Importance of Typological Analysis in Architecture for Cultural Continuity: An Example from Kocaeli (Turkey)

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Abstract. Cities are formed from historical layers. When different periods are examined, it is possible to reach out the information about the relation with the built environment created with the society’s owned culture and the location where the built environment is through these historical layers. Cultural and natural values owned by the city, shape the city identity. To have a city identity, it is necessary to provide the continuity of these values and to protect moral and material values which transfer messages of city’s past to its future. City identities in the World and in Turkey have been gradually disappearing because of the immigrations which are the results of globalization and industrialization. This situation creates the feeling of “Alienation” in the people who live in the city. Also in Kocaeli, which lost its’ agricultural city feature owned until 1960s and whose industrial city feature has come into prominence for 50 years, same problems can be observed. Traditional houses are formed depending on the society’s different cultural values. Some places in the traditional houses have disappeared completely or have become useless time-dependently. That’s why it is very important to reveal the local similarities. Thanks to the datum gathered by analysing with the Typology method, the historical traces will be the guiding light of continuing structuring and future. On this purpose, Kapanca Street has been chosen as study area. This street is one of the historical layers of Kocaeli city and which is one of the rare places still protecting the authenticity. There are 10 traditional registered houses belonging to the late Ottoman Period in the end of 19th century and the beginning of 20th century on this street. The values of Kapanca Street, which constitutes an important place in the historical identity of Kocaeli and has a historical background more than a century are thought to be in need of being recorded to provide the cultural continuity and to be transferred to future. The study has been done as two-stage. Firstly; A wide literature search about traditional house in Turkey, history of Kocaeli, type, typology, and typological analysis method which are related to topic, and area survey have been done. Other studies done with this analysis method have been observed and transmitted briefly. In the second step, Typological features of Kapanca Street have been presented by using the typological analysis method. With this study, differences about the city will have been stated and will have contributed to the city's identity value and cultural continuity will have been provided.

1. Introduction
Today, an important part of the world population lives in the cities. However, the cities which must grow fast because of the technological improvements, rapid population increase, migration, capitalism and globalization, are founded without a relation with the geography as done in the past. At the same time, they host to the nations which come from different regions and have various cultural or social structures. The concept of changing speed on the world and this variety which they are faced causes the cities which had to address more generally to appear. The cities that have begun to similar with
the influence of globalization do not allow the human being to be connected to where he lives, and to feel himself there.

Traditional houses are formed depending on the society’s different cultural values. Some places in the traditional houses have disappeared completely or have become useless time-dependently. While, some part of these places has left their places to equivalent values with new names, some of them has kept pace with today’s circumstances needing social and technological improvements.

Kapanca Street located in Kocaeli Urban Protected Area, is one of the rare places which protects its authentic identity without changing its name for 100 years. It is thought that it is necessary to record the values of Kapanca Street, which protects its authenticity now and has a historical background over a century and has an important place in historical identity of Kocaeli, to transfer to the future and to provide cultural continuity.

The study has been done as two-stage. Firstly; A wide literature search about traditional house in Turkey, history of Kocaeli, type, typology, and typological analysis method which are related to topic, and area survey have been done. Other studies done with this analysis method have been observed and transmitted briefly. In the second step, Typological features of Kapanca Street have been presented by using the typological analysis method. With this study, differences about the city will have been stated, the city identity value will have been contributed and cultural continuity will have been provided.

2. Type, typology and typological analysis method
2.1. Type and typology
In methodology terms dictionary, As Turkish meaning of “type” word, “a structure that brings the common and separative features of the events or concepts” explanation and “model” word takes place [1]. As a scientific term “type” defines the elementary form, structure and character which makes the creatures or objects of a certain group definable. Researcher reaches the clarity and certainty, expected by the scientific idea, with the classification method in which he reduced the objects he worked on related to some defined features, to types. Abraham Moles defines classification and listing method as projection of “order” concept to whole. According to Moles, the aim of the classification is to compress some elements basically by mind to make it's mentally comprehension simple. In certain sciences (natural sciences) most of the researchers try to find correct types and try to change the creatures to the ideal types which provides savings during the thinking process [2].

Typology word is strictly related to the type concept and the meanings which it has because of its etymological connections. “Modelling” word takes place as its Turkish meaning in methodology terms dictionary. Modelling has been defined as shaping in an abstract pattern with a phenomenon or process's separative features [1]. Generally, two actions which typology includes have been stated in the sources as individualization and classification [3].

The subject of type in architecture may be considered in two different ways. The first is directly relevant to design: typology as a form of knowledge that can be applied directly to design work. The other approach considers typology as a terrain of encounter between inhabitants and architects [4].

Typology in architecture has been defined as creating archive of the certain types related to architecture styles reduced to their elementary geometrical nature or the search effort of the combination possibilities of the architectural elements to classify the types which are the architectural forms [3].
2.2. Typological analysis method

Typology is a systematic study which includes actions such as “abstraction, reduction and schematization” to identify and clarify the phenomenon that researcher has in every field; it is the discussion of the special one which is generalized by mind. With this method, many studies have been done in architecture. But, there isn’t any study related to Kocaeli. For this reason, this study which is made in Kocaeli is considered to contribute to the literature.

3. Traditional house in Turkey

Until almost 20th century, local architecture didn’t concern many people and it wasn’t thought as architecture as well. The term “Architecture without architect” which was the firstly used term by Bernard Rudofsky has started to be adopted by many architect as a city and architecture idea refreshing concept after the destructions of 20th century. Le Corbusier (1927) praised the local houses in terms of economic usage and geometrical simplicity and local architecture exhibitions were opened. In Turkey, Sedat Hakki Eldem has improved his modern architecture by being inspired from Turkish House models. Now, many ecological architecture projects take local architecture and healthy equipment usage as example. We can continue the House topic with known samples off architect hands and from architecture history. However, as Heidegger emphasized, local architecture is no doubt the thing that makes real the settlement of human on the earth with basic elements [5].

House which is one of the most important elements of local architecture is the basic structure that meets the person’s physical or spiritual needs or the entirety of places. Time dependently change and improvement of house types are about the geographical, periodical and social changes [5]. Heidegger, discusses the house concept in terms of ontology and metaphysics. According to Heidegger, what is important in ‘dwelling place’ concept is not the architecture but is to live in somewhere [6]. House or the settled, lived place is the place which people built by adapting the geography and using earth’s natural elements even in today’s global conditions. This place created by people using the earth’s elements (stone, adobe, wood, felt, ice, leather etc.) connects them to the earth because of this closure. Thus, people have a place for themselves on the earth and help the creature find a shape in a way. The shape of the house and the usage suitable for this shape is the sign that shows how people have relation with the world and the earth. Human world created by traditional culture in houses and especially in local houses and natural materials which are both in the house and in the structure, create these two-world’s contrast and the motion of creature. In this context, relation with the earth and the society is determined [5]. House; in linear time definition frame, is a chain of variable and fluid actions. In this concept, it causes humans to attach the places by making a continuity between past-now-future [7].

Houses in Anatolian settlements on which different civilizations passed and left mark are the products of a twelve-thousand-year savings. When viewed from this aspect, in every period of Turkish city settlement order, it is possible to observe the traces of former civilizations. Turk city and house have been improved in a way to respond the Turkish people’s physical and social life style, habits and needs [8]. Thus, it can be said that there is a logical relation between traditional life and the improvement and the design of Turk city and house.

Houses including traditional life style; has been organized with streets and neighbourhood unit to create “neighbourhood”. Repetitive features attract attention in the physical environment which these houses created by coming side by side. In traditional Turkish city, houses described “streets” but these streets didn’t come along in a planned way. As the settlement period wasn’t organized, a regular road connecting the house groups didn’t come into existence.
There is an obvious modulation in normal floor plan based on room in Turkish House. Flooring and ceiling in the buildings was built with standard wood. There can be same windows in different houses. Therefore, houses could be built very fast and cheap. However, this standardization can be various by means of mass compositions created by different relations of one, two, three, four or more room number houses and the building next to, street and garden and stylistic relation with the street. Variety of such a standardized structure typology is a very important feature of this house type [9].

When considered from facade feature aspect, window-cages in terms of religious beliefs, harmony created with the different materials on the ground floor and first floor, the ratio between the architecture elements like door and window and the ratio with whole building, height differences of the houses side to side, different level cantilever are the features that dynamize the street [10]. Ground floor is closed to the street with a stone or mudbrick wall, upstairs is based on carrier walls or wooden columns. Upstairs are wooden framed. If there is a middle floor, it is full floor or half floor with low-ceiling. Upstairs gained a lively appearance through windows and cantilevers with time. Windows having standard scales and creating a common rhythm provides an entirety not only to the house but also to the street and the city. Roof is always inclined to four side. These features are the most separative quality of Turkish House [11].

4. Kocaeli (İzmit) city
4.1. Location of the city
Izmit which is the centre of Kocaeli (Figure 1) and located at the end of İzmit bay (Figure 2), is located in road, sea and railway intersection which connects Anatolia to Istanbul. Today it is also known with the industry and trade centre, coastal city and growing city features because of its geographical position. İzmit has been an important settlement place for different civilizations throughout the history because of its geographical location [12].

![Figure 1, 2. Place of Kocaeli in Turkey map, Kocaeli’s towns and place of İzmit the central town [13]](image)

4.2. History of the city
While, at the same time it is not possible to tell exactly when İzmit was founded, it is written in the writings belonging to Egypt Pharaoh III. Ramses lived in B.C. 1292 saying that Sit area (İzmit and around) was taken [14]. Phyrgians passing to Anatolia around this time had this area for some centuries and they were called with Brygler name in this area [15, 16].

In B.C. VIII. Century immigrants from Megara, city of Greece, established the city of Astakoz (Olbia) in a flat area between today's names Başiskele and Seymen which is in the south of the Gulf of İzmit (Astakoz) Gulf. The colonial city, which was established at the most suitable place for sea and
land transportation, developed as a port city although the surrounding area was suitable for agriculture. As the characteristic of the city state, it was surrounded by walls. Since the geographical position was strategic, the city state dominated the Marmara and Black Sea trade, from 712 onwards began to print money. This date is also regarded as the official establishment date of the city state [17].

At the beginning of the B.C. 3rd century, Astakoz caused long wars between Lysimakhos the King of Thrace and II. Zipoites the King of Bithynia. The King of Thrace, Who lost war, burned and destroyed the city of Astakoz, which he had built [18, 19]. Thus, the Astakoz city was erased from the history scene.

In the year, BC 262, Nikomedes I of Bithynia, established the new city Nicomedia in the place of today's city of Izmit instead of the old destroyed city of Astakoz (Başiskele) in 6 km northwest (Figure 3) and settled old Astakoz city people here. The king built himself a palace and made the place the center of the Kingdom of Bithynia (Figure 4), [19].

Figure 3. Izmit in Ancient Period / Astakoz and Nicomedia [18]

Figure 4. Place of Bithynia in Turkey

Nicomedia developed during the Hellenistic period, major zoning activities were carried out. The wars between the Romans and the Macedonians and Mithridates adversely affected the city's development and zoning activities [20]. After Diocletianus, who became the protector in A.D. 284, was declared an emperor in Nicomedia, he made Nicomedia the capital of the Eastern Roman Empire [21]. Nicomedia became the world's fourth largest city after Rome, Antioch and Alexandria in this age.
[19]. With the beginning of the Tetrarchy period in administration, Nicomedia was the scene of important political events. Maximianus was declared as a common emperor in A.D. 286, Galerius and Constantine were chosen as Caesar in this city in A.D. 293 [21].

With the division of the Roman Empire into two in 395, Izmit entered the Byzantine administration and became the center of one of the cities administered by governor generals. Izmit, which stayed as one of the important commercial and military ports of the Eastern Roman Empire, was invaded by the Iranians at the beginning of the VII century. In the Byzantine-Muslim Arab struggles, it was attacked by Arab raiders from time to time. After the battle of Malazgirt in 1071, in the presence of the struggle against the reign among Byzantine generals, when Emperor VII. Michael had to ask for help from Seljuk Turks in 1073, the Turks who entered Anatolia started to settle in the country to not leave again [22]. The first Turkish domination over Izmit lasted about 20 years between the dates of 1078-1097. When the Latin Empire was established in Istanbul in 1204, Izmit returned to the Byzantine dominance in 1207, although it had fallen into the hands of the Latin temporarily. Akçakoca Bey, commander of Orhan Gazi in 1327; captured Kandıra, Karamürsel and the south of the Gulf of İzmit and whole of İzmit in 1333. The name of the city which was Nicomedia until the Orhan Gazi Period, took the form of İznikomid in this period and then İznikmid [23]. The name of the city that passed as İznikmid in Turkish references has gradually turned into İzmit. During the period of Orhan Gazi, it joined the Ottoman lands between 1326 and 1330 by Akçakoca [24].

After the establishment of the Republic of Turkey on April 20, 1924; Izmit became the center of the province of the Republic of Turkey named Kocaeli. Cultural features of Izmit which was declared "European City" by the Council of Europe on September 11, 2001, and which is now known as "the industrial city, transit city, earthquake city, growing city, gulf city, coastal city and trade city" has always remained secret.

4.3. Recent period social structure of city
Izmit witnessed very complicated scenes and adventures in the history; Earthquakes, wars and migrations deeply affected the city's past. In 1890; The city had a total population of 25000, including 365 refugees (refugees), 12365 Muslims including 12000 locals (Turkish), 5875 Orthodox Greeks, 90 Protestants, 310 Catholics, 4250 Armenians including 3850 Gregorians, 2400 Jews, 100 French [14, 17]. These figures show us that the population density and effective structure of İzmit showed a racial/religious mosaic in the late 19th century. In 1914, there were a total of 24 districts in İzmit (1 Armenian and 1 Greek) (Figure 5) and Armenian and Greek neighborhoods created 29% of the population [25].

Figure 5. Districts of İzmit in 1914 [25]
In the first years of the 20th century, the borders of the Izmit Sanjak were reaching from Şile to İznik; and to Düzce from Tuzla. With the establishment of the Republic, the Sanjak qualification turned into the Province. Over time, these aforesaid geographical borders were reduced, but economic power and urban structure grew so much. Industrial movements that started in the Ottoman period, came to a peak during the Republican era. As well as affecting every country and city, after World War II (after 1945), which also affected Izmit, the social and economic life in Izmit changed. The days of fear and poverty of the Second World War were left behind, and the economic, social and cultural life of Izmit began to completely change. Administrative structure, working conditions, trade union movements, a new change and formation in education and health institutions started and there was a leap in public works [14].

Briefly summarizing the industrialization movement that started with multi-party life from the works of Yüce and Bayar; The historical city Izmit has become Turkey's richest and most tax-payer province and a city of production, investment and employment [14, 26]. The exhibition area and the end of the Gulf are under the wind of change. In recent years, İzmit has grown very much into a metropolis. Today, the city still continues to receive immigration because of the industrial city identity and the attractiveness of the university. The fact that society is made up of people with various cultures has caused the diversity of the urban population. Kocaeli city, which is located in the borders of Turkey and has continuous migration from abroad, has to grow fast and gives struggle for urban identity.

Over time, every society makes its own unique spaces. The architectural structure and the city within a social environment are changing with the exchange of some or all of the constituents of that social environment. In Kocaeli, which is a beautiful city with its Cotton Candy (Pişmaniye), Gulf and historical cultural texture, unfortunately as in many beautiful cities; there is annihilation in many areas such as cultural, social and architectural areas. For this reason, it is considered important to bring out the typological properties of Kapanca Street, where cultural traces can still be traced in Kocaeli.

5. Case study
5.1. Case area
In this article, Kapanca Street, which is in İzmit the centre of Kocaeli Province, in Urban Protected Area and in Akçakoca District and which is one of the rare places where Kocaeli’s history marks can be traces, has been chosen as study area (Figure 6).

Figure 6. Kocaeli urban protected area, the place of Kapanca Street in Akçakoca District and examined registered houses [27]

In this study, it is aimed that to bring out the typological properties of the houses are located in Kapanca street, which is one of the rare places where the marks of the local identity of Kocaeli can be traced and protects its authenticity and has a historical background more than a century and has an
important place in historical identity of Kocaeli and also it is aimed that and to transfer the values of Kapanca street to the future to provide cultural continuity.

Historic Kapanca Street where the traces of the local identity of the city can be seen; is located in the east-west direction connecting Sabri Yalım Street and Sirri Paşa Street to the south of Akçakoca District. It is an important street that has preserved traditional street-like character such as the street borders, landscape, material, rate, occupancy-space, and structured areas. The boundaries of the street on a narrow and steep slope have been determined by the buildings and garden walls that fit into the topography (Figures 7, 8, 9).

![Figure 7. Kapanca Street status in 2003 [28]](image)

![Figure 8, 9. Restoration and reconstruction works in Kapanca Street [29]](image)

As the parcel merging process, has been carried out for the two houses in the street where the 12 registered traditional houses belonging to end of 19th century and early 20th century are located; there are 10 registered houses 6 (Inventory No 4, 5, 6, 7, 8, 9) of them in the north and 4 (Inventory No 10, 11, 12, 13) of them in the south (Figure 10, 11, 12, 13). Of these, 7 were expropriated by İzmit Municipality and 3 by İzmit Chamber of Industry and some part of them have been refurnished with the protection works.
While in the entrance from the west side, there is a historical Armenian Protestant Church-A82 which is now used as “Directorate of Guidance and Research Centre” (Figure 14), there is Kapanca Street Fountain-A75 (Zeliha Woman Fountain) (Figure 15) dated 1783 in the east and a little further up the street, in the entrance from the east side there is a cistern-A74 which was restored and belong to late 19th century Ottoman Period (Figure 16).
When the plans made over three separate periods and covering a period of 100 years (Figure 17, 18, 19) are examined; it is clearly seen that, the morphological structure of the street, the parcel status, the difference in elevation between the starting and ending points of the street has not changed.

**Figure 14, 15, 16.** Historical Armenian Protestant Church on the Up-to-date Protection Aimed Zoning Plan for Kapanca Street and its close Vicinity (A82), 1783 dated Kapanca Street Fountain (A75), Cistern belonging to late 19th century Ottoman Period (A74) [29]

**Figure 17, 18, 19.** Kapanca Street and its close Vicinity 1925 Year, 1965 year and up-to-date plans [27]

5.2. Methodology of case
In this study, firstly an area study was carried out at Kapanca Street, which was chosen as a study area and located in the Urban Protected Area of İzmit and still preserves its original street texture and architectural features today. Secondly, the facade characteristics of the houses in the street where the monuments are located but the housing usage is seen intensively are examined by taking into consideration the features such as building material, location in the parcel and these properties are transformed into tables (Table 1a, Table 1b). Finally, by analysing these tables, the most commonly used architectural design elements were grouped in houses. Thanks to these typological properties obtained on the built environment, findings about the socio-cultural structure and the relation established by the society with the natural environment have been reached. It is expected that this method will be guidance to similar studies.
### Table 1a. Architectural features of the houses

| INVENTORY NO: | Location In Parcel | Roof Type | Floor Type | Basement Floor | Ground Floor | First Floor | Second Floor |
|---------------|--------------------|-----------|------------|----------------|--------------|-------------|--------------|
| 1             |                    |           |            |                |              |             |              |
| 2             |                    |           |            |                |              |             |              |
| 3             |                    |           |            |                |              |             |              |
| 4             |                    |           |            |                |              |             |              |
| 5             |                    |           |            |                |              |             |              |
| 6             |                    |           |            |                |              |             |              |
| 7             |                    |           |            |                |              |             |              |
| 8             |                    |           |            |                |              |             |              |

**Facade Coating:**
- D1
- W1
- W2
- D2
- W3
- W4
- D3
- W5
- D4
- W6
- W7
- W1

**Materials:**
- Plaster+Paint
- Alukon Tiles
- Wooden Coating
- Wood Carcass Brick Infilling
- Stone
- Sofa
- LEFAND
Table 1b. Architectural features of the houses

| INVENTORY NO | Location In Parcel | Roof Type | Floor Type | Basement Floor | Ground Floor | First Floor | Second Floor |
|--------------|--------------------|-----------|------------|----------------|--------------|-------------|--------------|
| 9            |                    |           | 1          |                |              |             |              |
| 10           |                    |           | 2          |                |              |             |              |
| 11           |                    |           | 3          |                |              |             |              |
| 12           |                    |           | 2          |                |              |             |              |
| 13           |                    |           | 2          |                |              |             |              |

Facade Coating: Door, Window

Legend: Plaster/Paint - , Alutarka Tile - , Wooden Coating - , Wood Carcass Brick Infilling - , Stone - , Sofa - , LEJAND -
6. Results and discussions

Area research in Kapanca Street and as a result of analyzes of positioning of traditional houses on the plot, plan and design elements that are often used reveal typological properties. These properties give clues about the natural environment and the social environment.

According to this:

- 4 of the houses (mostly) are based on street and single side class; 2 is based on single side class; 2 is based only on street, 1 is based on both street and whole plot; 1 is based on street and two side classes. Most of the buildings are based on the plots and streets. The fact that 8 out of 10 houses are based on the streets and the preservation of the original state today is a sign of the street haven’t been deteriorated. Street patterns have been formed thanks to this mostly used settlement choice. This planning principle, which can be regarded as a sign of strong social relations, provides information about the sincerity of human relations in the period. There are 1 House with 1 entrance, 4 houses with 2, 4 houses with 3, and 1 House with 4. The main entrance is in 6 houses (mostly) from street and in 4 houses from garden. The fact that Most of the houses are based on the street and the main entrance is from the street makes us think that Neighborhood relations and links between the house and the street are strong.

- 6 of the houses (most of them) have hipped-freestanding roof (four-direction sloping roof); 2 of them have half-hipped roof based on near plot; 2 of them have gable roof (sloping roof in two directions). It is possible to say that due to the fact that the houses have hipped roofs, it is possible to say that houses were built considering the climatic conditions of İzmit and traditional Turkish house. The use of wooden free standing roof and tiles is an indicator of the widespread use of local materials. The fact that the roof slope is not high is an indication that it is lived in a climatic region which gets rain rather than snow.

- 5 of the houses (mostly) are with two floors above ground; 4 are with two floors above the basement; 1 is with three floors above the ground. In this case, the houses are mostly with three floors and the use of basements in some houses is inevitable due to the fact that the street texture is inclined. Most of the buildings built with two floors above the ground prove that they are durable designs because the region is an earthquake region. At the same time, it is a sign that people who are inhabited belong to a society that prefers to live with nature and keeps in touch with the garden.

- Only 1 out of 4 houses in the basement has an exterior-hall (dış sofa). 9 of the ground floors have internal-halls (iç sofa); 1 has exterior hall. 8 of the first floors have interior halls; 2 have exterior halls. 5 of the 6 houses on the second floor have interior halls; 1 has exterior hall. There is only one house with the third floor, and it has an interior hall. Having interior hall in the majority of the houses is evidence that they have the features of the Traditional İzmit Houses. The large number of housing units of the inner hall-type plan is an indication of the importance of the relationship between the family members and the residents of the residence, usually using this space as a meeting place.

- 1 of the houses are completely plastered and painted. Four houses have the basement floor which are stone, 3 houses have stone ground floors, 1 house has wood carcass brick infilling on the ground and first floor, 4 houses have wood on the ground and the first floors, and have all wood on the second floors and the third floors. Due to its location on a sloping ground, most of the buildings have basement floors and stone is used in the basement and ground floors. Construction systems are stone, wood and wooden carcass brick-filled wall. The stacking system made for the purpose of sitting on the solid floor of the buildings is one of the indicators that the region is on the earthquake zone. The use of light and climatic wood materials on the upper floors is a statement that the material is easily accessible in the area.

- There are 3 houses with indentation-dentation on the ground floor and 4 houses with indentation-dentation on the first floor. All 6 houses with second floor have indentation-dentation on the second floor. There is only one house with the third floor, but there is no bow window. The majority of the bow windows are in the form of bay windows, which have an
important place in the Traditional Turkish House. The bay windows built mostly on the second floor are indicative of social life and neighborly relations in the houses. At the same time, most of the bay windows are headed for the gulf view.

- Among the houses, 1 has D1 type single-wing door, 2 have D2 type double-wing door, 1 has D3 type single-wing door, 1 has D4 type double-wing door, 1 has D5 type double-wing door, 3 (Most of them) have D6 type double-wing door, 1 has D7 type single-wing door and 1 has D8 type single-wing door. In the majority of the houses there is a D6 type wooden door which is mostly found in Traditional İzmit Houses [31]. The use of double-wing wooden doors is often an indication of the vast number of individuals living in the house, the strong connection with the outside world, and at the same time the hospitality.

- In 2 of the houses, there are casement windows of W1 type, 1 has W2 type casement window, 7 have W3 type guillotine window, 2 have W4 type guillotine window, 1 has W5 type of guillotine window, 2 have W6 type of casement window, 1 has W7 type casement window, 1 has W8 type casement window, 1 has W9 type casement window, 1 has W10 type casement window, 1 has W11 type casement window, 1 has W12 type casement window. In most of the houses, there are W3 type windows which are mostly found in Traditional İzmit Houses. The majority of the usage of wooden guillotine windows is due to the cedar arrangement in front of the window in the interior of the Traditional Turkish House. This window type, at the same time, is also used to help to get the air input and output under control.

- On average, 72.7% of the facades are filled and 27.3% is composed of spaces (from doors and windows). Due to construction systems, climate and privacy, small window and door ratios in the Traditional Turkish House are also available in these houses. So, the space ratio is low. The fact that the space rates in the facades are at this level is an indication of how important the privacy level on social order is. It can also be considered that the design has been made in this way, because of climatic reasons and the absence of a heating system in the houses.

With this study, differences about the city will have been stated and will have contributed to the city's identity value and cultural continuity will have been provided.

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