ISTANBUL TECHNICAL UNIVERSITY ★ GRADUATE SCHOOL OF SCIENCE ENGINEERING AND TECHNOLOGY

ASSOCIATION BETWEEN HIGH-RISES AND URBAN PUBLIC SPACES SURROUNDING THEM
CASE STUDY: ISTANBUL SAPPHIRE BUILDING

M.Sc. THESIS

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To my family,

FOREWORD

This master thesis was written following all the beneficial courses and enjoyable experiences during my master's degree at Istanbul Technical University. Many people supported me in this challenging process, and now there is a little effort to show my genuine appreciation to them.

I would like to start with my Thesis Advisor, Prof. Dr. Handan TÜRKOĞLU, and express my deepest gratitude for her supervision, criticism, efforts, and endurance since the beginning of this process.

I also would like to expose my heartfelt recognition to my family for their endless love and support in every step of my life.

And finally, special thanks to my dear friends for their great concernment and help during my thesis process.

December 2019   Ayda SAFARALIPOUR
                                                                                    Urban Designer

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ABBREVIATIONS

CTBUH   **:** Council on Tall Buildings and Urban Habitat

POPS   **:** Privately Owned Public Spaces

PPS   **:** Project for Public Spac

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**ASSOCIATION BETWEEN HIGH-RISES AND URBAN PUBLIC SPACES
SURROUNDING THEM
CASE STUDY: ISTANBUL SAPPHIRE BUILDING**

SUMMARY

Rapid urbanization and population growth change our perception of living and working in cities; urban public spaces have affected due to these rapid changes. Nowadays cities are suffering from three main problems. First, the human-based problems which are related to the rapid development of population, second, are the problems related to resource reduction, and the third one is environmental problems. All these problems rising after the migrations start from rural areas to urban area.

In the last two decades or so, there has been a vast migration of people from rural areas to cities to have a modern life and access to new technologies. These migrations lead to a lack of urban spaces in the city, and as a result the vertical construction developed for solving this problem. High-rises can cause many problems due to their unplanned urban development. Environmental and social issues, are the ones which mostly affect the urban spaces and quality of using public spaces. So, even if all the design principles have done correctly and the high rise constructed sustainably, it does not mean that its impacts might always be positive. Because designing a high rise is not just about architectural details, but it also relates to the relation of that structure with its surrounding environment. So, designing a high-rise structure needs more knowledge about its design principles.

In today's modern city, high rise constructions are not usually designed and planned with all the features in mind, especially they designed without any attention to human scale, pedestrian movements, and the way people going to use the area. Also, some problems are related to the ownership of spaces around. Urban areas around high-rises are often spaces that have specific ownerships, and they usually belong to a private individual. So, we could consider them as semi-public spaces in which an individual may feel a sense of ownership on it. These spaces should be designed well to get people together and make social life the city more active and integrated with the surrounding areas.

In a broad view, high-rise, as a landmark, has many impacts on the city and the district, which located. These impacts might be quite visible in pedestrian movements and the way people using urban public spaces around high-rises. With keeping in mind that high-rise structures can cause inequalities in the urban fabric, public spaces should design in a way that people from different social statuses and different ethnicities and various general backgrounds could be able to use these spaces. In this context, public spaces have experienced various processes of change.

After setting zoning rules in urban areas the norms about urban public spaces changed. Especially the areas which are privately-owned. Following these rules, high-rises should have a space around them. The size of these spaces depends typically on the height of the high rise. But during designing a high-rise if this factor do not kept in mind may causes segregation between the norms, which are known by everyone about urban public spaces. And the result is usually empty urban areas with no function and identity around high-rises.

It can understand that high-rises always considered as a problem in places that they not designed and planned sufficiently. In the case of environmental and social aspects because they perceived unpleasant structures that are not in harmony with their surrounding area.

The current study mainly focuses on the impacts of high-rises on the urban area and their relationship with the public open spaces surrounding them. And aims to expose that do these structures are the reason for the creation of privately-owned public spaces? Are they have a role in increasing the speed of development for spaces without identity? How people use these spaces, and what are the indicators that can affect the use of these areas? To answer all of these questions, we are going to focus on the area around Sapphire building located at Istanbul Büyükdere Avenue, which considered as a mixed-use high-rise structure with a semi-public urban open space which managed privately but used as a public space, in front of it.

The area around Sapphire, influenced by many critical historical processes such as modernization with starting public housing projects and also squatter houses as a result of industrialization and migrations to the city at the Çeliktepe region. Furthermore, globalization of the area along Büyükdere axes shaped the region as a business district and created a mass of high-rises, which remarkably change the skyline of the historical city Istanbul, and function of the urban public spaces in this area. All these processes have impacts on the public spaces in the area and also the urban area around Sapphire. Because these spaces have exclusive ownership, but also, they are in public use, we can say that they are spaces that are physically open to the public, but in reality, they don't belong to the public. So, there are some restrictions for the people who use this kind of urban space.

This study tries to find out how can mixed-use high-rise structures like Sapphire affect the activities that take place in its surrounding urban area. And also, find out if the design principles correctly chosen according to the physical shape of the building or some implications should be done to have an integrated public space with the high-rise structure and surrounding area.

Site observations were done to examine whether people affected by the high-rise structure when using the public space around Sapphire. Some questions asked to the users about the activities they do in the area. And is the activity optional or necessary for them? And also, how often they use the space. Or is there a reason for pedestrians to change their routes for standing in that area. Does the ownership of space affect their use?

The observations show that Sapphire as a landmark for the city is designed well in terms of architectural components and considered as the first ecological high-rise structure in Turkey. However, exterior design could not reach the standards of urban public spaces and did not pay attention to attract people and their customers. Furthermore, this creates an urban area that isolated to one type of activity and users do not visit the space by their own wish.

By taking into account that people enjoy open spaces because of living in high densities, the importance of well-designed open spaces is gradually increasing. So, the private sector should pay more attention to designing exteriors and also urban furniture for the citizens. Using the most desirable element like water in such spaces could help to increase user satisfaction and attract more people. Also, having urban furniture in the space that can placed in order to user's desire and wish like moveable chairs or

designing comfortable edges could be useful for making people stay longer in the space.

YÜKSEK YAPILARIN ETRAFINI ÇEVRELEYEN KAMUSAL AÇİK ALANLARLA İLİŞKİSİ
ÇALIŞMA ALANI: ISTANBUL SAPPHİRE BİNASI

ÖZET

Hızlı kentleşme ve nüfus artışı kentlerde yaşama ve çalışma algımızı değiştirmektedir; özellikle bu değişimden en fazla etkilenen kentsel kamusal alanlardır. Günümüzde şehirlerin üç ana sorunu, nüfusun hızlı gelişimi ile ilgili insan kaynaklı sorunlar, ikincisi, kaynakların tüketilmesiyle ilgili sorunlar ve üçüncüsü ise çevresel sorunlardır. Bu bağlamda yüksek yapıların kamusal kent mekânına girişi bu sorunları tetiklemiştir. Yirminci yüzyılda, insanların modern bir hayata sahip olmak ve yeni teknolojilere erişmek için kırsal alanlardan şehirlere göçü başladı. Bu göçler kentte, kentsel alan eksikliğine yol açarak dikey yapılaşmayı, bu soruna bir çözüm olarak geliştirdi.

Biçimsel olarak yüksek yapılar, kentsel alanlar ve kamu alanlarının kullanma kalitesini etkileyen, Çevresel ve sosyal sorunlara yol açıp planlanmamış kentsel gelişim nedeniyle birçok soruna neden olabilirler. Bu nedenle, tüm tasarım ilkeleri doğru yapılmış ve bu yüksek katlı yapılar sürdürülebilirlik kavramlarına uygun bir şekilde yapılmış olsa bile, bu etkilerinin her zaman olumlu olabileceği anlamına gelmiyor. Çünkü yüksek binalar tasarlamak sadece mimari detayları çözümlemek değil, aynı zamanda yapının çevresiyle olan ilişkisi ile de bağlantılıdır.

Kentsel nüfusun devam eden büyümesi, şehirlerin sağlıklı ve yaratıcı bir yaşam tarzı, iş ve eğlence aktiviteleri için koşullar sağlama ihtiyacını artırmıştır. Şehirlerde mekânsal planlama açısından en önemli eksiklik, yeterli kapsam ve kalitede bir kamu alanı ağına sahip olmamaktır Buda Günümüzün modern kentinde yüksek yapıların inşa edilmesi ile, tasarım ve planlama aşamalarında, insan ölçeği ve faaliyetlerini göz önünde bulundurmadan yapılmasına neden olmuştur. Bu yapıların etrafını çevreleyen kamusal alanlar, genellikle özel mülkiyetli alanlar olup yarı kurumsal alanlar olarak adlandırılır ve insanların bir arada toplanması, binaların içinde izole olmaktan kurtulması ve sosyal hayatı daha aktif hale getirerek çevre alanlarla entegre bir biçimde tasarlanmalılar.

Bir kent imgesi olarak yüksek yapılar, kent ve çevresi üzerinde birçok etkiye sahiplerdir. Bu etkiler yaya hareketlerinde ve insanların yüksek binaların etrafındaki kentsel kamusal alanları kullanma biçimiyle oldukça ilişkilidir. Yüksek katlı yapılar kent dokusunda eşitsizliklere yol açabileceği için, kamusal alanlar, farklı sosyal statülerden ve farklı etnik kökenlerden ve çeşitli genel geçmişlerden insanların bu alanları kullanabilecekleri şekilde tasarlamalılar. Bu alanların, etrafını çevreleyen yapılarla bir bütün olması durumunda kentte daha çok toplum odaklı bir kimlik kazandırırlar.

Bu durumda kamusal anlam ifade eden mekanlar kent ve kentli için bir iletişim noktası ve onun kimliğini temsil eden bir faktör haline geleceklerdir. Toplumun en küçük parçasını temsil eden insanların yaşam ve mekân anlayışlarına göre bu mekânların kalitesini arttırmak kamusal alanların tasarım sürecinde önemli bir yere sahiptir. Kamusal mekân kavramını algılamak ve insanların yaşam koşullarını bu anlamda arttırmak bu alanların kent için daha kullanışlı mekanlara dönüşmelerini sağlar.

Kentin bazı Bölgelerindeki arazilere verilen yüksek emsaller sonucu oluşan yüksek katlı yapılar, genellikle tasarım sürecinde insan ölçeğini göz önünde bulundurmamışlardır ve Sadece kullanıcıları için değil kent yaşamı için de bir rol

üstlenmeleri gerekirken yanlış tasarım kararları sonucunda işlevsiz kamu işyerleri ve karma kullanımlı yapılara dönüşmüşlerdir.

İmar kuralları gereğince, yüksek binaların etrafını çevreleyen açık alanların olması zorunlu bir tasarım ilkesi haline gelmiş ve bu alanların büyüklüğü gökdelenlerin yüksekliği ile yakından ilişkilidir. Yüksek bir bina tasarlanırken bu faktör göz önüne alınmadıkça, kentsel kamusal alanlar hakkında bilinen geleneksel kurallar ve biçimler git gide yok olmaya başlamakta ve bu alanlar genellikle işlevsiz ve belirli bir kimliğe sahip olmayan boş kentsel alanlara dönüşmektedir.

Yüksek binalar, çevreleriyle uyum içinde olmadıkları için, genellikle çevre ve sosyal boyutlar açısından bir sorun olarak görünürler. Bu çalışma temel olarak gökdelenlerin kentsel alandaki etkilerini ve onları çevreleyen kamusal açık alanlarla olan ilişkilerine odaklanmış ve bu yapıların kamusal alanın ortaya çıkma sebebi olabilmelerini aynı zamanda kimliksiz alanların ortaya çıkmasında etkileri sorgulamaktadır. İnsanlar bu alanları nasıl kullanıyor ve bu alanların kullanımını etkileyebilecek göstergeler nelerdir? Bu çalışmada tüm bu sorulara cevap bulmak için, etrafında yarı kamusal bir kentsel açık alana sahip olan, karma kullanımlı, yüksek katlı bir yapı olarak kabul edilen İstanbul Büyükdere Caddesi'ndeki Sapphire binasının çevresindeki alana odaklandık.

Sapphire çevresi, birçok kritik tarihsel süreçten geçmiş ve toplu konut projelerinin başlatılmasıyla modernizasyon ve aynı zamanda sanayileşmenin de etkisiyle, Çeliktepe bölgesine ve kente göçler sonucu meydana gelen gecekonduların oluştuğu süreçlerin etkisi altında kalmıştır. Bölge zaman içinde çeşitli gelişmeler sonucunda ticaret bölgesi olarak biçimlenmiş, tarihi İstanbul kentinin ufuk çizgisini değiştirerek bu alandaki kentsel kamusal alanların işlevini önemli ölçüde değiştirmiş ve yüksek binaların bulunduğu bir bina kütlesi yaratmıştır.

Bütün bu süreçler, bölgedeki kentsel kamusal alanlarda özellikle Sapphire çevresindeki kentsel alanda etki yaratırken. Özel mülkiyetli ama aynı zamanda kamuya ait ve kamu kullanımına açık kentsel alanlar ortaya çıkarmıştır. Dolayısıyla, bu tür kentsel alanlar kullanıcılar için bazı kuralar ortaya koymuş ve faaliyetlerini kısıtlamıştır. Bu çalışma, Sapphire gibi karma kullanımlı yüksek yapıların çevresindeki kentsel alanda gerçekleşen aktiviteler ve bu aktivitelerin bireyleri nasıl etkileyebileceğini irdelemekte ve araştırmaktadır.

Sapphire çevresindeki kamusal alanı kullanırken insanların bu tur yüksek yapılardan etkilenip etkilenmediğini incelemek için saha gözlemleri yapıldı. Kullanıcılara bölgede yaptıkları faaliyetler hakkında bazı sorular soruldu. Yaptıkları Aktivitelerin isteğe bağlı mı yoksa zorunlumu olduğu soruldu ve aynı zamanda alanı hangi sıklıkta kullandıkları öğrenildi. Yayaların yürüme rotalarını değiştirerek alanda durmaları için bir sebepleri olup olmadığı gözlemlendi ve son olarak da Alanın özel mülkiyetli olması kullanıcıların aktiviteleri için bir engel mı? mülkiyeti insanların kullanımını etkiliyor mu? Gibi sorular soruldu. Gözlemler sonucunda, kent için bir imge olan Sapphire'ın mimari bileşenler açısından iyi tasarlandığını ve Türkiye'deki ilk ekolojik yüksek yapı olarak değerlendirildiği görünsede, binanın dış tasarımı kentsel kamusal alan standartlarına ulaşamamış ve insanları ve kullanıcıları alana çekmek için yeterli düzeye ulaşamadığı görülmüştür. Başka bir değişle izole edilmiş kamusal alanlar ortaya çıkarmıştır.

Günümüzde insanların yüksek yoğunlukta yaşadıkları sebebiyle açık alanlarda bulunmaktan zevk aldıkları dikkate alındığında, doğru planlama ve tasarım stratejileri ile tasarlanmış kamusal alanların önemi de giderek artıyor. Bu nedenle, özel mülkiyete ait kamusal alanların tasarımında dış mekânın kalitesine ve kent mobilyalarının

tasarımına daha fazla dikkat edilmelidir. Bu gibi alanlarda birçok tasarım ilkesine dikkat edilmesi gerektiğinin yani sıra, su elemanı gibi en çok sevilen ve tercih edilen elemanları kullanmak ve kullanıcının kendi isteğine göre kullana bileceği taşınabilir sandalyeler tasarıma dahil edilebilir.

1. INTRODUCTION

1.1 The Aim and Content of Thesis

In the last decades, the knowledge about public spaces entered the process of change with the emergence of privately-owned public spaces (POPS). This is the kind of space that is physically reachable by the public without any payments need but the owner is usually a private sector. shopping malls and other urban plazas around high-rises, especially plazas at downtown Manhattan New York could considered as examples for this kind of urban area that are publicly used but privately owned.

With the increasing speed of migrations to the urban area and expansion of population in the cities, we need to find other ways to live in urban areas and change our attitude about life and working conditions in high-rises in the city.

Nowadays, high-rises and vertical theory that the world's most large cities are facing, are the important indicator that can directly affect urban areas and lifestyle of residents due to their environmental, social and economic effects which creates attraction points in the cities.

We all know that choosing the correct location in terms of accessibility, cultural, economic, climatic aspects is an essential factor in the design process of a high-rise structure. Environmental issues, including, increasing environmental pollution, and decreasing the amount of fresh air and sunlight, are other important indicators that can affect the urban spaces surrounding high-rises. At the same time, social effects might also have impacts on these urban open spaces too.

The study proposes to explain the impacts of high-rise structures on urban areas surrounding them which are mostly privately owned and managed, and the relationship between these impacts and urban open spaces around, considering the ownership of these spaces by focusing on users' profile, uses, and activities, accessibility functions, and restrictions in the area. And find out if there is a correlation between this public, but at the same time, privately owned urban areas and high-rise structures.

1.2 Hypothesis

According to zoning rules and floor-area-ratio (FAR), every structure needs space around it, and high-rises usually need much more. Because as the height increases, the amount of area around must be increases too. So, this space must be designed well to answer the needs of users inside the building if it has private ownership, and also users from both inside and outside, if the area has the function of privately-owned urban space or wholly public space with considering the accessibility functions.

High-Rises have both positive and negative impacts on the urban area surrounding them. These impacts might be environmental, social, or economic. Moreover, we can see an association between these impacts and the ownership of urban public spaces around them, which directly affects the users and uses of the urban space.

1.3 Methods of the Research

In William Whyte's, The Street Life Project, which was done in New York City's urban spaces, including parks, playgrounds, and cities urban areas around plazas and office buildings, he started by studying the way that people use the plaza. By Setting time-lapse cameras viewing the plaza and recorded daily patterns. Through talking to people, he notices where they go and where they come from, the working place, and with which intervals they used the area. What is their perception about space, and which activities they prefer to do? His observations mostly done by watching people's actions in space. (Whyte, Street life project, 1980).

The same methods are used in this study, like time-lapse photography and direct observations of users by asking some questions about the space and about why they use it. According to this method, the Demographics of users of high-rises and private public spaces around them observed. Also, seattable spaces are defined by analyzing people's choices. And further, the ownership of the space, the user profile, the uses and activities, accessibility, and restrictions in the spaces around the high rise are determined. To find out the relation between high-rises and their surrounding area. For this purpose, some researches done on the case area Istanbul Saphhire. After The literature reviews done the study continues to analyze the environmental, social, and economic impacts of Sapphire building as a high-rise structure and the relationship between these impacts and the features of privately-owned public spaces.

All the site observations were done to examine whether people affected by the high-rise structure when using the public space around Sapphire. Or do the privatizations in ownership affect the users? Time-laps photographs were taken to see what is the reason for pedestrians to change their routes for standing or doing their optional daily activities in that area.

2. URBAN PUBLIC SPACES

2.1 Definition of Urban Area and Public Spaces

Creation of an urban area started from a social arrangement with high population density under the support of the built environment. The urban population increased from 746 million in 1950, to 3.9 billion in the decades. By the year 2009, a sudden increase in urban population density caused a massive human flow from rural to urban areas (United Nations, 2018). Every country and every region have its definition of "urban". This might vary according to reclassifications during the time.

There are various definitions of public spaces. In some of them, the main focus is on what mainly public spaces is? And others mostly discuss how an urban public space should be? And what are the design principles for creating a pleasant public space?

urban public space defined between two conceptual participants of 'open space and 'public space.' so we could consider these spaces like urban open public space (M, O, & O, 2012) which creates a public sphere to make connections between the natural environment and social needs of users (Madanipour, Roles and Chalenges of Urban Design, 2007).

Another term about defining public spaces is the public sphere which can be described as "a common ground that connects society, where people perform functional and ritual activities in their normal daily routines or periodical festivals". When we consider cities as a whole, they appear as a silhouette with shapes of tall and sharp buildings rising into the sky; but when we enter the city, we want to see the most and the nature of the region that gives us the most information about public spaces. Public space extends from streets to squares and parks and surrounding buildings and forms the most important parts of cities.

According to Walpole, public spaces have an essential role in the social life of communities. Golicnic and Carmona et al. consider 'people' and 'place' as the urban components. This means that the strong relationship between these two can create

public spaces (Worpole, 2008) (Golicnik, 2004) (Carmona, Tim, Oc, & Tiesdel, public places- urban spaces:the dimentions of urban design, 2003).

William Whyte argues that, people show their interests in the urban area by their footprints. They mostly use places which are more accessible and they can feel safe. Moreover, the design of these spaces should be considered by the needs and a pattern of use for pedestrians in the urban area.

Increasing the quality of public spaces started with the PPS Project for Public Spaces, which was founded in 1975 to expand the work of William H. Whyte, author of the book Social Life of Small Urban Spaces. The aim was to build stronger societies, nonprofit planning, and design, and training organizations to help people who create and maintain spaces with its four key attributes related to urban public spaces which listed as; access and connections, comfort and image, uses and activities and sociability. With providing these functions in urban public spaces we will have more lively public spaces.

Figure 2.1 : PPS diagram for successful public spaces (URL4, 2019).

According to William Whyte's street life project, which mainly focuses on New York's parks and playgrounds and natural recreation areas as city blocks, He believes that people choose to stay in the places. But physical features of the place also can affect the way of using the space. "spaces around high-rise buildings are considered as problematical spaces. In winter, they perceived cold and drafty, and even in moderate weather, no one wants to stay in this kind of urban space." (Whyte, Street life project,

1980). For the urban areas around the high-rises, wind tunnel tests should be done on models before constructing the building, and these spaces should be built with people much in mind. after many tests and observations, it is evident that buildings with extreme heights can cause enormous wind effects down their side. So, this might prevent the use of space and changed the functions of urban public open spaces around high-rises. Whyte's studies, in urban public spaces around high-rises, reveal that the most interesting attraction for people is other people. People must feel safe and comfortable in urban spaces. Environmental and physical factors are an essential element which can affect the use of space — feathers like sitting spaces, sun accessibility, using creative designs with water elements should set successfully in the area in order to reach a pleasant and desirable urban space.

Lang, as an architect and urban designer, believes that there is a direct relationship between people and their social relations with the physical environment. From his point of view, people always can make connections with each other and with their surrounding area, but in some places, this might be easier (Lang, 2005). These urban spaces are the places which designed and planned with more humanistic features.

According to many thinkers, urban public spaces considered as an essential component in improving and increasing the amount of social life in the city's structure. So urban spaces are the context for the development and strengthening of social communication, in order to establish a sense of security and trust in the public space, on the other hand, it is a determinant that helps to establish social relations and collective life of the users. Urban public spaces have become more prominent over the centuries. But the everyday increase in the urban population takes risks to the future of these spaces. The development of urban life has different impacts on public spaces. These impacts are mainly environmental social and economic, which, as a result, vertical construction emerged into cities and changed the forms and functions of urban public spaces.

Many scholars consider urban public spaces that are in close relation with the social, physical, and political aspects of people who live in urban areas and other communities. Some of them think that pedestrian-friendly urban spaces with high quality can provide a desirable urban experience for users (Whyte, Street life project, 1980) (Jacobs, 1961) (Tibbalds, 2001). While others who have a political point of view like Habermas argue that a spatial idea of a "public sphere" where the functioning of government extended when urban space encourages negotiation and compromise

between different subcultural groups (Carr, 1992) (Habermas, 1997) (Sandercock, 1998) (Madanipour, Public and Private Spaces of the City, 2003).

2.2 Evolution of Public Spaces, Privatization and Zoning Process

During history, public life based on the street and the square, and later in the parks and recently between or in front of high-rises. Parallel to the changes in economic and social life, urbanization, industrialization, and capitalism, significant changes both in public life and public spaces happened.

The ancient using pattern of urban open spaces mainly based on community meetings. All the religious, governmental, and commercial activities done in one space, and the urban area is more functional in comparison to the modern ones. In middle eastern cities of 4000 years ago, however, we already find that the temple square and the market square were separated physically as well as functionally.
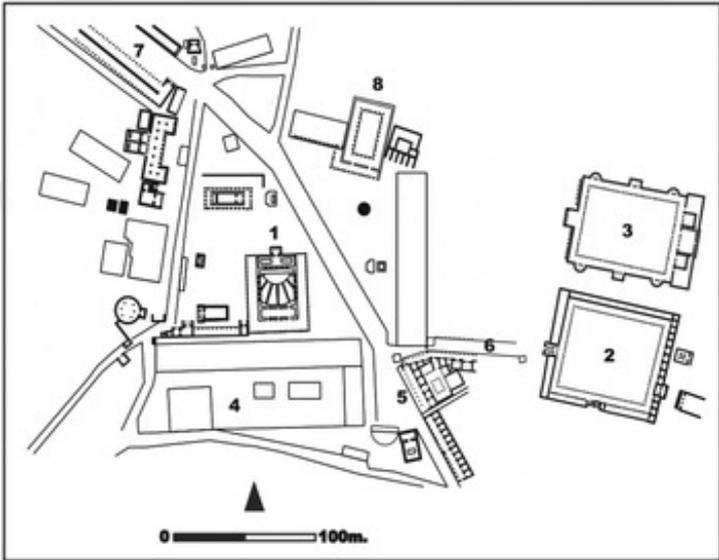
Figure 2.2 : The Agora of Athens in the second century (Evangelidis, 2015).
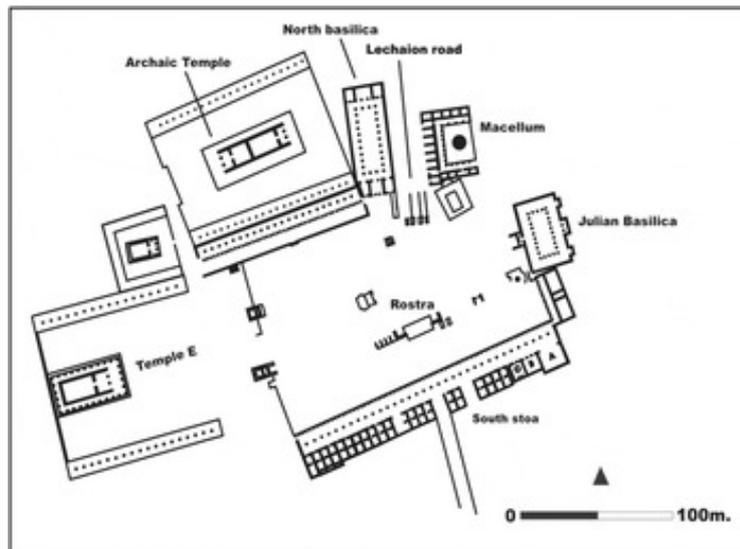
Figure 2.3 : The Forum of Corinth in the first century (Evangelidis, 2015).

The most prominent aspect of traditional public spaces is that, the creation ownership and management of them is under governmental organization's control. And they are always free to access by the citizens. creation of this kind of space increases the satisfactory of users of space and also meets the social, economic, cultural, environmental needs of the public (Carmona, Tim, Oc, & Tiesdel, public places- urban spaces:the dimentions of urban design, 2003) (Carr, 1992).

If we think of the prehistoric urban gathering space which had many uses as a prototype that still survives in simple communities everywhere, then we can begin to know how great an act of invention the walling-off of a temple square was. This separation tells us as it told the residents of Babylon, 'here something special is going on'. As if exhausted by this leap into complication, the people in this region remain satisfied with a two-part division of urban open spaces. After the industrial revolution and by the middle of the 19th century, significant changes took place in the public space of many major European cities. Distinctive commercial areas developed, markets, and squares centralized to streets and boulevards for the presence and gathering of citizens.

Construction of big shopping malls, railway stations, exhibition halls, intensified the spatial development of the cities. Walking around new spaces in cities was only part of the emerging social phenomena in the second half of the nineteenth-century in Europe. These emerging societies have been able to publicly display their established social relationships while engaging effectively in the social life of the cities. So, streets

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and new boulevards and spaces between new buildings found new functions. They changed to places for street meetings and a gathering space for different groups in the city.

Along with the expansion of the Industrial Revolution and the Culture of Modernism in Europe and America, Other Asian and Third World countries are also imitating and adopting themselves to these developments of urban public spaces. Although the using pattern of Open spaces in different cities varied through history, despite these differences, public spaces are always a meeting place, marketplace, and a place for making social relations for the people.

After privatization which generally means transferring the ownership of public spaces to private individuals, much of public life is conducted in private places, such as shopping centers and privatized office and residential plazas. Urban public spaces around these structures have different regulations and functions. As developments go upward. the features of space changed. Private developers are usually interested in number of housing units because they focus on leasing and selling, so they want to build as higher as possible. Government agencies deal with population numbers linked to city services and infrastructure requirements. Moreover, urban planners are most concerned with floor area ratios (FAR) standards.

2.0 Floor-Area Ratio (FAR)
2-Story Height Limit
- Lot Size: 50,000 Square Feet
- Building Size: 100,000 Square Feet
- Lot Coverage: 100%

2.0 Floor-Area Ratio (FAR)
4-Story Height Limit
- Lot Size: 50,000 Square Feet
- Building Size: 100,000 Square Feet
- Lot Coverage: 75%
- More Open Space Opportunities
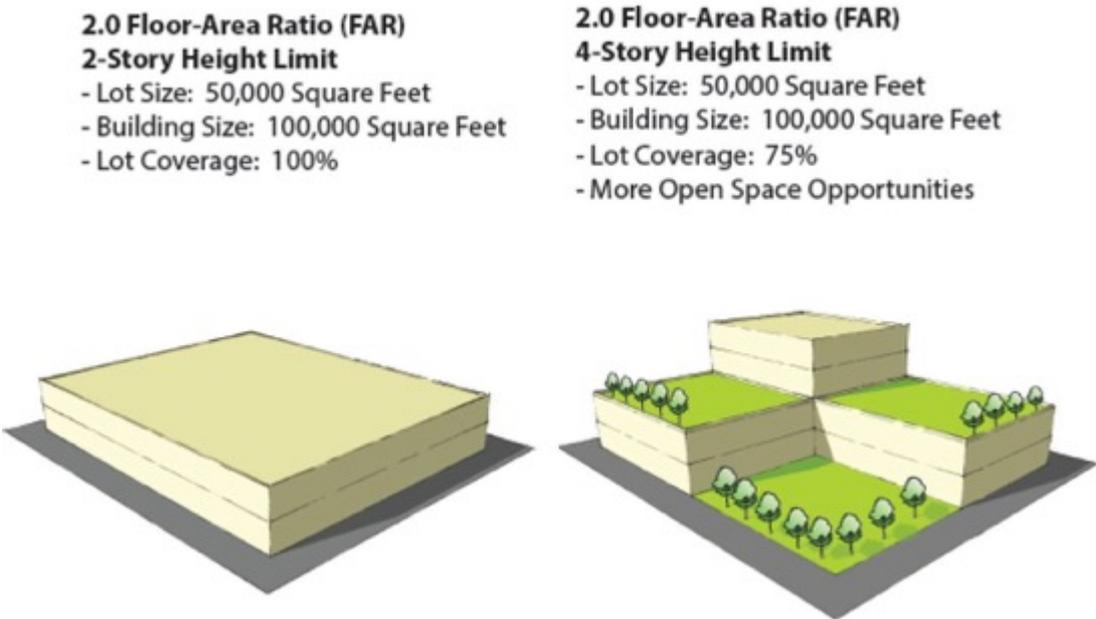
Figure 2.4 : Hight and Floor Area Ratio (FAR) (URL9).

FAR standards are closely related to the design of open spaces surrounding high-rises. Resulting from these standards zoning rules emerged in the cities. The first purpose of the developing zoning plan in the United States was to control the density. This is a solution for tall buildings that were too small on land parcels, made the streets too narrow and also do not provide any urban area for the users, which discovered by the New York City Estimation and Distribution Board in 1913. Also, the special commissions appointed by the Chicago Real Estate Board in 1923 as well. According to the records, the floor area ratios for the New York City and Chicago listed in the figure below.

New York (proposed 1952)

Zone type	Number of sub-types	Range of FAR
Residence	9	0.50 – 10.00
Commercial	16	0.80 – 15.00
Manufacturing	9	2.00 – 15.00

Chicago

Zone type	Number of sub-types	Basic floor area ratio
Residence	8	0.5 – 10.0
Business	7	1.2 – 16.0
Commercial	4	1.2 – 16.0
Manufacturing	3	1.2 – 7.0

Figure 2.5 : Floor Area Ratios for the New York City and Chicago (URL10).

Zoning regulations spread gradually between cities of the world and have an essential role in the privatization of urban public spaces. As a result of upward construction in cities, starting from New York City, the zoning laws are set to provide public spaces. In its earliest form, zoning was for the provision of light (Whyte, City : Rediscovering the Center, 2009). As mentioned before the first zoning low in the united states

announced in 1916 in New York City, which Divided cities in terms of user profile land use and Hight, and was copied by other cities around the country and world. Since 1916, zoning laws have affected open space. The result of this zonings is buildings with different shapes of ziggurat and wedding cake, like Empire State Building and Chrysler Building.

Figure 2.6 : Empire State Building - Ziggurat shaped structures according to 1916 zoning low (URL2).

Figure 2.7 : Chrysler Building - Ziggurat shaped structures according to 1916 zoning low (URL2).

All the emphasize of Districts was to ensure that developers didn't construct buildings that occupied 100 percent of a building's lot. While these regulations didn't address public space, they do so in preventing intensive private development (Project for Public Spaces (PPS), 2016).

Between the years 1961 and 2000 private office buildings and residential developers are asked to build an extra 16 million square feet of private space. Since 1961 the zoning rules governing privately owned public spaces, have changed in a much more good way. This space must be open to public for 24 hours even if they are owned and managed by a private sector (Privately Owned Public Space (APOPS) , 2012).

Another term that stands out among the zoning rules between these years is As of Right rule. It is a term used to describe a proposed development that, in balance, develops a property that fits all applicable zoning codes. In NYC, As of Right development does not require special permission, variances, or any optional action from the City Planning Commission or the Board Standards and Appeal. Most property developments are considered "As of Right". This means that no special assessment required for construction. As of Right Development is any development that has the right to do. Furthermore, that requires nothing other than the Ministry of Buildings review about its zoning regulations (URL8).

2.3 Privately Owned Public Spaces

After originating zoning lows in cities, the privately-owned public spaces are started to appear in cities as urban plazas that William H. Whyte documented in The Social Life of Small Urban Spaces and also includes indoor public spaces, known as atria (Privately Owned Public Space (APOPS) , 2012). Making public spaces private has been an issue in America since the '90s. People are starting to know that public spaces are not so public.

In 1961 New York started to establish zoning rules for developers. The aim of this law is to allow developers to build higher if they would provide for extras such as gallerias, roof gardens, garden courts, and other desirable urban spaces. the successful projects in this field remarked as Lever House and the Seagram Building. The Seagram Building, which completed in 1958 and designed by Ludwig Mies van der Rohe, is a successful example for these urban spaces with private ownership. The area is also known for its role as a space for exhibiting art in urban spaces.

Figure 2.8 : Seagram building NYC (URL2).

The planners executed the floor-area-ratio (FAR) to downsize buildings. For commercial zones, the FAR was usually around 15 sq. on average, office buildings rose to approximately 30 stories (Whyte, City : Rediscovering the Center, 2009).
It is evident that the existence of privately-owned public spaces is due to zoning laws established in 1961. The rules changed several times during the development process. The latest version of these regulations is about allowing developers to build taller

buildings with preserving plazas, passages, and all the other spaces that are around the high-rise structure and open to public use.

According to Jürgen Habermas, public space considered as spaces which residents of a nation could easily access and enjoy having the permission to use the area freely. By simple definition, public space is a place to be public and free without any rules and restrictions. The privatization of public spaces is one of the significant issues that nowadays, cities are facing (Habermas, 1997). While Cooper defines the space into two kinds of Public exterior and Intimate interior, Oscar Newman configures the space into four different parts. The first part is public space second is Semi-public space third one is semi-private space, and the last one is private space.
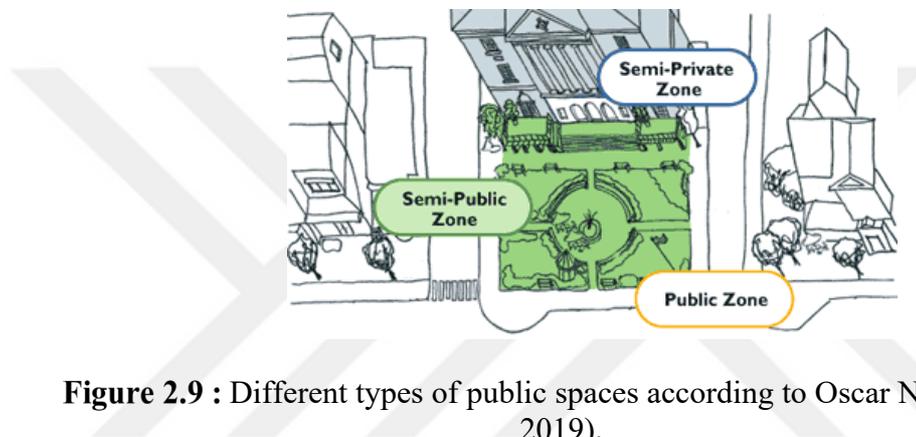
Figure 2.9 : Different types of public spaces according to Oscar Newman (URL4, 2019).

In today's modern city, semi-public spaces that have exclusive ownership are prevalent in use. Places around shopping malls, high rise structures, and other private buildings are considered new urban public areas in cities. Because most of the time, people need an attraction point to get together. The function of this attraction points affects the use of space.

Urban spaces around high-rises regarded as private property, which are in public use. As mentioned before, public spaces are spaces that are free and open to all, but these restricted semi-public spaces make some differences in defining urban public space. They may be closed at some hours in a day or maybe reserved for special events and may cause limitations in the use of space.

Therefore, in analyzing privately-owned public spaces, we should determine user profiles, uses, and activities, accessibility, and restrictions of them.
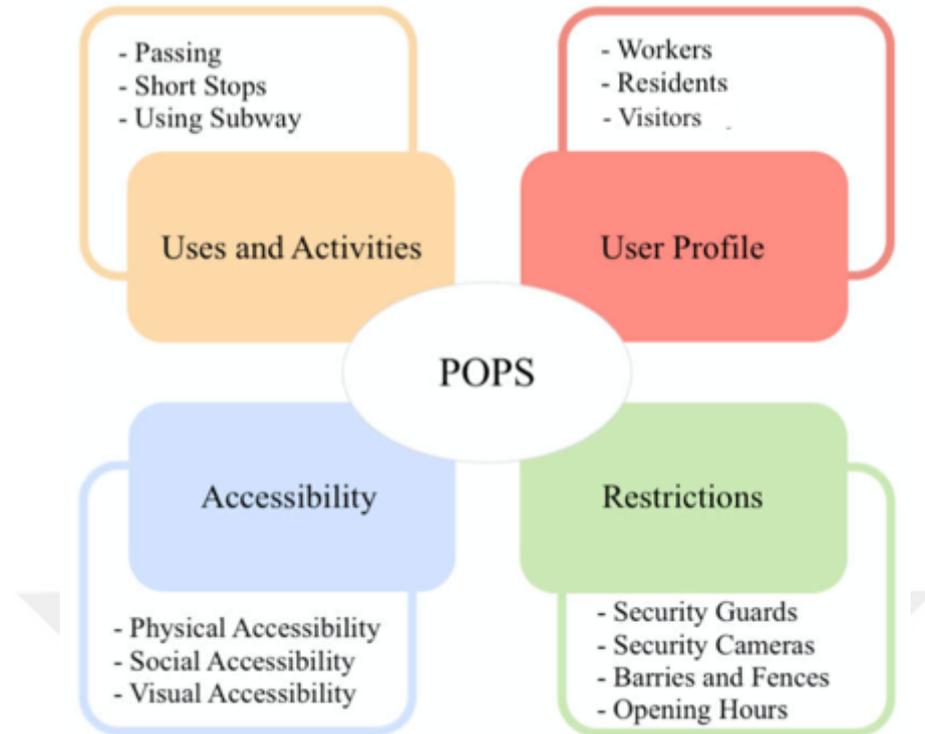
Figure 2.10 : Four principles for the examination of POPS.

2.3.1 Users Profile

One of the critical issues in this privately-owned public space is the potential users who can visually perceive these spaces from outside and enter them, and they will be welcome when they use them. The private sector usually does not prefer to create a public space for all social and ethnic groups of society. The areas around high-rises or other private settlements generally designed as spaces for the use of the specific group of users. The barriers in spaces indicate who should stay outside while determining which group belongs to these spaces.

Diversity of urban activities and users decreases when space has private ownership because of specific regulations and lows each space has set according to its policy. Different types of urban spaces have different types of users. High-Rise buildings with mixed-use functions have the most diverse group of users. Especially the ones with features like shopping areas around could attract more people from inside and also users from outside the building. On the other hand, office buildings and urban spaces around them mostly used by a specific type of users. So the user profile differs considering the type of structure (Jacobs, 1961) (Whyte, Street life project, 1980).

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2.3.2 Uses and Activities

Public spaces contain Numerous types of indoor and outdoor spaces such as parks, shopping malls, community centers, and exhibition areas. But usually, the outdoor space considered as a traditional type of urban space designed to answer the human needs of users (Carr, 1992) (Dines, 2006) (Keller, 2009). Some needs and uses may not be what space designed for it. Uses and activities of urban spaces vary upon a time and different cultural situations. For example, Union Square Park or the 9/11 Memorial in New York City, could be considered as multi-functional urban spaces with monumental value. This kind of activities are considered Cultural activities Which took place in urban areas.

Figure 2.11 : Urban Public Spaces - Union Square Park NYC (URL1).

Figure 2.12 : Urban Public Spaces - 9/11 Memorial NYC (URL1)

People usually use the space for short periods but sometimes they may prefer to stay longer depend on the type of activity done in the area.

There are active and passive activities that can take place in urban public spaces. Active ones are activities that use exertion like jogging or doing different sports, and the passive ones are activities like watching people or reading a book. (Carr, 1992) (Dines, 2006) (Elmenghawi, 2010) (Keller, 2009). public spaces also support business activities like buying and selling different things in public spaces like food and clothing and create attraction points for users in different parts of the space (Crossa, 2009) (Ehrenfeucht, 2007) (Franck K. A., 2007) (Franck K. , 2011) (Millar, 2008). Also, music or dance performances are all activities that do not have exactly selling purposes but considered as another way of business in public spaces. Because by these types of activities, the performers might get donations from the people. Whyte believes that using streets and urban plazas for these kinds of activities despite attracting people creates a vibrant urban life (Whyte, Street life project, 1980).

As Whyte suggests, design factors of urban spaces such as seating, accessibility are so important. Because they can attract users and on the other hand, the presence of these users in the area could have a significant impact on the creation and repetition of activities (Whyte, Street life project, 1980).

According to John Gehl, these activities could be necessary, optional, and social activities. Necessary activities which are almost compulsory and include going to work, waiting for the bus, going to school. They have to take place, and their existence is not depending upon the physical environment; so, if the spaces which these activities took place designed correctly, it would be improving people's daily quality of life. Optional activities are the ones that took place if there is a wish for them like walking for fresh air, standing, sitting, or sunbathing. These activities only take place if the weather is good or the area designed properly for the users. Social activities are considered to be an evolution from necessary and optional activities. it seems that in privately owned public spaces, the number of optional activities that each individual could do is a little limited with different restrictions like using hours or providing sitting spaces at specific edges (Gehl, Life between buildings: Using public space, 1987). So, these spaces should design in a way that they can contion both optional and social activities for users.

2.3.3 Accessibility

As an individual, everyone wants to join in the society and urban life. Everyone in the society has the right to use the space as an independent individual and equal with everyone else. The requirements of this demand depend on the accessibility of the urbanized environment.

Accessibility in public spaces can be considered in two aspects: physical and social. Physically accessible public spaces do not guarantee that they may contain a variety of activities and uses and could also attract people from different groups. As Carr et al. suggest, to create an inclusive public space, the social, visual, and symbolic accessibility of public space is also should considered (Carr, 1992).

spaces that only contain physical accessibility principles without paying attention to the social accessibility aspects have only specific types of users rather than diversity in activities and residents (Carr, 1992).

privately-owned public spaces exclusively designed and managed from the beginning of their design process. Choices made to understand how accessible they can be physically and also socially.

The choice of location of public spaces, especially the private ones, can also affect both physical and social accessibility. The transportation factor must be considered first if the space located far from downtown. Urban areas situated at accessible parts of the city can guarantee the use of space because some users have to use the space as a necessary activity every day.

Physical accessibility is also an important criterion for disabled people. shopping centers and urban spaces around them — emphasis placed on the process of choosing the right location of urban spaces around these structures. To support pedestrian access, which mostly located outside the city. The shopping centers should locate close to public transportation and establish a relationship with the route of public transport. And also use special customer services to increase accessibility.

Kanyon, Cevahir, MetroCity, and Özdilek park and urban spaces around them are considered outstanding examples from Istanbul, Turkey, which will be mentioned in further parts of the study related to this topic.

Another issue that affects the accessibility of space is visual accessibility. It should also be visually accessible for people to use a space comfortably. Spaces that are hidden by walls or trees create a dissuasive effect on their use because they are hard to

see by passersby. On the other hand, visual accessibility can have an adverse effect on people's needs for privacy. Therefore, there is a predicament between the perception of security and the need for privacy (Carr, 1992).

2.3.4 Restrictions

While the public space needs to be free and accessible to all, in reality, such access is exclusive. Restrictions on public spaces and privatizing existing or newly built spaces produced private properties rather than public use.

One of the critical subjects about privately-owned public spaces is whether people are free to perform the actions they want or not. The rights in the use of this spaces and the sense of control in executing these rights are the most fundamental and comprehensive requirement in designing and managing these spaces. In this context, spatial rights depend on the essential freedom of use. The right to use includes the possibility of meeting individual needs and the use of resources. Considering that social life is based on some hierarchy rules, rights in the public space are restricted rather than individual needs according to the interests and desires of the broader groups, those who own or manage the space. When we look at privately-owned urban public spaces, it is noticed that different freedom and control mechanisms exist in different situations. Debates on freedom of use and control can read through Lynch's five dimensions of spatial rights, which are the freedom of access, freedom of use, claim means the right of an individual or a group to appropriate spaces for private use, freedom to change settings like moveable chairs, and ownership and disposition. However, freedom and control are intermittently spread, noticeably by cultural restrictions, and partly by design and management procedures (Lynch, A Theory of Good City Form by Kevin Lynch, 1981).

privatization of public spaces prevents people from using space freely. Many private organizations establish rules due to restricting activities that they consider improper or may lead the area to uncontrolled situations like restricting hours of use or having political protests and gatherings for different administrative challenges.

Both design and regulations determine the physical availability of public space. Restricted urban spaces have some physical features like having security cameras at every corner, fences, security elements, or having security guards all over the space in case of emergencies in an area and this could discourage or prevent people from entering the space. These kinds of applications in urban spaces directly affect the use

of space because it could be annoying to be under the supervision of someone even though they increase the security and safety of the place.

The presence of doors and security severely restricts the use of space and regulates the rights of people by privatizing the space. Besides, some elements, such as stairs, creates physical barriers and restrict some groups' access to space (Carr, 1992).

Figure 2.13 : Signs at POPS to show regulations (URL1).

2.4 Evaluation of the Chapter

As a summary of this chapter, it is possible to say that the term public covers a wide range of discussions among scientists in defining urban public spaces. A general conception of public space is where people of one society can access quickly and easily and an important component in improving and increasing the social life in the cities. Following these definitions, public spaces enter into the process of change, and evaluation of the urban public spaces started. By looking at the history of public spaces, the traditional urban public spaces explained, and the process of changing these spaces into today's urban spaces discussed.

Because of the daily increase in the urban population, urban public spaces have become more prominent over the centuries, and the result is the vertical construction. This new construction form gradually changes the physical and social characteristics of traditional public spaces. Following vertical development in the cities, public areas with different features emerged. Urban areas around these high-rise constructions considered as privately-owned public spaces. Privatizing urban spaces generally means transferring ownership of public spaces to private individuals. Today, mostly public life is in private places such as shopping malls and private office spaces and open spaces around these structures which belong to the private sector. In this section, we could see that how these privately-owned public spaces change our perception

about the traditional public space, also mention how the zoning rules affect these spaces starting from New York and American cities in 1961.

The first zoning law, which mainly focuses on user profile and land use announced in the United States in 1916 in New York City and copied by other cities in the country and around the world. The impacts of these laws are positive and affect the shape of the high-rises and change them into ziggurat form structures. In 1961 the zoning laws mostly focused on the urban areas surround high-rises and sets rules to make these spaces more attractive for the citizens of the city and for the high-rise itself. Developers must pay attention to features about outside space of the building like the size of space parallel to their aim of building higher structures. These spaces become more prominent after setting zoning rules and the studies done to determine the user profile, uses and activities, accessibility functions, and restrictions of these types of urban spaces, which are privately owned but publicly used.

3. HIGH-RISES AND PRIVATELY OWNED PUBLIC SPACES

One phenomenon which today's cities are facing is high rise construction. History of its beginning goes back to the turn of the 20th century. It is one of the approaches of big cities which developed due to increasing population density and high values of ground. Urban spaces around these structures affected by many impacts such as environmental, social, and economical.

In a very simple way, we can consider high rises as constructions with more floors than surrounding buildings. These structures can give identity to the city or district, in which they locate and recreate the skyline of the cities. according to CTBUH a building with more than 14 stories – or higher than 50 meters (165 feet) in length – could typically be used as a definition for a high-rise (Council on tall buildings and urban habitat, 2012).

As John Gehl mentioned, "Anybody living over the fifth floor of a structure should generally refers to the airspace authorities. Because he believed that You're not part of the earth anymore, because you cannot see what is going on the ground level and the people on the ground cannot see where you are." (Gehl, Life between buildings: Using public space, 1987).

"To make open spaces more usable and bring more light and fresh air into streets which surrounded by high-rises an extra building regulation has been established to encourage the setting back of buildings from the street line." and it called privately owned public spaces which mostly seen surround high rise structures (KAYDEN, 2000).

According to zoning rules nowadays, finding the correct location of high-rise structures becomes the most critical issues. And paying attention to it and the environmental problems climatic conditions of each region is one of the most critical fields of urban planning that should be studied.

Experts have always criticized the construction of tall buildings in architecture and urban planning. These structures were originally built for the efficient use of land in

major metropolitan cities but gradually became necessary as cities expanded all over the world.

High-rise buildings have complexities in architectural design and urban planning aspects. Therefore, considering cultural, social, environmental, and economic issues such as addressing technical and structural problems is essential for their design and construction.

Despite the specific complexity of these structures, there is no accurate knowledge of them, and the design principles and urban planning standards for their construction are unclear. Differences between designs with nature and environmental aspects of cities reduce the quality of services and provide more grounds for environmental damage, followed by the economic downturn, project inefficiency, and carelessness of the users.

Urban spaces around high-rise structures should be habitable, allow access to fresh air and sunlight. Along with technical and industrial changes, maintain basic jobs, provide affordable services for users, improve social relations, and provides citizens' sense of belonging to the city heritage.

In addition, the city's and region's natural resource reserves should not exceed the city's reproduction power. So, it is necessary to consider choosing the right location for the construction of these buildings to provide environmental sustainability while supplying all indicators. In fact, it is essential to consider which locations are suitable for high-rise buildings and what criteria are important in site selection. So how to locate such buildings is crucial for the future of cities.

3.1 Historical Background of High-rises in the World

When we look at history of high-rises in urban area, we can see that, there is always an interest in building upward, maybe because it is a symbol of power for them or sometimes a way to keep the empires safe in ancient times.

When a building is taller than three stories, it could be in a category of a high-rise divination. The history of high-rises may go back to the pyramids of Egypt (about 48 stories in height). After that, high-rise construction stopped until the late 1400s. Lincoln cathedral constructed between the years 1311-1548 and for 238 years It was the tallest building in the world and also the first building which holds that title after the Great Pyramid of Giza.

In 1857 by invention of the first safety elevator with Elisha Otis, Tall buildings began to constructed with iron skeletons. Between 1884 and 1945 ancient high-rises were a range of tall commercial buildings which built, predominantly in the American cities such as New York and Chicago.

Home insurance building (1884-1885) in Chicago was the first tall building with a steel skeleton and elevator which called skyscraper. In 1890, followed by Sullivan's Wainwright Building five years later, a ten-story building was constructed in Chicago by William Le Baron Jenney, which for first time features like Heating and cooling technology, Wind-bracing technology, Artificial light Steam-powered construction tools are getting together in a structure.

During the late 1880s and early 1890s, Chicago started the way in designing skyscraper initially, with many constructions in the center of the financial district. In 1892 it was forbidden to build new skyscrapers taller than 150 feet (46m) in Chicago, so the developments continue in New York. The Flatiron (1902), the Empire State (1931), and the Twin Towers World Trade Center (1972) are structures that build in the 19 centuries. These structures considered premier high-rises in New York City.

When we look at the examples of urban spaces around the world, we should make a comparison between entirely public spaces and privately-owned public spaces (POPS), which are very common in use, especially in modern cities.

The urban areas around high-rises are mostly considered as privately-owned spaces. (PRIVATELY OWNED PUBLIC SPACE in New York City, 2012-2019)**.** Many examples are available from New York, Manhattan. It is one of the world's renowned cities, yet it has struggled with overcrowding and lack of public space, especially when considering about Manhattan district. Michael Bloomberg (Mayor of New York City three terms from 2002 to 2011), transforms New York into the most sustainable city in the world within thirty years, Administration began with PlaNYC 2030. The Plan states that New York City's population growing by one million inhabitants in the coming years, then overcrowding increases so more open public spaces provided. The aim of the plan is to address a lot of issues in the city. They want to revitalize parks and urban open spaces in a way that every New Yorker lives within a 10 minutes' walk for a park by 2050.

Figure 3.1 : Timeline of historical background of high-rises in the world (Source: Author

3.2 Impacts of High-rises on POPS

As mentioned in previous sections high rise construction and vertical development is the product of population growth, increased urbanization, and lack of suitable land for construction. The formation of this type of construction due to its features, along with the positive effects, has limitations and problems.

Negative impacts are usually the first things which come to mind when we talk about high-rises. But despite all of these they also have positive effects too. Most importantly, they bring prestige for the district and the city as a whole. And they are also considered as a sign of economic power for the city.

Nowadays many people prefer to live in high-rises because of its luxurious feeling and features. Besides, this type of lifestyle leads people to be more isolated. So urban areas around this type of structures are always empty. People should have reasons for using spaces. These reasons should be given to them by some design factors, such as making the urban area much more accessible for more people, places for enjoying sunlight and taking break from work or their daily activities. Environmental impacts social impacts and economic impacts of high-rises are many to talk. But effects like blocking sunlight, separating people from street level, and by increasing the land values causing social and economic inequalities are some of important issues which high-rises can cause in urban spaces. Overall a tall building could be considered as a place maker for the area. Making these privately-owned public spaces is very common nowadays. These place-makers should try to create more usable urban spaces for their users from inside and outside. Examples of good placemaking between high-rises might be the Paley Park in New York, which is considered a pocket park. On a larger scale, it could be Burj Khalifa Bay and the Dubai Fountain in Downtown Dubai.

Figure 3.2 : Parley Park NYC (URL2).

Type of high rise is also important in using spaces around it. Nowadays, most of the high-rises designed as mixed-use structures. This might deeply affect the urban area around the high-rise because the connection between building and space increases when people from outside the building can also use it in their daily life for their both optional and necessary activities. Urban areas around plazas and office buildings mostly used by people who work there in their break times. People from outside the building might not feel comfortable while using this type of spaces.

3.2.1 Environmental impacts

When we want to start from the most important problems of high-rises in the urban areas first, we come to environmental impacts. In case of making wrong decisions, high-rises could have enormous implications on the natural environment.

High-rises mostly located at the outer core of the historical or newly developed cities. So, their construction is upon the destruction of the natural environment and causes deforestation. Climate changes by losing trees and vegetation, soil erosion, logging, fewer crops, flooding, increasing greenhouse gases can cause significant problems for people.

The most critical environmental issue that high-rises might cause is creating wind tunnels around them. Because of its speed, the wind gains more and more force as it conflicts with buildings. This may be one of the causes of discomfort for people who use the areas around high-rises.

The degree of wind involvement in the project is determined by the location of the land, topographic conditions, other buildings based in the area, and climatic data. Each city, town, village, and even urban neighborhood has its climate, which may vary slightly from region to region. However, in all cases, the designer should design the buildings to maximize the use of suitable facilities and reduce the inappropriate features and disturbing climatic conditions. By the impact of 'strong wind' nearby high-rise constructions, a zone of soil and air contamination created round high-rise buildings in an area of regular usage.
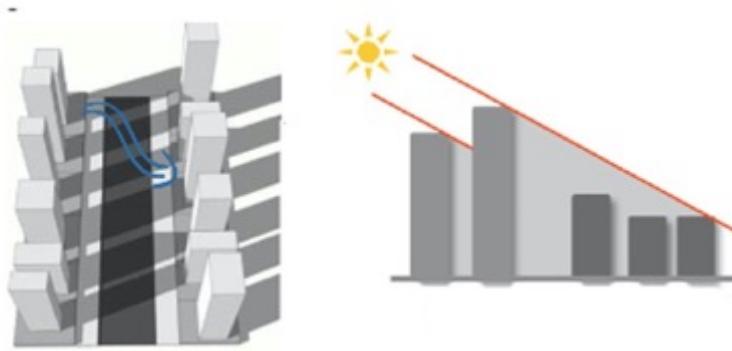
Figure 3.3 : Environmental issues: creation of wind tunnels and blocking sunlight

Source: (CTBUH, 2012)

Another environmental issue is about blocking sunlight. Blocking sunlight and shading effect of high-rises seems a problem in a moderate and cold climate because it will avoid solar gain for the buildings, especially low-rise buildings around the tall buildings. But in hot environments, shading has a positive impact as well.

So, the direction of the structure should be correctly set, and wind tunnel tests should be done on simulation models before the construction of high-rises.

Also, there are some design principles to design environmentally sustainable buildings. US Green Building Council lists the best-known standards for sustainable building design. LEED (Leadership in Energy and Environmental Design) certificate and UK Green Building Council BREAM (Building Research Establishment Environmental Assessment Methodology) listed the standards for building sustainable buildings.

They are some aspects which investigated in LEED and BREEAM certificates, such as sustainability standards of buildings regarding location, transportation, materials and resources, water efficiency, energy and climate, indoor environmental condition, neighborhood guide, and design, foundation, renewable energy policies, health, and well-being, waste management, and pollution. But to have a sustainable high-rise in addition to the physical conditions and requirements listed above, also social concerns should be noted as well. High-rises also have physical impacts on the environment too. The three components of the environment and urban space, in general, include form, function, and meaning (Pakzad, 2012). In terms of form and performance, Donald Appleyard sees three reasons for a better understanding of some buildings: Attributes of the form, Features of Visibility and Features of Uses. So, high-rises as an urban sign

and because of their unique form, become recognizable. On the other hand, the form is important because it affects the amount of undesirable wind in the area this might affect the uses and activities in the space (Appleyard, The environment as a social symbol, 1979).

These huge structures are not built on a human scale, and most of the time, cause the environment to be monotonous. Affect the skyline of the city, especially in historic cities it can cause some problems like losing the identity of the city skyline.

Some other physical features could also cause both negative and positive problems. Using less amount of land is one of them. In some cases, it could be positive because it can help to increase the green spaces and recreation areas and creates new types of activities for the users. But the same factor could have a negative impact. Because it could increase population density, and this might have consequences like more pedestrian and vehicle traffic in the area, more air pollution because of traffic, and many other problems.

What described so far is about the contextual framework. But contextualization also has an identity dimension, because tall buildings, as buildings affecting the skyline, are in contrast with the context in height and thus have a symbolic character in the area. Therefore, it is essential to pay attention to the identity of buildings. So, for harmonizing high-rises with the background culture, the historical monuments in the area must put under consideration in every design process. Because this type of construction due to its scale can ruin the visibility and importance of the historical statues. But if designers can use tall buildings to create corridors which make and have views to historical monuments, this threat can be turned into an opportunity.

Most of the time, high-rises have a vast empty open space around them. "people don't stand in the middle of a big space" (Whyte, Street life project, 1980). So, some implications should be done in the open spaces to encourage people to use the space.

3.2.2 Social impacts

The density of urban space influences the amount of human satisfaction with the social environment and life. In this way, with increasing density, human satisfaction with space and environment decreases. Surveys show that people's satisfaction with the urban spaces inversely related to the density of the area. Thus, residents of apartments with a higher population density are less satisfied with their urban environment than residents of flats with a lower population density. A large population in one place reduces the amount of relationships people have. The individual remains unknown in the large community, and his identity ignored. Identifying people in a tall building is more complicated than a single house. A person living in a unit of the high-rise building remains unknown and more easily penetrates his privacy.

Since the expansion of high-rises especially at the residential parts will significantly increase the population of a limited area, it Reduces the number of people who know each other. It should be noted that well-designed, desirable, and pleasant shared physical spaces in high-rise units can provide some of the residents' more significant contact.

this process is not just happening inside the high-rises but also affects the people outside the building and causes social segregation in urban open spaces around high-rises.

When we talk about social impacts, the overall purpose is social sustainability. So, what is social sustainability and how a high-rise structure could provide this?

Equitable, diverse, connected and democratic quality of life required socially sustainable communities. The term self-congestion has risen from William Whyte's Street Life Project. According to that, "the most important reason for attracting people is other people." so people use spaces which are alive and used by everyone from all social groups (Whyte, Street life project, 1980).

Considering a mixed-use high-rise structure in an urban area, it has some impacts on its surroundings. People who live in these mixed-use high-rises mostly use indoor facilities in the building such as shopping, walking, going to the gym, etc. So, they don't use outdoor urban spaces too much. This might cause some problems in the use of outdoor urban spaces. Design principles should set to provide a space for both the residents of the high-rise and people from outside to do their daily activities and enjoy

the open space. Walking is the most common means of urban transport. High-rises often have a strong impact on pedestrians.

For many years, there is little interest in designing pedestrian-friendly cities, especially in developing countries. In most cases, high-rises cause ground winds and mostly have shading issues. Therefore, pedestrians prefer to pass from the area without any pauses. "People don't stand in the middle of a big space," said William Whyte (Whyte, Street life project, 1980). High-rises usually have a vast empty open space around them. These areas usually considered as a semi-public urban space that is owned by the individual but is open to the public. But sometimes it's completely public and accessible to everyone and some modifications could be done in this type of space to have a more integrated urban space with pedestrians.

According to William Whyte, places which carry most people are one most efficient in the use of space and also most pleasant. So, the most attractive functions and striking designs cannot induce people to sit if there is no place to sit. He believes that it is time to give back some of our street spaces to pedestrians which disproportionally assign to vehicles up to now. To have socially attractive urban spaces around high-rises, we should consider some points. As mentioned in the environmental impacts, the location of the structure is critical. Because if it blocks the sunlight and fresh air, then no one uses the space.

3.2.3 Economic impacts

development of high-rises is in close relation with the economic development strategy of a city. According to Lynch's Five city elements High-rises could be a sign of economic power for the city and considered as a landmark and bring prestige to the city (Lynch, The image of the city., 1960). As Whyte and Gehl mentioned in their studies, from an economic point of view establishing retail shops and cafes in urban spaces can attract more people and makes the space inviting (Whyte, Street life project, 1980) (Gehl, Life between buildings: Using public space, 1987). In urban areas around high-rises, especially mixed-use structures, these features remain. Furthermore, this could have a positive impact on the use of space.

Economic impacts of high-rises are not limited to these functions. Construction of a high-rise increases the land values in the area on account of that it may create districts with high population densities because of high land costs in the district, which high-rise located developers mostly want to build higher structures. Aside from the

construction costs, regions that accommodate such high-rise structures also require the need for urban open spaces around them.

Therefore, the consequences of vertical development resulted in economic inequality. So, people from different social and income groups have to use the same urban spaces around, and the result is economically segregated communities.

3.3 Examples of Urban Public Spaces Around High-rises from World

3.3.1 POPS around Rockefeller Center

Rockefeller Center is considered as one of the largest privately-owned public spaces, which located between 48th street and 51st street in midtown Manhattan in the center of 19 commercial buildings covering 22 acres (89.000m2). Rockefeller Center is famous for its annual Christmas tree lighting and designed to attract people almost 24 hours a day for business, shopping, sightseeing, and for dining, theater, or just every day walking on its tree-shaded open space and flower-filled plazas. it has many features like Radio City Music Hall, Lower Plaza, a sunken rectangle space which Changes uses from being a restaurant in summer to a skating rink in winter, Promenade or Channel Gardens and Pedestrian Activity. (Vyas, 1998).

Figure 3.4 : Rockefeller Center (URL5).

3.3.2 POPS around Deutsche Bank 31 West 52nd Street NYC

It is an urban plaza located between Fifth and Sixth Avenues at Northside of West 52nd Street around the Deutsche Bank. Visually and functionally, the main part of this urban plaza is the broad, externally blocky corridor connecting the West 52th and 53rd Streets and east of the Sixth Avenue between the CBS building in the west and also the Deutsche Bank building to the east. The plaza is mostly used by the workers and users of the Deutsche Bank, but because the plaza is open 24 hours, it is considered as a passing area for the people who want to access between West 52st Street and West 53st Street.
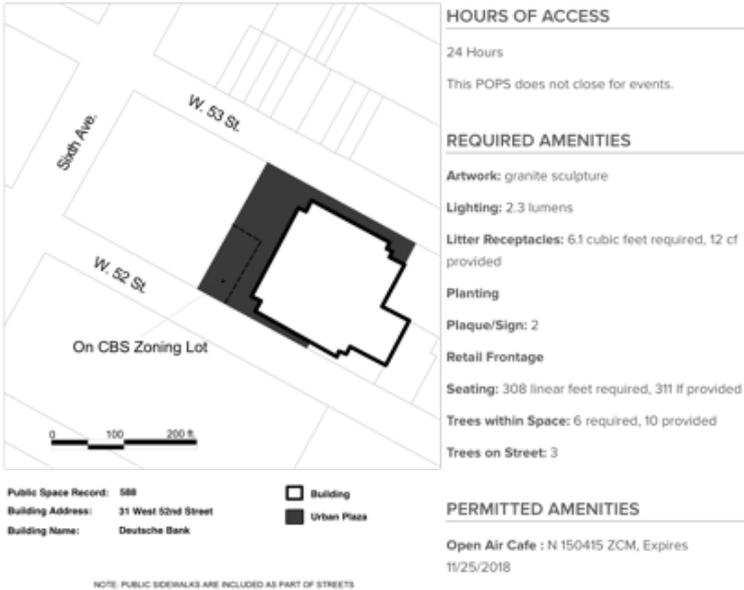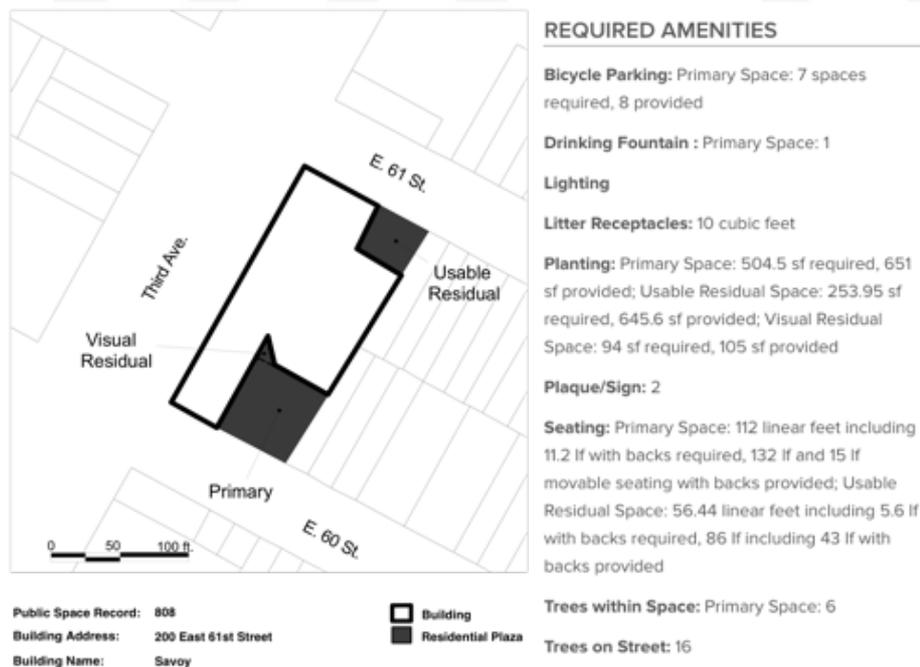

Figure 3.5 : Deutsche Bank 31 West 52nd Street NYC and POPS around (URL5).

### 3.3.3 POPS around Savoy Residential building 200 East 61st Street NYC

200 East 61st street urban space is a residential plaza around Savoy residential building located between East 60th and 61st Streets on the east side of Third Avenue in New York city. The larger, initial space on East 60th Street front the plaza has food takeout services, and movable white café tables and chairs for lunchtime crowds. The hours of uses are limited from 8:00 am to 8:00 pm; this might discourage the users of the urban space.

REQUIRED AMENITIES

Bicycle Parking: Primary Space: 7 spaces required, 8 provided

Drinking Fountain : Primary Space: 1

Lighting

Litter Receptacles: 10 cubic feet

Planting: Primary Space: 504.5 sf required, 651 sf provided; Usable Residual Space: 253.95 sf required, 645.6 sf provided; Visual Residual Space: 94 sf required, 105 sf provided

Plaque/Sign: 2

Seating: Primary Space: 112 linear feet including 11.2 lf with backs required, 132 lf and 15 lf movable seating with backs provided; Usable Residual Space: 56.44 linear feet including 5.6 lf with backs required, 86 lf including 43 lf with backs provided

Trees within Space: Primary Space: 6

Trees on Street: 16

Public Space Record: 808
Building Address: 200 East 61st Street
Building Name: Savoy

☐ Building
■ Residential Plaza

Figure 3.6 : Savoy Residential building 200 East 61st Street NYC and POPS around (URL5).

3.3.4 POPS around Stevens Tower 1185 Sixth Avenue NYC

According to the zoning provisions of the Special Theater District of 1967, this office skyscraper received a floor space bonus and supportive public spaces for a legitimate theater. Between the back of the tower and the theater, there is a pedestrian plaza arranged between blocks, connecting 46th and 47th Streets. The space is a rectangular passage that extends from a small area beneath a black box-like structure extending from the tower to the theater. After the city filed a complaint with the owner in 1996, the owner-initiated improvements. Black metal spikes on top of planter and fountain ledges disappeared. Space adorned with a statue and plants and then opened to the public. Unsurprisingly, members of the people began to stand longer as well as walk through space. In particular, users enjoy the sunny side of West 46th Street where they sit on planter benches, while at the same time using serpentine planter protrusions and seating corners surrounding three tiers descending near West 47th Street. The only question left is food service. The area required special permission to build a black box-like restaurant and an outdoor cage at ground level as it was many years ago.
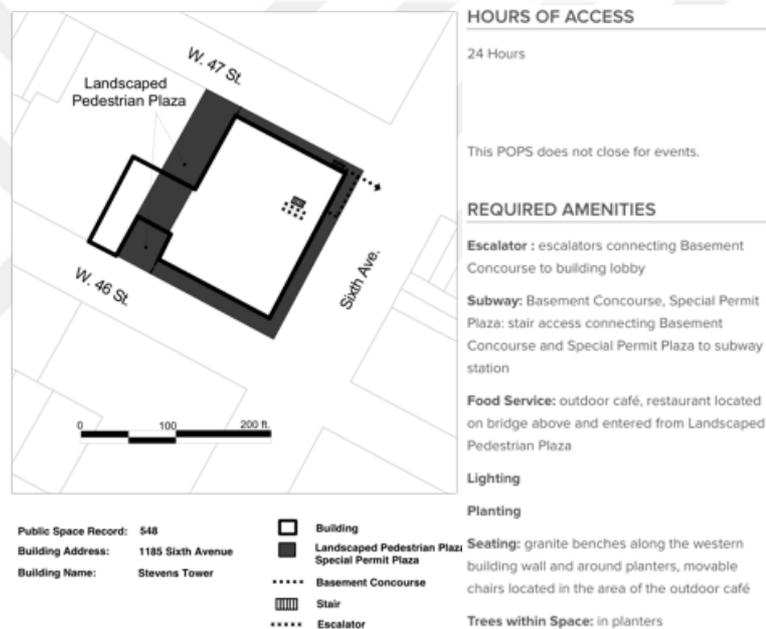
Figure 3.7 : Stevens Tower 1185 Sixth Avenue NYC and POPS around (URL5).

3.3.5 POPS around Alliance Capital Building 1345 Sixth Avenue NYC

This is a large office building on the west side of Sixth Street, with a blockage area from behind. This urban plaza, which connects West 54th and 55th Streets, must be open and accessible to the public according the law. The place named as Fisher Park one of the city's leading real estate families in 1968. İts recent development is an outdoor cafe on West 55th Street. The results are excellent, and the area densely used during summer. The rear plaza raised several steps above each of its sidewalks. There

is a long rectangular pool with sufficient seating projection on the west side, lined with four rows of 13 water fountains, each rising from front to back. There are flexible chairs and three-tree-filled planters with sittable wooden ledges, which make the space more comfortable for spending leisure time. The remaining urban area surrounds the building has a water element on Sixth Avenue and a statue at its northern and southern ends. There are benches placed next to the water element. An open-air cage with a table seating area located on West 55th Street, while the West 54th Street side is covered with trees and plants.
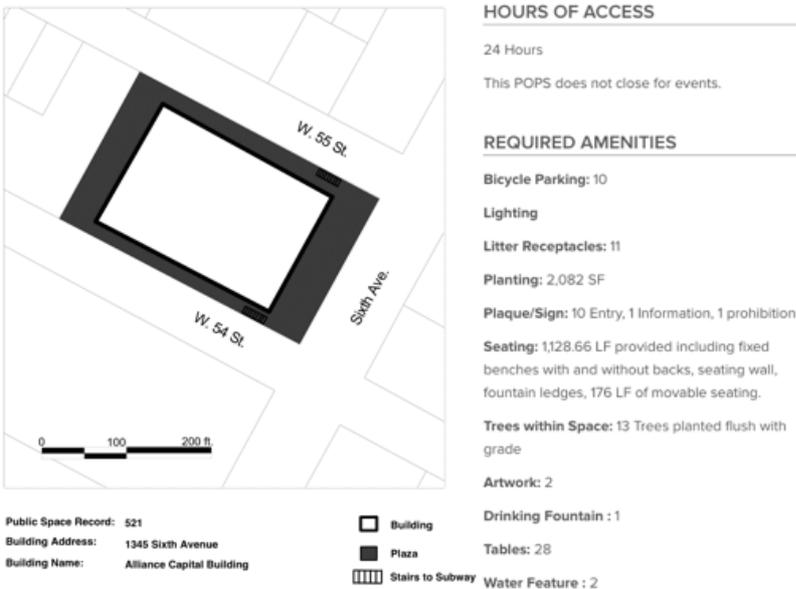
Figure 3.8 : Alliance Capital Building 1345 Sixth Avenue NYC and POPS around (URL5).

3.4 Historical background of high-rises in Turkey

The rapid increase in population and the increasing internal migration through industrialization created an uncontrolled growth process in Turkey as well. Especially in late industrialized cities such as Istanbul.

The city especially the Büyükdere Avenue which is close to case study area of the thesis has been affected by many critical historical processes, such as modernization and industrialization and industrialization in the region, and the result is the development of public housing projects like slums. Furthermore, the development of the area in Büyükdere Avenue has shaped the region as a business zone and has raised high growth, creating a significant change in the functioning of the historic city of Istanbul and urban public areas in this area.

Figure 3.9 : The development process of the Büyükdere Avenue (URL11).

By the year 1950, the building forms change in scale context and appearance, and between 1950-1970 high-rise hotels and office buildings averaging 25 stories in height built without considering spaces around them.

Marmara Etap Hotel with 17 stories, Odakule office building with 21 stories, and Karayolları Headquarters with 17 stories are considered the first tall buildings in the early 1970s in Istanbul. This growth has caused the problem of unplanned and distorted, especially upward urbanization due to intense population pressure and insufficient housing opportunities.

By the late 1970s and early 1980s, commercial district moves toward Besiktaş, Zincirlikuyu, Levent and Maslak. and high-rises over 20 stories began to construct. And the private sector started to own the lands of the area. Levent and 4. levent Region and Büyükdere axis are one of the important development areas of high-rises and privately-owned public spaces in Istanbul.

According to Karabay high-rises on Büyükdere axes are constructed very separate from each other and without any connection for pedestrian movements, surrounded by traffic (Karabay, 1993). Therefore, they do not provide urban integrity. But in New York, tall buildings connected by wide pavements pleasantly along the streets, and they help to increase the livability of the city. Around Büyükdere axes, high-rises, constructed by using considerable resources, they are not made by urban design and development principles in mind, and the only focus given to the density efficiency, and no one cares about human and urban life and urban public spaces. As a result, instead of contributing something useful to urban life, they stand in their independent islands in the sea of traffic. In this context, "Zoning Law" was published in 1985 in Turkey with an aim to set a practical solution to the land development process the most important features of this Law can be listed as follows;

- All the planning activities across the country are based on this law

- Toward constructed inside and outside municipal boundaries and nearby areas the law governs all plans and structures

- Plans shall be prepared as "Regional Plans" and "Landscape Plans"

- Municipalities have the authority to apply zoning plans within their districts

- Landowners who have any parcel in a zoning project shall grant a certain percentage of their total land for public utilization.

- Urban land project areas can be achieved rapidly by means of zoning

Zoning Law and its relevant regulations guide the implementation of this process in Turkey. Most of the land developments made by local authorities which use master plans and zoning statutes. Although Turkey has come a long way in the developmental process of zoning regulations, we can say that there are still certain shortcomings in this area which need to be eliminated. As mentioned in the zoning rules of high-rises, spaces around these large structures belong to one specific individual, so the design principles and all the restrictions about the area are under their initiatives.
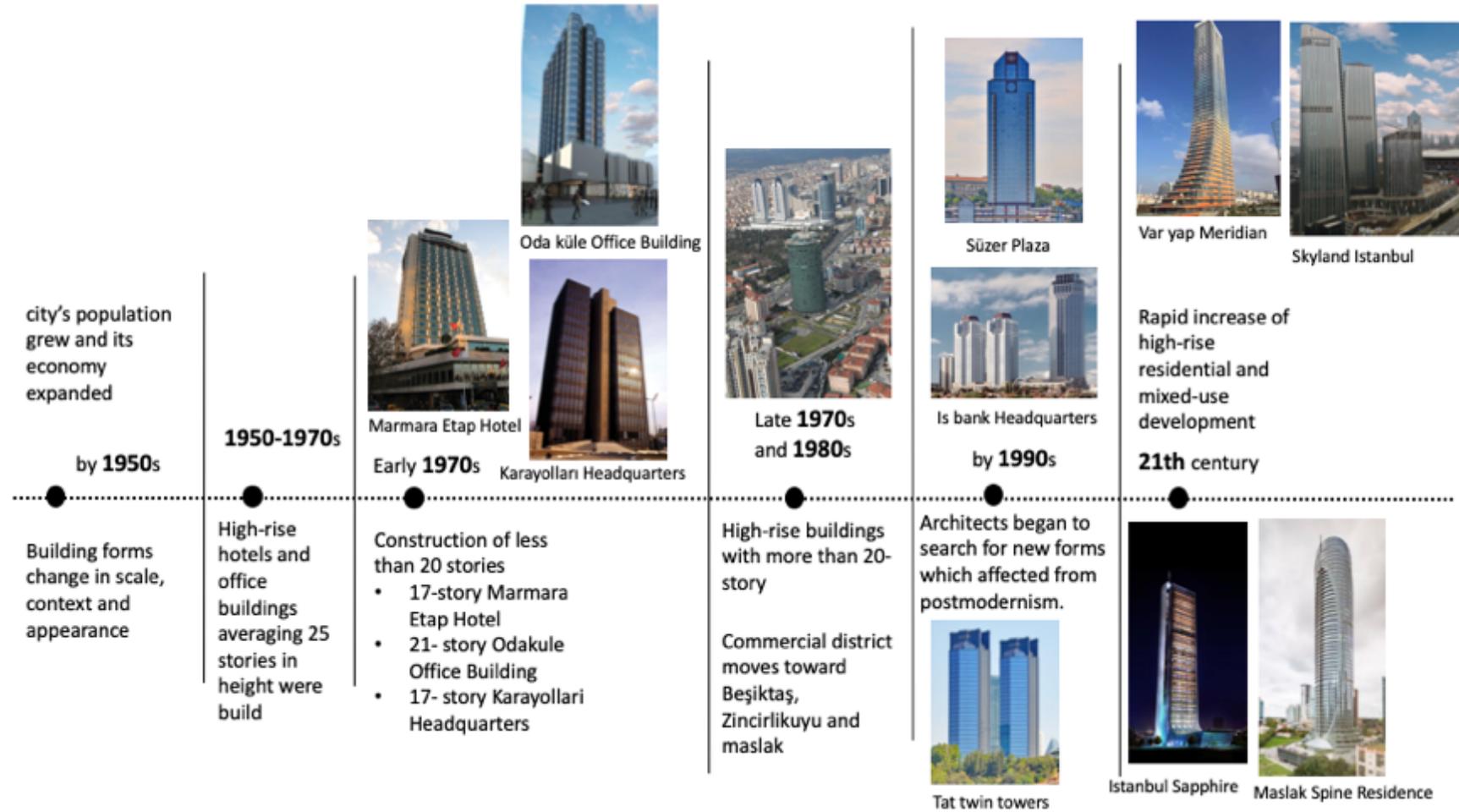
Figure 3.10 : Timeline of historical background of high-rises in Turkey (Source: Author).

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3.4.1 POPS around MetroCity

MetroCity complex opened in 2003 which is a modern shopping mall of its time. It is Located On Büyükdere Avenue in finance and business quarter of 1. Levent in Istanbul, Turkey. This complex also have a direct connection to the Levent subway.

Considering zoning status, the ground floor, and the three-story plot below, the building designed as a large mass shopping center covering 50% of the surface area. Two of the three blocks rising on a mass designed as residential, and the third one on the street side is an office building. So, we can consider it as a mixed-use high-rise structure. The space around the complex is privately owned by the MetroCity itself, but it is open to public use. The users of the space are usually the people who use public transportation and take the subway from Levent station. It has particular sitting elements for the users of its public spaces, but they located in the part of the space which is not visible by others, and this may cause a sense of fear for the people to sit there for a long time, especially in dark hours a day. So, people mostly prefer sitting on the edge of the subway station entrance or water element in the middle of the space to have the opportunity to be seen by everyone and also watch others passing by from the space.

Figure 3.11 : POPS of MetroCity shopping center (Source: Author).

Figure 3.12 : POPS of MetroCity shopping center, Places preferred to sit by users. (Source: Author).

3.4.2 POPS around Cevahir Shopping Center

Cevahir Shopping and Entertainment Center is located on Büyükdere Avenue in Şişli district of Istanbul, Turkey. The construction finished in 2005 and between 2005 and 2011years it was the largest shopping mall in Europe in terms of gross leasable area. The urban space around Cevahir is actively used because the subway station located in the area is the transit station for other public transportation lines. There are sitting elements located in the space, but the edges are also suitable for having a shortstop and take a seat.

Cehavir has well known between tourists who specially came for shopping purposes because of its diversity of stores and having lots of inner and outer space for spending leisure time.

Figure 3.13 : Cevahir Shopping Center, sitting elements and comfortable edges for sitting (URL2).

With the construction of Cevahir Shopping Center, the commercialization of the public space and the publicization of the commercial space started. Furthermore, giving a pavement the role of the public square is another challenge that started after Cevahirs construction.

Figure 3.14 : Cevahir Shopping Center, privately owned public space of Cevahir (URL2).

3.4.3 POPS around Kanyon

Kanyon is a multi-purpose complex located on Büyükdere Avenue in Levent business district of Istanbul, Turkey. The construction finished on 6 June 2006 and contains 160-store in shopping mall (covering an area of 37,500 m2), 30-floor office tower (26 floors of which rise above street level), and 22-floor in residential block with 179 private apartments. Because of its unique location, it is easily connected to TEM and E-5 Highways by Bosphorus and Fatih Sultan Mehmet Bridges. Also, directly connected to the M2 subway line. This project is a joint investment of the Eczacıbaşı Group and İŞGYO Turkey. The design process is done by The Jerde Partnership company in Los Angeles, USA, who collaborated with Tabanlıoğlu Architects in Istanbul, Turkey, for developing the project. (wikizero, 2019). Kanyon considering its open venue, is a reason for preference among costumers, and it is the first structure with this design strategy of an open shopping mall with some roofed spaces inside, in Turkey. The inner part designed intelligently with an open space for different events and social gatherings, but it is considered a private space that is used by the users at the working hours of the shopping center from 10:00 AM until 22:00 every day. People also use this space as a passing rout for using the subway system. They usually enter the complex from the front door to access the subway station inside the Kanyon. Outside the complex there is an area which is a privately-owned public space, and open 24 hours a day for public use.

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Figure 3.15 : Kanyon inside urban area (URL2).

Kanyon complex considered one of the luxurious urban public spaces in Istanbul because the user profile is mainly the people who work at its office building and also other plazas near the structure. Accordingly, this determines the area's social status. Moveable chairs and different sitting elements designed for users to enjoy their time in the outside area. They can enjoy the space while they are having a short break from work, shopping, or they are just passing from the space.

Figure 3.16 : The POPS around Kanyon (Source: Author)

Figure 3.17 : Moveable chairs in the POPS of Kanyon (Source: Author)

3.5 Evaluation of the Chapter

As a summary of this chapter, after defining the historical process of high-rises in urban areas, the study focuses on impacts of high-rise structures on their surrounding urban spaces, mentioned in the second part of the thesis as privately-owned public spaces. These structures have many positive and negative impacts on the urban area around them. The impacts categorized as environmental, social, and economical. Following the explanation about environmental effects that mainly address the users of space and related to the physical shape of, social, and economic impacts also explained. In the following parts of the section, the most emphasis is on examples of privately-owned public spaces from the world and discussing the pros and cons of this type of space. Also, the historical background of high-rises at Turkey was studied to understand the impacts of these structures in urban public spaces of Turkey, focusing on Istanbul. And find out the relationship between these high-rise structures with their surrounding areas in Turkey as well.

4. CASE STUDY: ISTANBUL SAPPHIRE BUILDING

Sapphire located at European side of Istanbul, and currently, the location considered as cities business and commercial centers. It is regionally under the municipality of kagithane. But because it is located in the middle of Levent and 4. levent, it has the most interaction with these regions. Generally Sapphire located on Büyükdere Avenue in 4. Levent area opposite the Sabanci Towers. It is easily connected to TEM and E-5 Highways by Bosphorus and Fatih Sultan Mehmet Bridges. The area which Sapphire located was one of the factory buildings that started to formed after Büyükdere Avenue became an industrial zone following the 1950s.
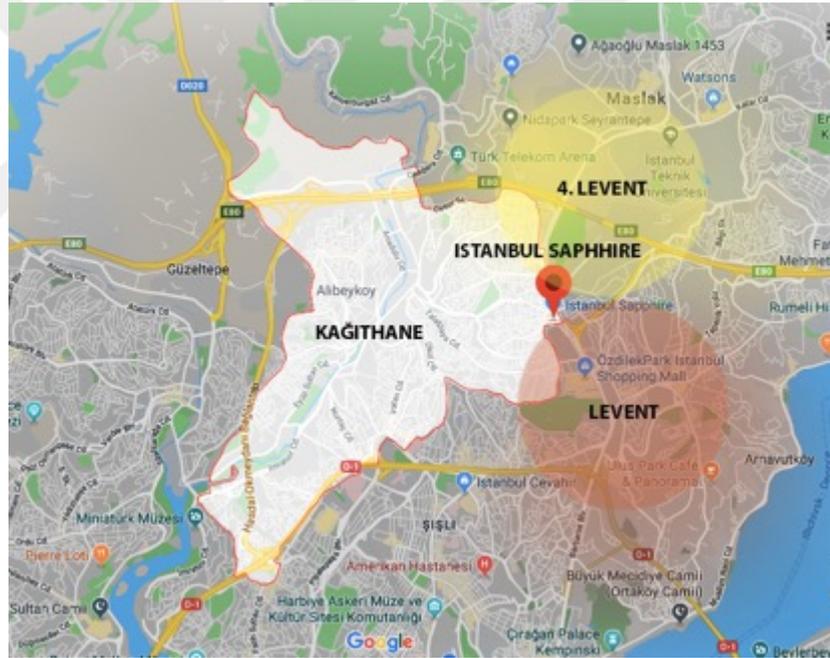

Figure 4.1 : Sapphire location (URL2).

Figure 4.2 : Historical evolution of Sapphire (URL2).

The Kiler group and Tabanlioğlu Architects decided to start the building process of Sapphire to meet the housing needs of the region and strengthen the housing stock in the area. Sapphire was considered Istanbul and Turkey's tallest skyscraper between 2010 and 2016 and also the 4th tallest building in Europe when its construction completed in 2010. The land area and its value, which is a neighbor of the IETT (Istanbul Electric Tram and Tunnel Works), increased with the opening of Fatih Sultan Mehmet Bridge and has great value as it is one of the important places suitable for construction in the region. The prot contains shopping center, a luxury residence and considered a mixed-use development in the area.

According to figure below Istanbul Sapphire, which was designed on a long thin rectangular parcel with a narrow façade as it seen in the general characteristics of the parcels on Büyükdere axes, chose to rise more vertically due to the low depth of the land compared to other buildings in the area.

Figure 4.3 : Sapphire and other High-rises in the region (URL2).

As we have seen from the examples of mixed-use high-rises around Sapphire, considering the business center identity of the region, it conceived that the increase in the need for housing should include luxury residences within these mixed structures. Sapphire has 54 floors above ground level and ten underground. It is, a residential, shopping and entertainment center project on the Büyükdere Avenue, right in the business center of the city, and one of tallest buildings on the Levent-Maslak axis, although it is not very harmonious with the surrounding structures. The building is 261-meter-high and has 182.000 m2 building area with 35.000 m2 Shopping Center and Social Areas like a mini-golf course with a great Bosporus view and a swimming pool facing the cityscape and also a 360-degree panoramic terrace, which considered an attraction point for the people. It has 187 apartment units with 4 different types; They are designed to be flexible for combining or dividing additionally in the future. the shopping area space is open to public use but the creation areas between every nine floors used by residences who live at Sapphire.

**Figure 4.4 :** Shopping center of Sapphire (URL7).

**Figure 4.5 :** Common area for social activities at Sapphire (URL7).

Figure 4.6 : 360-degree panoramic terrace at Sapphire (Source: Author).

The design of the building makes it possible to be seen from different parts of the city and, therefore, can play a role of a landmark for the city. on the other hand, it has a strong effect on the city's skyline, especially in a historical city like Istanbul.
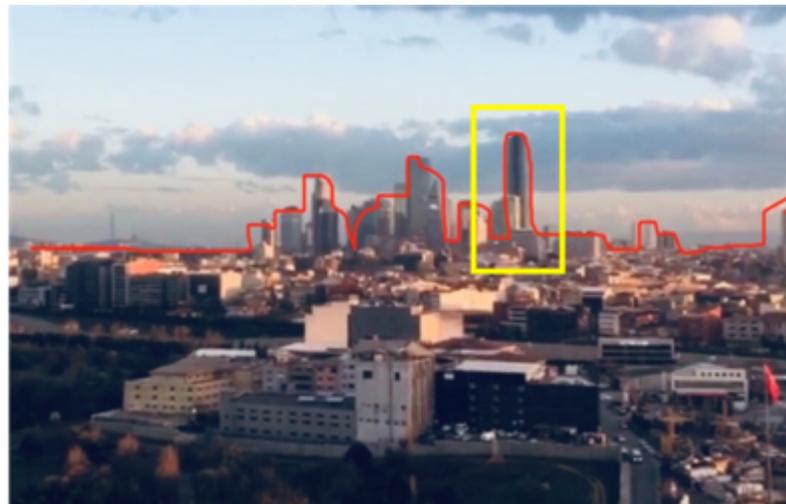
Figure 4.7 : Impact of Sapphire in the skyline of Istanbul (Source: Author).

Sapphire is Turkey's first green skyscraper and has a LEED certificate. By this design aspects the interior temperature is maintained to be equal to the exterior temperature and in air conditioning near to 25–30% saving can be achieved. Because of the double façade of the structure, the air in the outer atmosphere will be allowed to be taken in and taken out by natural means. Besides, the aim was not to be affected by adverse weather conditions and noise outside. Also, it was controlling the temperature and humidity between two shells by valve system to direct outside air to the inside air. According to the figure below between every nine floors there is a garden floor and the windows of residential part can be open to terraces or gardens, even at the highest levels.
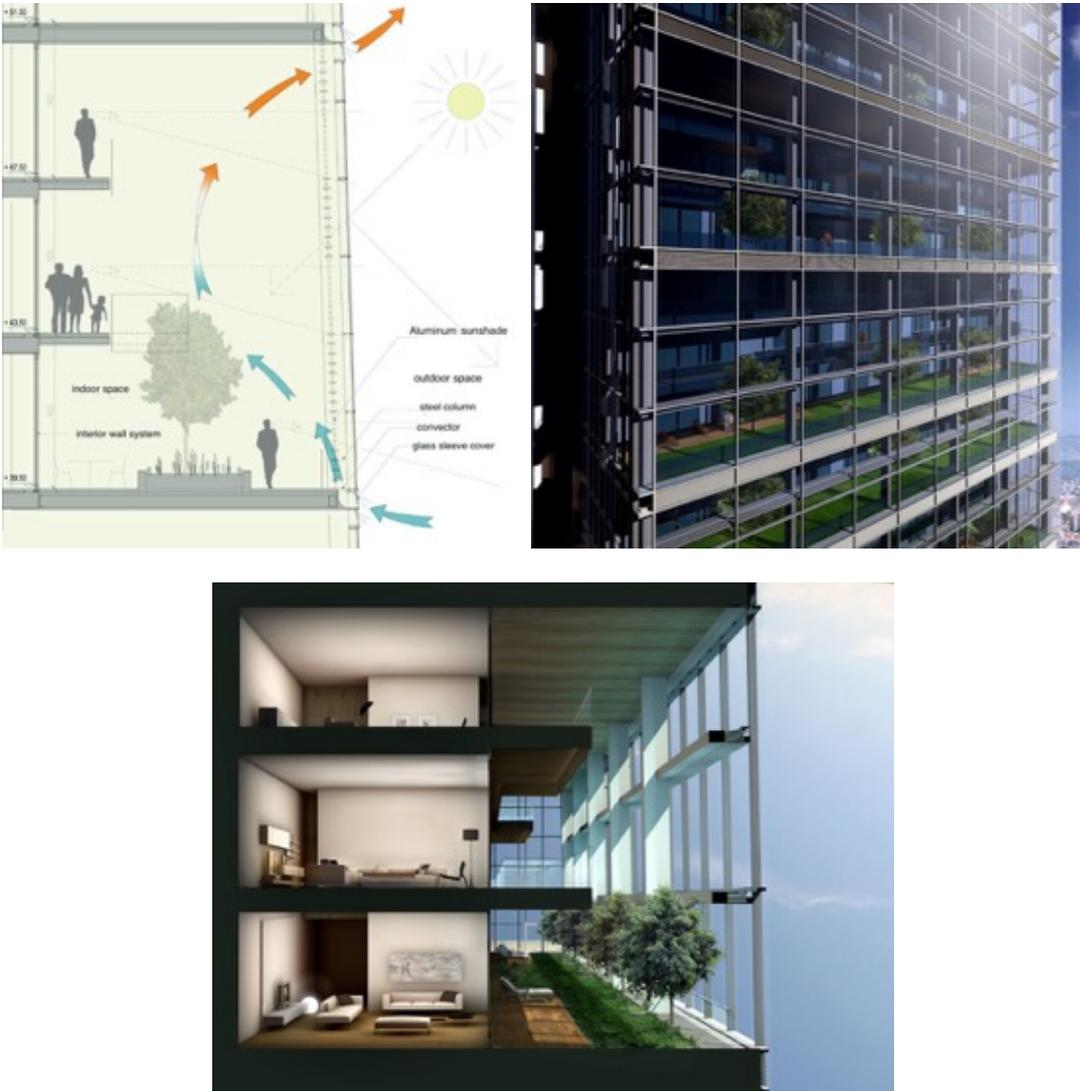
Figure 4.8 : Sapphire vertical gardens (URL7).

By the independent glass shells around the building, the interior spaces protected from negative meteorological conditions and noises. Three-story garden atriums create a unique living experience in a tall building. By giving residents the feeling of sharing three-story house with close neighbors as it is common in traditional Istanbul neighborhoods (Council on tall buildings and urban habitat, 2012).

The urban area around the building is expected to use as a gathering place and contains social activities. Since there is no direct connection to Büyükdere Street and adjacent to the side road, there will not be high vehicle traffic in the area around, and it supposed that space could become defined as an urban public space used actively. It has a direct connection to the M2 subway line both from inside and outside of the building. This is one of the points that make the structure and space around it prominent.

4.1 The Aim and Methodology of Studying Case Area

According to many research's such as Özger's study in 2018 about the particular impacts of the development of public spaces in the private sector, which was done at Büyükdere Avenue, Sapphire has the least value in terms of functionality of its privately-owned urban space (ÖZGER, 2018). In this study, after analyzing the functions of different urban spaces along Büyükdere Avenue, such as Sapphire, Kanyon, Özdilekpark, Metrocity, and Cevahir shopping center, the higher in value of using urban public area which is privately owned but publicly used, was chosen as Cehavir shopping center. So, the focus was mainly on that area to understand the features of a successful POPS.

But in our study, the main focus is on Sapphire building because of its low value of use in terms of urban public space on one of the most active districts of the city Büyükdere Avenue. The study proposes to explain the impacts of Sapphire building on urban areas around it. And also, the relationship between these impacts and urban public spaces around considering the private ownership of the urban area that surrounds Sapphire. By focusing on users' profiles, uses and activities that take place, functions of accessibility, and specific restrictions and regulations that Sapphires administration office sets as a rule for space.

Methodology: After defining urban public and private space, the study focuses on privately-owned public spaces around high-rise structure Sapphire. The user profile,

uses, and activities, accessibility, and restrictions of these types of space explained. Following this explanation and analysis, the correlation between these features and impacts of Sapphire, which classified as environmental, social, and economical, are discussed.

Environmental effects of high-rises are in a close relationship with uses and activities in the urban space. Because the open spaces around high-rises are generally known as places affected by excessive wind, and where the sunlight does not reach at certain times of the day. This could directly affect the uses and types of activities that could take place in the space.

High-Rises have impacts on segregating society and causing social degeneration in urban spaces. Around Sapphire, this could affect user profile of the area in a way that many low-income people living around do not prefer to using the space. Because they believe that the opportunities and activities are not affordable for them, so this makes limitations for different user groups on these privately-owned public spaces.

Restrictions around Sapphire makes the urban space around it more segregated. Security guards and also security cameras in the area, although make the space safer but at the same time, never gives a sense of freedom in urban spaces, and users always feel the sense of ever watched by someone. And this makes urban areas around Sapphire empty even though it is a route for many people who use the subway and use the space for transit proposes.

The economic impacts of Sapphire are also in a very close relationship with uses and activities and accessibility of the spaces. Sapphire considered a potential for the district to make creation areas and different types of activities. Mainly because of its location at the center of business district of Büyükdere avenue.

As mentioned before the physical accessibility and social accessibility are two factors that should considered when looking for accessibility features.

The primary method used in this study is observing people's activities in the urban area around Sapphire by watching them in specific times of the day during one week. The method inspired by the works William Whyte's done in his projects in urban plazas called the street life project. In his studies, he mainly focuses on people and their activities. The standing and sitting spaces which they prefer to use in their break times. Observations done with taking time-lapse photography from the space to understand the usage pattern of the space and also short questions asked randomly from the users about where they work and why they use the space.
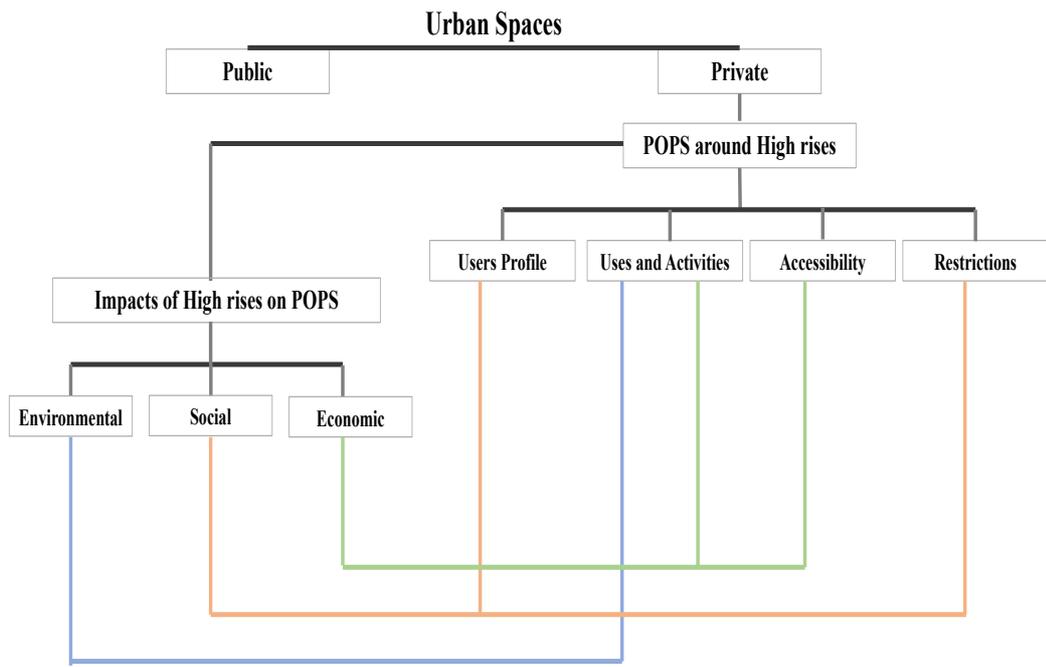
Figure 4.9 :   Method of the study

4.2 Site Observation

First of all, an observation was done to understand the land use of the area. land use of the area was analyzed with focusing on Büyükdere Avenue axes. After analyzing the land use of the area, specific site observations started to done around Sapphire.
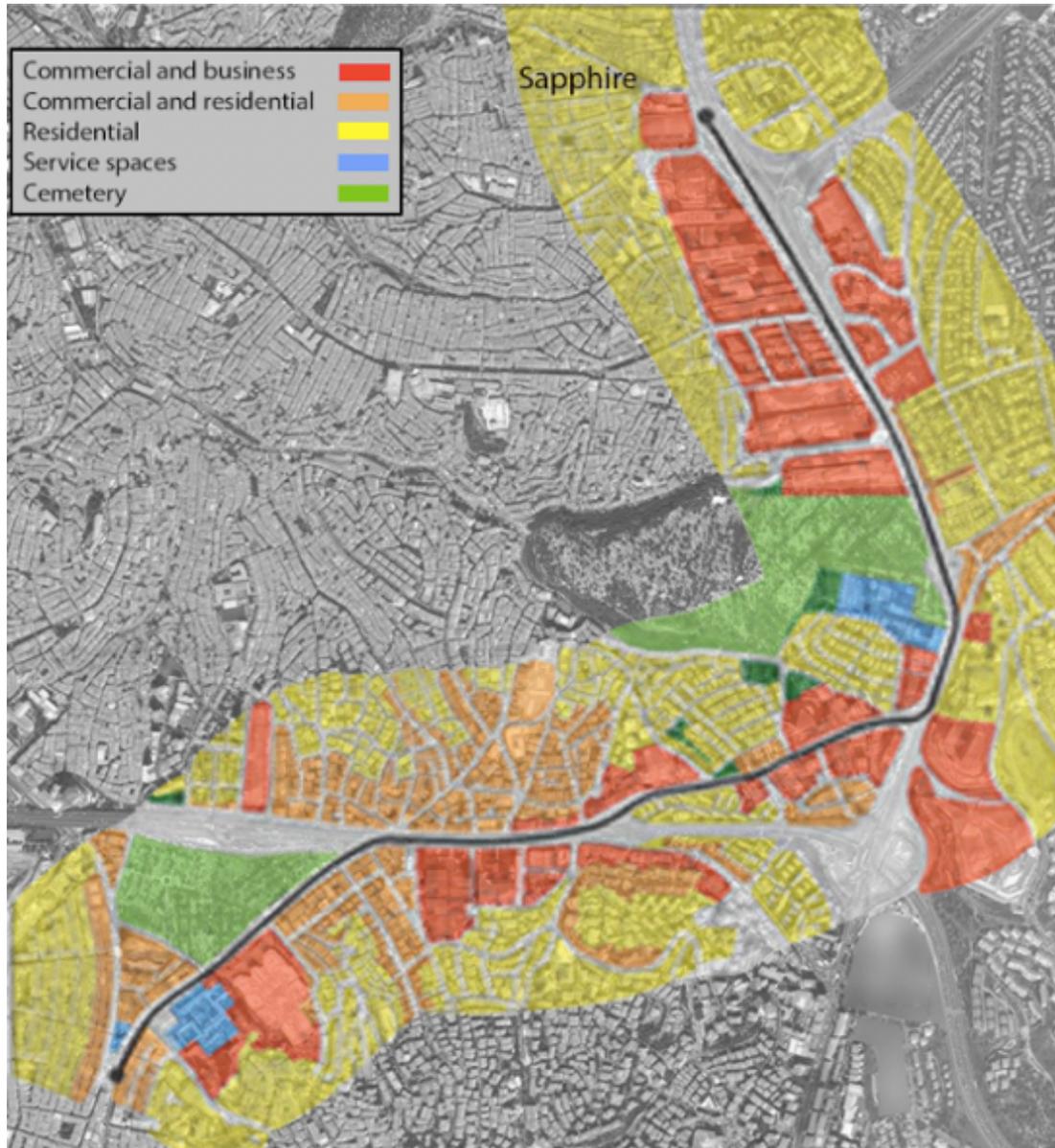

Figure 4.10 : Land use of the area around Büyükdere Avenue.

After understanding the land use of the area, an observation was done to understand the connections between the pedestrian routs along Büyükdere axes and understand the point that Sapphire stands in this continuum. The figure bellow Specifies the points which interrupt the pedestrian flow and focuses on a connection between POPS among Büyükdere Avenue or not.
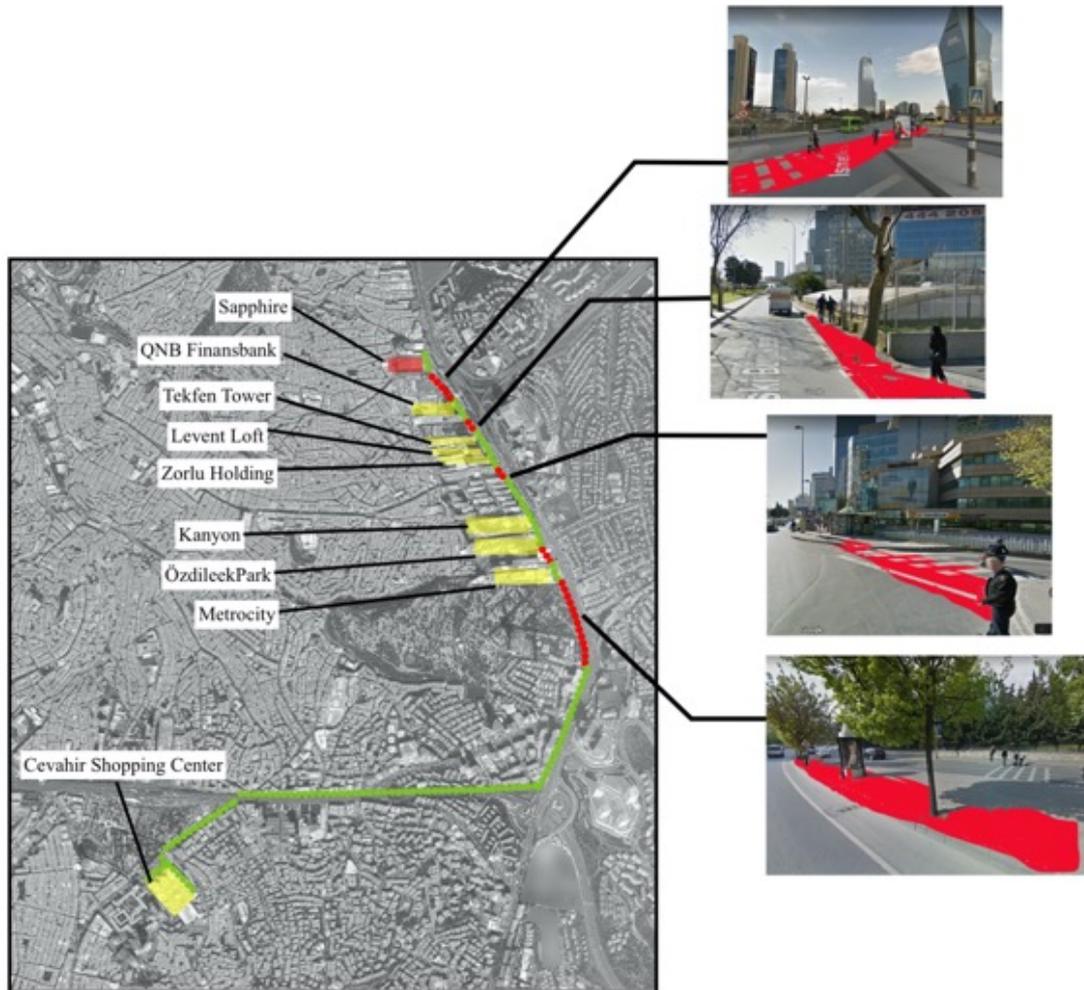

Figure 4.11 : Points which blocks the pedestrian flow along Büyükdere Avenue.

Site observations were done during one week in the urban space around Sapphire by watching people, time-lapse photography's and also asking questions from people who use the space. About why they use the space and how often they use it to determine the attraction points. And specify why people prefer these points. Firstly, the observations focused on the length of time each person spent in the space. The reason is to find the pick hours of use in the area and focus on those hours to understand why people prefer to stand longer and what are they doing. As shown in figure 4.1, After dividing the space into six different zones, time-lapse photographs taken from people who pass, have shortstops, and also have long stops. The length of the time users spends in the zones recorded directly during one week from 8 AM to 8 PM every day.

After analyzing the zones, according to figure 4.11 a chart prepared to show the duration of stops for every day during one week, considering that every line represents one person and the length of the line shows the duration of time each person stays in the space.
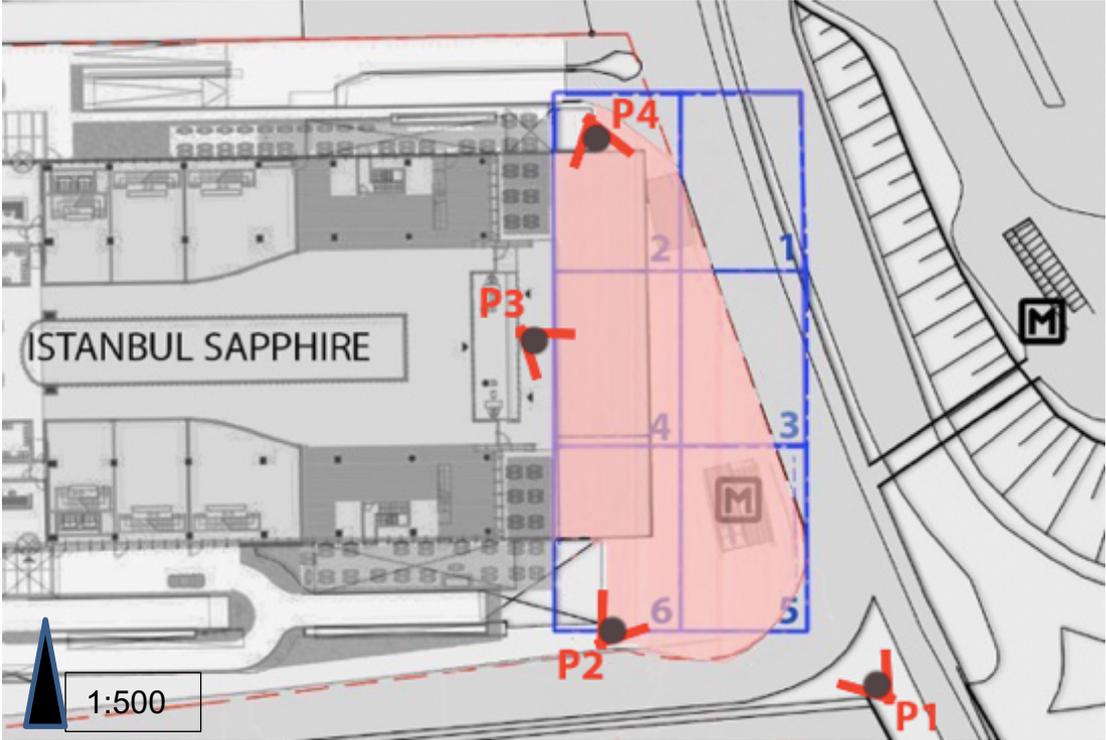

Figure 4.12 : Case study area divided into six zones and four observation points.

Weekdays considered busy days for everyone who works or has to go to school or university. Because of its location, Sapphire contains all these functions. Observations started on 19 August 2019 and last for one week.
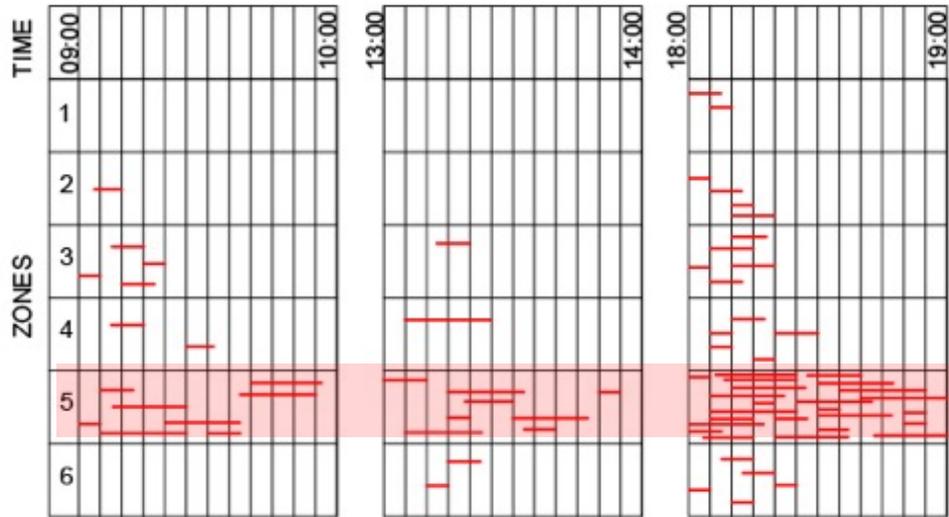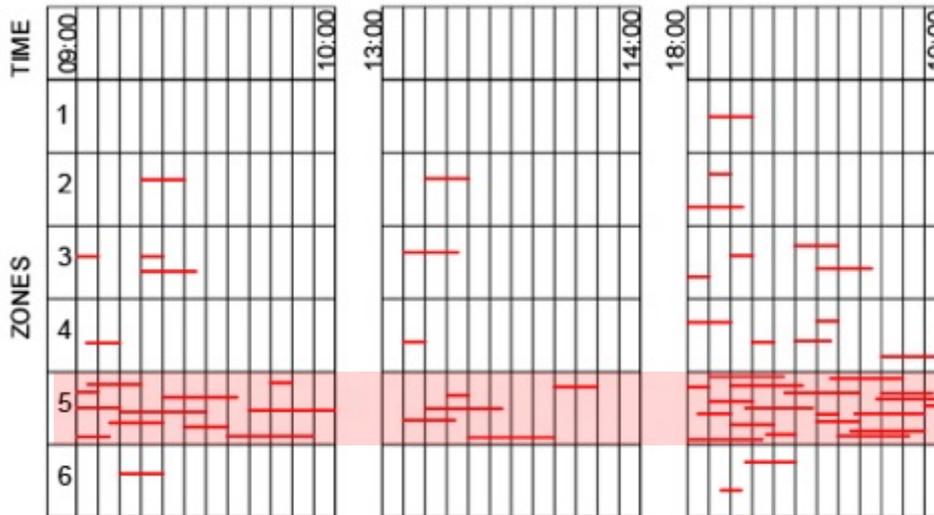
Figure 4.13 : Number of people using space according to length of time they spend in each zone. (Monday, 19 August 2019)
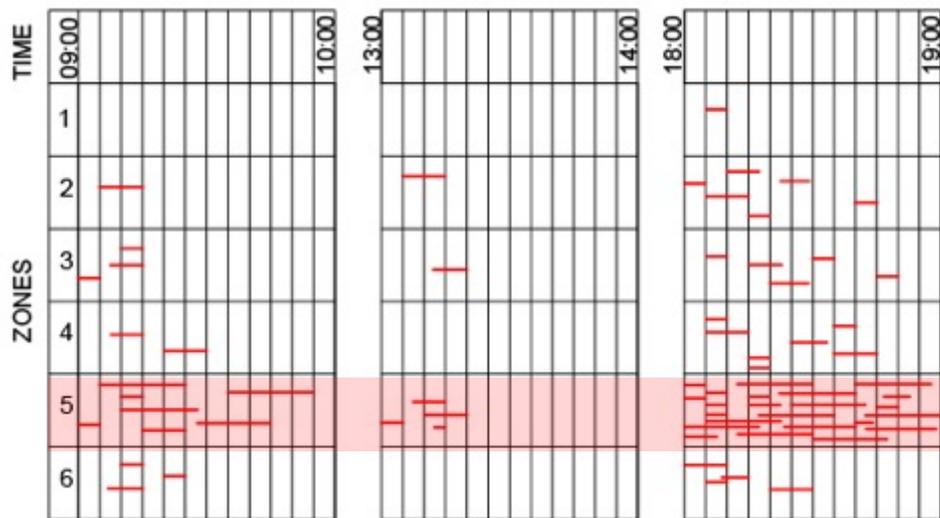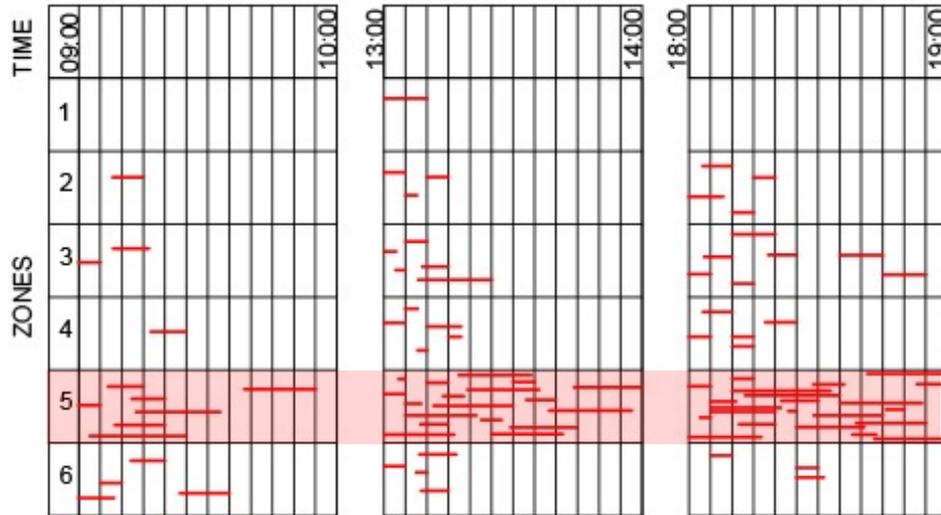

Figure 4.14 : Number of people using space according to length of time they spend in each zone. (Tuesday, 20 August 2019)
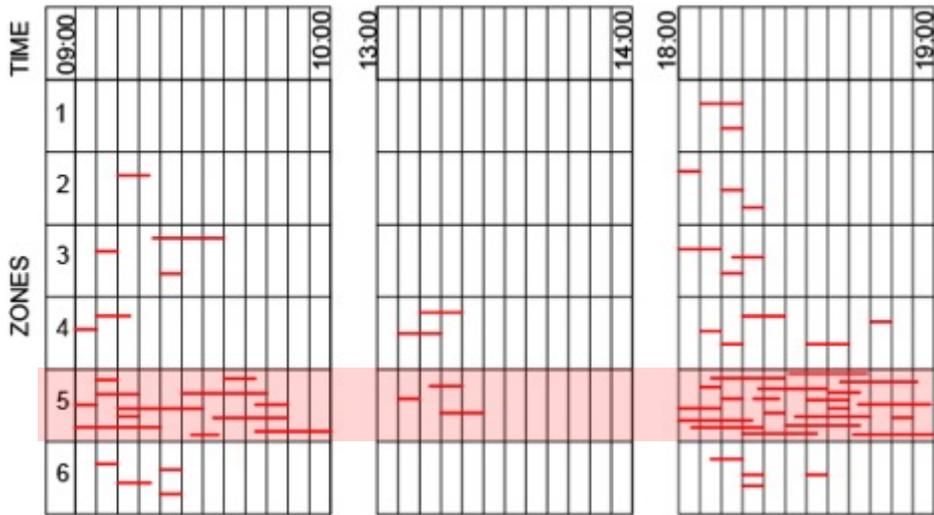
Figure 4.15 : Number of people using space according to length of time they spend in each zone. (Wednesday, 21 August 2019)

Figure 4.16 : Number of people using space according to length of time they spend in each zone. (Thursday, 22 August 2019)

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Figure 4.17 : Number of people using space according to length of time they spend in each zone. (Friday, 23 August 2019)

According to observations, the most crowded days noticed as weekdays especially times between 6 pm until 7 pm. The reason for the rising population at these hours is mainly related to the ending of working hours at those periods. Because the area located in the middle of the business district of Levent - Maslak axes, it is affected by enormous traffic flow at the end of the day.

People using a subway line to escape the traffic, so as shown at the bottom of each figure above, the urban area is in its high range of use at those hours during a day.

Figure 4.16 and 4.17 shows the same analyses are done on the weekend to understand if this privately-owned public space is an attraction point for the users in their leisure time. Do they actively use it or not? Unexpectedly at the weekend, Saturday has the lowest range of use during a week. Moreover, just a sharp upswing seen in the afternoon because of part-time working hours on Saturday. However, on Sunday, there is a rush hour between 6 pm until 7 pm.
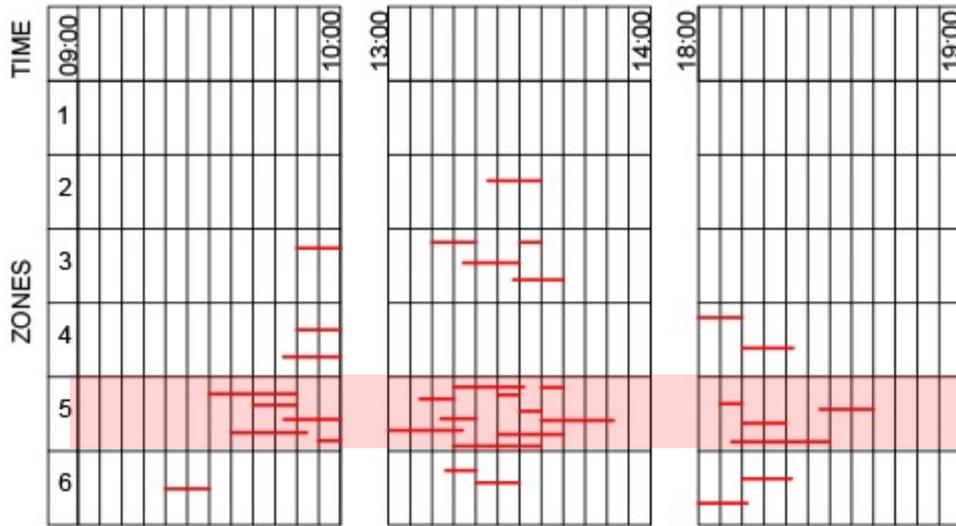
Figure 4.18 : Number of people using space according to length of time they spend in each zone. (Saturday, 24 August 2019)
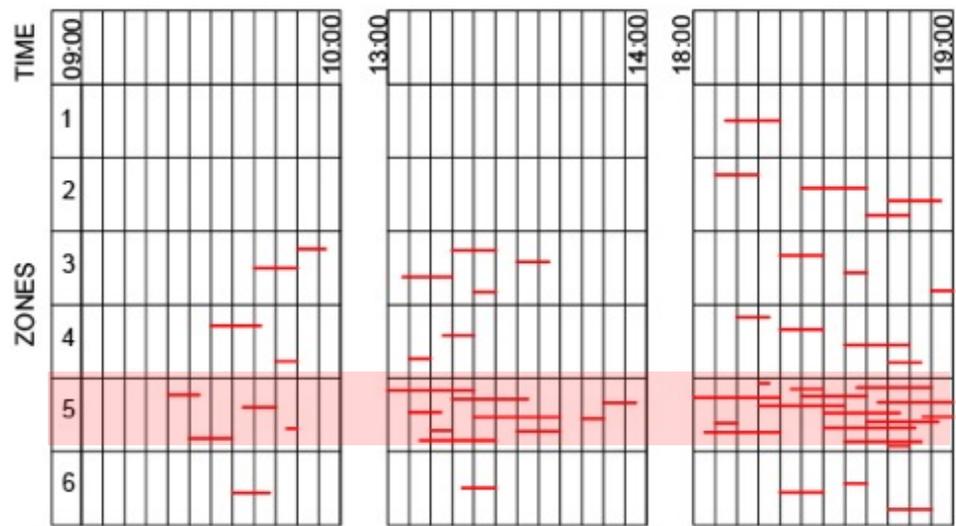
Figure 4.19 : Number of people using space according to length of time they spend in each zone. (Sunday, 25 August 2019)

Table 4.1 : Distribution of users between six zones over three different time periods.

| Time Period / Zone	9:00-10:00	13:00-14:00	18:00-19:00	Total
Zone 1	-	1	7	8
Zone 2	5	6	23	34
Zone 3	18	16	27	61
Zone 4	12	11	33	56
Zone 5	55	57	124	236
Zone 6	14	9	22	45
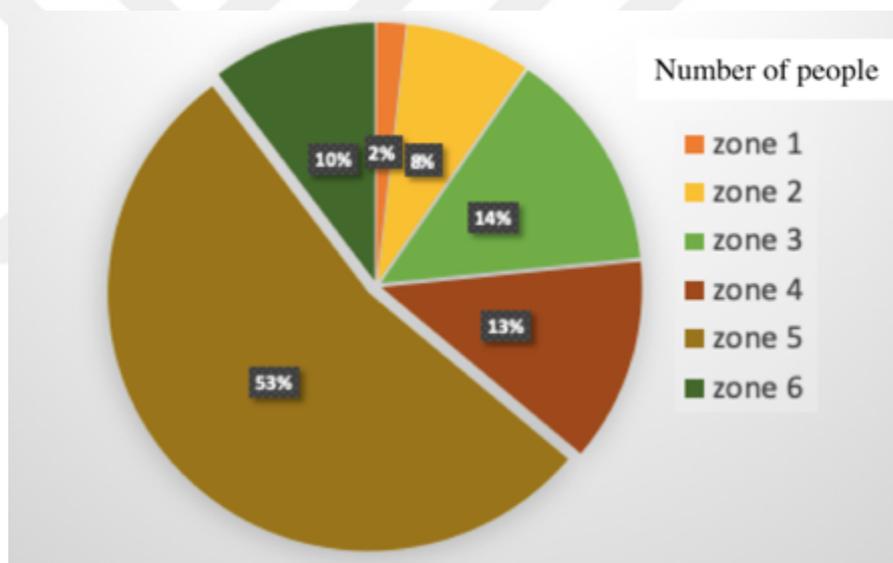
Figure 4.20 : Number of people in each zone.

To separate, the zones equally zone one is emerged out of the property boundaries of Sapphire's privately-owned public space so we can eliminate it from our observations. However, other zones are all inside the area. The table above shows that the most crowded times, regardless of zones, are in the evening, especially at zone five. The reason is the subway station entrance. most of the visitors use the subway line or other public transportation systems.

By focusing on the features of each zone and observing user's activities and choices, a behavioral map of the space designed to show the types of activities that people do in

the space and find the places that mostly preferred and used. As stated below in figures observations done in the same periods parallel to the previous ones by watching people both at noon and in the evening. In these maps, red points represent users who are sitting, green point the ones who are standing and waiting, and the pink lines show passing users and their routes.
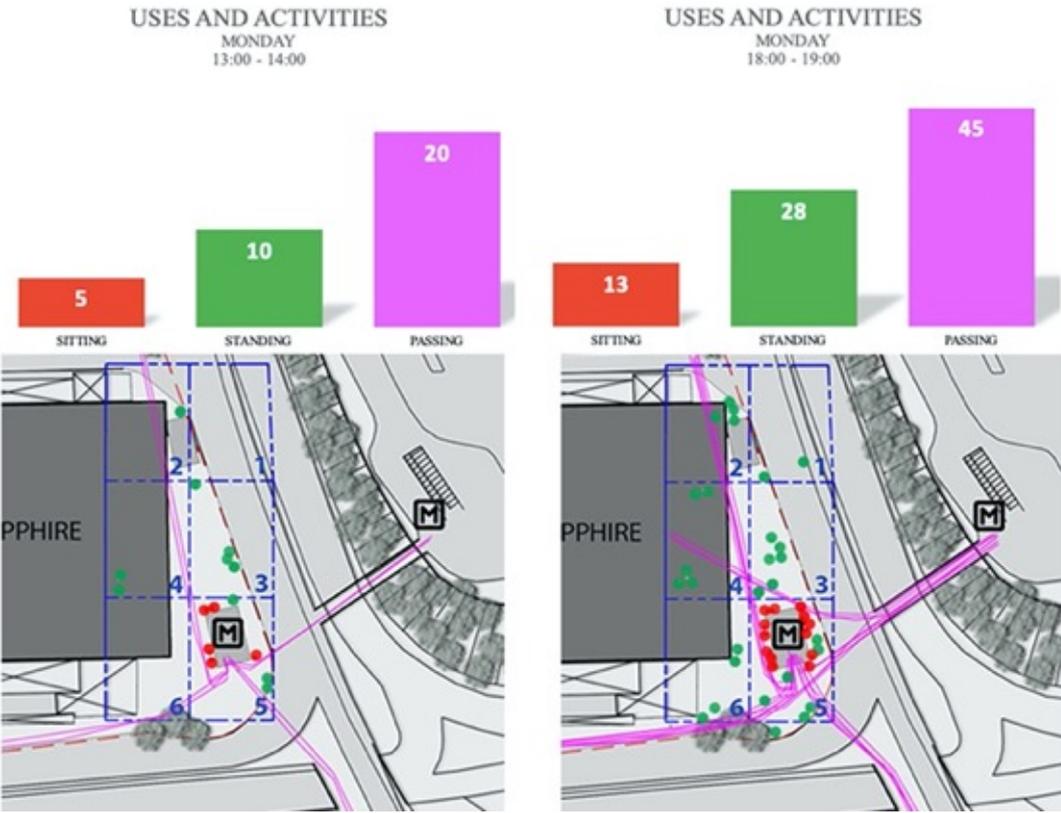
Figure 4.21 : Uses and activities (Monday,19 August 2019)
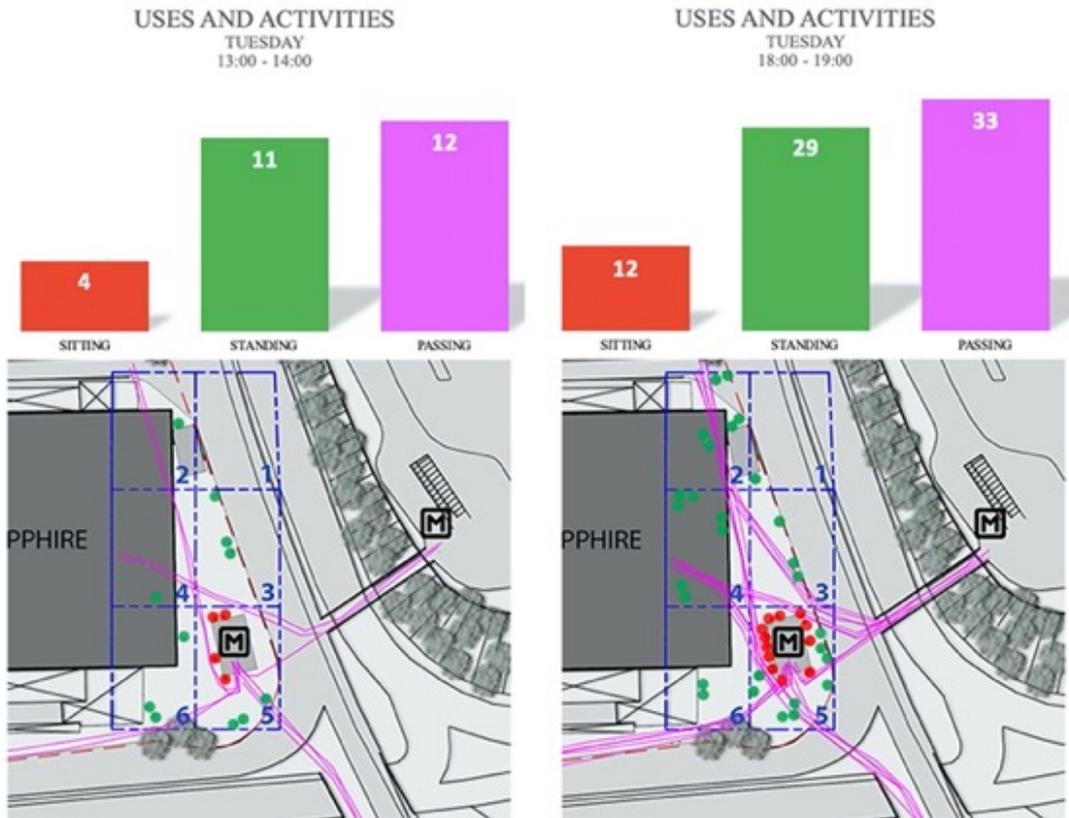
Figure 4.22 : Uses and activities (Tuesday, 20 August 2019)
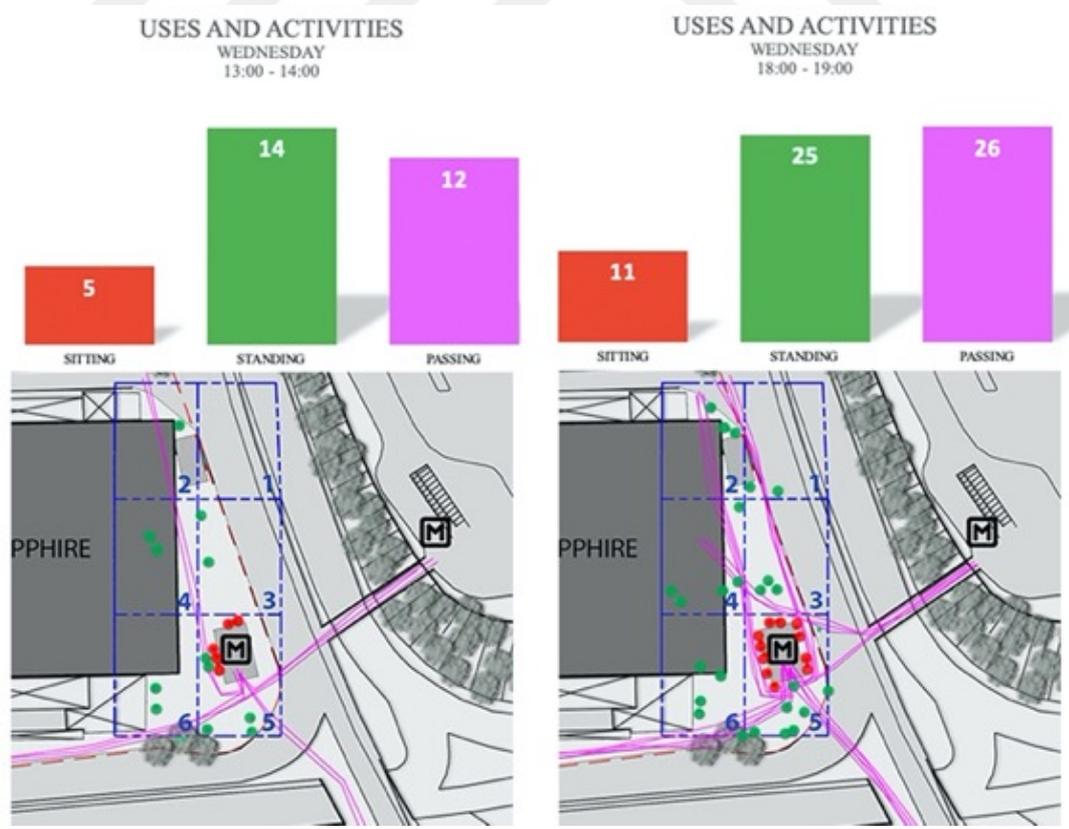
Figure 4.23 : Uses and activities (Wednesday,21 August 2019)
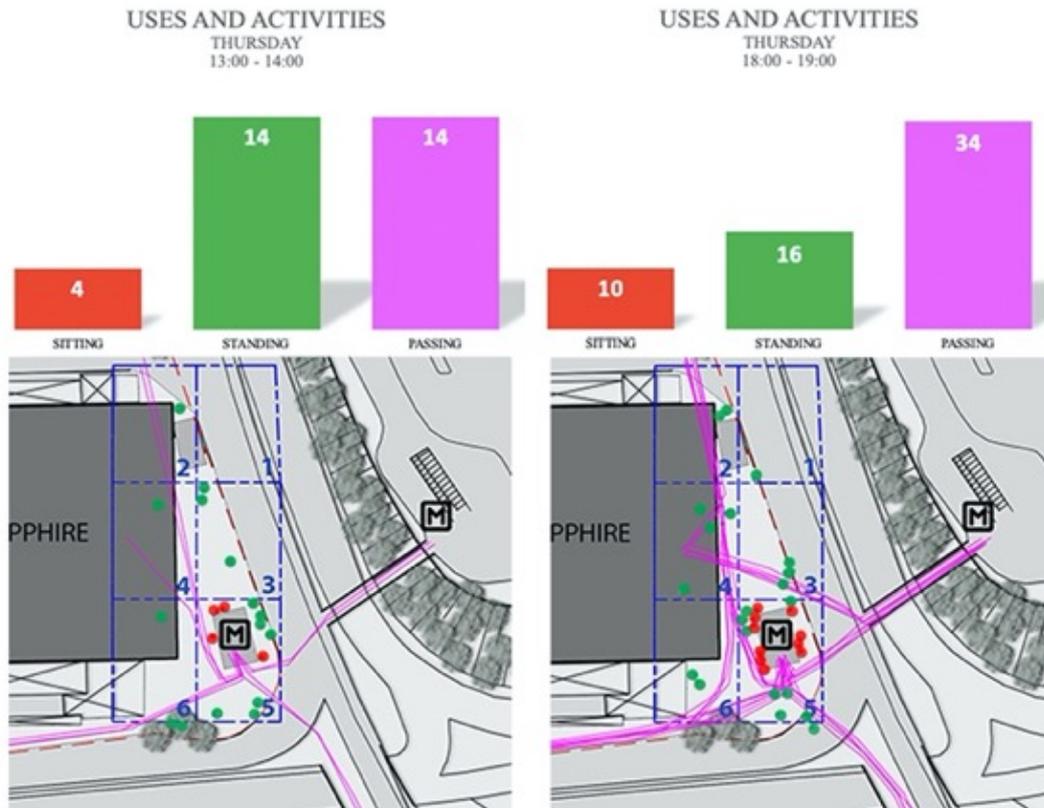
Figure 4.24 : Uses and activities (Thursday, 22 August 2019)

Observations during weekdays show that people actively use the space because of the subway station located in the area. Furthermore, the lack of sitting spaces in the area leads them to sit on the edge of the entrance at the subway station, although it is not appropriate for sitting. On the weekend also there is not any social activity for the user in the urban area around Sapphire, and most people use the shopping area inside the structure.
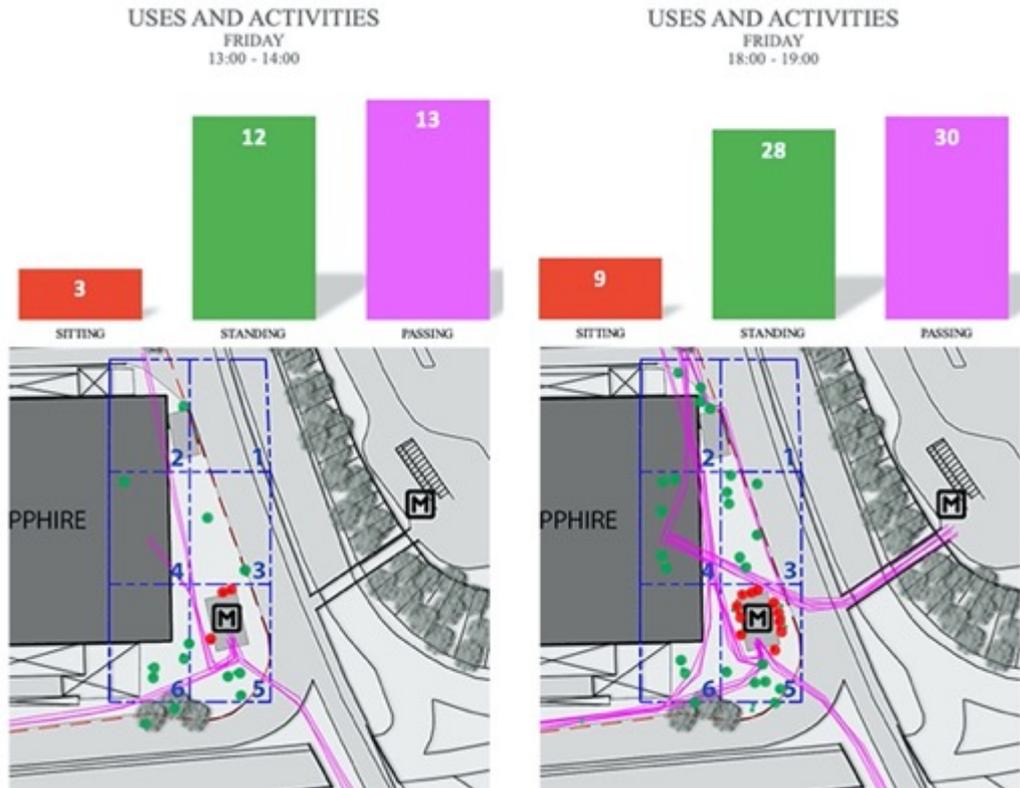
Figure 4.25 : Uses and activities (Friday, 23 August 2019)
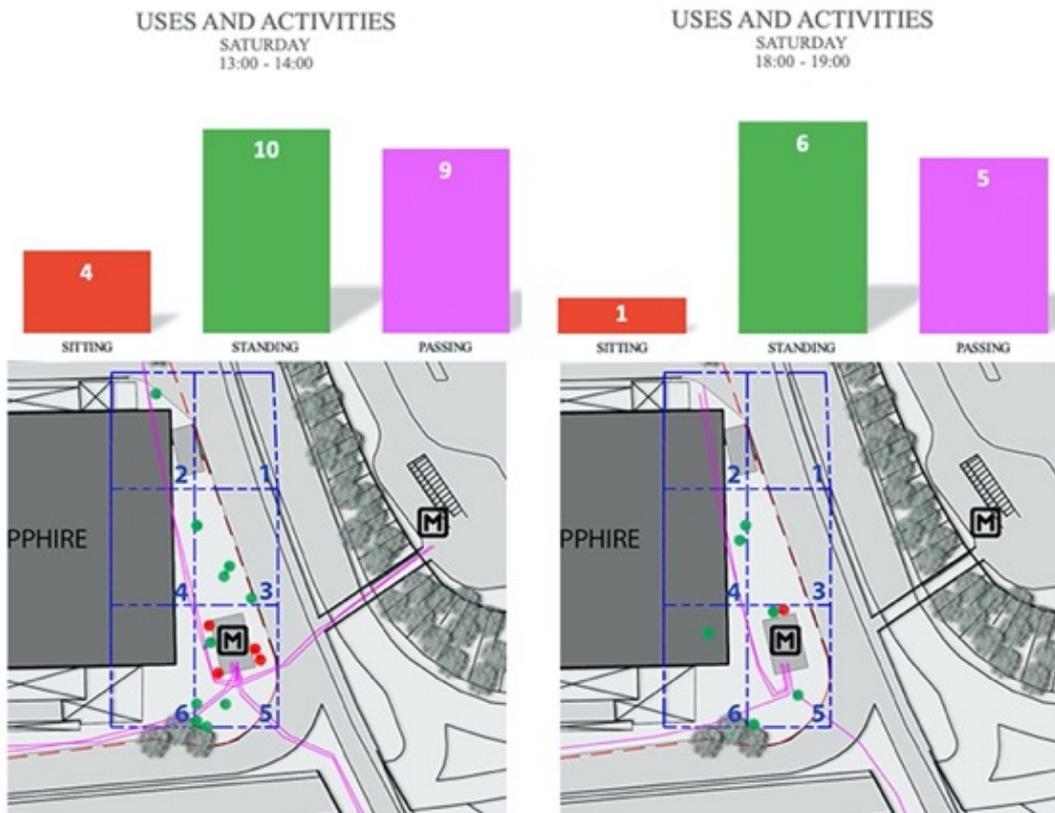
Figure 4.26 : Uses and activities (Saturday, 24 August 2019)

According to data collected on Saturday, the high range of use is between 13:00 until 14:00 because of part-time working hours and ending the work hour at noon on Saturday. However, on other days of the week, except Sunday, it is the opposite. The evening time is more crowded because usually working people finish their work at 6 pm and this increased transfer in the area.
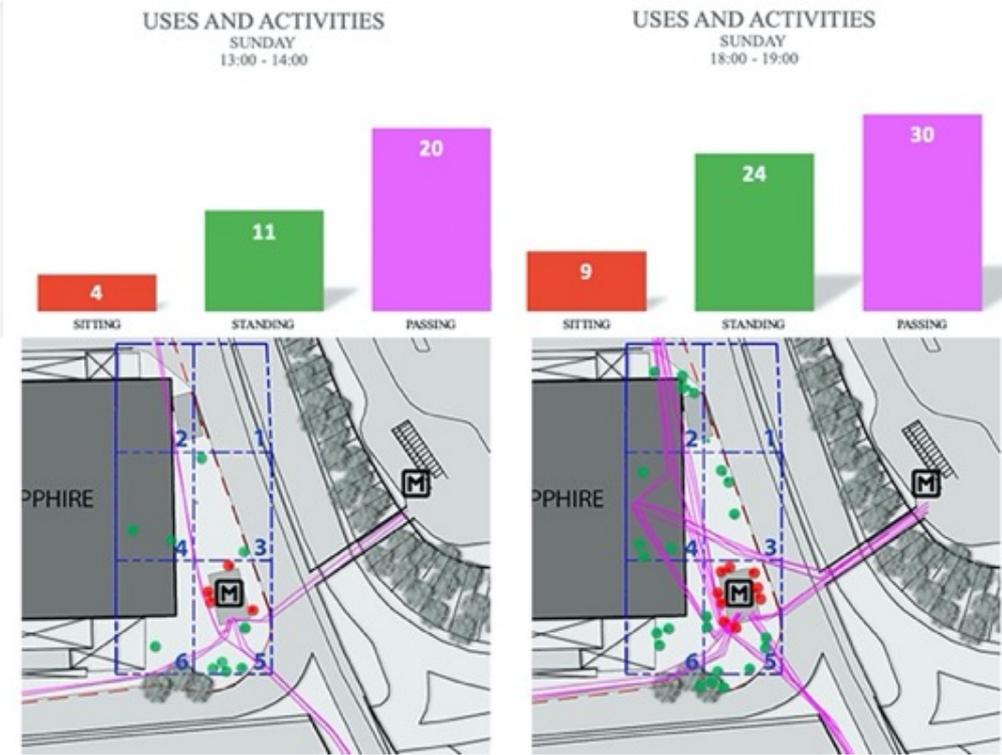
Figure 4.27 : Uses and activities (Sunday, 25 August 2019)

Table 4.2 : Total number of people who sit, stand and pass from the space.

Activity / Weekdays	Sitting	Standing	Passing
Monday	18	38	65
Tuesday	16	40	45
Wednesday	16	39	38
Thursday	14	30	48
Friday	12	40	43
Saturday	5	16	14
Sunday	13	35	50
Total	94	238	303
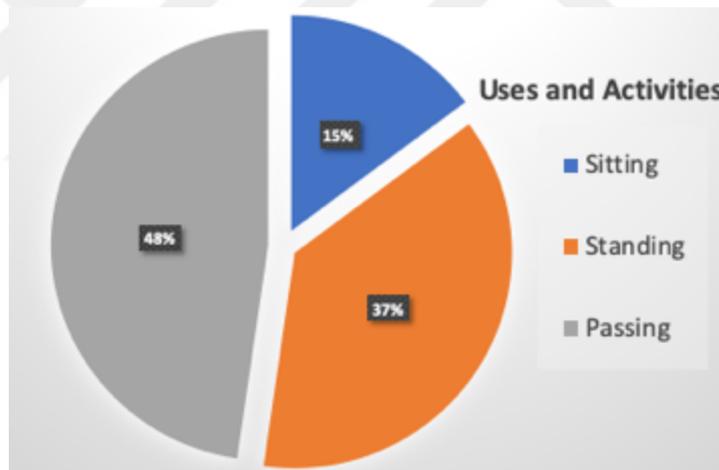
Figure 4.28 : Uses and activities.

According to observations done and the behavioral maps which draw to show the diversity of activities, as it is shown in the table above, the total number of people who pass from the space is almost 303 people while the total number of people who are standing is 238, and the sitters are 94. These numbers show that the area is more responsive to passing through and transit stations for users who take the subway. The comparison between the people who are standing and sitting also shows that visitors have short stops instead of sitting long hours and enjoy the space, and this could be a

sign of lack of paying attention to the design of urban spaces around high-rises. Because sitting spaces not established in the area, people sit on the edge of the entrance of subway, and this also shows that the users need such places to relax.

After watching people's behavior at the space and notice their choices for sitting places and standing areas, some general questions asked randomly from users about the space, especially the ones who are standing or sitting for a while.

According to the table below, users classified into two different groups of workers and visitors to space. The questions are generally about that, where they came from, where they are work, how frequently used the place, and what they thought of it. Do they pass through space or they have shortstops and spend some time in the area, and also, they asked about the kind of activity they do in the space?

Table 4.3 : Description of activity in the space.

	Sapphire Worker	Sapphire Visitor	Description of type of Activity
Transit		*	Uses subway every day- never sits at space
		*	Uses subway every day- never sits at space
		*	Uses subway every day- never sits at space
		*	Uses subway every day- never sits at space
		*	Uses subway every day- sometimes sit while waiting
		*	Uses subway every day- never sits at space
		*	Uses subway every day- never sits at space
Other Uses	*		Every day uses space- smoking in break time- always stands near to entrance door
		*	4 times a week- sits at the edge of subway entrance
		*	Shopping from Sapphire- 2 days a weak

The results of talking to people show that space has the role of a transit area for most people. Moreover, the workers of Sapphire are not using the urban area around too much, because of its interior terrace space located at the food court floor at the shopping center.

It is evident that people do not prefer to stand for a long time in the space, and mostly older people choose to sit near the edge of the subway station entrance.

4.3 Impact of Sapphire on Its Privately-Owned Public Space

Every tall building has impacts on its surrounding area. Sapphire building, as a 4th tallest structure in the region, has both positive and negative effects on its surrounding. In this study, we will consider all factors, such as environmental, social, and economic, in terms of user's profile, uses and activities, accessibility and restrictions of the space. In the year 2006, when the construction of Sapphire starts, everyone knows that it is going to be the highest structure built in Turkey at that time. Sapphire is a high-rise structure that has impacts on its surrounding area and also users. There are high-rise structures along the axis of Büyükdere avenue, and we can see areas behind the high-rise buildings, villas, and apartment-type residential areas and also slums. Sapphire building located exactly in the middle of this area. The location directly impacts the private urban area around Sapphire.

The first construction in the Region around Sapphire started with the construction of Levent Residences, one of the first mass housing projects of Istanbul between 1950 and 1953. During this period, Ortabayır and Çeliktepe Neighborhoods used for agriculture and animal farming. Road constructions in these neighborhoods transformed the area into residential parts that allocated to the slum owners who had destroyed. With the shanty house law in 1966, these settlements became a legal state. The shantytown continued to emerge under the influence of amnesty laws, and the region took its present shape.

4.3.1 Environmental

4.3.1.1 Uses and activities

Sapphire, because of its extreme height in comparison to its surrounding buildings, can cause strong wind effects around it. According to Donald Appleyard, the form of the high rise affects the amount of wind which it produces (Appleyard, The environment as a social symbol, 1979). Sapphire's rectangular shape increases the intensity of the wind, which can affect the uses and activities in the space. According to John Gehl's activity analyzes in urban spaces, people mostly prefer to have short stops around Sapphire and do their necessary activities included going to work or waiting for bus (Gehl, Life between buildings: Using public space, 1987). They prefer to have short stops instead of long stops. Also, physical environment features like the lack of having

siting spaces do not allow them to stand for a long time and have their optional daily activities like talking to a friend or reading a book. The figure below is a picture taken from google maps related to the year 2014, which shows another seating edge in the middle of the space people used to sit at and spend time. Now they changed it to an urban element in the shape of Sapphires structure. Which sometimes changes its function to a water element.

Figure 4.29 : Disappearing the seating elements in the space.

4.3.2 Social

4.3.2.1 Users profile

Sapphire is a mixed-use high-rise structure that has its users both from inside and outside. However, because the shopping center of the complex is not very successful in terms of social activities, it could not address both the needs of users from the inside (private residential part) and users from outside the complex. Possibly it is because of social segregation that the high rise causes in the area. The residential part of Sapphire considered one of the most luxurious places for living in Istanbul. The average prices for a rental apartment in this residence are between two hundred dolor's to 18 hundred dolor's for a month. On the other hand, there is a considerable gap between the rental prices of Sapphire and its neighborhood, and this creates socially segregated groups of users.

People who use space are usually unknown people of different purposes. Users from neighborhoods around are in the top range of users of the urban space. A considerable part of the users are students who live in the neighborhood. According to lynch, five city elements, it is evident that users mostly students considered Sapphire as a nude in their district to find and meet each other (Lynch, The image of the city., 1960).

As mentioned, the user profile is one of the indicators that affect the uses of urban space and activities. After interviewing with some users in the area during one week of observing, the results show that the user profile changed a lot during a day. People who use the area the most were the people living in the neighborhood, which consisted of short-term waiting for transit passes.

4.3.2.2 Restrictions

according to Matthew Carmona, public spaces in cities are becoming commercialized, privatized, securitized, homogenized, and exclusionary, because they are shaped by the narrow interests of the few (the developers) instead of the many (society as a whole) (Carmona, Public Places Urban Spaces : the Dimensions of Urban Design., 2010).

According to studies and observations, Sapphire's most crucial issue is security guards and its administration office, which controls all the security staff. Many complaints

have come to the administration office about the security guard's inappropriate behavior at entrances, and this makes people avoid visiting space. So, we can see that restrictions about entry rules are too stringent, and this makes the users miserable about their choices. Also, space is not suitable for social gatherings because the security guard issue interrupted users in the area. Problems Happen, while at the inside of the shopping center, the security guards stop people who already pass the security guard gate and ask them for their identity card again.

Another issue that almost every POPS face is security cameras everywhere. The feeling of being always watched by someone does not makes good sense. The security cameras all around Sapphire are watching the space 24 hours. However, it is useful in terms of safety and vandalism but on the other hand, causes a feeling of socially restricted.
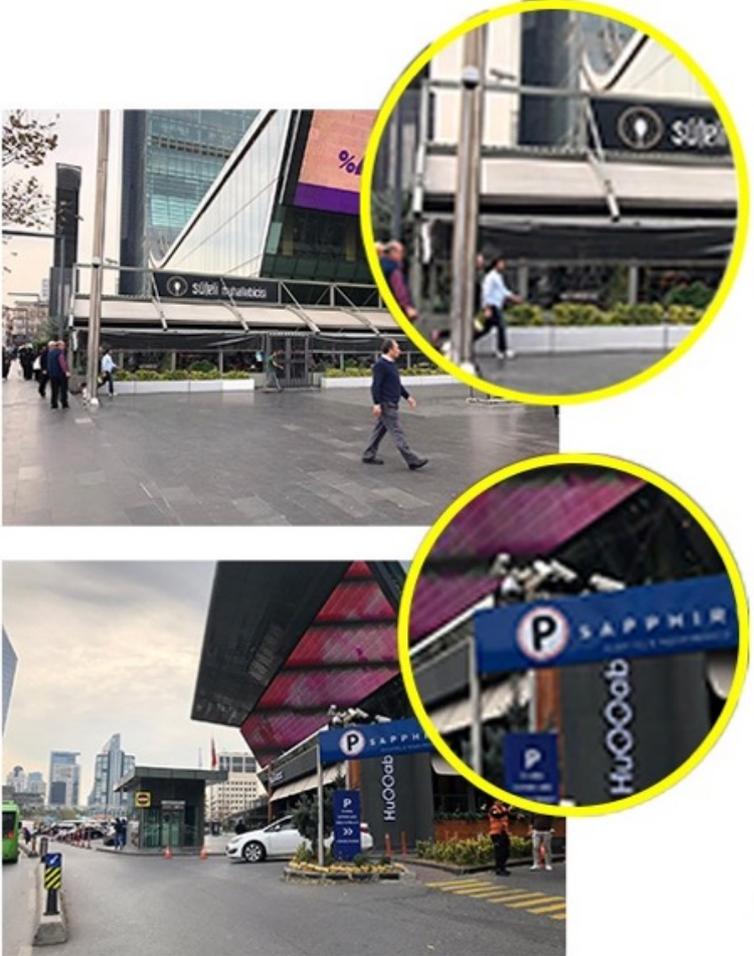
Figure 4.30 : Security cameras everywhere at Sapphire urban space (Source: Author).

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4.3.3 Economic

4.3.3.1 Uses and activities

When we consider the economic impacts of Sapphire as a high-rise structure, this is undeniable that it is a potential for the district and also the urban area around. However, do Sapphire use this opportunity positively to make the space more livable and attractive? The answer is no.

It is clear that the building has a positive impact on the city as a landmark, because it increases the value of land in the region, by using its prestige in design components. Lately, Sapphire has made efforts to make the space alive but with wrong decisions.

According to figure 4.24 there is not any restaurants and cafes in the space at 2013 and mostly people sit at outdoor space and more often use the area but the management decided to open luxury restaurants to attract users from other social groups.
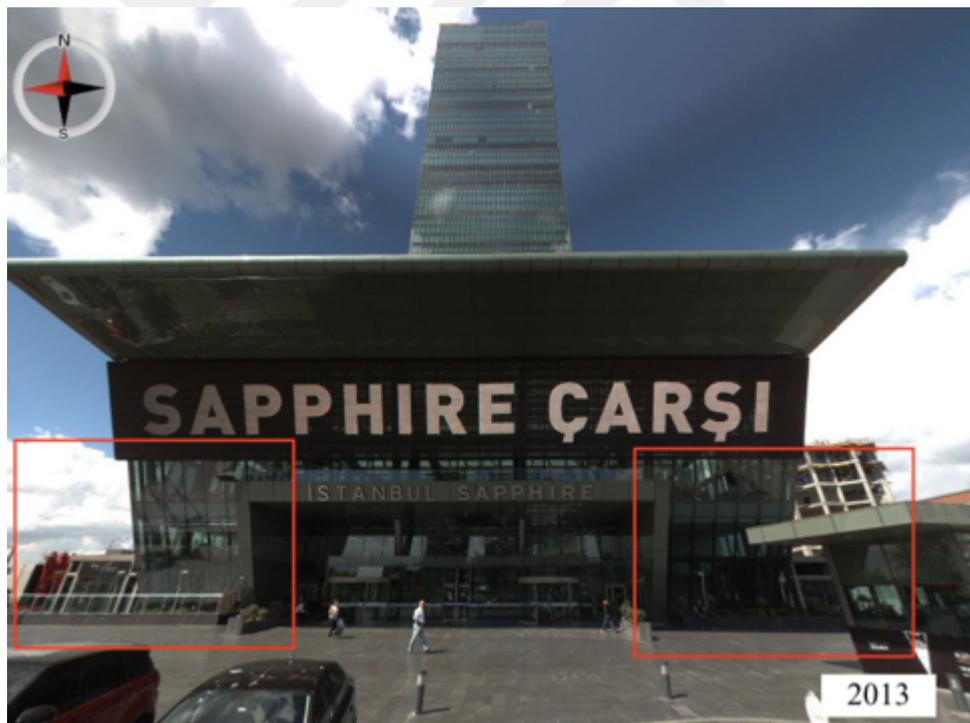
Figure 4.31 : Sitting spaces before opening cafes and restaurants (URL11).

Figure 4.32 : Opening cafes and restaurants in the space (URL11).

One of the restaurants which recently opened in the area is a branch of Huqqa Baaz restaurant chain. The aim is to bring prestige to the district and the urban area, but there is a missing point here. This restaurant is considered as a luxury brand and is not suitable for the user profile of this space. Moreover, it did not help to socialize and attract people.

Figure 4.33 : Huqqa Baz restaurant in the urban area of Sapphire (Source: Author).

4.3.3.2 Accessibility

Sapphire located at one of the business centers of the city called Büyükdere Avenue. Generally, a high-rise structure providing the features of Sapphire should have good accessibility because of its central location. This kind of privately-owned public space should have some opportunities to get people in. Sapphire's opportunity is its good accessibility because of the subway station located directly inside Sapphire. This factor is significant because nowadays, subways are very commonly used instead of other public transportation to escape the traffic of Istanbul, especially during rush hours. So, the complex should indirectly use this potential to attract users to stay longer in the urban space. If people stay longer in space, they would also use the space like using cafes and restaurant inside and outside the building and as a result we could have more lively urban spaces to use.

As mentioned in the second part of the thesis, urban spaces should be physically and socially accessible. In the case area around Sapphire, the physical accessibility of ordinary people to space achieved in the right way, but disabled people may have difficulties in using space. However, space provides a high range of diversity in public transportation, like the subway, buses and, mini-buses. It is evident that the urban area around Sapphire is physically accessible, but as we can see from the observations, making space physically accessible is not enough to have social activities and contain a variety of users from different ages and groups and maintain social accessibility as well. Visual accessibility around Sapphire is considered well during day time because space is open and without any trees to create points that are not visually accessible. However, at night time, the space is exceptionally dark, and the lighting elements never used for making the space accessible at night time. The only light source in the area during dark hours is the large advertisement panel on top of the entrance door of the complex.

Figure 4.34 : Decreasing visual Accessibility due to lack of light at night (Source: Author).

4.4 General Evaluation of the Results

Summary of the last section of the thesis is about gathering the findings and results of the study in the case study area Istanbul Sapphire building. And make a correlation between impacts of a high-rise (environmental, social, economic) and the features of the urban public spaces around these structures have, which mentioned as privately managed and owned but publicly used spaces like user's profile, uses, and activities, accessibility, and restrictions. Primary information about Sapphire is explained, such as the exact location and the historical background of the area around. The building defined carefully in terms of architectural components and its features as the first ecological high-rise structure built in Turkey. Sapphire is a mixed-use, high-rise structure with a residential and commercial part inside. The shopping center inside Sapphire considered being an attraction point for the users. For understanding the relationship between Sapphire and its Surrounding urban area, some observations have done during one week. First of all, the duration of the stops in the space recorded by watching people and taking time-lapse photographs from the site by dividing the space into six equal zones in terms of size. Activities in the area were monitored by considering each zone. After finishing the observations, a behavioral map was created

for each day to understand the actions which take place in the space considering the zones which have the most range of users during a day.

Observations show that according to the features that space has like a direct access point for subway lines from inside and outside of the building, although physical accessibility provided, the social accessibility is not implemented in the space because people mostly use the space for transferring to subway lines and having shortstops. After fishing all the observations, the impacts of Sapphire on its surrounding urban area determined. These impacts studied parallel with the features of the privately-owned public spaces in the section. And it was discovered that the environmental effects of Sapphire are in a close relationship with uses and activities in the area. Because when we consider the location and the physical shape of Sapphire, which is not in harmony with its surrounding buildings, it has strong wind effects and a barrier for the access of sunlight in the space. So, it can discourage the users from doing their social and optional activities during a day. Also, about social impacts, it is possible to say that these impacts are strictly related to the user profile and at the same time, restrictions that could set in this privately-owned public space around Sapphire. Sapphire, as a developed high-rise structure with luxurious housing units, makes a huge gap between the housing forms with the neighborhoods around it. And this gap resulted in socially segregated urban areas with separated groups of users. It understood that the restrictions about these privately-owned public spaces also might discourage people from using the space.

Finally, about the economic impacts of Sapphire, it is evident that the building as a landmark has positive implications for the city because it increases the land values in the area utilizing its prestige in design components. This could instantly affect the uses and activities in the urban area. Accessibility is another feature of this kind of urban spaces discussed in the Sapphire case. It understood that generally, a high-rise building that provides Sapphire's features should have good accessibility due to its central location in the business district of the city. This might economically affect the use of space by considering Sapphire's opportunity in connection with the subway line directly from inside and outside the building.

5. CONCLUSIONS AND RECOMMENDATIONS

In this thesis, the association between high-rises and the public spaces around them, which is started to show a difference in parallel to social, environmental and economic changes, is questioned. During this interrogation, the definition and characteristics like ownership, user profile, uses and activities, accessibility, and restrictions of privately-owned public spaces examined, and the relation between the meaning and understanding of today's public spaces which are mostly privately-owned and high-rises reviewed.

It is understood that this type of urban space (POPS), especially around high-rises, is changing our perception of traditional public spaces. The primary motivation for studying public space and privately-owned public space was the fact that public spaces quantity and quality limited by ownership conditions and the public sector's financial frameworks. The observations show that Sapphire as a landmark for the city is designed well in terms of architectural components and considered as the first ecological high-rise structure in Turkey. However, exterior design could not reach the standards of urban public spaces and did not pay attention to attract people and their customers. Furthermore, this creates an urban area that isolated to one type of activity and users do not visit the space by their own wish.

Considering the previous studies about privately-owned public spaces such as Özger's study about the impact of private sector in the process of developing public spaces focusing on POPS along Büyükdere Avenue, their application, and potential which was done within the scope of a thesis study at Istanbul Technical University in 2018. This study mainly focuses on Cevahir Shopping Center because of its high value of public life around it. Despite this from the findings of the study among many POPS along the Büyükdere axes, Sapphire has the least social and public life value. So, the current study chooses Istanbul Sapphire building and its urban public space around to understand the impacts of this high-rise structure on its surroundings.

After doing site observations about the user profile of space and also uses and activities by taking time-lapse photographs and talking to people about where they work and how frequently use space behavioral maps prepared. The results show that urban space around Sapphire has the functions of a passing area and considered a transition venue. Moreover, the users are mostly students who live in neighborhoods around Sapphire. The activities that take place at the space are almost compulsory, and space does not serve any facilities to socialize people because there is not suitable urban furniture in the space. Following the observations, it is evident that urban public space around Sapphire building has an impact on both the local aerodynamics and the temperature conditions of the territory. As a result, Sapphire is environmentally unfavorable due to its absolute Hight and impacts on creating wind tunnels in the urban space. The social impacts of Sapphire are also undeniable when considering that most high-income people are living at this luxury residence with much of interior public areas for socializing and also having their natural gardens in that desirable Hight makes them isolated to their housing units because all their needs are inside the building. While there is another life outside this high-rise structure. This vast gap between other neighborhoods around causes social segregation in the space. In 1980, William H. Whyte searched to find the answer how the citizen interacts whiten the city: "people do not try to get away from it (the city) all. If they did, they would go to the lonely empty spaces where there are few people and going there by choices not to escape the city, but to partake of it (Whyte, Street life project, 1980). However, a well-designed public space is a magnet for the user, but the interaction of the user with the space is really "makes the city."

Recommendations: After the 1950s, the globalization covered world rapidly, the cities had to respond to this necessity and entered into the changing process. Applying the right planning approaches is essential for cities to keep up with these changing conditions, and this can only achieve by capturing the strategic point of view in planning and design. With a sustainable planning approach, the identity of the city and its sub-elements that define it can react appropriately to all the social environmental and economic changes of the city. By taking into account that people enjoy open spaces because of living in high densities, the importance of well-designed open spaces is gradually increasing. So, the private sector should pay more attention to designing exteriors and also urban furniture for the citizens. (ÖZGER, 2018). Such spaces could

help to increase user satisfaction and attract more people. Also, having urban furniture in the space that can placed in order to user's desire and wish, like moveable chairs or designing comfortable edges could be useful for making people stay longer in the space.

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APPENDICES

APPENDIX A: Time lapse photos from case study area.
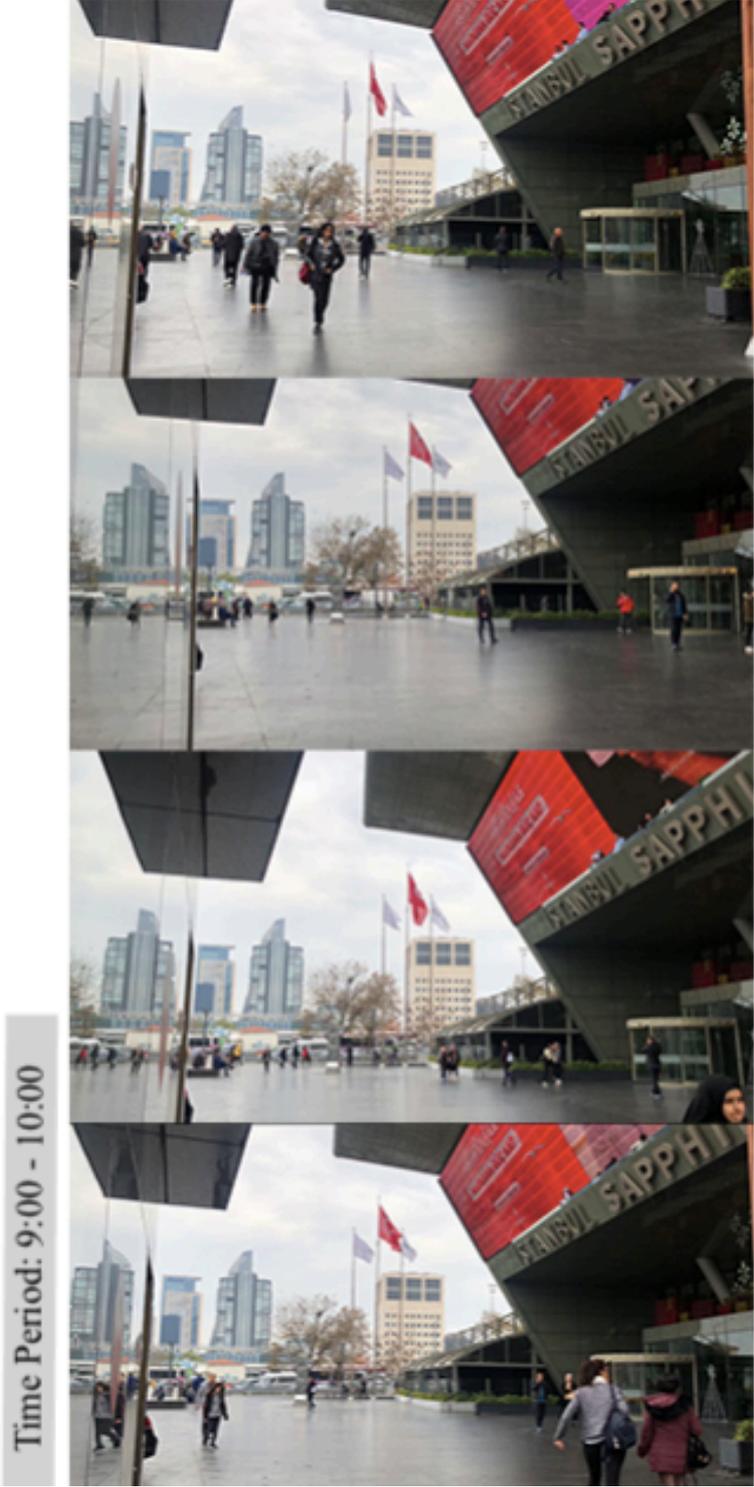
APPENDIX B: Sapphire section.

APPENDIX A

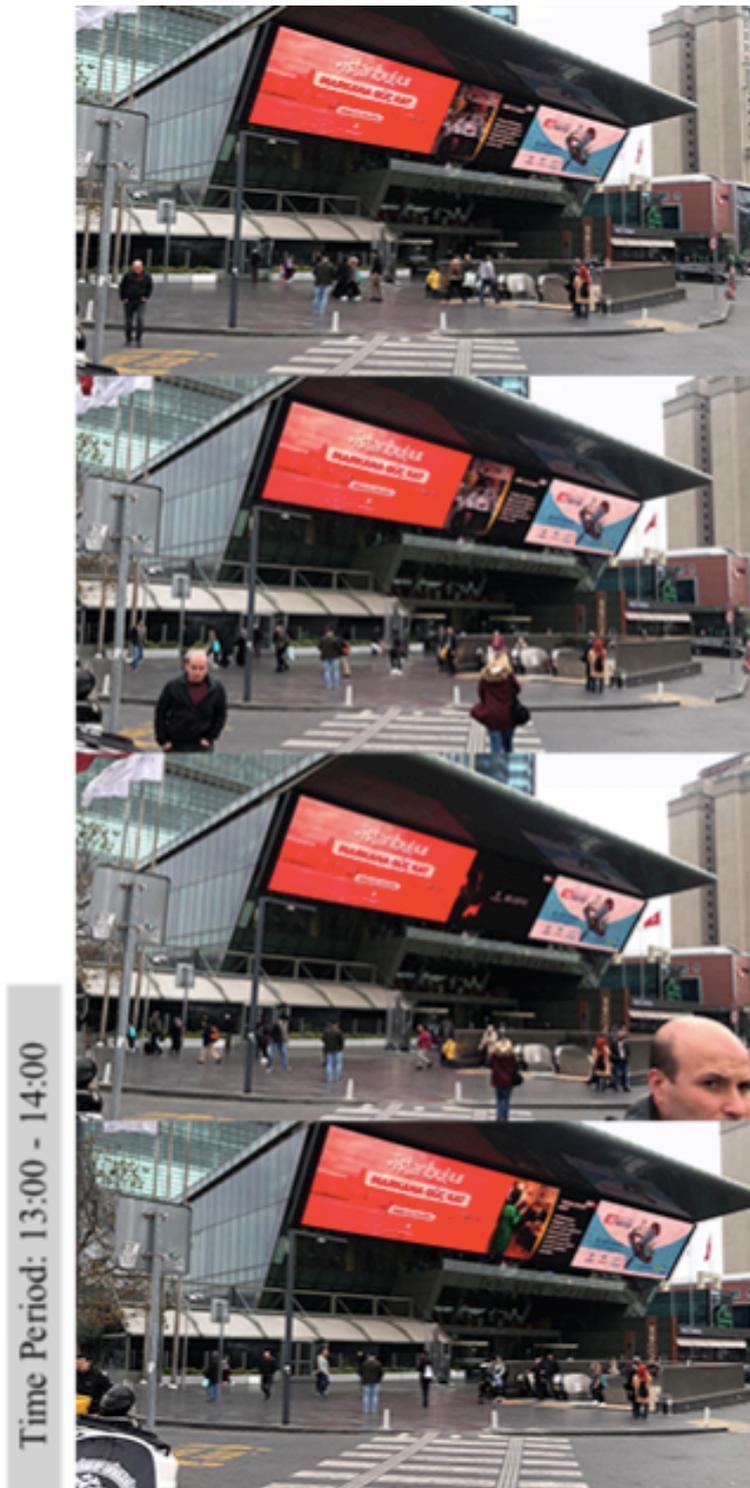**Figure A.1 :** Time-lapse photo from observation point number four (P4).

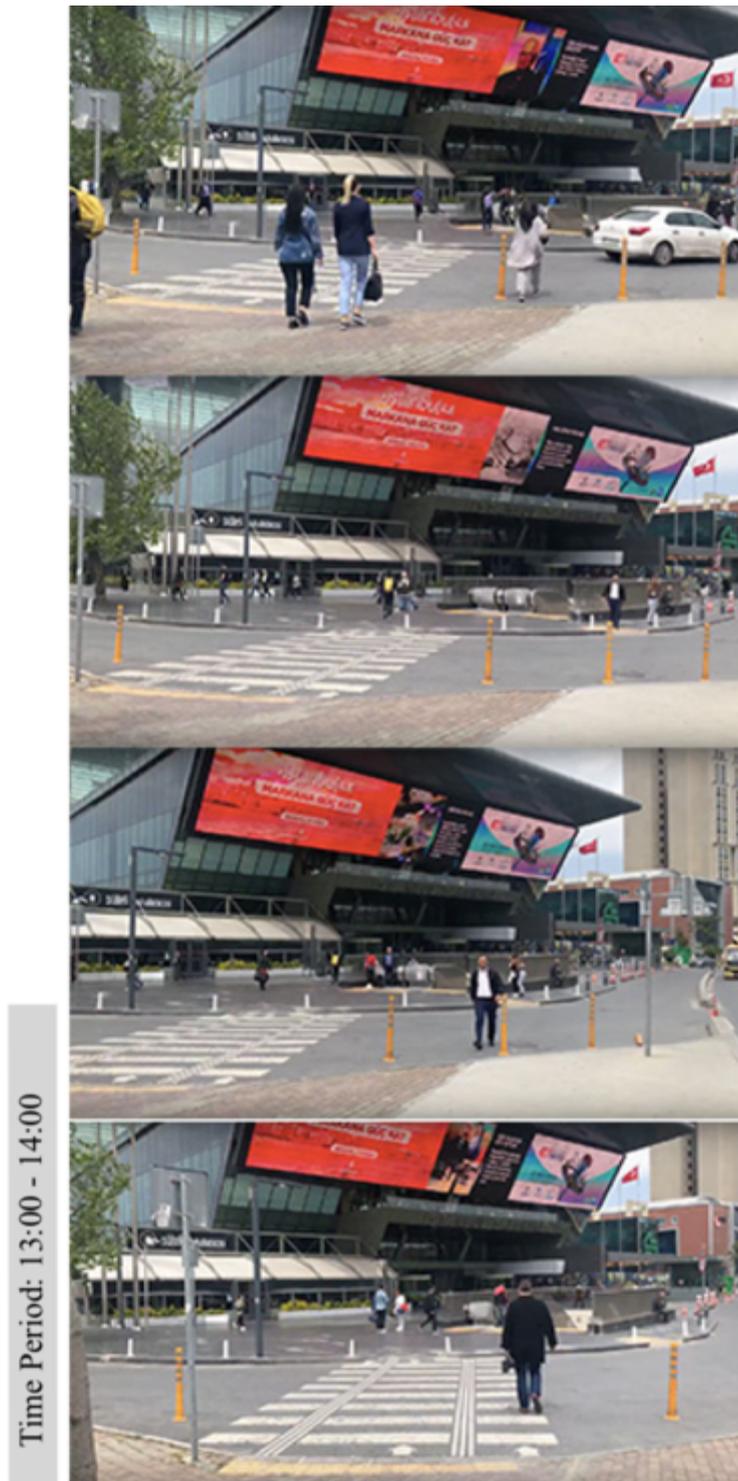**Figure A.2 :** Time-lapse photo from observation point number four (P4).

Figure A.3 : Time-lapse photo from observation point number one (P1).
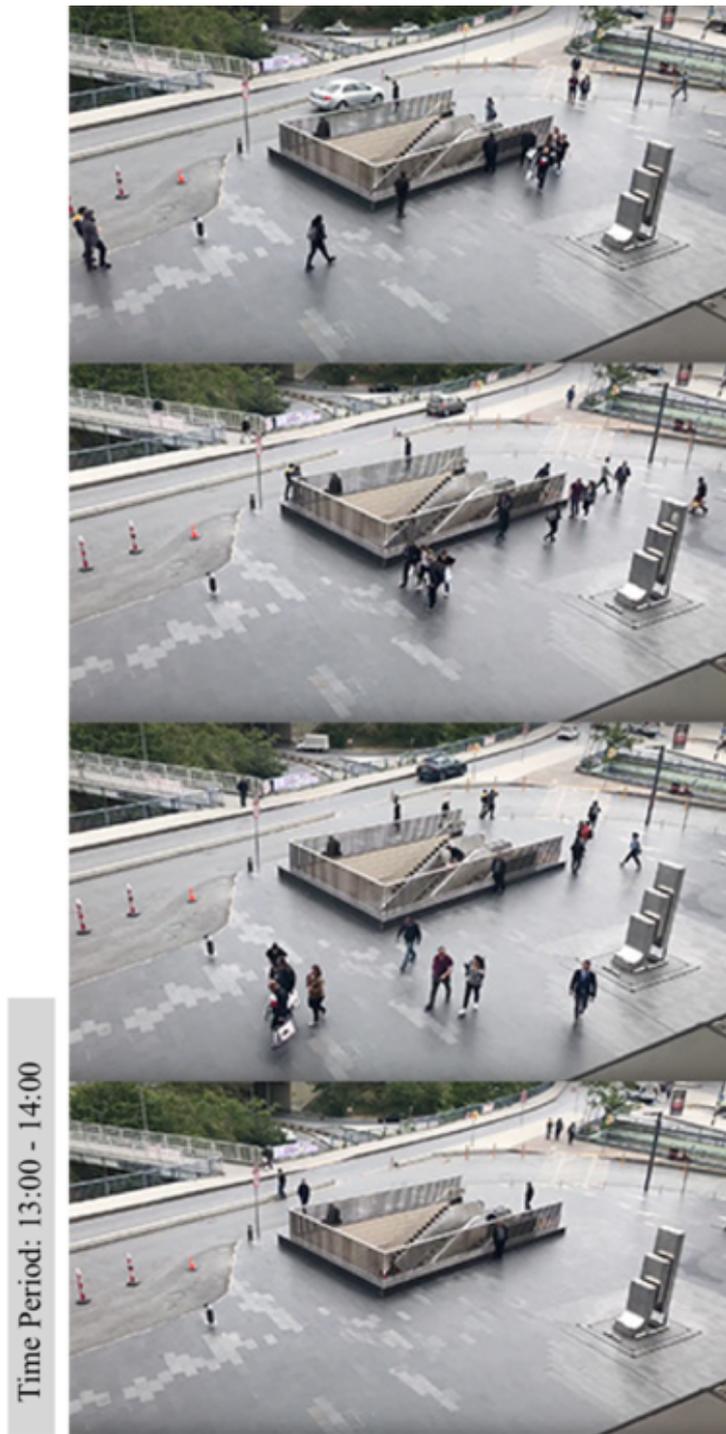
Time Period: 13:00 – 14:00

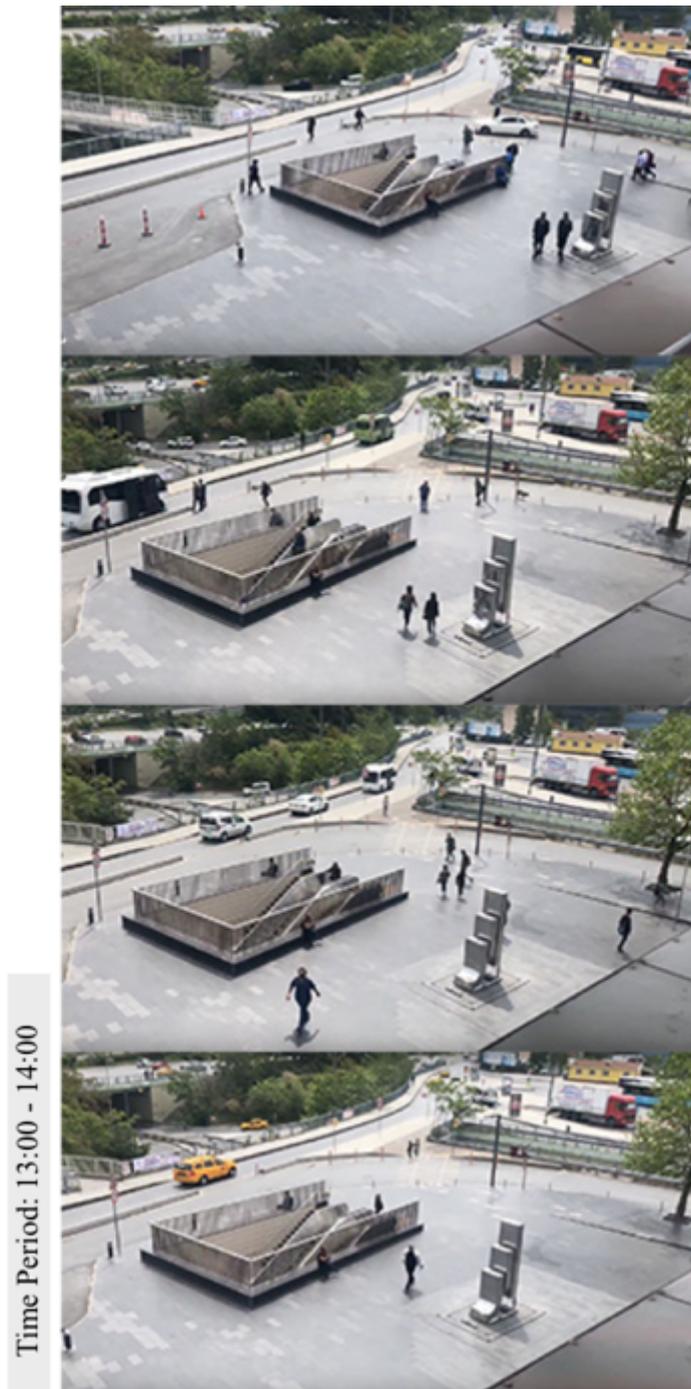**Figure A.4 :** Time-lapse photo from observation point number two (P2).

Figure A.5 : Time-lapse photo from observation point number one (P1).

Figure A.6 : Time-lapse photo from observation point number one (P1).

Time Period: 13:00 – 14:00

Figure A.7 : Time-lapse photo from observation point number three (P3).

Figure A.8 : Time-lapse photo from observation point number three (P3).

Figure A.9 : Time-lapse photo from observation point number three (P3).

Time Period: 18:00 - 19:00

Figure A.10 : Time-lapse photo from observation point number three (P3).

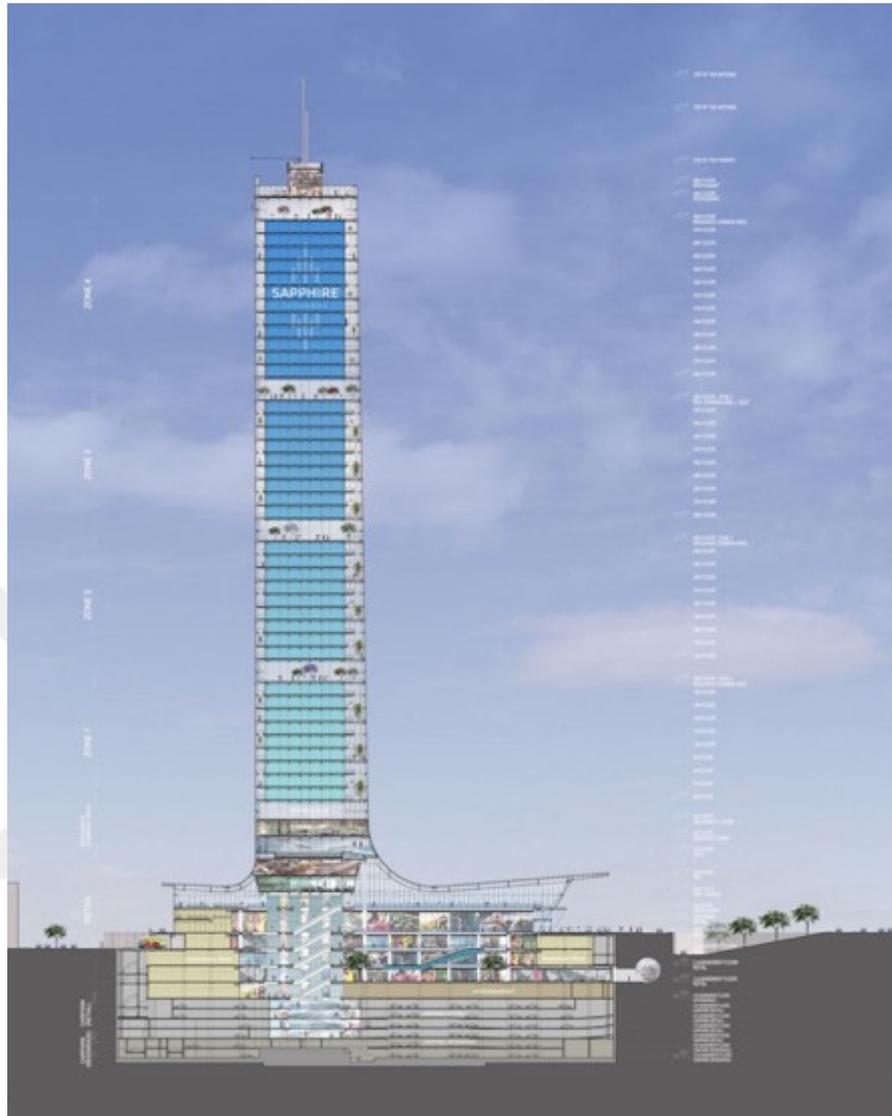**Figure A.11 :** Time-lapse photo from observation point number three (P3).

APPENDIX B

Figure B.1: Sapphire section .

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