, the phenomenon of residential environments is approached with a schema-based emphasis. During the cognitive mappings, primarily perceived territorial extent of the residential environment is inquired. The results reveal that, the perceived territorial extent of residential environment is unique for each individual, whereas a consensus area, as in the consensus maps of the empirical study, can be derived from these idiosyncrasies to define the boundaries of the residential territories from the perspective of its residents. The use of consensus maps, provides an alternative source of inquiry into urban space than conventional solely quantitative mechanistic methods. Yet, consensus maps can be used as a tool for uniting the spatial aspects of the phenomenon such as extent, proximity and layout with the social aspects such as demographic characteristics of the residing population as well as functional aspects including the facilities and services of the residential environments. In other words, consensus maps provide the interlink between the tangible and intangible aspects of urban space at the scale of residential territory. Hence, consensus maps reveal the

[32] Classical residential exposure area (the walking distance principle), Perceived residential exposure area (the perceived boundaries by the residents) and Activity space exposure areas (buffers around activity destinations of residents) defined by Perchaux et. al. (2016).

[33] Campbell et. al. (2009) claims that subjectively defined neighborhood boundaries and consensus on these boundaries have powerful impacts on a variety of outcomes at diverse scales such as adolescent development and the parenting strategies of the residents, the attitude of residents regarding the social life in the area and the willingness of residents to engage in local collective action, the availability of social services as well as revealing information about the level of community attachment.

accurate representation of users experience of space which can guide planners and policy-makers to enhance residents experience of residential environments through the design of the built environment.

On the other hand, the findings also show that regarding territorial cognition of residential territory there are both similarities and variances between the traditional neighborhood fabrics and contemporary residential areas. At the cognitive level, the two districts show similarities in terms of the prominent type of designation of boundaries based on major roads as well as the size and main functions within the shared core area derived from the respondent's maps. Whereas, districts differ in terms of extent of the perceived boundary of residential territory. In this regard, the respondents from traditional urban residential environments (as in the case of Kavaklıdere) tend to perceive smaller units which connotes to a walking distance scale, while the respondents from contemporary residential environments (as in the case of Çukurambar) tend to perceive larger areas as their residential territory that connotes to a driving distance scale. Besides, the boundaries designated by the respondents do not often match with the administrative boundaries. In this regard, the average size of the perceived boundaries is more similar to the size of the administrative boundaries of the neighborhoods in Kavaklıdere district while in Çukurambar the average designated boundaries are rather smaller than the administrative boundaries of the neighborhoods. Hence, the subdivision of urban areas into smaller spatial (residential) units by planners falls short in explaining the territorial extent of the residential environment. In this regard, in addition to administrative boundaries, that is useful for the availability of a large amount of information, resident's consensus maps reveal the lived-in territorial extent of residential space in relation to the spatial organization of space that can be used during planning decisions at this scale such as the distribution of services and facilities.

It is also important to note that, this research does not try to emphasize the residents subjectively defined boundaries as a sole determinant of the territorial extent of

residential environments, but rather tries to put forth that in addition to conventional methods the use of resident's perceptions of their lived space can reveal different insights for the decision makers regarding spatial developments. Hence, rather than relying on a single basis, planning studies can use a diverse amalgam of approaches to unfold the nature of the lived experience of the environment in order to guide future interventions[34]. Hence, choosing the type of method in defining the extent of residential environments is related to the type of problem planning has to resolve in that territory.

Yet, not only the extent of the territorial unit and consensus among residents but also the content within the defined boundaries provide many inputs for planning interventions. For instance, what is included or excluded from the territory and what constitutes the core of the territory may provide fruitful insights for future planning studies. In this regard, consensus maps also reveal the shared core of the residential territory. The shared 'core area' connotes to the center of the residential territory most of the residents use in their daily lives and intermingle in terms of social interactions. Thus, planning interventions at the shared core can result in consequences at the social-group level. Moreover, the shared core areas of both in Kavaklıdere and Çukurambar districts contains dominantly commercial functions. Hence, the absence of public spaces at the shared core of the residential environments is also an issue which planning interventions shall focus.

Results of the empirical study also reveal that in terms of landmarks individuals tend to refer mainly to buildings and least to open spaces in both cases. Hence, it can be claimed that both traditional and contemporary residential environment lack legible public open spaces that can be referred as landmarks which put forth the inadequate distribution of open public territories in residential environments. Thus, the lack of

[34] In a similar vein, Galster (2001) presents a framework based on 'multi-scaled' boundaries with respect to bundle of attributes associated with a delimited space which vary also with respect to the actions of local actors as well as time.

public spaces both at the shared core of the residential territory as well as the landmarks mentioned by the residents indicates a problematic issue at the residential scale which planning discipline should confront. Additionally, the results also show that the cognition of streets as landmarks is related to the naming of the streets. For instance, street names are given numerically rather than by actual names in Çukurambar results in the diminishing number of streets referred as landmarks by the respondents.

Another significant result of the empirical study is that territorial gaps, that is the fear and discomfort zones delimited by the respondents during cognitive mapping, are important part of territorial cognition at the residential scale which directly impacts the everyday experience of the residents. Territorial gaps include non-residential uses resulting in infrastructure, environmental as well as crowding problems in both cases, while vacant lots and construction sites are also delimited by the respondents residing in Çukurambar. Hence, the depiction of territorial gaps from the perspective of the residents provides more accurate and relevant insights for planning interventions for locating the locus of dissatisfaction in their residential environments from the residents. In this regard, territorial gaps can be seen as 'hot spots'[35], places of priority for planning interventions.

Furthermore, based on the findings of the research it can be claimed that the spatial organization of space is a prominent factor causing the differences in territorial functioning at the residential scale. In this regard, the loss of intermediary zones between the public and private territories, in other words erosion of semi-public domain, resulting from both the larger distances as well as impermeable boundary mechanisms in the territorial organization of space in the case of Çukurambar can be linked with both the larger perceived size of the residential territory (driving distance

[35] The term 'hot spots' for planning interventions outlined by the residents for planning interventions which otherwise could have been easily gone unnoticed with conventional research techniques is attained from the work of Lohmann and Mcmurran (2009).

scale) since there is a lack of defensibility of space, less number of eyes on the street and when combined with the narrow sidewalks decrease the ability of the residents to actively use their near home environments and also to car-dependency while using the residential territory as a resource base. Besides, passive intermediary zones between the public and private territories also decreases the probability of social interaction at this scale which also results in the smaller number of central markers both at the private and public spaces since place attachment cannot be attained with the near home environment. Moreover, boundaries set between different territories are not solely used for absolute separation between different territories but they may also act as interface zones. The results of the study reveal that the active or passive character of these interface zones between the public and private territories and proximity and permeability of boundary markers used in each territory is an important parameter affecting the quality of the lived space. All in all, in addition to its effects on territorial functioning of residents, territorial organization of residential environment also affects the experience of space and in return territorial attitudes. In this context, these inferences support the theory on the assumption that the relation between environment and behavior is bidirectional (Bell et. al., 1990) as well as providing insights for the territorial organization of space that can foster place attachment[36] and sense of territoriality in residential environments.

In addition to physical context, although each schema is unique for each resident, overlapping areas as well as differences with respect to individuals' characteristics such as age, gender or income[37] reveals important insights. In this regard, the findings of the empirical study reveal that societal factors also have a significant impact on human territorial functioning. On the other hand, the findings put forth that societal factors are less effective on territorial functioning than affordances of the

[36] In this regard, Lay (1998) claims that the legible layout of the environment as well as spatial hierarchy has a positive impact on the appropriation of space as a territory as well as enhancing frequent use and maintenance.

[37] Taylor (1988) also claims that, social, cultural and class related conditions in a residential environment influence the form, extent and strength of territorial functioning.

environment. Although not as much as the physical context, societal factors both at the social group and individual scales creates variances in territorial functioning both at the cognitive and behavioral levels. Yet, the weight of the factors such as age, sex, education level or ownership differs for each locale. Hence, in order to attain the main aim of urban design is meet the diverging needs of the whole population residing in the same area, the divergences on territorial functioning based on societal factors can provide a basis.

In terms of exogenous factors, affordance of the environment[38] is also a prominent determinant of territorial functioning especially in terms of exclusive use of residential territory as a resource base. Yet, the results of the study reveal that residential territory is used as a resource base predominantly for recreational and commercial purposes, whereas the territorial organization of space has implications on the mode of transportation to reach these resources. Hence, it can be claimed that type of activities done and their frequencies within the residential territory are directly affected by the affordances of the environment. Besides, propinquity is as important as accessibility in terms of reaching activities and facilities at the residential scale especially for the older populations. Thus, the existence of a variety of functions within and at a close proximity to the district has a facilitative impact on behavior of residents in terms of exclusive use of residential territory as a resource base.

On the contrary, in the 21st century urban residents use multiple territories and the importance of spatial propinquity is not as important as in the past for reaching facilities and social interaction. Besides, not only the resources located within the residential territory, such as in the case of parks, universities and malls in the case of Çukurambar, but also certain opportunities located at the periphery of the district are

[38] In this regard Lang (1987:97) claims that; '*The environmental perception and behavioral approach to the study of human behavior suggests that an individual's behavior is a function of his or her motivations, the affordances of the environment, and the images of the world outside direct perception and the meanings those images have for the individual'*

also exclusively and actively used by the respondents. Yet, the results of the empirical study also reveal that services and facilities that are further away than the catchment areas proposed in theory and practice are included in the resident's cognitive maps as located within their residential territory and actively used by the respondents. Thus, a buffer zone at the periphery of the residential territory can also be regarded as an exclusive base for higher needs of the urban residents rather than simple catchment area analysis for basic needs.

Following the investigations on the overt behavior of activities conducted in the residential area, marking behavior is also further examined within the scope of the research. In this regard, territorial markers function as communicating the territorial claims. Yet, they are the signs of appropriation of space by its users as well as part of place attachment. In this regard, at the scale of residential environments, territorial markers are used both as boundary control and defense mechanisms as well as expressing self-identity. Moreover, different types of markers are used at different territorial levels. Hence, territorial markers are examined in this research in terms of both boundary and central markers (Goffman, 1971) as well as both at the private and public scales. In this regard, the results reveal that the presence/absence and the prohibitor/facilitative structure of these markers as well as their permeability both physically and visually has implications on territorial functioning. Based on the findings, it can be claimed that the higher number of central markers both at the individual level of the private territory and collective level of the public territory, as in the case of Kavaklıdere district, implies higher degrees of place attachment and stimulation at the residential scale.

All in all, the findings from the application of the proposed model such as in the case of Kavaklıdere and Çukurambar districts (Chapter 5.3) provides an alternative basis for the larger-scale discussions in planning such as on the size of the neighborhoods (the walking distance paradigm), importance of spatial proximity in terms of reaching services and facilities, defensibility of space as well as impacts of territorial

organization of physical environment on cognitive and behavioral patterns of urban residents.

Finally, hypotheses of the research were set at the beginning of the thesis (Chapter 1.2) as;

> H1: Urban residents still conceive their residential living spaces as a meaningful territorial unit. They can demarcate the territorial boundaries, significant landmarks and activity nodes within their residential environments.

Hence, the results of the empirical study reveal that residents are able to define the subjective boundaries of their residential territory. Besides, the majority of the respondents were able to mention at least one landmark in their area. Yet, the results also show that respondents actively use their residential territory as an exclusive resource base mainly for commercial and recreational functions. In this regard, it can be claimed that respondents in both cases conceive their residential territory as a meaningful territorial unit.

> H2: There is a consensus among conception of residential territories among its residents, while the degree of consensus reveals information about the level of territoriality.

In terms of Hypothesis 2, it cannot be claimed that there is a consensus among residents on the boundaries of the territory since subjective boundaries defined by the respondents are rather unique. Yet, a consensus map is derived from the respondents maps in order to attain an understanding on the conception of residential territory at the social group level. Yet, a shared core agreed by the residents with high degrees of consensus is depicted in both cases. Additionally, there is also high amounts of consensus on the types of activities as well as the mode of transportation to reach these activities for the residents of the same residential territory. Besides, not the consensus, but the extent and elements used for bounding the territory as well as areas left outside the territory (gaps) reveal important insights on territorial functioning in the residential environment.

H3: Territorial functioning of urban residents differ with respect to physical organization patterns of each residential environment both in terms of territorial cognition and behavior.

The results of the empirical study support the theory that the relation between environment and behavior is bidirectional. In terms of Hypothesis 3, the findings reveal that territorial functioning of urban residents differs with respect to both territorial organization of space (including territorial depth and affordances of the environment) as well as the individual and social-group characteristics of the residents.

6.2. Theoretical, Methodological and Practical Contribution of the Thesis

This thesis is an attempt to fill the gap in the establishment and assessment of the relationship between the behavior of individuals and their physical environments at the residential scale. Hence, the diverse discourses on the notion of territoriality in theory from many disciplines are pieced together and territoriality is set as a tool for both understanding and regulating man-environment relations within the scope of this thesis. In this regard, the primary contribution of the thesis to the field of environmental psychology and environmental design is the redefinition of human territorial functioning to comprise both the people and place-oriented connotations of the notion under an integrated framework.

Moreover, a preliminary model is proposed for the assessment of territorial functioning at the residential scale. Hence, provision of an integrative model and operational tools for the assessment of each parameter which can be referred for the evaluation of residential environments is the main methodological contribution of the thesis. In this regard, the model can be used as a tool for post-occupancy evaluation in other residential areas. On the other hand, in terms of assessment of territorial cognition of urban resident's consensus maps are derived from individual maps of the respondents. Hence, aggregate resident defined mapping, the consensus maps, is implemented in a comparative case study as a new method that can guide both

planning research and interventions at the residential scale. In this regard, consensus maps provide an alternative method of inquiry into urban space for planning studies by linking the tangible and intangible aspects of urban space at the scale of residential territory. Besides, consensus maps reveal the accurate representation of users experience of space which can guide urban planners and policy-makers.

Moreover, the empirical study puts forth the lived experience in residential territories from both place-oriented and people-oriented perspectives. Hence, the results of the research reveal significant insights for the future design of residential environments more responsive to diverse human needs especially for Ankara and also for other parts of the world. Yet, design implications can be derived from the research for the production of residential environments providing the desired levels of privacy and publicity with active intermediary zones, used as an exclusive resource base, modified by its residents that the feelings of place attachment arouse and conceived as a meaningful territorial unit. Yet, not a single prescription can be set for this purpose since the context necessitates certain specifications. On the other hand, a more general alternative neighborhood design paradigm can be derived if and only similar researches are conducted repetitively.

6.3. Limitations of the Research

Territoriality is a prominent spatial behavior by which the individual interacts with the built environment that is manifested through different signs at different scales. On the other hand, spatial behavior is hard to gauge and interpret since it is a multifactorial and intangible phenomenon. Hence, this research does not attempt to depict the relationship between environment and behavior as a means-ends relation but approaches rather with a probabilistic perspective.

During this process, the design of the built environment has either an inhibitor or facilitative function. In this regard, since this research is limited to two case studies, territorial functioning in different spatial layouts (territorial organization of space)

should be further investigated in order to guide urban design studies in finding appropriate tools and addressing local issues to enhance and enrich the contribution of built environment on the experience of its users.

Lastly, residential environments are under rapid transformation whereas this research is conducted at a single time section within the scope of this research. Yet, both the environment and human behavior are in a constant state of flux in relation to transformations at the spatial and societal structures. Thus, in order to gain a better understanding of man-environment relations based on the notion of territoriality, territorial functioning can also be investigated on a wider historic spectrum for revealing different insights.

6.4. Recommendations for Further Research

It is important to note that rather than approaching urban space as separate territories, conception of space as different territories nested in each other widens our perspective of space. In this regard, territorial functioning at the scale of home base is one way of approaching urban space while it would be more relevant if backed up with further investigations at the home-range that refers to the city scale. In other words, territorial functioning of humans also needs to be investigated at the macro scale of the city in further studies.

Moreover, further research in different locales and time sections is needed to attain more generalizable results and a better understanding of the human territorial functioning with respect to physical environment. Hence, similar investigations can be conducted for different places and for different time intervals in order to attain more generalizable insights for the future design of residential environments more responsive to human needs.

REFERENCES

Afacan, Y. (2015). Resident satisfaction for sustainable urban regeneration. In *Proceedings of the Institution of Civil Engineers–Municipal Engineering*. Vol. 168, No. 4: 220-234.

Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., Fiksdahl-King, I. and Angel, S. (1977). *A pattern language: towns, buildings, construction*. Oxford University Press.

Altman, I. (1975). Territorial Behavior: Conceptual Issues. In *the Environment and Social Behavior: Privacy, Personal Space, Territory, and Crowding*. 103-123. California: Brooks/Cole Publishing Company.

Anderson, J. and Tindall, M. (1972). The concept of home range: New data for the study of territorial behavior. *Environmental design: Research and practice*,1, 1-7.

Ankara Greater Municipality (AGM) (2007). *Ankara 2023 plan report*. Ankara: Ankara Greater Municipality. Retrieved from https://www.ankara.bel.tr/ankara-buyuksehir-belediyesi-nazim-plan/

Ankara Kalkınma Ajansı. (2013) "İstatistiklerle Ankara". Ankara: Ankara Kalkınma Ajansı Yayınları. Retrieved from http://www.ankaraka.org.tr/tr/files/yayinlar/istatistiklerle-ankara-2013.pdf

APA (2015). “Characteristics and Guidelines of Great Neighborhoods”. Retrieved January 17,2016, from https://www.planning.org/greatplaces/neighborhoods/characteristics.htmAppleyard, D. (1970). Styles and Methods of Structuring a City. *Environment and Behavior*, 2(1), 100–117.

Arıkan, B. (2013). *Kentsel Mekânın Değişimi Ve Konut Dokusunda Katmanlaşma: Feneryolu Mahallesi Örneği* (Unpublished PhD dissertation). ITU Fen Bilimleri Enstitüsü.

Ataöv, A. and Osmay, S. (2007). Türkiye'de kentsel dönüşüme yöntemsel bir yaklaşim. *METU JFA*, 2, 57.

Badger, E. and Quoctrung B. (2018). How Connected Is Your Community to Everywhere Else in America? *The New York Times*. Retrieved September 19, 2018, from www.nytimes.com/interactive/2018/09/19/upshot/facebook-county-friendships.html?smid=fb-share.

Banerjee, T. and Baer W. C. (1984). *Beyond the Neighborhood Unit – Residential Environments and Public Policy*. New York: Plenum Press.

Barlas, M.A. (2006). *Urban Street and Urban Rituals*. METU, Faculty of Architecture Printing Workshop

Baş, Y. (2003). *Designing urban space with the tools of the development legislation*. Doctoral dissertation, Middle East Technical University, Ankara, Turkey.

Bell, P. A., Fisher, J. D., Baum, A. and Greene, T. C. (1990). *Environmental Psychology*. Rolt, Rinehart and Winston Inc.

Bintliff J.L. (1999). Settlement and Territory. In: Barker G. (Ed.), *The Routledge Companion Encyclopedia of Archaeology*: 505-545. London: Routledge.

Brain, D. (2005). From Good Neighborhoods to Sustainable Cities: Social Science and the Social Agenda of the New Urbanism. *International Regional Science Review*, 28(2): 217- 238.

Brower, S. (1996). *Good neighborhoods: A study of in-town & suburban residential environments*. Westport, Conn.: Praeger.

Brower, S. N. (1980). Territory in urban settings. In Altman, I., Rapoport, A. and Wohlwill, J.F. (Eds.), *Human Behavior and Environment: Advances in Theory and Research*. Vol. 4, 179-207. New York: Plenum Press.

Buttimer, A. (1972). Social Space and the Planning of Residential Areas. *Environment and Behavior*, 4(3), 279-318. DOI: https://doi.org/10.1177/001391657200400304

Campbell, E., Henly, J. R., Elliott, D. S., and Irwin, K. (2009). Subjective constructions of neighborhood boundaries: lessons from a qualitative study of four neighborhoods. *Journal of Urban Affairs*, 31(4), 461-490.

Castell, P. (2010). Urban territoriality and the residential yard. In P. Castells (Ed.) *Managing yard and togetherness: Living conditions and social robustness through tenant involvement in open space management*, pp. 1-27. Gothenburg: Chalmers University of Technology.

Cenap And Evi. (n.d.). Retrieved from http://www.boyutpedia.com/804/5903/cenap-and-evi

Ceylan Kızıltaş, A. (2010). *Role of Design Control on Urban Form: Çayyolu Ankara*. Doctoral dissertation. Mıddle East Technical University, Ankara, Turkey.

Charmes, E. (2010). Cul-de-sacs, Superblocks and Environmental Areas as Supports of Residential Territorialization, *Journal of Urban Design*, 15:3, 357-374, DOI: 10.1080/13574809.2010.487811.

Coulton, C. J., Jennings, M. Z. and Chan, T. (2013). How big is my neighborhood? Individual and contextual effects on perceptions of neighborhood scale. *American Journal of Community Psychology*, 51(1-2), 140-150.

Coulton, C. J., Korbin, J., Chan, T., and Su, M. (2001). Mapping residents' perceptions of neighborhood boundaries: a methodological note. *American Journal of Community Psychology*, 29(2), 371–383. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11446289

Çapanoğlu, İ. (2009) Sivil Toplum Örgütü ve Halk Katılımıyla Kente Yeniden Kazandırılan bir Parkın Öyküsü in Ankara Koleksiyoncular Derneği (ed.). *Cumhuriyet Devrimi'nin Yolu: Atatürk Bulvarı*. Ankara: Rekmay: 119-123.

Çaylak, A. (2016). Türkiye'de muhafazakâr Müslümanlığın dönüşümü ve Çukurambarlaşma. *Birikim*, 332: 81-91.

Downs, R. M. and Stea, D. (1973a). Theory. In R. M. Downs, & D. Stea (Eds.*), Image and environment: Cognitive Mapping and Spatial Behavior*, (pp. 1–7). Chicago: Aldine.

Downs, R. M. and Stea, D. (1973b). Cognitive maps and spatial behavior: Process and products. In R. M. Downs, & D. Stea (Eds.), *Image and environment: Cognitive Mapping and Spatial Behavior*, (pp. 8–26). Chicago: Aldine.

Downs, R. M. and Stea, D. (1973c). Cognitive Representations. In R. M. Downs, & D. Stea (Eds.), *Image and environment: Cognitive Mapping and Spatial Behavior*, (pp. 79–86). Chicago: Aldine.

Dündar, C. (2010) "Çukurambar'ın Yükselişi (The rise of the Çukurambar)." Retrieved Milliyet İstanbul, Jan. 9, 2010, from http://www.milliyet.com.tr/Yazar.aspx?aType=YazarDetayArsiv&ArticleID=1183993&AuthorID=75&b=Cukurambarin%20yukselisi&a=Can%20D%C3%BCndar

Durmaz, B. (2014). *Evaluating Success Criteria of Urban Regeneration in Terms of Gentrification and Sustainability: Cases of Çukurambar and Kizilirmak Neighborhoods.* Master Thesis. Middle East Technical University, Ankara, Turkey.

Edney, J. J. (1974). Human territoriality. *Psychological Bulletin*, 81(12), 959-975.

Edney, J. J. (1976). Comment on Functional Properties. *Environment and Behavior*, 8(1), 31-47.

Evans, G. W. (1980). Environmental Cognition. *Psychological Bulletin*, 88(2), 259-287.

Farkisch, H., Ahmadi, V., and Che-Ani, A. I. (2015). Evaluation of neighborhood center attributes on resident's territoriality and sense of belonging a case study in Boshrooyeh, Iran. *Habitat International*, 49, 56–64. http://doi.org/10.1016/j.habitatint.2015.05.012

Flachsbart, P. G. (1969) Urban Territorial Behavior. *Journal of the American Institute of Planners*, 35:6, 412-416, DOI: 10.1080/01944366908977261

Galster, G. (2001). On the nature of neighborhood. *Urban studies*, 38(12), 2111-2124.

Gibson, J. J. (1979). *An Ecological Approach in Visual Perception*. Houghton Mifflin, Boston

Gideon, S. (1941). *Space, time and architecture*. The Growth of a new tradition.

Gifford, R. (1997). *Environmental Psychology: Principles and Practice*. 2nd ed. Boston: Allyn & Bacon.

Goffman, E. 1971. *Relations in public: Microstudies of the public order.* New York: Harper and Row.

Gold, J. R. (1982). Territoriality and human spatial behavior. *Progress in Human Geography*, 6(1), 44-67.

Gould, P. (1973). On Mental Maps. In R. M. Downs, & D. Stea (Eds.), Image and environment: Cognitive Mapping and Spatial Behavior, (pp. 182–220). Chicago: Aldine.

Gökçe, S. (2007). *A research on the landscape that can improve the social interaction: The case of Cukurambar Neighborhood.* Master Thesis. Ankara: Ankara University.

Greenbaum, P. E. and Greenbaum, S. D. (1981). Territorial personalization group identity and social interaction in a Slavic-American neighborhood. *Environment and Behavior*, 13(5), 574-589.

Greenberg, M. (1995). *The poetics of cities: designing neighborhoods that work.* Columbus: Ohio State University Press.

Guest, A.M. and Lee, B.A. (1984). How urbanites define their neighborhoods. *Population & Environment*, 7(1), 32-56.

Günay, B. (2014). *Ankara Spatial History*. A: Cengizkan (ed.). METU Faculty of Architecture Publications: Ankara.

Habraken, N. J. (2000). *The structure of the ordinary: form and control in the built environment*. MIT press.

Hall, E. T. (1969). *The hidden dimension.* New York: Anchor.

Haney, W. and Knowles, E. (1978). Perception of Neighborhoods by City and Suburban Residents. *Human Ecology*, 6(2), 201-214. Retrieved from http://www.jstor.org/stable/4602449

Hirschon, R. B. and Gold, J. R. (1982). Territoriality and the home environment in a Greek urban community. *Anthropological Quarterly*, 63-73.

History. (2014). Kavaklıdere Şarapları A.Ş. Retrieved January 7, 2019, from http://www.kavaklidere.com/en

Horayangkura, V. (2012). Incorporating environment-behavior knowledge into the design process: An Elusive Challenge for Architects in the 21st Century. *Procedia-Social and Behavioral Sciences*, 50, 30-41.

Iranmanesh, A. (2012). *Territorial Aspects of Place Definition: Exploring the Gap Within and In-Between Territories*. Doctoral dissertation, Eastern Mediterranean University (EMU)-Doğu Akdeniz Üniversitesi (DAÜ), Gazimağusa, Kuzey Kıbrıs Türk Cumhuriyeti.

Jacobs, J. (1961). *The Life and Death of Great American Cities*.

Je, H.S. (1986). *Urban Residential Streets: A Study of Street Types and Their Territorial Performances*. (Unpublished PhD dissertation). Department of Architecture, University of Pennsylvania. Retrieved from: http://repository.upenn.edu/dissertations/AAI8623999

Jenks, M. and Dempsey, N. (2007). Defining the neighborhood: Challenges for empirical research. *Town Planning Review*, 78(2), 153-177.

Kaplan, S. (1973). Cognitive Maps in Perception and Thought. In R. M. Downs, & D. Stea (Eds.), *Image and environment: Cognitive Mapping and Spatial Behavior*, (pp. 63–78). Chicago: Aldine.

Karaosmanoğlu, Y. K. (1972). *Ankara*. İstanbul: Remzi Kitabevi.

Karrholm, M. (2007). The Materiality of Territorial Production: A Conceptual Discussion of Territoriality, Materiality, and the Everyday Life of Public Space. *Space and Culture*, 10(4), 437–453. http://doi.org/10.1177/1206331207304356

Keller, S. (1968). *The urban neighborhood: A sociological perspective*. Random House: New York.

Kohn, M. (2004). *Brave New Neighborhoods: The Privatization of Public Space.* New York: Routledge.

Kölmek, E. F. (2011). *Social determinants of environmental concern: The case of Çukurambar.* Master Thesis. Bilkent University, Ankara, Turkey.

Köroğlu, B. A. and Ercoşkun, Ö. Y. (2006). Urban Transformation: A Case Study on Çukurambar, Ankara. *Gazi University Journal of Science*, 19(3), 173-183.

Köse, E. B. and Yurttaş, D. (2014). *Investigating effects of neoliberal policies of urban transportation on cities through the case of Metu road in Ankara, Turkey*. Master Thesis. Milano: Politecnico Di Milano, Scuola di Architettura e Società. Retrieved from https://www.politesi.polimi.it/handle/10589/103001.

Kusenbach, M. (2008), A Hierarchy of Urban Communities: Observations on the Nested Character of Place. *City & Community*, 7: 225–249. doi:10.1111/j.1540-6040.2008. 00259.x

Lang, J. (1987). Creating Architectural Theory. Van Nostrand Reinhold, New York

Lang, J. T. (1994). *Urban design: The American experience*. New York: Van Nostrand Reinhold.

Lay, M. C. (1998). Site layout, territorial organization and social behavior in residential environments. *International Association for People-Environment Studies*, 15: 187-201.

Lee, B. A. and Campbell, K. E. (1997). Common ground? Urban neighborhoods as survey respondents see them. *Social Science Quarterly*, 922-936.

Lee, T. (1970). Urban Neighborhood as a Socio-Spatial Schema. In Proshansky, H. M., Ittelson, W. H., and Rivlin, L. G. (Eds.), *Environmental psychology: Man and his physical setting*. 349-370. New York: Holt, Rinehart & Winston. (Reprinted from Human Relations, 1968, 21, 241-298)

Lee, T.R. (1973). Psychology and Living Space. In R. M. Downs, & D. Stea (Eds.), *Image and environment: Cognitive Mapping and Spatial Behavior*, (pp. 87–108). Chicago: Aldine. (Reprinted from Transactions of the Bartlett Society, Vol. 2, 1963-1964)

Lohmann, A. and McMurran, G. (2009). Resident-defined neighborhood mapping: Using GIS to analyze phenomenological neighborhoods. *Journal of Prevention & Intervention in the Community*, 37(1), 66-81.

Lynch, K. (1960). *The image of the city*. MIT press.

Madanipour, A. (2003). *Public and private spaces of the city*. London: Routledge.

Minnery, J., Knight, J., Byrne, J., and Spencer, J. (2009). Bounding neighborhoods: How do residents do it? *Planning Practice & Research*, 24(4), 471-493.

Mumcu Uçar, Ö. and Özsoy, A. (2006). Sınır kavramına mekânsal bir yaklaşım: Bahçelievler örneği. *İTÜDERGİSİ/a*, 5(2), 11-24.

Newman, O. (1972). *Defensible Space*. New York: Macmillan.

Nicotera, N. (2007). Measuring neighborhood: A conundrum for human services researchers and practitioners. *American Journal of Community Psychology*, 40(1-2), 26-51.

Ono, S. (2001). *Exploring the Influence of Residential Settings on Residents' Territoriality*. MLA Thesis, University of Guelph.

Orleans, P. (1973). Differential Cognition of Urban Residents: Effects of Social Scale on Mapping. In R. M. Downs, & D. Stea (Eds.), Image and environment: Cognitive Mapping and Spatial Behavior, (pp. 115–130). Chicago: Aldine.

Park, Y. and Rogers, G. O. (2014). Neighborhood Planning Theory, Guidelines, and Research: Can Area, Population, and Boundary Guide Conceptual Framing?. *Journal of Planning Literature*, 30(1), 18–36. doi:10.1177/0885412214549422

Parr, A. E. (1965). In Search of a Theory. In Proshansky, H. M., Ittelson, W. H., and Rivlin, L. G. (Eds.) (1970), *Environmental psychology: Man and his physical setting* (11-16). New York: Holt, Rinehart & Winston.

Pebley, A. R. and Sastry, N. (2009). Our place: Perceived neighborhood size and names in Los Angeles *(Working Paper # 2009-026 ed.).* Los Angeles, CA: California Center for Population Research. Retrieved from http://papers.ccpr.ucla.edu/papers/ PWP-CCPR-2009-026/PWP-CCPR-2009-026.pdf.

Perchoux, C., Chaix, B., Brondeel, R. and Kestens, Y. (2016). Residential buffer, perceived neighborhood, and individual activity space: New refinements in the definition of exposure areas–The RECORD Cohort Study. *Health & Place*, 40, 116-122.

Petherick, N. (2000). Environmental design and fear: the prospect-refuge model and the university college of the Cariboo campus. *Western Geography*, 10(11), 89-112.

Porteous, J. D. (1976). Home: The territorial core. *Geographical Review*, 66(4), 383-390. http://doi.org/10.2307/213649.

Porteous, J. D. (1977). *Environment and Behavior: Planning and Everyday Urban Life*. Addison-Wesley Pub. Co.

Proshansky, H. M., Ittelson, W. H., and Rivlin L. G. (1970). Freedom of Choice and Behavior in a Physical Setting. In Proshansky, H. M., Ittelson, W. H., and Rivlin, L. G. (Eds.), *Environmental psychology: Man and his physical setting*. 173-183. New York: Holt, Rinehart & Winston.

Proxemics. (n.d.). In *Merriam-Webster.com*. Retrieved May 9, 2016, from http://www.merriam-webster.com/dictionary/proxemics.

Resuloğlu, Ç. (2011). *The Tunalı Hilmi Avenue, 1950s-1980s: The Formation of a Public Place in Ankara*. Doctoral dissertation, MIDDLE EAST TECHNICAL UNIVERSITY.

Resuloğlu, Ç. and Altan Ergut, E. (2015). Kavaklıdere-Ankara: The Formation of a Residential District During the 1950s. *Open House International*, 40(1), 33-42.

Rofe, Y. (1995). Space and Community-The Spatial Foundations of Urban Neighborhoods: An Evaluation of Three Theories of Urban Form and Social Structure and Their Relevance to the Issue of Neighborhoods. *Berkeley Planning Journal*, 10(1): 107-125.

Rohe, W. M. (2009). From local to global: One hundred years of neighborhood planning. *Journal of the American Planning Association*, 75(2), 209-230.

Ross, H. L. (1962). The local community: A survey approach. *American Sociological Review*, 75-84.

Saghatoleslami, A., Hosseinian, S. N. and Fard, M. B. (2014). An Analytical Study on Boundaries of Administrative-defined Neighborhoods Using Residents' Cognitive Maps (Case study: Mashhad Municipality Neighborhoods, Iran). *International Journal of Architecture and Urban Development*, 4(2), 77-88.

Scheerlinck, K. (2012). Depth Configurations. Proximity, Permeability and Territorial Boundaries in Urban Projects. 4IAU 4ª Jornadas Internacionales sobre Investigación en Arquitectura y Urbanismo.

Scheflen, A. E. and Ashcraft, N. (1976). *Human territories: How we behave in space-time.* Prentice Hall. Inc., Englewood Cliffs, New Jersey.

Schorr, A. L. (1970). Housing and its effects. In Proshansky, H. M., Ittelson, W. H., and Rivlin, L. G. (Eds.), *Environmental psychology: Man, and his physical setting*. 319-333. New York: Holt, Rinehart & Winston. (Reprinted from Slums and Social Security, US Department of health, Education and Welfare, Social Security Administration, Division of Research and Statistics, 1966, Research Report no:1, 7-31)

Sell, J. (1983). *Territoriality and children's experience of the neighborhood*. (Unpublished PhD dissertation). Department of Geography, University of Arizona, Tucson, Arizona. Retrieved from: http://arizona.openrepository.com/arizona/handle/10150/187203.

Skaburskis, J. V. (1974). Territoriality and its relevance to neighborhood design: a review. *Journal of Architectural Research*, 3(1), 39-44.

Sommer, R. (1969). *Personal Space: The Behavioral Basis of Design*. Englewood Cliffs, NJ: Prentice-Hall.

Stea, D. (1965). The Anthropology of Space: An Organizing Model. In Proshansky, H. M., Ittelson, W. H., and Rivlin, L. G. (Eds.) (1970), *Environmental psychology: Man and his physical setting*. 37-42. New York: Holt, Rinehart & Winston.

Stea, D. and Blaut, J. M. (1973). Toward a Developmental Theory of Spatial Learning. In R. M. Downs, & D. Stea (Eds.), *Image and environment: Cognitive Mapping and Spatial Behavior*, (pp. 51–62). Chicago: Aldine.

Talen, E. and Shah, S. (2007). Neighborhood evaluation using GIS: An exploratory study. *Environment and Behavior*, 39(5), 583-615.

Talen, E., Menozzi, S., and Schaefer, C. (2015). What is a "Great Neighborhood"? An analysis of APA's top-rated places. *Journal of the American Planning Association*, 81(2), 121-141.

Tan Erşahin, R.E. (2002). *Re-Defining Roles of Architecture and Urban Design in the Production of Urban Space in Turkey: The Transformation of Çukurambar in Ankara*. Master Thesis. Middle East Technical University, Ankara, Turkey.

Taylor, R. B. (1988). *Human territorial functioning: An empirical, evolutionary perspective on individual and small group territorial cognitions, behaviors, and consequences*. Cambridge University Press.

Taylor, R. B. and Brower, S. (1985). Home and near-home territories. In Altman, I. and Werner, C. M. (Eds.), *Home environments*. 183-212. Springer US.

Taylor, R. B., Gottfredson, S. D., and Brower, S. (1981). Territorial cognitions and social climate in urban neighborhoods. *Basic and Applied Social Psychology*, 2(4), 289-303.

Tekeli, İ. (2009). *Konut sorununu konut sunum biçimleriyle düşünmek*. Tarih Vakfı Yurt Yayınları: Toplu Eserleri,13.

Uzun, N. (2005) Ankara'da konut alanlarının dönüşümü: Kentsel dönüşüm projeleri. In *Cumhuriyet'in 'Ankara'sı*, T. Şenyapılı (ed.), ODTÜ Yayıncılık, Ankara: 198-215

Uzzell, D., Pol, E., and Badenas, D. (2002). Place identification, social cohesion, and environmental sustainability. *Environment and Behavior*, 34(1), 26-53.

Van Gent, W. P. C., Boterman, W. R., and van Grondelle, M. W. (2016). Surveying the Fault Lines in Social Tectonics; Neighborhood Boundaries in a Socially-mixed Renewal Area. *Housing, Theory and Society*, *33*(3), 247-267. http://doi.org/10.1080/14036096.2015.1134650

Van Vliet, W. (1983). Exploring the Fourth Environment an Examination of the Home Range of City and Suburban Teenagers. *Environment and Behavior*,*15*(5), 567-588.

Webber, M. (1964). The Urban Place and the Nonplace Urban Realm. In *Explorations into Urban Structure*, Webber et. al. pp. 79-153Philadelphia: University of Pennsylvania Press.

Welch, A., Benfield, K., and Raimi, M. (2010). *A Citizen's Guide to LEED for Neighborhood Development: How to Tell If Development is Smart and Green*. US Green Building Council's Leadership in Energy & Environmental Design (LEED) rating. Retrieved from: https://www.nrdc.org/cities/smartgrowth/files/citizens_guide_LEED-ND.pdf

Woodruff, A., and Wallace, T. (2015, July 7). Map your neighborhood! (Again!). Retrieved from http://bostonography.com/2015/map-your-neighborhood-again/

Zeisel, J. (2006). *Inquiry by design: Environment/behavior/neuroscience in architecture, interiors, landscape, and planning*. Norton & Company, Inc.: New York.

APPENDICES

A. Questionnaire Sample

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
DOKTORA TEZİ KAPSAMINDA YAPILACAK KULLANICI ANKETİ

TEZ BAŞLIĞI: *HİPER-MODERNİTE ÇAĞINDA EGEMENLİK BÖLGELERİ: KONUT BÖLGELERİNİN ANALİZİ*

Değerli Katılımcı;

Size ilettiğimiz bu anket, ODTÜ Şehir ve Bölge Planlama Bölümü'nde Doç. Dr. Müge Akkar Ercan'ın danışmanlığında yürütmekte olduğum '*Hiper-modernite Çağında Egemenlik Bölgeleri: Konut Bölgelerinin Analizi*' başlıklı doktora tezim kapsamında kişilerin konut çevrelerini nasıl algıladıklarını ve kullandıklarını tespit etmek amacıyla hazırlanmıştır. Anket verileri bilimsel bir araştırma için kullanılacak olup, kişilik haklarına zarar verecek şekilde üçüncü kişilerle paylaşılmayacaktır.

Katılımınız ve katkılarınız için teşekkür ederim.
Saygılarımla

N. Oya Memlük Çobanoğlu
İletişim: oyamemluk@gmail.com

Anket numarası: ……

Yaşadığınız bölgeyi tarif ederken nasıl isimlendiriyorsunuz?	……	
Cinsiyetiniz	1( ) Kadın 2( ) Erkek	
Doğum Yılınız	……	
Eğitim Durumunuz	1 ( ) Okuryazar 2 ( ) Lise Mezunu 3 ( ) İlkokul Mezunu	4 ( ) Lisans Mezunu 5 ( ) Ortaokul Mezunu 6 ( ) Y.Lisans / Doktora Mezunu
Mesleğiniz	( ) Kamuda memur ( ) Kamuda yönetici ( ) Özel sektörde uzman/memur ( ) Özel sektörde yönetici ( ) Akademisyen ( ) Öğretmen ( ) Öğrenci ( ) Doktor ( ) Avukat/Hakim/Savcı ( ) Esnaf	( ) Serbest çalışan ( ) İş yeri sahibi (Küçük İşletme) ( ) İş yeri sahibi (Orta / Büyük Ölçekli İşletme) ( ) İşçi ( ) Emekli ( ) İşsiz ( ) Ev hanımı ( ) Diğer
Hanehalkı sayısı: Siz dahil olmak üzere evinizde kaç kişi yaşıyor?	……	
Hanehalkı tipi:	1 ( ) Tek kişi 2 ( ) Tek ebeveynli aile 3 ( ) Sadece eşler 4 ( ) Eş ve çocuklar	5 ( ) Geniş Aile (bir arada yaşayan akrabalar) 6 ( ) Bir arada yaşayan bireyler 7 ( ) Diğer: ……
Mülkiyet durumu:	1 ( ) Kendi evi 2 ( ) Kira 3 ( ) Lojman	4 ( ) Anne-baba ya da bir akrabanın evi 5 ( ) Diğer: ……
Konut çevrenizde ne kadar süredir yaşamaktasınız?	1 ( ) 0 – 1 yıl 2 ( ) 2 – 3 yıl 3 ( ) 4 – 9 yıl	4 ( ) 10 – 20 yıl 5 ( ) 20 yıl ve üzeri
Hanenize ait özel araç var mı?	1( ) Hayır 2( ) Evet	
Toplam Araç Sayısı:	……..	
Türü:	( ) Otomobil ( ) Motosiklet ( ) Bisiklet ( ) Diğer: ……	

13. Konut bölgenizi hangi amaçlarla kullanmaktasınız?

Kullanım	**Kullanım Sıklığı**		**Kullanım Zamanı**	**Ulaşım biçimi**	**Yaklaşık ulaşım süresi**
( ) Market alışverişi (günlük alışveriş)	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Alışveriş (giyim, elektronik vb. kişisel ihtiyaçlar)	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Kişisel hizmetler (berber, kuaför, terzi vb.)	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Sağlık hizmeti	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Eğitim (çocuğum bu bölgedeki okula gidiyor)	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) İşyerim bu bölgede bulunuyor	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) İbadet amaçlı	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Sosyal ziyaretler (Bölge içerisinde akraba ziyareti)	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Sosyal ziyaretler (Tanıdık ziyareti)	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk

Kullanım	**Kullanım Sıklığı**		**Kullanım Zamanı**	**Ulaşım biçimi**	**Yaklaşık ulaşım süresi**
( ) Kültürel etkinlik (sanat galerisi, tiyatro, sinema, konser vb. gitmek)	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Parka gitmek	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Çocuk oyun alanına gitmek	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Sportif aktiviteler (Spor salonuna gitmek)	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Sportif aktiviteler (Açık havada egzersiz, maç yapmak vb.)	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Yürüyüş yapmak	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Konut çevresindeki café ve restoranlara vb. gitmek	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk
( ) Sosyal hizmetlerden faydalanmak (belediye kursları vb.)	1 ( ) Günlük 2 ( ) Haftada 1 3 ( ) Haftada 2- 3 4 ( ) Ayda 1	5 ( ) Ayda 2-3 6 ( ) Yılda 2-3 ( ) Hiç	( )Haftasonu ( )Haftaiçi	( ) Özel araç ( ) Yürüyerek ( ) Toplu taşım ( )Diğer:……	( ) 5 dk ( ) 5-15 dk ( ) 15-30 dk ( ) + 30 dk

Konut bölgenizden memnuniyet derecenizi belirtiniz
1 ( ) Oldukça memnuniyetsizim
2 ( ) Memnuniyetsizim
3 ( ) Ne memnuniyetsizim ne de tatmin edici buluyorum
4 ( ) Memnunum
5 ( ) Oldukça memnunum
Evinizden taşınmayı düşünüyor musunuz? ( ) Evet ( ) Hayır
Evet ise, nedenlerini belirtiniz;
……
Lütfen konut bölgenizde gözlemlediğiniz olumlu yönleri belirtiniz.
1 ( ) Hizmetlere ulaşım kolaylığı (alışveriş, kişisel hizmetler vb.)
2 ( ) İşyerime yakın
3 ( ) Kendimin ya da çocuğumun okuluna yakın
4 ( ) Çevre kalitesi (binaların, sokakların güzel olması vb.)
5 ( ) Yeterli yeşil alan bulunması
6 ( ) Aynı çevrede yaşayan insanlardan memnuniyet
7 ( ) Diğer : ……

Lütfen konut bölgenizde gözlemlediğiniz olumsuzlukları/eksiklikleri belirtiniz.
1 ( ) Çevre kirliliği
2 ( ) Gürültü kirliliği
3 ( ) Yeterli yeşil alan bulunmaması
4 ( ) Güvenlik sıkıntısı
5 ( ) Otopark yetersizliği
6 ( ) Komşulardan rahatsızlık
7 ( ) Diğer: ……

Lütfen aşağıdaki haritada;

1. **Evinizi işaretleyiniz**
2. **Konut bölgenizin sınırlarını (size göre) belirten kapalı bir alan çiziniz**
3. **Konut bölgeniz içerisindeki önemli referans noktalarını işaretleyiniz**
4. **(Örneğin, evinizi tarif ederken kullandığınız yerler, akılda kalan binalar, yollar, açık alanlar vb.)**
5. **Konut çevrenizde gitmekten kaçındığınız alanlar mı? Varsa, lütfen harita üzerinde yerini işaretleyiniz. (Bu alanlardan gece saatlerinde kaçınıyorsanız, lütfen belirtiniz)**

Base Map of Kavaklıdere District

Base Map of Çukurambar District

B. Approval from the ethics committee for the conduction of questionnaires

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

DUMLUPINAR BULVARI 06800
ÇANKAYA ANKARA/TURKEY
T: +90 312 210 22 91
F: +90 312 210 79 59
www.ueam.metu.edu.tr

Sayı: 28620816/ 534

07 KASIM 2017

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Doç.Dr. Müge AKKAR ERCAN ;

Danışmanlığını yaptığınız doktora öğrencisi Nihan Oya MEMLÜK ÇOBANOĞLU'nun **"Hiper-modernite çağında egemenlik bölgeleri: Konut Bölgeleri Analizi"** başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek gerekli onay **2017-EGT-171** protokol numarası ile **13.11.2017 – 30.09.2018** tarihleri arasında geçerli olmak üzere verilmiştir.

Bilgilerinize saygılarımla sunarım.

Prof. Dr. Ş. Halil TURAN
Başkan V

Prof. Dr. Ayhan SOL
Üye

Prof. Dr. Ayhan Gürbüz DEMİR
Üye

BULUNAMADI
Doç. Dr. Yaşar KONDAKÇI
Üye

Doç. Dr. Zana ÇITAK
Üye

Yrd. Doç. Dr. Pınar KAYGAN
Üye

Yrd. Doç. Dr. Emre SELÇUK
Üye

C. Descriptive Statistics of the Respondents

	Çukurambar (n=300)		Kavaklıdere (n=300)	
	n	**%**	**n**	**%**
Sex				
Female	163	54,3	146	48,7
Male	137	45,7	154	51,3
Age (Mn±SS)	(46,80±18,412)		(47,11±15,929)	
18-24	42	14,0	25	8,3
25-39	64	21,3	89	29,7
40-60	111	37,0	112	37,3
60 +	83	27,7	74	24,7
Education				
Literate/Middle School	31	10,3	17	5,7
High School	76	25,3	84	28,0
Primary School	43	14,3	25	8,3
Bachelors Degree	121	40,3	138	46,0
Graduate Degree	29	9,7	36	12,0
Occupation				
Public Employee	17	5,7	21	7,0
Private Sector Employee	23	7,7	38	12,7
Business owner	11	3,7	32	10,7
Student	40	13,3	23	7,7
Freelancer	20	6,7	28	9,3
Retired	75	25,0	59	19,7
Housewife	44	14,7	24	8,0
Other*	70	23,3	75	25,0
Household Size			n=297	
1	10	3,3	35	11,8
2	66	22,0	100	33,7
3	78	26,0	87	29,3
4	84	28,0	64	21,5
5 +	62	20,7	11	3,7
Household Type	n=299			
One person	10	3,3	35	11,7
Single parent	18	6,0	26	8,7
Married couple	47	15,7	68	22,7
Married couple with children	188	62,9	127	42,3
Extended family	29	9,7	15	5,0
Other (individuals living together)	7	2,3	29	9,7

D. Analysis of the Difference Between Demographic Characteristics in Terms of Number of Landmarks Mentioned by the Respondents

	Çukurambar Number of Landmarks Mentioned			Kavaklıdere Number of Landmarks Mentioned		
	n	**Median (Min-Maks) in ha**	**Z,x^2; p**	**n**	**Median (Min-Maks) in ha**	**Z,x^2; p**
Sex						
Female	163	1 (0-7)	-0,656; 0,512	146	1 (0-5)	-1,369; 0,171
Male	137	1 (0-4)		154	1 (0-4)	
Age (Mn±SS)						
18-24	42	2 (0-4)	1,895; 0,594	25	1 (0-4)	5,306; 0,151
25-39	64	1,5 (0-7)		89	1 (0-5)	
40-60	111	1 (0-5)		112	1 (0-4)	
60 +	83	1 (0-4)		74	1 (0-2)	
Education						
Literate/Middle School	31	1 (0-3)	5,927; 0,205	17	1 (0-3)	7,212; 0,125
High School	76	1 (0-5)		84	1 (0-4)	
Primary School	43	1 (0-4)		25	1 (0-2)	
Bachelors Degree	121	1 (0-7)		138	1 (0-5)	
Graduate Degree	29	2 (0-4)		36	1 (0-3)	
Occupation						
Public Employee	17	1 (0-3)	5,660; 0,580	21	1 (0-3)	8,413; 0,298
Private Sector Employee	23	1 (0-3)		38	1 (0-4)	
Business owner	11	2 (0-3)		32	1 (0-3)	
Student	40	2 (0-4)		23	1 (0-4)	
Freelancer	20	1,5 (0-4)		28	1 (0-2)	
Retired	75	1 (0-5)		59	1 (0-2)	
Housewife	44	1 (0-4)		24	1 (0-4)	
Other*	70	1 (0-7)		75	1 (0-5)	
Household Size						
1	10	1 (1-3)	4,987; 0,289	35	1 (0-3)	6,859; 0,144
2	66	1 (0-3)		100	1 (0-3)	
3	78	2 (0-4)		87	1 (0-5)	
4	84	1 (0-7)		64	1 (0-4)	
5 +	62	1,5 (0-4)		11	1 (0-2)	
Household Type						
One person	10	1 (1-3)	1,731; 0,885	35	1 (0-3)	4,250; 0,514
Single parent	18	1 (0-3)		26	1 (0-2)	
Married couple	47	1 (0-3)		68	1 (0-3)	
Married couple with children	188	1 (0-7)		127	1 (0-4)	
Extended family	29	2 (0-3)		15	1 (0-2)	
Other (individuals living together)	7	1 (0-4)		29	1 (0-5)	
House Ownership						
Home owner	212	1 (0-7)	2,058; 0,560	165	1 (0-4)	1,518; 0,678
Tenant	50	1 (0-4)		102	1 (0-5)	
Lodging	19	1 (0-4)		14	1 (0-2)	

	Çukurambar Number of Landmarks Mentioned			Kavaklıdere Number of Landmarks Mentioned		
	n	**Median (Min-Maks) in ha**	**Z,x^2; p**	**n**	**Median (Min-Maks) in ha**	**Z,x^2; p**
Other	19	2 (0-4)		19	1 (0-4)	
Length of residence						
0-1 years	18	1 (0-3)		26	0 (0-3)	
2-3 years	16	1 (0-3)		31	1 (0-3)	
4-9 years	64	2 (0-7)	2,516; 0,642	65	1 (0-5)	9,096; 0,059
10-20 years	172	1 (0-5)		57	1 (0-4)	
20 years +	30	1 (0-4)		121	1 (0-3)	
Car Ownership						
No	40	1 (0-5)	-0,673; 0,501	122	1 (0-5)	-0,462; 0,644
Yes	260	1 (0-7)		178	1 (0-4)	
Number of Cars						
1	164	1 (0-4)	-1,437; 0,151	150	1 (0-4)	-1,329; 0,184
2 +	96	2 (0-7)		28	1 (0-3)	

E. Analysis of the Difference Between Demographic Characteristics in Terms of Satisfaction Levels from the Residential Area

	Çukurambar Satisfaction from the residential area			Kavaklıdere Satisfaction from the residential area		
	n	**Median (Min-Maks) in ha**	**Z,x^2; p**	**n**	**Median (Min-Maks) in ha**	**Z,x^2; p**
Sex						
Female	163	4 (1-5)	-1,042;	146	5 (1-5)	-2,415;
Male	137	4 (1-5)	0,298	154	4 (1-5)	**0,016***
Age (Mn±SS)						
18-24	42	4 (2-5)		25	5 (3-5)	
25-39	64	4 (1-5)	3,042;	89	4 (1-5)	2,487;
40-60	111	4 (1-5)	0,385	112	5 (1-5)	0,478
60 +	83	4 (1-5)		74	4 (1-5)	
Education						
Literate/Middle School	31	4 (1-5)		17	5 (1-5)	
High School	76	4 (1-5)	3,852;	84	4 (1-5)	1,730;
Primary School	43	4 (1-5)	0,426	25	4 (1-5)	0,785
Bachelors Degree	121	4 (1-5)		138	4 (1-5)	
Graduate Degree	29	4 (2-5)		36	5 (1-5)	
Occupation						
Public Employee	17	4 (2-5)		21	4 (2-5)	
Private Sector Employee	23	4 (2-5)		38	5 (2-5)	
Business owner	11	4 (1-5)		32	4 (1-5)	
Student	40	4 (1-5)	10,129;	23	4 (3-5)	8,257;
Freelancer	20	4 (2-5)	0,181	28	4 (1-5)	0,311
Retired	75	4 (1-5)		59	4 (1-5)	
Housewife	44	4 (1-5)		24	4 (2-5)	
Other*	70	4 (1-5)		75	5 (1-5)	
Household Size						
1	10	3,5 (1-5)		35	4 (1-5)	
2	66	4 (1-5)	3,312;	100	4 (1-5)	2,033;
3	78	4 (1-5)	0,507	87	4 (1-5)	0,730
4	84	4 (1-5)		64	5 (1-5)	
5 +	62	4 (1-5)		11	5 (3-5)	
Household Type						
One person	10	3,5 (1-5)		35	4 (1-5)	
Single parent	18	4 (2-5)		26	4 (2-5)	
Married couple	47	4 (1-5)		68	4 (2-5)	
Married couple with children	188	4 (1-5)	4,729; 0,450	127	5 (1-5)	0,962; 0,966
Extended family	29	5 (1-5)		15	4 (3-5)	
Other (individuals living together)	7	4 (3-5)		29	4 (1-5)	
House Ownership						
Home owner	212	4 (1-5)		165	4 (1-5)	
Tenant	50	4 (1-5)	4,404;	102	4 (1-5)	0,692;
Lodging	19	4 (1-5)	0,221	14	5 (1-5)	0,875

	Çukurambar Satisfaction from the residential area			Kavaklıdere Satisfaction from the residential area		
	n	**Median (Min-Maks) in ha**	**Z,x^2; p**	**n**	**Median (Min-Maks) in ha**	**Z,x^2; p**
Other	19	4 (3-5)		19	5 (3-5)	
Length of residence						
0-1 years	18	4 (1-5)	3,650; 0,456	26	4 (2-5)	1,528; 0,822
2-3 years	16	4 (1-5)		31	4 (1-5)	
4-9 years	64	4 (1-5)		65	5 (1-5)	
10-20 years	172	4 (1-5)		57	4 (1-5)	
20 years +	30	4 (1-5)		121	4 (1-5)	
Car Ownership						
No	40	4 (1-5)	-0,176; 0,860	122	4 (1-5)	-1,089; 0,276
Yes	260	4 (1-5)		178	4 (1-5)	
Number of Cars						
1	164	4 (1-5)	-0,655; 0,512	150	4 (1-5)	-0,121; 0,903
2 +	96	4 (1-5)		28	5 (1-5)	

F. Types of Landmarks Mentioned in Kavaklıdere and Çukurambar Districts

Types of Landmark Mentioned in Kavaklıdere District	Frequency	Valid Percent
OPEN_SPACE	23	7
Park	22	
Kuğulupark	15	
Meclis Parkı	5	
Milli Egemenlik Parkı	2	
Car Park	1	
Açık Otopark (Tunus Cad.)	1	
STREET_& OPEN_SPACE	35	10
Crossroads	33	
Esat Dörtyol	23	
Akay Kavşağı	5	
Şili Meydanı	5	
Bus Stop	2	
Bankalar Durağı (Tunalı Hilmi Cad.)		
BUILDING_& OPEN_SPACE	49	15
School	25	
Kavaklıdere İlköğretim Okulu	12	
Mimar Kemal Anadolu Lisesi	9	
Teğmen Kalmaz İlköğretim Okulu	3	
Fransız Okulu	1	
Embassy	21	
Elçilikler	7	
ABD Büyükelçiliği	7	
Alman Büyükelçiliği	4	
Fransız Büyükelçiliği	3	
Mall	2	
Atakule	1	
Karum	1	
Lodging	1	
SGK Lojmanları	1	
STREET	107	32
Main Road	75	
Tunalı Hilmi Caddesi	19	
Güvenlik Caddesi	15	
Kennedy Caddesi	13	
Esat Caddesi	10	
Abay Kunanbay Caddesi	5	
Akay Tüneli	5	
Tahran Caddesi	4	

Types of Landmark Mentioned in Kavaklıdere District	Frequency	Valid Percent
Hacıyolu	1	
Kuveyt Caddesi	1	
Nene Hatun Caddesi	1	
Tunus Caddesi	1	
Street	32	
Büklüm Sokak	9	
Güniz Sokak	6	
Bestekar Sokak	4	
Defne Sokak	2	
Gerede Sokak	2	
Yazanlar Sokak	2	
Bankacı Sokak	1	
Bardacık Sokak	1	
Başak Sokak	1	
Bülten Sokak	1	
Konur Sokak	1	
Olgunlar	1	
Şimşek Sokak	1	
BUILDING	121	36
Hospital	33	
Güven Hastanesi	17	
Çankaya Hastanesi	9	
Kudret Göz Hastanesi	2	
Liv Hospital	2	
Umut Hastanesi	2	
Lokman Hekim Hastanesi	1	
Cafe /Restaurant	29	
Liva (Güvenlik Cad.)	9	
Aspavalar	7	
Aslı Börek	2	
Elizin Pastanesi	2	
Melis Pastanesi	2	
Altınkapı Gazinosu	1	
Devrez	1	
Esat Pastanesi	1	
Günaydın Pastanesi	1	
Kebabistan	1	
Maksim Gazinosu	1	
Tabure Cafe	1	
Mosque	19	
Kocatepe Cami	19	

Types of Landmark Mentioned in Kavaklıdere District	Frequency	Valid Percent
Market	8	
Çağdaş Market (Tunalı Hilmi Cd., Güvenlik Cd.)	6	
Makro Market	1	
Migros	1	
Institution	7	
Meclis	5	
BDDK	1	
Tübitak	1	
House of a Politician	4	
Süleyman Demirel'in evi	4	
Bank	4	
Akbank	1	
ING Bankası	1	
İş bankası	1	
Ziraat Bankası	1	
Arts & Culture	2	
Armoni Sanat Merkezi	1	
Tatbikat Sahnesi	1	
Gas Station	2	
BP benzinlik	2	
Store	1	
Sarar Mağazası	1	
Total	335	100

Types of Landmark Mentioned in Çukurambar District	Frequency	Valid Percent
OPEN_SPACE	38	8
Park	25	
Teoman Öztürk Park	18	
Türkan Saylan Park	3	
Çansera	2	
Birlik Park	2	
Market Place	11	
100. Yıl Pazar	11	
Sports Field	2	
Basketball field	2	
STREET_& OPEN_SPACE	2	0
Crossroads	1	
Dörtyol	1	
Pedestrian Bridge	1	

Types of Landmark Mentioned in Çukurambar District	Frequency	Valid Percent
Konya Yolu üstgeçit	1	
BUILDING_& OPEN_SPACE	95	21
Mosque and park	29	
Safa Cami ve Parkı	29	
Institution	26	
MTA	26	
School	17	
Pınar Okulları	10	
Mehmet Emin Resulzade Anadolu Lisesi	7	
University	10	
Çankaya Üniversitesi	10	
Mall	8	
Armada	3	
Next Level	3	
Taurus	2	
Housing	5	
Hayat Sebla Evleri	3	
Türk-İş Blokları	1	
Gecekondu Bölgesi (squatters)	1	
STREET	62	14
Main Road	62	
Muhsin Yazıcıoğlu Caddesi	26	
Öğretmenler Caddesi	11	
Konya Yolu	9	
1425. Cadde	5	
1459. Cadde	2	
Marketler Caddesi	2	
1424. Cadde	1	
1427. Cadde	1	
1443. Cadde	1	
Çetin Emeç Köprüsü	1	
Eskişehir Yolu	1	
Söğütözü Köprüsü	1	
Ufuk Üniversitesi Caddesi	1	
BUILDING	256	57
Cafe /Restaurant	70	
Liva pastanesi	35	
Mado	12	
Sütiş	6	
Arjantin Kebap	5	
Hacıbaba	4	

Types of Landmark Mentioned in Çukurambar District	Frequency	Valid Percent
Hüdaverdi Pastanesi	3	
Marco Paşa Cafe	2	
Kahveci	1	
Kocatepe Kahve evi	1	
Pelit Pastanesi	1	
Store	48	
Nişantaşı Pazarı	41	
Ambrosia	5	
Cemren Eczanesi	1	
Vatan Bilgisayar	1	
Market	38	
Yunus Market	9	
Altunbilekler	7	
Migros	5	
Çağdaş Market	4	
Erzincan Mandıra	4	
100. Yıl Merkez Çarşı	3	
Üçgen Çarşı	3	
Beğendik	2	
Makromarket	1	
Mosque	25	
Firdevs Cami	9	
Sebahattin Yıldız Cami	8	
Tuğba Altınok Cami	4	
Çukurambar Merkez Cami	1	
Çukurambar Şenevler Cami	1	
Şenevler Cami	1	
Zeynep Saleh Alp Cami	1	
Hospital	21	
Ufuk Üniversitesi Hastanesi	11	
Koru Hastanesi	9	
Memorial Hastanesi	1	
School	20	
Arjantin İlköğretim Okulu	19	
Arı Koleji	1	
Taxi Stop	9	
Çukurambar Taksi Durağı	9	
Business Centre	8	
Protokol Ankara binası (ofis ve mağazalar)	5	
Besa Kule	2	
Kanal 24 binası	1	

Types of Landmark Mentioned in Çukurambar District	Frequency	Valid Percent
Cargo	6	
Yurtiçi Kargo	6	
Hotel	3	
Mariott	3	
Old Police Station	2	
Eski Karakol	2	
Tax Office	2	
Vergi Dairesi	2	
Institution	1	
Ankara Adliyesi Ek Hizmet Binası	1	
Neighborhood Representatives Office	1	
Muhtarlık	1	
Political Party Headquarters	1	
ANAP Genel Merkezi	1	
Post Office	1	
PTT	1	
Total	453	100

G. Exclusive Use as a Resource Base of Kavaklıdere and Çukurambar Districts

		Kavaklıdere		Çukurambar		Total	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
commercial	daily grocery shopping	293	98	291	97	584	97
	other shopping	115	38	170	57	285	48
	private services (hairdresser, tailor etc.)	251	84	208	69	459	77
social	visiting relatives	135	45	145	48	280	47
	visiting acquaintances	191	64	198	66	389	65
recreational	strolling	230	77	185	62	415	69
	cafe & restaurants	206	69	202	67	408	68
	parks	199	66	198	66	397	66
	socio-cultural activities	172	57	131	44	303	51
	open-air sports	40	13	77	26	117	20
	playgrounds	37	12	70	23	107	18
	sports hall	54	18	50	17	104	17
services	health facilities	183	61	202	67	385	64
	educational facilities	38	13	80	27	118	20
	social services (courses etc.)	18	6	20	7	38	6
work	work	118	39	59	20	177	30
religious	religious purpose	64	21	127	42	191	32

* Activities that differentiate above %15 between Kavaklıdere and Çukurambar

* Activities that differentiate above %10 between Kavaklıdere and Çukurambar

CURRICULUM VITAE

PERSONAL INFORMATION

Surname, Name	: Memlük Çobanoğlu, Nihan Oya
Nationality	: Turkish (TC)
Date and Place of Birth	: 6 July 1988, Ankara
Phone	: +90 535 851 44 77
E-mail	: e157293@metu.edu.tr, oyamemluk@gmail.com

EDUCATION

Degree	Institution	Year of Graduation
MS	METU, Urban Design	2012
BS	METU, Dept. City and Regional Planning	2009
High School	TED Ankara College Foundation High School	2005

WORK EXPERIENCE

Year	Place	Enrollment
2011-Present	Gazi University, Faculty of Architecture, Department of City and Regional Planning	Research Assistant

FOREIGN LANGUAGES

Advanced English, Beginner Italian

PUBLICATIONS

1. Akkar Ercan, M. and Memlük, N. (2019). The Role of Public Spaces on Social Cohesion and Inclusivity Metamorphosis of a Historic Park in Ankara, Turkey. In *Public Space Design and Social Cohesion: An International Comparison*, P. Aelbrecht and Q. Stevens(Eds.), 98-117. New York: Routledge. doi:https://doi.org/10.4324/9780429489150
2. Tekel, A., Görer Tamer, N., Memlük, O., Gürer, N., A. Ceylan Kızıltaş, (2016). 'Görsel Sanatlara İlişkin Kişisel İlgi ve Deneyimlerin Temel tasarım Eğitimine Yansıması'. *Sanat ve Tasarım Dergisi*,17:159-169. ISSN:2149-6595.
3. Memlük, N. O. and Akkar Ercan, M. (2016). Bir Kent Bulvarı'ndan Ana Artere Dönüşüm Süreci: Atatürk Bulvarı Örneği in *80 Sonrası Mekan ve Planlama*. 217-236. *ISBN: 978-975-507-283-8*
4. Memlük, N. O., Songülen, N., Kimyon, D., Argın, G. and Sarıkulak, S. (2016). 2009-2010 Northern Cyprus, Coastal Planning and Design Project in *Catalogue.01 METU Master of Urban Design 1996- 2016*. 140-147. METU Faculty of Architecture Press, Ankara.
5. Akkar Ercan, M. and Memlük, O. (2015) More inclusive than before? The tale of a historic urban park in Ankara, Turkey. *URBAN DESIGN International: 1-27. doi:10.1057/udi.2015.5*
6. Memlük, O. and Memlük, Y. (2010) Yarışmalar: Çelişmeler ve Çekişmeler, *Planlama: TMIOBB Şehir Plancıları Odası Yayını, ISSN: 1300-7319, Vol: 3,* 61-69.