

DOKUZ EYLÜL UNIVERSITY
GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES

**DISTRIBUTION AND DESIGN OF COMMUNITY
PARKS AND OPEN SPACES IN THE CITIES
THE CASE OF KARŞIYAKA İZMİR**

by
Hashmatullah SULTANI

January, 2019
İZMİR

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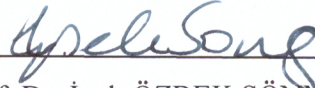
**A Thesis Submitted to the
Graduate School of Natural and Applied Sciences of Dokuz Eylül University
In Partial Fulfillment of the Requirements for the Degree of Master of
Architecture in City and Regional Planning Program**

**by
Hashmatullah SULTANI**

**January, 2019
İZMİR**

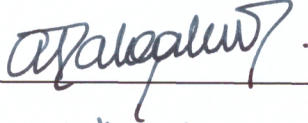
M.Sc THESIS EXAMINATION RESULT FORM

We have read the thesis entitled “**DISTRIBUTION AND DESIGN OF COMMUNITY PARKS AND OPEN SPACES IN CITIES THE CASE OF KARŞIYAKA İZMİR**” completed by **HASHMATULLAH SULTANI** under supervision of **PROF DR. İPEK ÖZBEK SÖNMEZ** and we certify that in our opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Science.



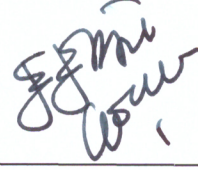
Prof. Dr. İpek ÖZBEK SÖNMEZ

Supervisor



Dr. Öğr. Üyesi Anu Talgahan Erdoğan

(Jury Member)



Dr. Öğr. Üyesi Feral GİÇER SARGIN

(Jury Member)



Prof. Dr. Kadriye ERTEKİN

Director

Graduate School of Natural and Applied Sciences

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During my master degree journey, I had my life's biggest lost, my mother. I pray Allah to forgive her and grant her paradise. Ya Allah forgive me my sins and those are of my parents and have mercy upon them as they had mercy upon me when I was small.

Hashmatullah SULTANI

DISTRIBUTION AND DESIGN OF COMMUNITY PARKS AND OPEN SPACES IN THE CITIES THE CASE OF KARŞIYAKA İZMİR

ABSTRACT

This thesis reviews literature on urban open spaces and parks, the significance of Parks as Urban Open Spaces, that they are the places where people come together, meet each other and spend their time. They also function as playgrounds, and greeting places with new people, and recreational areas for the residents to keep them far from the stresses in their daily lives. In other words, urban open spaces are important and beneficial in a city from different perspectives, such as environmental, ecological, health, educational and economic benefits.

The thesis focuses on the design and distribution of neighborhood parks on the particular case of Karşıyaka district of İzmir metropolitan city. Apart from the parks at the waterfront, due to the high density of the buildings in this district and the insufficiency of open spaces and green areas, the neighborhood parks have been selected as the case problem. Mostly, we observe narrow corridors of public streets as the open spaces in the district. For this reason, the first aim of the thesis is to examine the distribution of neighborhood parks in the district. Secondly, in the developed settlement, the quality of park designs has been examined.

To complete the gap and necessities of current parks or building a new park, all standards and characteristics should be met in planning and design of parks and applied in the future. Therefore, this study discusses the results of our analysis and makes further suggestion for the design of parks in Karşıyaka district.

Keywords: Karşıyaka parks, urban open space, parks as urban open space, type of urban open spaces, hierarchy parks, the significance of parks

KENTSEL ALANDA SEMT PARKLARI VE AÇIK ALANLARIN DAĞILIMI VE TASARIMI İZMİR, KARŞIYAKA ÖRNEĞİ

ÖZ

Bu tez, insanların bir araya geldikleri, birbirleriyle buluştukları ve zaman geçirdikleri parklar ve kentsel açık alanların önemini ve konut ile ilgili literatürü incelemektedir. Parklar aynı zamanda çocuklar için oyun alanları, farklı insanlarla buluşma yerleri ve kent sakinlerinin günlük yaşamlarında stresten uzaklaşmaları için rekreasyon alanlarıdır. Diğer bir deyişle, kentsel açık alanlar ve parklar bir şehirde çevresel, ekolojik, sağlık, eğitim ve ekonomik gibi farklı açılardan önemli ve faydalıdır.

Tez, İzmir, Karşıyaka ilçesinde bulunan mahalle parklarının tasarım ve dağılımı konusuna odaklanmıştır. İlçedeki yapı yoğunluğu ve açık ve yeşil alanların azlığı sebebiyle kıyı gerisindeki mahalle parkları çalışma alanı olarak seçilmiştir. İlçenin açık alanları çoğunlukla dar koridor görünümündeki sokaklardır. Bu nedenle, tezin ilk amacı ilçedeki parkların mahallelere göre dağılımını incelemektir. İkinci olarak, yerleşim alanlarındaki park tasarımlarının kalitesi incelenmiştir.

Mevcut parkların boşluklarını ve gerekliliklerini tamamlamak veya yeni bir park inşa etmek için parkların planlanması ve tasarımında tüm standartlar ve özellikler yerine getirilmeli ve gelecekte uygulanmalıdır. Bu nedenle, bu çalışmada analiz sonuçları üzerinden yapılan değerlendirmelerde Karşıyaka bölgesindeki parkların tasarımını için önerilerde bulunulmuştur.

Anahtar kelimeler: Karşıyaka parkları, kentsel açık alan, kentsel açık alan türleri, parkların hiyerarşisi, park tasarımı, kentsel açık alan tasarımı kriterleri

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CHAPTER ONE

INTRODUCTION

As it is known that parks as urban open spaces are the places that people come together, meet each other and spend their time. They are also, playing areas for children, and greeting places with new people, and recreational areas for the residents to reduce the stresses in their lives.

Since the emergence of immigration from villages to the cities and concentration of people in the cities, questions about the quality of cities have risen. In cities, there is need for open spaces due to the increase in housing and population densities. Urban open spaces are quite important for the residents of cities because they contribute positively to the psychology and physiology of the residents and their daily lives.

Nowadays due to the population growth and building densification and loss of urban open spaces and gardens, people need more public open spaces and parks. The necessity for parks has risen ever than before.

In the 21st century the cities became more crowded, thus the quality of life gained more significance for residents of those cities. In the urban context, urban open spaces play a significant role in improving the quality of life in the cities. The people who are using these spaces they don't discuss and ask; how the life quality is affected by open spaces? What are the benefits and opportunities in urban open spaces? What is the importance of urban open spaces in peoples' lives? But they own and using them as part of their daily life, they do value these spaces (Woolley, 2003).

Urban open space provides an opportunity for everyone to interact with other people, enhancing their level of physical activity and joining in sport and recreation activities. As the provision of open spaces natural, the green area also paves the ground for people to improve their mental health, rest and relax to decrease life stresses (Frumkin, 2016).

1.1 Aim of the Study

This thesis explains the significance of parks as urban open spaces and it discusses the analysis, design, and distribution of neighborhood parks that serve the need of residents within their community.

The case study of this thesis is part of the Karşıyaka district in İzmir city. Karşıyaka is a commonly preferred district as a residential location. The district is famous for its long water-front promenade that serves as a recreation area and open space. For this reason, it is popular amongst all İzmir residents. However, the inner part of the district lacks open space and green areas. Due to the high density of the buildings, there seems insufficiency of open spaces and green areas in a high range. Mostly we observe narrow corridors as public streets. The insufficient range of open spaces and green areas in Karşıyaka district has been one of the intentions to carry out this thesis. Secondly, in the already developed settlement, It is meant to examine the quality of the park design, their distribution and their sufficiency in serving to the residents, their effects in social life and communication, satisfaction of users from parks current condition, accessibility to parks, feeling of relaxation and safety, user problems, user activities in parks, parks quality condition consideration. Finally, the thesis aims to answer questions such as; what are the user demands for having better open space and parks? What do people want from local governments? What are the necessities to be provided in open spaces and parks?

1.2 Content of the Study

This study has been constructed in five chapters. At the first chapter of the thesis, the goal, the selection criteria for the case of Karşıyaka, content and methods of the study are explained.

The second chapter consists the theoretical framework of public open spaces, specifically, the parks that form the basis of the study and some basic concepts about

the thesis. Definitions, characteristics and typology of urban open spaces, in general, are explained in this part.

The third chapter of the thesis is about the case study carried in Karşıyaka. In this part, location analysis, their numbers, field characteristics, user characteristics are discussed depending on the results of the site survey. These discussions are carried both for old and new parks. Also, the analysis of the user preferences is discussed in this part. The analysis is followed by evaluation, problem identification and some suggestions as solutions to the problems of the parks in the district.

The fourth chapter covers design strategies about Karşıyaka Neighborhood parks. In this part of the thesis according to researches, surveys and evaluations of Karşıyaka neighborhood parks' characteristics, needs, problems and recommendations are explained. The existing quality and quantity of parks and green areas in this district, evaluation of existing parks, explanation and analysis of surveys which are done by researcher and Karşıyaka parks users are summarized with strategies for solutions and recommendations.

The fifth chapter includes general evaluation and conclusion about Karşıyaka parks.

1.3 Method of the Study

Two different methods have been applied in order to analyse the efficiency and quality of parks in Karşıyaka. The first analysis method has been carried by the researcher in the field. I have carried the analysis at the site as a researcher in architecture and urban design. The second part of the analysis depend on the aspects of the users. This part of the survey is carried by interviews with the users. Both types of survey consisted social, cultural and spatial variables and important data have been obtained about the quality and efficiency of parks in Karşıyaka. The obtained data and the analysis of the area have been evaluated that led to the development of a design guide for parks in Karşıyaka district.

After completion of the survey in the selected parks, the obtained data are imported to SPSS program version 23 to analyze and compare different characteristics and types of parks as new and old parks with each other, from the view of a user and the expert. After importing the data to the program; Mean, Median and Mode of the data values are obtained. The process is repeated to all data as different characteristics of the parks, and for the type of surveys as user's data analysis and researcher data analysis.

The survey in point of view of the expert, the characteristics of parks was evaluated according to the following values.

Criteria	Very Poor	Poor	Adequate	Good	Very Good
-	1	2	3	4	5

To compare the obtained data value means from surveys of old and new parks as two independent different groups “Independent-Samples T Test” is selected.

‘Independent-Samples T-Test’ is a parametric test that compares just only two different independent groups ‘mean’ values for determining that is there a significant difference between the means of these two groups or not as a null hypothesis.

To run the Independent Samples t-Test:

In SPSS program, Click Analyze > Compare Means > Independent-Samples T Test and follow the next steps for defining the two groups properties, in our case Old Parks and New Parks are defined for their characteristics. For example, facilities in these two groups of parks are interpreted as follow by this method: When the data is imported in SPSS program after applying the test option, the output table will appear as result. There are different pieces of information given in the result table, for this case, the ‘T-Test for equality of means’ or ‘P-value’ is considered and studied. The significance level for P value is 0.05 and according to this P value, the interpretation of analysis will be accomplished. In our data analysis for facilities in Old Parks and New Parks P value is 0.0012 and is less than 0.05, therefore there is an evidence to

reject the null hypothesis and conclude that the facilities mean for Old and New Parks is significantly different. And in the accessibility analysis result for Old and new Parks the P value is 0.973 and it is bigger than 0.05 and the interpretation is: There is no evidence to reject the null hypothesis, it means that there is no significant difference between accessibility of Old and New Parks the null hypothesis that the accessibility between these two types of parks are the same will be accepted.

CHAPTER TWO

DEFINITIONS, CHARACTERISTICS, AND TYPOLOGY OF URBAN OPEN SPACES

This section covers definitions and significance of urban open spaces, their characteristics, qualities, functions and their benefits. This part also gives a brief explanation about the typology urban open spaces.

2.1 Definition of Urban Open Space and Its Significance

There are different and range of definitions about “Open Space” which are used by various authors and researchers.

Open space can be defined as land and water in an urban area that is not covered by cars or buildings, or as any undeveloped land in an urban area (Gold, 1980). On the other hand Tankel (1963) has suggested that open space is not only the land, or the water on the land in and around urban areas, which is not covered by buildings, but is also the space and the light above the land. Cranz (1982) argued that open spaces are wide-open areas that can be fluid to the extent that the city can flow into the park and the park can flow into the city. Open space has also been described from a user’s point of view as being an arena that allows for different types of activities encompassing necessary, optional and social activities (Gehl, 1987; Woolley, 2003, p.3).

2.2 Urban Open Space Quality Criteria

Subjective design strategies may not be the only key to good urban design practices. It is necessary to fulfill the functional and other requirements in urban design. In order to obtain well-designed urban spaces, we also need a large series of criteria.

For creating good new urban open spaces or enhancing the existing ones, it is essential in pre-condition to know about the characteristics of good urban spaces (Stiles, 2009).

2.2.1 What Makes a Successful Place?

In 1975, according to Montgomery's principles, academicians elaborated the key points for creating successful urban open spaces in the Project for Public Spaces (PPS), they formed guideline diagram that synthesizes the basic four main principles (Figure 2.1); "Sociability, Uses and Activities, Access and Linkage and, Comfort and Image" (Myrik, 2016).

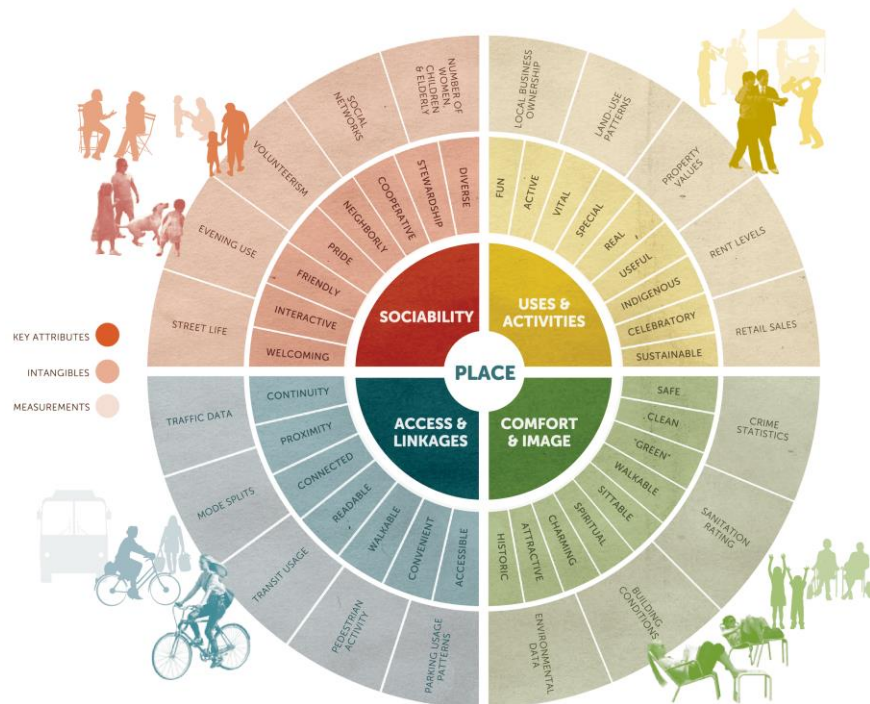


Figure 2.1 Diagram for creating a successful place (Myrik, 2016)

The urban open space quality criteria that will be discussed and explained below also imply the criteria for successful sustainable place.

Below the criteria for good urban open space will be discussed.

2.2.1.1 *Sociability and Invitation*

Good urban open space shall be welcoming, interactive, friendly, neighborly, and diverse. A successful urban open space invites people to come and stay. In order to invite, for walking, there needs to be space for walking, accessibility to key areas attractive facades, without any obstacles. Invitation for standing and staying ensures interesting and functional sides, defined places for staying, objects to lean against or stand next to. Invitation for sitting provides defined spots for sitting; maximize advantages, good mix of seating public place with nice views let people to set, watch and enjoy (Figure 2.2 & Figure 2.3).



Figure 2.2 A place that invites people to come and stay (Urban Open Space, 2016)



Figure 2.3 a mixed place of sitting and watching people (Urban Open Spaces, 2016)

2.2.1.2 *Comfort and Image*

Good urban open space may be historic, attractive, charming, spiritual, sit-able, walk-able, green, clean, and safe.

For provision of good urban space with amenity and sense of well-being functional requirements and natural contexts should be ensured as follow:

- Lighting and street furniture should be well designed for a lively and pleasant space.
- Create feeling of safety and security by providing all needs of users needed in a public space; and all elements must be functional and pleasant.
- Design for everyone; people with disability, elderly people
- Planting should be attractive, robust and located appropriately
- A protected open space makes people feel safe. “Protection may be against vehicular traffic, traffic accidents, pollutions, visibility or may be against crime and violence, unpleasant sensory experiences, wind, rain, snow, cold, heat, pollution, dust, glare, noise” (Erin, Jonathan, Seth, Rachel, 2008) (Figure 2.4);



Figure 2.4 A protected open space from vehicles, pollutions (Rachel, 2008)

2.2.1.3 *Delight*

A successful urban open space is dimensioned considering at human scales. It shall provide positive aspects of climate and has aesthetics and sensory. It may contain architectural elements such as pergola or pavilion to make the space more comfortable and beautiful for the user (Figure 2.5, 2.6 & 2.7).



Figure 2.5 Seating with human dimension; delight (Urban Open Space, 2016)

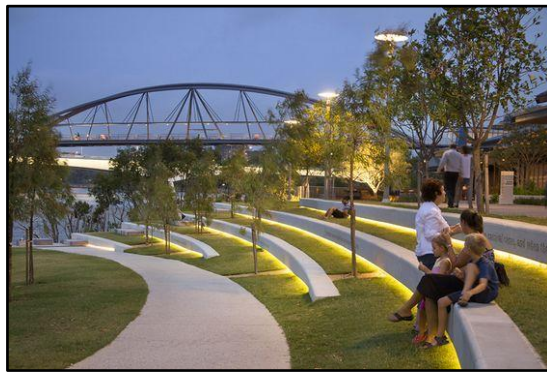


Figure 2.6 Aesthetic and sensory, Delight (Urban Open Spaces, 2016)

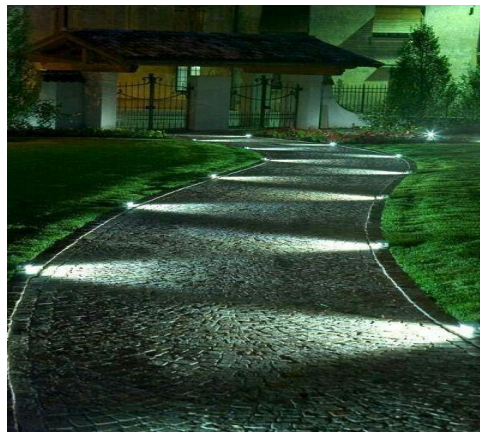


Figure 2.7 Aesthetic and sensory, Delight (Urban Open Spaces, 2016)

2.2.1.4 *Urban Open Space Patterns*

Urban open spaces should provide sustainable use for activities. These activities may be fun, vital, special, real, useful, indigenous and suitable for celebration.

Alexander, Ishikawa, 1977, refers urban open spaces as quiet place to sit, to think and to read, they are open spaces far from sources of noises, they are places for spending time, thinking, reading and sitting in a calm place, an outdoor living room, a comfortable place to meet, talk and relax.

2.2.1.5 Access and Linkages

Good urban open space shall provide continuity, proximity, connectedness, readability, walk-ability, convenient and accessibility.

- Walking in the park: Pathways linking the main areas and features of small urban green spaces let the users to walk together and see the park.
- Platform for view and overlook to the activity places: A dominant paved area located in corner of the site, maybe surrounded by railings or balustrade for the safety of people to lean on it and seeing the view of the area.
- A promenade to see and be seen: A wide paved and well-lit pathway, with trees and benches in sides. Walk-able to people side by side in both directions. The main function of this pathway is walking up and down, there shouldn't be a direct link to main entry or exit point, but it should be strategically located with regard to the rest of the space.
- A shady grove: A closed canopy and an enclosed which is formed by a normal grid or an informal group of standard trees, as a calm three-dimensional space under them, where the people stay separate from the wider space. (Alexander et al, 1977) (Figure 2.8).



Figure 2.8 The Botanical Garden (Great Meadow, 2016)

2.2.2 Unsuccessful urban open spaces

The low quality or unsuccessful urban open spaces are considered in brief as follow:

Unsuccessful urban open spaces are bleak, expansive and shapeless, ‘poor’ image, lack of ‘sense of place’, lack of ‘access’ layout and grade changes deny users’ natural paths. No vistas or no visual connection. Sociability is minimal; provide little, if any, activity there is no place to sit (Wikipedia, 1973), (Figure 2.9 & 2.10).

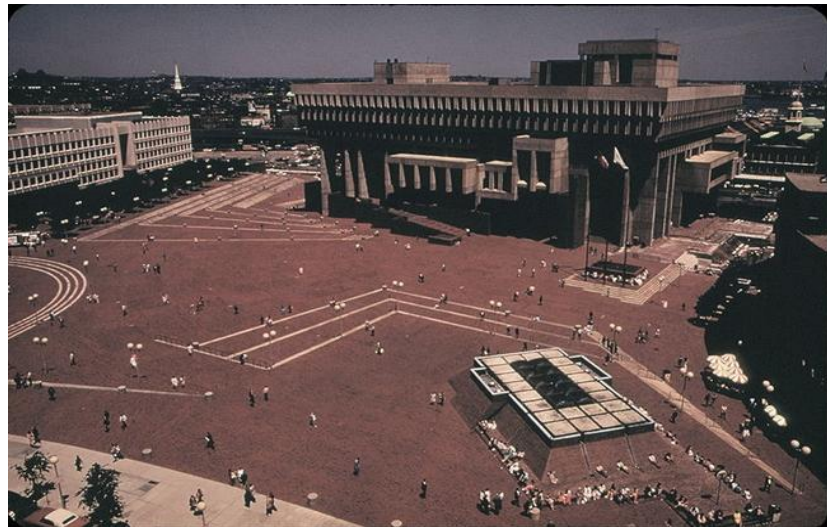


Figure 2.9 Unsuccessful Urban Open Spaces, Boston City Hall Plaza (Wikipedia, 1973)



Figure 2.10 (Unsuccessful Urban Open Spaces, n.d.)

2.3 Benefits and Opportunities of Urban Open Spaces

Urban open space or public space concept is defined as the sites and settings of public life. “The public space ideally works as a space for social interaction, intermingling, and communication; and as a stage for social learning, personal development, and information exchange” (Sideris & Banerjee, 1998).

There are many benefits of urban open spaces. They can be beneficial personally, socially, economically and environmentally. They provide opportunities for specific activities, such as playing, watching and walking; setting that might improve mental or physical health.

Open space is an essential part of the urban heritage, a strong element in the architectural and aesthetic form of a city, plays an important educational role, is ecologically significant, is important for social interaction and in fostering community development and is supportive of economic objectives and activities, In particular it helps reduce the inherent tension and conflict in deprived parts of urban areas of Europe; it has an important role in providing for the recreational and leisure needs of a community and has an economic value in that of environmental enhancement (Woolley, 2003, p.9).

2.3.1 Benefits for Psychological and Physical Well Being

Rosenthal (1978) identified benefits of green spaces for social and physical wellbeing as follow:

Green open spaces play a significant role; for resting both physically and mentally, for exercising to stay physically fit, in gaining social recognition to enhance self-esteem, in creating better sense of social place that is to say coming together with friends or making new friendships in green open spaces, reflecting on social and personal values, feeling free, growing spiritually, developing and applying

creative abilities, learning about nature and how to live in greater harmony with nature (Woolley, 2003).

Parks and open spaces progress and make better our physical and psychological health, make strong our communities, our cities, and Neighborhoods become more attractive places for living and working. In the last decades' attention in city parks has been revived, like revitalizing old parks, building greenways through rivers, making trails from left railroads and planting trees to create gardens in empty lands. The evidence shows that people who have access to green area and parks they have a healthier body, physical activities in parks decrease the risk of diseases in a wide range and increase health quality, relieves symptoms of anxiety and depression, improves psychological soundness and health. (Sherer, 2006).

Parks are also beneficial in social and community development. Paying attention to Neighborhood activities, reduces crime, directing and connecting youth to nature, creating community leaders (Sherer, 2006).

Both the 'Park Life' and 'People, Parks and Cities' studies emphasis on the value of green spaces to society. 'Park Life' in particular wrote eloquently of the challenge that now faces green space providers and managers in seeking to provide a legacy of rich, diverse and sustainable places where people will find a sense of continuity, of relief from the pressure of urban living, places to be in touch with the natural cycle of the seasons and of wildlife and also places to meet and celebrate with others (Dunnett, 2002).

The health benefits of urban green space are also very important, it affects directly in psychology of human to get far from stress and create opportunity in healthy outdoor sports in a relax environment. Thus, green spaces create better physical and mental health benefits for all individuals and communities, by having a quiet, unwind, relax place. (Dunnett & Swanwick, 2002).

“Health is not the mere absence of illness, but means physical, social and mental well-being” (The World Health Organization, 2017).

Open spaces in urban areas have been considered to have benefits for both physical and mental health for many years. “Reduction in levels of dangerous diseases and improving general health and increasing length of life in towns was due to the gradual adoption of going out of cities with much larger spaces open to the sunlight and fresh air” (Beveridge & Rocheleau, 1995).

The contribution to mental health restorative effects of nature; Urban life can be full of stress every day, due to noise, crowding and air pollution even before one begins the daily round of travelling to a job, caring for children or older relatives or coping with the lack of a job or a long-term health problem. Recovery from such stress is important in daily life (Woolley, 2003).

Physical activities have benefit in reduction of risk from premature death, help people to be far from poor health, and enhance psychological well-being. By physical activities symptoms of depressions and anxiety will be relieved (Sherer, 2006).

Open spaces influence human physical and psychological health and well-being; open spaces and green areas which are close to the work and living places of people has directly positive effects on physical and psychological health and well-being of human. Spending short period of time can affect on people’s ability in concentration and performing of different tasks. Various studies show that living near to green open spaces has directly beneficial influence in human health (Stiles, 2009).

In brief, it can be said that urban open spaces have several health benefits. Makes people healthier. That is to say contact with nature and greenery improves psychological and physical health.

2.3.2 Social Benefits

Social benefits of urban green spaces are mostly focused and considered in lots of studies. It has both existence value and educational values. People use it in different activities; it is accessible to all people in providing social interaction. Green spaces propose significant opportunities for people to establish a connection with nature, to do exercise by participating in both passive and active recreation, participation in different kinds of social and cultural activities.

Open spaces have the key role in public space, they provide an essential field where people come together and meet each other; people that they are from different social, cultural and demographic groups, are coming in such an arena and meeting contacting each other.

The importance of urban green spaces for providing social benefits is also emphasized by the Council of Europe either, according to their narration in 1986: “Open space is important for social interaction and in fostering community development. In particular, it helps reduce the inherent tension and conflict in deprived urban areas” (Dunnett, 2002).

The most important function of urban open space is its societal function, by creating usable open spaces and green area people will come, stay and spend their free time there. People come together in different events and fulfilling different activities together there.

Society is one that tries to cover all the human needs at the same time. The choices people make in any given setting are also influenced by 'society' and 'culture', involving characteristics (ego, personality...et).

Urban open space is an interaction between man and nature, enjoyment, recreation etc. Social and societal functions include are related to the direct use of urban open spaces by people and they include:

Urban open space facilitates social communication, including cultural and commercial activities. They allow access to and experience of nature, influencing human physical and psychological health and well-being, Providing space and facilities, playgrounds for children, formal and informal, active and passive spaces (McConnell & Walls, 2005).

Reducing Crime:

Public open space has a strong effect in reducing crime in the community. They keep off at-risk youth from the streets; provide them a safe environment to interact with each other. Using time in a good way without facing any trouble in outside.

Three levels of social interaction in public spaces identified by Jan Gehl (1986) Danish Architect:

The first level of interaction results simply from the fact that people need to be in outdoor spaces. The second level involves creating open spaces in which people choose to spend some of their free time. Finally, only when people are making use of the opportunity to spend some of their free time in open spaces does the possibility of social interaction become available (Stiles, 2009).

Creating Stable Neighborhoods with Strong Community:

Green areas build and create stable neighborhoods with strong community. It has been proven by researchers that people who are living in the Neighborhood with green areas are enjoying social ties more than the residents of a Neighborhood surrounded by concrete buildings and paved concrete roads (Woolley, 2003).

Active and Passive recreation:

Activities such as football, cricket, volleyball and other games are usually considered as active recreation, but passive recreations are the activities like

watching children or other wildlife, looking at view, reading, resting or meeting friends. For both active and passive recreation urban open spaces are accepted very important since 19th century, when public walks were seen as part of the recreational package of these spaces (Woolley, 2003).

Besides the social category personal health and psychological benefits are also strongly important.

Children's play:

“Modern civilization interferes with a heavy hand in the spontaneous play of children” (Hurtwood, 1968).

Greenhalgh identified (1995) that, in urban open space separate from areas for very active sports like football, tennis, and cricket, there is a very important activity which is children's play to be seriously paid attention during the design. Because it is approved that most of the people go and visit open spaces and green areas for their children to play there. By the wide range of researchers, it has been proven that play has an important role in development of children.

Play has a significant role in improvement of social skills, negotiating skill, confrontation, improving emotions positively, developing morally (see an extensive review of research on children by Taylor, 1998), improving cognitive skill by playing like language comprehension and learning techniques how to solve problems. Playing brings children closer to adults and helps them to build their own identity (Woolley, 2003).

Playing creates opportunity for children to learn, and directly effects as a critical element to their future. By playing, children can strength their muscle, can improve their ability of cognitive thinking, language skills, reasoning ability. (Sherer, 2006).

2.3.3 Economic Benefits

In different studies, it has been proved that parks have a big effect in increasing the value of Neighborhood residential and commercial properties (Sherer, 2006).

In today's urban policies, there is a big attention on public spaces that can have profits from them even it is indirectly affecting. By creating open spaces in a town near to markets it causes more popular visitor attractions.

The secret behind the increase of tourists visiting city centres of Melbourne in Australia and Glasgow in Scotland was that during the transformation of the city they pay attention in improvement of their public spaces. Therefore, beside the social and environmental value of a good public space they increase the value of property also and are good for business (Shaftoe, 2012).

In different studies over the years, it is confirmed that people prefer to buy homes near to parks, open spaces, and green area, and it causes an increase in property value. By the help of green spaces, we can attract investment, sustain businesses, build employment opportunities, and increase the value and marketability of nearby property and support tourism.

In different writings about urban open spaces and parks development is shown that they have a direct impact in the value of properties, land or property adjacent to urban open spaces and parks development are in a high value than land or property far away from parks and urban open spaces (Woolley, 2003).

In brief, it can be said that however the economic benefits and opportunities of urban open spaces are less well understood and recorded than other benefits; this does not belittle their importance where they are understood and valued.

2.3.4 Ecological and Environmental Benefits

Parks are considered as one of an important characteristic of living quality and make the city more livable. Green spaces provide fundamental environmental benefits in urban areas. Reduction of air and water pollution by trees, keeping cities cooler by planting trees and greenery (Sherer, 2006).

Aesthetically they preserve natural beauty, help buffering the unpleasant views and disturbing spaces. They are also a visual relief from man-made cityscapes.

Environmental and ecological functions include much of what is often described today as ‘ecosystem services’. There are four sub-functions which glorify better that how it influences the design of urban open spaces.

“Climatic amelioration”

“Noise screening”

“Influencing the hydrological cycle storm water management”

“Providing habitats for wild plants and animals” (Federer, 1976)

Climatic Amelioration:

Open spaces are helpful in improving urban areas. Green areas absorb solar radiation (photosynthesis) and cooling the surrounding air. The physical effects of shading by trees is also important. Creating green areas produces cooler air that causes air movements or air flow from cooler to warmer areas and if open spaces of an urban area are located in the same line direction of wind it will help air circulation better. They are effective in filtering air pollution.

Amelioration of urban climate and environment:

“Green Open Spaces help in amelioration of airflow, reduction of air temperature. Trees can provide shelter from precipitation while retaining and evaporating some of it in summer they can increase humidity when they transpire” (Federer, 1976).

Noise Screening:

With creating green areas, we can separate noisy areas from quiet areas to reduce and prevent noise. To be more effective in absorbing noise to a limited extent green area must be characterized by dense of trees and shrub planting.

Influencing the hydrological cycle - water storm management. The hydrological cycle of urban areas can be controlled by planning a good design of open spaces. Like providing temporary storage areas of surface water during the storm conditions until going to a drainage system or infiltrate directly to the ground. So, it causes reduction for conventional piped drainage system. Green open space also plays a significant role in maintaining atmospheric humidity (Stiles, 2009).

With little interference of human, the environmental and ecological function of urban space takes place and provides significant benefits for the community. (Turner, 2004).

Access to and Experience of Nature:

As it is discussed and said that human beings are a part of nature, we still need close and constant contact with the natural world, in spite of overwhelming our living in urban environments (Connell & Walls, 2005).

Pollution Abatement and Cooling:

Green open spaces in cities have important role in environment air cleanliness, absorbs nutrients polluted air produced by human activities, trees place role of natural air conditioners and coolers in cities. "The evaporation from a single large tree can produce the cooling effect often room-size air conditioners operating 24 hours a day" (Sherer, 2003)

Controlling Storm Water Runoff:

Due to impervious surfaces of the cities like roads, sidewalks, parking places, and rooftops storm water runoff problems can be created, and the water will not absorb by the ground because of these impervious surfaces, therefore the rainfalls can be

interrupted by trees, and water can be absorbed by unpaved areas. With less expense and more effectiveness, the flow of stormwater runoff can be managed and control by trees and green areas instead of building drainage buildings or concrete sewers. (Sherer, 2006).

Environmental benefits divided into four parts; biodiversity, landscape and cultural heritage, the physical environment, and sustainable practices.

Benefits urban spaces to biodiversity:

Urban places have a clear range of wildlife and habitats that can be as significant for biodiversity like those in rural areas. They can be seen in many types of urban places, especially in semi-natural areas and encapsulated countryside, plus areas which are influenced heavily by people, like gardens and parks. Nature is not only valuable for itself, but it has effects on people too. In many studies and discussion, people talk about benefits and opportunities that green spaces bring to them by contacting with nature. An elderly person from Ipswich summarized it, saying “there is something about trees and birds and animals... it’s about peace of mind” (Dunnett et al, 2002).

Many people said the special problem of people that they don’t have a garden and thus there is no opportunity to have contact with nature.

Benefits for landscape and cultural heritage:

Urban green spaces provide the green part of the urban landscape, complementing the built environment that often dominates the scene. Special ‘gem’ of townscape can be obtained by both buildings with high quality and green spaces. Urban conservation areas are usually mix using historic buildings in a setting of green space. Urban green areas are considered as main landscape value, historic and cultural. They pave the ground for people to participate and enjoy nature.

The physical environment:

The vegetation especially the trees which are used in urban green areas play a significant role in the reduction of air pollution. The most effective result is gained while trees are planted near to or around the pollution productive sources to provide oxygen and clear air by intercepting particulate matters and absorbing gaseous pollutants and heavy metals.

2.3.5 Educational Benefits

Green spaces pave the ground for both formal and informal educational opportunities to all age groups. School fields can be used for nature studies. Sites such as ‘nature parks’ like many urban green areas are used for educational groups of school children through the week for educational benefits.

2.4 Parks as Urban Open Spaces

Parks are natural, semi natural or planted spaces reserved and design for human enjoyment and recreation or for the protection natural habitats or wildlife. It can be consisting of green areas, rocks, soil, and trees, but it may also including buildings and other artifacts like monuments, fountains, playground structures, etc.

With the Industrial revolution, parks got a new meaning as areas reserved to protect a sense of nature in the cities and towns. Sports activities came to be a major use for these urban parks. Areas of outstanding natural beauty were also protected as national parks to prevent them from being destroyed by out of control urban development (Wikipedia, 2016).

2.4.1 Characteristics of Parks

Parks as recreation, and open spaces provide all types of outdoor recreation for the city residents. They may be interconnected with the plazas and pedestrian streets. and furnished with fountains, benches, and attractive lighting to make them safe and pleasant.

To ensure a complete park and recreation system, it is essential that each locality provides for its own particular local needs. Each community has, for example, the responsibility to install adequate play lots, athletic fields, and recreation places (Simonds, 1978).

Two mostly mention reasons for park use are a desire to be in ‘a natural setting’ and ‘a need for human contact’ (Marcus & Francis, 1997).

Below the main characteristics of parks are discussed:

Natural setting

As described by Lewis (1996), cities as a concrete desert needs green areas, therefore parks are often considered as green spots or oasis greeneries in this huge concrete desert. For people who are passing by the park, also those who are coming into parks, its natural elements provide visual relief, seasonal change, and a link with the natural world (Lewis, 1996).

According to the studies and surveys of park use, in San Francisco and London city, the most mentioned reason for park uses was "contact with nature." In London, this motivation was mentioned by women more than by men, by older people more than youngers, by people who have higher-income rather than users with lower-income. During the studies of parks, the most mentioned reasons for using of parks is to relax and rest. While surveying and asking people to describe a park, general heading was "park as a retreat," and users were using words like nature, greenery, comfortable, peaceful, calm, tranquil, relaxing, urban oasis, and sanctuary in definition of a park. (Marcus & Francis, 1997).

Places for Socializing

Almost most of park users claim that the main motivation for going to a park is "**contact with nature**", investigation of what people in fact do in parks recommend that social contact both overt and covert is equally significant.

People often decide whether to use a park on the basis of who else goes there (friends, people they fear, families, drug sellers, police patrols, rather than landscape features or recreational opportunities. It is easier for most people to say they use park because they like the greenery than to say instead that a park presents opportunities to meet or watch other people (Hayward, 1989).

All parks should present the opportunity for both overt socializing, or getting together, and covert socializing, or watching the world go by. At least two types of overt socializing can be studied in modern parks: "Going to the park with friends for the purpose of talking and/or eating together. or, coming to a park in the hope of

meeting other regulars whom one expects and hopes to meet there” (Marcus & Francis, 1997).

After school before going home teenagers may plan going to the parks for meeting and talking with their friends; parents may plan to take their children to a favourite play space and to chat while their children are playing.

On the other hand, many people of all ages come to parks only to watch people, with no intention of conversation or greeting with them. Many elderly people engage in this activity; more guidelines can be found in the section for the elderly. In general, it is important to provide benches so that the people moving through the park or along adjacent sidewalks can be observed unobtrusively (Marcus & Francis, 1997).

Therefore, the design of parks may provide opportunities to promote socializing as well as providing opportunities for self-experiences.

Perceivability (understandability)

For making sense to users, parks should be designed perceivably. Perceivability can be achieved by the design of the boundary of the park as well. According to topographic scales the boundaries of park should be conductive, and the people should be able to see and notice the park from outside by. Before building the entrance of the park the environments of park should be studied. Park should be visible and in touch with users’ eyes (Monteith, 2009)

Unity

Before designing of a city park, all the other green areas of city should be studied, and the design of parks must be related to these open spaces and green areas. That is to say open spaces should be designed all together. Parks, green areas, pedestrians must have a unity in design.

Adequacy to User Preferences

Another design criteria for parks is that they must be adequate for user preferences. The users' preferences should be clearly defined and studied before the design of the parks, so that adequate relationship is provided for the users.

Accessible Location

One of the most important criteria in designing of parks is the location of the park in the city. It should be accessible for all people of the city. The natural sources, topographic structure, feature and other environmental factors are also significant in choosing the location. In order to serve to most parts of the city, central locations are mostly preferred.

Location of parks and other public spaces is the key factor that determines whether people are drawn to use them.

Location of open spaces in **urban core, Neighborhood or suburb**, when public spaces are reasonably central generally work the best in a Neighborhood even the city, and they are near the routes that people use for other purposes. Also, when they are surrounded by mixed uses they work better rather than monocultures like offices or housing (Shaftoe, 2012).

Accessibility for All

Accessibility in park design is an important criterion. People with disabilities, children, youths, and elderly should be able to easily access the park.

Accessibility in urban spaces is the main factor in affecting their use by different groups of people.

Three fundamental factors, which vary between different groups in a community, influence accessibility: mobility, physical activity and time budgets. For example, Pre-school children are not very mobile, they also are less physically active than

older children and teenagers, but the amount of time they have available to use open spaces is larger than school children” (Cormack & Rock, 2010).

For different groups, their open spaces a hierarchical model of open space provision can be developed by combining these factors. For example, a large number of small neighborhood open spaces with limited facilities near to house, fewer large open spaces located at a district level with larger range of facilities for a wider population, and a small number of large city parks which can provide facilities for a wide range of people and activities.

A key element of any discussion of the public realm is accessibility. It is defined as the ability of people to get and navigate within a public realm in our case it is considered for parks as a public realm.

The following categories are studied for accessibility parks:

Availability: Available number of parks in the city

Equitable access: equal distribution of parks in the neighborhood

Visual access (visibility): visible location of parks should be seen and welcome users. If people can see into a space before they enter it, they can judge whether they would feel comfortable, welcome and safe there.

Individual access: “This is likely to be a strong indicator of physical activity in parks, as those who live closest to a park may be the most likely to visit and thus be physically active in it” (Rung & Mowen, 2005).

Promote universal accessibility: wheel chair access, engineered wood fiber surfacing, ramps to play structure areas (Ottawa, 2012).

In planning to provide or improve urban open spaces and parks, it is beneficial to recognize between and plan for the needs of the different groups of users, with their own specific open space requirements. For children, teenagers, young adults, elderly people, disables (Cormack & Rock, 2010).

Social and Economic Integration with the City

Relation with nature is not only sufficient for the parks, at the same time it must be related to social, cultural, and business areas. All the citizens of the city, children, youth, old, rich people, poor people everyone should feel themselves same and a part of the area. The area should pave the ground for enjoying, relaxing, facing, instruction, introducing, and meeting with different people.

Uniqueness and Individuality

To have an attractive and memorable place parks should have specific character and identity and should be coherent but complex space. It will be an invitation for the users to come again and again. Users should feel the sense of uniqueness and individuality (Shaftoe, 2012).

Safety and Security

Safety and security of parks is an important characteristic for the users. It refers to perception and feeling safe of the people, incidents of crime in the neighborhood.

As Carmona also discusses about the importance of safety and security in public open spaces, he writes that; “People face a variety of threats in the urban environment: crime, air pollution, water contamination, and so forth. Lack of security, perceptions of danger, threaten both the use of the public realm and the creation of successful urban environments” (Carmona, 2010).

Crime Prevention through Environmental Design (CPTED) principles should be followed. Shade structures as feature elements along significant sight lines should be located. Conflicting connections should be avoided. Hazard trees from woodlots maintained as park, as directed by the city should be cleared (Park and Pathway Development Manual, 2012).

One of the crucial factors in design of parks is sense of safety; the degree of feeling safe or unsafe significantly determines the users’ participation in open spaces. Also, the physical attributes (such as the amount of light, potential hiding places and

entrapment spots) should also be considered. People want coherent and safe parks, not blandness (Marsh, 1990).

In England Neighborhood parks are closing in the evening, in some neighborhood the park key is given to the neighborhood inhabitants.

Legibility

Visual coherence of space and feeling of where you are and where you want to be is the legibility of the open space. It obtains realization for the user to know and comprehend the space. The structure and design of open spaces should be planned visible, clear with easy image. Space with enhanced legibility specification will have natural landmarks and focal points, clear and navigable routes, all places will be gathered and visible (Environment, Planning and Sustainable Development, 2014).

Seating

One of basic and major points that let the people coming to parks is seating and enjoying the park and nature. And it is recognizing as a success factor for parks. To ensure a successful public space provision of sufficient range of opportunities for sitting is the single most important.

Informal seating opportunities should be provided. Seating should be located in shaded areas. Seating provision should be arranged both close to and apart from active amenities for different park users. For preventing pinch points bench spacing should be minimum 15 cm. (Ottawa, 2012)

Signage

A good park has appropriate signage. For developing of sense of place there should be signage in open spaces and parks. It will be combined with good urban design. And finally, the district will be unique and more aesthetic. It is the guidance for users to go further in their surroundings (Monteith, 2009).

Signs of dark lettering on a light background are the most legible combination. If possible, signs should be lighted, with the main focal point at a height of about 120 centimeters. (Marcus & Francis, 1997).

Lighting

Since parks are public open spaces, it is necessary to design the park in order to provide security. Lighting is an important for the provision of security.

The quantity of lighting is another important issue in lighting design in parks. The amount of lighting should be arranged and designed well, less lighting or too much lighting they are both bad for a park or any public open space. Convenient lighting (functional and/ or visually distinctive) should be provided, and it should be organized with the pedestrian lighting either.

Significance of lighting in parks

- Lighting increases safety in parks and open spaces that people use.
- Aids in geographic orientation, as people can use well-lit focal points (fountains, buildings, playing areas, seating, walking areas, et al.) and help them find their way.
- Highlights the identity and history of an area
- Creates a sense of drama.

Ways of using lighting

By landscaping lighting of the parks can be provided. The edges of the parks can be lighted to bring attention to the large district beyond the park and help define the identity of the park, in the edge of the parks' trees, specially buildings of the parks can also have a seasonal light.

Lighting architectural details like archways, entrances, columns, cornices, can create attention and interest for the users to see the uniqueness of the space and come for experience of walking at night.

Lighting of signage is also a good way for lighting, well-lit maps, through with directional and informational signage, are necessary for providing orientation at night.

Lighting of focal points like sculpture, fountains, towers, and other big elements of the parks, is efficient for visibility, way finding and beauty of the park (Lighting Use & Design, Project for Public Spaces, 2009).

Character and size

To ensure convivial and comfortable feeling in park dimensions should be paid attention during the design.

Scale and proportion

Space elements should not be too large or too small! (Shaftoe, 2012). It must be proportional to human scale, to be used by people.

Human scale, people seem to enjoy a sense of enclosure without feeling claustrophobic and discomfort. Huge structures (whether they be walls or buildings) and vast open spaces may be awe-inspiring, but they can't facilitate a feeling of entertainment and pleasure (Shaftoe, 2012).

Walkability

During the design of parks pedestrian connections should be provided for parks to encourage walking and physical activities.

“Integrate direct routes to activity nodes wherever possible to promote walking, jogging and cycling throughout parks” (Public realm Urban Design Guideline, 2014).

Aesthetic and Attractiveness

It is known that space affects our mind, spirit and senses, for this reason aesthetics is an important design criteria of parks. Aesthetics in park design help to preserve natural beauty while removing the ugliness and unpleasant views.

The category of aesthetics combines the sensible attractiveness and demand of the various design elements of a park. Having something beautiful or interesting to look at while exercising or visiting a park can be a powerful motivator of physical activity. Enjoyable scenery is positively associated with physical activity. Aesthetics also considers how the physical features of a park are laid out. Variety and intriguing details, this should comprise interesting landscaping, including plants, shrubs and trees, and intriguing use of color and/or texture on built vertical surfaces makes the park attractive (Shaftoe, 2012).

Aesthetics were important among adults as well as children and adolescents. Graffiti and vandalism discourages park use (McCormack & Rock et al. 2010).

The other sense that is also affective is the feeling of warmth or coolness caused by the microclimate in open spaces and parks. Smell of vegetation can be also significant sensory factor in making aesthetically pleasing environment. (Madanipour, 1996).

Comfort

Comfort is a prerequisite of successful public spaces. As much the public space is comfortable the people will stay more, As Carmona says;

“The length of time people stay in a public space is a function and an indicator of its comfort. The dimensions of a sense of comfort include environmental factors (e.g. relief from sun, wind, etc.); physical comfort (e.g. comfortable and sufficient seating, etc.) And social and psychological comfort” (Carmona, 2010). Beaver says; “Provide space for rest and relaxation where interaction with the natural environment can best be experienced” (Beaver, 2006)

Comfort Facilities; for increasing a sense of form and function regarding more active use parks, anywhere possible, the same type of playing areas should be clustered by the city. These parks also should contain benches and safe, pedestrian friendly pathways, washroom, electrical outlets, etc. According to utilization of parks, if parks are heavily used the city should continuously pay attention for

supplying permanent or portable washroom facilities. With these conveniences parks can attract a greater number of individuals and families to come and visit (*Monteith, 2009*).

By the provision of facilities such as a public art, natural landscape features, water feature, trees and gardens, shade, paths and accessible areas for all, comfort and attractiveness of the parks can be enhanced. (*Healthy Places and spaces, 2009*).

Sense of relaxation

Sense of relaxation is also one of the significant factors that let the people to come, stay and enjoy their time relax in the parks and urban open space.

“While a sense of psychological comfort may be a prerequisite of relaxation, relaxation is a more developed state with the 'body and mind at ease” (*Carr et al., 1992*). For creating sense of relaxation in open spaces’ urban settings, natural elements, greenery, water feature, trees and separators from vehicular traffic should be designed and planned well (*Carmona, 2010*).

Diversity

People need a variety of reasons to gather and stay (*Shaftoe, 2012*). Parks are places for everyone. During the designing a range of different ages of user, abilities of users and cultures with variety of using from personal to the communal should be accommodated.

2.4.2 Significance and Benefits of Parks

Existence of parks is necessary to improve the quality of life in cities. They provide opportunities for people to go outdoors and have better contact with nature, it maintain the natural environments. “A large number of researches define the many ways in which parks and green spaces develop people’s lives and contribute to livability of cities” (*Woolley, 2004*).

2.4.2.1 Economic Benefits

Healthy parks and open spaces help to improve the health of people and communities; besides they develop the economy of the cities, enhance the value of properties. That is to say, parks and open spaces significantly increase the value of the private capital base.

Parks are places that attract tourists that result with economic benefits. They are the places for special events and festivals, sites for sports tournaments especially in small cities (Moore, 2003)

The urban parks should be the important components of any successful city redevelopment or development.

Cities use parks for smart growth, in strategies of growth management of a city parks have their own place as an important role player and have their direct public funds. They can both make strong the urban core and protect the fringe from overdevelopment (Sherer, 2003).

2.4.2.2 Environmental Benefits

Parks maintain and raise natural environments. Parks supply green city infrastructure that is as significant as streets and drainages in a city.

“Parks play a vital role in keeping the air clean and cool by resisting the damaging effects of pollution and buffering against the effects of climate change” (Groth & Miller, 2008).

Parks may also play a role in maintaining and purifying the environment. Air pollution is a significant human health threat as it can cause different diseases like coughing, headaches, lung, throat, and eye irritation, respiratory and heart disease, and cancer. Trees in urban areas play a role in reducing air pollution by absorbing

gaseous pollutants and storing them, thereby clearing the atmosphere from them (Rung & Mowen, 2005).

Parks as other green open spaces provide many ecosystem advantages, such as regulating environmental temperatures, clearing air, decreasing noise; sequestering carbon and reducing storm water. (Byrne & Sipe, 2010; Sherer, 2006).

Overall open spaces and parks contribute sustainability of an area, enhancing physical and psychological wellbeing with biodiversity landscapes (LGA, 2014).

2.4.2.3 Health Benefits

Parks are significant resources for individual and community health. Parks provide affordable and enjoyable places to be active. Parks are the places that people prefer to visit and have physical activities, that can improve community and individual health.

Many studies links access to parks with increased physical activity and physical fitness. Contact with nature also enriches psychological, emotional and spiritual wellbeing (Kaczynski and Henderson 2007). Access to green space reduces stress levels, decreases negative mood, reduces feelings of depression, and provides other benefits to mental health and wellbeing (Frumkin, 2003).

A strong relationship between quality of life and access to parks play a very important role in community's health and wellbeing.

Obviously urban public spaces offer health benefits with providing fresh air for residents and workers of the city. In lack of urban open spaces and green areas people will face critical health problems, like obesity and increasing levels of heart diseases by sedentary lifestyles (Thompson and Travn, 2007). These spaces also help in improvement of mental health and wellbeing. Humans need at the same time

both social contact and nature or greenery to protect psychological balance (*Shaftoe, 2012*).

2.4.2.4 Social Benefits

Parks provide a range of social benefits; they are beneficial for people and communities. Parks provide big range of activities for families, community, and individuals, like big cultural and sporting events. Whether it is individually walking in a park, or adults meeting all together for entertainment and enjoyment, well planned parks improve opportunities to social communication.

“Studies show that parks strengthen families, provide a sense of community connection, bring various people together, and presents meeting places for community support and improvement” (Woolley, 2004).

Parks can moderate incivility and cultivate child development. Given the opportunity, most children would prefer to play in outdoor spaces that provide them with a range of sensory experiences, and which help them to refine their motor skills (Byrne & Sipe 2010; Rung & Mowen, 2005).

Cities use parks to help children learn; Parks are places creating opportunities for learning, health promoting, physical activities and motivating children by beneficial daily experience with nature and encouraging them to discover, explore and learn about the world. They offer children sense of place, self-identity and belonging to the society living all together (Moore, 2003).

Cities use parks for community engagement; They supply a shared environment for interaction and connection of diverse people with each other and work together toward a shared vision in a positive community participation (Moore, 2003).

Cities use parks for creating safer neighborhood; Parks are used as a place for helping in reducing aggression and relieving mental fatigue by staying and spending

time in nature. They produce safe and strong Neighborhoods for people to gather there. (Moore, 2003).

2.4.3 Hierarchy of Parks

According to park typologies, and standards related to park size, location, service area radius, configuration of parks are defined under a hierarchy of parks. The hierarchy of parks helps in the design of parks according to the needs. Classifying the parks also helps in the construction and maintenance process of parks to provide the necessities for communities in the best way. The location and programming of parks are usually determined by the city administrations according to population and recreational service level requirements.

There are basic requirements in the distribution of parks. First of all, they should be accessible for the residents and satisfy the recreational links of the public. They should be designed according to the plans.

Important issues for development of parks to comprehend that how each park functions in a community are as follow:

- Reasons people come to a specific park
- The activities people participate in
- Frequency and duration of use
- Design element types that support users' activities
- Management and maintenance procedures, policies and regulations

Park categories and their guidelines have been developed by park departments, they are as follow:

- Mini Parks
- Neighborhood Parks
- Community Parks
- District Parks
- Regional Parks

- Special Purpose Parks
- Natural Resource Areas
- Greenbelts/Greenways/Trails

Definitions for each of the park categories are as follow:

2.4.3.1 Mini Parks

A mini park is a small park accessible to the general public. Mini parks are frequently created on a single vacant building lot or on small, irregular pieces of land. (“Mini Parks,” Wikipedia, 2014).

Mini parks are small parks that are located within walking distance of residents. They provide central green space and social gathering places within Neighborhoods and offer predominantly passive recreation and minor active recreation opportunities within a local residential or mixed-use neighbourhood. These parks can develop connectivity within Neighborhoods, provide interesting focal points, enhance built form and contribute to community character, providing a place for residents to interact, children to play and social events to occur (Beaver & Callister, 2006)

Mini parks can be expensive to construct and maintain on a per unit basis but can be very valuable in Neighborhoods that do not have parks or open space in close distance (Beaver & McAlister, 2006).

According to various design guides for different cities, various design criteria have been defined for Mini Park, some characteristics and design criteria for mini parks are as follow:

- Their sizes are about 0.2 hectare minimum to 1.0 hectare maximum
- Their typical densities are about 50 persons per hectare
- Their visit time length is 10 minutes to 1 hour
- They are reached by 5-10 minutes walking from the neighborhood
- Located along local roads and linked to the green space network

- There should have a direct access from houses, by connection with sidewalks or a bike path preferably
- For the opportunities of active and passive recreation range there should be; shade structures, play equipment, seating, and an unstructured area for playing.
- With respecting the privacy of residents there should be a fencing 1.2 meters. And shrubs that are generally 0.6 to 0.9 meters, they are themselves a barrier for the park, and the people living around the park still can see the park from their yards and enjoy from the view. The facilities which should be in these parks are playground for children, open grass play area, shelters and tables for picnic. There should be a drinking fountain in furnishings, seating, a street light, and a sign that can be recognized by passer-by.
- Car parking is not required.

(Beaver & Callister, 2006; Monteith, 2009; Ottawa, 2015).

2.4.3.2 Neighborhood Parks:

Neighborhood Parks serve as the central point of a neighborhood, provide active and passive recreation opportunities, and offer a local gathering space within walking distance of local residents (Ottawa, 2015).

“Neighborhood parks provided at a rate of 1.0 hectares per 1,000 residents. The parks provide for both passive and active outdoor recreational facilities, as well as limited indoor facilities” (Griggs & Godon, 2013).

“Neighborhood parks should be easily accessible. Typically, a Neighborhood park is about 1.6 – 5.0 hectares in size and consists of a playground, picnic shelter or picnic area, basketball court, open space play/practice fields, and a perimeter exercise trail. In some cases, Neighborhood parks may be smaller, but in order to be classified as a Neighborhood park with recreational amenities, the recommended minimum size is 1.6 – 2.0 hectares. Whenever possible, Neighborhood parks should be located adjacent to elementary or intermediate schools to maximize cooperative use of recreation facilities. Since it is designed to service those within walking

distance, features such as parking areas, scheduled athletic fields, or restroom facilities may not exist or be limited” (Healthy Places and spaces, 2009).

Neighborhood parks can contribute to children being more physically active.

Neighborhood parks services different age groups, especially youth, it has limited parking in some cases. It is for one to two hours of experience. 800-meter service radius is desirable location. Ideally, these facilities should be in conjunction with schools and cantered within safe walking and bike access. They should serve a population within a comfortable walking distance of the park Virginia, 2014).

Location and Access: “Neighborhood parks should be located to serve local residential neighborhoods, broader residential communities and/or urban employment or mixed-use centers. Pedestrian, bicycle and/or car access is appropriate depending on the setting and access features. School grounds also serve as Neighborhood parks and should be treated with the same experiences and length of stay” (Charlottesville, 2015).

According to various design guides for different cities, various design criteria have been defined for Neighborhood parks, some are as follow in brief;

- The purpose and function of Neighborhood Park is primarily serving local residents, acting as a central point of the Neighborhood that brings residents together. Its usage is for passive enjoyment and limited amounts of active recreation.
- Their size is about minimum 1.6 hectare and 5 hectares maximum.
- Their typical densities are about 40 to 100 persons per hectare.
- Their visit time length is 30 minutes to 1.5 hour.
- There should be visibility in their location for good access
- Their service area distance should be 400 to 800 meter, 10 minutes by walking.
- They are generally located along local roads.
- These parks should also be linked with greenery network of the city.

- Their facilities are: sports facilities are in limited amount, playing equipment, places for picnic, places with shade structures and seating, small fields for sport, for active and passive activities should be also organized.
- Access to park: on foot, sidewalks and safe crossings. Connections with bikeways and pedestrians.
- Their standard service area is 1 hectare per 1000 residents.
- Lighting: lighting for visibility and security must be provided properly in walkways and sport fields.
- “Vegetation Criteria and naturalness: Planting (trees, shrubs, and grasses) shall comprise of diverse species tolerant of urban conditions, with an emphasis on native species. Larger areas of grass, a field or two for organized sports and plantings of decorative vegetation with shade trees” (Beaver & Callister, 2006; Griggs, 2013).

2.4.3.3 Community Park

“Community Parks serve a particular community or group of neighborhoods, providing a range of recreational opportunities, and should be well connected to the larger community” (Ottawa, 2015).

Community parks contain bigger parks that answer the necessity of larger geographic areas of the city and supply different indoor and/or outdoor recreation facilities and park experiences. Parts of these parks may be designed for natural and/or cultural resource conservation (Charlottesville, 2015).

Community parks size is generally between 3.2 to 10 hectares, they are calculated as 1.2 hectares per 1,000 residents. They provide passive and active recreational facilities.

Location and Access: These parks are located throughout the city. Access should be available by the major roads and the regional greenway network to encourage

pedestrian and bicycle trips; public transit access is also desirable (Charlottesville, 2015).

Access may be through secondary roads where possible. There should be Parking on site or on a shared proper location. Their service area is 4.8 km. their size will be 3.2-10 hectares, serving several Neighborhoods (Virginia, 2014).

According to various design guides for different cities, various design criteria have been defined for community parks, some are as follow in brief;

- The purpose and function: Community Park serves several Neighborhoods, acts as a focal point and gathering space for these Neighborhoods. Provides specialized features, compared to neighborhood parks community parks have a higher level of usage and function.
- Their size is generally not less than three hectares, minimum 3.2 hectares and maximum 10 hectares.
- Their typical densities are 50 to 200 persons per hectare.
- Their visit time length is 30 minutes to 3 hours.
- Their typical characteristics are: They are located in busier community areas, fronting on collector or arterials streets generally at major intersections. Within reasonable walking distance (e.g. 15-minute walk). Their service area distance extends up to 5 km.
- Facilities: Some active recreation or organized sports facilities. May include community centre.
- Park access and Connections: Can be accessed on foot, trail and bikeway access.
- Service Standard 1.2 hectare per 1000 residents
- Lighting: For better security and visibility lighting should be provided properly for all places like walkways, parking, sport fields (Monteith, 2009; Publique, Ottawa, 2015).

2.4.3.4 District Park

These parks are used for city wide functions. They are used to serve group of communities or specific districts. Also, they are designed as major destinations for residents and visitors or even for tourism. (Ottawa, 2015).

According to various design guides for different cities, various design criteria have been defined for district parks, some are as follow in brief;

- “Purpose and function: Serve several communities. Acts as a recreation hub providing specialized functions and Programs. Higher level of use and activity compared to Community and Neighborhood parks. Also provides areas of passive use, typical of a Neighborhood Park to adjacent residents, especially when a Neighborhood park is not nearby” (Monteith, 2009).
- Their sizes are minimum 10 hectares, maximum 25 hectares.
- Their typical densities are 50 to 1000 person per hectare.
- Their visit time length is one to five hours.
- Facilities: In these types of parks there are many sports facilities, community centers, sports fields for football, soccer basketball courts, tennis courts etc.
- Access to park: should be accessible by walking, trail, bikeways and driving. Should have parking site.
- Lighting: For better security and visibility lighting should be provided properly for all places like walkways, parking site, sport fields. (Monteith, 2009)

2.4.3.5 Regional Park

Regional parks are provided to meet special city needs and serving a regional function such as a fairgrounds or major indoor and outdoor recreation complex (Lowery, 2013).

The size is normally 25 to 500 hectares. “Sensitive environmental areas and cultural resource sites may be managed as natural or cultural resource sub-units of these parks. Depending on the density of surrounding communities and normal

traffic constraints, the service area generally extends up to 8 kilometers” (Monteith, 2009).

For providing direction and information to visitors, entrance and significant locations must have signage. For creating a quiet and serene space for passive recreation areas, active areas should be separated from passive areas. Facilities in these parks are: amphitheaters, playing equipment for children, restroom, accessible pathways, sport fields and un-programmed play space. Furnishing includes: drinking fountains, trash receptacles, bike racks, table and benches, signage at entrances and all big trail intersections and utilities (should not be limited to these). Properly construction of pathways Town (Beaver & Callister, 2006).

These parks may be located in an area of the City where available land can support a large-scale park facility. Access should be available by the major arterials and the regional greenway network to encourage pedestrian and bicycle trips; public transit is required. The service area is typically larger than 10 kilometers, including areas outside the City limits. Park size is a minimum of 25 hectares. Parking must be provided (Charlottesville, 2015).

According to various design guides for different cities, various design criteria have been defined for regional parks; some are as follow in brief;

- Purpose and function Serve users from across the city Provides natural environment connections, specialized functions, features and programs, and accommodates higher levels of activity for the entire city. Can connect to other City Parks through natural features and trails. Acts as a destination for tourists visiting the city. Also provides areas of passive use, typical of a Neighborhood. Park to adjacent residents, especially when a Neighborhood park is not nearby (Monteith, 2009).
- Their sizes are 25 hectares to 500 hectares and more.

- Their typical densities less than 150 person per hectare Between 10 and 15 hectares per 1000 population should normally be designated for the creation of regional parks.
- Their visit time is 2 hours to one day
- Typical characteristics: Service area generally extends more than 10 kilometers.
- Facilities: Range of facilities e.g. large-scale recreational activities - field sports, archery, canoeing, nature trails etc.
- Typical Activities and Events Specialized passive and active recreation activities. Programmed and non-programmed sports and recreation activities. Enjoyment and interpretation of park features with cultural, heritage or natural environment significance. Community events and gatherings as well as local passive use. Gardening and enjoyment of nature. Examples: Family and community picnics; Theatre and performance; School Sports Day; Fundraising walks and runs – staging, gathering, routing; Food and Craft Markets; Community gatherings; Sports Tournaments (Simonds 1978).
- Connection and accessibility of these parks: should be accessible by walking, bikeways, driving and transit.
- Lighting: For better security and visibility lighting should be provided properly for all places like walkways, parking site, sport fields (Simonds, 1978).

2.4.3.6 Natural Resource Areas

Natural resource areas are lands save for protection of important natural resources, open space, remnant landscapes, and buffering of visual aesthetics.

These natural areas can be appeared in the form of river greenway areas, natural drainage ways, wetlands, creeks, steep hillsides, habitat protection areas, important tree clusters or plant materials, or where the protection of an open space area provides a visual relief from the images of the built and urbanized environment (Griggs, Hood, & Huffington, 2013).

According to various design guides for different cities, various design criteria have been defined for Natural Resource Areas; some are as follow in brief;

- Their sizes are 25 hectares to 1000 hectares and more.
- The typical densities of natural resource areas are less than 10 persons per hectares.
- Their visit length time is half day to a week or more than that.
- Their facilities are few if any active recreation or organized sports facilities.

2.4.3.7 Greenbelts/Greenways/Trails

Greenbelts preserve large contiguous natural areas for riparian habitat, water quality protection, and aesthetic values. Greenbelts also protect multiple-use greenways and natural open space in more urbanized areas of the city for recreation, aesthetic values, water quality protection, and non-motorized transportation routes between major destination points (Griggs & Hood, 2013).

2.4.3.8 Linear Park

Green open spaces that builds connections or natural corridors that connects community destinations with each other. Typically, the linear parks are developed for one or more modes of recreational travel such as walking, jogging, biking, in-line hiking, skating, and horseback riding (Design Standards Manual, 2014).

2.4.3.9 Special Purpose Parks

Parks that are provided for community with unique purpose are called special purpose parks. For example, a park of sub-unites of parks which are designed as a natural, historical or cultural resource.

According to their specific location their size and accessibility will vary (Griggs, Hood, & Huffington 2013). Skate Parks, Metro Parks, and Signature Parks are considered as special purpose parks.

2.4.4 Strategies for the Management of Urban Parks and Open Spaces

Different models may be used for the development and management of urban parks and open spaces. According to Garvin and Berens (2001) first model concentrates on **public sector model**, second one concentrates on the **partnership of public and private sector** and, the third model concentrates on **market oriented civic model**.

First model: The first model is just public-sector approach, under pressure from a neighborhood, an individual, the business community, or a politician, a city decides to provide a new park or renovate an existing one. Designs are carried with accepting upon (frequently with involvement of some citizen), making construction estimates, and allocating public money. When the park is built, it will be under the control and management of the parks department.

Second model: In the second model, the public sector maintains ownership and responsibility for the park, but covers with the private sector for development or redevelopment through traditional fundraising programs, benefactors, donations, etc. After completion, the park will be fully under public sector purview, although the private sector may continue to be involved through special fundraisers for various programs or improvement, or through concessions or sponsorships that provide supplemental revenue.

The third approach, which can be called the market-oriented civic model, is newer and more controversial: it relies on a long-term partnership between the public and private sectors for park development and management. Using mechanisms such as a non-profit development corporation or a business improvement district (BID), this approach brings together private sector responsiveness to market needs, dedicated taxes from surrounding property owners, private donation, better accountability to user needs, and revenue-producing functions to provide for the improvement and management of parks and open space for all (Garvin & Berens, 1997).

According to Garvin and Berens (2001) different strategies may be developed for parks at different parts of the cities. First of all, it is necessary to develop strategies for the already developed parks, secondly streets may be transformed as urban open public spaces and strategies may be developed accordingly. Recently strategies are being developed to transform highways into parks. Waterfronts may be designed as urban parks and recreation areas. Property owners may also contribute to the urban open space developments.

2.4.4.1 Retrofitting Streets as Pedestrian Open Space

Almost half a century has passed since Architect Victor Gruen proposed an obvious solution: banish motor vehicles from selected streets and retrofit them as public open spaces. Such “pedestrianized” streets can then be designed and managed in a manner that allows city centre traders to compete with those in shopping centres (Garvin & Berens, 1997).

2.4.4.2 Reviving Dead Underused or Unused Space

Dead Underused, unused, or unusual space such as underground parking garages, piers air rights, and floodplains can be successfully transformed into viable open spaces and parks. In Harlem, the state of New York provided the most needed recreational facilities by building Riverbank State Park atop a wastewater treatment plant. Load capacities were planned carefully and the use of lightweight materials without any negative effects to the integrity of the park design (Figure 2.11).



Figure 2.11 Revive Dead Underused or Unused Space. (Riverbank State Park, 2015)

2.4.4.3 Transforming Highways into Parks and Open Spaces

Reclaiming highways, another attractive way to increase public open space, also requires virtually no expenditures for acquisition and no lengthy land assembly process. Freeway Park in Seattle is the most imaginative example of this strategy (Garvin & Berens, 1997).



Figure 2.12 Transforming highways to Public Green Open Spaces. (Freeway Park in Seattle, 2016)



Figure 2.13 Transforming highways to Public Green Open Spaces. (Freeway Park in Seattle, 2016)

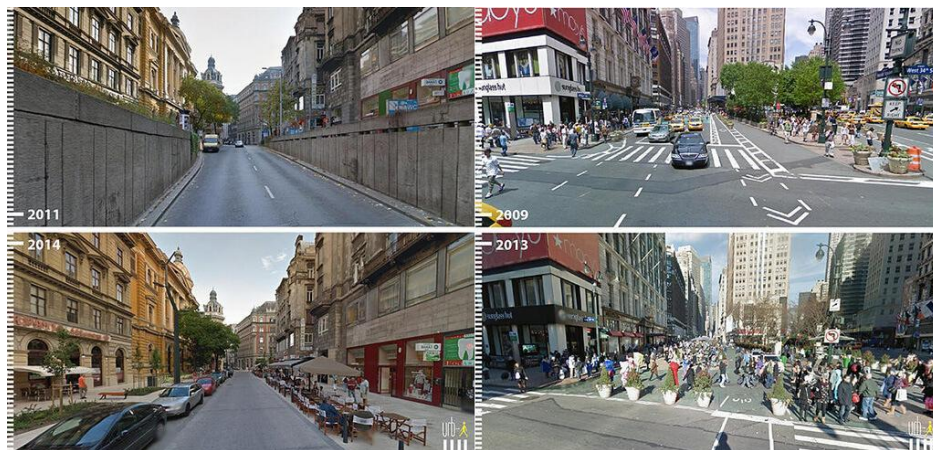


Figure 2.14 Transforming highways to Public Green Open Spaces, Left: Ferenciek Tere in Budapest, Hungary. Right: Herald Square in New York City (New York, 2016)

There are also daily transformation activities, such as “Sokaklar Bizim, streets are ours”. They transform the street into a playground, pedestrian way (open space) for a day and then it continues as street during the year.



Figure 2.15 Transforming highways to Public Green Open Spaces, Diagonal Pedro Aguirre Cerda, Concepción (Chile, 2016)

2.4.4.4 Reclaiming Waterways as Public Open Space

Perhaps the most charming way to recapture public open space is to make waterfronts accessible and attractive. Too many oceanfront, lakefront, and riverfront land are currently hazardous, ill maintained, or occupied by land uses that prevent public use. Moreover, in some cases these waterfront areas have a blighting effect on neighboring communities (Garvin & Berens, 1997). Therefore, it is significant to pay attention and take care of waterways.



Figure 2.16 Reclaiming Waterways as Public Open Space. (The Bayou City: Reclaiming Houston's Signature Waterways, 2016)



Figure 2.17 Reclaiming Waterways as Public Open Space. (The Bayou City: Reclaiming Houston's Signature Waterways, 2016)

2.4.4.5 *"Public" Open Space on "Private" Property*

The least expensive way to make public open space in developed areas is to have property owners create, manage, and maintain it. Municipalities may help the owners to create urban open spaces from the private land according to the legislations of the government.

2.4.5 Programming Parks

Programming activities in the park is good to keep the parks active and it is also good for its maintenance. It is essential to find the suitable activity for every park.

Keeping the parks and open spaces public clean and well maintained is quite important. Users tend to respond to a pleasant, well-designed space with pleasant, orderly behavior.

The municipalities are responsible to orient their programs for responding the demands of adults and older adults for their “active living” or “wellness” philosophy. Making schedules for organized sports facilities. Providing a higher quality of life for people with creating and managing parks and green areas in effective way to be used also for non-programmed recreation and cultural activities and can be used for all ages. Managing public picnicking areas, outdoor barbeques, etc., especially for different ethnic group populations.

Education and public awareness for specific issues of park, making aware of people from the benefits of environmental protections (Monteith, 2009).

2.4.6 Designing with a Vision

The power of imaginative design should not be underestimated. Visionary design can affect a park’s safety, viability, and usability, and surely affects its success in long-term.

Incorporating old uses and structures into the design of a park can also add character and provide an expensive link to the past. Building on the history of a site can provide an unusual and visually interesting theme and may be less expensive than clearing the site and creating a theme from scratch. The designers of Mill Race Park incorporated existing structures, added other historical structures, and designed a set of striking new structures for the park.



Figure 2.18 Old character inside the park, expensive linking with past. (Mill Race Park, covered bridge)

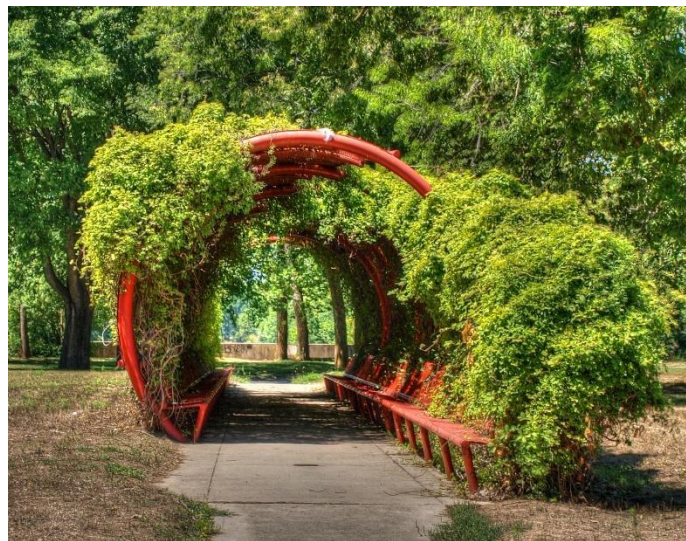


Figure 2.19 Old character inside the park, expensive linking with past. (The Crown Jewel, Mill Race Park, Columbus, Indiana, 2015)

What Is an Olmsted Park?

Bruce Kelly, landscape architect, found fifteen elements which make a landscape designed by Frederick Law Olmsted distinct:

- “They are man-made works of art”
- “They have their roots in the English Romantic style”
- “They reflect a Victorian influence”
- “They provide a strong contrast with the city”
- “They are characterized by the use of bold land forms”
- “They provide a balance between the spatial elements of turf, wood and water”
- “They use vistas as an aesthetic organizing element”
- “They contain a series of planned sequential experiences”

- “They provide for the separation of traffic”
- “They provide visitor services”
- “They contain artistically composed plantings”
- “They integrate the architecture into the landscape”
- “Each has provision for a formal element”
- “They were characterized by variety”
- “They were built to provide for recreation” (Kelly, Simpson, 1981.

One of the designed parks by Frederick Law Olmsted is Central Park, this park was established in 1857 on 315 ha, and in 1873 expanded to its current size of 341 ha.



Figure 2.20 Frederick Law Olmsted, Olmsted Park (Central Park, n.d.)

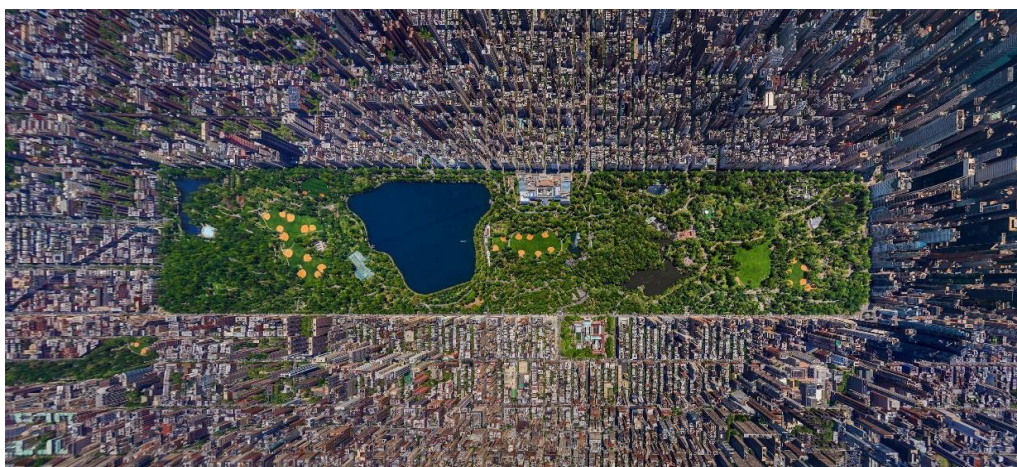


Figure 2.21 Frederick Law Olmsted, Olmsted Park (Central Park, n.d.)

2.4.7 Design Strategies for the Active Use of Parks

While designing and enhancing recreations and park facilities and services; the local trends, the participants in parks for specific activities trends, designing facilities for delivering programs and facilities must be studied.

Parks should be design for whole the community, children, young ones, old ones, disabled people, retired ones. During the design process people must be also involved what they need what they want and what is their necessities should be listened.

2.4.7.1 Design for All

In different stage of life (child hood, adolescence, early and old age of life) different types of green open spaces can be used. Parks must be designed for everyone, for the community, for special groups like disabled people, for elderly retired ones

Several user groups come to parks and spend their time a lot or would like to. But some groups needs are often not understood or incorporated into the parks' design. These groups are the elderly, the disabled, preschool children, school aged children, and teenage (Marcus & Francis, 1997).

For the elderly who may be bored or lonely need to spend time in a nearby park to their houses. For some, this is not a time of life for active recreation or even active socializing; rather, it is a time for reflection and observation of the passing world (Marcus & Francis, 1997).

Some older people, however, many go to the park to seek friends. A park, if properly designed and located for ease of access, can satisfy enough of the elder's social needs to support a regular senior constituency.

Almost everyone is disabled at some point in their lives, whether by illness, accident, or old age. Physical disability should not preclude enjoyment of the outdoors; indeed, the curative powers of exercise and contact with nature have been realized long time ago. When designers create environment without any barrier, the result is frequently place that is more comfortable also for people without apparent disabilities. For example, curb cuts intended for wheelchair users are convenient also for bicyclists, skateboarders, and people wheeling shopping carts or baby strollers.

While it is not possible to foresee the necessity of every individual, the limitations of most common disabilities can be minimized by manipulating the physical environment.

2.4.7.2 Public Involvement in the Design Process

Urban spaces are for people, but before talking about the users and their open space needs, the main factors which affects people's possibilities to use urban spaces is the main partners in planning and design process (Planning for and with all stakeholders, 2010).

Encouraging the involvement of residents in the design process. At Chicago's Elliott Donnelley Youth Centre Park, a design Charrette was held in which the children who would be the park's ultimate users dressed up as pieces of playground equipment and situated themselves in various places on the future playground. Involving the children in decisions about where each piece would finally be set up helped ensure their ongoing commitment to the park and its maintenance.

Residents finally feel a sense of ownership when they have been active participants in park development. In other words, cleaner, safer spaces will be active used, not avoided or abandoned. Public participation also helps generate local support for use of the park and for protection from vandals. And active community involvement helps win political support for public funding of parks in general, which can be matched with private funds.

CHAPTER THREE

THE CASE OF KARŞIYAKA

This section covers the introduction of Karşıyaka district; location, population quantity, the density of population according to every neighborhood and green area distribution per person with the comparison of world standards and Turkish law standards confirmations. Then there is a brief explanation about master plan of Karşıyaka district, the existing quality and quantity of parks and green areas in this district, hierarchy of parks, evaluation of existing parks, explanation and analysis of surveys which are done by researcher and users in Karşıyaka parks.

3.1 Location of Karşıyaka District in the City of İzmir

The case study Karşıyaka district is located in the City of İzmir, in Turkey. The district was firstly emerged in the north of İzmir bay foothills of Yamanlar Mountain. At the east of Karşıyaka, Bayraklı district and at the west of Karşıyaka Çigli districts are located. At the south of Karşıyaka is the Aegean Sea, and in its north, Yamanlar Mountains are located. The major part of residential areas in the city are on plains near to the seaside. The neighborhoods such as Cumhuriyet, Mustafa Kemal, İnönü are at the foothills and the other residential areas are at sea level (Karşıyaka Municipality, 2016).

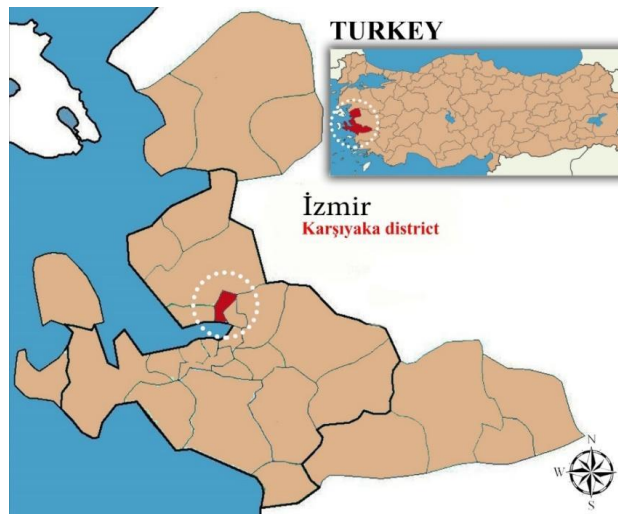


Figure 3.1 Karşıyaka district location in İzmir city

Karşıyaka district plan is provided by Karşıyaka municipality for the purpose of guiding map. (Figure 3.2)



Figure 3.2 Karşıyaka district plan (Karşıyaka municipality, 2015)

3.1.1 Demographic Characteristics of Karşıyaka District

Karşıyaka population is 0.4% of Turkey's population, 7.9% of İzmir's population and 3.25% of Aegean Region's population. Karşıyaka is İzmir's fifth district in terms of population size. Total population of the district is 338,485.

152,353 of the population are male and 169,517 are females according to 2013 population number.

Table 3.1 Karşıyaka population (TUIK, 2018)

YEARS	KARŞIYAKA POPULATION	İZMİR POPULATION	TURKEY POPULATION
2009	304,22	3,525,202	72,561,312
2010	309,79	3,606,326	73,722,988
2011	311,931	3,623,540	75,627,384
2012	315,008	3,661,930	74,724,269
2013	321,870	4,061,074	76,667,864
2016	338,485	4,223,545	79,814,871
2018	344,140	4,320,519	82,003,882

According to the age group profile, 15% of the population in Karşıyaka is 1-15 years old. 70% of the population is between 15 to 64 years old, as it is considered for the workable workforce. 15% of the population is non-workable age group of 65 years old. It is seen that the middle age group as workable workforce is dominant in Karşıyaka district.

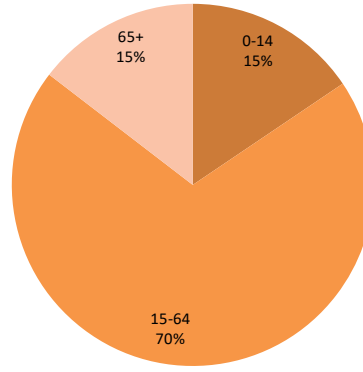


Figure 3.3 Population Age Group in Karşıyaka District (TUIK, 2018)

Population distribution according to age and gender indicates that, female gender is more than male in the district. (Figure 3.4)

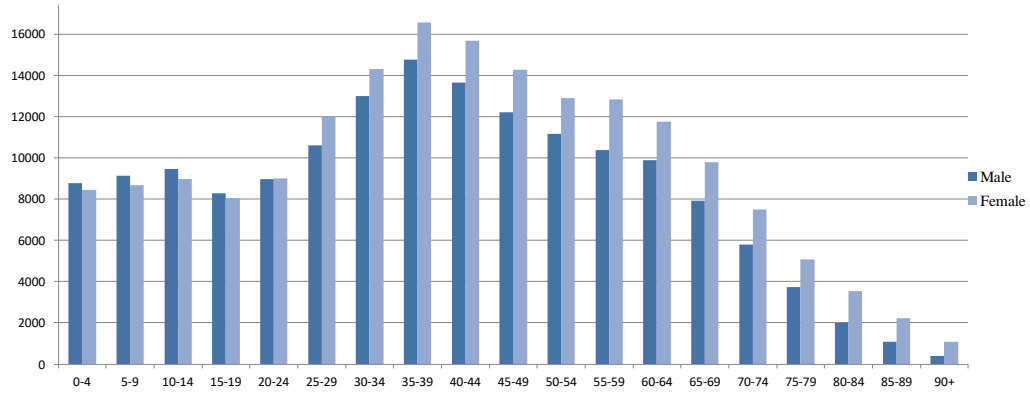


Figure 3.4 Population Distributions According to Age and Gender Groups in Karşıyaka District (TUIK, 2018)

As it is shown in the Figure 3.5 population density in Karşıyaka is in high range even all over Turkey. There are 5206 persons per kilometer square living in this district. It is due to the fact that the district contains mostly residential neighborhoods.

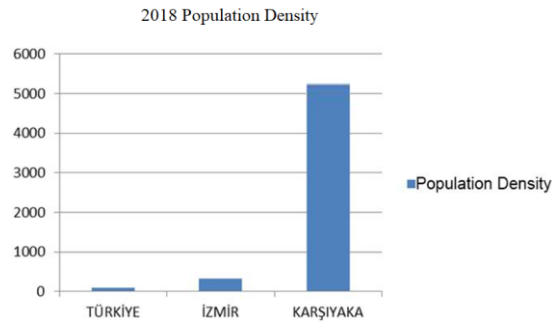


Figure 3.5 Population Density in Karşıyaka District

According to the population data of 2018, the population density of Karşıyaka is 5206 P/km². According to the Figure 3.6 Neighborhoods with the highest density of population have the lowest level of green areas. The north and west part of Karşıyaka is developed vastly with its crowded population. However, south and east parts of Karşıyaka district has the highest gross density per hectare with its old built areas and narrows streets. Therefore, the green areas and open spaces are most insufficient in this part of the district.

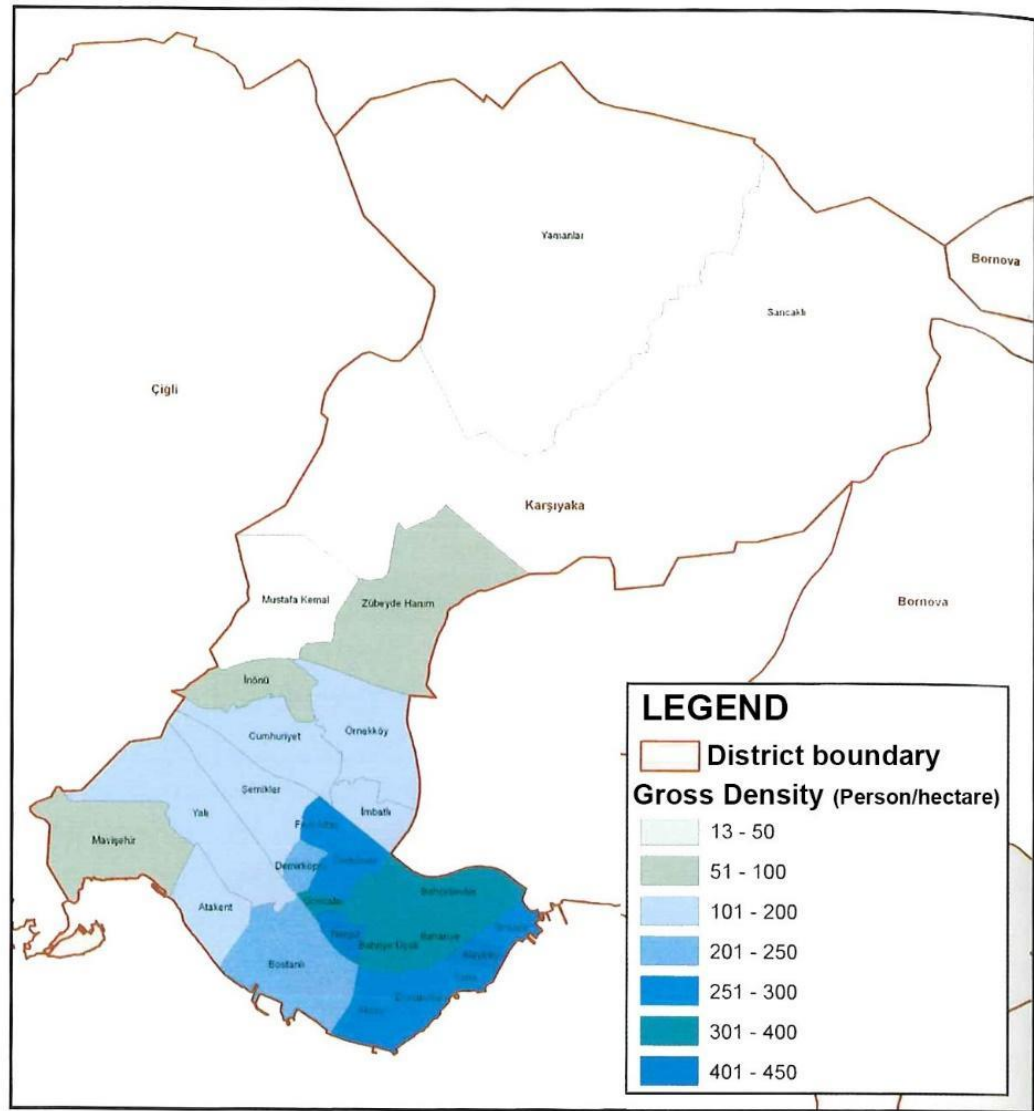


Figure 3.6 Spatial Distribution of Population in Karşıyaka District, according to Gross Density or person per hectare (TUIK, 2011)

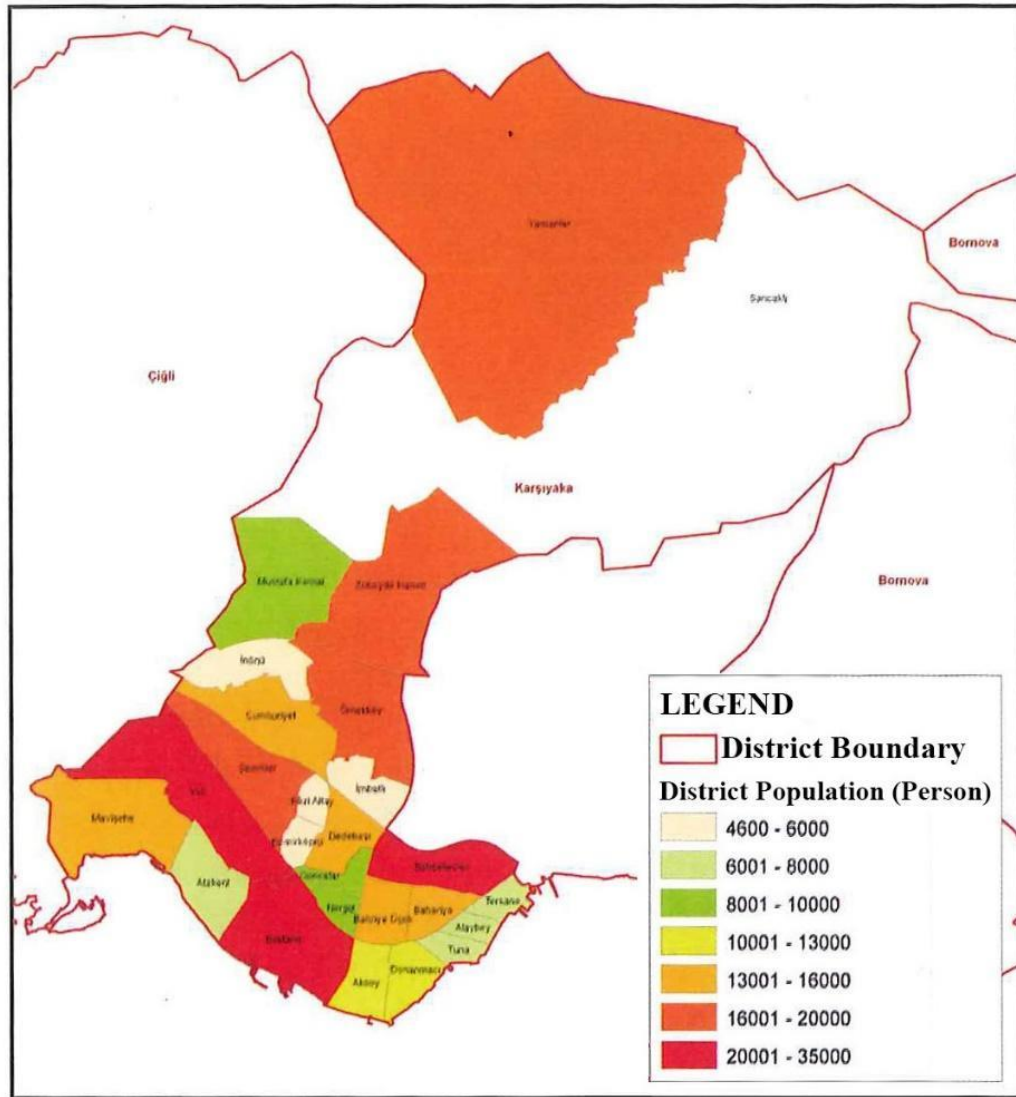


Figure 3.7 Spatial Distribution of Population in Karşıyaka District, according to neighborhoods population (TUIK, 2011)

3.1.2 Karşıyaka Master plan

The approval date of first stage master plan of Karşıyaka Master Plan is 07/03/1984.

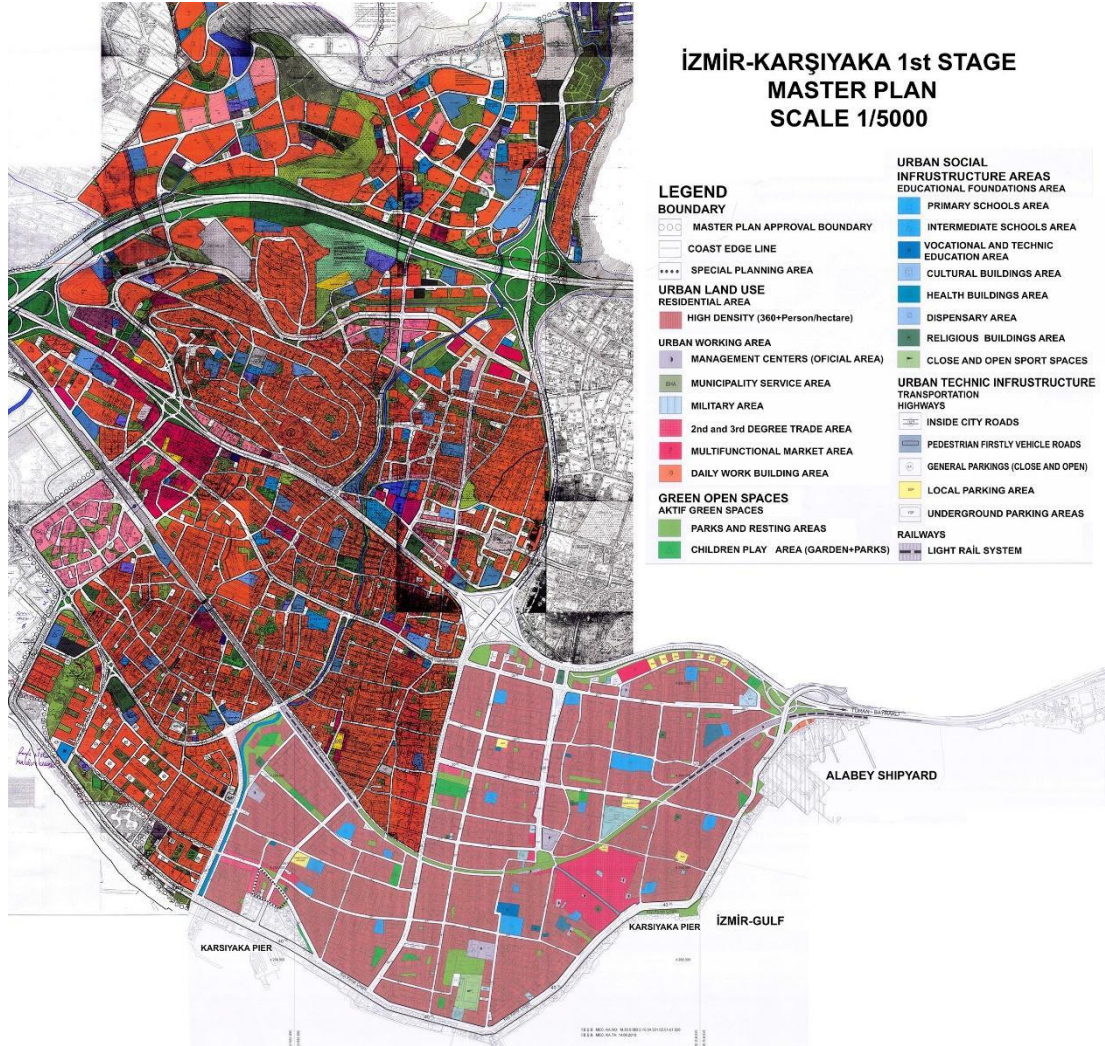


Figure 3.8 Karşıyaka first stage master plan (Karşıyaka municipality, n.d.)

The Parks and Green Areas in Karşıyaka Master plan

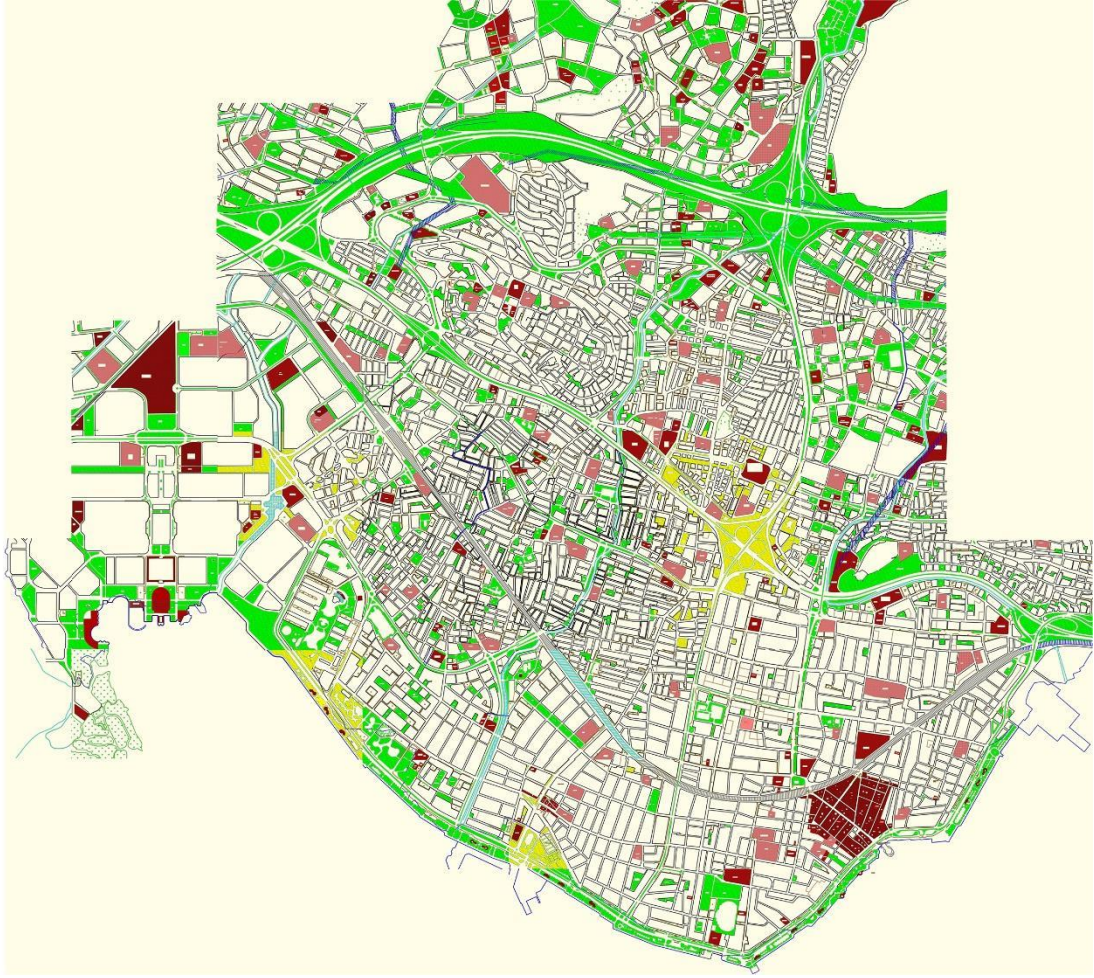


Figure 3.9 Parks and Green Areas in Karşıyaka Master plan (Karşıyaka municipality, n.d.)

Land use analysis of Karşıyaka district

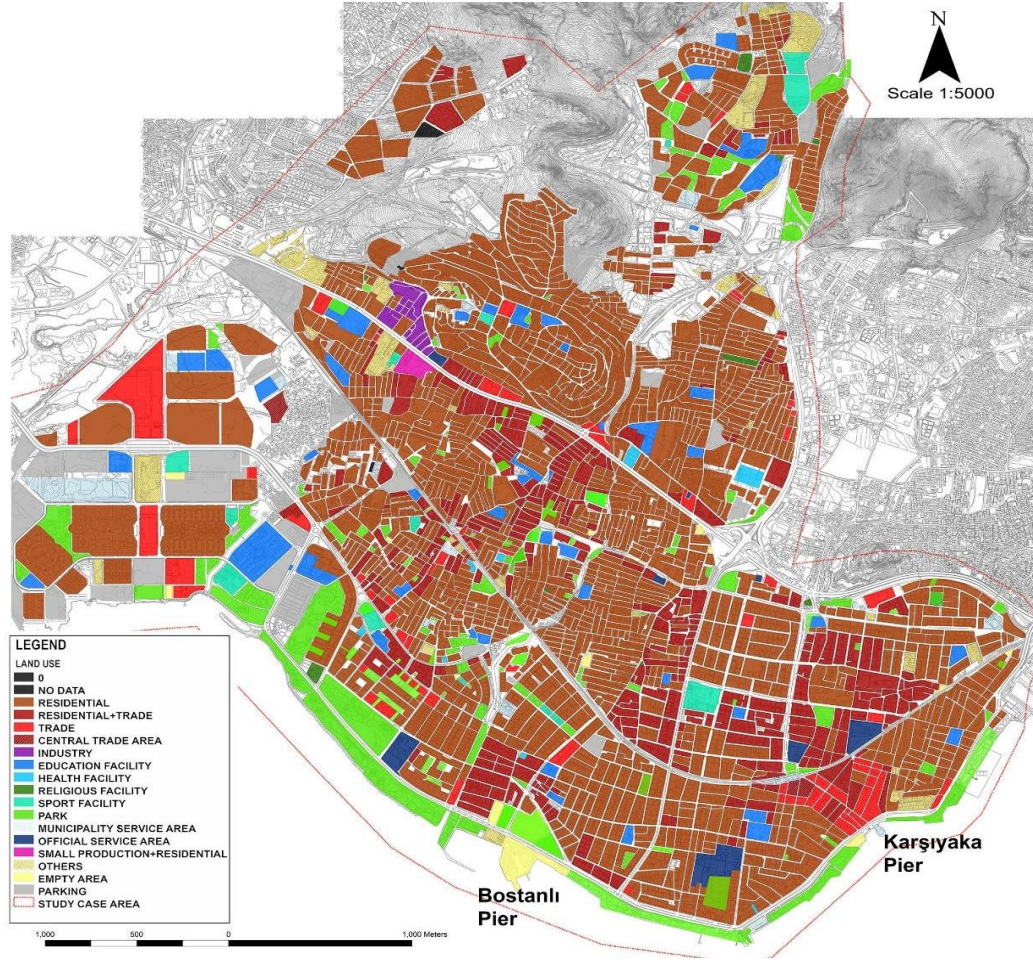


Figure 3.10 Land use analysis of KARŞIYAKA district (Dokuz Eylül University, Architecture Faculty, City and Regional Planning Department, 3rd Year Class Students Studio Project, 2015)

3.2 The Quantity of Existing Parks and Green Areas in Karşıyaka

In this part of the thesis, the existing parks of Karşıyaka will be examined, the hierarchy of parks, the current condition of the parks, the amount of green area per person in different neighborhood of Karşıyaka is evaluated with two types of survey; one by researcher and the second one doing survey on the users of parks about the conditions of parks and their need demands and complaints about the parks.

According to **International Standards Organization (ISO)** standards and **The World Health Organization (WHO)**, it has been suggested that for every city inhabitants, there should be a minimum of 9 m² green area per person. An optimal amount would be allocated among 10 to 15 m² per person. According to the Turkish Law System in 3194 no building law is written that minimum livability green area per person is 10 m².

One of the greenest cities in the world is Curitiba in Brazil, it has 52 m² green space for each of its inhabitants. In the Siemens Green City Index report (Munich, Germany 2012), Singapore and New York cities are called role models for spatial planning, that these cities both have been able in combining extensive green spaces with high population density. And as passive examples with low quality in terms of greenery and open spaces, Tokyo with just 3 m² and Buenos Aires with 1.9 m² of green space per person can be mentioned here. Thus Karşıyaka district also according to this calculation has just 2.85 m² green area per person.

In another calculation according to **American Society Planning Officials'** standards for recreational areas 12.5 percent of the total area of the city should be allocated for parks it means that Karşıyaka with 4157.4 hectare area should have **519.7** hectares parks, but according to the calculations and the data now there is only **96.5** hectare of green area (**Please see table 3.2**), there is a big gap between the necessity and current parks, in the other words Karşıyaka condition is considered as a district with high density of population and low supply of parks and green areas which are needed for the people who are living there.

The target for provision of excess green open spaces in the cities is not only for answering the needs of outdoor facilities and place for multi-use community center purpose, it is also provided for placing the city in a state to fulfill the demands of a fast-demographical rise (Monteith, 2009).

That is to say that green areas are also provided as reserved areas, forecasted the future development and expanding of the city and population growth, there should be calculated extra reserved areas for precaution.

At table 3.2, the population and areas of the neighborhoods and the green areas are shown. According to the table, the green area per person is distributed according to neighborhoods. It can be observed that just some neighborhood answers the necessity green area of the inhabitants as Atakent 20 m², Mustafa Kemal Neighborhood provides 7.5m² green area, but most of the other neighborhoods provide very less green areas, too far from world standards and Turkish law standards.

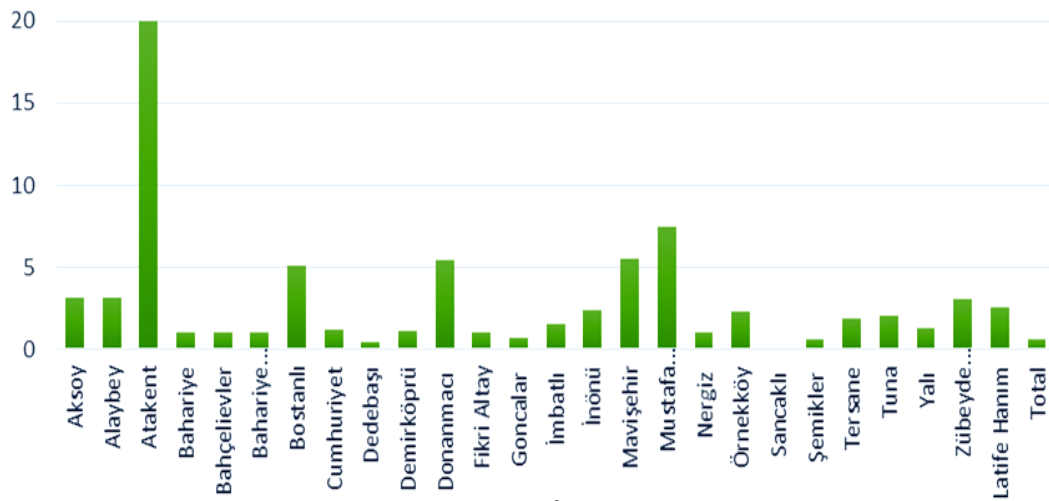


Figure 3.11 Green area m² per person (DEU, 2015)

Table 3.2 Distribution of Green Area in Karşıyaka District

Neighborhood	Population (2016)	Area (m ²)	Gross density Person per hectare	Current Green Area (m ²)	Green Area (m ²) per Person	Seaside Greenery Band (m ²)
Aksoy	12221	473442.3	258.1	38678	3.165	37428
Alaybey	7429	171775.8	432.5	23135	3.114	21885
Atakent	7052	704823.7	100.1	146646	20.795	84692
Bahariye	12845	356066.8	360.7	13258	1.032	-
Bahçelievler	27126	865446.7	313.4	18442	0.680	-
Bahariye Üçok	13680	444073.3	308.1	7555	0.552	-
Bostanlı	32555	1480929.9	219.8	165640	5.088	98605
Cumhuriyet	13923	1082961.5	128.6	16611	1.193	-
Dedebaşı	18377	510625.1	359.9	7946	0.432	-
Demirköprü	5905	198924.5	296.8	6375	1.080	-
Donanmacı	11595	434804.6	266.7	63169	5.448	61389
Fikri Altay	7055	185787.5	379.7	4440	0.629	-
Goncalar	9451	240144.3	393.6	6555	0.694	-
İmbatlı	5954	471870.8	126.2	9058	1.521	-
İnönü	7672	719208.1	106.7	18017	2.348	-
Mavişehir	13706	1558234.1	88.0	76045	5.548	-
Mustafa Kemal	9817	1706787.5	57.5	73395	7.476	-
Nergiz	8849	215648.5	410.3	750	0.085	-
Örnekköy	20500	1382295.8	148.3	46875	2.287	-
Sancaklı	173	8705041.2	0.2	0	0.000	0
Şemikler	24624	1123805.0	219.1	14645	0.595	-
Tersane	7011	250286.8	280.1	13210	1.884	10190
Tuna	6027	217251.1	277.4	12543	2.081	12543
Yalı	36208	1847702.3	196.0	45107	1.246	-
Yamanlar	120	13621393.1	0.1	81200	676.667	-
Zübeyde Hanım	16618	2604574.4	63.8	50965	3.067	-
Latife Hanım	1992	0.0	0.0	5082	2.551	-
Total	338485	41573904.5	81.4	965342	2.852	326732

3.3 Hierarchy and Evaluation of Parks in Karşıyaka

Generally, distribution of parks in Karşıyaka is as follow; Neighborhood Parks, Community Parks, District Parks and Regional Parks (please see Figure 3.12).

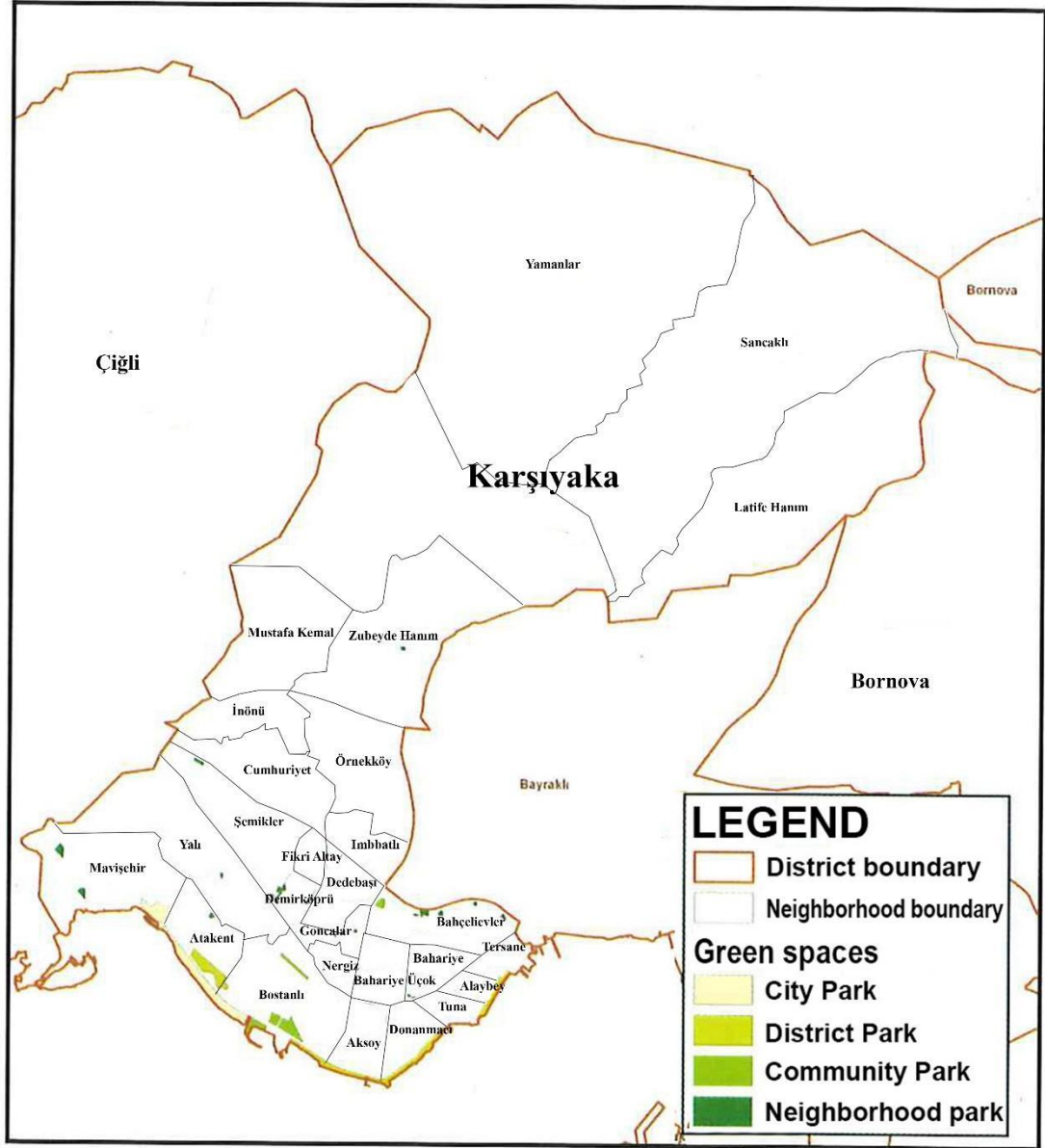


Figure 3.12 Distribution of Green and Open space in KARŞIYAKA (İzmir metropolis Municipality City Guide, 2012)

For more details of parks please see the attachment file, which contains existing parks in Karşıyaka with all details.

The quality of existing parks in Karşıyaka are rather low. Most of the old parks are in very low quality. The new parks are more qualified than the old parks. Still, according to surveys and research, new parks also have some problems that all characteristics are going to be explained one by one.

The parks that are evaluated in thesis are shown on the Figure 3.13 and are listed in table 3.3.

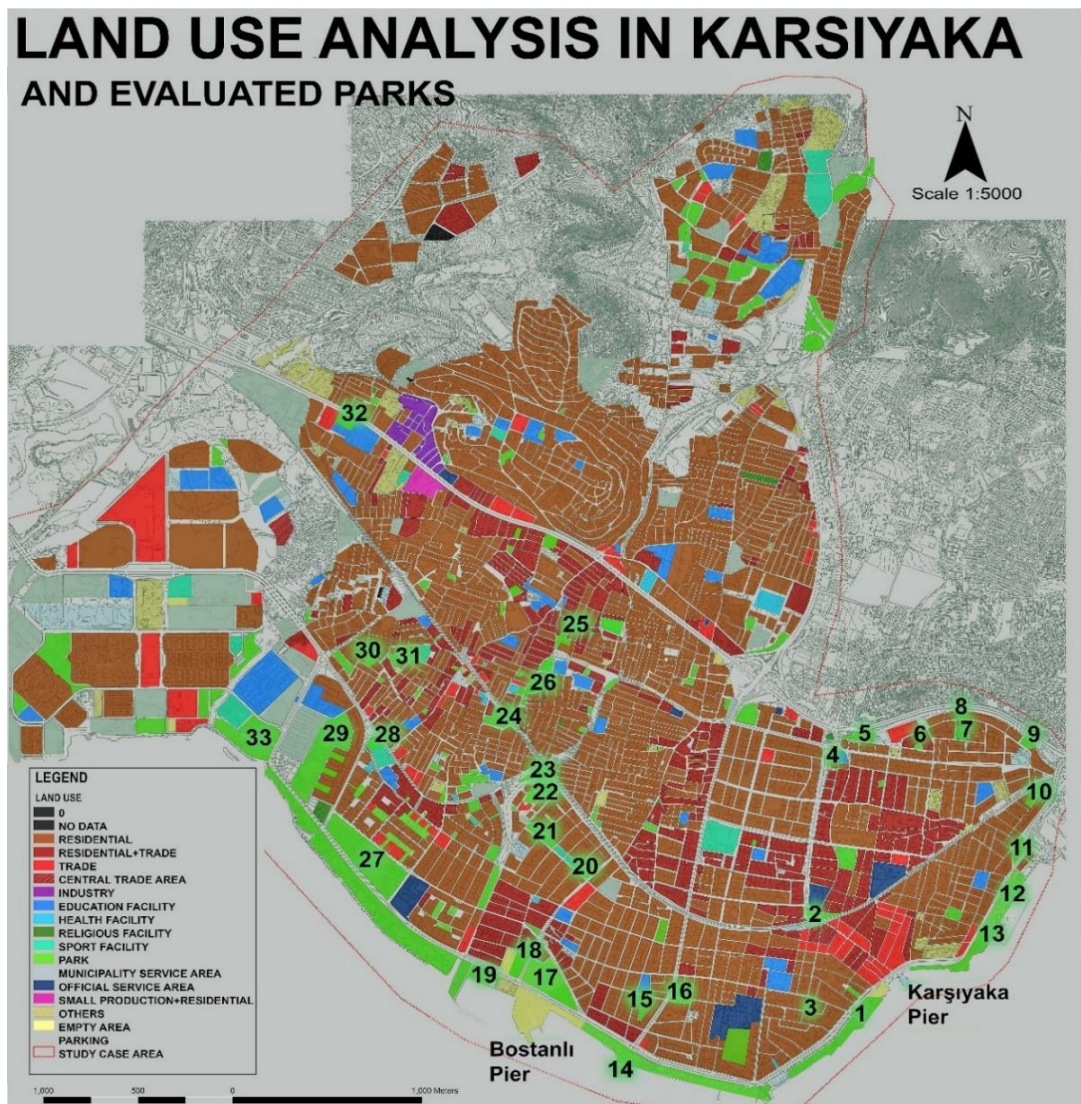


Figure 3.13 Evaluated Parks by The Researcher in Karşıyaka District Land Use Plan.

Table 3.3 The list of Evaluated Parks by the expert

No.	Name of the Park	Type of the Park
1	Karşıyaka Pier Park	Old Park
2	Yasa Park	Old Park
3	Zafer Alatay Park	New Park
4	Bersan dogan Tekin Park	Old Park
5	Sogukkuyu Park	Old Park
6	Ercan Gul Park	New Park
7	Tokadizade Sekibey Park	Old Park
8	Ahmet Buzkurt Park	Old Park
9	Bahceli Evler Park (Beside highway)	Old Park
10	Baris Selcuk Park	New Park
11	Sadrettin İscimenler Park	New Park
12	Muammer Aksoy Park (A)	Old Park
13	Muammer Aksoy Park (B)	New Park
14	KARŞIYAKA Yunuslar Park	Old Park
15	Dincer Sezgin Park	New Park
16	Gökhan Nil Park	Old Park
17	Bostanlı Guzel Sanatlar Park	Old Park
18	Hifzivedet Velidedeoglu Park	Old Park
19	Recep Gungor Park	Old Park
20	A.Hikmet Ayerdem Park	Old Park
21	Ilhami Yilmaz Park	Old Park
22	Ugur Mumcu Park	New Park
23	Tuncel Kurtiz Park	New Park
24	Tahir Turtekin Spor Tasisleri	Old Park
25	Mandalin Park	Old Park
26	Demir Ali Durgut Park	Old Park
27	Olof Palmi Park	New Park
28	Hasan Turker Park	Old Park
29	Ahmet Taner Kislali Park	New Park
30	Manolya Park	Old Park
31	İlyas Muskul Park	Old Park
32	KARŞIYAKA Anadolu Lisesi Park	Old Park
33	Şehitler Park	Old Park

The evaluation reports of each park are in the attached file. Each park is reported one by one with the captured pictures of important places of the parks from different angles and issues.

Within the scope of the study, Karşıyaka parks are examined and evaluated by two types of site surveys; the first one from the eye of a researcher and the second

one is based on the evaluation of the users. The survey questions are explained in details below. The survey consisted social, cultural and spatial variables and important data are obtained through interviews with the users of parks.

Evaluations will be explained, according to the obtained data and site analyses. The results of expert's survey and user surveys will be explained in details.

In the first part of the site survey, the researcher has examined and evaluated each 33 park located in Karşıyaka district. In the second part of the survey, from these 33 parks 6 parks were randomly selected for further examination. During the second part of the survey interviews were carried by the park users.

3 new parks and 3 old parks are the main study case parks for user survey. Survey participation rate is 60 persons in total, 30 persons of which in New parks and 30 persons in old parks. The survey included questions about the satisfaction, demands and complains of the park users and about the reasons for the visits to the parks and connections with the park.

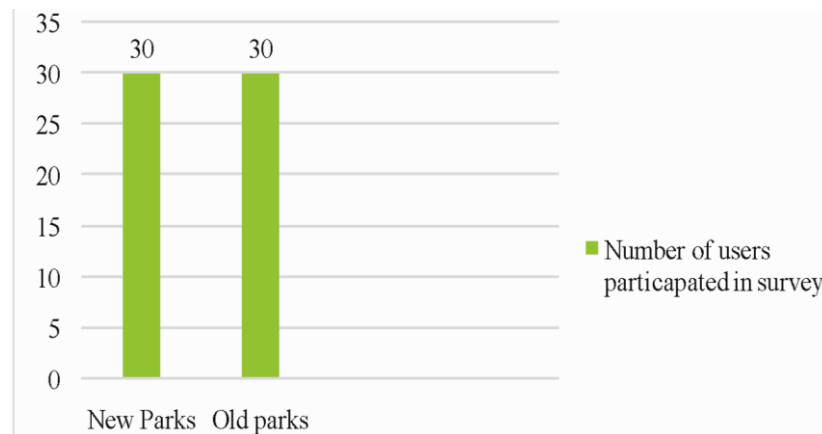


Figure 3.14 Survey distribution

3.3.1 Facilities in Karşıyaka Parks

Facilities are one of the important characteristics of parks for motivating people to come, stay and use them. For this reason, the selection of facilities is one of the most important steps of the design process. The service buildings, walking ways, parking,

entrances, vegetation, and greenery areas for sitting and playing should be facilitated. For this case study, it is evaluated and asked the user of the parks.

According to the comprehension of the user satisfaction about the facilities in the parks, it has been asked the users to grade the conditions of the parks. The results of the survey are imported into SPSS program. First of all, the mean value of the rating is taken for each park separately to know their independent conditions and the value of rating by users, then for these two types of park groups (Old Parks and New parks) the convenient method for comparing the mean values of these two groups ‘T-Test for Equality of Means’ is selected to know that; is there any significant different for facilities between mean of New Parks and Old Parks or not?

According to the results, the p-value is 0.012 and is smaller than 0.05. Therefore, there is a significant difference between facilities of Old Parks and New Parks. Users are more satisfied with the new parks in term of facilities.

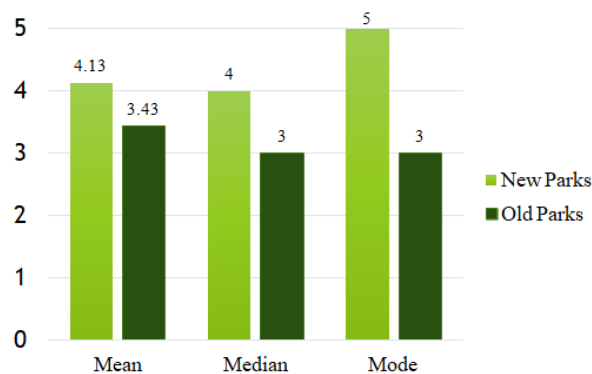


Figure 3.15 Facility graphs of User Survey Results in New and Old Parks

For example, Sogukkuyu Park as an Old Park is shown in the picture, there is a big lack of facilities, greeneries and etc (Figure 3.16 & 3.17).



Figure 3.16 Sogukkuyu Park pavements conditions (Personal archive, 2016)



Figure 3.17 Sogukkuyu Park general conditions (Personal archive, 2016)

But in the new parks, the facilities are better than old parks. For example, Dincer Sezgin Park.



Figure 3.18 Dincer Sezgin Park (Personal archive, 2016)

Expert's survey

The survey and evaluation of researcher were accomplished in 33 parks of Karşıyaka District, Old and new parks were evaluated according to the characteristics of a successful park and those characteristics were rated by the researcher observation via taking pictures of the study case parks.

In table 3.4 there is the result of data imported to SPSS program, the percentage of quality level of facilities in old and new parks are shown with the mean value of each parks' characteristics.

Table 3.4 Comparative Evaluations of Facilities

Characteristic	Type of Park	Very poor (1)	Poor (2)	Adequate (3)	Good (4)	Very good (5)	Mean (1-5)
Spatial Organization	Old Parks	0	34	18	0	0	2.26
		0.0%	73.9%	26.1%	0.0%	0.0%	
	New Parks	0	0	6	28	5	3.90
		0.0%	0.0%	20.0%	70.0%	10.0%	

The table 3.4 shows that 74 percent of the old Parks are not in the good condition of facilities they have poor quality; there is only 26 percent of those parks that they have the medium quality for the users.

Table 3.5 Comparative Evaluation of Facilities for Significant Difference

Characteristic	Type of Park	mean	Sample T-Test P Value
Facilities and Spatial Organization	Old Parks	2.26	0.817
	New Parks	3.9	

3.3.2 Accessibility in Karşıyaka Parks

Accessibility in parks is one of the important criteria. The important areas should be accessible to pedestrians, private cars, public buses and the other public transportation services. The environment should have a good relationship with the area. For children, youths, older people the area should be designed safe.

Users' survey

According to the comprehension of the user satisfaction about the accessibilities to the parks, users have been asked to grade the conditions of the parks. The results of the survey is imported into SPSS program, first of all, the mean value of the rating is taken for each park separately to know their independent accessibility conditions and the value of rating by users, then for these two types of park groups (Old Parks and New park) the convenient method for comparing the mean values of these two groups 'T-Test for Equality of Means' is selected to know that; if there is any significant different between mean values for accessibility in New Parks and Old Parks or not?

According to the results, the P-value is 0.973 and is bigger than 0.05. Therefore, there is not a significant difference between accessibility in Old Parks and in New Parks. So, in term of accessibility users are satisfied in both parks. Accessibility is good in most of the parks in Karşıyaka parks except some parks that they are not in good condition of accessibilities which are determined by the expert. Those parks are surrounded by vehicle streets or even they are crossed and separated to parts by cars, both in new parks and old parks, and are discussed and shown in the introduction to the study case.

The results for the question that how accessible the park is for the user are as following:

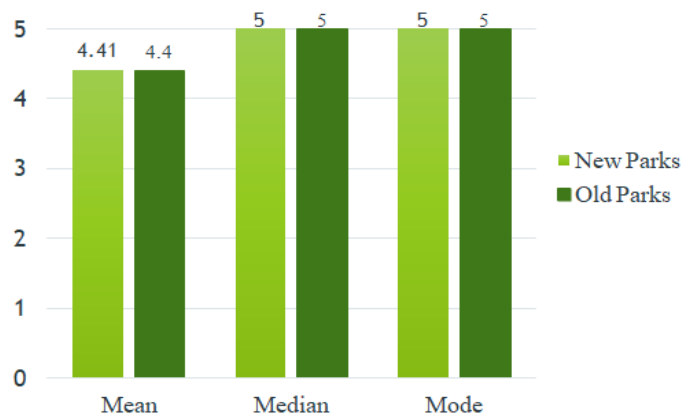


Figure 3.19 Accessibility graphs of User Survey Results in New Parks and Old Parks of Karşıyaka

It shows that the accessibility in the parks is satisfactory for the users.

According to the location of the park and house of the user, it is asked how they come to park, by walking or vehicle the results are as follow:

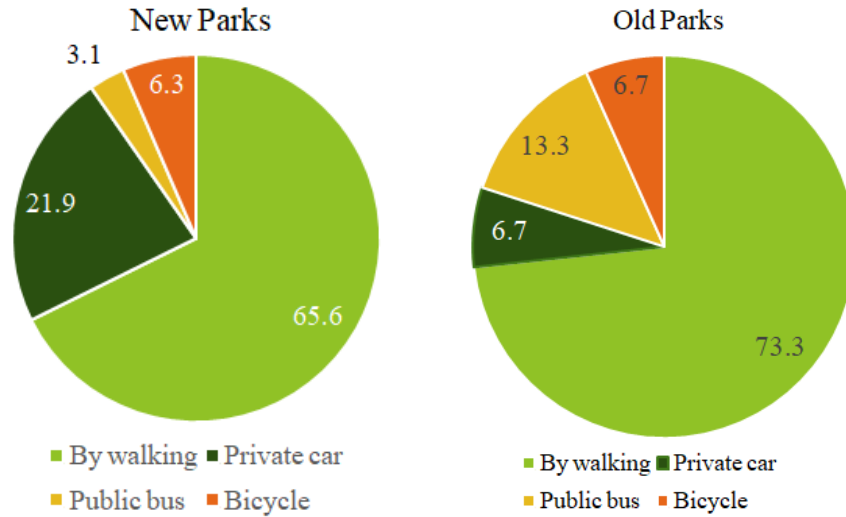


Figure 3.20 Accessibility graphs of User Survey Results in New Parks and Old Parks of Karşıyaka

The results show that most of the users are coming to the parks by walking and it proves that the parks are within the walking distance to user's houses.

The next question for accessibility criteria was how far the user's house is from the nearest parks. That is to say, distance and time of spending to arrive in nearest parks were asked to users.

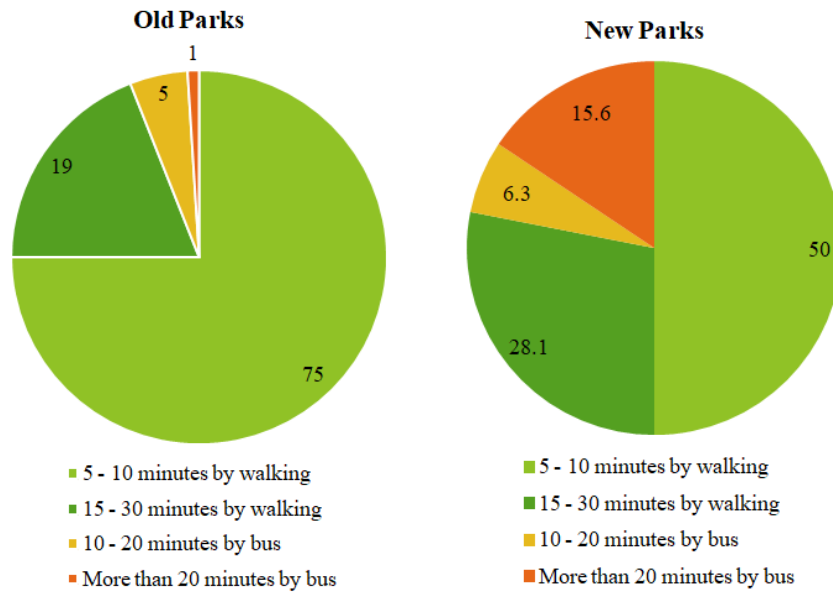


Figure 3.21 Accessibility graphs of User Survey Results in New Parks and Old Parks of Karşıyaka

The result of this question from users is also showing that accessibility to the parks is good and satisfactory, and people from farther places visit the new parks, thus new parks seem to be more attractive for the users.

Expert's survey

Parks are also controlled and surveyed by the researcher as the second type of evaluation for the quality conditions of parks from a different point of views and characteristics. 33 parks are observed. Observation is contained from 10 new parks and 23 old parks. The data from the survey is imported in SPSS version 23 and after analyzing the mean value of the data values is taken. As it is known that; Mean is used in most statistical analysis as the standard measure of the center of the distribution of the data. In this case, accessibility and location of Old and New parks are in the adequate level of quality, the results of the survey are shown in table 3.6.

Table 3.6 Comparative Evaluation of Accessibilities

Characteristic	Type of Park	Very poor (1)	Poor (2)	Adequate (3)	Good (4)	Very good (5)	Mean (1-5)
Accessibility	Old Parks	1	10	33	20	5	3.00
		4.3%	21.7%	47.8%	21.7%	4.3%	
	New Parks	0	6	9	12	5	3.20
		0.0%	30.0%	30.0%	30.0%	10.0%	
location	Old Parks	2	2	21	40	15	3.48
		8.7%	4.3%	30.4%	43.5%	13.0%	
	New Parks	0	2	12	12	10	3.60
		0.0%	10.0%	40.0%	30.0%	20.0%	

Also, the next type of data test is Evaluation of Accessibilities and Location of Old and New Parks for Significant Difference by using 'Independent-Samples T-Test'. In table 3.7, the results show that there is no significant difference between location and accessibilities in Old Parks and New parks. They are in good location and accessible for the users. Because P-value is 0.334 and is bigger than 0.05. Therefore, there is a no significant difference between accessibility and location in Old Parks and in New Parks.

Table 3.7 Comparative Evaluation of Accessibilities for Significant Difference

Characteristic	Type of Park	mean	Sample T-Test P Value
Accessibility	Old Parks	3.6	0.334
	New Parks	3.2	
Location	Old Parks	3.5	0.825
	New Parks	3.3	

3.3.3 Comfort in Karşıyaka Parks

Comfort is a prerequisite for a successful park. “The length of time people stay in a public space is a function and an indicator of its comfort. The dimensions of a sense of comfort include environmental factors like relief from sun, wind and physical comfort like comfortable and sufficient seating, etc. And social and psychological comfort” (Carmona, 2010).

Users’ survey

According to the expression of the user satisfaction opinion and their feeling about the comforting of the parks, it has been asked the users to grade how much comfort they are feeling in the park. The results of the survey is imported into SPSS program, first of all, the mean value of the rating is taken for each park separately to know their independent comfort conditions and the value of rating by users, then for these two types of park groups (Old Parks and New park) the convenient method for comparing the mean values of these two groups ‘T-Test for Equality of Means’ is selected to know that; is there any significant different between mean values for comfort in New Parks and Old Parks or not?.

According to the results, the p-value is 0.001 and is smaller than 0.05. Therefore, there is a significant difference between comfort in Old Parks and in New Parks. So in term of comfort, users are satisfied in new parks, but in old parks, the comfort feeling of the people is lower and the people are not satisfied of old parks. And these criteria are considered as following questions results.

For knowing about the feeling comfort of the users, first of all, the users were asked about how much relaxed they are feeling in the park, very relaxed as a high

rating value 5 or not relaxed as the lowest rating value 1. The result of this question is shown as follow, for both Old Parks and New Parks.

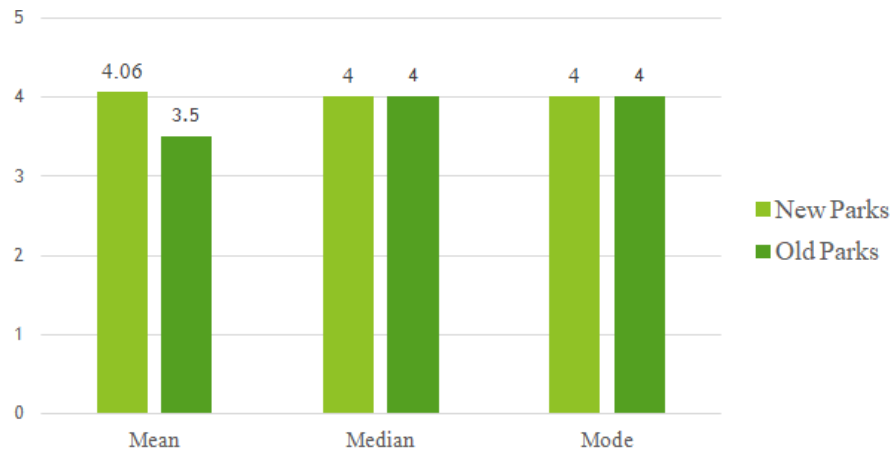


Figure 3.22 Comfort graphs of User Survey Results in New Parks and Old Parks of Karşıyaka

As another parameter for comfort feeling of users, the sufficiency of the parks is also important, is the park crowded or is there enough space for all activities of the users that a standard park allows, this question was also asked from the user, and the result for this question for the New Parks and Old parks is shown as follow:

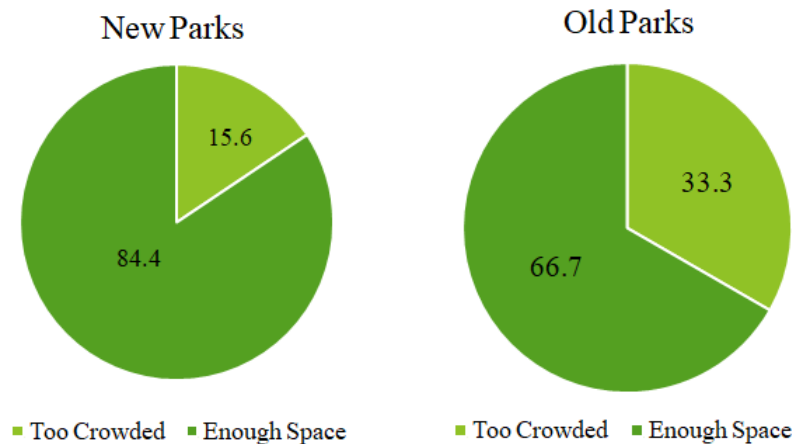


Figure 3.23 Comfort graphs of User Survey Results in New Parks and Old Parks of Karşıyaka

In both parks, the users' answers show that there is enough space in new parks more than old parks. This is also an indicator that the new parks attract more visitors.

Expert's survey

In this part of the thesis comfort is evaluated and considered by the researcher and the results are extracted from the data obtained from the surveys done in the parks.

According to researcher observation, the results are shown in table 3.8, it shows that comfort in new parks is better than old parks. New parks are in a better condition than old parks obviously and new parks sense of relaxation is better than old parks, sense of dynamic action is good but in old parks, it is poor, the same all the comfort characteristics are shown in the below (table 3.8).

Table 3.8 Comparative Evaluation of Comfort

Characteristic	Type of Park	Very poor (1)	Poor (2)	Adequate (3)	Good (4)	Very good (5)	Mean (1-5)
Sense of Relaxation	Old Parks	1	24	21	12	0	2.52
		4.3%	52.2%	30.4%	13.0%	0.0%	
	New Parks	0	2	15	12	5	3.40
		0.0%	10.0%	50.0%	30.0%	10.0%	
Sense of Dynamic Action	Old Parks	1	28	15	12	0	2.43
		4.3%	60.9%	21.7%	13.0%	0.0%	
	New Parks	0	2	15	12	5	3.40
		0.0%	10.0%	50.0%	30.0%	10.0%	
Sense of Delight	Old Parks	1	28	21	4	0	2.35
		4.3%	60.9%	30.4%	4.3%	0.0%	
	New Parks	0	4	12	12	5	3.30
		0.0%	20.0%	40.0%	30.0%	10.0%	
Sense of Enjoyment	Old Parks	1	26	18	8	5	2.52
		4.3%	56.5%	26.1%	8.7%	4.3%	
	New Parks	0	4	12	12	5	3.30
		0.0%	20.0%	40.0%	30.0%	10.0%	

In below table 3.9. it is shown that p-value for all characteristics is smaller than 0.05. Therefore, there is a significant difference between comfort in Old Parks and in New Parks.

Table 3.9 Comparative Evaluation of Comfort for Significant Difference

Characteristic	Type of Parks	mean	Sample T-Test P Value
Sense of Relaxation	Old Parks	2.52	0.00983
	New Parks	3.4	
Sense of Dynamic Action	Old Parks	2.43	0.00873
	New Parks	3.4	
Sense of Delight	Old Parks	2.35	0.00152
	New Parks	3.3	
Sense of Enjoyment	Old Parks	2.52	0.00846
	New Parks	3.3	

3.3.4 Safety and Security in Karşıyaka Parks

Safety and security of park are also significant that should be paid attention in the design stage and after during the servicing for the community. As we conclude that people need to feel safe in parks to use them and if they think that the park is not safe, they will not use parks at all.

Users' survey

According to the understanding of the user satisfaction for safety and security, they were asked about their feelings that how much safe do they feel in the parks. The results of the survey is imported to SPSS program, first of all, the mean value of the rating is taken for each park separately to know their independent security and safety conditions and the value of rating by users, then for these two types of park groups (Old Parks and New park) the convenient method for comparing the mean values of these two groups 'T-Test for Equality of Means' is selected to know that; is there any significant different between mean values for security and safety in New Parks and Old Parks or not?

According to the results, p-value is 0.013 and is smaller than 0.05. Therefore, there is a significant difference between safety and security in Old Parks and in New Parks. So in term of safety and security, users are satisfied in new parks, but in old parks the safety feeling of the people is lower and the people are not satisfied with

old parks. That is to say people in new parks are feeling safer than people in old parks. These criteria are considered as following question result.

The users were asked that how much safe they feel in New Parks and Old parks; the rating was from 1 to 5. 1 rating is representing the value of not safe at all, and 5 rating is representing very safe value. The result is shown as follow.

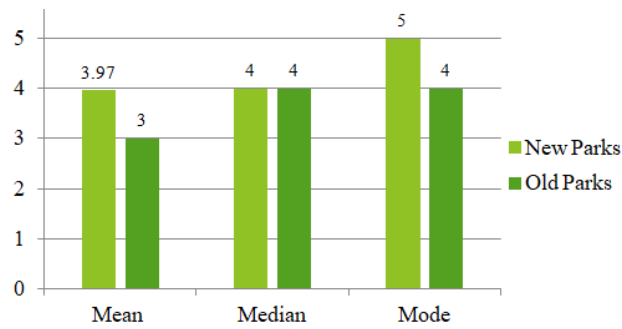


Figure 3.24 safety graphs of User Survey Results in New Parks and Old Parks of Karşıyaka

Expert's survey

During the evaluation and observation of researcher from the parks security characteristic is also considered, according to the results in table 3.10, it shows that there is the mean value of 3.2 adequate level of quality in old parks and 3.8 mean value of security in new parks. That is to say it shows that security in new parks is better than old parks.

Table 3.10 Comparative Evaluation of Safety and Security

Characteristic	Type of Park	Very poor (1)	Poor (2)	Adequate (3)	Good (4)	Very good (5)	Mean (1-5)
Security	Old Parks	0	4	45	24	0	3.1
		0.0%	8.7%	65.2%	26.1%	0.0%	
	New Parks	0	2	6	20	10	3.8
		0.0%	10.0%	20.0%	50.0%	20.0%	

In table 3.11 the results show that there is no significant difference between security in old and new parks. Generally, the security is good. But still, there was a complaint about park security which is explained in Complaints and Demand part of the study.

Table 3.11 Comparative Evaluation of Safety and Security for Significant Difference

Characteristic	Type of Park	mean	Sample T Test P Value
Security	Old Parks	3.1	0.145
	New Parks	3.8	

3.3.5 User activity

In term of user activity, users inside the parks were asked about their reasons for the visits to the parks. The choices were for walking, for doing sport, for spending time with friends, for meeting new people or for enjoying the nature and green areas.

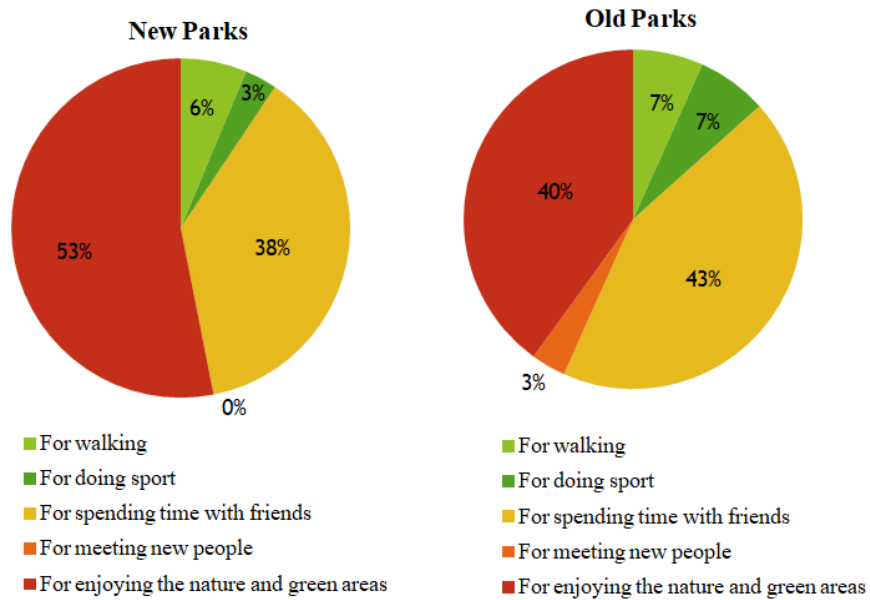


Figure 3.25 Safety graphs of User Survey Results in New Parks and Old Parks of Karşıyaka

According to the results shown in above graphs, as it is a multiple-choice question, the graphs show 5 different reasons for going to a park or public space, the users were able to choose one or more than one choice to express their idea about why they come to the parks. As it is cleared as an outcome from the data collected and analyzed by SPSS program, most of the users' answer was that they come to parks for enjoying the nature and green areas in the second step for spending time with their friends. It shows the significance of parks as nature and a place to meet and spend time with family and friends. There is a percentage of the people that they explain their interest in doing sport, walking and meeting new people in the parks. In

term of health and social activities of parks, it is also important for the neighborhood residents to do sport for being healthy. And to meet new people and make friendship shows the improvement of people's social life. The results indicate that people also prefer to go to parks to meet with others and friends.

3.3.6 Equipment in Karşıyaka Parks

One of the important aspect of the condition of parks is the safety of the equipment. The condition and sufficiency of equipment are very significant in a park to be ensured adequately and at the same time safety.

In several studies, it is proved that the insufficiencies of equipment in parks and playgrounds caused injuries and even death. One of the factors that affect in parents' decision to permit their children to play in certain parks is park's equipment condition.

Users' survey

In this part of the survey, the users were asked about the condition of park equipment. Their rating was evaluated between 1 to 4. 1 as a low value very poor condition of equipment and 4 as highest value for the very good condition of the park equipment.

According to the understanding of the user satisfaction about the equipment of park, they were asked to rate the condition of park equipment. The results of the survey is imported to SPSS program, first of all, the mean value of the rating is taken for each park separately to know the independent equipment condition value rate by users, then for these two types of park groups (Old Parks and New park) the convenient method for comparing the mean values of these two groups 'T-Test for Equality of Means' is selected to know that; is there any significant different between mean values for equipment condition in New Parks and Old Parks or not?

According to the results, p-value is 0.19 and is bigger than 0.05. Therefore, there is no significant difference between the condition of equipment in Old Parks and in New Parks. That is to say that the condition of equipment in these two types of parks are near to each other, new parks are better than old parks but still, it is not enough as it is shown in below graph it is considered intermediate condition not very good and not very bad. Old parks are even in lower condition.

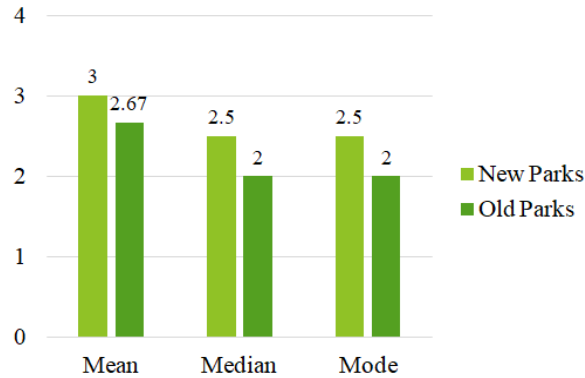


Figure 3.26 Equipment graphs of User Survey Results in New Parks and Old Parks of Karşıyaka

Expert's survey

During the evaluation and observation of researcher from the parks equipment and furnishing of parks were also seen and considered, according to the results in table 3.12, it shows that the mean values between old and new parks are different, for old parks the values are poor but in new parks the values are adequate or good. That is to say equipment and furnishing in new parks is better than old parks.

Table 3.12 Comparative Evaluation of Equipment and Furnishing

Characteristic	Type of Park	Very poor (1)	Poor (2)	Adequate (3)	Good (4)	Very good (5)	Mean (1-5)
Visual elements	Old Parks	1	32	18	0	0	2.22
		4.3%	69.6%	26.1%	0.0%	0.0%	
	New Parks	0	0	6	28	5	3.90
		0.0%	0.0%	20.0%	70.0%	10.0%	
Seating	Old Parks	1	24	30	0	0	2.39
		4.3%	52.2%	43.5%	0.0%	0.0%	
	New Parks	0	2	9	20	5	3.60
		0.0%	10.0%	30.0%	50.0%	10.0%	

Table 3.12 continues

Furnishing	Old Parks	3	36	6	0	0	1.96
		13.0%	78.3%	8.7%	0.0%	0.0%	
	New Parks	0	6	15	4	5	3.00
		0.0%	30.0%	50.0%	10.0%	10.0%	
Scale and Proportional Elements of Parks	Old Parks	0	20	30	12	0	2.70
		0.0%	43.5%	43.5%	13.0%	0.0%	
	New Parks	0	0	6	28	5	3.90
		0.0%	0.0%	20.0%	70.0%	10.0%	
Size and Visual Character of Trees	Old Parks	2	16	24	20	0	2.70
		8.7%	34.8%	34.8%	21.7%	0.0%	
	New Parks	0	2	18	8	5	3.30
		0.0%	10.0%	60.0%	20.0%	10.0%	

In below table 3.13.it is shown that p-value for all characteristics is smaller than 0.05. Therefore, there is a significant difference between equipment and furnishing in Old Parks and in New Parks.

Table 3.13 Comparative Evaluation of Equipment and Furnishing for Significant Difference

Characteristic	Type of Park	mean	Sample T Test P Value
Visual Elements	Old Parks	2.22	0.00414
	New Parks	3.9	
Seating	Old Parks	2.39	0.00196
	New Parks	3.6	
Furnishing	Old Parks	1.96	0.00077
	New Parks	3	
Scale and Proportion of elements in the parks	Old Parks	2.7	0.0044
	New Parks	3.9	
Size and visual character of tree	Old Parks	2.7	0.0039
	New Parks	3.3	

3.3.7 User Frequency in Karşıyaka Parks

In this part of the survey the age of children in the family, how often do the users come to parks, with whom do they come to the park alone or with friends and families, how much time do they spend in the park and finally, their age, gender and level of education were asked.

As the first question, the users of the parks were asked about the ages of children in their household, the graphs below show the children ages in the families of users.

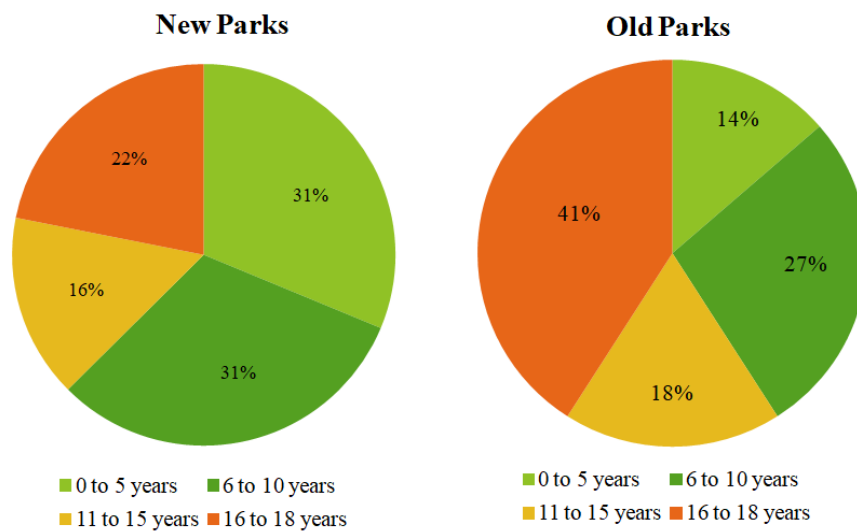


Figure 3.27 User frequency graph for the children ages in the families, User Survey Results in New Parks and Old Parks of Karşıyaka

The youth and children population distribution in the districted is approximately equal. There are children in every age stages. So, for every age stage of the children in the neighborhood, the parks according to their types which are explained in the hierarchy of parks should be designed and provided for the community children, youth, early ages, middle ages and old ages.

How often do the users use the park was asked also in the survey? Do they come to the parks daily, weekly, monthly, occasionally or rarely? And the result of the question is shown as the following graph.

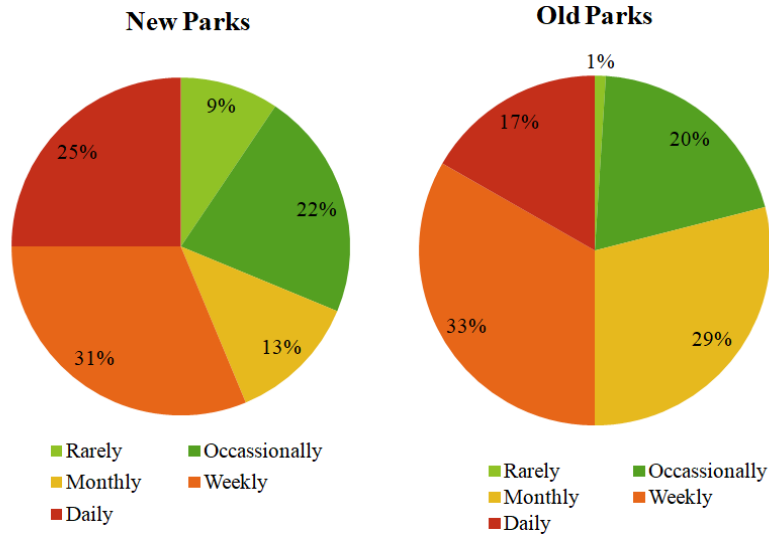


Figure 3.28 User Frequency Graph for the visiting time of users, User Survey Results in New Parks and Old Parks of Karşıyaka

The graph above shows that the users are coming to parks mostly daily, weekly and monthly. That is to say it shows how much the people need for an open space and green area to go and spend the spare time and enjoy from the green area and nature. As a child to discover the new things and play together with other children far from four wall of a house as a jail and live the adventures of life together with the society and neighborhood children and youth.

The next question in survey is covered as; generally, how many people dousers come to the park together, do they come alone, with family or with their friends.

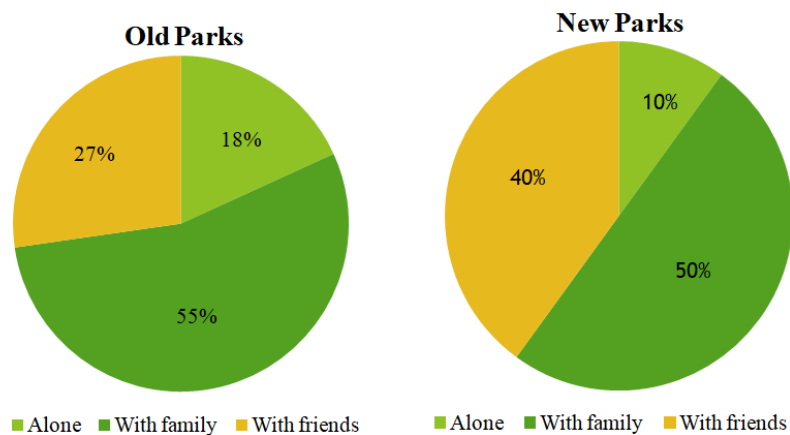


Figure 3.29 User Frequency Graph for companionship of users, User Survey Results in New Parks and Old Parks of Karşıyaka

The graph above shows that most of the people that come in neighborhood parks are with the family, they bring their children and family to enjoy and spend their time together there.

The next question of the survey was that how much time do the users spend in the park, according to the choices that they had in survey were; ten to thirty minutes, thirty minutes to one hour, one hour to two hours or more than two hours. The results after analyzing the data is shown as follow:

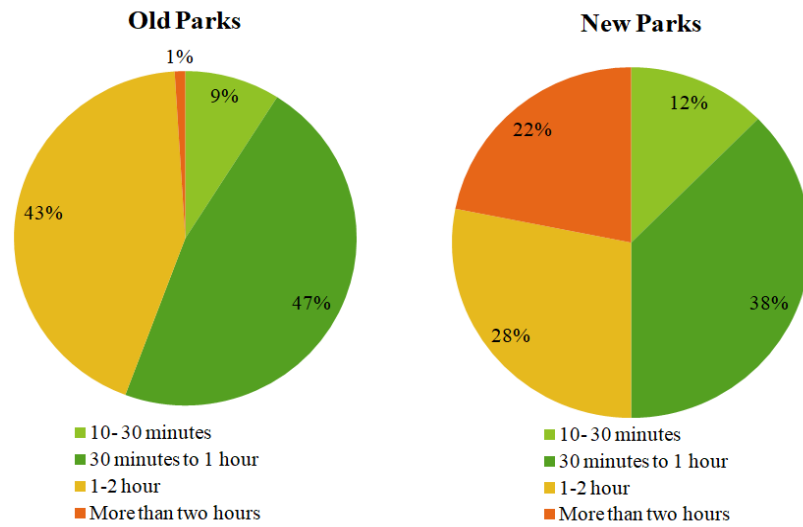


Figure 3.30 User Frequency Graph for the visiting time of users, User Survey Results in New Parks and Old Parks of Karşıyaka

The following graphs show the age stages of the users of the parks.

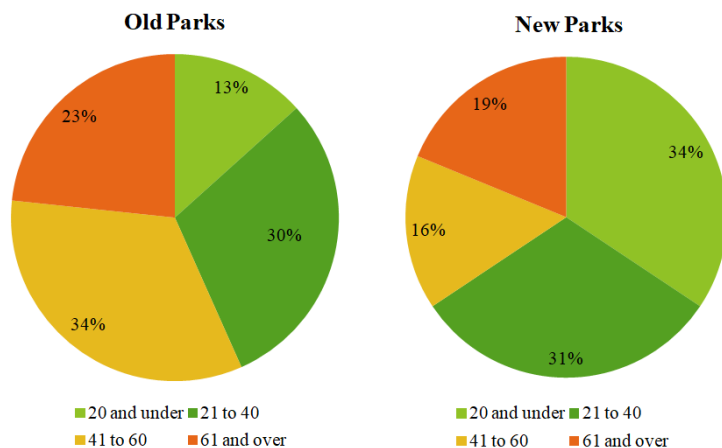


Figure 3.31 User Frequency Graph for age of users, User Survey Results in New Parks and Old Parks of Karşıyaka

The following graphs shows the gender of users who participated the survey.

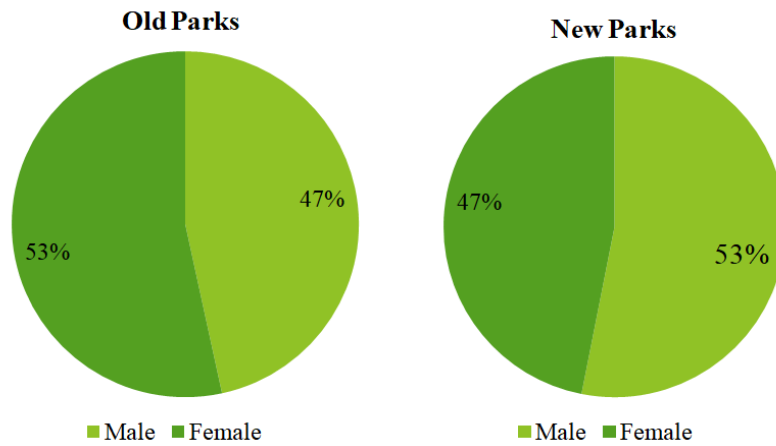


Figure 3.32 Percentage of Participants in survey in term of Gender frequency, User Survey Results in New Parks and Old Parks of Karşıyaka

The graph above shows that, the survey was accomplished approximately in equal number from male and female gender.

The following graphs show the level of education of the users participated in the survey. Their level of education was evaluated from preliminary school to secondary school, high school and university.

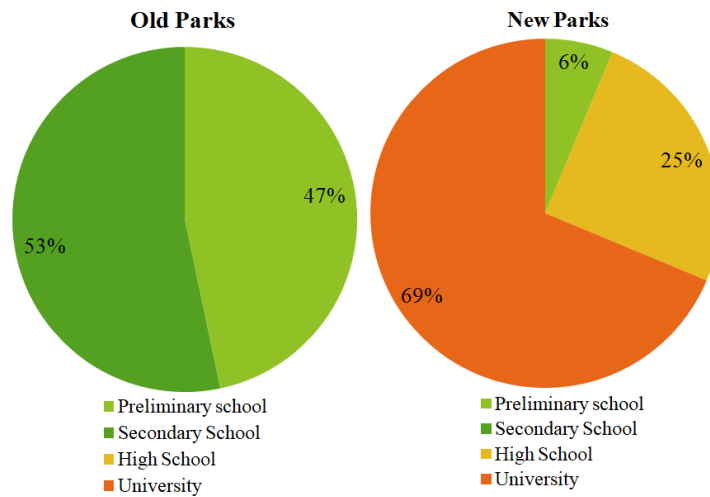


Figure 3.33 Level of education of users participated in survey, User Survey Results in New Parks and Old Parks of Karşıyaka

The above graphs show that in new parks most of the users who were in the parks, had university level of education, but in old parks, there is only people from school level of education. It points out that the differences between these two types of parks, the people with high education level is not coming to the old park, their level of

living and living standards doesn't allow them to go to these old parks with many problems and insufficiencies. But the people that their level of education is in school grade, their level of living standards is also lower, they are coming and using old parks. It shows a gap between these two types of people even economically, socially, and security issues. In old parks the users complain were more than new parks, the people were not feeling safe and comfortable there, there was people drinking alcohol and annoying the other residents there. The new parks mostly situated in new built areas like Bostanlı and Mavi Bahçe. In these areas most of the people are considered to be in higher income groups, but in old settlements the people are from the average or even low-income groups.

3.3.8 Circulation and pavement in Karşıyaka Parks

In table 3.14 shows that pavement and circulation in old parks are in poor condition but the new parks are better and in adequate condition.

Table 3.14 Comparative Evaluation of Circulation and Pavements

Characteristic	Type of Park	Very poor (1)	Poor (2)	Adequate (3)	Good (4)	Very good (5)	Mean (1-5)
Pavement	Old Parks	1	22	33	0	0	2.43
		4.3%	47.8%	47.8%	0.0%	0.0%	
	New Parks	0	0	9	24	5	3.80
		0.0%	0.0%	30.0%	60.0%	10.0%	
Circulation	Old Parks	1	18	36	4	0	2.57
		4.3%	39.1%	52.2%	4.3%	0.0%	
	New Parks	0	0	9	24	5	3.80
		0.0%	0.0%	30.0%	60.0%	10.0%	

In table 3.15 it is shown that p-value for all characteristics is bigger than 0.05. Therefore, there is no significant difference between pavements and circulation in Old and New Parks. That is to say new parks pavements and circulation is in a better condition in adequate quantity but in old parks are in poor condition, and still both old and new parks needs enhancement and better pavement and circulation.

Table 3.15 Comparative Evaluation of Circulation and Pavements for Significant Difference

Characteristic	Type of Park	mean	Sample T Test P Value
Pavements	Old Parks	2.43	0.554
	New Parks	3.8	
Circulation	Old Parks	2.57	0.428
	New Parks	3.8	

3.3.9 Aesthetic in Karşıyaka Parks

In table 3.16 it is shown that generally aesthetic characteristics in old parks are in poor condition, but the new parks are adequate. Therefore, generally both type of parks needs to be improved and enhancing their quality of aesthetic characteristics at all. Better landforms and landscape characteristics should be provided for making them attractive and beautiful.

Table 3.16 Comparative Evaluation of Aesthetic

Characteristic	Type of Park	Very poor (1)	Poor (2)	Adequate (3)	Good (4)	Very good (5)	Mean (1-5)
Land form	Old Parks	1	30	21	0	0	2.06
		4.3%	65.2%	30.4%	0.0%	0.0%	
	New Parks	0	0	12	20	5	3.70
		0.0%	0.0%	40.0%	50.0%	10.0%	
Landscape Character	Old Parks	1	30	21	0	0	2.06
		4.3%	65.2%	30.4%	0.0%	0.0%	
	New Parks	0	2	9	20	5	3.60
		0.0%	10.0%	30.0%	50.0%	10.0%	
Attractive	Old Parks	1	38	9	0	0	2.09
		4.3%	82.6%	13.0%	0.0%	0.0%	
	New Parks	0	6	3	16	10	3.50
		0.0%	30.0%	10.0%	40.0%	20.0%	
Harmony	Old Parks	1	42	3	0	0	2.00
		4.3%	91.3%	4.3%	0.0%	0.0%	
	New Parks	0	6	12	8	5	3.10
		0.0%	30.0%	40.0%	20.0%	10.0%	
Contrast	Old Parks	1	44	0	0	0	1.96
		4.3%	95.7%	0.0%	0.0%	0.0%	
	New Parks	0	4	18	4	5	3.10
		0.0%	20.0%	60.0%	10.0%	10.0%	

Table 3.16 continues

Color	Old Parks	1	40	3	4	0	2.09
		4.3%	87.0%	4.3%	4.3%	0.0%	
	New Parks	0	2	15	12	5	3.40
		0.0%	10.0%	50.0%	30.0%	10.0%	
Repetition	Old Parks	1	40	6	0	0	2.04
		4.3%	87.0%	8.7%	0.0%	0.0%	
	New Parks	0	2	15	12	5	3.40
		0.0%	10.0%	50.0%	30.0%	10.0%	
Balance	Old Parks	1	38	9	0	0	2.09
		4.3%	82.6%	13.0%	0.0%	0.0%	
	New Parks	0	2	21	4	5	3.20
		0.0%	10.0%	70.0%	10.0%	10.0%	
Human Scale	Old Parks	1	20	33	4	0	2.02
		4.3%	43.5%	47.8%	4.3%	0.0%	
	New Parks	0	0	6	28	5	3.90
		0.0%	0.0%	20.0%	70.0%	10.0%	

In table 3.17 it is shown that p-value for all aesthetic characteristics is bigger than 0.05. Therefore, there is no significant difference between aesthetics characteristics of Old and new Parks. That is to say new parks aesthetic characteristics are in a better condition and old parks are in poor and in bad condition. As is said before they need to be enhanced and developed both types of parks.

Table 3.17 Comparative Evaluation of Aesthetic for Significant Difference

Characteristic	Park Type	mean	Sample T Test P Value
Landform	Old Parks	2.26	0.336
	New Parks	3.7	
Landscape character	Old Parks	2.26	0.083
	New Parks	3.6	
Attractiveness	Old Parks	2.09	0.0001
	New Parks	3.5	
Harmony	Old Parks	2	0.0001
	New Parks	3.1	
Contrast	Old Parks	1.96	0.003
	New Parks	3.1	
Color	Old Parks	2.09	0.016
	New Parks	3.4	

Table 3.17 continues

Repetition	Old Parks	2.04	0.001
	New Parks	3.4	
Balance	Old Parks	2.09	0.085
	New Parks	3.2	
Human scale	Old Parks	2.52	0.083
	New Parks	3.9	

3.3.10 Infrastructure of Karşıyaka Parks

In table 3.18 infrastructure of Karşıyaka parks are considered. In this comparison the mean values show that old parks are in poor condition and new parks have adequate site drainage, energy and water conservation but still they need enhancement.

Table 3.18 Comparative Evaluation of Infrastructure

Characteristic	Type of Park	Very poor (1)	Poor (2)	Adequate (3)	Good (4)	Very good (5)	Mean (1-5)
Site drainage	Old Parks	1	20	33	4	0	2.52
		4.3%	43.5%	47.8%	4.3%	0.0%	
	New Parks	0	2	3	28	5	3.80
		0.0%	10.0%	10.0%	70.0%	10.0%	
Energy and Water Conservation	Old Parks	1	24	21	8	0	2.35
		4.3%	52.2%	30.4%	8.7%	0.0%	
	New Parks	0	0	6	28	5	3.90
		0.0%	0.0%	20.0%	70.0%	10.0%	

In table 3.19 it is shown that p-value for all infrastructure characteristics is bigger than 0.05. Therefore, there is no significant difference between infrastructure characteristics of Old and new Parks. That is to say new parks infrastructure characteristics are in a better condition and old parks are in poor condition. They both need to be developed especially old parks must be redesigned and built.

Table 3.19 Comparative Evaluation of Infrastructure for Significant Difference

Characteristic	Park Type	mean	Sample T Test P Value
Site drainage	Old Parks	2.52	0.659
	New Parks	3.8	
Energy and water conservation	Old Parks	2.45	0.076
	New Parks	3.9	

3.3.11 Maintenance of Karşıyaka Parks

In table 3.20 maintenance of Karşıyaka parks are considered. In this comparison the mean values show that old parks are in poor condition and new parks has adequate maintenance but still the need to be more maintained and protected.

Table 3.20 Comparative Evaluation of maintenance

Characteristic	Type of Park	Very poor (1)	Poor (2)	Adequate (3)	Good (4)	Very good (5)	Mean (1-5)
Well-kept	Old Parks	2	26	24	0	0	2.26
		8.7%	56.5%	34.8%	0.0%	0.0%	
	New Parks	0	2	6	24	5	3.70
		0.0%	10.0%	20.0%	60.0%	10.0%	

Table 3.21 shows that p-value for all maintenance characteristics is bigger than 0.05. Therefore, there is no significant difference between maintenance characteristic of Old and new Parks. That is to say new parks maintenance is in a better condition than old parks. But still they both need to be developed especially old parks must be protected and maintained well.

Table 3.21 Comparative Evaluation of maintenance for Significant Difference

Characteristic	Park Type	mean	Sample T Test P Value
Well-kept	Old Parks	2.26	0.474
	New Parks	3.7	

3.3.12 User Problems

In New Parks

The users of the parks were also asked to explain their problems and complaints in their parks. The users' complaints about the parks are as follow:

The parks are not well-kept, lack of bins, existed bins full of garbage, and dirty, park is not comfortable, early closing of parks (at 6:00 pm), there are insects in parks, lack of trees, lack of playing and sport equipment, not enough space in parks and crowded, no security guard, not feeling secure, children playing area is far from place where the parents stay inside the park and there is no lighting in parks.

In Old Parks

During the survey in the old parks the users were also asked to explain their problems and complaints about the parks that they are using in their neighborhood. Their complaints are mostly about the safety of the parks, they are not feeling safe in the parks, the parks are very noisy, the parks are not well-kept, and the users are also throwing garbage everywhere, there is no lighting in the parks, greenery is not enough. And children playing area is far from the place where their parents stay and watch their children inside the park.

3.3.13 User Demands

In New Parks

At the end of the user survey, the users' demands were also taken, that what kind of Green Areas as Open Space Development they want to be provided by the municipality of Karşıyaka. The demands of the users contained as follow.

In new parks users' demands generally they asked for improvement of the green areas and parks. If they point out some issues to be paid attention are; more greenery, planting trees, greenery dominancy was emphasized instead of huge mass of buildings. The green areas must be extended, flowers should be planted, sports areas

in the amount of necessity must be provided. Sun shades, seating, umbrellas should be supplied. Green areas and parks should be better well-kept and clean. The users should be trained and aware about the importance of green areas and how to be careful about parks. The health of green areas and trees were also mentioned in the demands, the sick trees should be treated with insects and other sicknesses. In term of safety and security users, demand was security guards for children.

In Old Parks

In old parks also, users were asked that what kind of Green Areas as Open Space Development they want. Their demands were:

Generally, improvement of overall green areas and parks, increasing and extension of greenery and planting of trees and flowers, parks should be well-kept and safe. Signage should be provided, for showing the direction and for emergency cases alarm. The users, youths, and children should be taught and be aware about the importance of green areas and parks.

CHAPTER FOUR

DESIGN STRATEGIES FOR NEIGHBORHOOD PARKS IN KARŞIYAKA DISTRICT

In this part of the thesis according to researches, surveys and evaluations of Karşıyaka neighborhood parks' characteristics, needs, problems and recommendations are explained. For example the density of population according to every neighborhood and green area distribution per person with the comparison of world standards and Turkish law standards confirmations are explained, the existing quality and quantity of parks and green areas in this district, evaluation of existing parks, explanation and analysis of surveys which are done by researcher and Karşıyaka parks users are summarized with solutions and recommendations.

4.1 Strategies for Parks Insufficiency in Karşıyaka District

According to the population data of 2012, the population density of Karşıyaka is 5206 P/km². According to the Figure 3.6, neighborhoods with the highest density of population have the lowest level of green areas. The north and west part of Karşıyaka is developed vastly with its crowded population. However, south and east parts of Karşıyaka district have the highest gross density per hectare with its old built areas and narrows streets. Therefore, the green areas and open spaces are most insufficient in this part of the district.

According to International Standards Organization (ISO) standards and The World Health Organization (WHO), it has been suggested that for every city inhabitants, there should be a minimum of 9 m² green area per person. An optimal amount would be allocated among 10 to 15 m² per person. According to the Turkish Law System in 3194 no building law is written that minimum livability green area per person is 10 m². Karşıyaka district has just 2.85 m² green area per person. There is a big gap between the necessity and current parks, in the other words Karşıyaka condition is considered as a district with high density of population and low supply of parks and green areas which are needed for the people who are living there.

The solution for this problem in Karşıyaka district;

- New parks and green open spaces should be established.
- During the urban transformation projects and new constructions, according to service radius and type of parks which are needed in Karşıyaka district, during the design and calculation it should be considered.

4.2 Strategies for the facilities in Karşıyaka Parks

According to the users' survey results, there is a significant difference between facilities of Old Parks and New Parks. Users are more satisfied with the new parks in term of facilities. Researcher survey also shows the same results, 74 percent of the old Parks are not in the good condition of facilities they have poor quality; there are only 26 percent of those parks that they have the medium quality for the users.

- For attracting a great number of individuals and families to come and visit parks, for enhancing and making parks better to be used actively with increasing the sense of form and function anywhere possible all over the city, these parks should be answerable all needs of visitors as a standard park. For example parks should have public art, natural landscapes features, water features, trees and gardens, shades, electrical outlets, benches and safe pedestrian pathways, and accessible areas for all and etc.
- According to utilization of parks all necessities should be supplied to be useful and attractive.
- Opportunities and facilities to eat and drink and public toilet facilities should be provided and they should be accessible.
- Drinking fountains, rest rooms, and seating shelters in convenient areas should be placed. When a park becomes one's "outdoor living room," these facilities become essential.

4.3 Landscape Design Strategies

- Open spaces from the stem of the trees should be provided
- Support stakes, metal bars or grille protectors shall be used in vulnerable locations to protect trees and plants.
- The use of shrubs shall be minimized, if necessary species with a maximum mature height of 1.0 m shall be planted. In case of need for barriers, see-through metal bar fencing can be used.
- Depressive dark green leafy shrubs grey or dull planting should not be used. Plant shrubs or plants that trap litter and make litter difficult to remove should not be used.
- The integration of public art or architectural landscape features that enhance the character of the site and its surroundings should be considered. Deciduous trees should be planted in groups to provide opportunities for shade throughout the park, particularly near seating and children's play areas.

4.4 Strategies for Accessibility in Karşıyaka Parks

According to the comprehension of the user satisfaction about the accessibilities to the parks, there is no significant difference between accessibility in Old Parks and in New Parks. So, in terms of accessibility users are satisfied in both parks. Accessibility is good in most of the parks in Karşıyaka except some the ones that are not in good condition. Researcher's survey also says that accessibility and location of Old and New parks are in the adequate level of quality. Except some parks that are surrounded by main streets, or blocked by buildings.

- Parks should be accessible for all to whole neighborhood, the pavements, entrance, roads, should be built exactly to be accessible for everyone specially disabled people. Therefore connectivity and permeability should be provided to make parks be easily accessible for movement of users.
- Signage, gateways and landmarks can be used to help people navigate their routes.
- Routes within the parks shall be connected with the pedestrian street network.

- **‘Desire lines’** for footpaths can be followed in order to design the circulation routes within the parks.
- Circulation routes that are designed shall provide opportunities for social contact. People prefer freedom of choice as to when and where they make contact with others. Thus it is unwise to have a path lead to, and terminate at, a setting where contact seems likely, for example, benches grouped around a focal point likely to stimulate conversation. Rather, pathways should allow people to pass close by to these settings, to see in and to pass on if that is their desire (Marcus and Francis, 1997).
- Locating the main entrance to the park near bus stops with shelters and crosswalks may make parks more attractive.
- The main entrance of the parks needs to be near crosswalks to make it easier for the elderly person entrance to the parks. Traffic lights should be timed to allow for the safe crossing of a slowly moving person. The traffic signal box should be equipped with pedestrian button to stop traffic.

Safe pedestrian and cyclist connections shall be provided between the park and its elements to other open space lands, local schools and natural areas. These connections shall become part of the interconnected hierarchy of pathways throughout the City. Adjacent built-form should front onto Neighborhood Parks to create visually attractive edges, improve access and provide “eyes on the park.” Entry points shall be located to ensure convenient access to surrounding built form and adjacent open space lands (Ottawa, 2012)

4.5 Strategies for Comfort and Equipment in Karşıyaka Parks

The results of the user survey and researcher both show that there is a significant difference between comfort in Old Parks and in New Parks. So in term of comfort, users are satisfied in new parks, but in old parks, the comfort feeling of the people is lower and the people are not satisfied of old parks.

- For creating comfort, parks should be relieved from sun, wind, should be clean and safe.
- There should be comfortable and sufficient facilities, like natural landscape features, friendly pathways and accessible areas for everyone, shades, trees and gardens, seating, green, walk-able and relaxing spaces. At the end with all these a psychological comfort must be provided, to enhance all parks being comfortable and attractive.

According to user survey pavement and circulation in old parks are in poor condition but the new parks are better and in adequate condition. New parks pavements and circulation is in a better condition and adequate quantity but in old parks pavement and circulation are in poor condition. But still both old and new parks need enhancement and better pavement and circulation.

According to surveys of the user and researcher observations results show that there is no significant difference between the condition of equipment in Old Parks and in New Parks. That is to say that the condition of equipment in these two types of parks are near to each other, new parks are better than old parks, but still, it is not enough.

- One of the important aspects of the condition of parks is the safety of the equipment. That is to say condition and sufficiency of equipment are very significant in a park to be ensured adequately and safe.

In several studies, it is proved that the insufficiencies of equipment in parks and playgrounds caused injuries and even death. One of the factors that affect in parents' decision to permit their children to play in certain parks is park's equipment safe condition.

In new parks users generally asked for improvement of the green areas and parks, and some issues that are pointed by them are;

- More greenery, planting trees, greenery dominancy was emphasized instead of huge mass of buildings.
- The green areas must be extended, flowers should be planted
- Sports areas in the amount of necessity must be provided.
- Sun shades, seating, umbrellas should be supplied.
- Green areas and parks should be better well-kept and cleaned.
- The ill trees should be treated and cared.
- Beside benches a variety of sitting opportunities shall be provided.
- Protection and shelter as appropriate for better microclimate should be provide for having better parks.
- Benches shall be set along pathways, especially at the top of inclines, so that older people can rest frequently. If benches are widely spaced or not present at all along pathways, less active people will be discouraged from strolling.

4.6 Strategies for Safety and Security in Karşıyaka Parks

According to the user survey results and evaluation of researcher the observations results shows that there is a significant difference between safety and security in Old Parks and in New Parks. So in term of safety and security, users are satisfied in new parks, but in old parks the safety feeling of the people is lower and the people are not satisfied with old parks.

- Safety and security of parks are should be paid attention in the design stage and during the servicing for the community. People need to feel safe in parks to use them and if they think that the park is not safe they will not visit and use parks at all.
- In case of need, parks should have security guard, or they might be under control with cameras.
- Visibility in parks is important, for this reason in the design of the parks, and its landscape, visibility should be considered.
- Signage should be provided, for showing the direction and for emergency cases alarm.

- All places in parks must be well defined, routes as connection between spaces nodes must be clearly identifiable.
- Public space shall give sense of ownership and territorial responsibility to users.
- Facilities should be located in active and accessible locations to provide amenities.
- Recreational walking and cycling around the park, where size and function permits should be enabled. Opportunities for children and youth to safely access and play at parks without necessity to be accompanied by an adult should be maximized. Protect the backs of benches.
- Benches shall be placed with a wall or plant mass at the back to increase the sense of security.
- Vegetation shall not restrict visibility in the parks.
- Visibility from the streets and the neighborhood shall be provided.

4.7 Strategies for Equipments in Karşıyaka Parks

According to surveys of the user and researcher observations results shows that there is no significant difference between the condition of equipment in Old Parks and in New Parks. That is to say that the condition of equipment in these two types of parks are near to each other, new parks are better than old parks. But still, it is not enough.

One of the important aspects of the condition of parks is the safety of the equipment. That is to say condition and sufficiency of equipment are very significant in a park to be ensured adequately and safe.

In several studies, it is proved that the insufficiencies of equipment in parks and playgrounds caused injuries and even death. One of the factors that affect parents' decision to permit their children to play in certain parks is the safety condition of the parks.

- Benches in the parks shall not be placed too close to the residential building because they disturb the residents.
- Seating arrangements shall be provided in variety in order to provide different types of social contact.
- Some seating shall be placed just inside the park's entrance. Seating located near a park entrance or busy thoroughfare is a good place to watch people and may enhance a feeling of security.

4.8 User Frequency in Karşıyaka Parks

The youth and children population distribution in the districted is approximately equal. There are children in every age stages. So, for every age stage of the children in the neighborhood, the parks according to their types which are explained in the hierarchy of parks should be designed and provided for the community children, youth, early ages, middle ages and old ages.

Users (all age groups) should be consulted about what they like or dislike? What kind of problems they perceive? What are their demands? What do they wish change?

- For different age groups there should be play and sports places and each should be overseen and linked to each other.

4.9 Strategies about Aesthetic in Karşıyaka Parks

Generally aesthetic characteristics in old parks are in poor condition but the new parks are adequate. Researcher survey also says that new parks aesthetic characteristics are in a better condition and old parks are in poor and in bad condition. Therefore generally both type of parks needs to be improved and their quality of aesthetic shall be enhanced. Better landforms and landscape characteristics should be provided for making them attractive and beautiful.

- All elements of parks, areas, and pathways should have visibility/public frontage.

- All furnishing elements must be arranged aesthetically and be beautiful. Maintenance is also one of the main factors in providing aesthetic beauty.

4.10 Strategies for the Maintenance of Karşıyaka Parks

Old parks are in poor condition and new parks have adequate maintenance but still the need to be more maintained and protected. Results from researcher survey shows, new parks maintenance is in a better condition than old parks. But still they both need to be developed especially old parks must be protected and maintained well.

Parks should be planned and designed richly (not over design). If poorly designed it can become a liability to maintenance budgets, in this case a redesign of park will be needed.

- Resilient materials and design details for high levels of use should be used.
- Moving parts of parks that can wear out fast should be taken care. Special items should not be used.
- Trees should be protected. There should be a manual for maintenance of parks.
- For better maintenance and saving money in long term the highest quality materials should be used by affordable budget (Shaftoe 2012).
- Anti-graffiti coatings to accessible vertical surfaces in vulnerable locations shall be applied.
- ‘Graffiti walls’ and community notice boards may also be considered.
- Pedestrian lighting should be installed friendly, not too high and incorporating full color spectrum luminaries.
- Litter bins should be adjacent next to benches and emptied regularly.
- Vandalism, fly-posting graffiti should be cleaned up rapidly.
- Greenery should be maintained regularly; rubbish should be removed regularly.

4.11 Public Participation in the Planning and Design Process of parks

Planning and design is the base for a successful park. Public and stakeholders should be engaged in park design and development processes, according to their needs and what they want parks should be designed and developed.

The users should be trained and aware about the importance of green areas and how to be careful about parks. The users, youths, and children should be taught about the importance of green areas and be aware of.

4.12 Strategies for Site Selection

Parks should not be located in isolated locations with low density of population. Poor places with difficult maintenance during the design should be avoided. Usage of public space should not be restricted. Parks as a meeting place should be designed as an easy describable place to another person.

During the design of an urban area neighborhood parks should have the focal point central location to allow a range of active and passive recreation usages for residents living in the neighborhood.

CHAPTER FIVE

GENERAL EVALUATION AND CONCLUSION

Parks as urban open spaces play a significant role in people's lives living in the neighborhood. Parks are the places where people come together, meet each other and spend their time. They are also, playing areas for children, and greeting places with new people, and recreational areas for the residents to keep them far from the stresses in their daily lives. That is to say, parks are important and beneficial in a city from different perspectives such as environmental, ecological, health, educational and economic dimensions.

Today, due to population growth and building densification and loss of urban open spaces and gardens, people need more public open spaces and parks in cities, therefore necessity for parks has risen ever than before.

In this thesis design and distribution of Neighborhood parks in Karşıyaka district of Izmir metropolis is studied. The insufficiency of green areas in Karşıyaka district is the reason of the study case to consider the district accurately and extract the exact amount of neighborhood parks distribution quantity, their deficiency and quality. Analysis, design, and distribution of community parks that serve the need of residents within their community are studied and discussed.

The district is famous for its long water-front area that serves as a recreation area and open space. For this reason, it is popular for all Izmir residents. However, the inner part of the district lacks open space and green areas. Due to the high density of the buildings, there seems insufficiency of open spaces and green areas in a high range. Mostly we observe narrow corridors as public streets. The insufficient range of open spaces and green areas in Karşıyaka district has been one of the intentions to carry out this thesis. Secondly, in the already developed settlement, I wanted to examine the quality of the park design, their distribution and their sufficiency in serving to the residents, their effects in social life and communication, satisfaction of

users from parks current condition, accessibility to parks, feeling of relaxation and safety, user problems, user activities in parks, parks quality condition consideration.

After selecting Karşıyaka's neighborhood parks as the study case the theoretical part of the thesis is explained orderly. Then locational analysis, characteristics are discussed depending on the results of the site survey on study case. These discussions are carried both for old and new parks.

Two different methods have been applied in order to analyze the efficiency and quality of parks in Karşıyaka. The first analysis method has been carried by the researcher in the field. The second part of the analysis depends on the aspects of the users.

Both types of survey consisted social, cultural and spatial variables and important data have been obtained about the quality and efficiency of parks in Karşıyaka.

The significance of urban open spaces, their characteristics, qualities, functions and their benefits, also a brief explanation about the typology urban open spaces is explained in this thesis.

Successful urban open space shall be welcoming, interactive, friendly, neighborly, and diverse. A successful urban open space invites people to come and stay. Good urban open space may be historic, attractive, charming, spiritual, suitable, walk-able, green, clean, and safe. The provision of facilities and amenities contributes to a diverse, supportive community and an efficient, healthy and livable city and contributes to community well-being. Good urban open space shall provide continuity, proximity, connectedness, readability, walkability, convenient and accessibility.

Unsuccessful urban open spaces are bleak, expansive and shapeless, 'poor' image, lack of 'sense of place', lack of 'access'. No visual connection. Sociability is minimal; there is no place to sit for any activity.

Benefits and opportunities of parks as urban open spaces, their social benefits, economic benefits, environmental benefits, health benefits, climatic amelioration and noise screening, their role in reducing crime is explained in details.

During the design for making sense to users, parks should be designed perceivably. According to topographic scales the boundaries of parks should be conductive and the people should be able to see and notice the park from outside by. There should be unity, accessibility for all, safety, legibility, comfort, good sufficient seating, lighting and signage. Normal size, scale and proportionality. Diversity, sense of relaxation, walkability, attractiveness and aesthetics are the important criteria's during the design of parks.

Design strategies for the active use of parks; While designing and enhancing recreations and park facilities and services, the local trends, the participants in parks for specific activities trends, designing facilities for delivering programs and facilities must be studied. Parks should be designed for the whole community, children, young ones, elderly, disabled people and the retired ones. During the design process public must be also involved about what they need, what they want and what are their necessities should be considered.

According to evaluations the quality of existing parks in Karşıyaka are rather low. They are not adequate for all needs of the users as a standard park. There are problems in different terms of park criteria. Most of the old parks are in very low quality. The new parks are more qualified than the old parks. Still, according to surveys and research, new parks also have some problems that all characteristics were explained one by one in detail.

Within the scope of the study, Karşıyaka parks were examined and evaluated by two types of site surveys; the first one from the eye of a researcher and the second one is based on the evaluation of the users. The survey questions are explained in detail below. The survey consists social, cultural and spatial variables and important data are obtained through interviews with the users of parks.

Evaluations are explained, according to the obtained data and site analyses. In the first part of the site survey, the researcher has examined and evaluated each 33 park located in Karşıyaka district. In the second part of the survey, from these 33 parks 6 parks were randomly selected for further examination. During the second part of the survey interviews were carried by the park users. 3 new parks and 3 old parks are the main study case parks for user survey. Survey participation rate is 60 persons, 30 persons in new parks and 30 persons in old parks. The survey included questions about the satisfaction, demands and complains of the park users and about the reasons for the visits to the parks and connections with the park.

After completion of the survey in the selected parks, the obtained data are imported to SPSS program version 23 to analyze and compare different characteristics and types of parks as new and old parks with each other, from the view of a user and the expert. After importing the data to the program; Mean, Median and Mode of the data values are obtained. The process is repeated to all data as different characteristics of the parks, and also for the type of surveys as user's data analysis and researcher data analysis. To compare the obtained data value means from surveys of old and new parks as two independent different groups "Independent-Samples T Test" is used.

Generally old and new parks are insufficient from different dimensions; the amount of green area per resident of the population is very low, the current condition of parks especially old parks are not good, they are not safe, according to World Park and open space standards they need to be improved and developed a lot.

In terms of accessibility and safety there are parks situated between vehicle roads, which is a negative key factor for the safety and accessibility of parks, some of the parks are locked by residential blocks, negative factor for accessibility. For example; Yasa park is taken and used for Izban station, Tuncel Kurtiz Park is surrounded by main roads. Some of the parks are locked by residential blocks. Lack of lighting in parks creates unsafe conditions, during the night time, walking or passing through from these parks is even unsafe and dangerous. Bostanlı Park has security problems;

there is no safety and no relaxation. Trees have bacterial health problems in Ugur Mumcu Park.

Briefly, according to the evaluations of surveys as standard parks characteristics of Karşıyaka old parks are not convenient for the city and its users, the new parks should be developed more and equipped for better use and service of the people. Generally both old and new parks need to be developed in terms of all parks characteristics. At the same time, supplying new green areas and parks are in dire need of Karşıyaka people to enhance the norm for amount of green area per resident of the city.

Consequently, city parks should be developed with more attention. The municipality of Karşıyaka should take more budgets for greenery and beauty of the district. For enriching our lives it is necessary to invest in open spaces and green areas. Every residence needs at least 10 m² green areas in a neighborhood to enjoy and take benefit in our daily lives. People who are living near to parks are lucky, the calming views of trees and green lawns, fresh air, the singing of birds let the resident to enjoy the life, by this way we improve our physical and psychological health. So the communities will be strengthened, the cities and neighborhoods will be more attractive and beautiful. For this reason the local governments shall make more parks and create more green areas and open spaces in the neighborhood where all people can benefit from. Besides the local government the neighborhood groups and community leaders, individuals and businesses are all needed to support financially and morally. Working together can help to improve and develop fast. In further researches the design guide of parks and open spaces can be taken under evaluation and researched deeply in details.

REFERENCES

- Abbott, C. (1991). Urban design in Portland, Oregon, as policy and process: 1960-1989. *Planning Perspective*, 1-18.
- Alexander, C. (1977). *A pattern language: towns, buildings, construction*. New York: Oxford university press.
- Alexander, C. (1979). *The timeless way of building* (1). New York: Oxford University Press.
- Appleton, J. (1996). *The experience of landscape*, 66-7. Chichester: Wiley.
- Babey, S. H., Brown, E. R., & Hastert, T. A. (2005). *Access to safe parks helps increase physical activity among teenagers*. Retrieved March 22, 2016, from <https://www.ncbi.nlm.nih.gov/pubmed/16397964>
- Bedimo-Rung, A. L., Mowen, A. J., & Cohen, D. A. (2005). The significance of parks to physical activity and public health: a conceptual model. *American journal of preventive medicine*, 28(2), 159-168.
- Byrne, J., & Sipe, N. (2010). Green and open space planning for urban consolidation—A review of the literature and best practice. Issues paper, 11.
- Carmona, M., Freeman, J., Rose, S., & Woolley, H. (2004). *The value of public space: how high quality parks and public spaces create economic, social and environmental value*. Retrieved August 20, 2017 from <https://www.designcouncil.org.uk/sites/default/files/asset/document/the-value-of-public-space1.pdf>
- Carmona, M., Heath, T., Oc, T., & Tiesdell, S. (2012). *Public places-Urban spaces*. Abingdon: Routledge.

- Cindy C. (2015), *Parks and Recreation Design Standard Manual*. Charlottesville: University Press of Virginia.
- Cohen, D., Sehgal, A., Williamson, S., Sturm, R., McKenzie, T. L., Lara, R., & Lurie, N. (2006). *Park use and physical activity in a sample of public parks in the city of Los Angeles*. Retrieved April 05, 2016, from https://www.rand.org/pubs/technical_reports/TR357.html
- Dunnett, N., Swanwick, C., & Woolley, H. (2002). *Improving urban parks, play areas and green spaces*. London: Department for transport, local government and the regions.
- Eamus, D., Macinnis-Ng, C. M., Hose, G. C., Zeppel, M. J., Taylor, D. T., & Murray, B. R. (2005). Ecosystem services: an ecophysiological examination. *Australian Journal of Botany*, 53(1), 1-19.
- Francis, M. (2003). *Urban open space: Designing for user needs*. London: Island Press.
- Frumkin, H. (2003). Healthy places: exploring the evidence. *American journal of public health*, 93(9), 1451-1456.
- Garvin, A., Berens, G., & Leinberger, C. B. (1997). *Urban parks and open space*. Washington DC: Urban Land Institute.
- Gehl, J., (1986), *Life between the buildings*, Copenhagen: Danish Architectural Press.
- Groth, P., Miller, R., Nadkarni, N., Riley, M., & Shoup, L. (2008). *Quantifying the Greenhouse Gas Benefits of Urban Parks*. San Francisco: The Trust for Public Land.
- Hopper, K., & Cook, D. E. (2004). *Trust for Public Land's conservation finance handbook*. San Francisco: The Trust for Public Land.

- Kaczynski, A. T., & Henderson, K. A. (2007). Environmental correlates of physical activity: a review of evidence about parks and recreation. *Leisure Sciences*, 29(4), 315-354.
- Kaczynski, A. T., Potwarka, L. R., & Saelens, B. E. (2008). Association of park size, distance, and features with physical activity in neighborhood parks. *American journal of public health*, 98(8), 1451-1456.
- Kelly, B., Simpson, J., Guillet, G. T., & Hern, M. E. W. (1981). *Art of the Olmsted landscape: his works in New York City* (1). New York City Landmarks Preservation Commission: Arts Publisher.
- Local Government Association of South Australia, (2014), *Public realm Urban Design Guideline*. Retrieved Jun 11, 2017, from <https://www.lga.sa.gov.au/webdata/resources/files/Public%20Realm%20Urban%20Design%20Guidelines.pdf>
- Loukaitou-Sideris, A., & Banerjee, T. (1998). *Urban design downtown: Poetics and politics of form*. California: University of California Press.
- Lynch, K. (1960). *The image of the city* 11. Massachusetts: MIT press.
- Marcus, C. C., & Francis, C. (1997). *People places: design guidelines for urban open space*. New York: John Wiley & Sons.
- McConnell, V., & Walls, M. A. (2005). *The value of open space: Evidence from studies of nonmarket benefits* 1-78. Washington, DC: Resources for the Future.
- McCormack, G. R., Rock, M., Toohey, A. M., & Hignell, D. (2010). *Characteristics of urban parks associated with park use and physical activity: A review of qualitative research*. *Health & place* (4), 712-726.

- Michael B. Griggs, Michael J. Hood, Gabe Huffington, Rebecca Stidham, Tamara Miller, Toney Lowery, Janet Godon, MO (2013). *Parks, Recreation & Open Space Master Plan*. Retrieved April 10, 2016, from <https://www.como.gov/parksandrec/about-us/2013-parks-recreation-open-space-master-plan/>
- Monteith B., (2009). *Community Park, Recreation & Culture Strategic Master Plan*. Retrieved May 12, 2016, from <http://www.eastgwillimbury.ca/SharedSites/DigitalAssets/bc3fcc95-2ef7-4aa5-a80a-7ee19859a707.pdf>
- Moore, R. C. (2003). *How cities use parks to help children learn*. Retrieved September 19, 2017, from https://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/Parks-Help-Children-Learn.pdf
- Nak., (2017). *Park and Pathway Development Manual*. Retrieved January 12, 2017, from <https://shadqadri.files.wordpress.com/2017/10/parks-development-manual-2.pdf>
- Orians, G. H. (1986). An ecological and evolutionary approach to landscape aesthetics. *Landscape meanings and values*, 17(3), 3-25
- Publique Toronto, S. (2011). *Improving Health and Health Equity through the Toronto Parks Plan*. Retrieved May 21, 2017 from <https://www.toronto.ca/legdocs/mmis/2011/hl/bgrd/backgroundfile-42233.pdf>
- Richard S. (2009). *A Guideline for Making Space*. Institute for Urban Design and Landscape Architecture, Vienna: University of Technology.
- Scotland, G. (2007). The links between greenspace and health: a critical literature review. *Stirling, Scotland*, 23-25.

- Seymour, W. N. and W. N. Seymour (1969). *Small urban spaces: the philosophy, design, sociology, and politics of vest-pocket parks and other small urban open spaces*, New York: New York University Press.
- Shaftoe, H. (2012). *Convivial urban spaces: Creating effective public places*. Abingdon: Routledge.
- Sherer, P. M. (2003). *Why America needs more city parks and open space*. San Francisco: The Trust for Public Land.
- Sherer, P. M. (2006). *The Benefits of Parks*. San Francisco: The Trust for Public Land.
- Simonds, J. O. (1978). *Earthscape, A Manual of Environmental Planning*. New York: McGraw Hill.
- Space, C. A. B. E. (2009). *Open Space Strategies Best Practice Guidance*. London: Commission for Architecture and the Built Environment and the Greater London Authority.
- Stiles (2009). *A Guideline For Making Space, Institute for Urban Design and Landscape Architecture*. Vienna: University of Technology.
- Thompson, I. (2003). *Ecology, community and delight: An inquiry into values in landscape architecture*. Abingdon: Routledge.
- TÜİK, T. İ. Ö. (2018). *Population Of SRE-1, SRE-2, Provinces and Districts, Address Based Population Registration System Results, Database*. Ankara: Turkish Statistical Institute.
- Woolley, H. (2003). *Urban open spaces*, London: Taylor & Francis.

APPENDICES

Appendix 1

User survey in Turkish Language (Kullanıcı Anketi)

Bu anket DEÜ mimarlık fakültesi sürdürmekte olduğum yüksek lisans tezimin bir parçasıdır. Anketin amacı Karşıyaka'daki parkların tasarımının değerlendirilmesidir.

Park adı:

Tarih:

Lütfen aşağıdaki sorulara uygun gördünüze göre cevap veriniz.

1. Genel olarak, bu parkın imkanlarından ne kadar memnunsunuz?

(Hiç memnun değilim)

(Çok memnunum)

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

2. En yakın mahalle parkına ulaşılabilirliğiniz nasıl?

(Çok zor ulaşılır)

(Çok kolay ulaşılır)

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

3. Sizin bu parkta rahatlama olanağınız ne kadardır?

(Hiç rahat değil)

(Çok rahat)

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

4. Genellikle bu parkta kendinizi ne kadar güvenli hissediyorsunuz?

(Hiç güvenli değil)

(Çok güvenli)

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

5. Yeşil alanların gelişimi için neler öneriyorsunuz?

(Lütfen özet olarak yazınız).

.....

6. Lütfen bu park hakkındaki sorularınızı ve şikayetlerinizi kısaca yazınız.

.....

.....

7. Ailenizdeki çocuk üyelerin yaş aralıkları nedir? (Lütfen size uygun olan seçeneği işaretleyiniz)

☐ 0-5 yaş arası

☐ 6 -10 yaş arası

☐ 11-15 yaş arası

☐ 16-18 yaş arası

8. Hangi sıklıkta bu parkı kullanıyorsunuz?
- ☐ Günlük
 - ☐ Haftalık
 - ☐ Aylık
 - ☐ Bazen
 - ☐ Nadiren
9. Genellikle bu parkı kimlerle kullanıyorsunuz?
- ☐ Yalnız
 - ☐ Aile
 - ☐ Arkadaş topluluğu
10. Genellikle bu parkta ne kadar zaman geçiriyorsunuz?
- ☐ 10- 30 dakika
 - ☐ 30 dakika - 1 saat
 - ☐ 1-2 saat
 - ☐ 2 saatten fazla
11. Parka ulaşımınızı nasıl sağlıyorsunuz?
- ☐ Yürüyerek
 - ☐ Özel Araba
 - ☐ Halk Otobüsü
 - ☐ Bisiklet
 - ☐ Diğer
12. En yakın parkla eviniz arasındaki uzaklık ne kadar?
- ☐ 5 - 10 dakika, yürüyerek
 - ☐ 15 - 30 dakika, yürüyerek
 - ☐ 5 - 10 dakika, otobüsle
 - ☐ 10 - 20 dakika, otobüsle
 - ☐ 20 dakikadan fazla, otobüsle
13. Hangi amaçla parka gelirsiniz?
- ☐ Yürümek için
 - ☐ Spor için
 - ☐ İnsanlarla birlikte zaman geçirmek için
 - ☐ Yeni insanlarla tanışmak için
 - ☐ Doğal ve yeşil alanlardan yararlanmak için
14. Lütfen oyun ekipmanlarının ve alanlarının durumunu derecelendiriniz.
- ☐ Çok İyi ☐ İyi
 - ☐ Kötü ☐ Çok Kötü

15. Bu parkta aktiviteleriniz için yeterince alan olduğunu düşünüyor musunuz?

- ☐ Çok kalabalıktır
- ☐ Yeterince alan vardır

16. Lütfen Kişisel bilgileriniz hakkındaki aşağıdaki soruları cevaplayınız:

- a. Nerede kalıyorsunuz?
- b. Yaş:
 - ☐ 20 ve aşağı ☐ 21 - 40
 - ☐ 41 - 60 ☐ 61 ve üzeri
- c. Cinsiyet:
 - ☐ Erkek ☐ Kadın
- d. Eğitim durumu:
 - ☐ İlkokul ☐ Orta Okul
 - ☐ Lise ☐ Üniversite

Appendix 2

User Survey

This evaluation is a part of my M.Sc. thesis in city and regional planning department, Architecture faculty Dokuz Eylül University. My thesis case of study is evaluation of parks design in Karsiyaka.

Park name:

date:

Please answer the above questions about this park.

1. Over all, how satisfied are you from the current conditions of this park?
(Facilities)

(Strongly dissatisfied) (Strongly satisfied)
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

2. How is your accessibility to the nearest neighborhood park?
(Accessibility 1)

(not accessible at all) (very accessible)
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

3. How do you come to park? (Accessibility 2)

☐ By walking (1)
☐ Private car (2)
☐ Public bus (3)
☐ Bicycle (4)

4. How much far is your house from the nearest park? (Accessibility 3)

☐ 5 - 10 minutes by walking (1)
☐ 15 - 30 minutes by walking (2)
☐ 10 - 20 minutes by bus (3)
☐ More than 20 minutes by bus (4)

5. How is your relaxation feeling in this park? (Comfort 1)

(not relax at all) (very relax)
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

6. Is there enough space in the park for your activities? (Confort 2)
- ☐ Too Crowded (1)
 - ☐ Enough Space (2)
7. In general, how much safe do you feel this park is? (Security)
- (not safe at all) (very safe)
- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
8. What for do you come to the park? (User activity)
- ☐ For walking (1)
 - ☐ For doing sport (2)
 - ☐ For spending time with friends (3)
 - ☐ For meeting new people (4)
 - ☐ For enjoying the nature and green areas (5)
9. Please rate the condition of the play equipment or courts. (Equipment)
- ☐ Very poor (1)
 - ☐ Poor (2)
 - ☐ Good (3)
 - ☐ Very good (4)
10. If any, what are the ages of the children in your household?
(Check all that apply), (User Frequency 1)
- ☐ 0 to 5 years (1)
 - ☐ 6 to 10 years (2)
 - ☐ 11 to 15 years (3)
 - ☐ 16 to 18 years (4)
11. How often do you use this park? (User Frequency 2)
- ☐ Daily (1)
 - ☐ Weekly (2)
 - ☐ Monthly (3)
 - ☐ Occasionally (4)
 - ☐ Rarely (5)
12. Generally, how many people do you come to the park together?
(User Frequency 3)
- ☐ Alone (1)
 - ☐ With family (2)
 - ☐ With friends (3)

13. How much time do you spend in this park? (User Frequency 4)

- ☐ 10- 30 minutes (1)
- ☐ 30 minutes to 1 hour(2)
- ☐ 1-2 hour (3)
- ☐ More than two hours (4)

14. Your Personal information please:

a. Where do you live?

b. what is your age? (User Frequency 5)

- ☐ 20 and under (1) ☐ 21 to 40 (2)
- ☐ 41 to 60 (3) ☐ 61 and over (4)

c. What is your gender? (User Frequency 6)

- ☐ Male (1) ☐ Female(2)

d. What is your level of Education please? (User Frequency 7)

- ☐ Preliminary school(1) ☐ Secondary School (2)
- ☐ High School (3) ☐ University (4)

15. What kind of Green Areas as Open Space Development do you want?

(Please write in brief). (User Demand)

.....
.....

16. Please explain your problems and complains in the parks that you have.

(User Problems)

.....
.....

Appendix 3

Researcher Survey form (Hashmatullah Sultani)

This evaluation is a part of my master degree thesis in city and regional planning department, Architecture faculty, Dokuz Eylül University.

CASE STUDY: EVALUATION OF THE DESIGN OF PARKS IN KARSIYAKA

Characteristic	Very Poor	Poor	Adequate	Good	Very Good
Accessibility					
Location					
Seating					
Well Kept					
Pavement					
Site Drainage					
Visual Elements					
Circulation					
Land Form					
Spatial Organization					
Energy and Water Conservation					
Landscape Character					
Attractive					
Harmony					
Contrast					
Color					
Repetition					
Balance					
Human Scale					
Furnishing					
Scale And Proportional Elements Of Parks					
Security					
Sense Of Relaxation					
Sense Of Dynamic Action					
Sense Of Delight					
Sense Of Enjoyment					
Size And Visual Character Of Trees					

Appendix 4

Evaluated parks' pictures and locations



Figure 1 Karşıyaka Pier Park

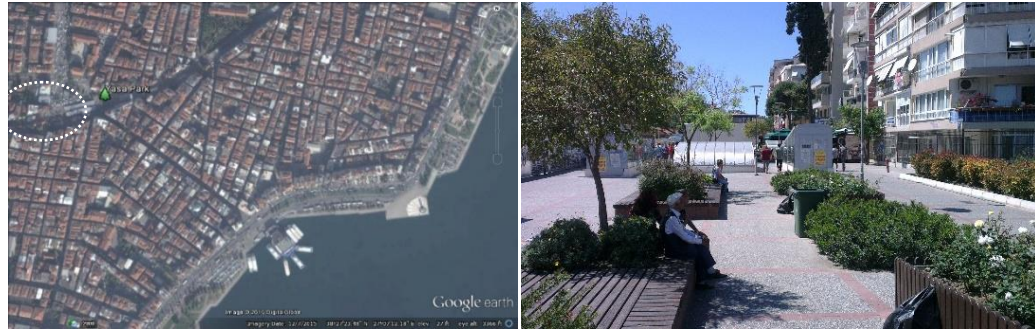


Figure 2 Yasa Park



Figure 3 Zafer Alatay Park (New Park)

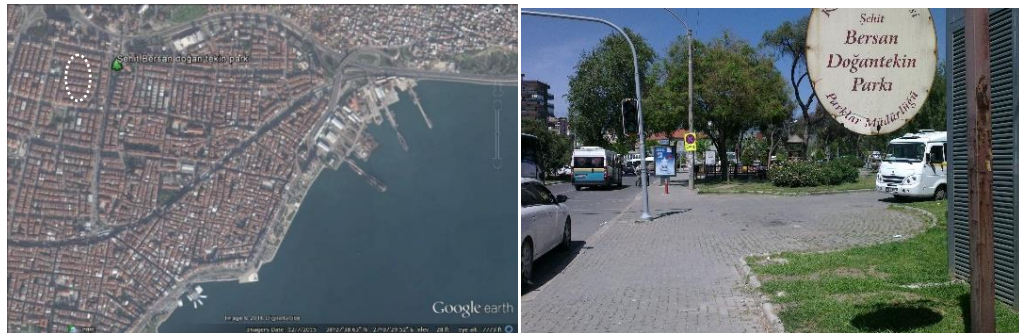


Figure 4 Bersan dogan Tekin Park



Figure 5 Sogukkuyu Park

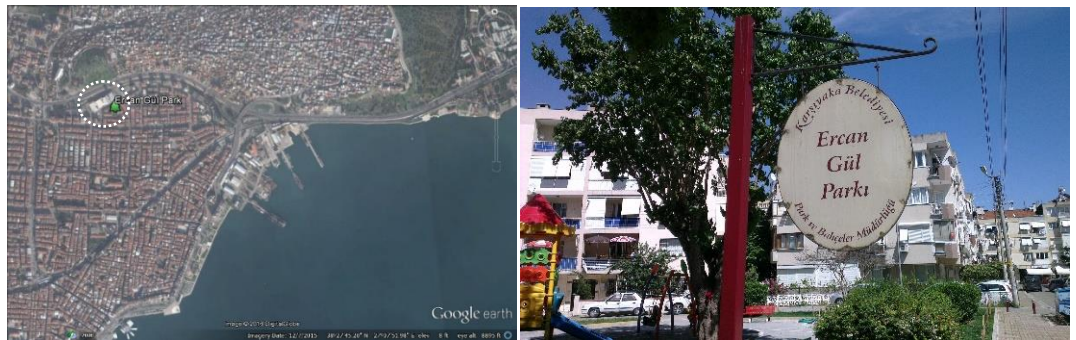


Figure 6 Ercan Gul Park (New Park)

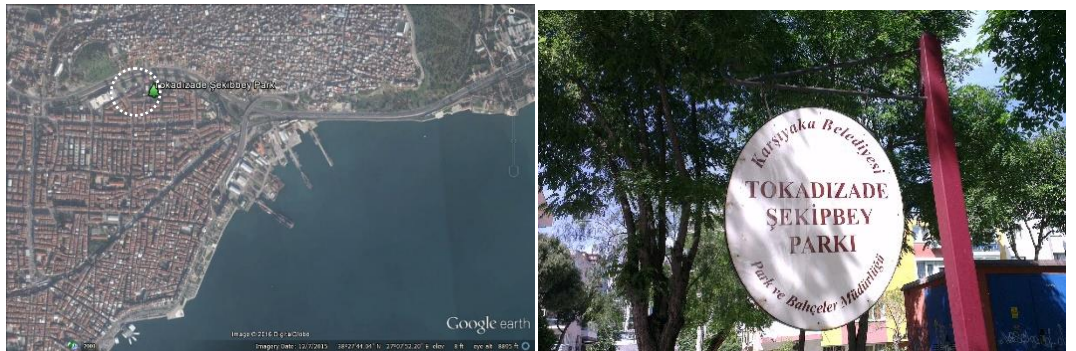


Figure 7 Tokadizade Sekibey Park



Figure 8 Ahmet Buzkurt Park



Figure 9 Bahceli Evler Park (Beside highway)



Figure 10 Baris Selcuk Park (New Park)

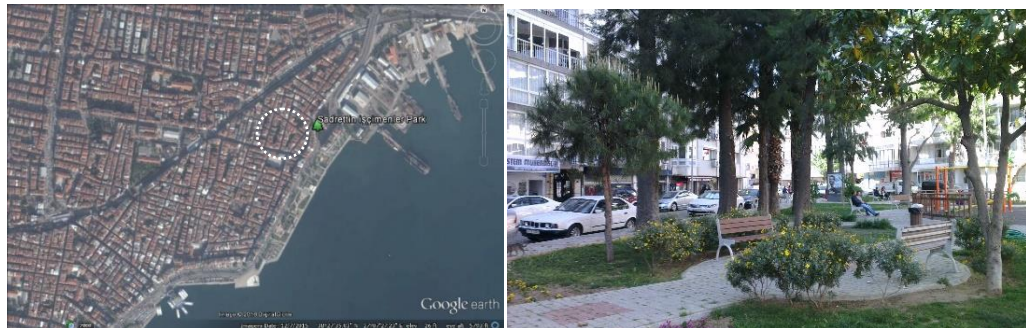


Figure 11 Sadrettin İscimenler Park (New Park)

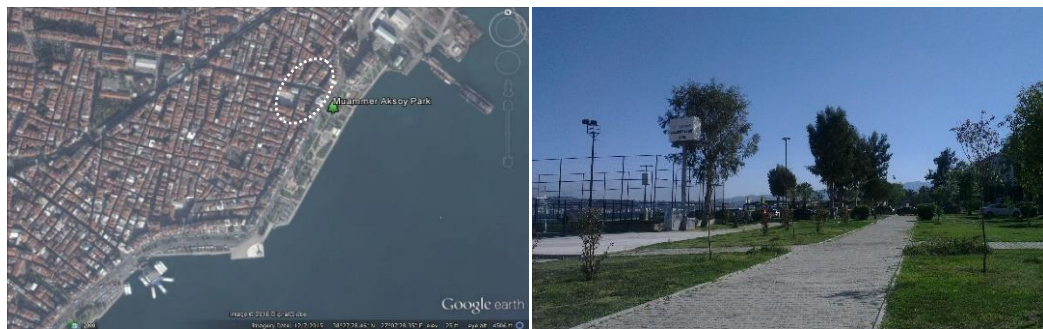


Figure 12 Muammer Aksoy Park (Part A)



Figure 13 Muammer Aksoy Park (Part B) (New Park)



Figure 14 Karşıyaka Yunuslar Park



Figure 15 Dincer Sezgin Park (New Park)

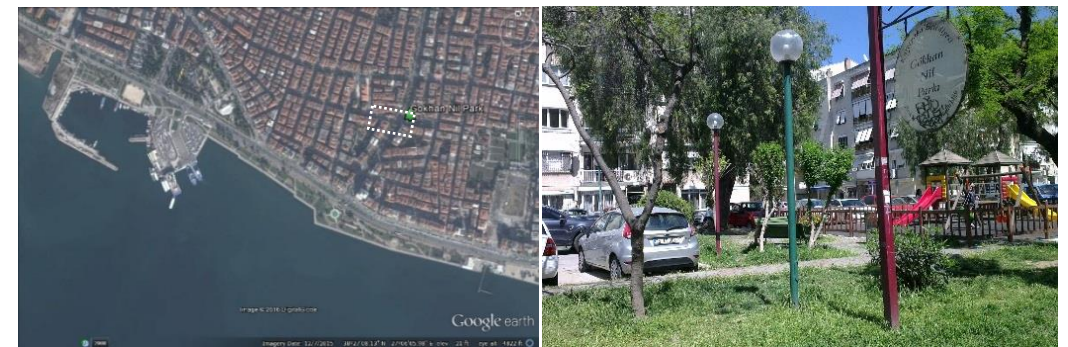


Figure 16 Gökhan Nil Park

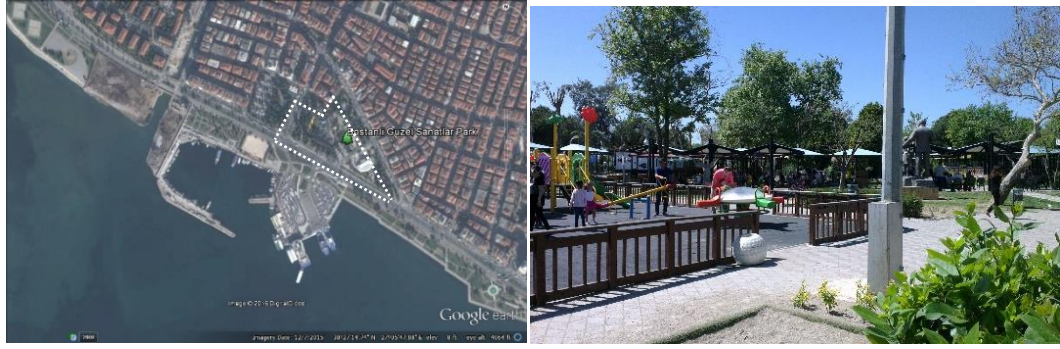


Figure 17 Bostanlı Güzel Sanatlar Park



Figure 18 Hifzivedet Velidedeoglu Park

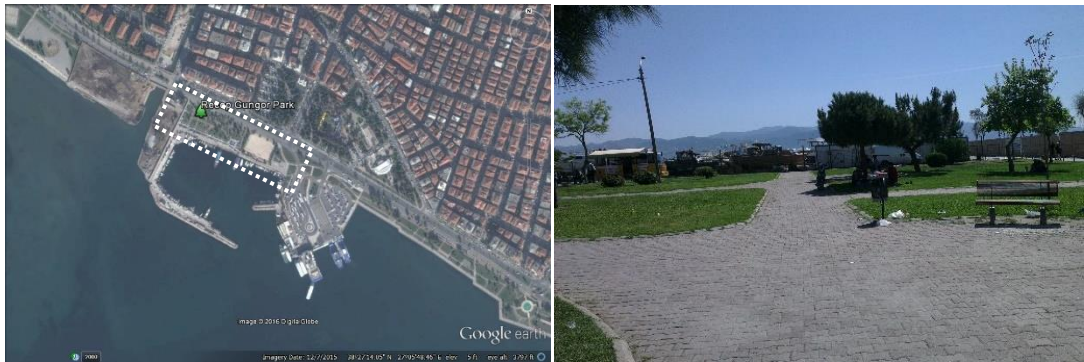


Figure 19 Recep Gungor Park



Figure 20 A.Hikmet Ayerdem Park



Figure 21 Ilhami Yilmaz Park



Figure 22 Ugur Mumcu Park (New Park)



Figure 23 Tuncel Kurtiz Park (New Park)



Figure 24 Tahir Turtekin Spor Tesisleri



Figure 25 Mandalin Park



Figure 26 Demir Ali Durgut Park



Figure 27 Olof Palmi Park (New Park)



Figure 28 Hasan Turker Park



Figure 29 Ahmet Taner Kislali Park (New Park)



Figure 30. Manolya Park



Figure 31 İlyas Muskul Park



Figure 32 Karşıyaka Anadolu Lisesi Park



Figure 33. Şehitler Park