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Analysis of spatial components in building-garden-garden-road relationship: Trabzon, Yavuz Selim Boulevard example

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Abstract: The objective of this study is to analyze the urban area that emerged after construction of Yavuz Selim Boulevard, in Trabzon City, Turkey. Cities contain many functional elements, such as businesses, gardens, parks, shops, medical and educational institutions, and transportation arteries such as roads, streets, boulevards, and avenues, which enable contact between all elements of a city. Cities change culturally, economically, and also physically and ecologically. However, although urbanization provides convenience for people, it also has disadvantages, such as causing a loss of natural features within the living space. In particular, changes made without appropriate design and planning disrupt the spatial integrity. Ninety-two buildings are situated on the south and north sides of Yavuz Selim Boulevard. In this study, the front and frontages of buildings and the area of road associated with each building are examined and spatial components are determined. In addition, building function and number of storeys, the differences between elevations of the road and entrances of buildings, road width, and the structural and botanical landscape elements are determined.

Keywords: Building, front yard, road, building-front yard-road-relationship, spatial components

Bina-bahçe-yol ilişkisinde mekânsal bileşenlerin analizi: Trabzon, yavuz selim bulvarı örneği

Özet: Kentler, birçok işlevsel öğenin bulunduğu mekânlardır. Konutlar, bahçeler, parklar, alışveriş mekânları, sağlık ve eğitim kurumları, ulaşım arterleri, konaklama gibi pek çok farklı işlevi ve mekânı bir arada bulundururlar. Fiziksel açıdan en önemli öğelerden biri de yollardır. Yollar; sokaklar, caddeler, bulvarlar şeklinde olup, kentin diğer bileşenleri ile ilişki kurmayı sağlarlar. Günümüz kentleri; kültürel ve ekonomik alanlarda değişirken, fiziksel ve ekolojik anlamda da değişmektedir. Kentleşmeyle birlikte insanlar için pek çok kolaylık sağlasa da, yaşama alanlarında doğal özellikler bakımından kayıplar ortaya çıkmaktadır. Özellikle var olan mekânsal kurgu önemsenmeden yapılan ilaveler mekânsal bütünlüğü bozmaktadır. Bu çalışmada amaç; Trabzon kentinde artan ihtiyaçlar doğrultusunda yapılan Yavuz Selim Bulvarının, yapımından sonra ortaya çıkan mekânı analiz etmektir. Yavuz Selim Bulvar'ının güney ve kuzey kesimin de yer alan 92 bina, bina önü ve yol; mekânsal bileşenler açısından irdelenmiştir. Tüm binaların işlevleri, yol ve bina giriş kotu arasındaki farklar, binaların kat yükseklikleri, yol genişliği, yapısal ve bitkisel peyzaj elemanları tespit edilmiştir.

Anahtar Kelimeler: Bina, ön bahçe, yol, bina-ön bahçe-yol ilişkisi, mekânsal bileşenler

1. INTRODUCTION

Increased population, advancing technologies, changes in the economic and social structure of the society fueled immigration, especially to the cities. The rural depopulation resulted in the change of existing physical texture and the introduction of additional loads (Eren, 2012).

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As a result of these additional burdens, a wide variety of changes and transformations have been experienced in different aspects of the urban texture. For example, depopulation of certain parts of urban centers for various reasons, and their subsequent repopulation, transfer of certain functions to different elements, building new streets affected the urban quality of life positively, while concurrently introducing various problems (Tekeli, 2011).

In the 21st century, transportation is among the most serious urban needs. Building roads as a response to the increasing transportation needs significantly affects the urban aesthetics and the landscapes in the path of the route. Expanding growth and the increase in number of motor vehicles in today's urban areas caused the city to be considered as a traffic artery (Öksüz, 2004).

According to Lynch (1973) roads are the most effective tool for organizing a space within the urban system. Based on the features of the elements around them, roads could both separate and integrate these elements. According to another definition, the roads are elements providing mobility for the urbanites and the city between the building islands (Öksüz, 2004).

Under normal conditions, roads are limited to the gaps in the front and back of the buildings around them and the gardens if there are any (front or rear). Therefore, the spatial perception about the roads could change. Properties of the buildings and gardens around the road, building functions, number of floors, garden dimensions, presence or lack of plants, the difference between the elevation of the garden and the road, and the presence of structural and vegetative landscape elements have a significant impact on the aesthetics of the space.

In the space between the building and the road, horizontal and vertical distances, the use of different material and colors (plants and furniture) contribute to the enrichment, attractiveness and novelty of the space (Giritlioğlu, 1991). Plants are one of the spatial components that urbanites need the most when living in high-rise buildings in urban areas. However, several studies focused on large scale urban open green areas (Irvine et al., 2013; Peschardt and Stigsdotter, 2013; Wolch et al., 2014; Miller et al., 2015). Only a few emphasized building-garden-road relationships (Zmyslony and Gagnon, 1997, Daniels and Kirkpatrick, 2005, Daniels et al 2006a, Daniels et al., 2006b, Verbeeck et al., 2010). Thus, the relationship between the building, garden and road spaces was examined in the present study.

In western countries, a considerable part of urban open green spaces are building gardens (Sanders and Stevens, 1984). Building gardens, in certain cases, provide a wildlife habitat (Thompson et al., 1993; Chamberlain et al., 2004; French et al., 2005), in other cases, they are a source for weeds (Zagorski et al., 2004, Sullivian et al., 2005). In certain cases, they are in form of hobby gardens where people can plant seeds and plants (Head et al., 2004). Recent studies conducted in the UK provided evidence that gardens have a very important role in establishing privacy, socialization and establishing emotional ties with the nature (Seddon, 1997).

The concept of garden was defined differently by various researchers. Some of these definitions are as follows: According to Akdoğan (1974), the garden is a little paradise in the lives of people in this world. According to Arseven (1983), the garden is a space where trees and flowers are planted in urban areas and near buildings. According to Demiröz (2003), garden is a piece of land where flowers, ornamental plants, fruits, vegetables and medicinal herbs are grown, also where the beauty, greenery, relaxation of the nature is controlled by humans. According to Kuş et al. (2009), garden has been developed as a planned and arranged space with certain boundaries based on the objectives of individuals, and became a space that humans created to integrate with and to be near the nature.

Based on the definitions proposed by the abovementioned scholars, gardens are outdoors and limited spaces that contain structural and vegetal spatial components (trees, shrubs, bushes, ground covers, walls, garden doors, stairs, ramps, roads, arches, ornamental ponds, flower beds, etc.) where individuals could come in contact with the nature, breathe and spend good time.

To ensure compatibility between the user requirements and the buildings and the nearby surroundings and ultimately to improve the quality of life, socio-cultural, physical, economic, aesthetic and technological requirements should be considered as a whole (Aydınlı, 1993). The aim of the present study was to investigate the effect of a transportation axis that was built due to increasing needs on the existing physical texture and to examine the spatial components in the relationships to the building, garden and the road in particular. Accordingly, the research problems were determined as follows:

- The space between the the road and the buildings is undefined,
- The spaces in front of the buildings have lost garden characteristics and vegatative and structural landscape elements are inadequate,
- The landscape at the front of buildings that appeared after the construction of the road is random and was not planned based on the building function or user needs,

- There is to ratio between number of building floors and road width and similarly, there is no balance between the distance of the road and building-front distance,
- The difference between the road elevation and building entrance elevation has increased considerably in certain parts.

Given the rapidly increasing population and their needs, it is likely to experience certain losses as a result of the changes implemented to meet these needs. However, there must be a balance between replacement and preservation.

2.METHODOLOGY

2.1. Study Area

The buildings and their gardens bordering Yavuz Selim Boulevard (a.k.a. Tangent Road) in Trabzon urban center were determined as the study are considering the possible contribution of the study findings to the developing city of Trabzon. Is the relationship between the building, garden and the road and the landscape created after the construction of the road absolutely coincidental? Or is it organized based on requirements? The study aimed to find answers to these questions using various analyzes and methods.

The roads, buildings and gardens were investigated at a 1.2 km section of Yavuz Selim Boulevard located in the south Trabzon, parallel to the Black Sea. In this section, 92 buildings and gardens in both sides of the road were included in the study. This road, which had to be tangent to the old city texture and residential areas, was completed in 2005, 20 years after its planned inauguration. It passes through the Kaleiçi settlement at a very high elevation, creating a negative visual effect (Yılmaz and Beyazlı, 2006).

2.2. Data Collection

All observations and on-site inspections conducted during the research were carried out in spring and summer 2011. Based on the identified problems, the research method and data collection process were determined as follows. The current 2002 Trabzon city plan was obtained and the boundaries of the study area were identified in the Autocad 2014 software (Figure / Şekil 1). The length of the road within the boundaries of the study area (Figure / Şekil 1) was 1.2 km and the width varied based on the location. 92 buildings in the northern and southern sides of the road were included in the stıdy. Each building was enumerated and indicated on the plan.

To define the spaces between the road and the buildings, the functions of the 92 buildings (BF) (Figure / Şekil 2) was initially determined. The ratio of the road width (RW) to the number of building floors (NBF) (Figure / Şekil 3) is important in urban areas. If the RW / BFH is larger than 1, the space widens and if it exceeds 2, it becomes much wider. But if the RW / BFH is smaller than 1, the space gets narrower and narrower and eventually becomes cramped. The balance is obtained when the RW / BFH reaches 1. While Le Corbusier has applied rates of 5 or even 10 in real building designs, the most adequate RW / BFH ratios are 1,2, or 3 (İnceoğlu, 2007). Thus, the number of building floors (NBF) and the distance between the space between the building and the road and the road (BD) (Figure / Şekil 8) and the width of the road (RW) (Figure / Şekil 7) were measured. The study continued by investigating the RW / BFH ratio.

In the next step, the road elevation (RE) was taken as a reference and accordingly 92 building entrance elevations (BEE) (Figures / Şekil 4 and 5) were determined. The elevation difference between the road elevation and the entrance elevation of each building (BED) was found (Figure / Şekil 4 and 5). Furthermore, in parts where the elevation difference was the highest, in other words in problem areas, the difference was demonstrated with cross-sections (BED) (Figure / Şekil 6).

Finally, to respond to the question “Can the space between the building and the road be considered as a garden space?” the structural (walls, stairs, lighting, sitting, garbage can, ramps, paths, doors, railings, fences, etc.) (Figure / Şekil 12) and vegetal landscaping elements (trees, shrubs, bushes and ground cover) (Figures / Şekil 13 - 17) were determined by observation and in situ analysis methods. In the introductory part of the study, it was emphasized that a space should have certain spatial components to be characterized as a garden, and it should have established boundaries. Accordingly, the spaces in front of the 92 buildings in the study area were examined from this perspective and the number and composition of the building gardens were determined (Figure / Şekil 10).

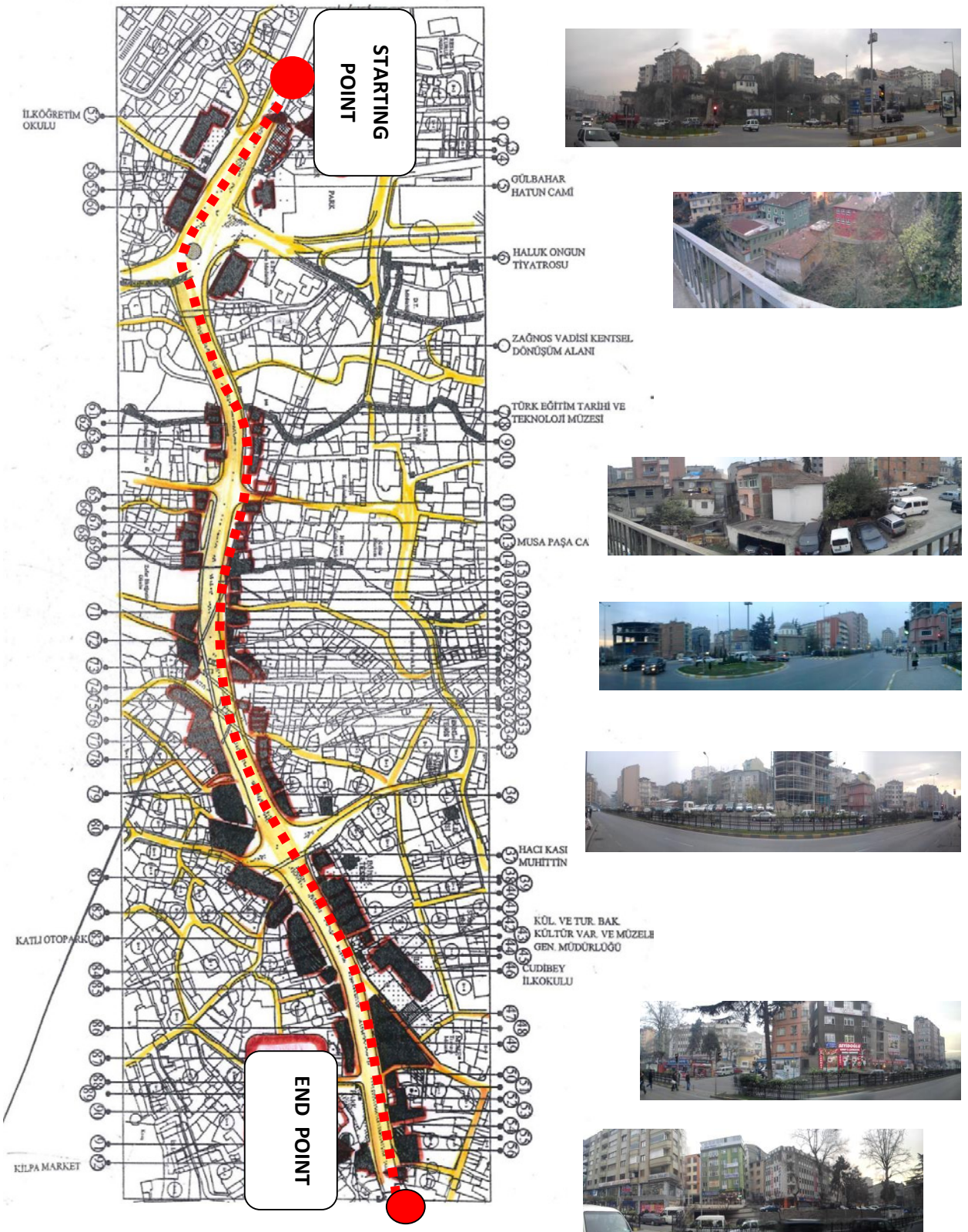

Figure 1. Study area boundaries
Şekil 1. Çalışma alanı sınırları

3. RESULTS AND DISCUSSION

3.1. Findings on Buildings

3.1.1. Building Functions (Bİ)

It was determined that there were 92 buildings on the northern and southern sides of Yavuz Selim Boulevard. Initially, research demonstrated that there were 36 buildings (Figure / Şekil 1) on the northern side and 56 buildings on the southern side of the boulevard. A typology study on building functions (BF) was conducted. According to the typology study, building functions in the determined area were identified as mosque, theater, museum, residence, construction, business, warehouse, parking lot, business center, school and combined function of business + residence (Figure / Şekil 2). In other words, it was determined that there were 11 different functions in 92 buildings in total. The fact that the study area is active in pedestrian and vehicle traffic, and located in the city center caused several different functions to be present in a 1.2 km long area. Certain building functions (BF) changed since the construction of the road. While some buildings were completely residential before, after the construction, the entrance and the second floors were transformed into commercial stores. Analysis of the distribution of the functions demonstrated that, out of 92 buildings, 30 were residential, 21 were business + residential, 13 buildings were commercial centers, 5 were under construction, 4 were mosques, 3 were parking garages, 2 were schools and museums, and there was a theater and a warehouse (Figure / Şekil 2).

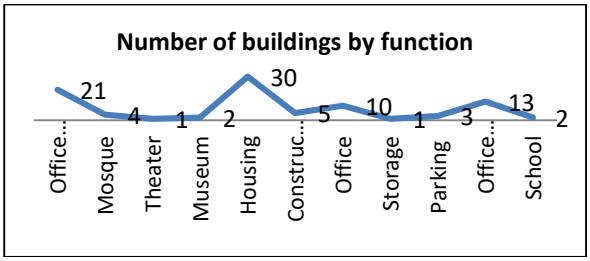

Figure 2. Functions of buildings (Bİ)
Şekil 2. Bina işlevleri (Bİ)

3.1.1. Number of building floors (BKY)

Second, the number of building floors (NBF) was determined. It was found that there were 1, 2, 3, 4, 5, 6, 7, 8 and 11-storey buildings within the boundaries of the study area. Of the 92 buildings, 14 were 1, 17 were 2, 22 were 3, 13 were 4, 5 were 5, 8 were 6, 9 were 7, 3 were 8 and finally 1 was 11-storey high. Accordingly, most of the buildings were 3-storey (n=22) and only 11 buildings were 1-storey buildings. The number of 1, 2, 3 and 4-storey buildings were higher than 5, 6, 7, 8, 11-storey buildings (Figure / Şekil 3).

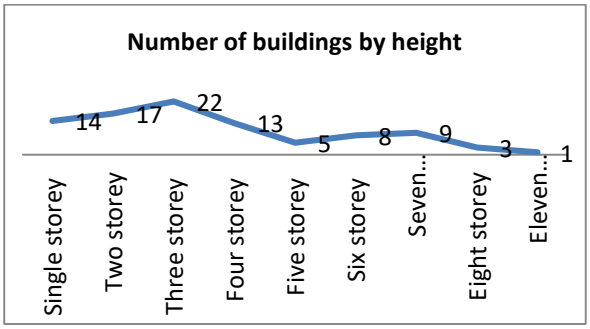

Figure 3. Height of buildings (BKY)
Şekil 3. Bina kat yükseklikleri (BKY)

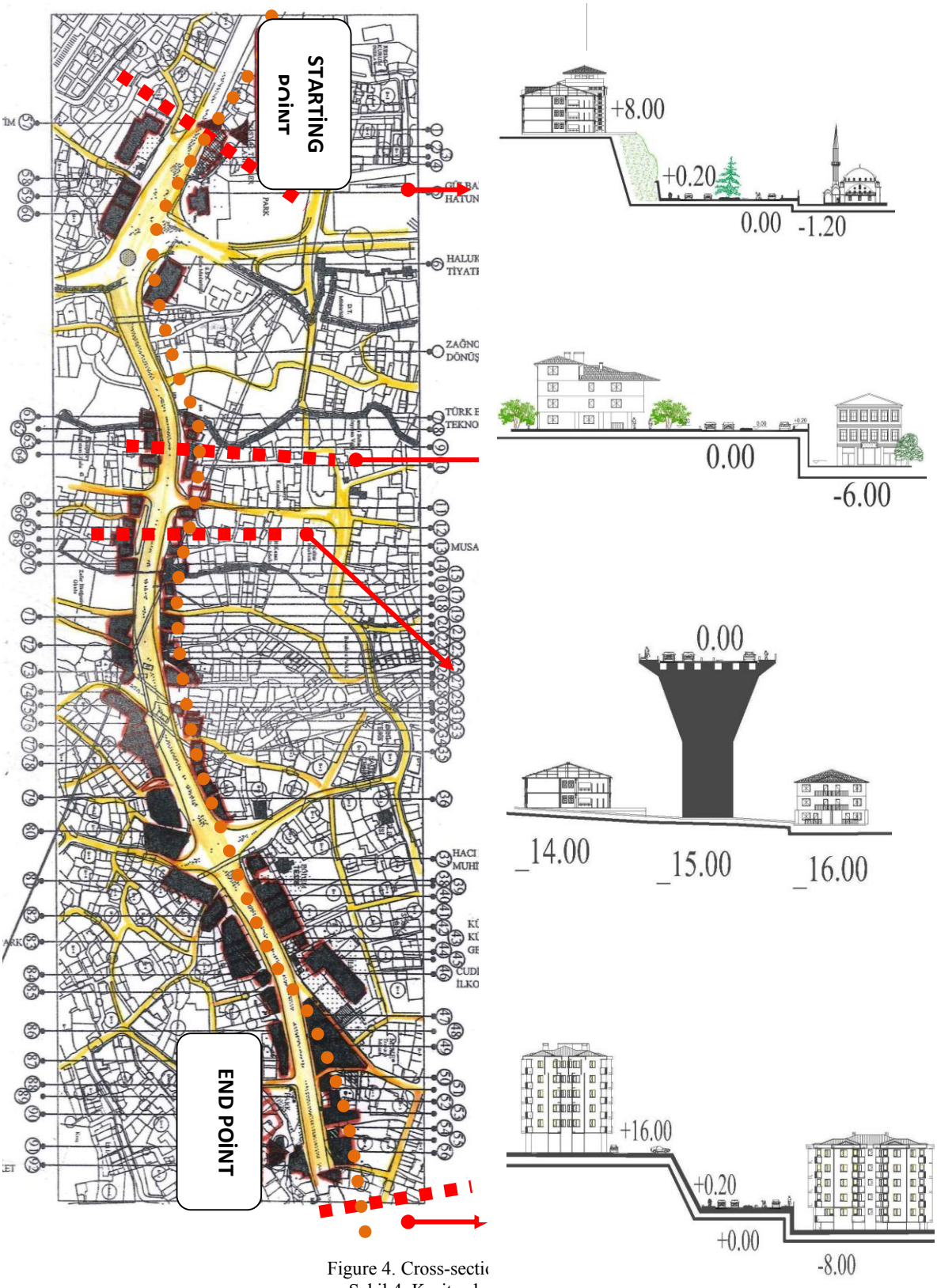

Figure 4. Cross-secti
Şekil 4. Kesit çalış

3.1.2. Differences between the building and road elevations (BGF)

One of the most important methods of establishing a connection between the building entrances and the road is the lack of elevation difference or the presence of a minimum elevation difference between these two elements. Because the functions such as transition, connection, circulation could be present when these elevation differences are minimized. This was one of the significant problems in the study area.

The fact that the road was constructed years after the settlement, the relationship between the existing buildings and the road could not be established in certain locations. Building entrance elevations were under the road elevation in some parts, in others, these were higher than the road elevation. Only 3 buildings were at the same elevation with the road. 41 buildings were higher than the road, while 48 buildings were lower than the road (Figure / Şekil 5 and 6).

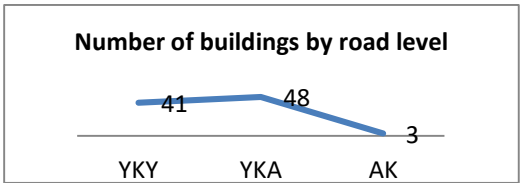

Figure 5. Number of buildings by road level
Şekil 5. Yoldan üstte veya altta olan bina sayısı

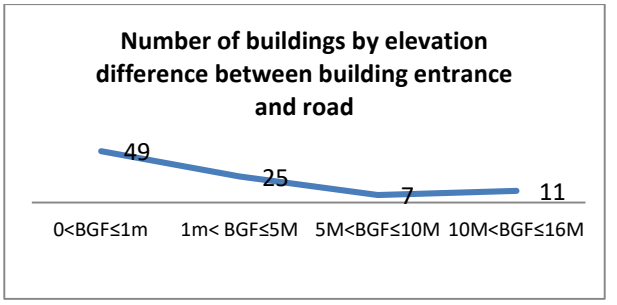

Figure 6. Elevation differences between the building and the road (BGF)
Şekil 6. Bina ve yol arasındaki kot farkı (BGF)

Elevation differences varied between 0 and 16 m. As mentioned before, Yavuz Selim Boulevard passes through the Kaleiçi settlement, also called Tabakhane Valley, via viaducts, which are quite elevated. Analysis of the entire study area demonstrated that the elevation difference (BED) between the building entrances and the road (Figure / Şekil 6) was $0 < BED \leq 1$ m in front of 49 buildings.

There is no problem accessing the road from these buildings. In front of 25 buildings, this difference was between $1m < BED \leq 5$ m, in front of 7 buildings it was between $5 m < BED \leq 10m$, in front of 11 buildings, it was $10 m < BED \leq 15$ m (Figure 6). Access to the sidewalk or the road from these buildings was rather difficult. Access and transportation was impossible when there were user disabilities. Cross sections that demonstrate elevation differences were taken at four different points. These were demonstrated with the cross-sections of Gülbahar Hatun Mosque, the Kaleiçi settlement area (Tabakhane Valley), Technology Museum and the Kilpa Market (Figure / Şekil 6).

3.2. Findings about the road

3.2.1. Road width (YG)

Yavuz Selim Boulevard is bidirectional and has a central refuge. Furthermore, certain streets connect to this boulevard from adjacent neighborhoods. At the junctions of the side roads with Yavuz Selim Boulevard, roundabout or triangle island junctions were constructed. The boulevard has sidewalks on both sides. While different analyzes and observations were conducted for each building, the width of the road in front of each building (YG) was also measured.

The road width (RW) ranged between 7 m and 18 m (Figure / Şekil 7). At a large part of Yavuz Selim Boulevard, the road width (RW) was 12 m. As seen in the graph, the road width in front of 45 buildings was 12 m. It was 9 m in front of 2 buildings, 10 m in front of 12 buildings, 11 m in front of 2 buildings, 13 m in front of 1 building, 14 m in front of 2 buildings, 15 m in front of 12 buildings, 16 m in front of 6 buildings and finally 18 m in front of 6 buildings (Figure / Şekil 7). Given road widths (RW) include the sidewalk and the middle refuge widths.

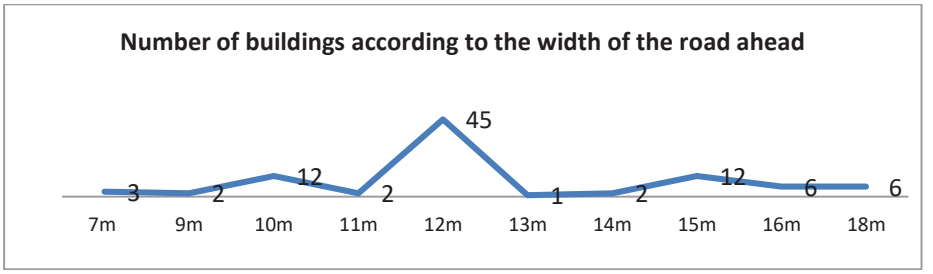

Figure 7. Road width (YG)
Şekil 7. Yol genişliği (YG)

3.2.2. Road central refuge plant species

The species identified in central refuge and the junction islands included 5 tree species, 11 shrub and bush species, 2 creepers and 4 ground covers (Figure / Şekil 8). The identified trees were *Cedrus libani, Cedrus deodora, Thujo occidentalis 'Smargard', Cercis siligastrum and Acer palmatum 'Osakazuki'*. The identified shrubs and bushes were *Rosa subsp., Juniperus horizantalis, Cotaneaster frigidus 'Cornubia', Berberis thunbergii 'Atropurpureum', Forsythia intermedia, Ligustrum japonicum, Callistemon citrinus, Yucca filamentosa, Pittosporum tobira 'Nana', Euonymus japonica*. Creepers were *Rosa* and *Wisteria sinensis*. Ground covers were *Taraxacum officinale, Bellis perennis, Tulipa*, and *Veronica persica*.

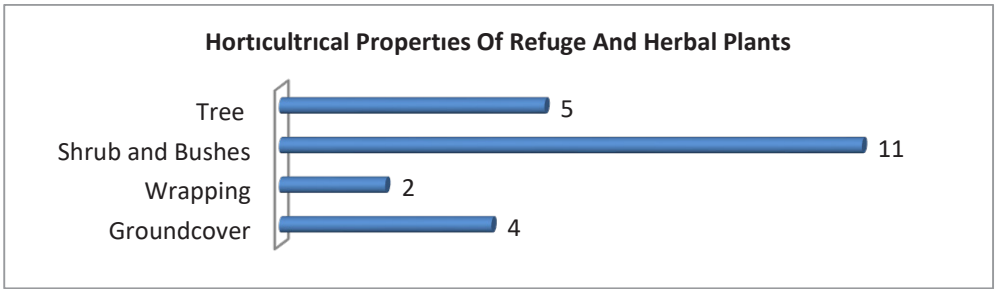

Figure 8. Number of roadside and central refuge plants based on their horticultural features
Şekil 8. Yol ve orta refüjdeki bitkilerin hortikültürel özelliklerine göre sayısı

3.2. Findings on the section between the buildings and the road

3.2.1. Distance between the building and the road (BU)

The research continued with the analyzes and inspections of the gaps between the road and the buildings. The questions "Each space between the 92 buildings and the road is a garden, or not? Do these spaces exhibit spatial characteristics?" were attempted to be answered. The distances between the road and the building varied between 1 and 18 m. These spaces usually included private areas (garden) or parts of the road (sidewalk, railing, etc.). The length of this space was 3 m in front of 26 buildings, 4 m in front of 18 buildings, 6 m in front of 15 buildings. The highest distance (BD) was 18 m in front of 1 building, 16 m in front of 1 building, 15 m in front of 3 buildings. It is determined that the shortest distance was 1 m in front of 2 buildings and 2 m in front of 7 buildings (Figure / Şekil 9).

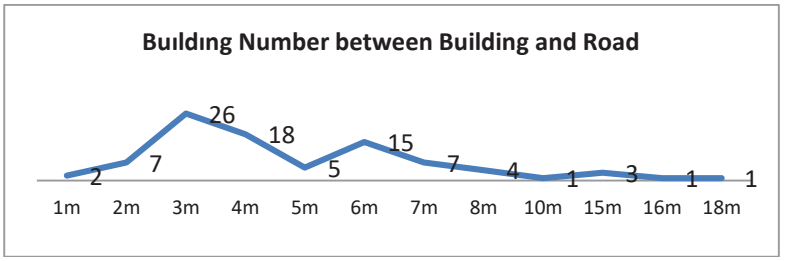

Figure 9. The distance between the building and the road (BU)
Şekil 9. Bina ve yol arası mesafe (BU)

3.2.2. Number of gardens

The distances between the 92 buildings and the road were examined and the space in front of 14 buildings were limited and exhibited certain spatial features. The areas in front of 14 buildings could be described as spaces. In 78 buildings, there were no gardens specific to the building between the road and the building (Figure / Şekil 10). Among the buildings with a garden, 3 were mosques, 1 building was a theater, 2 buildings were museums, the school of 2 buildings were schools, 3 were commercial buildings and 5 buildings were residential (Figure / Şekil 11).

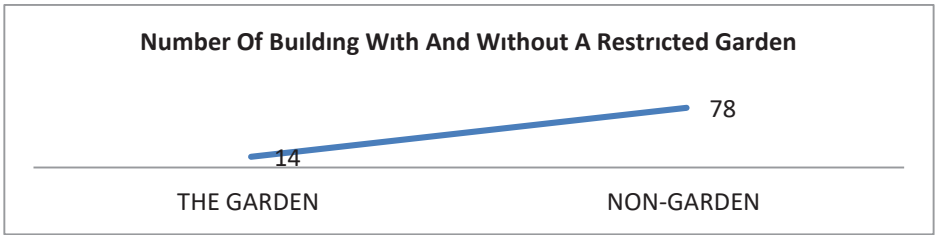

Figure 10. Number of gardens
Şekil 10. Bahçe sayısı

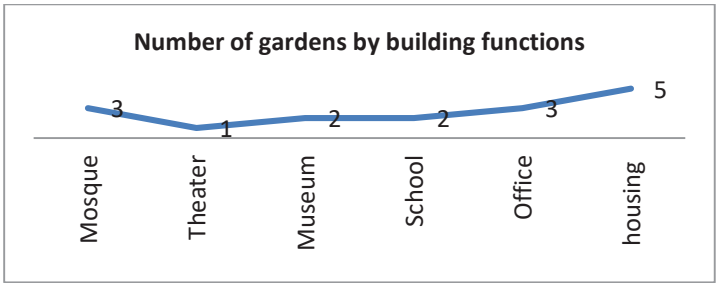

Figure 11. Number of gardens based on building function
Şekil 11. Bina işlevlerine göre bahçe sayısı

3.2.2. Structural landscaping elements in the section between the road and the building

A total of 15 structural landscaping elements were found in the space between the building and the road. At least one structural landscaping element was present in front of 33 buildings. These included stairs, lighting elements, flowerpots, walls, fences, garbage cans, table + chairs (sitting group), garden gates, benches, railings, ramps, busts, basketball hoops, flowerpots and membrane covers. Accordingly, the elements that were found in the area were mainly lighting fixtures, stair and wall elements. At least one lighting element was found in front of 45 buildings. These lighting elements were tall lighting elements. Stairs were identified in front of 18 buildings. The stairs were usually 4 to 5 steps between the front of the building and the entrance to the building. There was a wall in front of 17 buildings, there were flower beds in front of 7 buildings, there were membrane covers in front of 7 buildings, there were benches in front of 8 buildings, there was a fence in front of 1 building, there were garbage bins in front of 2 buildings, there were table

and chairs in front of 3 buildings, there were garden gates in front of 6 buildings, there were guard rails in front of 8 buildings, there were ramps in front of 2 buildings, there were basketball hoops in front of 2 buildings and there were flower pots in front of 3 buildings (Figure / Şekil 12).

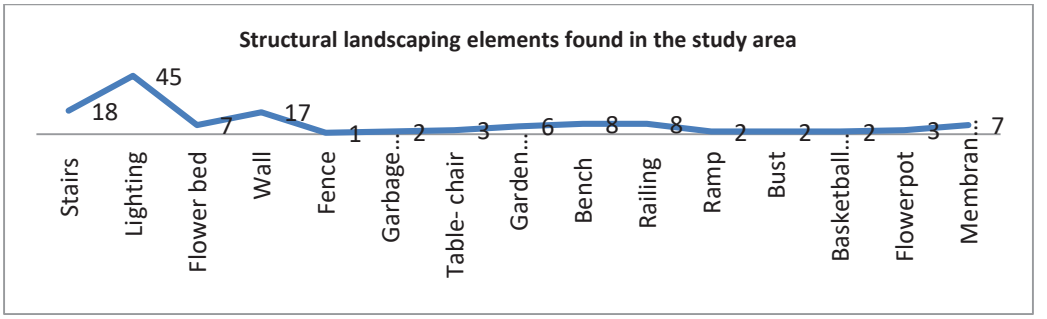

Figure 12. Structural landscaping elements identified in the study area
Şekil 12. Çalışma alanında tespit edilen yapısal peyzaj elemanları

3.2.3. Vegetal landscaping elements in the space between the road and the building

Finally, plant landscape elements in the study area, namely trees, shrubs, bushes, ground covers and creeper plant species, were identified. Observations for plant identification started in February 2011 and conducted during the spring and summer seasons. Within the limits of the study area, it was determined that the plants were located in two different areas. These were the section between the building and the road, and the central refuge and the islands located in the junctions. The plants in these sections were identified separately based on the species. When these plants were examined based on the taxa, 61 different taxa including trees, shrubs, bushes, ground covers and creepers were found. 25 species were trees, 21 were shrubs and bushes, 9 were ground covers and 6 were creepers (Figure / Şekil 13).

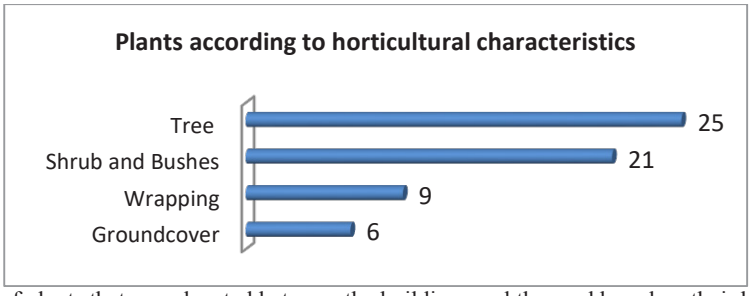

Figure 13. Number of plants that were located between the buildings and the road based on their horticultural features
Şekil 13. Bina ve yol arasındaki bitkilerin hortikültürel özelliklerine göre sayısı

Sixteen tree species were angiospermae (*Olea europaea, Acer negundo, Magnolia soulangeana, Cercis siliquastrum, Ficus carica, Salix viminalis, Fraxinus excelsior, Prunus subsp., Prunus ceracifera 'Atropurpureum', Eribotrya japonica, Laurocerasus officinalis, Juglans nigra, Quercus pontica, Alnus glutinosa , Trachycarpus fortunei, Populus tremula*), and 9 were Gymnospermae (*Sequoia sempervirens, Picea orientalis, Cryptomeria japonica, Pinus pinea, Cedrus deodora, Cupressus sempervirens Pyramidalis, Chamaecyparis pisifera, Cupressus macrocarpa 'Goldcrest', Cupressoparis leylandii*) subspecies (Figure / Şekil 14). There were at least one of these tree species in front of 64 buildings. Many of these plant species identified were located together in 14 gardens.

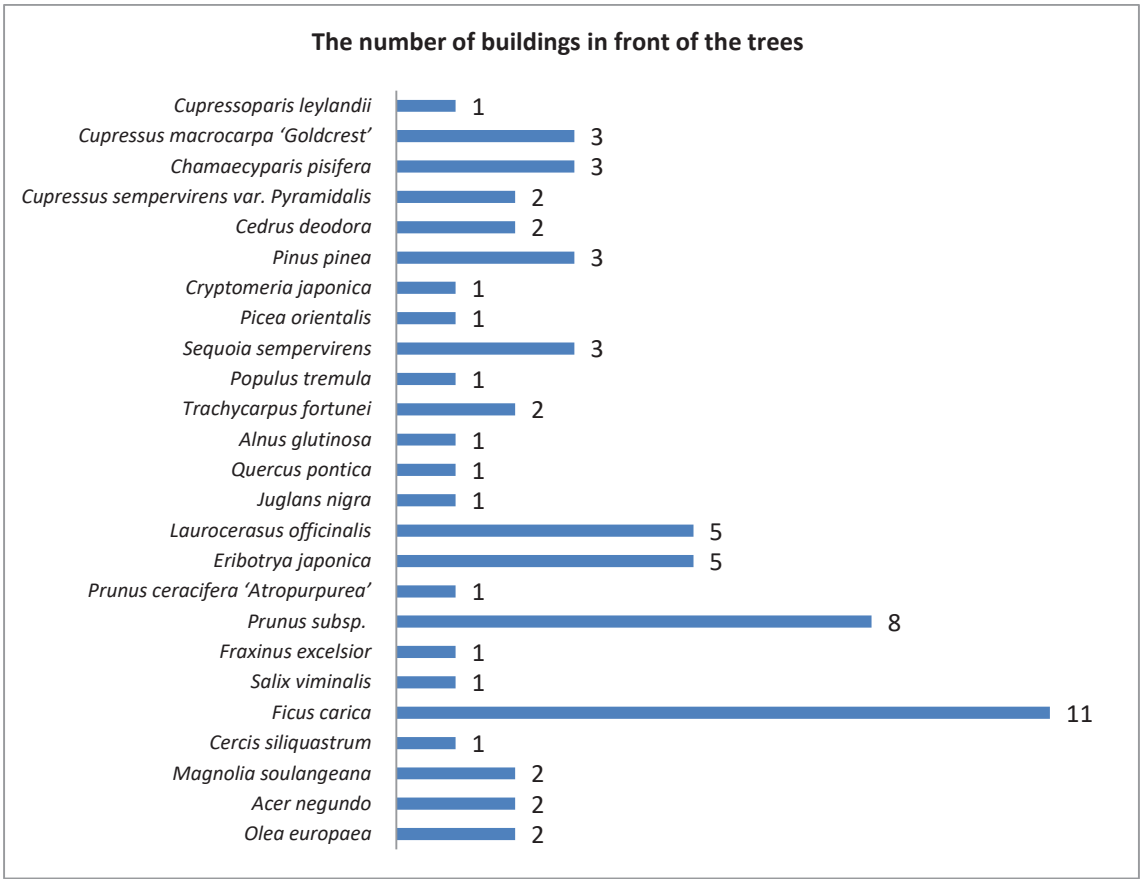

Figure 14. Trees based on their species
Şekil 14. Türlerine göre ağaçlar

Eighteen shrub and bush species were angiospermae (*Syringa vulgaris, Citrus sinensis, Citrus limon, Euonymus japonica aurea variegata, Jasminum fruticans, Yucca filamantosa, Laurus nobilis, Nerium oleander, Ligustrum japonicum, Ligustrum japonicum 'Aureum', Euonymus japonica, Hydrangea macrophylla, Spiraea x vanhouttei , Forsythia intermedia, Rosa, Buxus sempervirens, Cotoneaster frigidus 'Cornubia', Euonymus japonica aureus)*, and 3 were gymnospermae (*Platycladus orientalis, Thujo occientalis, Juniperus chinensis*) subspecies (Figure / Şekil 15).

In total, there were at least one of the 9 ground cover species (*Veronica persica, Bellis perennis, Urtica subsp., Taraxacum officinale, Conium maculatum, Lotus corniculatus, Lamium purpureum, Rumex potentia and Brassica nigra*) in front of 36 buildings (Figure / Şekil 16). Most of the identified ground cover species were naturally grown in the area, and there were no cultured ground cover species.

A total of 21 buildings had at least one of the 6 types of creepers (*Vitis vinifera, Rubus, Hedera helix, Hedera helix 'Eleganttissima', Wisteria sinensis, Campsis radicans*). Identified creepers were usually identified on the walls.

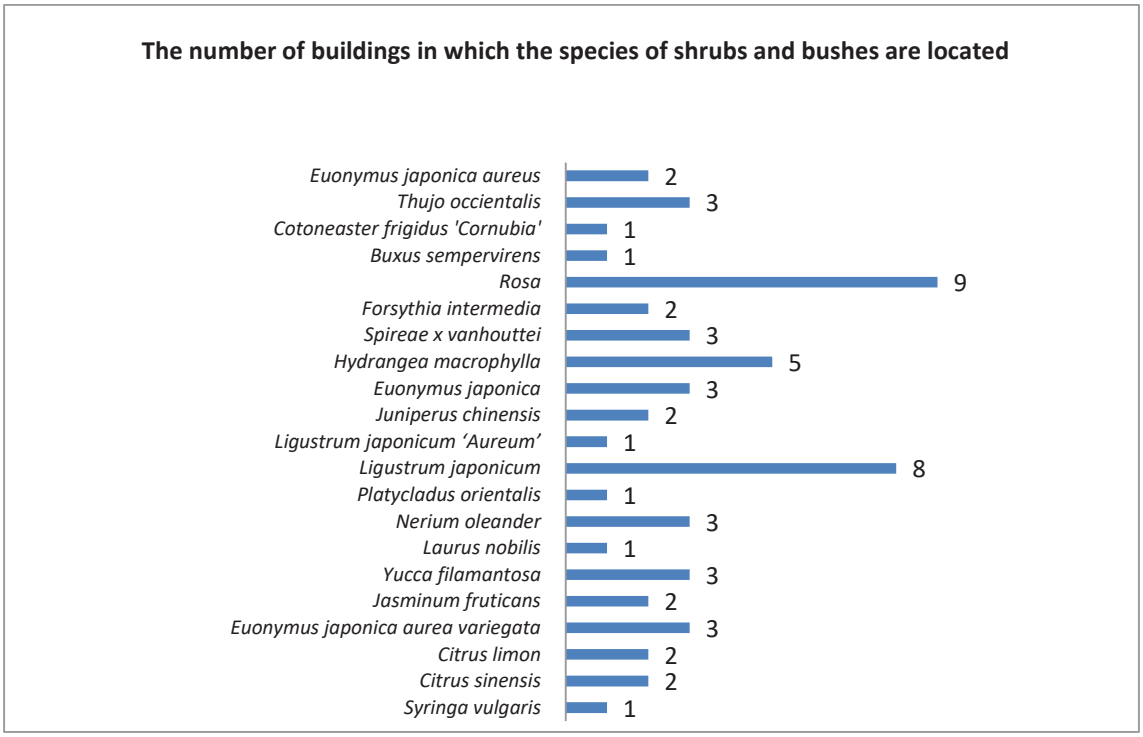

Figure 15. Shrubs and bushes based on their species
Şekil 15. Türlerine göre ağaççık ve çalılar

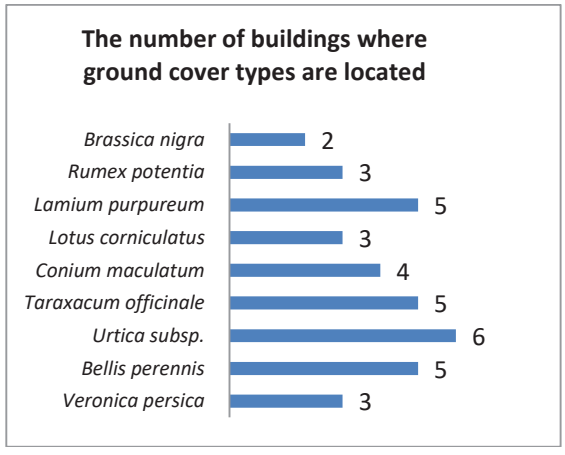

Figure 16. Ground covers based on their species
Şekil 16. Türlerine göre yer örtücüler

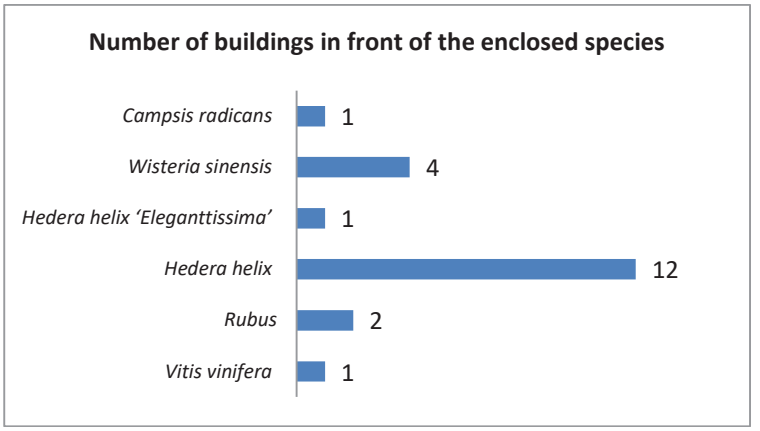

Figure 17. Creepers based on their species
Şekil 17. Türlerine göre sarılıcılar

Based on the findings, it was determined that there were no landscaping elements in front of 17 buildings (building numbers: 15, 16, 21, 31, 32, 34, 36, 38, 44, 48, 51, 63, 66, 72, 75, 81, 92). In front of 32 buildings (1, 2, 3, 4, 11, 17, 18, 19, 22, 23, 25, 26, 27, 28, 29, 30, 41, 47, 53, 54, 55, 71, 77, 78, 79, 80, 87, 88, 89, 90) there were at least one or more structural landscaping elements only, in front of five buildings (building numbers: 14, 20, 33, 35, 91) there were at least one or more plant landscaping elements only, and in front of 30 buildings (building numbers: 5, 6, 7, 8, 9, 10, 12, 13, 24, 37, 39, 40, 43, 45, 46, 57, 58, 59 , 60, 61, 64, 67, 68, 69, 70, 73, 74, 76, 82 and 86), there were both the plant and structural landscaping elements.

4. CONCLUSIONS

In the present study conducted on Yavuz Selim Boulevard, spatial components were analyzed in the space between the buildings and the road. In situ observations demonstrated that after the road was constructed, it was observed that the spatial relationship between the buildings and the road was weakened. It was evidenced that several spaces in front of buildings lost their garden features qualitatively and quantitatively.

Daniels and Kirkpatrick (2006) examined 107 buildings in Hobart, Tasmania, Australia and found that there were garden spaces at the front or rear of all buildings. They also identified 12 different garden types. In the present study, it was found that only 14 of 92 buildings had a limited garden space. 9 of these had different functions (mosque, school, museum, etc.) and 5 were residential buildings. In other words, 9 were buildings that were required to have gardens. There were limited number of gardens that exhibited untainted or spatial characteristics.

The identified structural and plant components were far from meeting the demands of individuals and were not aesthetic. Certain buildings did not have any elements in front of the building, some had plant and structural elements, but no organizations were present., Kirkpatrick et al. (2009) identified several structural and plant landscaping elements in their study conducted in residential gardens in Hobart, Tasmania, Australia. In their study, several structural and plant element categories have emerged. For example, walls were classified under red brick walls, weather board walls, artificial walls. In the present study, the wall element was observed in front of 17 buildings. These buildings were mosque, school, museum, office buildings, and all had a gray brick wall. Random landscapes were identified in the study area. There was no clear access path from the buildings to the road and pavement.
Kirkpatrick et al. (2006) found that there were three types of soil; sandy, clayey and coarse grained soil in the study they conducted in Hobart in 31 neighborhoods and 51 buildings. Another study was conducted by Verbeeck et al. (2010) in five residential areas in the Flanders region in Belgium. In this study; it was determined that each of the five residential areas had a quite large front garden. In only one of the five zones, the terraces in front of the building protruded by 1% and in the other four zones the protrusion was 65%, 35%, 36%, 48%. It was further found that a single building was built on a land of 157 m^2 in the first zone, 250 m^2 in the second zone, 322 m^2 in the third zone, 845 m^2 in the fourth zone and 335 m^2 in the last zone on average.

In the present study carried out on Yavuz Selim Boulevard, it was measured that the most frequent distance between the building and the road was 3m in front of 26 buildings, and there were even buildings where this distance decreased to 1 m. These results demonstrated that it was difficult to have a spatial element in an area of this scale.

In another study conducted in Belgium, it was determined that there were garages, driveways, pathways and terraces in residential areas. In the present study, there were no car parking spaces in front of buildings. Several structural and plant landscaping elements were found in buildings such as mosques, schools and museums and these were not esthetic.

Last et al. (1976) investigated the plant species in residential gardens in Edinburgh, Scotland and determined that the indigenous forest tree species were moved to residential gardens due to special requests and these were prominent in residential gardens. In the present study, however, all the plant species in the study area, especially the ground cover species, were naturally grown species. They were not planted based on the request of users. The structural landscape elements that were prominent in the area, namely the lighting and sidewalk elements, were constructed by the municipality.

In the interviews conducted in the study area, it was revealed that the people living here actually selected this area to stay away from the traffic, but then they were exposed to intense traffic after construction of the road. There were no children's playgrounds for children living in the residents in the study area. There were no front gardens to meet the needs of the users and there was no arrangements to serve the children.

Richard (1984) found that building gardens in New York, Syracuse were 48% of the available green spaces. In the present study, it was determined that there were no open spaces, especially green spaces that belonged to the buildings. The most important consequences of the present study were the facts that the connections between the buildings and the road were broken, the frontal spaces lacked garden features, the spatial components (determinants) were inadequate, and the emergence of random landscapes.

As the cities evolve and change, user-oriented developments should be conducted suitable to the existing texture and integrity. When meeting a demand, another need should not be ignored. It should be ensured that the highest number of users could actively utilize the limited urban areas to the fullest extend.

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