

## EVALUATION OF LOW-RISE NEIGHBORHOODS AND HIGH-RISE NEIGHBORHOODS IN THE CONTEXT OF NEW URBANISM

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### Abstract

Over the last decades, the growth of cities is accelerated dramatically and established qualities in cities around the world are increasingly disappearing in favour of globalization. Istanbul is not an exception. There is a growing interest in improving large-scale housing estates. Especially with the expansion of high-rise buildings. One of the most popular urban planning movements that work to solve a lot of the modern city's problems of the 21st century is the New Urbanism movement that has developed a set of principles that seek to create a livable community for improving social well-being. Ataköy project is considered one of Istanbul's most successful and popular residential projects. Its construction started in 1950 and consists of 11 stages that have been completed in 50 years. This paper aims to compare two different applications in urban planning growth (7th-8th low-rise neighborhood and 9th- 10th high-rise neighborhood) in the Ataköy project in the light of New Urbanism to highlight the pros and cons that each type has, in addition, to study how these types could affect the quality of our cities and make them more livable that human as a major component of the city. The study used a review several studies on the Internet related to this study were examined, in addition, visits were made to both neighborhoods, providing general information on the subject, and research on-field practices were carried out, taking some photos, drawing plans, and making tables were also conducted to have a better understanding of the current impacts of results.

**Keywords:** New Urbanism. Low-rise neighborhood. High-rise neighborhood. Livability

### 1. Introduction

Despite historical variations in economic development, housing policy, and social-cultural traditions, the kind of problems that our cities face is very much the same across different countries around the world. Especially when most cities take the same way in planning and developing their urban planning by approval high-rise buildings as a solution to keep up with the increase of the human population. Even so, there are a lot of literature studies that emphasize the problems of social interaction, the vitality of public spaces, and the reflection of the identity of every culture in high-rise neighborhood planning. So why there are some neighborhoods livable, cohesive, and sustainable more than others?

All around the world, in each city, there are well-designed neighborhoods that provide a high-quality living environment with a mix of uses and good local services. In Istanbul as well, there are a lot of neighborhoods that have high livable values with cohesive social interaction, one of them is the Ataköy project which has a lot of studies about the satisfaction of people who live there.

It planned with a successful urbanism approach. It is an exemplary settlement with its quality of space, pedestrian-dominated planning, regular open spaces, planned parking lots, green areas, low- and high-density solutions, and various housing typologies that can meet the needs of different user groups. Two of its neighborhoods belong to two different urban planning ideas, one of them consider a high-rise neighborhood that most of the residential buildings more than 12 floors, and the other one is the low-rise neighborhood that the most of residential buildings are between 4-6 floors. This study compared them in purpose to have a complete overview of the advantages and disadvantages of each neighborhood. The comparative makes it possible to understand the success and failures of each neighborhood, highlight problems impeding achievement of the main goals of neighborhood planning, and be aware of the major issues that needed to be considered in the future. Urbanization is now a rising trend seen all over the world that most of the urban planning movements focus on neighborhoods as the basic unit where housing, parks, schools are placed within a walking distance of stores, civic services, jobs, and transit. Planning at the neighborhood scale is recognized as essential for achieving sustainable development.<sup>1</sup> The New Urbanization is a movement based on the principles of planning and architecture that work together to create human-scale, walkable, and livable communities that emphasize the importance of streets, squares, and public buildings as places for public activity. It advocates design-based strategies based on perceived ‘traditional’ urban forms in order to help arrest processes of suburban sprawl and inner-city decline and to build and rebuild neighborhoods, towns, and cities. New Urbanism design principles operate on a number of scales, from buildings, lots, and blocks to neighborhoods, districts, and corridors, and ultimately to entire cities and regions.<sup>2</sup>

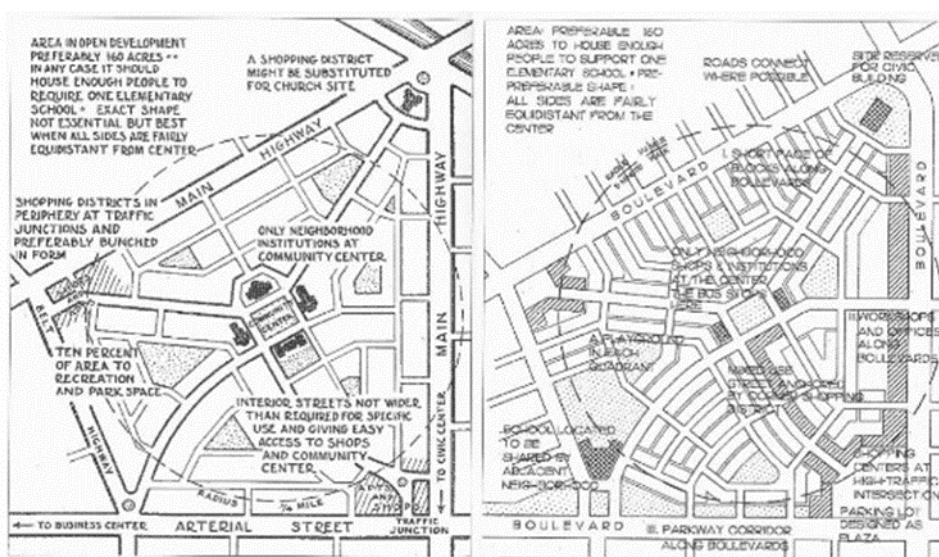


Figure 1: The Neighborhood Unit for the First Regional Plan of New York, a concept by Clarence Perry, 1927; and the Traditional Neighborhood Development concept by Andre Duany, 1997  
 Source: LECCESE & MCCORMICK, 1999

**Figure 1. The basic components of Clarence Perry’s neighborhood unite**  
**Source Perry, 1929**

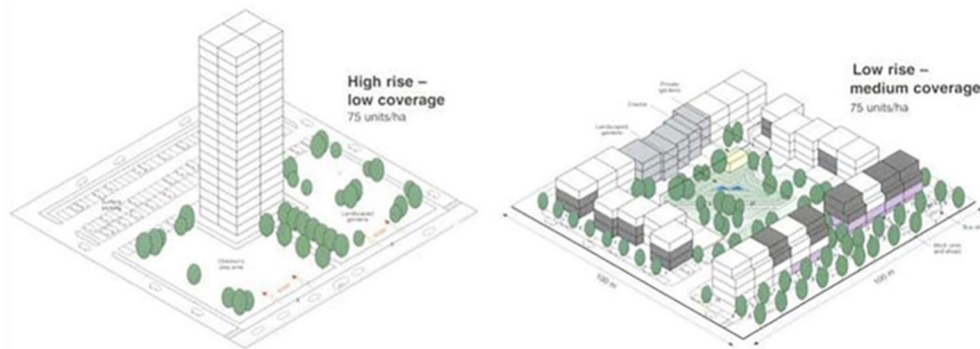
### 1.1. The high-rise neighborhood

The high-rise neighborhoods are an answer to the enormous housing shortages, especially in cities. The main reason for these shortages is the second world war that destroyed a majority of European cities and the internal migration to cities from the countryside hoping for a better life.

<sup>1</sup> Sharifi. A, From Garden to Eco-Urbanism, P:13

<sup>2</sup> Alias. A, New Urbanism and Township Developments in Malaysia, P: 76

In the 1960s the high-rise neighborhoods were promoted as the most modern place to live with its dating and innovation design influenced by the ideas of the CIAM movement. The movement depends on Repetition, regulation, symmetry, the separation of functions, the use of open blocks, straight lines, the large-scale nature of housing blocks and open spaces, the modern materials, and building methods. Later, the neighborhoods that be designed by the ideas of movement becomes famous for their numerous problems. One of the most well-known examples is Bijlmermeer in Amsterdam that forced the government to demolish it completely and build low-rise compact buildings instead.



**Figure 2.** relationship between density and urban form  
**Source:** Andrew Wright Associates. Urban Task Force. 2005

## 1.2. The low-rise buildings

Definitions of low-rise as any building between four-five stories. One of the most sustainable ideas to this type is Cluster housing that is environmentally friendly, promotes the conservation of the natural assets of the land such as land, plant covers, promotes a more sense of community, enhances the visual character of the site, gives diversity to the landscape and an environment that reflects its culture. can serve as the “green lungs” of any field. As a result, if all subdivisions have this life support system, it can greatly contribute to maintaining the unique climate and beauty of the municipality and strike a balance between development and the environment.

## 2. Method (Case study)

Ataköy Project is one of the most successful neighborhoods in Istanbul, which has a lot of studies about the satisfaction of people who live there. It consists of many sections that build at different times. Although it is a single project, Floor heights, facade details, housing forms, and environmental features differed at each stage. It has reflected the developing technology and the characteristics of the period on the residences. The stages were shaped by taking into account the wishes and complaints of the people. The search for an alternative settlement pattern in the 7<sup>th</sup>- 8<sup>th</sup> neighborhood came to the fore by criticizing the high-rise buildings in the 9<sup>th</sup>- 10<sup>th</sup> neighborhoods. In the 7<sup>th</sup>- 8<sup>th</sup> neighborhood, semi-private spaces, surprise passages, and settlements with courtyards, which are designed with axes, come to the fore. Ataköy is located on the European side of Istanbul, within the borders of Bakırköy District. Geographically, Bakırköy is located in the western half of Istanbul, on the northeastern side of the Çatalca Marmara Sea. The district is surrounded by Küçükçekmece in the west, Bahçelievler in the north, Zeytinburnu in the east and the Marmara Sea in the south. One of the most important features of the district is that it is a center where air, sea, and land main transportation lines pass.





**Figure 3.** İstanbul map and Bakirköy district

The construction of Ataköy mass housing began in the 1950s. It is one of the first mass housing units built in Turkey. Ataköy, which was a suburb in a way since it was outside the city at that time, grew and developed over time and became a whole with the city. It was designed in 11 stages and was completed in 50 years.<sup>3</sup>



**Figure 3.1** Ataköy's district (by the writer)

## 2.1. The 7<sup>th</sup>-8<sup>th</sup> Neighborhood

Construction began in 1989 and was completed in 1991. The 7th and 8th Stages consist of 4348 residences in total. The project was carried out by Mesa and Sütek contractors. Post-modern architecture was at the forefront in the city at the time of its construction. In the buildings at this stage, we see the changes caused by post-modernism, which was born against modernism.<sup>4</sup>

<sup>3</sup> Bozyokus. I, Ataköy Toplu Konutlarının Tasarım Kriterleri Açısından Değerlendirmesi, P:47

<sup>4</sup> Bozyokus. I, Ataköy Toplu Konutlarının Tasarım Kriterleri Açısından Değerlendirmesi, P:78



**Figure 3.2** Ataköy's 7<sup>th</sup>-8<sup>th</sup> neighborhood (by the writer)

The neighborhood consists of 11 sites for an area of 52.5 hectares. with distinctive characters for each site. Each site has its fence, parking lot, and green area as it looks in figure 3.2. A neighborhood environment has been created with the courtyard planning, in which the sense of privacy is preserved in the region, and each site has provided integrity within itself. With this settlement model, both a safe area for children and semi-private spaces were created for people. Access to site blocks is provided by security points. In this way, the security on every site is at a high level and it has helped people to feel safe.



**Figure 3.3** Ataköy's 7<sup>th</sup>-8<sup>th</sup> district public space analysis (by the writer)

In the 7th- 8th district, semi-public spaces, unique passages, and settlements with courtyards, which are designed with axes, come to the fore. In this part, the public concept is used. A gradual texture is achieved, with semi-public space steps between public and private spaces. This approach, in traditional settlements; refers to the residential structure, one side facing the street and the other facing the green texture. Two areas on the floors of the apartment blocks at the four corners of the square are divided into commercial and service areas such as a market store, hairdresser, restaurant, and coffees.



The triangular area in the northeast of the neighborhood serves as a small commercial center for the residents, while the high school and the primary school in the east of the neighborhood serve the youth and children of the neighborhood.

## 2.2 The 9<sup>th</sup>-10<sup>th</sup> Neighborhood

The construction of the phases started in 1985 and was completed in 1988. The 9<sup>th</sup>- 10<sup>th</sup> neighborhood residences consist of 3100 residences. By using tunnel formwork and prefabricated construction systems in its construction, the construction period was shortened. The project was commissioned by Mesa, Kutlutaş, and Sütek contractors. when the 9th and 10th Stages were built, modern architecture started to lose its influence gradually, and opposing ideas emerged. The separation between residential sites has also started among the building groups. <sup>5</sup> When it came to the period when the district was built, modern architecture started to lose its effect gradually, and opposing thoughts emerged. Sites have also started between the building groups with built a fence between them. The main feature of this part is that it is a high-rise apartment layout. It consists of high-rise blocks, the intermediate distances are kept large, and the situation of getting the most solar energy is given importance. In the project approach, importance was given to the use of green space, sunlight and air. It is aimed to benefit from maximum sunlight by leaving distances between the blocks. These openings also enabled the blocks to benefit from the view. In addition, all parts of the blocks where the parking lot and walking paths are located are used as passive green areas. The neighborhood is divided into residential, commercial, and public areas, reflecting the modern architectural settlement.



**Figure 3.5** Ataköy's 9<sup>th</sup>-10<sup>th</sup> neighborhood (by the writer)

The components of each neighborhood were clarified, and the percentages of each element were calculated, in addition to an approximate comparison between the price of the apartment for each of them as seen in table1. As for the plot's area, we could see that the high-rise neighborhood plot's area is more than the low-rise neighborhood with 16% (10 ha). Despite that, we could see the number of residential apartments number is in the low-rise neighborhood is more than the high-rise neighborhood with 30%.

<sup>5</sup> Bozyokus. I, Ataköy Toplu Konutlarının Tasarım Kriterleri Açısından Değerlendirmesi, P:75

	7 <sup>th</sup> -8 <sup>th</sup> Neighborhood	9 <sup>th</sup> -10 <sup>th</sup> Neighborhood
The years of construction	1989-1991	1985-1988
Residential apartments Number	4348	3100
Residential area rate	21,3 % (11.2 ha)	11.8% (7.6 ha)
Green spaces rate	42.2 % (22.1 ha)	42.2% (27.4 ha)
Parking spaces rate	9,2 % (4.8 ha)	13.4% (8.6 ha)
Street and pedestrian areas rate	19,6 % (10.3 ha)	19.8% (12.8 ha)
Educational and cultural rate	4,6 % (2.4 ha)	5% (3.2 ha)
Sport and playground spaces rate	2,3 % (1.2 ha)	3.8% (2.5 ha)
Commercial and services space rate	0 %	4% (2.8 ha)
Price for 3+1 apartment	4.2- 4.8 million TL	3.2- 3.8 million TL

**Table 1.** Comparison between 7<sup>th</sup>- 8<sup>th</sup> neighborhood and 9<sup>th</sup>- 10<sup>th</sup> neighborhood spaces rates

**Source:** By the writer

### 3. Result (comparison) Assessment of both neighborhoods in terms of New Urbanism principles

This section evaluates the low-rise (7<sup>th</sup>- 8<sup>th</sup>) neighborhood and the high-rise (9<sup>th</sup>- 10<sup>th</sup>) neighborhood in the context of New Urbanism Principles. Mirroring the philosophy of New Urbanism as defined by the Charter of the New Urbanism, which is dedicated to promoting walkable urbanism, transit-oriented development, trains, and sustainability has succinctly summarized the principles of New Urbanism into 10 keys.<sup>6</sup>

#### 3.1. Walkability

The concept of walkability includes people should be able within 5-10 minutes walking distance reach to the essential needs like their workplaces, school, entertainment playground and where daily activities are carried on, Including the suitable pedestrian access. In the 7<sup>th</sup>- 8<sup>th</sup> neighborhood we could see that pedestrian access is available in addition to most of the streets being paved.

There are three schools, one cultural center in addition to a lot of essential shops and coffees that could be reached in less than five minutes.



**Figure 4.1** Ataköy's 7<sup>th</sup>-8<sup>th</sup> neighborhood pedestrian streets (by the writer)

<sup>6</sup> Alias. A, New Urbanism and Township Developments in Malaysia, P: 80

In the 9<sup>th</sup>-10<sup>th</sup> neighborhood, we could see the quality of pedestrian road easy access to reach to other essential services. Especially with the location is the shopping center, mosque, and the other essential services in the center of neighborhoods. That helps the neighborhood to be more active by people who came from other neighborhoods to the mall.



**Figure 4.2** Ataköy's 9<sup>th</sup>-10<sup>th</sup> neighborhood pedestrian streets (by the writer)

### 3.2. Connectivity

the concept of a connected street network should distribute traffic and facilitate walking, in addition to the hierarchical structure of barriers and lanes in a public environment makes the walk of a pedestrian more encouraging and satisfying. Both neighborhoods have good connective streets and the move from the public to semi-public then private spaces are done successfully. The designs of the streets by the grid structure of the study area were created according to the safe usage rules for cars, bicycles, and pedestrians connected in a hierarchy. The main roads are designed as wide streets open to vehicles, pedestrian, and bicycle use. Perpendicular and horizontal roads to the main streets are integrated with internal roads, providing ease of access to the blocks and courtyards.

### 3.3. Mixed-use and diversity

The concept of mixed land use and diversity includes the principles of mixed-use in the building block in the settlement area of residences, workplaces, and offices, and the unity of different ages, classes, cultures, races. Both neighborhoods' residences consider from high-income groups and the apartment prices are expensive compared with other neighborhoods in Istanbul, but in the 9<sup>th</sup>- 10<sup>th</sup> neighborhood, there are studios and 1+1 apartments that consider affordable for newly married people. Both neighborhoods we could find that mixed-use is applied by the residential, commercial, educational, and some entertainment facilities. But we could notice the workplaces are rare there and most of the residents work out of the neighborhood itself. The significant point in the 9<sup>th</sup>- 10<sup>th</sup> neighborhood we could find that the main essential daily activity (Mosque, Mall, Restaurants, else) concentrate in the middle of the neighborhood when the daily activities of 7<sup>th</sup>- 8<sup>th</sup> neighborhood distributed with the residential buildings that make the pedestrian more activity and more feasibility to use which add ancient similarity to our ancient Turkish neighborhoods.



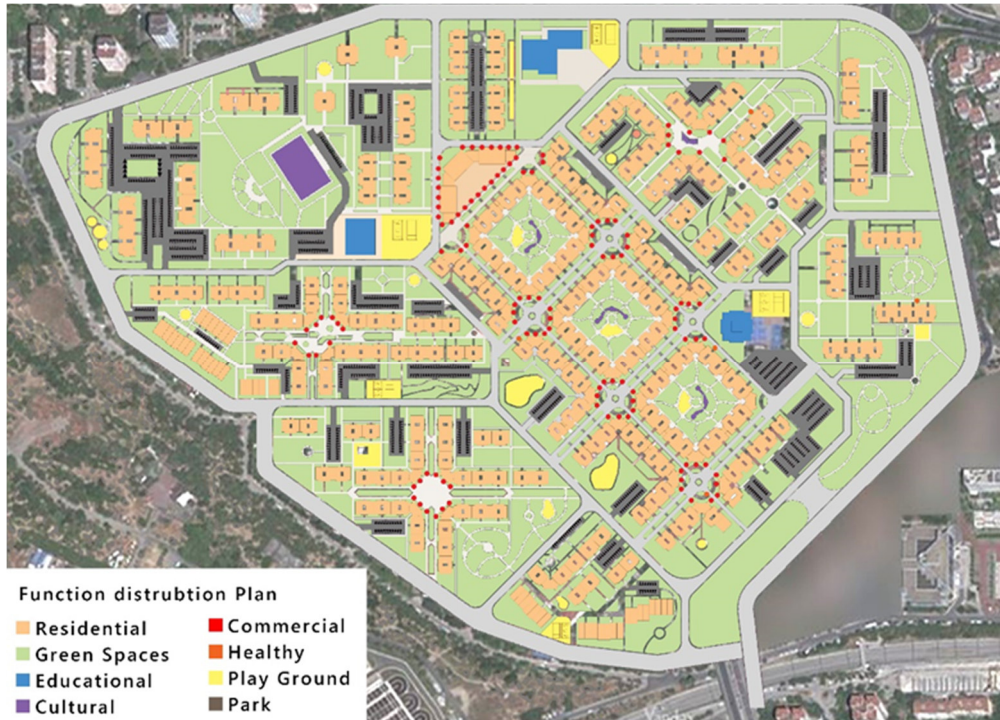


Figure 4.3 Ataköy's 7<sup>th</sup>-8<sup>th</sup> neighborhood functionals plan (by the writer)

### 3.4. Mixed housing

The concept of mixed housing settlement includes the principle that low-income people also benefit from different housing types, sizes, and prices. The new urbanism movement allows people of all ages, races, and incomes to choose what they want within the same neighborhood structure, in a way that there is no gap in price ranges from houses of different sizes and models. When we could see 3 types of buildings in the 9<sup>th</sup>- 10<sup>th</sup> neighborhood, on other hand, we could see that there was a lot of diversity which reach to 9 types of buildings the 7<sup>th</sup> – 8<sup>th</sup> neighborhood (L plan, U plan, I plan, square plan, and villas). both neighborhoods, we could see the high-income group and most of them of elderly people without any opportunity to be a mix of social structure by other groups of ages and income.

### 3.5. Quality architecture and urban design

The concept of high-quality urban design and architecture includes the principles of aesthetic comfort, sense of space, care for public space layout, and human scale in architecture. In the 7th-8th neighborhood we could find that the Live and livable environments have been created by design shops on the ground floors of the buildings surrounding the small squares leading from the streets and semi-private spaces (courtyards) that make an opportunity to emphasize the social connection, in addition to most of the building is about 4-6 floors that give the inhabitants a more comfortable feeling.



Figure 4.3 Ataköy's 7<sup>th</sup>-8<sup>th</sup> neighborhood courtyards (by the writer)

The important find is in the 9<sup>th</sup>- 10<sup>th</sup> neighborhood despite the huge green spaces, we could find that the vitality of it is so rare, one of the reasons is that the residences could not send their children to play because of the high of building and the huge open space that make it hard to observe them, in addition to the parking spaces is more near to the buildings than the playground of children.



Figure 4.3 Ataköy's 7<sup>th</sup>-8<sup>th</sup> neighborhood courtyards (by the writer)

### 3.6. Traditional neighborhood structure

The traditional neighborhood structure includes central public spaces, high-quality public space design, access to all necessary functions in 5-10 minutes, and decreasing development density from the center to the periphery. The important point in the 7<sup>th</sup>- 8<sup>th</sup> neighborhood is that there are semi-public spaces (courtyards), where the understanding of privacy is preserved, that have playgrounds for children with benches to have seats and make an opportunity to connect with other neighbors. This idea considers one of the old traditional home types that all members of the family gather. The angular construction of the blocks created integrity in the structures.

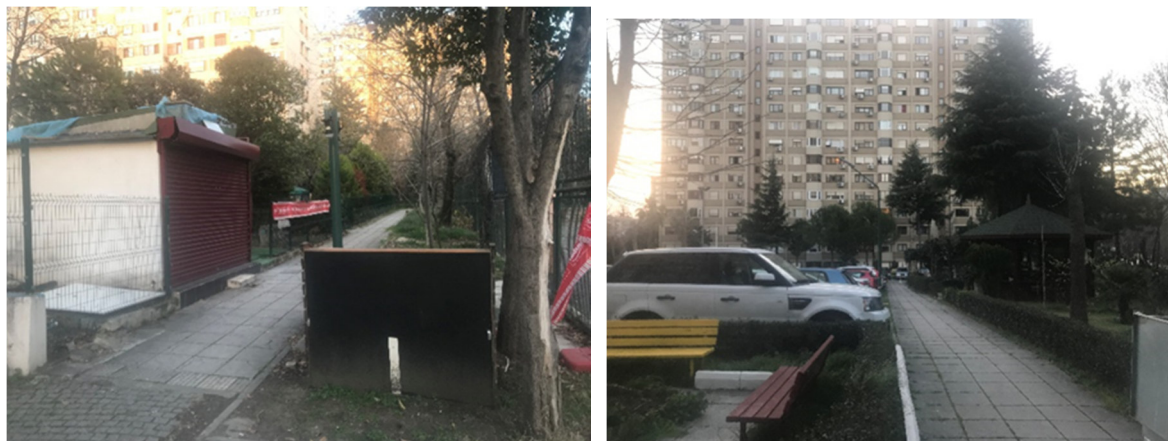
The building has brought movement by making the passages on the entrance floors. The social areas seen through the passages play a major role in attracting people to that area and creating an atmosphere of surprise.





**Figure 4.4** Ataköy's 7<sup>th</sup>-8<sup>th</sup> neighborhood courtyards (by the writer)

The disappointing point is In the 9th- 10th neighborhood the high-rise buildings with the scattered green spaces that don't use rarely and is seen as deserted places without any maintenance, in addition to the scale, the shape, and the elements that exist in this neighborhood doesn't belong to any native culture which we could see it a lot around the world.



**Figure 4.5** Ataköy's 9<sup>th</sup>-10<sup>th</sup> neighborhood courtyards (by the writer)

### 3.7. Increased Density

Intensive development includes the principle of having more urban functions together and being accessible to pedestrians. In both neighborhoods, the distribution of facilities was very well effective to encourage people to walk, but there is a fence around the residential sites that make every site has their own space.

### 3.8. Green Transportation

The concept of smart transportation includes the features of the railway transportation network that connects cities, towns, and neighborhoods on a high scale and a pedestrian / bicycle-based daily transportation system. Both neighborhoods have significant public transportation networks around the area.



Underground Stations (Metro), Marmaray (Rail line that connects the European side with the Asian side of Istanbul), Metrobus, and a lot of bus station makes the connection with the city center strong. In addition to the existence of bicycle paths, and there is a project supported by Istanbul municipality, which rents bicycles.



**Figure 4.5** Ataköy's 9<sup>th</sup>-10<sup>th</sup> green transportation (by the writer)

### 3.9. Sustainability

The concept of sustainability includes urban development that has the least negative impact on the environment, the use of environmentally friendly technology, pedestrian transportation instead of automobiles, and local production. The important issue is both neighborhoods have a good public transport system in addition to the possibility of reaching to the main daily activities by walking. Both neighborhoods consider one of the most residential neighborhoods that have open green spaces in Istanbul. Large windows have been used in the residences to make maximum use of sunlight, and the contact with the exterior has been kept high. It is thought that the creation of a green corridor extending to the neighborhood contributes to an ecological cycle in practice and creates a climatic effect in preventing air pollution. One of the sustainable ideas in the 7<sup>th</sup>- 8<sup>th</sup> neighborhood that deserves to be mentioned is that parking lots are underground with natural lighting, this solution gives the neighborhood a more comfortable feeling in addition to the green areas and playgrounds were increased.



**Figure 4.5** Ataköy's 7<sup>th</sup>-8<sup>th</sup> under the ground parking (by the writer)

### 3.10. Quality of life

In the New Urbanism Movement, man-made environmental factors, neighborhood units, access roads, social activity areas, streets, buildings, and open space designs are considered as elements that add peace to human life and increase the quality of life. Quality of life is the general expression of satisfaction that helps to establish health, comfort, good relationships in our life rather than money. In the 7<sup>th</sup> -8<sup>th</sup> neighborhood, we could see the inner courtyards of the residential blocks have been arranged in a way to include green areas, children's playgrounds, sports fields, and seating units with different arrangements. Urban furniture is used on the edges of the green areas and walking paths in the site. These areas have been the places used and spent time by the residents of the site during the day. The focal point of the 9<sup>th</sup>- 10<sup>th</sup> neighborhood is the center, which contains civic buildings, public gathering places, retail and entertainment establishments, that made a significant effect on the neighborhood.

### 4. Conclusion

This article dealt with two different patterns of neighborhood urban planning (low-rise neighborhood and high-rise neighborhood), both of them was evaluated according to the New Urbanism principles, and it was confirmed that each of them has many advantages and in some points disadvantages, with a noticeable superiority to the low-rise neighborhood in terms of social relations, the vitality of the green spaces, and the relation between the building and human.

One of the significant ideas that applied in the low-rise neighborhood is the reliance of pedestrian paths and roads for cars on paved tiles, and the presence of small squares that sometimes contain water fountains in the middle, in addition to coffees on the corners of residential buildings, which gave an impression of calm and calmness, resembling the old Turkish neighborhoods.

In each of the two neighborhoods, there is a problem with the fence that surrounds the residential sites, which leads to the separation of one neighborhood into several parts, but we could find that the ease of access to the low-rise neighborhood by walking is better than other neighborhood, especially since the neighborhood contains many commercial activities (coffees, supermarkets, hairdressers, Restaurants and SPA, pharmacies, and some offices) places on the ground floors of residential blocks increase pedestrian use by providing the opportunity for people to perform their compulsory activities on foot. The commercial units in this region attract not only the residents of this region but also the people coming from outside.

When the neighborhood elements are examined, one of the essential points that could more attention in our planning ideas is the variety of building types has to be achieved, a compact design has to be made, that gives more importance to the relationship between building and open spaces around it and the relationship between building and the human needs. In the low-rise neighborhood that was built in accordance with the convenient urban planning, on a human scale. It has become an area where residents spend time on weekends, turns into playgrounds for children, and is widely used by middle-aged people during the day. The areas have been made more aesthetic with various landscaping arrangements. On other hand in the high-rise neighborhood, there has been a disconnection in human relations due to urbanization and high-rise residences. Streets and streets were neglected, desolate and restless environments were formed.

One of the important points of this research is the number of residential apartments, which we could see the advantage to the low-rise neighborhood that has a higher number of residential apartments than the high-rise neighborhood with 30% despite, that the high-rise neighborhood plot's area is more than the low-rise neighborhood plot's area with 16% (10 ha), in addition to, the price of the residential apartments in the low-rise neighborhood is considered better than the residential apartments in high-rise neighborhood. These two inferences could enhance the effectiveness of low-rise neighborhoods as a method to planning our cities.

A successful urban neighborhood is promoting sustainable lifestyles and social cohesion, avoiding repeating the mistakes of the past, and working to develop the ways that we plan our neighborhood as it is the primer part of our cities. The compact urban form highlights the value placed ease of contact between people and gives priority to the vitality of public areas for people to meet and interact, to learn from one another, and to join in the diversity of urban life, in addition, to make our neighborhood more effective means putting the pedestrian first and ensuring that walking is the preferred option in accessing different facilities within an area.

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