IMPROVING URBAN FACADES AS AN INTERVENTION INTO THE BUILT ENVIRONMENT

THE CASE OF FAÇADE IMPROVEMENT APPLICATION ALONG THE PROTOCOL HIGHWAY OF ANKARA; A ROUTE FROM AYDINLIKEVLER DISTRICT TO ESENBOĞA AIRPORT

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

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ABSTRACT

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THE CASE OF FAÇADE IMPROVEMENT APPLICATION ALONG THE PROTOCOL HIGHWAY OF ANKARA, A ROUTE FROM AYDINLIKEVLER DISTRICT TO ESENBOĞA AIRPORT

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When human constructs the physical surrounding, a psychological environment of meanings is being created, accompanying the world of shapes and masses. Interventions into built environment affect the meanings extracted from the composition of the physical setting and the response of people to design strategies reveals the importance of them.

The entrance spine of a city is important in creating an image of the city in the minds of the observers, and the protocol highway of Ankara introduces the city to other countries' leaders and visitors. So any intervention into this highway will affect the symbolic image formed. As such, attaching claddings onto visible façades of buildings in terms of "beautification" changes the appearance of the streetscape, and Municipality's approach to façade improvement does not heed the prestige of this corridor; being an application rather than a well-advised project.

This thesis aims to study the quality of the streetscape under the principles of design in terms of objective and subjective dimensions with respect to the physical characteristics of the setting and people's interpretations from it, and the objective of

this study is to question the success of this intervention with regard to solutions to improve the quality of the streetscape.

To this end evaluative analyses are studied in the second chapter and the third chapter introduces a matrix of design principles. According to these evaluations, most design concerns are being underestimated, resulting in the monotony of the streetscape but the streetscape appears to be visually more ordered compared to the past.

Key Words: Intervention into physical setting, streetscape, design principles, façade improvement.

ÖZ

YAPISAL MEKANA MÜDAHALE OLARAK ŞEHİR CEPHELERİ DÜZENLEMESİ

ANKARA PROTOKOL YOLU BOYUNCA AYDINLIKVLER BÖLGESİNDEN ESENBOĞA HAVALİMANINA KADAR YAPILAN CEPHE DÜZENLEME UYGULAMASI ÖRNEĞİ

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İnsan etrafındaki fiziksel çevreyi yaratırken, biçimler ve kütlelerin yanısıra, anlamlardan oluşan psikolojik bir çevrede oluşur. Fiziksel mekâna müdahale, kurulmuş çevrenin kompozisyonundan çıkartılan anlamları etkiler ve insanların bu anlamdaki tasarım stratejilerine verdikleri tepki bu müdahalelerin önemini gösterir.

Şehrin giriş omurgası ziyaretçilerin zihninde bir kent imajı yaratmak açısından önem taşrır, ve Ankaranın protokol yolu kenti devlet büyükleri ve ziyaretçilere tanıtır. Böylelikle bu yola uygulanan hertürlü müdahale kentin oluşan sembolik imajını etkiler. Bu anlamda binaların görünen cephelerine güzelleştirme adına cephe kaplaması uygulamak yol manzarasının görünümünü değiştirir ve Büyükşehir Belediyesinin cephe düzenlemesine olan yaklaşımı ve bu yolu akıllıca yürütülmüş bir proje yerine sadece bir uygulama olarak ele alması, bu koridorun prestijni yansıtmamaktadır.

Bu anlamda bu tez çalışması yol manzarasının niteliğini tasarım ilkeleri altında objektif ve subjektif ölçeklerle inceler, ve bu çalışmanın hedefi uygulamanın

başarısını, yol manzarasının kalitesine arttırmayı hedefleyen çözümlerle sorgulamaktır.

Bu amaçla, değerleme analizleri tezin ikinci bölümünde incelenmektedir ve tezin üçüncü bölümü tasarım ilkelerini bir matris olarak sunmaktadır. Bu değerlendirme analizlerine göre uygulama alanında tasarım ilkelerinin birçoğu gözden kaçırılmış olup yol manzarasının monotonluğuna sebep olmuştur, ama yol manzarası eskiye göre görsel anlamda daha düzenli görünmektedir.

Anahtar kelimeler: Fiziksel mekana müdahele, Yol manzarası, Tasarım ilkeleri, Cephe düzenlemesi.

To My Parents…

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CHAPTER 1

INTRODUCTION

For many years one of the main concerns in Urban Planning has been to achieve conformity between land use and transport with the aim to combine the two disciplines to form a unity in the built and social environments. In around the 1960s, after the advent of the modern sense of design (Barlas, 2006), most of the plans prepared by city planners failed to achieve the expected degree of success as they did not pay attention to the different life styles of the public, weather in the cities or in suburban areas, in terms of either culture or economy (Kaplan M, 1974). People became more and more alienated from each other and the environment around them (Barlas, 2006), and as a result most planners began to seek to include qualities in their designs that were more than just land use-transformation solutions. In this sense the composition of the built environment in terms of the surrounding un-built environment, drew the attention of designers' and since that time there has been a tendency to insist upon maintaining and improving the visual characteristics of the physical setting.

Considering the visual characteristics of the built environment, one important means of improving the visual quality of a setting and reducing the sense of alienation caused by modern design principles, can be through a consideration of their level of interventions into the physical setting. To this end different theories have been introduced looking at how these interventions would be understood. While the consequences of a number of these theories were considered failure, others proved to be helpful in creating the basis of good urban form. These theories rely to a great degree on the process of obtaining information from the surrounding environment which is known as *perception* (Barlas, 2006). Any intervention into the built environment can affect the people using or living in it and so there should be a reasonable understanding of the background to enable better decisions to be made

related to the form of the physical environment. This logic follows the relationship between human beings and the physical setting which provides for both the biological and psychological survival of humankind. In the field of Urban Design this relationship has been an inspiring force providing evidence that every physical organization around a person has effects on them. When human beings build houses, they create not only a physical environment, but also a psychological environment of meanings, a symbolic world that reinforces a particular scheme of tastes and values (Ittleson et al 1974, p.1).

Decisions made regarding such interventions into physical settings are based on objectives that are neither too general to be calculated nor too short-sighted as low-level, but are rather aims which are general enough and achievable through physical solutions (Lynch, 1981:108). Throughout history theorists have tried to define "norms" in the degree to which interventions into physical settings are desirable. Considering these norms, many theorists have attempted to formulate a theory of successful urban form and the works of Lynch (1981), Cullen (1961) and Lozano (1990) are some examples of the theoretical frameworks developed which shed light on the subject. It is these theories that form the basis of this study. With regard to the scope of physical interventions into the built environment, it is important that they be gathered together under a main idea, implying that the problems in such interventions is not due to the different disciplines that form the basis of the variations between them but rather it is about the way they are associated.

An example of such an association can be seen in the case of the façade improvement program along the protocol highway that forms the northern entrance to the city of Ankara, which connects the Aydınlıkevler district to Esenboğa Airport. Though this program was carried out in pursuit of the beautification of the northern entrance to the city, its success in creating a meaningful townscape through the use of materials, colors, street furniture, etc. is the main problematic of this study.

1.1 General Background of the Study

A review of existing literature on the planning history of the city of Ankara reveals that the urbanization process of 1950s had a negative effect on the utilization of space and the urban texture that was envisaged in the first years of the Republic was

beginning to disappear. Since that time, the city of Ankara was mainly formed along the routes of the city, shaping its backbone. This haphazard conformation of the city texture along the highways caused the planning decisions to focus on the backbone of the city which is the north-south axis (Beautiful Ankara Project, Competition Specifications, 1991). This axis also forms the *protocol highway* of the city because of its crucial role in connecting the only Airport of the city to the Presidential Palace.

During the 19th century, National Movements among the societies of the Ottoman Empire have been the matters of concern aiming at detaching to create their own nation. In this sense, New Ottoman and Turkism which considered new identities for the society began to gain importance. Architecture in this sense began to follow its own roots. This movement was later named as the I. National Architecture. It tried to create a national Turkish style by awaking the classic Turkish Architecture, though its success in reflecting the values of the society of that time is a matter of some doubt (Günay, 2005). So nationality shaped the identity of the city of that time. With the establishment of the Republic of Turkey in 1923 Ankara, the capital city became an important factor in shaping the architectural movements. During 1920s there have been debates about what the exact characteristic of the city which seemed to be placed somewhere between Turk-Islam relation (Günay, 2005).

During 1930s this spine was mainly in the form of a boulevard with wide sidewalks and greenery on the street refuge, being a "promenade" or a parkway along Kızılay and Ulus districts and was exactly reflecting the *identity* of the city (Beautiful Ankara Project, Competition Specifications, 1991).

By the Modern sense of design, during the Bauhaus movement ornamentation in building construction was reduced and grey plain buildings instead of the embellished Ottoman constructions changed the appearance of the townscape. The city of Ankara, since that time, is being remembered as a grey city and this shows the great importance of the Bauhaus movement in creating the identity of this city, reflecting the authority of the government through symmetric plans, rhythmic openings, and monumental entrances. The sublimation from embellishing, form and function relationship, and the advent of structure system shaped the identity of the city during the International Style (Aslanoğlu, 2001).

With the II. National Architectural Movement, once again the national and conventional identity of the city was aimed to be highlighted (Günay, 2005), but it ended at short notice and gave its place to the Modern movement of architecture. The prevalence of modern movement in western societies became an inspiring force for the eastern countries and consequently it had great effect on the planning process of the city of Ankara and modernization was the only aim of the planners in shaping the identity of the city. This time the boredom of repeating the same patterns for the buildings and the lack of place characteristics led to Post-Modernism (Korkmaz, 1997). In this sense, the communication between people and architecture was highlighted and the human aspect of architecture was introduced with respect to the historical and social values of the city in creating its identity. Today many of the buildings, creating the townscape of Ankara, belong to post-modern style and any intervention into the combination of the townscape should obey the same rules and be capable of reflecting the identity of a postmodern city with its historical background.

Facades of the buildings are important elements of a streetscape and the style of the houses, composing the townscape of cities has great effect in forming the identity of the cities. In many cases even the colors employed in the paintings or the materials of a façade, could change the whole character of a townscape. There are many examples of cities which are memorable due to their colors. In this sense, Edinburgh, the capital city of Scotland, is memorable for being a grey city. The following figure shows a view from the city, which reflects the dominance of grey color with respect to other colors.

Figure 1.1 A view from Edinburgh City, Scotland

Source: http://en.wikipedia.org/wiki/File:View_from_Scott_Monument.jpg

The city of Jaipur in India, known as *pink city*, is another example being memorable for its color. Figure 1.2 shows the dominance of pink color which makes the city to be easy remembered by its visitors.

Figure 1.2 The city of Jaipur, the capital city of Rajasthan state, India

Source: http://en.wikipedia.org/wiki/Jaipur

The case of Bodrum city or the Islands in Turkey are other examples of cities that are memorable due to the employment of colors. The following figure shows the employment of white color in the facades of the buildings which is an obligation by the municipality laws.

Figure 1.3 A view from Bodrum, Turkey

Source: Personal archive

Planning history of the city of Ankara shows that during the Bauhaus Movement the city turned to be a Grey city due to the principles of design of that time. Since then grey was the main color that the visitors of the city remembered as the color of Ankara. The literature on the history of Ankara shows that this color has been an important characteristic of the city and the works of many writers and poets bear this characteristic. Later, the rapid urbanization process, the advent of modern and post-modern movements and public housing projects by the Greater Municipality of Ankara changed the color of the city from being a grey city into a multiple-color city.

1.2 The Importance of the Protocol Highway of Ankara

The backbone of a city is defined to be a dynamic corridor constituted from the physical and functional components formed during the historical developments (Beautiful Ankara Project, Competition Specifications, 1991), and these components should be highlighting the social processes of different development periods. The current status of the protocol highway of Ankara is not reflecting the identity of the

city. It is of great importance to create a meaningful townscape along the route, and this can be achieved by questioning the existence of a "drama" (Cullen, 1961) behind this application. The "drama of the city" can be defined as the relationship between the whole and the units, which aims at creating spaces of different identity in the future (Günay, 2006). The current status of the backbone of the city lacks its identity and there seems to be a strong inquiry to stress on permanency, clarity and specially representation power of this corridor (Beautiful Ankara Project, Competition Specifications, 1991).

The protocol highway of Ankara is important according to the following reasons:

- Being a gateway to the capital city of a developing country like Turkey
- The great importance of representational potential of this corridor for its visitors
- Being the only axis connecting the Esenboğa Airport to the centre of the city
- Creating the border line of the workspaces of two Municipalities: the Altındağ and Keçiören Municipalities
- And most important of all, composing the symbolic spine of the city together with being the backbone axis of the city

In this sense, this corridor should be stressing on the historical and social values of the society and the great importance of this spine has always introduced it as the focal point for planners and the subject of many projects and applications. With regard to this, the Greater Municipality of Ankara put forward different project packages to address the problems faced by the city; "Beautiful Ankara Project" was one of the most important steps taken by the municipality to create a proper place for the city among the capitals of different countries on the eve of 21st century (Beautiful Ankara Project, Competition Specifications, 1991).

As mentioned previously, the protocol highway of Ankara, beginning at the Esenboğa Airport and culminating at the Presidential Palace, is the backbone of the city and as such ought to reflect its historic development and symbolic identity. For this reason, the **representational potential** of this highway is of great importance, and it is this quality that is the most important characteristic that should be taken under consideration in projects related to this entrance route to the city. One example of such a project is the "North Ankara Entrance Urban Transformation Project"

(2004), which is the only example of an urban transformation project, being put into practice under a special law enacted by the Greater Municipality of Ankara (TMMOB, 2007). The main objectives of this project are to:

1. Demolish the squatter settlements along the entrance corridor of the city,
2. Create 830,000 square meters of open-space in the form of parks and lakes, along with construction of two units of five-star hotels and a convention center, and
3. Building roads, tunnels, and viaducts along the 3 kilometer line of travel

1.3 Façade Improvement Application along the Protocol Highway of Ankara

Following the Beautiful Ankara competition of 1991and urban transformation project of North Entrance of Ankara in 2004, another visual improvement program was applied in the area later in 2006. In contrast with the former projects of the Greater Municipality, this program was outside the framework of a specific project, and it is the scope of this program that this thesis aims to analyze, and the reasons behind restricting the representational backbone of the city within the frameworks of an application. Considering the former project experiences it was clear that the northern part of the entrance route to the city is the point of speculation for the designers. In the case of the façade improvement application to the north entrance of the city, once again the application area is contracted to the northern part of the spine of the city. And in fact the common point of all the projects is their attention to this part of the backbone of the city. The reasons for this choice are as follows:

1. Esenboğa Airport, a gateway at both a national and international level: The entrance to the city should be attractive for those entering the city, taking into account the fact that many of these visitors will be heads of states or governments of different countries on official visits to capital of Turkey,
2. Creating an image of urban façade can improve the quality of environmental values of the region. The distorted structuring and urbanization along this part of the route is in clear need of reorganization, and
3. The variety of the problems in the area calls for operations between multiple disciplines.

As mentioned previously, the façade improvement application began in a completely different way from the previous projects. Instead of improving the visual quality of the streetscape by painting the facades of the buildings, new materials were used to cover the two visible facades of the buildings abutting the highway. The aim was to improve the visual quality of the streetscape through the use of modern materials, and thus turn the entrance into a corridor leading to a modern city. Additionally, the protocol highway merits its own prestige as a gateway to the city, and as such should be attractive, given its political importance. There have been attempts by the Greater Municipality to improve at least the visual quality of the streetscape, disregarding quality of lives of the inhabitants, before the employment of the façade improvement application of 2006. The employment of color in the painting of the façades of the buildings is a good example of these attempts, however a disregard for design principles and an overrating of the benefits of the market resulted in different patterns on the façade of each building, making them look more like a "rug pattern" than a residential unit and as such a component of the townscape. Though the main idea of the previous applications was the beautification of the townscape, it is clear that these applications have been unsuccessful in achieving these aims, considering the subsequent policies of The Greater Municipality of Ankara to improve upon the old applications in creating a modern and more orderly pattern along the route to Esenboğa Airport.

Figure 1.4 The streetscape at Aydınlıkevler district before façade improvement

Source: Personal archive

Figure 1.5 An example of "rug pattern" application

Source: Personal archive

The complication created by employing rug patterns along the protocol highway was aimed to be reduced through subsequent programs of the Greater Municipality of Ankara and the façade improvement application is an example of these programs. Here the awkward appearance of the rug pattern buildings along with old conventional buildings, which seemed to be falling down, was aimed to be improved by employing a new kind of façade cladding on the front elevations of the buildings. The main aims of the Municipality in choosing a material which was unfamiliar with the rest of the streetscape is to hide the complicated and annoying appearance of the rug pattern or old buildings under a cladding of new and modern material and improving the visual quality of the entrance corridor into a modern city by means of modern materials. In this sense, this application represented a modern structuring ostensibly and did not consider the importance of improving the quality of the environment. One important point here which should be taken into consideration is that a successful streetscape is dependent not only on the successful arrangements of the façade of the buildings, but also on other factors, such as street furniture, lighting, foliage, benches, and even advertising hoardings or signboards.

Figure 1.6 Façade improvement application along the protocol highway of Ankara

Source: Personal archive

On the other hand the choice material is also an important factor in shaping the identity of a city. An investigation in the architectural history of the city proves that earlier, brick and stone were the main materials employed in housing. Later, plaster and wood were introduced, shaping the character of the buildings in the toewnscape. With the modern sense of design aluminum and glass became popular with respect to the technology of the times. In this sense, it is obvious that the case of façade improvement application along the protocol highway of Ankara is an attempt by the Municipality to improve the visual quality of the neighborhood by employing a modern material on the plaster facades of the buildings and this difference in the choice of material is important in studying the identity of the streetscape.

The materials employed to cover the frontage of the buildings in this application are Brick Clinker Panels in red and yellow colors. The choice of these panels is to a great degree dependent on their ability to be insulation units against the cold. Aside from this material, aluminum plates are also employed to cover the corners of the facades of the buildings. Though this choice seems to be an inquiry to cover the corners by another material, the details of applying Clinker panels given in Appendix B shows that in fact, the clinker panel does not necessarily require a secondary material to cover its corners. This brings to the mind the idea that aluminum panel is an intended choice by the Municipality to insist on the modernity of the entrance corridor of the city.

Another important point that attracts the observer's attention is the underestimation of the roof coverings of the buildings in the application area which appear to be in varying colors of red, green and black. In this sense, it is obvious that related to the variety of the problems in this application, we need varying dimensions to evaluate the quality of the environment created through this intervention into the built environment.

1.4 Dimensions o Evaluation

In order to evaluate the degree to which interventions into physical settings are successful, we need dimensions. Façade improvement along the protocol highway of Ankara is an intervention into the physical setting which affects the composition of the streetscape. In this sense, two types of dimensions are introduced in this study to evaluate the quality of the environment created along the highway; the objective dimensions which encompass the compositional structure of the streetscape with respect to design principles, and subjective dimensions which are dependent on the ability of human in obtaining information from the surrounding environment.

Objective dimensions are basically dependent on the physical structure of the streetscape. As long as the main characteristic of attaching façade claddings onto the front elevations of the buildings in this application is to improve only the appearance of the streetscape, the concept of visual aesthetics should be taken into consideration. This subject will be studied under two main types of aesthetics, being formal aesthetics and symbolic aesthetics (Lang, 1987). Formal aesthetic deals with the structural characteristics of a setting. In the façade improvement application of the northern entrance of Ankara this concept considers the formal structure of the application area and deals with the composition principles that govern the whole appearance of the case study area. Considering the application area it can be seen that the application of the façade claddings only to the elevations visible from the street has resulted in a combination of old and new materials. With regard to this, the compositions of the new façade claddings as a single unit alongside the naked unclad side elevations of the buildings are taken into consideration in this study. Composition principles, in the form of *harmony, contrast, balance, order* and *unity,* are the factors that will be used to define the structural characteristics of the facades

of the buildings along the protocol highway of Ankara. The analysis of the composition of the façades will take place on two scales in order to provide an evaluation of the quality of the physical setting. In this sense, one scale encompasses the composition of the modern façade cladding attached to the existing façade of individual buildings, and the other encompasses the facades claddings within themselves, and their capability in creating segments of the townscape. As an example, contrast is an important composition principle, which in our case appears in the form of a conceptual contrast between the old material and the new. Considering the façade of a single building, the contrast between the cladding materials and the original materials is obvious in terms of the color, texture, and the material itself, which is completely different from the local materials. The same can be said when considering the facades of along the application area, in that a great degree of contrast with the rest of the townscape has been created.

Considering the structural characteristics under the concept of formal aesthetics, the Gestalt Theory of Perception has been an important source in the course of this study. Gestalt Theory began in Germany during 1920s with the works of Max Wertheimer, Kurt Koffka, and Wolfgang Köhler, who were dealing with theories of visual perception. The Gestalt theory considers the organization of the parts and the whole. Gestalt qualities play the most important role among other aesthetic qualities within the environment (Köhler, 1969:46). According to Wertheimer (1943) the parts making up any composition do not express a complete meaning when they are considered individually, but rather gain meaning when they are considered as a whole. The most important effect of Gestalt theory on design grew out of the "Theory of Form" (Wertheimer, 1943). Other than the composition principles, the reason for adopting Gestalt Theory of Perception in design is in its degree of validation among scientific methods on the visual organization of the built environment (Behrens, 1998). In this sense, Gestalt deals with the relationship between the whole and its units, considering the organization of the components and their part in product of organization (Koffka, 1963).

Gestalt Theory studies the relationship between the parts and the whole under two main approaches: the figure-ground effect; and grouping principles. Regarding the façade improvement application along the protocol highway, this thesis aims at questioning the Gestalt principles of the application area from the roots of the figure-

ground effect and grouping principles, as mentioned before. The fundamental principle of Gestalt perception is the law of Pragnanz which indicates that we perceive the visual experience that is regular, orderly and simple. There have been attempts by Gestalt psychologists to define a number of general laws that will allow for a visual interpretation of the sensation (Strenberg, 1999), and these laws are considered under the topic of grouping principles. These principles are as follows:

- **Law of proximity** indicates that our mind perceives the proximity or the nearness of the elements, and perceives them as a complete whole.
- **Law of similarity** indicates the resemblance between the elements or units in terms of color, size and other physical characteristics, which enables the perception of them as a total whole.
- **Law of closure** reveals the ability of mind to imagine elements that are not perceived through biological perception, and is in fact the ability to guess the invisible parts.
- **Law of symmetry** indicates that even when there exist no proximity between the parts, symmetry between the forms allows their perception as a whole.
- **Law of continuity** indicates the ability of the mind to make continuations through patterns.
- **Law of common fate** indicates the importance of movement in our perception. Moving units to the same direction can be understood as a whole even when it is impossible to find other Gestalt principles.

The figure-ground effect considers the relationship between the units on the background of a whole. Some principles governing the physical combination of the parts, such as symmetry, size, page layout, etc. provide important evidence of the figure-ground effect (Lang, 1987). The attachment of a new façade onto the elevation of a building is an intervention that directly changes all the evaluative qualities of the built environment. The main aim of any intervention into the physical setting is to change its qualities to improve them and the success of the façade

improvement application of the Greater Municipality of Ankara as an example of interventions into physical settings will be the objective of this study.

The physical characteristics of this application are our material source for the investigation into the success of the façade improvement application. The employment of a new and completely different material with different colors; the organization of the façade compositions; the employment of the same pattern along the 25 kilometer course of travel; the proportions and size, etc., are all elements for discussion in terms of the Gestalt and Composition Principles that govern the appearance of the façade. To conclude, the whole part relation creates the basis of Gestalt Theory and in evaluating the façade claddings along the protocol highway it is of great importance to investigate the part-whole relations. The laws of proximity, similarity, closure, and continuance consider the wholeness of the subject while common fate, symmetry, similarity, and etc. were added to the subject when Gestalt was more popular (Günay, 2007). Gestalt laws of perception prove to be helpful in creating a sense of place in the urban fabric, in that they are not the only factors creating legibility in the environment. The ambiguity of the law of Pragnanz, that is related to the uncertainty of how the brain functions, are similar to the processes in nature (Rock, 1975), and the absence of attention to the third dimension and the role of movement (Lang, 1987), should be taken into account along with other principles and theories of how the physical environment is perceived.

The characteristics mentioned above are all related to the physical organization of the parts which is considered to be the objective part of the study, in that it deals with the objective qualities of the application area. On the other hand there are also subjective qualities which encompass the individual's understanding of the physical environment around them. In the second phase of the study the subjective dimensions will be our reference and the concepts of legibility and imageability (Lynch, 1960), serial vision (Cullen, 1961) and pleasantness-boredom of the streetscape (Nasar, 1994) will be our dimensions.

The quality of the physical environment, which in this case is the quality of the environment created through interventions into the physical setting in the form of new façade claddings to two elevations of the buildings along the protocol highway, has two main functions; variety and orientation (Lozano, 1990, Lynch, 1961). Any

observed segment of the streetscape is formed by a combination of patterns. Diversity is a quality created by the complexity of the urban pattern and Variety is an actor in creating this diversity. This quality indicates the propriety of using a degree of differentiation within the pattern of typologies, which creates similarity that is perceived as rhythm in the environment. It is important to achieve a suitable degree of variety, as an excessive differentiation of patterns will result in chaos; while a lower degree will create monotony (Lozano, 1990). In the case of the façade coverings along the northern entrance of Ankara, two forms of variety need to be taken into consideration: first, the quantitative variety which stresses on the length of the application area without interruption by any other application or "surprise" (Lozano, 1990), or in the quantity of the physical elements; and second, the qualitative variety, which encompasses characteristics of the built environment in terms of colors, materials, furniture or texture. The colors chosen by the Greater Municipality of Ankara for this clinker panel cladding were mat red and yellow, with an aluminum contour in varying widths that was applied to cover the thickness of the cladding. As a result, it was the monotony of the urban pattern that was the dominant factor caused by the sameness of the patterns, colors, and clinker panel textures all along the entire route, rather than a similarity between the patterns or contrast between the colors to achieve a rhythm and create variety within the streetscape.

Figure 1.7 The chaos of before, and the monotony of after

Source: left; http://www.panoramio.com/photo/6259795, right; personal archive

An important theoretical study was carried out by Nasar (1994) who sought to understand the characteristics or features of building exteriors that have a desirable effect and attract the observer. For Nasar, there exist three aesthetic variables

affecting the observer's understanding of the environment: formal variables, symbolic variables, and schemas. His main focus on the subject of formal variables is based on enclosure, complexity, and order, which encompass the physical form of the settlement. Style on the other hand is a symbolic variable; while schemas are related to typicality. The concept of variety, which was mentioned previously, is again taken into consideration in Nasar's study who claims that one way of creating a pleasant townscape is to take the façade of the buildings into consideration as evocative factors in the observer's understanding of the environment around him. As such, if one is to achieve pleasantness in the streetscape, it is important to pay attention to order of the physical setting, providing a degree of complexity that does not create monotony or chaos, and the popular style which should be encouraged.

The application area should be considered as a "path" that provides relationship potentials between two places, and can be in the form of streets, roads, walkways or any other channel of movement (Lynch, 1981); the northern entrance of Ankara is a good example of such a "path". Paths are important elements in the creation of an image of the city. Medieval streets were and still are attractive due to their spatial quality (Cullen, 1961), and the entrance of the capital of Turkey should at least be imageable in the minds of the visitors having attractiveness for them.

Façades, on the other hand, are important physical factors in creating a street's identity and character, defining the degree to which we remember a place as a distinct entity (Cullen, 1961). The well-advised use of colors, materials, patterns, and the propriety of the proportions of the units in every segment of the façades is important in the creation of a common language of the streetscape and successful places that are more convenient for the tagging of memories (Lynch, 1981). A good example of this can be found in the case of İzmir Cordon where the colors, blinds and the scale of every unit enrich the streetscape.

Figure 1.8 İzmir Cordon

Source: Günay, 2006

Orientation which is the equivalent of order in physical setting of the environment is another important function in the quality of the environment. Orientation refers to the sense of understanding the physical setting and the relative position in it (Lozano, 1990). According to Lynch (1981) orientation is a matter of time and place, understanding where one is and what is going to happen next, and making decisions that bring about feelings of joy in the case of good orientation; or the feeling of being lost in the case of poor orientation. In the case of the northern entrance of Ankara, where new materials are being employed to cover up the old and ugly frontages of buildings, it is quite hard to find clues (Lozano, 1990) as to which are requisites of orientation because of the sameness of the façade pattern, which has brought monotony to the cityscape. In this case the differences in the forms of the buildings provide our only clues, but considering that the streetscape is designed for the benefit of visitors in cars, these differences are not of great importance. Another problem with this streetscape is its ambiguity in creating a serial vision (Cullen, 1961). Considering the application area, it is obvious that we cannot specify segments of the townscape along the protocol highway. The beginning and the end of the segments are not obvious; once one draws near to Esenboğa Airport the complicated patterns of the streetscape suddenly change into a completely modern and new pattern of red clinker panels with aluminum frames around the openings and on the corners of the

buildings, which emboss the visible facades of the existing buildings on a complicated townscape background. The importance of "thisness" (Cullen, 1961) is underestimated, and the units of this segment of the streetscape are incapable of conveying a sense of life and create a relative "thatness" against it.

Before analyzing the subjective qualities of the built environment, the concept of *symbolic aesthetics* (Lang, 1987) is taken into consideration. The built environment conveys messages to the observer; and interventions into the built environment change the quality of these messages. Any component of the built environment can be a symbol with a message; while the physical characteristics of the built environment can highlight the message it conveys. When a new façade cladding is being applied to one elevation of an existing building, the materials should at least be compatible with the other elevations of the building, and also with the whole townscape of the area. In this case the main aim of the designer was to improve the visual quality of the northern entrance of the city by decreasing the visual complication of the streetscape along the highway. The designer also tried to raise the quality of the main entrance to the capital of a developing country, in this case Turkey, by hiding the existing townscape under a modern appearance. Considering symbolic aesthetics, the success of the new material in creating meaning and reflecting the traditional or historical values of the district is a matter for debate.

The next chapter of this thesis will analyze the qualities of the façade compositions and the application of a completely new material onto the front elevation of the buildings in detail. Considering the notions mentioned above, while taking into consideration the façade claddings applied along the northern entrance to Ankara, and the choice of the same material and colors with the same proportions and scales, the question should be raised as to whether the application was satisfactory in conveying the sense of place (Barlas, 2006). Although the use of the same material and colors by the designer can be, to great extent, related to the designer's attempt to lessen the chaotic appearance of complicated patterns, it is obvious that this goal can only be achieved with a proper degree of variety in the streetscape, with care taken not to create either monotony or chaos. The use of the modern clinker panels and aluminum contours is based on a desire to change the streetscape into a modern environment, appropriate for the gateway to the capital of a developing country, besides the debates on the propriety of the modern streetscape instead of a much

more modest streetscape which represents the culture and the history of the inhabitants introduces the city to its visitors. In this sense, the absence of the use of city furniture and landscape in the creation of the streetscape raises concerns that this application was carried out not with the aim of creating a successful streetscape, but rather as a makeup tool for the beautification of the façades.

It is worth nothing that some buildings along the route were excluded from the application due to their vulnerable old structures, which prohibited modification. This raises concerns into the decision in the choice of heavy clinker panels for the cladding. According to professionals in the application of this material, the approximate weight of the façade of every building being applied in this program is around 30 kg for every square meter, which is quite heavy considering the structure of the buildings. In this sense, the choice of the materials regardless of the color or variety brings a further problem. The modern appearance of these façade coverings was deemed the most important characteristic of the Municipality in its bid to present the city as a modern capital of a modern country. However, the question here is the dominance of a modern appearance over all other qualities required for a desirable streetscape that improves the quality of life of the inhabitants.

Another problem with this application is the disharmony that was created with the other unclad elevations. Though this application to the elevations was designed to improve the streetscape from the perspective of observers traveling by car, the disharmonious appearance cannot only be observed by pedestrians, but also from the inside of the cars. This reveals that the application failed in achieving its primary goal, and as a consequence the Greater Municipality of Ankara is now planning to begin a second phase of this application that will address also the other elevations of the buildings. The views of both car passenger and pedestrians are provided below, from which it is clear to see there are no differences in the view of the naked unclad façades.

Figure 1.9 Pedestrian's view of the side elevations

Source: Personal archive

Figure 1.10 View of the cladding and side elevation from a moving vehicle

Source: Personal archive

CHAPTER 2

THEORETICAL FRAMEWORK ANALYSIS

Understanding the visual amenity of the streets within a city plays an important role in creating a sense of place for the inhabitants of the city (Lynch, 1960). Consequently, the chief issue in Urban Design is to create a new language that can be understood by the observers of the city. Throughout history there have been many different studies into the improvement of the physical environment in a bid to reinforce the neighborhood identity and creating a richer urban environment.

Interventions into the physical setting are an important means of improving the quality of an environment, either through manipulation of the setting, or through the complete transformation into a new and more meaningful environment. In the case of such interventions, the analysis of architectural form and its image should be studied in terms of the physical intervention itself; the manipulation or transformation and consistency of the intervention with the rest of the setting; the physical appearance; the meanings conveyed through the interventions and the whole identity of the setting. The main aim here is to evaluate the consequences of the effects of a new "language" on the perception of the environment, and the relationships between the "old" and the "new". This relationship is in fact dependent on the interaction between the subjective and objective qualities of buildings; while objective qualities are considered under the building's physical characteristics, the subjective qualities reinforce the continuation of the sense of place from the past to the future.

Successful interventions into the physical setting are achieved when the dominance of a new drama (Cullen, 1961) is maintained beyond the interactions mentioned above. In the case of the façade improvement along the protocol highway of Ankara, this intervention appears to have been more of an attempt to hide the existing

appearance and wear quite another aspect. The main concern of this application, beyond camouflaging the existing building façades, is the final appearance of the streetscape, with applications of cladding to only two elevations of each building, and which appear to be hanging off the buildings rather than being the original façade, and thus a part of the whole streetscape. Throughout history there have been many examples of façade designs that were completely independent of the other elevations of the building; however the problem with the Ankara case is that the overall image of the facades does not fit in with the rest of the townscape. Figure 2.1 shows an example of a successful façade attachment onto an existing building that is completely in cohesion with the rest of the townscape.

Figure 2.1 Santa Maria Novella square and church, Florence. Italy

Source: www.floremcefotos.com

Santa Maria Novella's façade was designed in the 15th century by Leone Battista Alberti to cover the frontage of the existing cross plan of the church, which was originally designed by Fra Sisto and Fra Ristoro. As can be seen in the figure above, the contrast between the materials used to cover the façade and the original construction of the church does not affect the overall image of the square, as the covering is in cohesion with the rest of the townscape in terms of color and proportion, and bears similarities with the facades of the surrounding buildings.

The façade improvement along the protocol highway of Ankara was managed by the Greater Municipality of Ankara with the aim of improving the visual quality of the northern entrance of the city. Though the protocol highway starts at Esenboğa Airport and ends at the Presidential Palace, the façade improvement applications are being carried out only on the section between Aydınlıkevler district and Esenboğa Airport. The reasons for choosing this section of the highway for "improvement" were firstly the location of the area, being the first townscape confronting visitors to the city while travelling from the airport; and secondly, the fact that the area had been earmarked for improvement under the Urban Transformation Project of the Northern Entrance of Ankara, which aimed at transforming the squatter settlements near the Esenboğa Airport into residential sites. The main objective of this application was to hide the awkward appearance of the residential buildings along the protocol highway.

A streetscape is not just a backdrop for the various functions of everyday life; it is also the manifestation of aesthetic, symbolic and historical information. As a result, any intervention into the physical setting must be capable of conveying information to the inhabitants and users of the place, sustaining the imageability of the streetscape. In the case of the façade coverings along the northern entrance of Ankara, the success in creating a meaningful streetscape is questionable, given that visitors traveling by car, who were intended to be the main addressees of the application, can still catch glimpses of the original, unclad construction on other elevations.

Interventions into physical settings have been studied under two main themes in previous literature. The first topic is the subjective side of these interventions, which deals with the individual interpretations of the inhabitants; and second is the objective side, which encompasses the changes in the physical setting, considering their objective qualities. The subjective side considers qualitative dimensions depending the observer's understanding of the physical setting around him/her such as texture, color, nostalgia, privacy, etc. (Tucker, C., Ostwald, M., 2007); while the objective side considers quantitative dimensions such as proportion, scale, height, etc.

When the main aim of an intervention into the physical settings is to improve the setting into a more delightful and visually satisfactory environment, before studying the dimensions mentioned above, it will be useful to consider the descriptions of "visually satisfactory" environments with respect to the creation of "beautiful or delightful" which are the main concerns of design (Lang, 1987: 181). The different definitions of "beautiful" throughout history have formed the basis of "aesthetic theory".

Environmental psychology is a study into the interaction between people and their surroundings. When the structure of a physical setting corresponds to the needs or intentions of the people considering different types of needs (such as organismic, personality, social group, and cultural characteristics [Lang, 1987:186]), the environment becomes pleasurable for them. Many different theories have been developed to explain these interactions between humans and their environment, but when the subject is about design and changes in physical settings, it can be more helpful to study this subject in terms of *formal aesthetics,* which deals with the visual structure of the environment; and *symbolic aesthetics,* which considers the associations that create meaning for the environment (Lang, 1987).

Studies have shown that an important factor in creating a successful streetscape is the quality of the different approaches in the creation of façade compositions. The style of every building plays an important role in structuring the character of the streetscape in which the building is situated, and this character is based on the visual qualities that a group of buildings might share, including the relationship of the parts of the building to each other (Tucker, C., Ostwald, M., 2007). Considering the streetscape as a combination of individual buildings, the character of every building goes to make up the whole character of the streetscape. How the visual character of the streetscape is established or improved is the main concern of this thesis, which studies the interventions into the physical setting of the northern entrance of Ankara, the capital city of Turkey.

In understanding the aesthetic characteristics of the environment being perceived, Gestalt qualities have important part as they take place everywhere in perception (Kohler, 1969: 46). With respect to the division between the subjective and objective qualities mentioned above, the formal aesthetic theory will prove helpful in

understanding the objective qualities of the built environment, and the best way to study the formal aesthetics is to consider it in terms of the Gestalt Theory of Perception (Lang, 1987).

2.1 Gestalt Theory of Perception

Formal aesthetics are to a great degree dependent on the Gestalt Theory of Perception. In every segment of a successful townscape the whole and the parts of the whole should have a clear identity. This means that the whole is not equivalent to the sum of the parts, but rather it is something else other than the sum of the parts (Arnheim, 1961). The whole determines the form of any object we see, not only its units or parts (Günay, 2007) and Gestalt theory is the best tool for investigating and understanding the relationships between the whole and the parts.

The main aim of this study is to investigate Gestalt qualities in terms of physical interventions into the surrounding environment. These interventions create consequences that go beyond being simple physical acts, but rather create psychological effects on the inhabitants or users of the physical settings. These effects can be studied by means of environmental psychology, which is an interdisciplinary field studying the interactions between human beings and their surroundings. Questioning the Gestalt qualities in our case of the façade attachments to the existing buildings along the protocol highway of Ankara, which is an example of these interventions, the objective is to consider these qualities in terms of the composition created by the synergy of two different structures, and how it is perceived. The composition created through the synergy of the “old” and the “new” creates a figure-ground relationship of Gestalt principles, and understanding the Gestalt principles of the whole composition will prove helpful in studying its visual quality. On the other hand, any intervention into a physical setting brings results and effects that are not limited to the object itself, but may also be in the way that the object and its surroundings are perceived, or in the total appearance of the application area in its bid to create a delightful streetscape and a dynamic visual street life. It is these results and effects that are the expectations of a successful intervention into a physical setting, and in our case, the covering of the façades skirting the northern entrance of Ankara, the Gestalt Theory of Perception will

consider two aspects: first, the geometry of the elements that combine to create the whole appearance of the façade of every single building; and second, the organization of the whole application area as a composition of buildings (Lang, 1987).

Throughout history, many objective and subjective dimensions have been introduced to evaluate the qualities of the physical environment surrounding people. In the case of the façade improvement along the protocol highway of Ankara, the façades of existing buildings along the route have been given a modern cladding. The best way to analyze the success of this application in creating a meaningful environment and a modern corridor befitting the entrance of the capital of a developing country like Turkey will be to consider this application both in terms of its structural geometry and objective qualities on one hand; and its subjective qualities, which are dependent on the understanding of the individual, on the other.

As mentioned before, Gestalt theory is mainly based on the organization of the parts or units of a whole segment and an analysis of the relationship between the two under two main principles: figure-ground effect, and grouping principles.

2.1.1 Figure-Ground Effect

A figure is something that lies on top or in front of a background. It is the quality that gives shape to the figure on an unshaped background (Rock, 1975), and principles of orientation, contrast, size and symmetry can sometimes help in the recognition of the figure within its background. Modifications or changes to these figures are easily noticeable by the observer and can fundamentally change the whole character of the composition, but changes in the background need more attention if they are to be recognized (Hesselgren,1969). While considering the façade covering of a single building in our case study, the aluminum contours around the openings make them stand out from the background of the clinker panels. On the other hand, the designer's employment of a completely new and modern material in contrast to the old material used in the rest of the townscape could be interpreted an intentional application to highlight the Greater Municipality of Ankara's services to its citizens, and creating a completely modern appearance that is proper for the entrance to the capital of Turkey.

Since Gestalt means the relationship between the whole and its parts, the shape, form, pattern, and configuration of the elements (Günay, 2007) are the main concerns of every composition. In this sense, composition principles are introduced to create a framework for the practice of Gestalt.

2.1.2 Composition Principles

The visual organization of elements creates a combination that is governed by the laws of Gestalt in terms of composition principles, revealing the unity of the elements when observed as a whole segment. In the case study façade improvement application the composition of the facades will be studied first at the scale of a single building, and then considered as a combination of buildings. The aim here is to investigate the success of the application in creating a unite combination or a "segment", which is one requirement of a successful streetscape. Symmetry, inclusiveness, unity, harmony, regularity, conciseness, and simplicity (Lang, 1987) are some of the compositional principles to mention.

The figures show that the compositional principles governing the combination of clinker panel claddings in the case study area are to a great degree dependent on the structure of the existing building façade. This makes it apparent that the aim of the application was merely to change or improve the appearance of the individual façades rather than create a meaningful streetscape as a companion to the northern corridor of the city. "Improvement" in this sense means "beautification", and has been carried out through the introduction of a new material that is of a different color and texture to the existing façade of the buildings.

Figure 2.2 Façade improvements through the use of new materials with respect to the existing composition

Source: Personal archive

Figure 2.2 illustrates the difference between the "before" and "after" of the application area. Though the attachment of a new façade to a building's exterior, generally only to the front elevation of the building, is not welcomed in architectural forums, a comparison of the two figures above shows that the *simplicity* of the new composition creates a more appealing appearance than the rug pattern and its awkward combination of colors though the former appearance of the buildings seems to be more belonging to the building than the final appearance.

The basis of our approach to the subject of façade compositions in the case study takes the form of two important evaluative methods: firstly, an analysis of the composition principle and the Gestalt principles of every building as an individual subject of study; and secondly, an analysis of the whole composition of the application area as a segment of the townscape. Due to the length of the application area, the subject will be studied in continuous sections and subsections that make up the northern part of the city entrance corridor, and it is the study of the compositions of these sequences (Beautiful Ankara Project, Competition Specifications, 1991) that is the objective of this thesis.

Here the composition principles will be studied under the subjects of *harmony (*in term of material and colors*), contrast, balance, order, and unity* (Koberg and Bagnal, 1974). Considering the composition principles of the facades it is obvious that the designer has tried to follow the former composition, with the aim of creating

the minimum change in the total appearance of the building as the application has been carried out to single façades or at most the facades that are visible from the street. However, an important fact that the designer appears to have overlooked is the great difference between the new and the old materials. The former composition was created through the use of façade paints with no mass, but the final application is done through the employment of 24mm- thick panels which imposes a mass onto the façade of the buildings. However, copying the former compositional principles may not have created a satisfactory result, especially when the details are considered as a stylistic incompetence (Cullen, 1961) of the builder. Figure 2.3 offers a comparison of the former and the after appearance of a single building in the application area. From this example it can be concluded that the covering to the curved shape at the top of the building was difficult to apply, especially when looking at the aluminum contour framing the edges of the clinker panels. This provides that triangular shapes in the facades of the buildings were difficult to form through the use of a thick and inflexible material.

Figure 2.3 A comparison of the before and after of one particular building in terms of the details

Source: Personal archive

Underestimating the effects of the use of different materials with different thicknesses, colors or textures can directly affect the final appearance of the built environment and the meaning it conveys to the people. Considering the composition of the building in relation to the background environment, in the example below it is obvious that the previous façade appearance, despite its weird patterns, conveys

more of a sense of “belonging to the building” than the later appearance of “volume” on the new façade on the building.

Figure 2.4 Volume created on the façade of the building

Source: personal archive

Such a consequence to a great degree has been the result of a completely different material, so that the final façade covering looks more like it is hanging on the building rather than being the building’s actual exterior surface. Considering these buildings in relation to the rest of the townscape behind we can see that the improvement application falls short of creating a new language, the final appearance of the new façades in the background of the existing townscape creating more of a sense that these facades have been borrowed from another city scene and installed onto the existing townscape.

2.1.2.1 Analysis through Contrast

Contrast means the differentiation between two parts of a combination in terms of physical qualities, colors, texture, etc. which make them recognizable through the combination of the parts (Koberg and Bagnal, 1974). In the case study area, at the scale of individual buildings there exists an obvious contrast between the two elevations of the building. The conceptual difference between the old and traditional side façade of the building, which is completely visible car-bound and pedestrian

observers alike, and the modern clinker panel façade covering with its aluminum contour, highlights the presence of the façade cladding.

Despite the difference in material, the colors used also create a degree of difference between the two elevations of the building, as can be seen in Figure 2.5. From this figure it is obvious that there is no contrast between the elevations in terms of the physical shapes and forms because of the coherence of the elevations in terms of their structural composition. However, the color and texture of the material is completely at odds with the materials used to cover the rest of the elevations of the building, indicating that the choice of materials and colors has been made completely disregarded the existing characteristics of the buildings: a layer of red and yellow panels is being installed on a building with green or pink façade colors, with no attempt by the designer to at least paint the side elevation into a more complimentary color.

Figure 2.5 Contrast between the modern covering and the rest of the townscape

Source: personal archive

Considering the façades of the adjoining buildings as a sequence or segment, the repetition of the same façade covers, in terms of both color and material, creates monotony (Lozano, 1990) because of the sameness of the units, as shown in figure 2.6.

Figure 2.6 Monotony of the streetscape through the use of the same colors and materials

Source: personal archive

The use of contrasting colors and materials is one way of creating depth, especially when facades are considered. In the case of the buildings on the protocol highway of Ankara, the structural composition of facades in terms of the recesses and projections is quite poor. The employment of a thick layer of cladding onto the same structural composition of facades with a low degree of recess and projection causes the segment to be perceived as a "wall" rather than a meaningful segment, conveying the sense of a residential area. In this sense, the employment of contrasting colors rather than analog ones could be an important step towards achieving a meaningful character in the streetscape, as contrasting colors or materials can create visual mass or depth on a building, and thus break the monotony of a streetscape by creating *variety* (Lozano, 1990). Variety is a quality of diversity, but in creating diversity it is important to maintain the unity of the whole, or unity-in-diversity, so as to prevent *chaos* (Lozano, 1990), as shown in figure 2.7.

Figure 2.7 A proposal for creating variety by means of contrasting colors

Source: personal rendering

In terms of the compositions of the facades within themselves, two main methods are followed in this study. The first is to analyze the façade combinations of the applied elevation itself, and second is the composition of a view encompassing the applied and the unclad facades together as a combination.

2.1.2.2 Analysis through Harmony

Harmony can be described as a character of "good figure" (Lang, 1987), demonstrating the pleasing arrangement of the parts. It engages the viewer and creates a sense of order and balance. In fact it is a dynamic equilibrium between the monotony (Lozano, 1990) of the extensive unity, or the sameness and chaos (Lozano, 1990) of the extensive complexity. Considering the façade of the buildings in the case study as individual units, the harmony of the colors used is the subject of this study.

In the façade improvement application of the northern entrance to Ankara, clinker panels and aluminum contours were used to give the desired appearance of a corridor into a modern country. Disregarding the debates on the propriety of this material in terms of its physical characteristics and price, an important factor was the choice of colors in relation to the buildings and the townscape in which they are located. A brief inspection of the facades of the subject buildings shows that there has been an attempt by the Municipality to enhance the harmony between the colors of every single façade. The choice of red and yellow clinker panels is a result of this attempt, these two colors being analog colors, and as such, in harmony.

Figure 2.8 The harmony of the analog colors in individual façades

Source: personal archive

In the case shown in figure 2.9, the red clinker panels have been applied to the elevation and aluminum contours frame the windows of the façade, but the actual application area of the clinker panels, creates an obvious chaos given the combination of different colors of the side façades. The red panels have been attached to the building with orange balconies on the front façade, while the side elevations are painted in a light cream color on a background of grey and pink façade colors, creating extreme complexity and resulting in chaos in the visual quality of the environment.

Figure 2.9 The chaotic employment of colors

Source: personal archive

Considering the side elevation of this building, it is significant that not only colors but also the material differentiations of the different facades of the same building combine to form an unsuccessful appearance. In these cases the building cannot be observed as a total whole or as a single entity, but only as a building with a façade attached to it that has no common characteristics. The façade cladding creates a language that is removed from the language of the building itself within the townscape, and this is the most important factor affecting the legibility of the streetscape and its ability to be easily understood by the observer.

2.1.2.3 Analysis through Balance

Balance is another principle governing the composition of the parts, referring to the stability of the parts in creating a whole (Koberg and Bagnal, 1974). Balance can be achieved by means of symmetry, which will be discussed later, or by means of the colors, values, texture and shape of the parts of the composition. Figure 2.10 shows the employment of a layer of aluminum to cover the upper parts of the façade projections, which creates balance with the contoured covering of the balconies. The brightness of the aluminum strips on the façade balances the lusterless balconies clad in the clinker panel. Another approach to the principle of balance in this figure can be the desire to achieve balance by means of highlighting the top part of the composition projection to hide the asymmetry of the windows on the upper part of the façade. This shows the designer has attempted to create symmetry through the use of a degree of balance.

Figure 2.10 The balance of façade elements

Source: Personal archive

As can also be understood from the figure above, the designer has attempted to obey the principles of balance at least at the scale of the individual façade covering, but in terms of the problem of the balance of the whole streetscape, it seems that there has been an attempt to find a balance between the “new” and the “old” by trying to follow the structural composition of the building frontages. Balance in this case is aimed to be achieved by using a single type of material with the same texture and a maximum of two different colors, as opposed to the chaotic complicated urban

patterns of the rest of the townscape. In this application ornament is in its least degrees, and aside from the contours around openings and the corners of the façade cladding, which are applied to conceal the thickness of the cladding material, it can be said that there has been an intention to avoid in the employment of ornament to decrease the complication of the townscape by means of employing new and simple modern facades that draws attention more than the rest of the townscape.

2.1.2.4 Analysis through Unity

Unity is another principle of composition, dealing with the recognizable collectiveness of the parts in the whole (Koberg and Bagnal, 1974). Unity is the harmonious combination of elements, achieved by means of similar colors, texture and materials. In the case study it is clear that problems exist in the visual unity of the streetscape. Taking a look at the buildings on an individual scale, the modern façade attached to the front elevation of the building has no coherence in terms of material, color, texture, etc., and so it can be said that there is no unity in the composition of the front and side elevations of the building. The final appearance of the building results in a perception of the building as two different units. Magnifying our scale and considering the building façade in relation to the rest of the townscape behind creates no new results other than those mentioned before. When façade coverings are considered as a segment of the townscape, the uniformity of each single façade affects the overall appearance of the building, and the use of the same colors and materials rather than similar ones affects the unity of the streetscape in a negative way. This results in the final appearance of the streetscape being a wall attached to the buildings, rather than an improved façade covering.

2.1.2.5 Analysis through Order

Order, on the other hand, is the "recognizable pattern of organization to the whole" (Koberg and Bagnal, 1974). A combination of repetitive patterns and changes in those patterns in a stable paste of walk sustains the organization of form (Lozano, 1990), and so order is dependent on patterns that are changing. Unity is achieved when all the separate elements making up the composition look as if they belong together (Lozano, 1990). The thorough appearance of the streetscape conveys no sense of "belonging togetherness" (Günay, 2007) as long as the façade coverings

appear to be not in keeping with the background of the townscape due to great differences between colors, materials and textures.

When questioning this quality in the composition of the application area, we should first understand the real objective and intention of the designer or the Greater Municipality of Ankara tin making this application, which were two-fold: The façade attachment application was carried out on the two elevations of the buildings aligned to the curves of the highway. This shows that the intended beneficiary of the application are, to a great degree, visitors to the city travelling by car from the airport, who catch a glimpse of the modern streetscape. However, there are two sides to the highway, and while the alignment of the façade cladding will be visible to one side of the highway, the traffic coming in the other direction will be able to view the unclad façade of the other elevations. As such, the application falls short of improving the total appearance of the application area. For this reason the Greater Municipality of Ankara is planning to start a second phase of the application to address the third elevation of the buildings along the highway.

Variety in the urban pattern is missing from the application, and it is in fact the degree of differentiation within the pattern (Lozano, 1990) that helps us to extract meaning from the pattern. In viewing the final façade composition, it becomes apparent that the use of the same color and material blinds the visual perception, creating *monotony* in the urban pattern, which in this sense is the lack of visual messages (Lozano, 1990).

The complicated urban pattern along the highway has created chaos (Lozano, 1990) due to the excessive differentiations in the urban pattern related to irregular urbanization. Though the employment of new façade claddings clarified the streetscape and camouflaged the complicated urban pattern of the townscape, the sameness of materials and colors created a monotone image that annoys the visitor traveling along the highway, and thus going against the initial objective of the application, which was to make the entrance to the city imageable and meaningful to its visitors. In this respect, the main aim of this study is to investigate the proper degree of use of these differentiations that result from the use of similar elements, which can be perceived as rhythm in the whole pattern (Lozano, 1990). It is the similarity of the patterns on the urban scene rather than their sameness that has

created monotony, in this case. There are, however, different ways of reducing the monotony of the urban pattern: one being to create a proper degree of variety in materials, colors, forms, textures, etc.; and another way being the employment of city furniture, such as lighting and greenery, to sustain the rhythm and create variety in the pattern of the streetscape, as can be seen in figure 2.11. Surprise, on the other hand is another way of creating variety, by breaking the expectations from the ordered pattern (Lozano, 1990).

Figure 2.11 Variety through the employment of city furniture and foliage

Source: Personal rendering

Another factor that was not taken into consideration in the façade improvement application was the improvement of the business signage, which also adds to the façade composition of the buildings. There seems to have been no attention paid to the arrangement of these boards, which cover a specific area on the façade of the buildings and can result in visual pollution when considered together in any segment of the townscape. Figure 2.12 shows the visual pollution created by the complicated arrangement of signboards.

Figure 2.12 Signboards attached randomly to the frontage of buildings

Source: Personal archive

2.1.3 Grouping principles

During the 1920s, Gestalt theory was introduced through the works of Max Wertheimer, Kurt Koffka and Wolfgang Kohler. According to Wertheimer there are three rules to be followed if the sense of "belonging togetherness" in the elements of a composition is to be achieved: ***similarity***, ***proximity*** and ***continuity*** (Behrens, 1998). Later, Gestalt psychology introduced other principles that affect the perception of the observer, along with the three rules mentioned above. These are principles that make it possible to understand some units as distinct from each other, or other units as belonging together, and can be defined as followes:

1. Proximity: The quality of perceiving the closer units as a single entity. As an example, in the following figures it is clear that a specific distance between dots makes them look like a single entity, while a small change in their position affects the whole perception of the subject and the black dots are thus perceived as belonging to the organization of columns rather than rows.

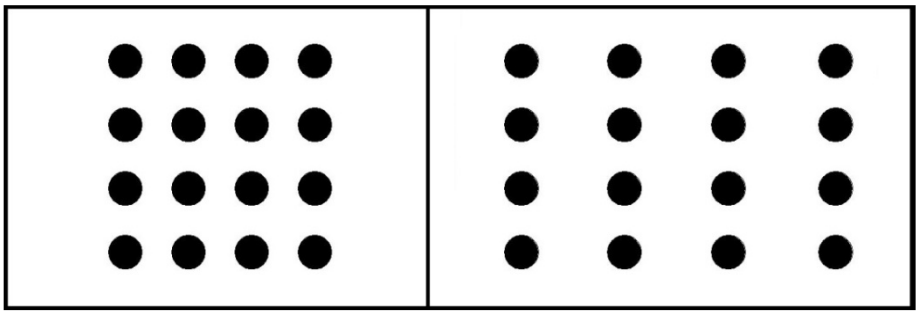


Figure 2.13 Law of proximity

Source: Rock, 1975: 255

From the composition of the façade coverings along the protocol highway it can be seen that although the application has been carried out to almost every building between Aydınlıkevler district and the Esenboğa Airport, due to the great distances involved, especially along the parts that are closer to the airport site, there are differentiations in the perception of different segments of the corridor. In segments where there is some distance between buildings, the façade

claddings of the individual buildings are perceived as individual compositions of a façade on the background of the unapplied townscape. In this sense, the compositional rules of contrast and harmony, etc. can be questioned within the framework of this composition according to the rules mentioned previously. The effect of the other buildings decreases under the governing principles of the composition. On the other hand, the proximity of the façade coverings located closer to Aydınlıkevler district brings a perception of the facades as a single entity from the point of view of an observer traveling by car at a specific speed, as the intended beneficiary of the improvement application. However, as soon as a traveler turns their attention to the other side of the street, the awkward appearance of the unclad elevations interrupts their perception of the application as a single surface that covers also the side walls of the buildings. This interruption decreases rather than consumes the unity and "belonging togetherness" of the application area due to the small scale of the old ugly side elevations. Consequently the second phase of the application aims at covering the third elevation to block the views into the complicated pattern of the townscape on the background of the modern and presentable facades of the buildings. As such, there is an effort to present the buildings as a showcase along the protocol highway as modern buildings of a modern city.

Figure 2.14 A view of buildings without proximity to others

Source: personal archive

2. Similarity: The shape or colors of the individual units which are similar to each other are observed as belonging to a particular group. In the next figure the

whole composition is divided into a combination of two groups of dots related to the difference in color.

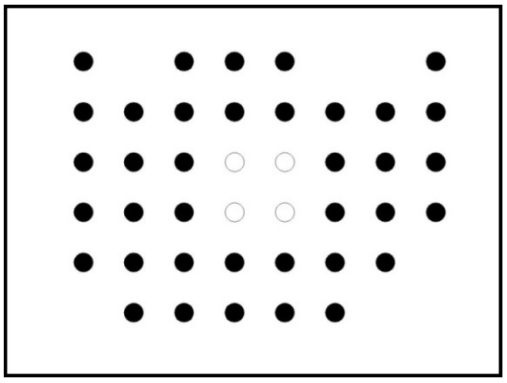


Figure 2.15 Law of similarity

Source: Kohler, 1969:57

In the façade improvement application the interventions create two different types of structures in the setting; the old and maybe traditional structure, and the new and modern one. The success of these interventions depends on the degree to which these two different typologies "get along" together. It is an equilibrium of the old and the new, or the modern and the traditional. In this sense, in any composition considering this application area, there exist two entities, and the main aim of the composition should be to sustain the belonging togetherness of these entities. The most important rule governing compositions of this kind can be considered as similarity, which reinforces the unity of the composition. In this sense similarity can encompass any similar colors, shapes, textures and forms employed in any composition of the façade of the buildings. In the case study, the employment of a completely new cladding on the background of the existing townscape results in the perception of the streetscape as composing of two units; the "old" and the "new". The similarity in this case is achieved through the employment of analog colors and similar patterns along the application area. Though the use of the same material of the same color and in the same order, including the frames around openings, decreases the sense of place by creating sameness (Lozano, 1990), it is obvious that similarity is an important characteristic in the perception of the application area as a separate streetscape. Although there have been attempts by the designer to reduce the sameness or

monotony by means of at least employing different compositional principles of the same material and color, it is obvious that the number of buildings with such façade coverings are so few that it does not affect the whole composition of the streetscape, and most of these compositional differentiations are related to the structural differentiations between buildings, rather than the designer's intention to create variety through similarity. Figure 2.16 shows two examples of the differentiated facades patterns that create compositional differentiations between buildings.

On the other hand considering the streetscape with respect to the townscape behind the façade coverings, the dissimilarity of the materials, colors, textures and even concepts in terms of the modern and traditional, creates problems in the way the application area is perceived.

Figure 2.16 Intended differentiations in façade compositions

Source: Personal archive

3. Continuity: This indicates the preference to perceive segments which have a smoother angle of continuance as a whole entity rather than sharp connections of different segments (Rock, 1975). An explanatory example is given here, where the two lines are perceived as AB and CD rather than AC and BD.

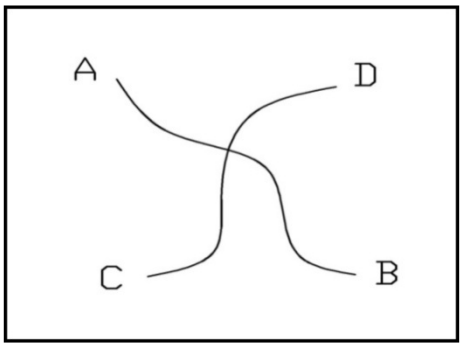


Figure 2.17 Good continuation

Source: Rock, 1975:254

Continuity in Gestalt means the preference to perceive continuous figures. The importance of this principle in creating a meaningful townscape is so great that in the competition specification of the Beautiful Ankara project, published in 1991, the jury's idea was the design of the backbone of the city to be in the form of continuous sequences, creating a corridor. The term "sequence" itself, indicates the importance of continuity along the protocol highway of Ankara, meaning that the design of the entrance of to the heart of the city and from there on to the Presidential Palace should provide continuous visions for the observer. It should reinforce the sense for the observer that he is passing from one sequence into another. In the subject of this case study, this passage is quite troublesome due to the ambiguity created by the employment of modern materials as building claddings which are in contrast with the rest of the townscape. This great degree of conceptual contrast results in the perception of the claddings as a single entity. This means that, at first glance, the contrast between the "old" and the "new" attracts the observers' attention more than the patterns employed in the façade compositions. So there exists a perceptual break in the way the townscape is perceived along the highway. On the other hand, neither the beginning nor end of any segments of the application area (Cullen, 1961) are taken into consideration by the designer, and the application area itself falls short in creating a sense of continuity due to the monotony of the streetscape. All along the course of travel similar patterns and colors are employed without being interrupted by the employment of any rhythm. On the other hand the existence of unapplied facades due to their structural problems reduces the sense of continuity by breaking the appearance of the claddings.

The employment of foliage, lighting, benches and other furniture can sustain the continuity of the settlement by creating rhythm throughout the streetscape of the application area.

4. Closure: Units that form a closed figure are perceived as a whole. Even if the enclosure is not complete, the ability of a person's perception in filling the missing parts makes the pattern easy to read. In the following figure the curved line is not perceived a continuous single line, but rather as two distinct parts coming into contact at one specific point. The reason for such a perception is due to the law of enclosure governing the perception of the curves.

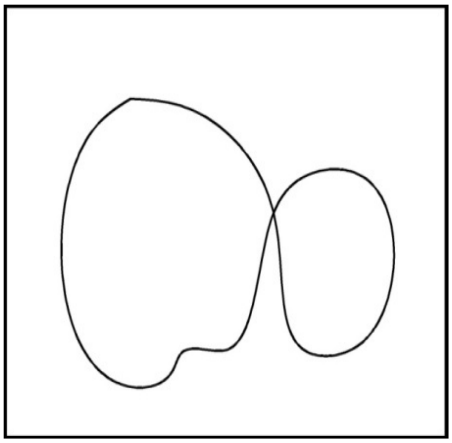


Figure 2.18 Law of enclosure

Source: Rock, 1975: 258

As in the case of modern residential buildings, which are not perceived as compositions of flats but rather as "rectangular blocks with repetitive patterns" (Guy, 2002), in the façade application area of the northern corridor of Ankara the structural characteristics of the buildings maintain a sense of closure. In most of these buildings the projection of the residential flats from the recesses of the commercial units on the ground floor of the buildings at roughly the same height as the adjoining buildings give the impression of closure to observers passing by. But considering the compositions of the application area, which is our subject of study, it is clear that the claddings fall way short in conveying a sense of closure, as long as the claddings are applied to only visible facades of the buildings leaving other elevations naked. This

creates problems in the perception of the application area and the observer cannot guess the missing parts.

Figure 2.19 Closure of the streetscape by means of corners

Source: personal archive

5. Symmetry: Symmetry is an important principal of Gestalt in describing the perception of a whole rather than its units, stressing upon the domination of some principles by others. As an example, in figure 2.20 the principals of symmetry and closure have a great effect on the perception of rectangles rather than columns.

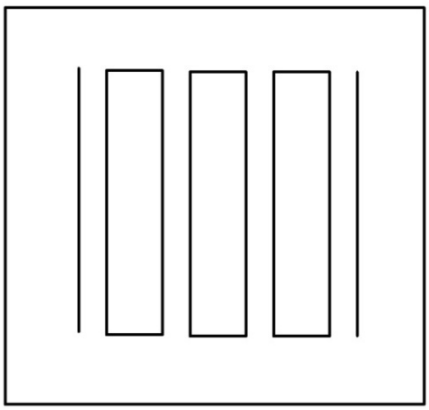


Figure 2.20 Law of symmetry

Source: Hesselgren, 1969

The symmetry of every façade of the application area in terms of its composition is achieved by the symmetry in the form of the buildings, because the façade improvement coverings are just a copy of the existing facades, adding nothing new in terms of objective qualities other than new materials to the existing façade. An example of symmetry in façade composition is demonstrated in the following figure.

Figure 2.21 The symmetry of the front elevation of a building

Source: personal archive

Any symmetrical composition is observed as a closed figure. This means that symmetry is a quality that is understood when the whole of a figure is perceived rather than its parts. The facades along the protocol highway owe their symmetry to the structural composition of the buildings. In most parts of the application area the same structural principles have been followed for the design of the buildings, and related to this the same pattern contributes to the composition of the façade of the individual buildings. In this sense, the frontage of the building has symmetry by means of the building's structural characteristics, which are framed with the aluminum contour around the corners of the application area on the front elevation. However, coming to the case of the streetscape as a combination of these buildings, due to the employment of the same patterns, which seem to be copies of each other, there exists no sense of a whole symmetry that governs the composition of the streetscape. Though the repetition of exactly the same pattern can be respected as a clear symmetry as in some parts of the segment once again the monotony of the total streetscape highlights the need to use a different type of compositional symmetry.

Such a symmetry should be able to govern the whole composition rather than only specific random parts as long as the symmetry of these parts does not support the symmetry of the whole application area. Figure 2.22 shows the symmetry of a part of the application area with adjacent buildings, which do not seem to have symmetry when considered as a composition.

Figure 2.22 Symmetry of a unit does not support the symmetry of the whole

Source: personal archive

2.1.4 Law of Prägnanz

Prägnanz, or simplicity, is a quality of human perception which simplifies and regulates our perception. The concept, introduced by Wertheimer, holds up properties such as symmetry, simplicity or regularity as measurers of a "good" psychological organization (Koffka, 1963: 110), and puts forward that the human visual system reduces the reality into the simplest forms to understand. As shown in figure 2.23 the image is perceived as a composition of circles rather than complicated curve shapes. Here, the perception of the form is carried out through the perception of abstract parts and sequences.

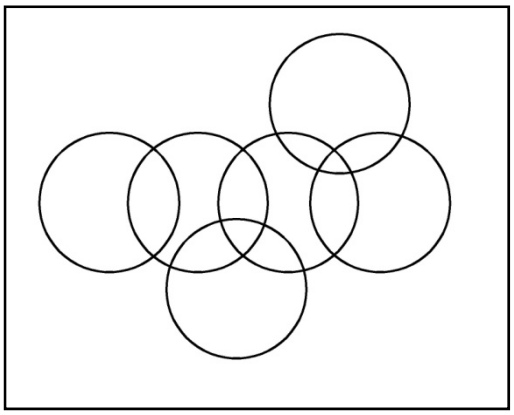


Figure 2.23 Law of prägnanz

Source: Personal rendering

From the simplicity of the new composition through the use of analog colors in the case study, the regular shape of the elements and the total simplicity of the façade composition make it easily distinguishable from the background of the complicated patterns of the townscape, featuring different colors and different textures, as demonstrated in the figure 2.24.

Figure 2.24 A segment of the streetscape, containing the "old" and "new" together

Source: personal archive

Gestalt Laws of Perception prove helpful in creating a sense of place in the urban fabric, although they are not the only factors creating legibility and imageability in the environment. The ambiguity of these laws through Prägnanz, related to the uncertainty in the way the brain's functions are similar to processes in nature (Rock, 1975) on one hand; and the lack of attention to the third dimension and the role of movement (Lang, 1987), highlights the need to take these principles into account along with other principles and theories in perceiving the physical environment.

2.2 Subjective Dimensions

When dealing with the public appearance of the streetscape the aim is to control the visual character of the setting. In order to understand why some interventions into the physical setting are more successful than others in creating meaningful townscapes, it will prove helpful to take into consideration the subjective qualities or dimensions resulting from an analysis of the characteristics of the physical space. Subjective qualities depend upon the interpretations drawn by individuals from the environment around them, and as humans are the subject of these qualities, it is quite obvious that interpretations will differ from one user to another. There are. However, some subjective qualities are global enough to be independent of personal judgment. As such, the second part of this study will consider these subjective qualities, and the interpretation of the physical setting by the individual.

Urban design aesthetics in this sense concern responses to the content of the forms or the meanings they convey under the title of *symbolic aesthetics* (Lang, 1987). The built environment is full of messages and meanings that affect a person's feelings about the environment. The physical setting beyond its functional use should be capable of conveying meanings and a symbol as the result of this cognitive process. There exist different approaches to the concept of symbolic aesthetics of the built environment in the wide range of literature available on the subject, and many different characteristics of the built environment can be named as important factors in carrying the meaning of the physical setting; with building configuration, spatial configuration, materials, colors and illumination being just a few (Lang, 1987). These are attributes of the built environment that can be a symbol of meanings. The subject of this case study is one application that should have been designed taking into account its symbolic meaning. The Transformation Project of the northern entrance of Ankara in 2004 aimed at changing and improving the living quality of the neighborhood, transforming it into a more attractive and inviting district with a sense of place. Along with the goals of this project in 2006, the façade improvement application was begun by the Greater Municipality of Ankara, aimed at transforming the visual qualities of the corridor of the northern entrance of the city. Given the political importance of this corridor, this visual improvement plays an important role in the attraction of visitors. The term "inviting" is the most fitting expression for the

desired characteristics in the appearance of the buildings, and was the main aim of this application. An alternative way of improving the success of the application in an attempt to create meaningful streetscape will be to consider the symbolic aesthetic value of this intervention into the physical setting. The entrance to any city plays a vital role in introducing the city to its visitors, and the streetscape of the entrance is considered as a showcase for demonstrating the active and modern life of the city. In terms of the northern entrance of Ankara, this was supposed to represent the modern life of the people living along the corridor, and the employment of modern clinker panels with aluminum contours is, to a great degree, related to this. One problem that has become evident here is the great difference in the styles of the buildings after the use of the new material, as an important characteristic of a pleasant streetscape is to encourage order by referring the buildings to typical styles (Nasar, 1994) without creating monotony or boredom.

On the other hand, there should also have been an attempt to preserve the historical and traditional values of society through the materials or colors used. As such, the façade claddings along the protocol highway should not only represent the modernity of the city on the verge of the 21st century, but should also take inspiration from conventional values. As an example, the choice of materials could have represented the history of the area, while also displaying the modernity of the present time. The traditional material to cover most of the buildings in the city is the famous stone of Ankara named “andesite”. Considering the case study, we can accept the employment of red and yellow colors of clinker panels as a representation of the andesite stone of the old Ankara. But except this, no other attempts can be recognized in the application area to preserve the historical value of the city.

In the physical interventions of the human race into settlement around them, one way to understand the individual interpretation of the people from these interventions will be to first understand the concept of urban image, which is a representation of the understanding of people from the physical setting around. An urban image is a combination of the different parts and elements of the townscape that create the basis of the relations between a person and his/her environment. Any urban image should have three main characteristics:

- Identity, or the specific characteristics of the environment that separate it from others environments.
- Structure, or the organization of the parts and the wholes
- Meaning, or the conductivity of the environment in conveying emotion and practical meaning to the observer (Lynch, 1960).

In any intervention into the physical setting of a city, these three qualities should be maintained, as cities have a great ability to satisfy the psychological needs of their inhabitants. If the renewal of the frontage of the buildings along the protocol highway of Ankara is to be considered as an intervention of this kind, it should obey the same rules of creating a successful urban image. In this case, the identity of the application area is of great importance, given its role as the only entrance to the capital of Turkey from the Esenboğa Airport. The political importance of this corridor highlights the need for a streetscape with a well-defined identity and character; and the *legibility* of the urban image is crucial in the creation of such an identity. The identity of a place evokes the recognition of that place (Lynch, 1981). Legible environments should have distinctive characteristics that define the identity of the urban image. The structure of the urban image is studied in the previous part of the study about the objective qualities of the urban environment. Lastly, the urban image should be capable of transferring meaning to the observer of the environment. A satisfactory urban image should be capable of making sense and legibility as one of the elements of sense (Lynch, 1981).

Legibility is a quality in composition where the elements creating the composition are organized in a coherent pattern (Lynch, 1960). As such, any physical setting should have an image that is easily identified and legible. Interventions into physical settings, on the other hand, affect the legibility of the pattern by creating a new language that is supposed to convey new meanings to the observer. The new language should not break, but rather improve the legibility of the physical setting, and should be in coherence with the old language of the setting. As a result the image of the physical setting must be adoptable to the interventions and changes of the physical structure.

However, the imageablity of the physical setting should not be neglected, as it is a subjective quality in evaluating the streetscape that is defined differently to legibility

(Lynch, 1960). Imageability is in fact the ability to conduct a good conversation between the observer and the environment. The more a city is imageable, the higher degree of sense it evokes for its citizens. Legibility differs from imageability in that it means the ability of objects within the urban pattern to be easily recognized. In this respect legibility creates a sense of orientation; while imageability means the distinctiveness of the pattern. In this sense, the aim of this study is to investigate the legibility and imageability of the patterns created along the protocol highway of Ankara. In terms of legibility, as mentioned before, *orientation* creates our scale for the study of this quality, being a matter of time and place (Lynch, 1981). There are different means of orientation, such as mental maps, navigation, and following, and remembered series of images of the urban pattern. Orientation is the equivalent of order in the urban environment (Lozano, 1990).

In the case study, the employment of the same materials and colors with similar compositions on the facades of the buildings has created a sense of monotony, which is in contrast to the chaos of the townscape created by the other buildings. The great degree of similarity between the materials and compositions, which is in fact sameness rather than similarity, affects the perception of the streetscape and makes it impossible for the observer to find clues (Lozano, 1990) within the pattern of the streetscape to orient them to the physical setting. Once the observer enters the application area and begins their journey through the streetscape of modern facades, the first shock is in the great difference between the existing pattern of the townscape and that of the modern façade coverings, affecting orientation to the physical setting. Later, the monotony of the colors and shapes, containing neither rhythm nor surprise, decreases the sense of orientation and makes it hard for the observer to understand their location, and what is going to happen next.

Another subjective quality in creating a satisfactory streetscape is the concept of "serial vision" (Cullen, 1961), which are sequential images of the urban scene, representing the physical setting that is observed from the points of view on the plan. A serial vision of the application route allows the success of the application to be investigated. Sequential pictures have been captured at a uniform pace while traveling along the corridor, as can be seen in Figure 2.26 in the order that they were taken. It is obvious that the sequential views of the north entrance corridor of Ankara fall short in conveying a sense of drama and discovery. Once again the monotony of

the façade coverings, with their unique geometries, decreases the meaning of the place in the sense of serial vision. The absence of recess and projections on the facades of the buildings on one hand; and the variety of colors in the existing townscape and the absence of the rhythm in the pattern on the other hand, blind the perception of the place the observer is located and the place beyond.

Figure 2.25 Photo key of the figure 2.26

Source: Personal archive

Figure 2.26 The serial vision of the townscape along the protocol highway

Source: personal archive

According to Cullen (1961) views of the townscape can be split into two categories: the existing view, and the emerging view. The existing view considers the current and immediate views of the streetscape; while the emerging view considers places that appear to be accessible from the current place of the observer, and this defines Cullen's concept of "hereness" and "thereness", which designers should be aware of. In this sense, the segments of a physical setting are introduced, and in the case study the visible segments created by the attachment of new materials to the facades of the buildings are shown in figure 2.27.

Figure 2.27 The visible segments of the existing streetscape

Source: Personal rendering

This figure makes it clear that at the beginning of the application area the segments of the streetscape are denser and more ordered. The further we travel along the protocol highway, the longer the distances become between the façade improvement applications. This is due to the existing characteristics of the highway, which features less residential blocks near the Esenboğa Airport; and is also dependent on the structural deficiencies of some buildings, which prohibit the attachment of new facades.

The beginning and the end of every segment of the streetscape should be well defined. The points of entry and departure, along with shifts in views that attract the observer, create a positive emotional reaction against the physical setting of the streetscape. In a successful streetscape the connecting points of each segment should be well-defined, as the final appearance of the streetscape should give the impression of being a chain of events. Figure 2.28 gives two examples of observable segments of the streetscape. Considering all of the random segments observed in the application area it can be seen that the façade improvement application has failed to pay attention to the organization of these segments. Rather, it appears as if the designer's only aim has been to conceal the awkward appearance of the complicated streetscape, with no attention paid to the creation of segments in the streetscape. The visible segments of the streetscape are not gained as a result of the design concerns of the designer, but rather through the proximity of the buildings, and it is impossible to notice the beginning and the end of every segment due to problems in their definition.

Figure 2.28 Two examples of the visible segments along the protocol highway

Source: Personal rendering

The concept of “thisness” and “thatness” (Cullen, 1961) is not defined due to the inadequacy of the connection points of the segments. In the case study, the intervention into the physical setting appears in the form of a mere improvement to the facades of the buildings along the protocol highway. This highlights the problem of there being a lack of identity and meaning of the area and the deficiencies in creating a successful townscape. Traveling along the highway, the monotony of the streetscape and the problems in defining each segment blinds our perception. It becomes impossible to recognize ones’ position and to predict what is ahead. The curiosity of discovering the next point in the sequence, and subsequently move to another place is devalued, and these are the reasons why the streetscape cannot convey the sense of being a corridor to the heart of the city.

There are different ways of investigating the subjective qualities of a physical setting, with verbal analyses, semantic ratings and checklists, being just a few. Subjective measures in fact consider the interaction between the subject and the interpretation of the situation and the object of the study, and there have been many empirical studies into the subjective qualities of the physical settlement. The main aim of interventions into the physical setting should be to improve the “pleasantness” of the area (Nasar, 1994). To avoid boredom in the streetscape, as the theme of this thesis, variety should be encouraged. There are some characteristics which maintain the pleasantness of the streetscape, such as ordering elements (compatibility), familiar and historical elements, moderate complexity, moderate discrepancy from the prototype, and the use of popular styles, which are just some that can be mentioned (Nasar, 1994). Considering the facades of the buildings along the northern part of the protocol highway of Ankara, it is obvious that the application has failed to pay attention to the employment of historical elements. Even though the aim of the designer has been to improve the visual quality of the area, firstly by means of modern claddings to the facades of the buildings, the underestimation of the historical and cultural values of the citizens of the area had a great effect on the failure of the application in creating a successful townscape. The intended shift in the popular style of the application area and the creation of modern appearance along the highway against the backdrop of traditional buildings in the rest of the townscape has resulted in the streetscape taking on an “irritating” appearance, to which the modern cladding does not appear to belong.

In conclusion, the subjective and objective dimensions of the quality of the physical setting prove to be helpful in analyzing the success of interventions into the built environment in creating meaningful places. Objective dimensions depend on the physical qualities of the environment, and these are studied through compositional principles and the Gestalt Law of Perception. Subjective dimensions, on the other hand, depend on individuals and the meaning they take from the built environment around them, and as such depend on the interpretations of the individual. In the case of the façade improvements along the protocol highway of Ankara, as an example of a physical intervention into a built environment, the main aim of this study is to evaluate the intervention into the physical setting by evaluating the characteristics of the northern corridor of the city through comparison of the "new" and the "old".

This study uses evaluative principles in a comparison of the "before" and the "after" appearance of the streetscape to establish the degree to which this intervention into the physical setting has been welcomed. By analyzing the design principles, the success of the application area are revealed, and to this end an evaluative matrix is employed to compare the effects of the concerns of design on creating spaces which are capable of imposing meaning and effects on the observer. The next chapter of this thesis explains the scope of this matrix as the concluding part of the study.

CHAPTER 3

CONCLUSION MATRIX

The physical environment has significant effect on a person, who catches glimpses of his surrounding with every look. Any change in the organization of the physical environment, though not rapidly, can be recognized by the observer, and in this sense interventions into the physical appearance of the built environment can affect the perception of an observer. The latest attempt of the Greater Municipality of Ankara to improve the visual quality of the protocol highway has been in the form of such an intervention in the physical setting, the attachment of a new façade onto the visible elevations of buildings along the route. With the application of this new layer, an intervention is imposed onto the visual arrangement of the route. The facades of the buildings have been changed, but the main problem is that the new cladding has been applied only to two elevations of the buildings, disregarding the other elevations, which appear naked and old in contrast.

This intervention into the built environment was aimed at changing the appearance of the streetscape, and as such this study analyses the scope of the interventions with respect to the visual laws that guide our perception. The appearance of the streetscape is accepted as a composition of figures, patterns, colors and textures, meaning that composition principles and Gestalt Principles of Perception can be used for the evaluation of the visual quality and its composition. Other than these objective dimensions, subjective dimensions have also been introduced to evaluate the quality of the built environment, analyzing how people interpret the physical setting and extracting their own meaning from it.

In the previous chapter these dimensions were analyzed in great detail, while in this part all of the analyses will be gathered under a main topic in a bid to understand the obstacles that may hinder the creation of a successful streetscape. From the overall

appearance of the streetscape following cladding works it can be seen that there has been a degree of improvement in the visual quality, despite problems that have resulted from the reluctance of the designer to observe many of the principles governing design.

The analyses in the previous chapter proved that the intervention into the physical arrangement of the protocol highway of Ankara did not address all the main principles of design, complying with only a few of the subjective and objective dimensions introduced. When considering the whole appearance of the streetscape it would be fair to say that the façade attachment application had been effective at least in reducing the complication of the disordered patterns of the townscape. But the problem is that, the application compositions do not fit in with the rest of the townscape due to the great degree of difference between colors, material, and textures, which have contributed to a contrast between the "old" and the "new" and creates a streetscape which does not belong to that environment. It should be noted that the success of the application in setting at least the appearance of the streetscape along the protocol highway in some form of order is a feat that should not be underestimated.

The main goal of this chapter is to investigate the importance of these principles in creating a meaningful streetscape along the protocol highway. In doing so, the factors that have been more effective in forming the whole appearance of the streetscape are intended to be established, and to this end, a matrix of design concerns will be introduced to illustrate the principles of design, and their value in the application area. This matrix will link all the subjective and objective dimensions under a main topic, and their importance in improving the visual quality of the application area will be discussed.

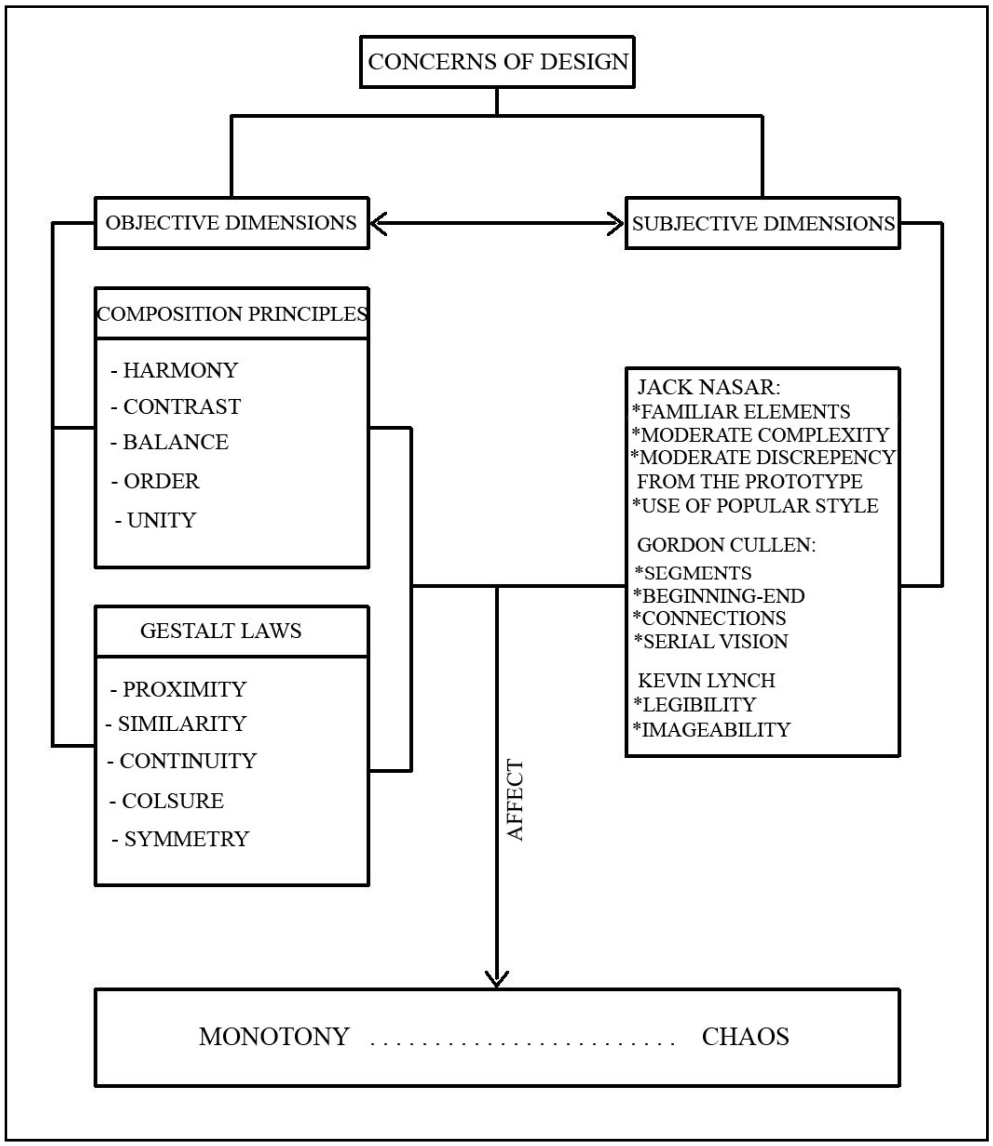
3.1 Design Concern Algorithm

Among many different approaches to the organization of the physical environment, this thesis has analyzed the subject within the framework of design principles. In the creation of a matrix of these principles, first an algorithm of design concerns will prove helpful in understanding the approach of this thesis to the subject. The visual

qualities of the façade improvement application of the protocol highway of Ankara were analyzed in this thesis according to the following algorithm:

Table 3.1 Algorithm of the methodology of the thesis

Source: Personal rendering



According to this algorithm, the balance between the objective and subjective dimensions directly affect the perception of the physical setting, placing it somewhere between monotony and chaos. In this case, the aim of the designer was to reduce the chaos created by the unpleasant combination of colors and patterns, which

was addressed with the application of a cladding material to the front elevation of the buildings. However, something the designer clearly underestimated in this application was the importance of the balance between the two ends of the scale. The analyses of the concerns of design relating to the modern facades of the buildings revealed a noticeable absence of a number of basic design principles, and our analyses proved that the subjective dimensions had also slipped out of the coverage area of the concerns of this application. In this sense, considering the façade improvement application of the Greater Municipality of Ankara, we can see that the balance of the algorithm of design concerns is being altered by the intervention into the built environment. In this case the choice of colors and materials affected the balance, adding weight to the monotony of the streetscape.

Traveling along the protocol highway of Ankara, the employment of façade claddings creates a streetscape which does not appear as a part of the character of the city because it cannot convey the sense of meanings. Though an important fact draws the attention of the observer that the streetscape seems to be more orderly and clean when compared to its previous appearance. This is an important point between the concerns of this thesis considering the analyses of the previous chapter of this thesis. The analyses revealed most of the main principles of design had been disregarded in the application; and so the main aim of this chapter is to investigate the qualities which sustain the order in the application area in the absence of some design principles. In this sense, it is would be fair to say that the main aim of the Greater Municipality of Ankara in improving the visual quality of the streetscape has been achieved to a slight degree of beautification; however, visual appearance itself is not enough to improve the quality of life the citizens. To this end it is of great importance to apply design concerns not only in terms of objective qualities, but also heeding the value to subjective dimensions.

3.2 Design Concerns' matrix

To understand matters affecting the visual quality of the application area, a matrix of design principles is introduced in this part of the study. The main aim in producing this matrix is to gather together all of the principles chosen as references in the study to allow an evaluation of the success of this intervention into the built environment.

With the employment of this matrix the advantages and deficiencies of these principles will be argued in detail, and in fact the matrix can act as a check-list when considering which design principles will be more advantageous in creating the final appearance of the streetscape along the protocol highway of Ankara.

The matrix contains both objective and subjective dimensions, allowing an evaluation of the quality of the environment gained by a result of this intervention into the built environment. According to the findings of the previous chapter, the quality of every item of the matrix is checked in terms of its implementation or contribution to the case study. In this sense, the matrix encompasses concerns of design in terms of their projection onto the application area. The last column of this matrix provides a description of how each principle is approached in this thesis study. When considering any kind of physical intervention into the built environment, it is clear that in some cases an analysis of the design principles will show the success of the application in creating meaningful places; and the main goal of this thesis is to highlight the advantageous principles that improve the appearance of the buildings at least in terms of order, despite the underestimation of the most dominant design principles. The design concern matrix considers the application area and the townscape on the backdrop as reference points when making judgments about the implementation or deficiency of each design principle. While analyzing the quality of the individual design principle, it is the modern façade covering of the front elevation of the buildings against the naked side elevations that is considered. The design concerns matrix in this sense is as follows:

Table 3.2 The matrix of design principles

Source: Personal rendering

CONCERNS OF DESIGN			ADVANTAGE	DEFICIENCY	DESCRIPTION
OBJECTIVE DIMENSIONS	COMPOSITION PRINCIPLES	HARMONY	✓		IN TERMS OF THE HARMONY BETWEEN THE COLORS USED TO COVER THE ELEVATIONS
		CONTRAST		✓	HERE THE CONTRAST BETWEEN THE OLD AND THE NEW MATERIALS IS NOT THE MATTER OF DEBATE
		BALANCE		✓	
		ORDER	✓		CONSIDERING THE ORDER CREATED BY THE USE OF CLINKER PANEL WITH ALUMINUM CONTOUR
		UNITY		✓	
	GESTALT PRINCIPLES	SIMILARITY	✓		THE SIMILARITY OF MATERIALS AND COLORS THOUGH CREATING SAMENESS
		PROXIMITY		✓	THE DISTANCE BETWEEN THE BUILDINGS IS MEANT
		CONTINUITY		✓	THE EXISTENCE OF UNAPPLIED BUILDINGS ON THE COURSE
		CLOSURE		✓	
		SYMMETRY		✓	THERE EXIST SYMMETRY IN INDIVIDUAL BUILDINGS' COMPOSITION BUT IT DOES NOT SUPPORT THE SYMMETRY OF THE WHOLE
SUBJECTIVE DIMENSIONS	PLEASANTNESS-BOREDOM	FAMILIAR ELEMENTS	✓		THE USE OF RED CLINKER PANEL WITH REFERENCE TO THE FAMOUS ANDESITE STONE OF ANKARA
		MODERATE COMPLEXITY		✓	
		MODERATE DISCREPENC-Y FROM THE PROTOTYPE		✓	
		USE OF POPULAR STYLE		✓	THIS IS AN INTENDED ACT BY THE DESIGNER TO CREATE A MODERN STREETSCAPE ALONG THE PROTOCOL HIGHWAY
	SEGMENTS	BEGINNING-END		✓	
		CONNECTION POINTS		✓	ARE NOT WELL DEFINED BECAUSE OF THE ABSENCE OF THE FORMER ITEM
		SERIAL VISION		✓	

The design concerns matrix suggests that most of the concerns of design, in both subjective and objective dimensions, appear to be missing from the case study example. The design matrix shows that only four of the main principles of design have been taken into consideration by the designer in this application. Despite the speculation into the intention behind the implementation of these four principles, it is blatantly obvious that the existence of only four of the design principles has still greatly affected the improvement of the appearance of the streetscape into a more orderly pattern.

Harmony, for instance, is an important matter in design principles, which is an advantage in the façade improvement application of our case. A brief look at the facades of the buildings in the application area shows that the choice of color of the implemented clinker panels was aimed to achieve a degree of harmony. Although there is no evidence of harmony in terms of the materials or textures used to cover the front elevation of the buildings, it was the aim of the designer or the Greater Municipality of Ankara to choose analog colors to create an absolute appearance along the highway. The great degree of difference between the materials and textures, along with the great differences between colors, raises the importance of employing principles to decrease the chaos created by the complication of the townscape patterns, which was concluded from the findings of the analyses in the previous chapter. In this sense, the harmony between the chosen colors is of great value, as it reduces the chaos created by the complicated combination of colors in the background townscape. Though the reduction in chaos of the existing streetscape changes the visual balance toward monotony, caused by the employment of the same colors all along the 25 kilometer line of travel, the use of analog colors did result in the reduction of the chaotic townscape. Monotony can be reduced by using other principles of design, which seem to be missing from this application according to the matrix of design concerns. Figure 3.1 shows another example of the difference between the former and present appearance of the buildings, showing the harmony between the colors employed to improve the visual quality of the area.

Figure 3.1 The improvement of the frontage of the buildings in terms of harmony

Source: Personal archive

Order, on the other hand, is one of the main characteristics of the façade coverings attached to the front elevation of the buildings and is the main reason behind the acceptance of this application among the residents of the area as a successful application. The simplicity of the pattern of the cladding material and the basic aluminum contours that surround the openings in the façade create a simple but effective geometry that gives a sense of order, thus reducing the complication of the townscape along the application route to a slight degree. On the other hand, the employment of a completely different cladding onto the elevations of the buildings can be considered as a factor increasing the chaos in the application area, but it is the simplicity of the patterns that affects the balance between monotony and chaos, though resulting in the monotony of the streetscape. Despite the debates into the propriety of the clinker panels or the aluminum frames, it is the plain composition of façades that attracts the observer's attention and creates a sense of pleasantness, compared to the disordered streetscape before. Figure 3.2 provides convincing evidence of this notion, highlighting the effect of order in improving the visual quality of the application area.

The effect of order in increasing the visual quality of the built environment is noteworthy. Despite the great differences in the choice of cladding material and the colors used and the monotony of the employment of the same colors and materials, still the appearance of the streetscape seems to have been greatly improved by the

application, though the former image of the streetscape reflected the character of that part of the city more properly.

Figure 3.2 Order is an important principle in improving the visual quality

Source: Personal archive

The third principle of design that has been advantageous in this application is the similarity principle of Gestalt. In this sense, similarity implies the closeness of the choice of colors and materials used within the application area. The fact that the degree of resemblance in this application is closer to the sameness of the materials rather than the similarity and thus monotony, should not be underestimated, but the importance of decreasing the chaotic appearance is also noteworthy. Regardless of the monotony of the streetscape, it is clear that the former chaotic appearance of the streetscape has been greatly decreased, and the only problem seems to be the naked side elevations of the buildings that are visible in the gaps between the buildings. The awkward appearance of the side elevations breaks the similarity (or "sameness") of the streetscape. But despite these awkward appearances the total image of the streetscape still seems to have been improved.

The last principle introduced in the matrix of design concerns is the employment of familiar elements. “Elements”, in this sense, can refer to not only the object, but also to their physical characteristics too. Considering the cladding of the front elevation of the buildings along the application route, the choice of matt red and yellow clinker panels can be considered as familiar elements. The color of the materials chosen is very near to the color of the famous local stone of Ankara, and in this sense it can be a familiar element to the citizens of the city. This last principle does not affect the physical observation of the application area, as it is a principle with a subjective dimension; however, its importance in creating a successful townscape is clear as it addresses one of the main concerns of design.

To conclude, an algorithm and a matrix encompassing the main concerns of design were introduced in this chapter; and according to the findings of the matrix the effective principles among the main concerns of design in creating a more ordered townscape were introduced as harmony, order, similarity and the employment of familiar elements. The application of the façade improvement along the protocol highway of Ankara does not respond to several design principles, and this chapter has analyzed the reasons for the relative success of the application in reducing the chaos of the townscape, despite its inadequacy in terms of the other principles of design. According to the findings of the analyses, among the four effective principles mentioned above, order and similarity play major roles in altering the balance between chaos and monotony due to its weight in tipping the scale towards monotony in the streetscape.

CHAPTER 4

CONCLUSION

This thesis has analyzed façade improvements as a form of intervention into the physical setting. Interventions affect the meaning that the observer extracts from the surrounding built environment. In this sense, a change in the façade coverings of buildings is a common way of intervening into the physical surrounding and the creation of a streetscape. Its importance is in its ability to affect the way a city or a part of a townscape is perceived. The façades of buildings along any road or highway create a composition of individual buildings, and so any changes that take place in the composition of the façades affect the way the street is observed. The façade improvement application along the highway to Esenboğa Airport in Ankara is an example of such interventions into the man-made environment.

As mentioned in the previous chapters of this study, because of the great political importance of this highway, known as the "protocol highway", the beautification of this part of the townscape has been high on the list of priorities of most projects related to the northern route into the city. The last link in the chain of these projects has been an application carried out by the Greater Municipality of Ankara for the façade improvement of the streetscape along the northern part of the backbone of the city. In this case the frontage of most of the buildings next to the highway was aimed to be improved through the attachment of a new material that is more modern in appearance than the materials employed in the rest of the streetscape. Today, the final appearance of the streetscape shows that there have been deficiencies in creating a successful streetscape along the protocol highway due to the inappropriateness employing a material which is completely different with the original materials of a townscape, and the problems associated with the age of some of the buildings, which has proven to be an obstacle to the application of the new and

heavy façade structure on the front elevation of the building. On the other hand, the limitation of the application area to only the front or maximum of two visible elevations of the buildings, and the resulting awkward appearance of the naked side elevations, interrupts the perception of the streetscape as a section of the townscape.

A streetscape is not constituted only by the buildings directly abutting the highway, but also takes in the buildings set back from the street as they are observable to the viewer, and also the "furniture" of the city. Unfortunately, this fact seems to have been underestimated by the Municipalities or designers of many cities, where buildings with different frontages create a familiar scene that can be observed from almost any point in different cities. The case of the façade improvement application along the protocol highway of Ankara can be considered as an example of this, as the façade improvement is being applied to only the visible facades of the buildings along the highway. The problem was not only in the fact that other elevations were left in their original state, but also in the choice of materials and colors for the cladding, which an important characteristic of every streetscape is. The complicated patterns of the townscape were aimed to be lessened by the attachment of modern clinker panels onto the visible elevations of the buildings along the protocol highway. Though the final appearance of the streetscape seems to have been greatly improved with the concealing of the old and complicated patterns of the background townscape, the acceptability of the employment of colors and materials and the elevations on to which they were applied are matters of debate in this study despite the debates on the propriety of applying a new façade on the elevation of a building and changing the whole character of that building.

This thesis has tried to analyze the suitability of this kind of intervention into the built environment. To this end, some dimensions have needed to be highlighted in the frameworks of this study to create reference points for evaluation. Interventions into the surroundings of a person take two main forms; the first being interventions into the built and physical environment, which are considered as objective dimensions, or dimensions that belong to the object or the built environment in this case, and the second is how a person observes his surroundings and is affected by changes to it, which is considered as the subjective dimension. This thesis has attempted to study the dimensions of the façade improvement application along the protocol highway with respect to the above aspects mentioned.

Changing the front elevation of the buildings is a two-dimensional application in terms of its objective qualities affecting the perception of the streetscape as a two dimensional unit of the townscape, which can be considered as a composition of different parts. So the rules that govern composition could be a means of evaluation in this study, which has been based on the composition principles and Gestalt Laws of Perception. Subjective dimensions, on the other hand, were chosen to shed light on the human side of this application and to add a third dimension to the findings of the two dimensional principles of design that formed the objective side of this study.

There are two ways of understanding an intervention into the built environment: the way it looks, or its objective dimensions; and the way it is perceived, or its subjective dimensions. These two channels were chosen as the first step of this study towards evaluating the success of an application of this kind. Chapter 2 contained an analysis of the design concerns in the façade improvement application in both the objective and subjective dimensions, supported by photographs of the existing situation and personal renderings of the proposals given to improve the visual quality of the application area. On the objective side, the composition principles and Gestalt Laws of Perception in terms of their constituent components have been applied. From the principles of composition, it is the levels of harmony, contrast, balance, order and unity in the application that have been used to evaluate the two-dimensional streetscape along the protocol highway; while from the Gestalt laws of proximity, the principle of similarity, continuity, closure and symmetry in the application have been raised in the study. Considering the subjective evaluation of the application area, previous studies of noted urban designers have been chosen to provide a reference for including the works of Jack Nasar, Gordon Cullen, and Eduardo Lozano. The studies of these key people in the field of urban design formed the basis of this part of the study, adding a human dimension to the findings of the two-dimensional studies. The employment of familiar elements, moderate complexity, moderate discrepancy from the prototype and the use of popular style are among the subjective dimensions worth mentioning.

The findings of the analyses mentioned above show that most of the main principles of design have been disregarded in the design process of façade improvement application. Among the composition principles, those of harmony and order are the only two characteristics that are evident, and these can be found in the composition

in the use of a new material for the application. The choice of red and yellow analog colors for the materials used to cover the front elevations of the buildings has been a significant attempt at creating harmony. Order, on the other hand is related to the simplicity of the new material and its compositional characteristics which create order in terms of lessening the complicated patterns of the existing townscape along the highway. Gestalt Laws of Perception appeared only in the form of similarity between the coverings of the buildings though it has become sameness due to the repetition of the same patterns. Aside from this principle, no other principle of Gestalt can be observed in the façade coverings of the application area. The analyses show that similarity can be considered in this case in terms of the colors and the materials used to cover the visible elevations of the buildings.

As for the other principles of design, it is obvious that there exists no contrast in terms of the colors or materials used in the façade compositions of different buildings. As a result, there exists no sense of surprise or rhythm that can draw the observer's attention or create a sense of discovery, nor a curiosity to follow the patterns of the streetscape. On the other hand, the great conceptual contrast between application area and the rest of the existing townscape in terms of the conflict between "the new" and "the old" seems to have been an intended characteristic of the Greater Municipality of Ankara to introduce a modern city to its visitors. Balance is another principle that would appear to be absent from the design of the façade coverings. Though the findings of the analyses through photographs show that the structural composition of the buildings seem to be balanced and stable, it is obvious that when the application area is considered as a continuous segment of the townscape there exists no balance in the composition of the modern clinker panels owing to the sameness of the colors and material, which sustains the boredom of the streetscape. The unity of the streetscape is a characteristic of the streetscape that is absent from the recent application of the Greater Municipality of Ankara. This deficiency is to a great degree dependent on the fractured appearance of the streetscape. The modern coverings attached to the visible facades of the buildings appear to be completely detached from the rest of the streetscape, while the unclad side elevations of the buildings interrupt the perception of the application area as a whole, affecting directly the unity of the streetscape.

Considering the subjective dimensions, on the other hand, it is obvious that the choice of the color of the clinker panels is intended to bring to mind the famous local Andesite stone of Ankara. Despite the debates into the real reasons behind such a choice, it is important that an element that is reminiscent of a local stone among the citizens has been employed, even if only due to the color chosen.

While discussing the subjective dimensions of the intervention into the built environment through the façade coverings, it is worth nothing the importance of the perception of the application area as a segment of the townscape. In this sense, the protocol highway of Ankara as a path towards the heart of the city has been taken into consideration, and the level of success of the façade improvement application along the highway has been evaluated. The results of this analysis, supported by photographs and on-site observations have revealed that there are no specific units of the streetscape that can be said to form a segment. The attachment of new façades along the highway has been done randomly, showing no sign of any intention to create a segment in the townscape. Despite the random distribution of buildings with new façades, which stops them from being perceived as continuous units and thus composing a segment, it is obvious that the attention to the connecting points of these segments, the beginning and the end of the application units, was not among the designer's concerns in improving the visual quality of the protocol highway of Ankara.

As soon as one draws closer to Esenboğa Airport, immediately after the end of Dışkapı district, the eye is drawn to the different façades of the buildings along the highway. The old and conventional appearance of the streetscape is suddenly placed by the modern appearance of the clinker panels and aluminum contours. In this part of the streetscape the close proximity of the building units and the rare sight of the unclad buildings invoke the feeling that you have entered a specific neighborhood with a characteristic that is completely different to other parts of the city. However, it takes no longer than a few minutes and a careful eye to observe the naked side elevations of the buildings, causing the final appearance of the streetscape with façade coverings attaching on the frontage of the buildings rather than being crowded with the structure of them. The aim of the application was to cover the visible facades of the buildings with new material to improve the visual quality of the area for the benefit of visiting dignitaries and other guests passing along the

highway by car. It is this perspective that was considered as the point of reference when deciding which elevations of the buildings were to be covered. This means that the elevations that are parallel to the viewpoint of the observer took priority over the rest of the other elevations, resulting in an unfinished appearance on the facades of the buildings. Getting closer to Esenboğa Airport, the decrease in the number of buildings with covered facades and the greater distance between residential building units raises the question of when and where the application area actually finishes. The importance of this question is again related to the creation of a segment of townscape, which is an important factor in the creation of a meaningful streetscape.

On the other hand, entering the city from the Esenboğa Airport does not convey a sense that one is entering the capital of a modern country. This is due to the scarcity of residential units with improved front facades and the great distances between the blocks of buildings. Continuing to the centre of the city, the streetscape along the protocol highway slowly changes, and more buildings with new and more modern facades attract the observer's attention. However, still there exists no sign of entry into a segment along the streetscape; rather the appearance of the streetscape is as if a wall of modern material of completely different colors has been attached along the corridor into the heart of the city. It is not only the materials chosen to cover the front elevations, but also the underestimation of employing proper furniture of the city and the greenery to improve the quality of life for the citizens of the district, that reinforces the problems in the perception of the streetscape as a segment of the townscape.

To summarize, the findings of the analyses of the second chapter of this thesis has shown that a few of the concerns of design in terms of subjective and objective dimensions are being valued in the façade improvement application along the protocol highway of Ankara. It is difficult to understand which of the subjective and objective concerns in design have played a greater role in creating a townscape, especially when taking into consideration that the final appearance of the streetscape seems at least to be more in order than its former appearance, and has also been more accepted and appreciated by the citizens of the district as an attempt of the Greater Municipality of Ankara to improve the appearance of their surroundings. In this sense, the third chapter of this study has attempted to investigate the reasons behind

the choice to improve the appearance of the streetscape, while underestimating the most important concerns of design.

To this end, an algorithm of the framework of this study was introduced to highlight the subjective and objective dimensions that were raised in this study. This algorithm showed that both subjective and objective dimensions were instrumental in the final appearance of the streetscape to varying degrees, finding as balance between monotony and chaos. In the case of the façade improvement application, the sameness of the material and color is an important factor that may contribute to the boredom and monotony of the streetscape. In this case, the balance is disrupted due to the disregard of other rules of design and its concerns. The former appearance of the streetscape, as emphasized in the previous chapters, shows that the final balance, which has resulted from subjective and objective dimensions, seems to be closer to chaos than monotony resulting from the great differences in the employment of colors. In this respect, further improvement applications were required to achieve a better balance between monotony and chaos. However, this time the overestimation of the law of similarity in the Gestalt Laws of Perception created sameness in the patterns and colors that were employed to cover the frontage of the buildings. In this sense it seems that though similarity is a principle being applied, it is the most important fact supporting monotony in the streetscape, and any attempts to improve the visual quality of the streetscape and create a successful townscape should include solutions to break this monotony by creating rhythm, or introducing any element of surprise that can break the sameness of the colors or patterns.

After analyzing the deficiencies in creating meaningful townscape through the employment of the algorithm, the reasons behind the effects of the façade improvement application in reducing the complexity of the patterns along the protocol highway of Ankara were investigated in the next part of chapter 3. To understand the principles of design that are given value in this application and played a part in reducing the complicated townscape along the highway, a matrix of design principles were introduced. In this matrix every principle of design, both from subjective and objective dimensions, were categorized according to whether they offered advantage or deficiency. In this matrix the principles that offer advantages sustain the simplicity of the townscape and affect the composition of the facades to create a streetscape that is much more orderly. According to the findings of this

matrix, harmony, order, simplicity and the employment of familiar elements were the only principles of design that appeared to offer advantages in the matrix. As such the success of the façade improvement application in creating a more orderly streetscape is dependent to a great degree on the existence of these four concerns of design among all the other subjective and objective principles of design.

The main aim of this study has been to shed light on the reasons why interventions into the built environment should follow the world-wide principles and concerns of design. In the case study of this thesis, the façade improvement application along the protocol highway of Ankara, which aims at increasing the visual quality of the streetscape along the northern part of the spine of the city, interventions into the physical setting appear as two-dimensional changes to the composition of the facades of the buildings. This thesis analyzes the qualities that support the success of interventions into the built environment, and the underestimation of some of the main principles of design. In subject case study, it is the simplicity of the streetscape that is the most important factor affecting the ordered appearance of the application area.

Using the background that has been created out of the findings of this research, future studies can concentrate on how to improve the final appearance of a streetscape following the main concerns of design. The importance of this is clear, given the later decision of the Greater Municipality of Ankara to return to cover the naked side elevations of the buildings. However, an important fact which should be taken into consideration here is that the attachment of the new material on the naked side elevation of the buildings will not improve the quality of life of the inhabitants of the city; a value which is being underestimated in most of the projects considering the problems of a city. The employment of city furniture, such as benches and lighting or the proper employment of greenery, can be effective ways in reinforcing the sense of place. In this respect, future studies in this subject could concentrate on the different ways of improving the appearance of the streetscape and convey the sense of place by improving its objective qualities.

Future studies in this subject may also concentrate on the human side of perception too. Most of these studies can be attributed to the subjective dimensions of evaluating the built environment around people. Today, most researches in Urban

Design try to understand the built environment through an analysis of human behavior in those places. Understanding human psychology and observing the behavior of the people who use a place can have a great effect on the course of these studies. In this sense, further studies related to the subject of this thesis can concentrate on the psychological side of the interventions into the physical setting, considering the behavior of the inhabitants and the users of the protocol highway. What is meant by the behavior of the citizens is their reactions to the changes in their surroundings, which do not necessarily indicate any intended action, but rather indicate the unconscious changes in the behavior of the people using the place.

The analysis of the materials used to cover the frontage of the buildings is another potential study for the future. In this sense, a market analysis of materials available for similar applications may be carried out to assess the characteristics that may be more important in covering the façades of the buildings. The analyses may contain information about the physical characteristics of the materials, such as the degree of water absorption or the resistance to freezing, with respect to the cost of applying the materials onto the elevations of the buildings. These kinds of studies concentrate on the introduction of new materials that may be more suited for application along the protocol highway of Ankara. On the other hand considering only the existing appearance of the buildings, future studies may concentrate on improving the existing semi-improved appearance of the same patterns of the clinker panels by creating elements of rhythm or surprise, which may create continuity along the façade coverings of the northern entrance to the city.

The presentation techniques employed to support the findings of this study are photograph illustrations comparing the “before” and “after” qualities of the case study of this thesis. Despite the employment of photographs, the on-site observation of the quality of the environment created as a result of the intervention into the built environment by cladding the façades of the buildings is another important tool in supporting the findings of this study. On the other hand, personal renderings of the proposals given to improve the existing situation of the streetscape may be other important tools in the creation of a meaningful streetscape along the protocol highway. In future studies of the case, based on the findings of this thesis, other presentation techniques, such as the in-situ viewing of the observers, questionnaire forms, video films and slides of the streetscape along the highway can be employed

to shed a new light on the scope of the study and highlight the points that may have been underestimated in previous studies.

To conclude, this study shows that the employment of design principles is an important step towards improving the visual quality of the built environment but it should obey some general rules. Though all these principles have an important part in creating a successful townscape in some cases, especially considering physical intervention in the environment, giving value to at least a number of these principles will bring benefit to the final visual quality of the environment created by these interventions. Consequently, the main aim of these interventions is to improve the visual quality or beautification of the townscape. In the case of the façade improvement application along the protocol highway of Ankara it is obvious that if more value had been given to the employment of design principles, the resulting appearance of the streetscape would have been much more improved and successful in conveying meaning to the observer. It is true that attaching completely different materials on front elevations of the buildings under the concept of beautification is not a well-advised approach because it changes the whole character of the streetscape, but in cases like our case of study where interventions into the appearance of the buildings are unavoidable in terms of improving the visual quality of the streetscape, they should obey the principles of creating successful townscape. This study provides evidence of the importance of placing value in the world wide principles of design when enacting changes to the physical setting of an individual. The results of the analyses of this study have shown that if interventions into physical settings are to be made, they should be in compatibility with the rest of the townscape. In the case study, the main reason behind decreasing the degree of complication and chaos of the townscape by the employment of a new material was in fact its respect to some of the design principles mentioned previously. This is indicative of the importance of employing established principles of design, and indicates that by taking into consideration a number of these principles adequate changes can be made the physical characteristics of the built environment and the way it is perceived. As a result the main point here is that every streetscape and the changes in it should reflect the character of the city. In the case of façade improvement along the protocol highway, the employment of a new material interrupted the identity of the city by its different patterns which seemed to be

belonging to another scene. Considering the application area it is obvious that the present appearance of the streetscape seems to be more ordered compared to the rest of the streetscape, but this quality by itself is not enough in creating successful streetscape, as long as it does not reflect the identity of the city and does not convey the sense of place.

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APPENDIX A

THE EXTENTS OF FAÇADE IMPROVEMENT APPLICATION ALONG THE PROTOCOL HIGHWAY OF ANKARA

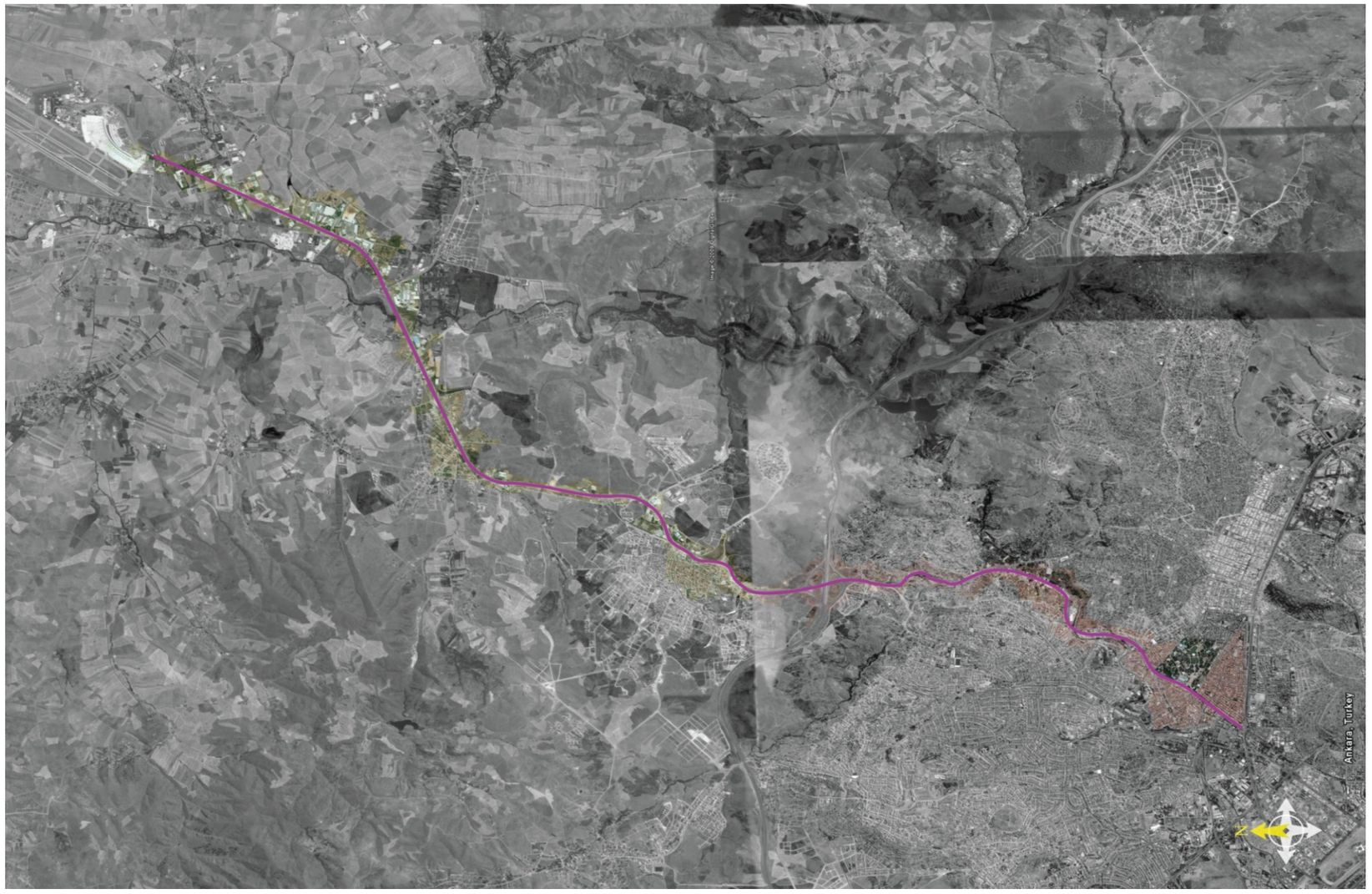

Figure A.1 The plan of Ankara
Source: Personal rendering from Google Earth

APPENDIX B

CLINKER PANELS

Clinker panel tiles are employed to cover the inner and outer elevations of old or new buildings, and are an appropriate material for improving the visual quality of the physical settings around people. The main purpose of employing these kinds of façade coverings is to create a long lasting building façade being employed by the users safely. For this reasons the final users of the material are considered to be architects, engineers, and contractors, who integrate the material into their projects regarding its science.

Clinker Flashing Material Definition

The clinker panels that have been used to cover the front elevations of the buildings along the protocol highway of Ankara are produced from natural clay with natural coloring. The panels are produced as single-hull or double-hull blocks of clay, both of which are illustrated on the following pages to show the differences between the two. The choice of which will be more suitable for a particular application is made by professionals with a knowledge of the material. The advantage of this material is in its ability to ventilate the façades of the buildings in a natural way, and in its ability to protect the insulation layer on the façade of the building.

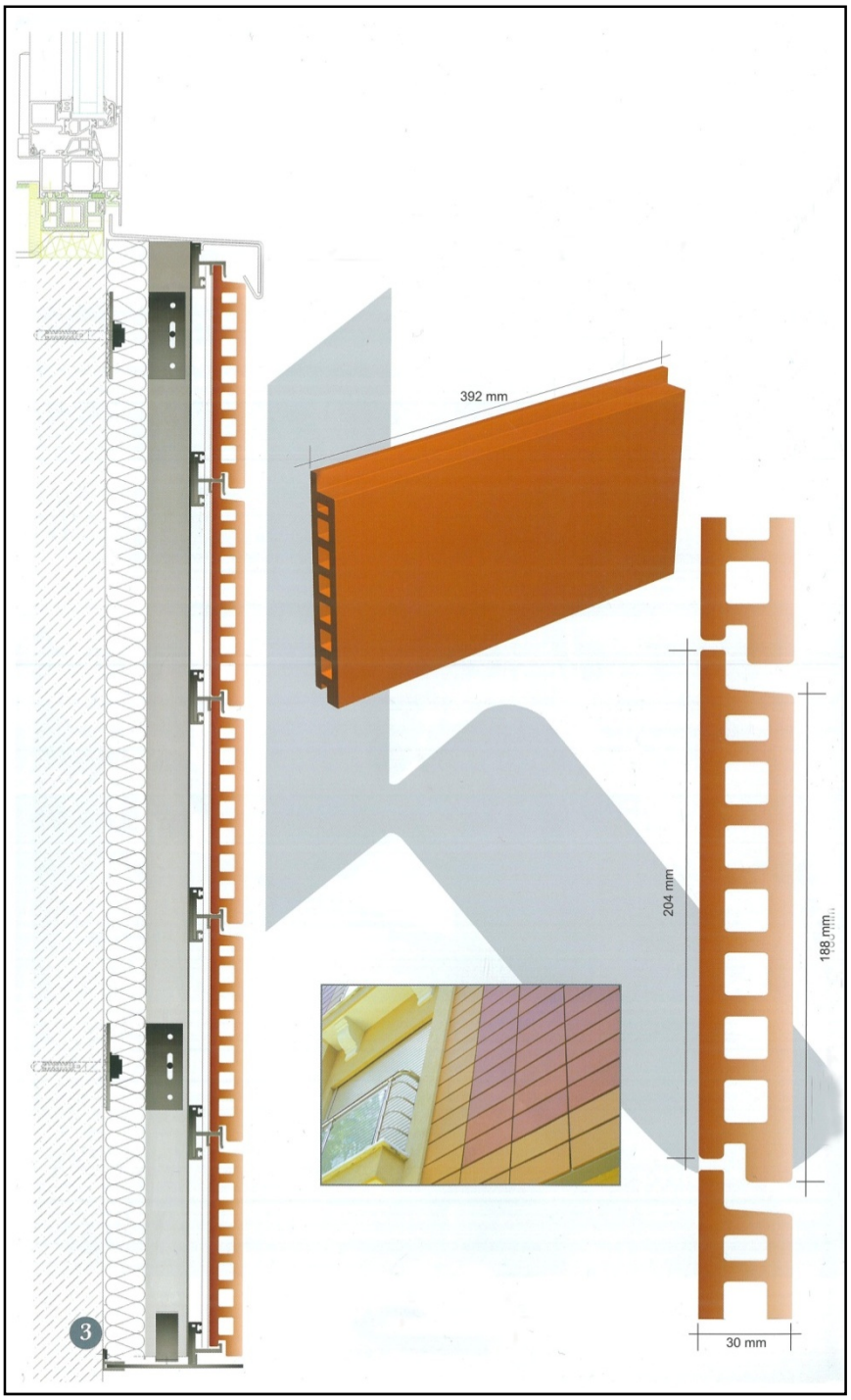

Figure B.1 Double-hull block of clinker panel

Source: Işıklar Architon Tuğla catalogue, www. isiklar.com.tr

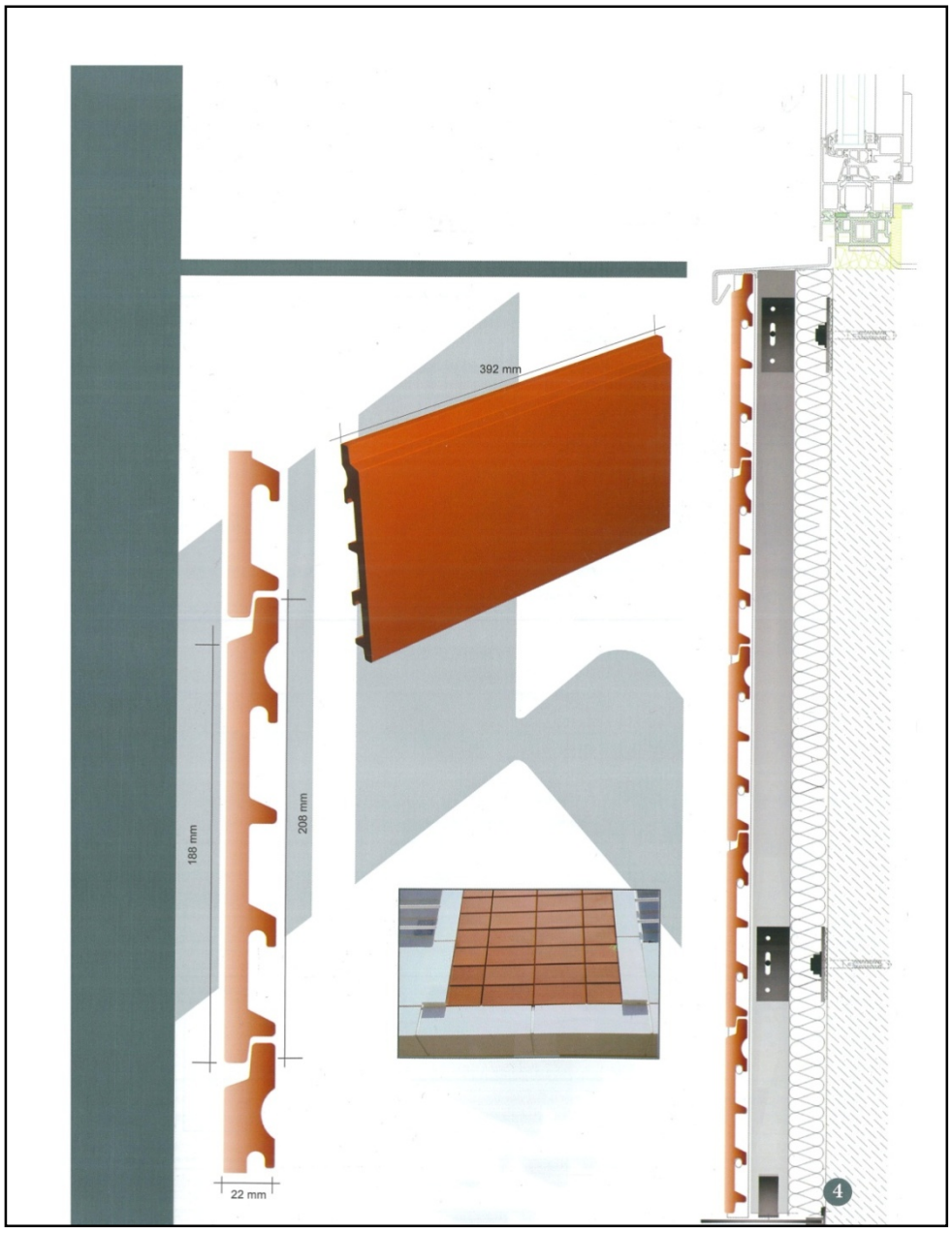

Figure B.2 Single-hull block of clinker panel

Source: Işıklar Architon Tuğla catalogue, www. isiklar.com.tr

The clinker panels used to cover the frontage of the buildings in the façade improvement application by the Greater Municipality of Ankara are single-hull units with a thickness of 22–24 mm. The approximate dimensions of the material are 390 ± 2 mm by 188 ± 2 mm. The material is capable of being shaped to the expected forms according to the design of the façades, if necessary. The figure below gives an

idea of how the double-hull panels and single-hull panels are applied, with the details about the characteristics of the materials.

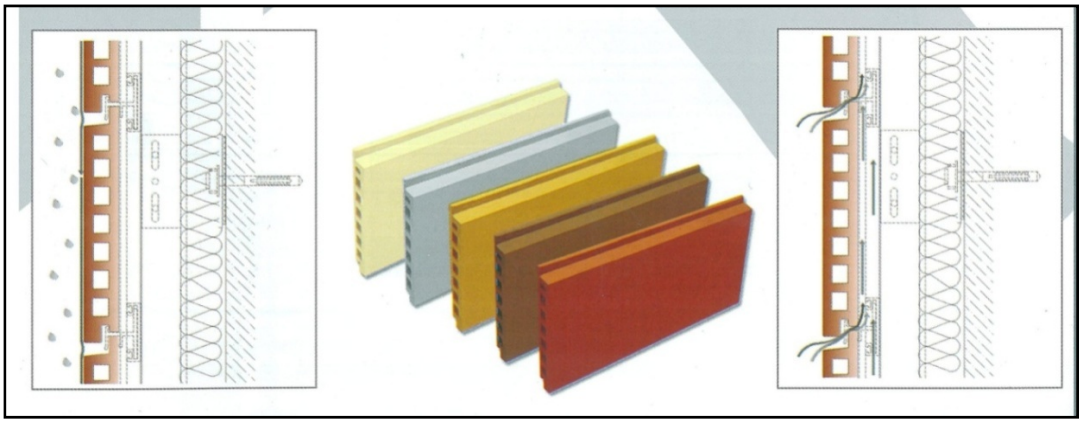

Figure B.3 The details and the range of colors for double-hull clinker panels

Source: Işıklar Architon Tuğla catalogue

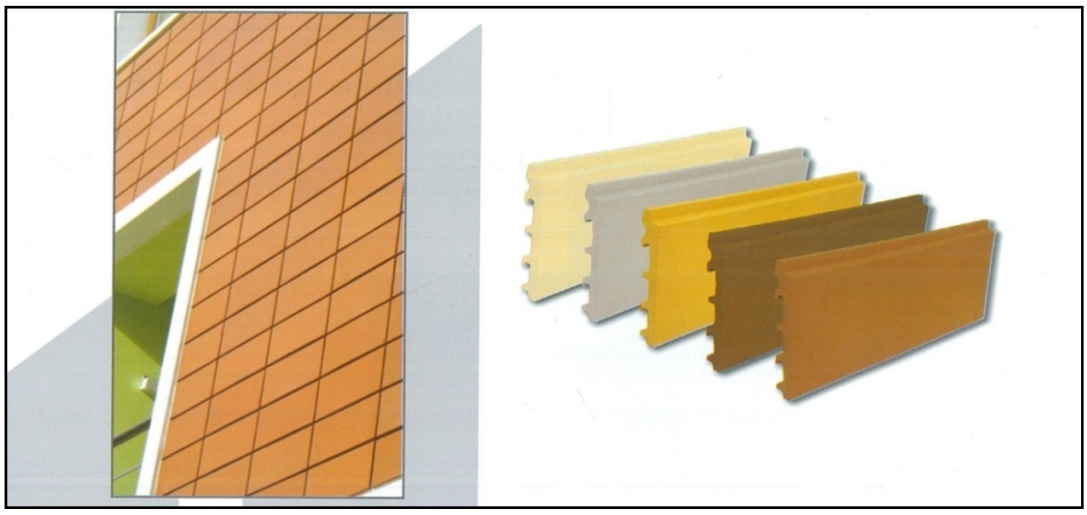

Figure B.4 The details and the range of colors for single-hull clinker panels

Source: Işıklar Architon Tuğla catalogue

Double-hull Clinker Panel Characteristics

	VALUE	TOLERANCE
LENGTH	: 392 mm	± 1 mm
WIDTH (surface)	: 188 mm	± 1 mm
AMOUNT OF USE	: 12.5 unit/ m2	
WATER ABSORBTION	: % 7 max.	
THICKNESS (architon)	: 30 mm	± 2 mm
THICKNESS (hull)	: 8 mm	± % 2
WIDTH SLOPE (in and out)	:	± % 1.2
LENGTH SLOPE	:	± % 1.2
WIDTH (end to end)	: 204 mm	± 1.2 mm
ANGLE DIFFERENTIAL	: 90°	± % 0.5
WEIGHT	: 3.55 kg	± % 2
DENSITY	: > 2gr/cm3	
WIDTH ULTIMATE LOAD	: 42 N/mm Ort.	
FREEZING TEST	: 25 loop - 15°	suitable
TEXTURE	: plain	
FLEXURE RESISTANCY	: 8.1 Kn	
FREEZING RESISTANCY	: suitable	
COLOR	: red, yellow, and brown are standard colors Beige and grey are special manufactures	

Single-hull Clinker Panel Characteristics

	VALUE	TOLERANCE
LENGTH	: 392 mm	± 1 mm
WIDTH (surface)	: 188 mm	± 1 mm
AMOUNT OF USE	: 12.5 unit/ m2	
WATER ABSORBTION	: % 7 max.	
THICKNESS (architon)	: 22 mm	± 2 mm
THICKNESS (hull)	: 10 mm	± % 2
WIDTH SLOPE (in and out)	:	± % 1.2
LENGTH SLOPE	:	± % 1.2
WIDTH (end to end)	: 208 mm	± 1.2 mm
ANGLE DIFFERENTIAL	: 90°	± % 0.5
WEIGHT	: 2.54 kg	± % 2
DENSITY	: > 2gr/cm3	
WIDTH ULTIMATE LOAD	: 11 N/mm Ort.	
FREEZING TEST	: 25 loop - 15°	suitable
TEXTURE	: plain	
FREEZING RESISTANCY	: suitable	
COLOR	: red, yellow, and brown are standard colors Beige and grey are special manufactures	

Vertical Supporting System Construction Stage

The first step in constructing the vertical support system is to mount the brackets onto the wall surface of the façade of the building. In this application, the larger brackets are being applied onto reinforced concrete, while smaller brackets are being applied to the exterior walls. Below is an illustration of how the brackets are attached to the exterior walls.

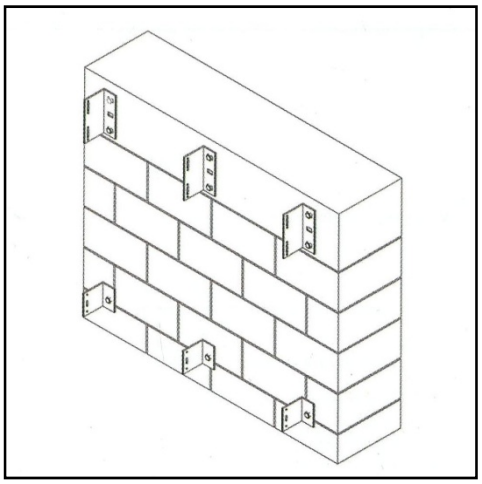

Figure B.5 The mounted brackets on the reinforced concrete and exterior wall

Source: Işıklar Architon Tuğla catalogue

In the second step, the heat insulation panels are mounted onto the surface of the wall as shown. The addition of insulation panels behind the finishing layer of the façade is an important characteristic of this application, and is an added advantage over other materials on the market.

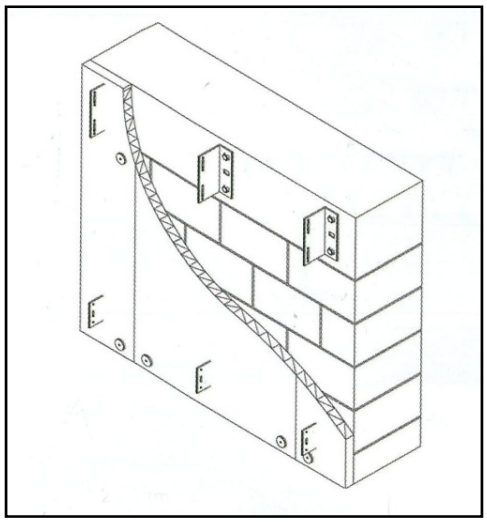

Figure B.6 The heat insulation panels mounted on the surface of the wall

Source: Işıklar Architon Tuğla catalogue

After the attachment of insulation panels, T profiles are attached to the brackets vertically, as shown.

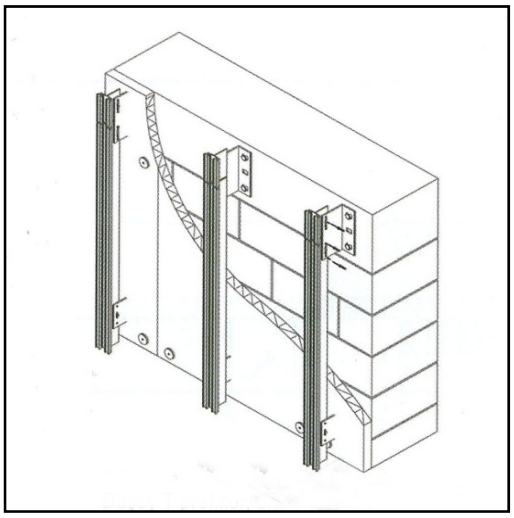

Figure B.7 The attachment of vertical T profiles on the brackets

Source: Işıklar Architon Tuğla catalogue

The next step in constructing the vertical supporting system is the fixing of clips onto the T profiles by rotating them in the profiles. The figure below shows the placement of clips on the profiles.

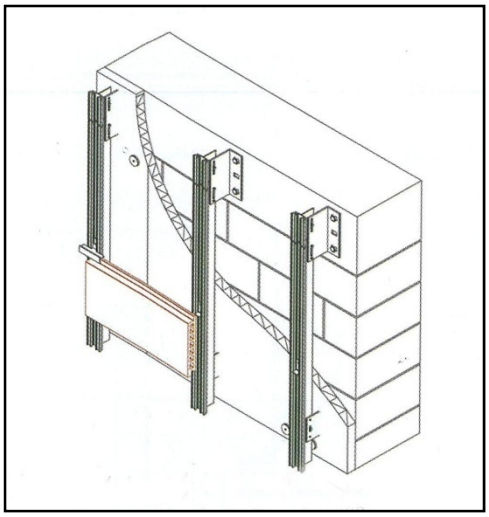

Figure B.8 The attachment of clips on the T profiles

Source: Işıklar Architon Tuğla catalogue

In the last stage of construction, the clinker panels are hung onto the clips with supporter fuses on the rear side of the clinker panels. The figure below offers a good illustration of the layers of the constructed façade covering on the elevation of the building.

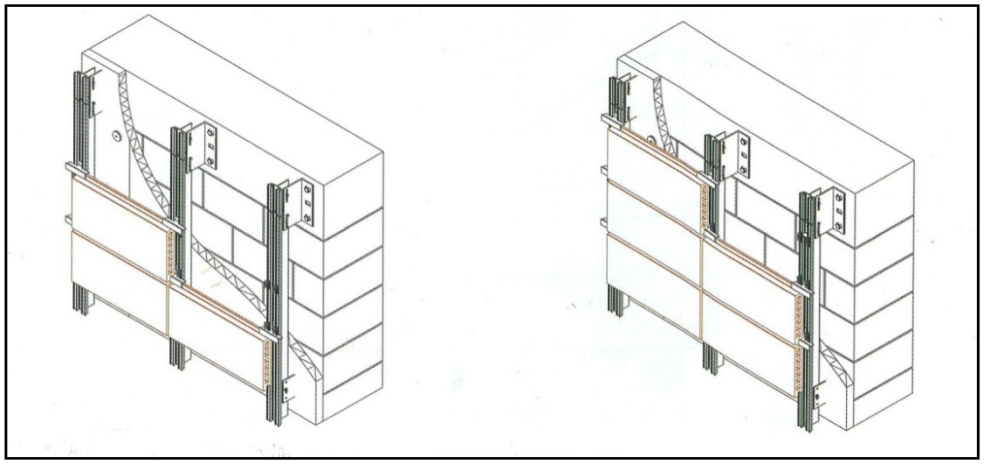

Figure B.9 The placement of clinker panels on the clips

Source: Işıklar Architon Tuğla catalogue

Details of the vertical supporting system of the clinker panels are given in the following picture.

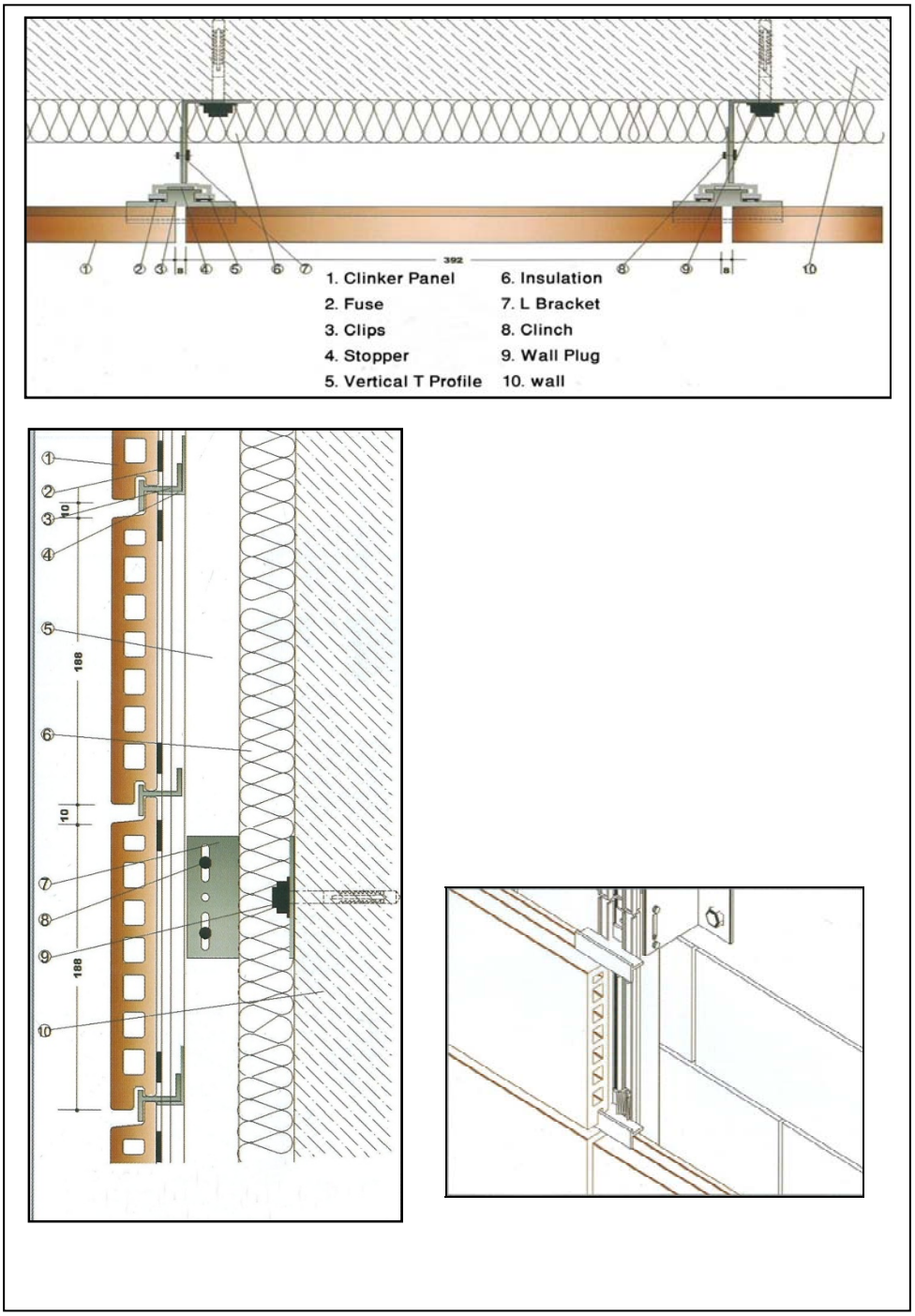

Figure B.10 Details of the vertical supporting system

Source: Işıklar Architon Tuğla catalogue

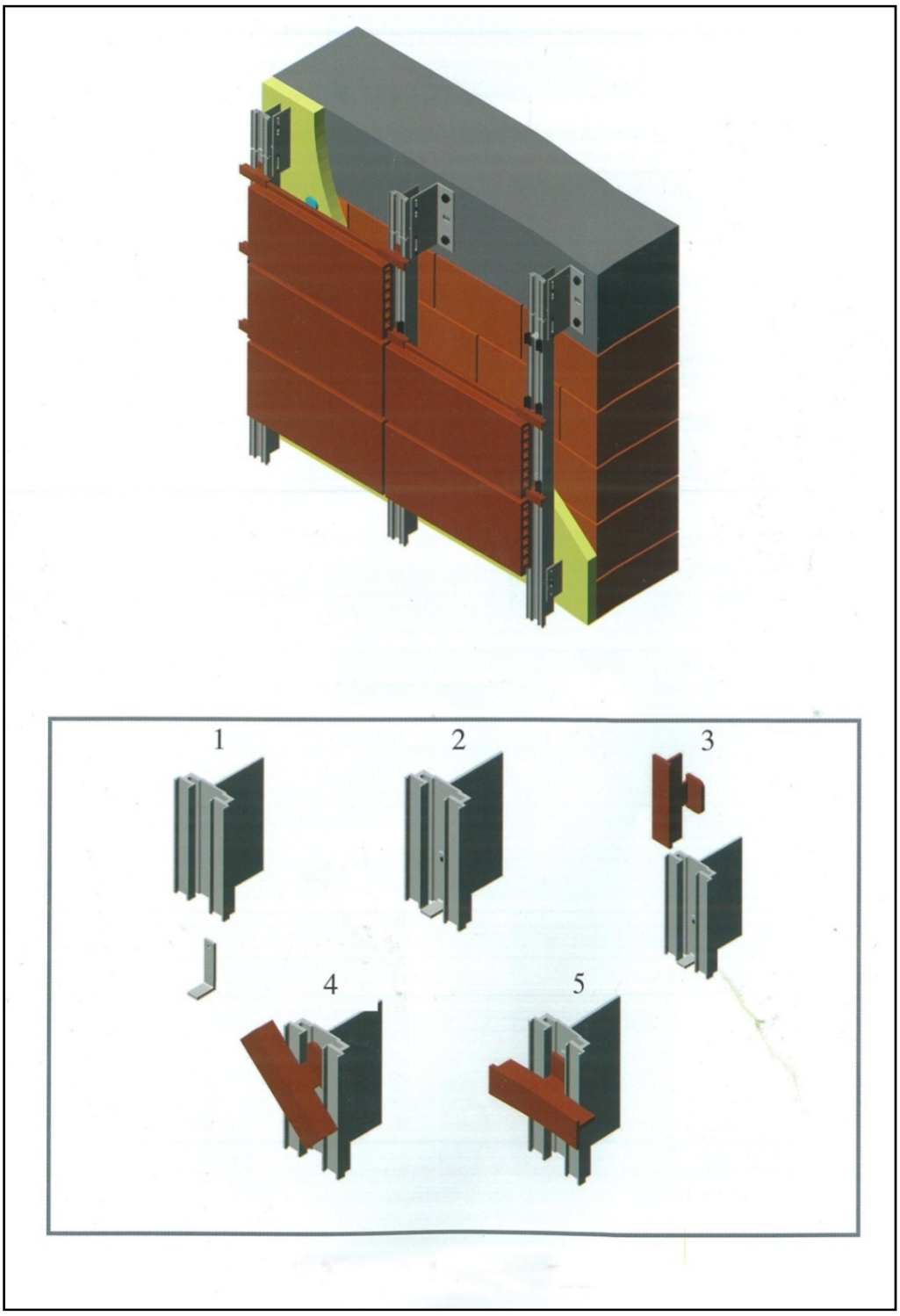

Figure B.11 Vertical System Clips Montage

Source: Işıklar Architon Tuğla catalogue

Due to the construction of the vertical support system, a damaged panel can be changed with a new one if necessary. The figure below shows how a single panel can be changed. In this case, a 2 x 1 cm cut is made to the upper two corners of a new clinker panel, and then replacement can be made.

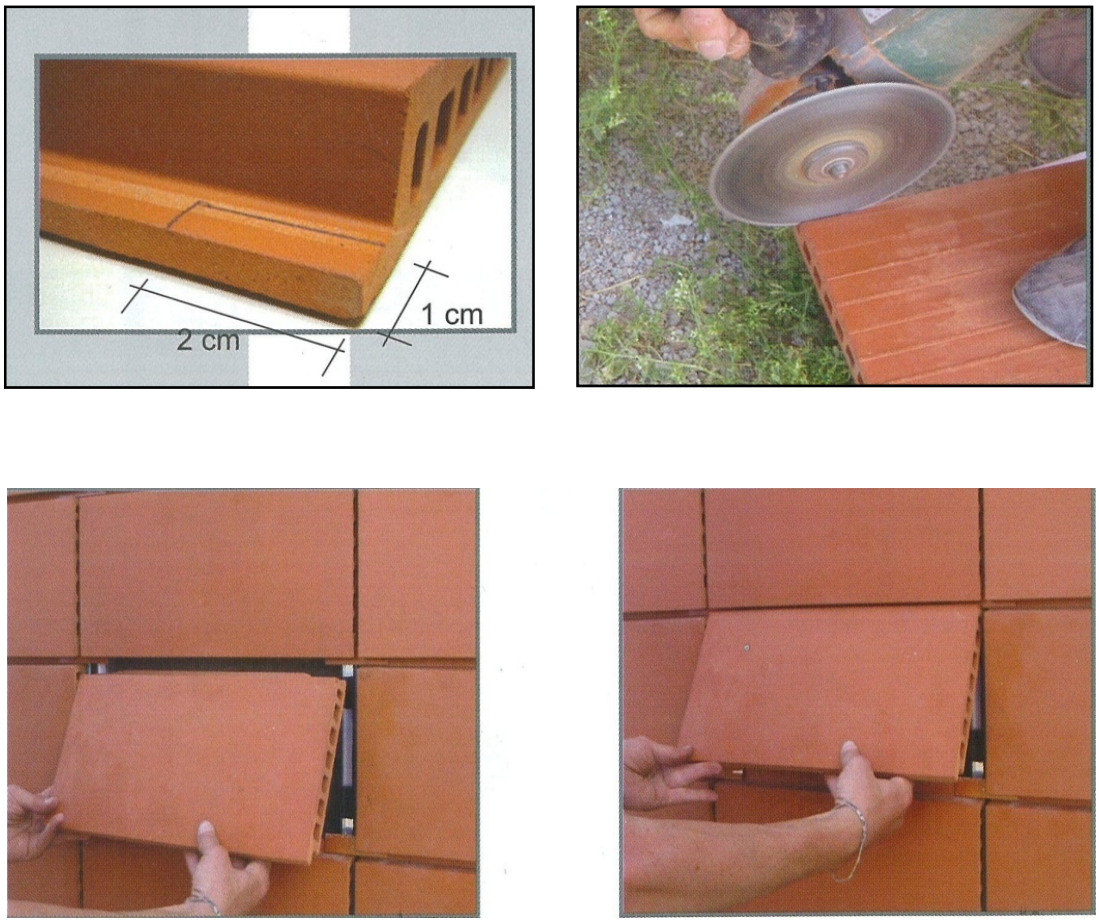

Figure B.12 Changing damaged panel in vertical system

Source: Işıklar Architon Tuğla catalogue

Horizontal Supporting System Construction Stage

The first step in constructing the horizontal support system is to mount the brackets on the wall surface of the façade of the building. In this application, the bigger brackets are being applied to reinforced concrete and the smaller brackets are being

applied to the exterior walls. The figure below is an illustration of how the brackets are attached to the exterior walls.

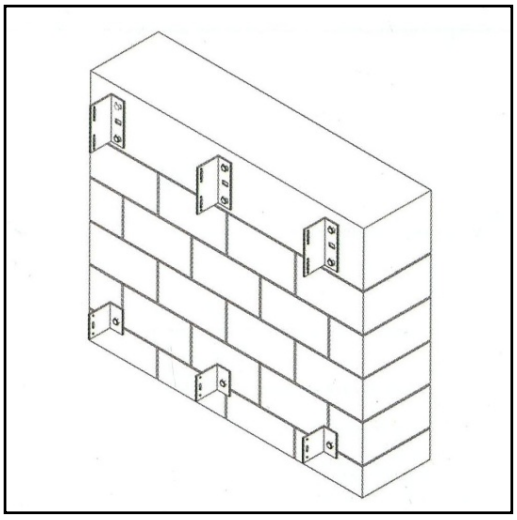

Figure B.13 The mounted brackets on the reinforced concrete and exterior wall

Source: Işıklar Architon Tuğla catalogue

In the second step, the heat insulation panels are mounted onto the surface of the wall as shown. The addition of insulation panels behind the finishing layer of the façade is an important characteristic of this application, and is an added advantage over other materials on the market.

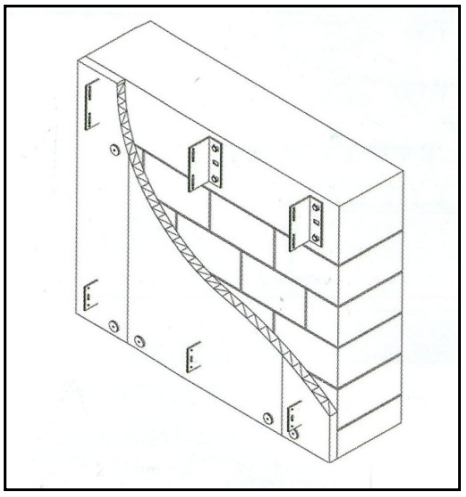

Figure B.14 The heat insulation panels mounted on the surface of the wall

Source: Işıklar Architon Tuğla catalogue

After the attachment of insulation panels, T-profiles are being attached to the brackets horizontally, as shown in the following figure.

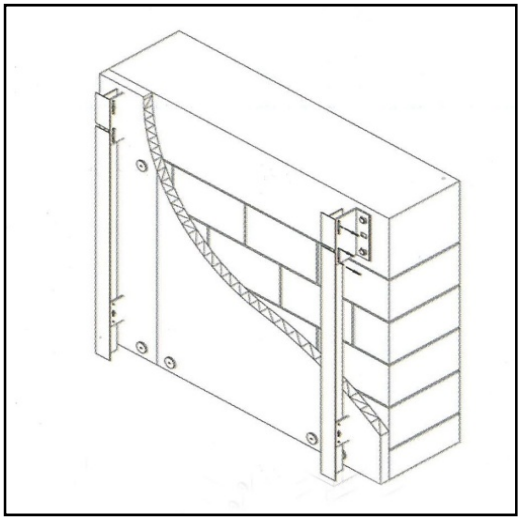

Figure B.15 The attachment of horizontal T profiles on the brackets

Source: Işıklar Architon Tuğla catalogue

The next step in the construction of the horizontal supporting system is to fix the clips onto the T-profiles by rotating them in the profiles. The figure below shows the placement of the clips on the profiles.

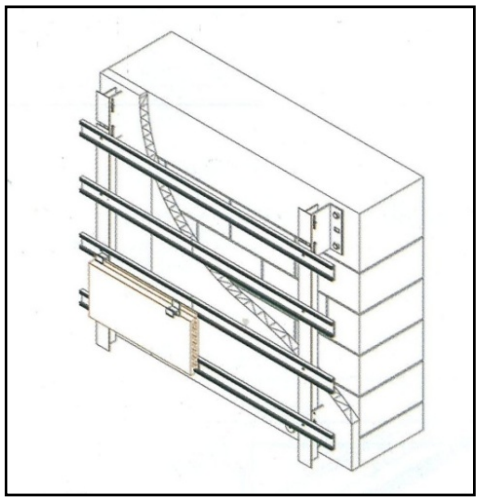

Figure B.16 The attachment of clips on the T profiles

Source: Işıklar Architon Tuğla catalogue

In the last stage of construction the clinker panels are placed onto the clips with supporter fuses on the rear side of the clinker panels. The figure provides a good illustration of the layers of the constructed façade covering on the elevation of the building.

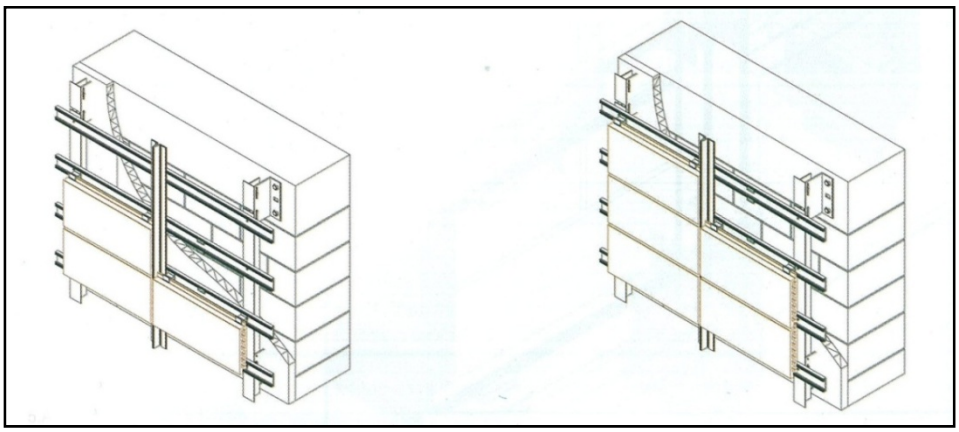

Figure B.17 The placement of clinker panels on the clips

Source: Işıklar Architon Tuğla catalogue

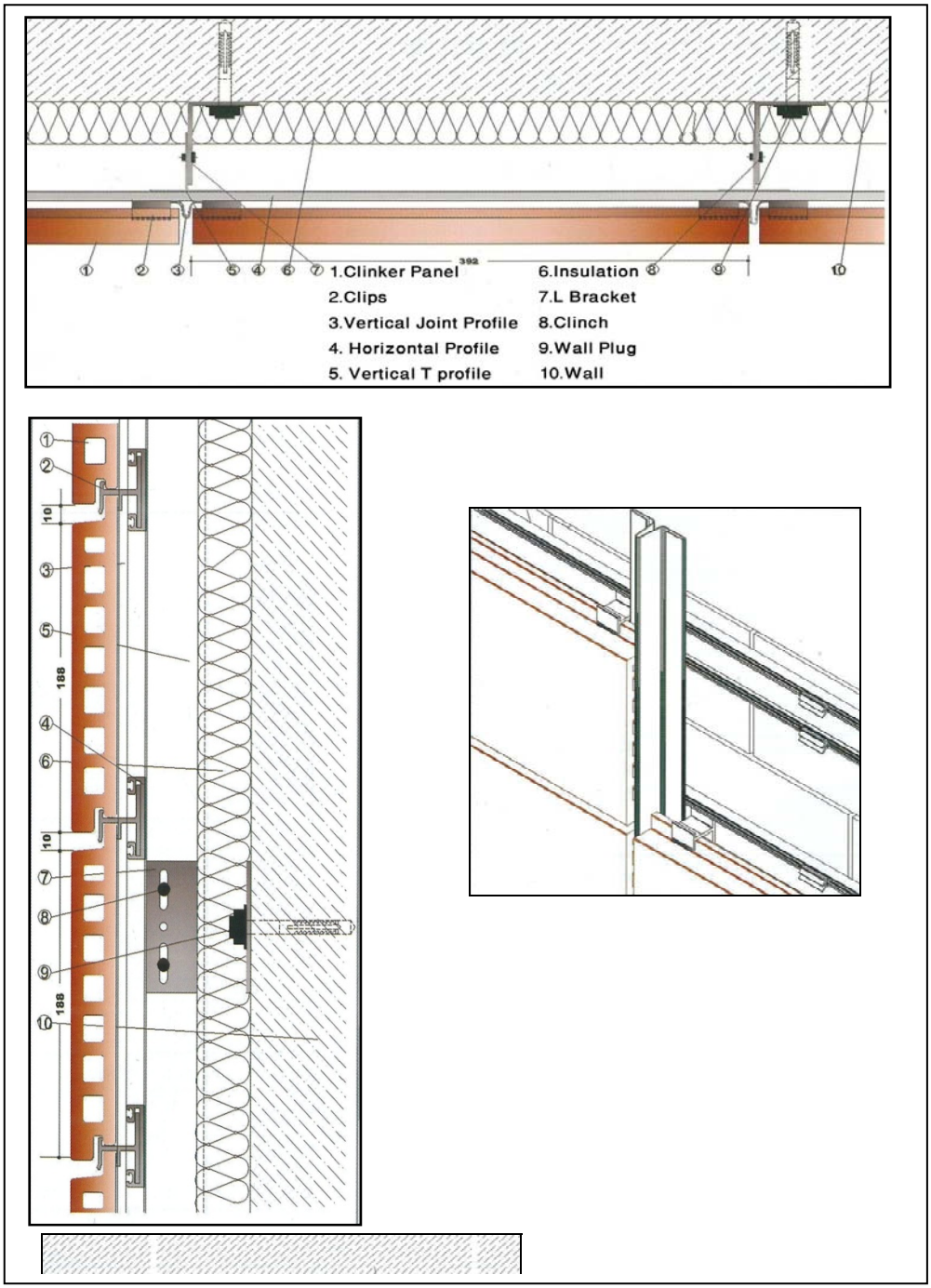

Figure B.18 Details of Horizontal Supporting System

Source: Işıklar Architon Tuğla catalogue

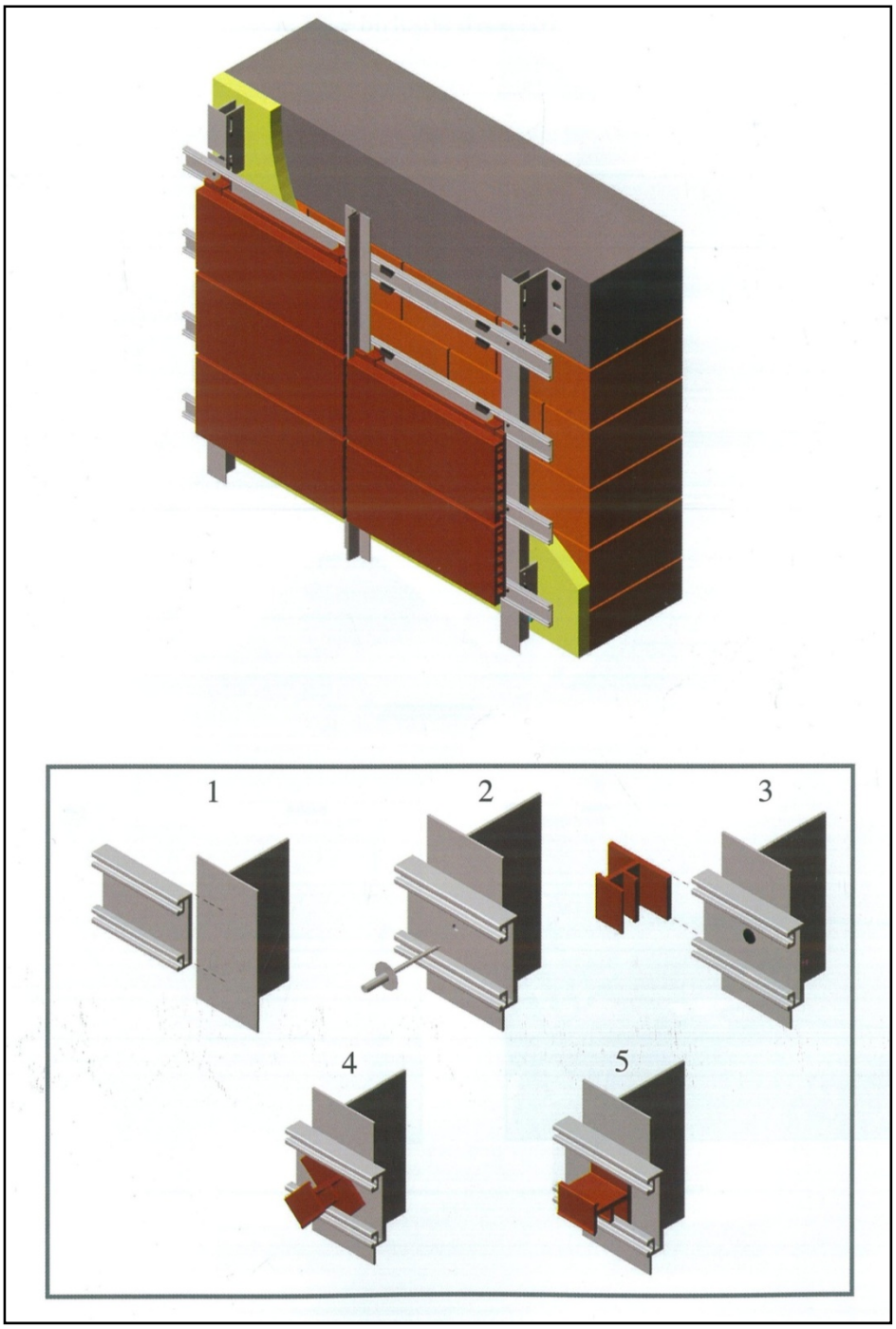

Figure B.19 Horizontal System Clips Montage

Source: Işıklar Architon Tuğla catalogue

The figure below indicates how a single damaged panel can be replaced in the façade covering. The employment of the supporting system and the design of the clinker panels make it easy to remove and replace panels as required.

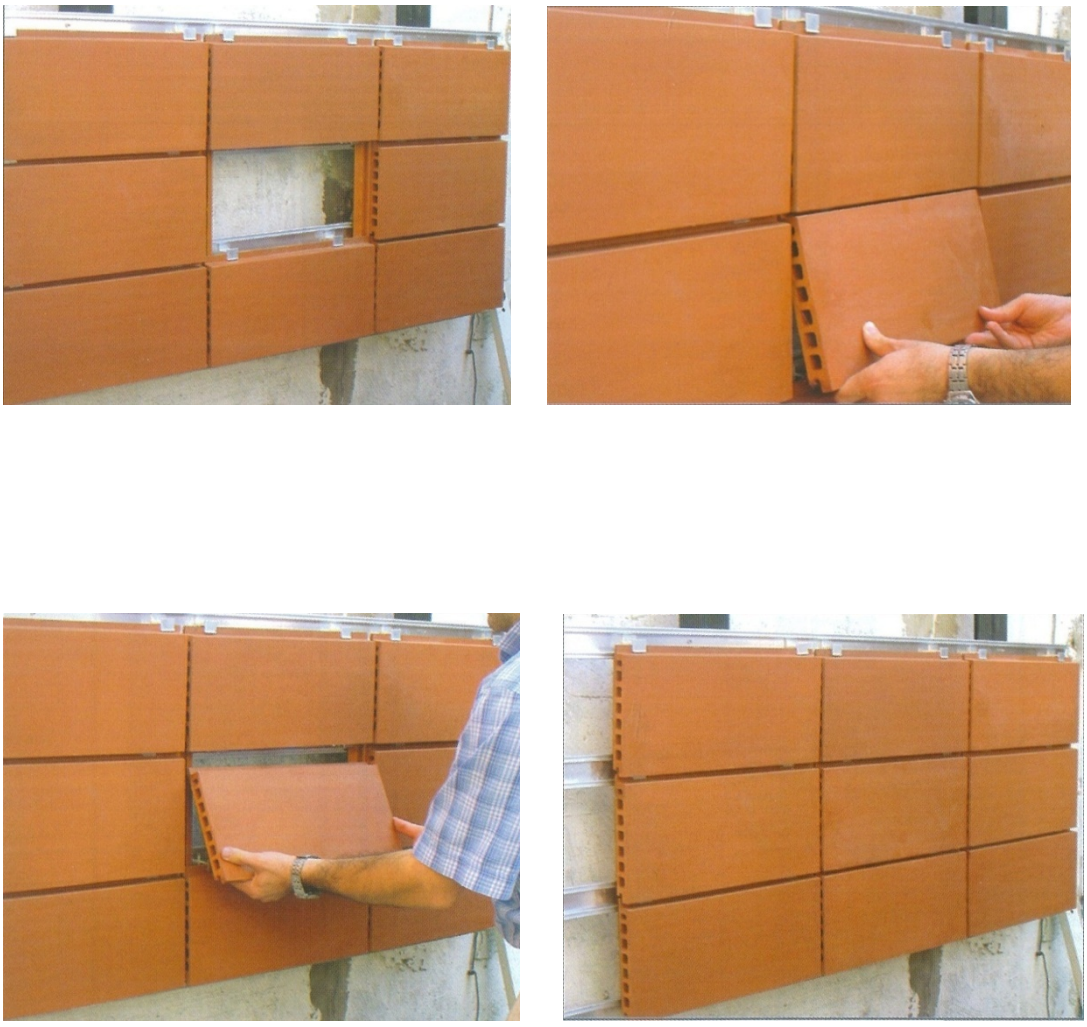

Figure B.20 Changing damaged panel in horizontal system

Source: Işıklar Architon Tuğla catalogue

The size of the L-anchor that fixes the clinker panels and aluminum supporting system to the building is 50×60×75, with the thickness of 4 mm. This can be shaped into special sizes if necessary. At the vertical and horizontal ends of the aluminum support system, side and bottom finishing profiles and twisted composite plates are installed between the supporting system and the wall of the building. In the upper parts of the support system the composite panels are considered as copings. As soon

as the montage of the aluminum support system is finished the clinker panels are installed onto the supporting system.

An important characteristic of the clinker panels is the detail of the corners, which is an effective characteristic in the design of the façade composition of the buildings. Here, some models of the detail of the corners are being introduced according to the following figure. In fact this characteristic of the material in creating opportunities for different façade compositions is the main reason for the choice of the material by architects and designers, aside from the advantages of price and the natural characteristics of the material.

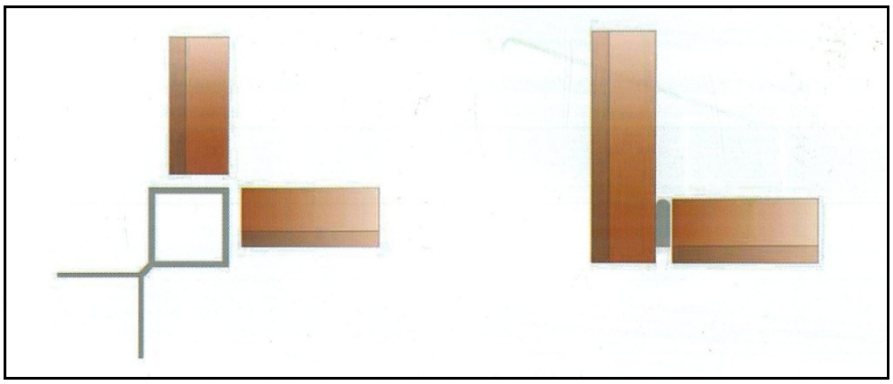

Figure B.21 Details of inner corner joining points

Source: Işıklar Architon Tuğla catalogue

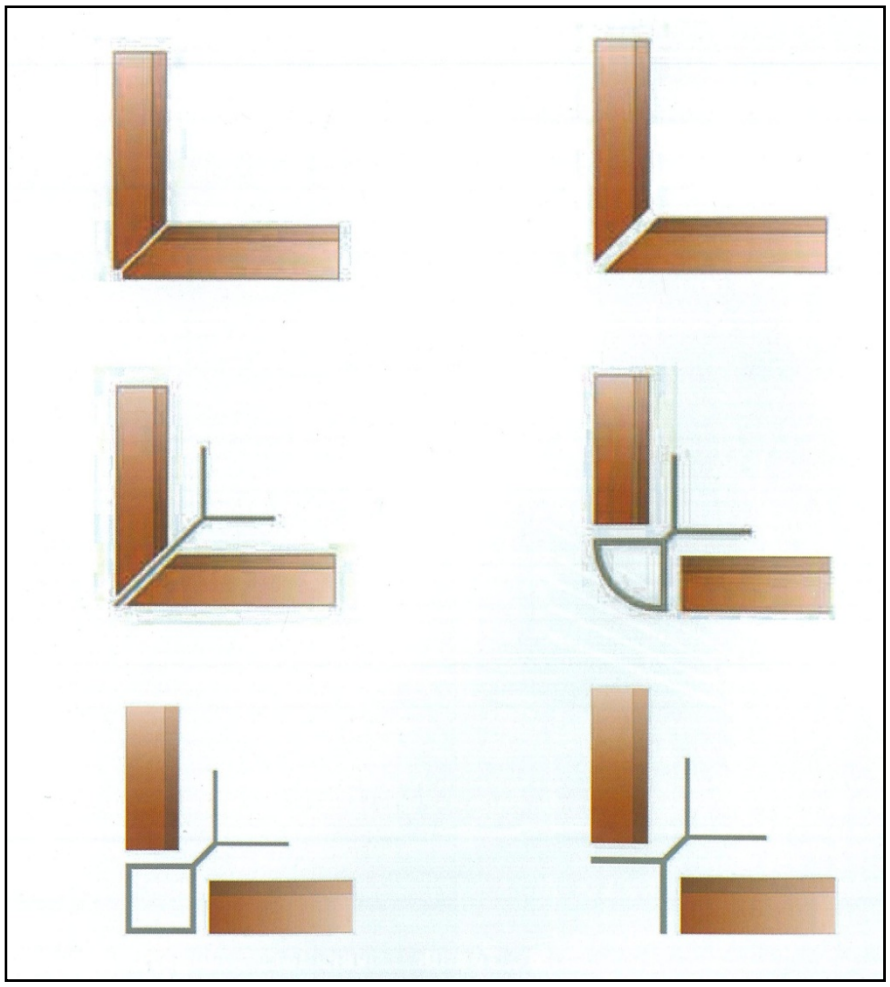

Figure B.22 Details of outer corner joining points

Source: Işıklar Architon Tuğla catalogue

In the façade improvement application along the protocol highway of Ankara the material used to cover the corners of the façade coverings is made from an aluminum composite. The composite panels use in montage should comply with DIN 4109 noise insulation norms, ISO 354- EN 20354 noise absorption norms, and should achieve at least an A2 level of fire resistance. The aluminum profiles used in the infrastructure should be a minimum of 2.5 mm in thickness and should be stainless. The firm carrying out the application should be qualified to ISO 9001, and have TSE Manufacturing adequacy and TSE Guarantee certificates.