

THE SYNTACTIC ANALYSIS OF RELIGIOUS BUILDINGS IN THE KUZGUNCUK DISTRICT

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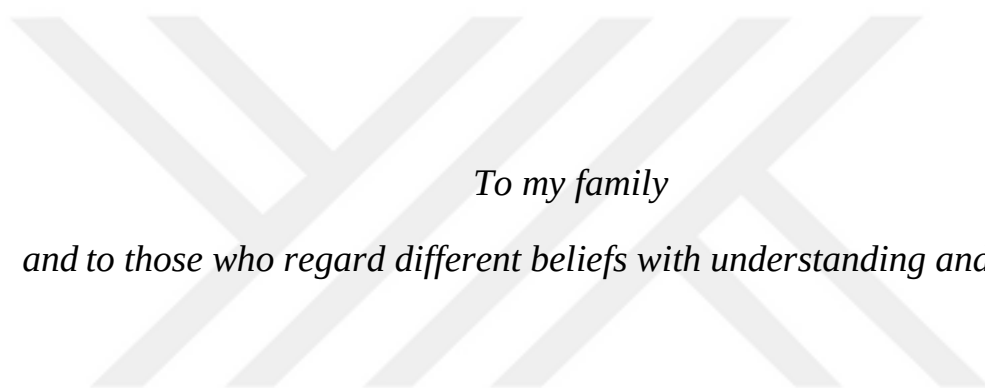
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*To my family
and to those who regard different beliefs with understanding and respect,*

ABSTRACT

Istanbul, known for its historical and commercial significance, has hosted a multitude of cultures and beliefs. One of the neighborhoods with a high concentration of cultural and religious diversity is Kuzguncuk, located on the Asian side of the Bosphorus. For centuries, Jews, Armenians, Turks, and Greeks have coexisted in this district, leaving cultural imprints that manifest in the urban landscape through the construction of their religious buildings. Examining this multi-religious and multicultural structure from an architectural perspective and understanding the perception of ritual spaces in this neighborhood is crucial for explaining the tolerance-based social interactions observed here. This study focuses on the Islamic, Jewish, and Christian buildings in Kuzguncuk. It aims to conduct a syntactic analysis of four buildings representing three different religions in Kuzguncuk: The Kuzguncuk Mosque, Bet Yaakov Synagogue, Agios Panteleimon Greek Orthodox Church, and Surp Krikor Lusavoric Armenian Church. Each building, with its unique architectural features, conveys a message to human perception and represents a place in the community's collective memory. These buildings embody the tangible expression of the religious doctrines to which they belong, determining the role of individuals within these spaces through their architectural characteristics. This study hypothesises that the architectural features of ritual spaces in Kuzguncuk significantly impact an individual's perception of space. The open architectural layout of mosques, with their large prayer halls and minimal internal divisions, creates a welcoming environment that promotes flexibility in worship rituals and communal gatherings. In contrast, the architectural design of churches and synagogues often reflects a more closed, hierarchical structure with divided internal spaces, emphasizing a more inward-looking

form of worship. This study hypothesizes that these differences in spatial configuration and architectural features between mosques, churches, and synagogues will be reflected in terms of spatial integration, connectivity, and accessibility at four designated points for each ritual space in Kuzguncuk. The spatial syntax analysis is expected to quantify these differences and reveal how the architectural characteristics of these buildings shape different social interactions and community dynamics. Furthermore, the study proposes that religious architecture significantly impacts the urban social structure and perceptual experience, influencing how communities interact within these spaces and in the broader urban context. The field study involved analysing four ritual spaces in the Kuzguncuk neighborhood. Scaled architectural drawings were obtained in DWG format, followed by detailed on-site visits to refine the plans. Using the Syntax 2D program, the perceptual effects of these spaces on individuals were detailed, offering opportunities to optimize the general usability of these areas through internal and environmental connections. The study examined perception at four points inside and outside the buildings: the center of the interior, the garden, the entrance gate, and the nearest intersection. Measurements from these points helped analyze the impact of architectural elements on visitor movements, sightlines, and overall spatial experience. The results of the spatial syntax analysis support the hypothesis that the architectural features of ritual spaces in Kuzguncuk significantly impact spatial perception and social interactions. The analysis revealed that the Agios Panteleimon Greek Orthodox Church, with its large isovist areas and high integration values, is a more open and accessible space. In contrast, the Kuzguncuk Mosque, with low integration and connectivity values, is a less interactive and accessible space. The high depth values and limited visibility parameters of Bet Yaakov Synagogue indicate that it is perceived as a more private and secluded worship

space. The Surp Krikor Lusavoric Armenian Church also has lower spatial integration and connectivity levels, creating a more private worship environment. These findings suggest that the architectural design of these religious buildings plays a crucial role in shaping community dynamics and social interactions within Kuzguncuk, highlighting the importance of considering architectural and spatial factors in urban planning and community building.



ÖZETÇE

İstanbul, tarihi ve ticari önemiyle bilinir ve birçok farklı kültür ve inanca ev sahipliği yapmıştır. Kültür ve din çeşitliliğinin yoğun olduğu mahallelerden biri de Boğaz'ın Anadolu yakasında yer alan Kuzguncuk'tur. Yüzyıllardır Yahudiler, Ermeniler, Türkler ve Rumlar bu mahallede bir arada yaşamış ve kültürel izlerini burada bırakmışlardır. Bu kültürel çeşitliliğin yansıması, her toplumun kendi dini binasını inşa etmesiyle kentsel ölçekte kendini göstermektedir. Bu çok dinli ve çok kültürlü yapının mimari açıdan incelenmesi ve bu mahalledeki ritüel mekânların algısının anlaşılması, burada gözlemlenen hoşgörüye dayalı sosyal etkileşimlerin nedenlerini açıklamak için kilit öneme sahiptir. Bu çalışma, Kuzguncuk'ta İslam, Yahudilik ve Hristiyanlık dinlerine ait dört dini binanın sentaktik analizini yapmayı amaçlamaktadır: Kuzguncuk Camii, Bet Yaakov Sinagogu, Agios Panteleimon Rum Ortodoks Kilisesi ve Surp Krikor Lusavoriç Ermeni Kilisesi. Her bina, birbirlerinden farklı mimari özellikler sergilemekte olup, ait oldukları dini kuralların somutlaşmış halidir. Bu yapılar, mimari özellikleriyle insanların bu mekânlardaki rolünü belirlemektedir. Bu çalışmanın hipotezi, Kuzguncuk'taki ritüel mekânların mimari özelliklerinin bireylerin mekân algısını önemli ölçüde etkilediğidir. Camilerin büyük ibadet alanları ve minimal iç bölünmeleri ile açık mimari düzeni, esnek ibadet ritüellerini ve toplumsal buluşmaları teşvik eden davetkâr bir ortam yaratır. Buna karşılık, kilise ve sinagogların mimari tasarımı genellikle daha kapalı, hiyerarşik bir yapıyı yansıtarak, içe dönük bir ibadet biçimini vurgular. Bu çalışma, camiler, kiliseler ve sinagoglar arasındaki bu mekânsal yapılandırma ve mimari özellik farklılıklarının, Kuzguncuk'taki her ritüel mekân için belirlenen dört noktada mekânsal entegrasyon,

bağlantı ve erişilebilirlik açısından yansıtılacağını öngörmektedir. Mekân dizimi analizi, bu farklılıkları nicel olarak belirleyecek ve bu yapıların mimari özelliklerinin farklı sosyal etkileşimler ve topluluk dinamiklerini nasıl şekillendirdiğini ortaya koyacaktır. Ayrıca, çalışma, dini mimarinin kentsel sosyal yapı ve algısal deneyim üzerinde önemli bir etkisi olduğunu ve bu yapıların geniş kentsel bağlamda nasıl etkileşimde bulunduğunu önermektedir. Bu tezin saha çalışması, Kuzguncuk mahallesinde bulunan dört ritüel alanın analizini içermektedir. Bu alanların ölçekli mimari çizimlerine DWG formatında erişilmiş ve planların ayrıntılı olarak iyileştirilmesi için yerinde ziyaretler gerçekleştirilmiştir. Syntax 2D programı kullanılarak yapılan analizler, alanın bireyler üzerindeki algısal etkilerini detaylandırmış ve bu alanların iç ve çevresel bağlantılar yoluyla genel kullanışlılığını optimize etme fırsatları sunmuştur. Çalışma, yapıların içi ve dışı olmak üzere dört noktada algıyı incelemeyi amaçlamıştır: iç mekanın merkezi, bahçe, giriş kapısı ve en yakın yol kavşağı. Bu noktalardan alınan ölçümler, mimari unsurların ziyaretçi hareketleri, görüş hatları ve genel mekânsal deneyim üzerindeki etkisini analiz etmeye yardımcı olmuştur. Mekân dizimi analizinin sonuçları, Kuzguncuk'taki ritüel mekânların mimari özelliklerinin mekânsal algı ve sosyal etkileşimler üzerinde önemli bir etkisi olduğunu desteklemektedir. Analiz, Agios Panteleimon Rum Ortodoks Kilisesi'nin geniş izovist alanları ve yüksek entegrasyon değerleri ile daha açık ve erişilebilir bir alan olduğunu ortaya koymuştur. Buna karşılık, Kuzguncuk Cami'nin düşük entegrasyon ve bağlantı değerleri, bu mekanın daha az etkileşimli ve erişilebilir olduğunu göstermektedir. Bet Yaakov Sinagogu'nun yüksek derinlik değerleri ve sınırlı görünürlük parametreleri, bu mekanın daha özel ve dışa kapalı bir ibadet alanı olarak algılandığını ortaya koymuştur. Surp Krikor Lusavoriç Ermeni Kilisesi ise daha düşük mekânsal entegrasyon ve bağlantı düzeylerine sahip olup, daha özel bir ibadet alanı

yaratmaktadır. Bu bulgular, bu dini yapıların mimari tasarımının Kuzguncuk'taki topluluk dinamikleri ve sosyal etkileşimleri şekillendirmede önemli bir rol oynadığını göstermekte ve kentsel planlama ve topluluk inşasında mimari ve mekânsal faktörlerin önemini vurgulamaktadır



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CHAPTER I

INTRODUCTION

Istanbul is a bridge connecting Asia and Europe, making it a pivotal stopover and transit point. Under the dominion of numerous empires throughout history, this city has hosted people from various cultures and faiths. The geopolitical position of Istanbul, alongside its sanctity among different religions, further elevates its significance. Presently, we observe the coexistence of people from diverse ethnic backgrounds in certain districts of Istanbul, with Kuzguncuk being a prominent example of such diversity. Located between the Paşalimanı and Beylerbeyi districts on the Anatolian side of Istanbul, Kuzguncuk is a neighborhood by the Bosphorus where Turkish, Greek, Armenian, and Jewish communities have lived together for centuries, each community contributing traces of their culture. One reflection of this cultural diversity is each community's construction of religious buildings, exemplifying how cultural diversity manifests at an urban scale. In Kuzguncuk, religious buildings belonging to Islam, Christianity, and Judaism are present and shaped within their respective cultural contexts. This study focuses on the Kuzguncuk Mosque, Agios Panteleimonas Greek Orthodox Church, Surp Krikor Lusavoric Armenian Orthodox Church, and Bet Yaakov Synagogue. A syntactic analysis of these four religious buildings in the Kuzguncuk district will be conducted. Each building holds a distinct meaning within its culture and is perceived in a particular way by its community. The starting point of this research is the hidden dimension of these religious buildings on a scientific basis. Thus, a person can objectively discuss and analyze the data obtained from religious buildings without the influence of

any culture or belief through mathematical calculations. This allows for objectively examining the perception obtained from religious buildings within a syntactical concept. Consequently, the perception of the buildings' interiors, their relationship with the street outdoors, and the comparison of ritual spaces belonging to three different religions can be objectively compared through syntactical analyses. These buildings' lack of syntactic analysis has led to insufficient information regarding their spatial differences and approach to users. This information gap creates uncertainty about the frequency of their use, how they are perceived within the city, and the message they convey to users.

1.1 Aims, objectives, and research questions

In the study, a syntactic analysis will be conducted on the Kuzguncuk Mosque; Agios Panteleimonas Greek Orthodox Church, Surp Krikor Lusavoric Armenian Orthodox Church; and Bet Yaakov Synagogue located in the Kuzguncuk district. The four religious buildings to be researched were constructed between the 19th and 20th centuries. The historical research of ritual spaces aims to understand how these buildings' history, architectural characteristics, and spatial arrangements are related to rituals and community values. This analysis encompasses not only the buildings' physical characteristics but also their cultural and religious meanings. The history of these buildings is essential to understand their meaning and impact on the community.

Following the historical research, the buildings are examined through the space syntax method to identify and compare spatial differences. The spatial differences between buildings associated with the three religions have yet to be discovered. The reasons for these differences, their impact on users, how they are perceived within the city, and the message the buildings convey to users will be investigated.

Research questions:

- What are the spatial differences between religious buildings in the Kuzguncuk neighborhood?
- How do the architectural characteristics of these ritual buildings affect people?
- How do people perceive these ritual buildings?
- How are the interiors of these buildings perceived?
- What are the differences in the relationship between the exteriors of these buildings and the street?

The answers to these questions are essential for the analysis of ritual buildings. This study will contribute to future research in this field.

1.2 Scope and limitations of the study

This research conducts a syntactic analysis of four ritual buildings in the Kuzguncuk district. Initially, the architectural characteristics of each ritual building were examined. The spatial arrangement and usage of each building were researched. How the congregation uses the spatial layout of religious buildings for worship rituals was studied. The architectural features, decorations, spatial configuration, and usage of ritual buildings significantly affect users' perception and experience of the building. Consequently, ritual buildings transcend merely as physical spaces and become tools reflecting a community's cultural, religious, and social characteristics. The sanctity of ritual buildings elevates their value and importance in society compared to other buildings. These spaces are where users experience spiritual encounters. Decorations in the space provide information about the rituals and stories associated with the ritual space, remind users of the religious history, and reinforce their spiritual experiences. The architectural features, decorations,

spatial layout, and usage of the ritual building play a role in deepening users' experiences of the buildings, affecting the perception of the ritual space.

The selected religious buildings are Kuzguncuk Mosque, Agios Panteleimonas Greek Orthodox Church, Surp Krikor Lusavoric Armenian Church, and Bet Yaakov Synagogue. These historic religious buildings in Kuzguncuk are chosen because of their proximity, size, and symbolic significance. These buildings are located on the main streets of Kuzguncuk. The reason for selecting four points is to analyze the perception of the ritual space from the center of the interior, the garden, in front of the garden gate, and the nearest intersection. In the research, four different points were chosen from each religious building: the center of the interior, in the garden, in front of the garden gate, and at the nearest intersection. The analysis of the interactions that ritual space users establish with the inside and outside of the space and the position of ritual buildings within the urban fabric was conducted through these points. The first point, taken from the center of the interior, provides information on the spatial configuration within the ritual space and represents the user's experience inside. The second point, taken from the garden, is located where communities belonging to ritual spaces conduct their religious, social, and cultural activities, providing information on how users utilize this area. The third point, taken from in front of the garden gate on the roadside, is where the ritual space interacts most with the city, providing information about its integration with the urban fabric and perception of the public space. This point informs about the accessibility and visibility of the ritual space within the city. The fourth point, nearest the intersection, provides information about their positions within the urban network and movement to the building. The analysis of these four points offers a perspective necessary for understanding the role of ritual spaces in the urban fabric. Researching the history of religious buildings is a crucial before the syntactic analysis. The history of these buildings is fundamentally

better to understand their meanings and their impact on society. History reveals why these spaces were constructed this way, how they have evolved, and how social, cultural, or political events have altered them.

1.3 Hypothesis

The architectural features of ritual spaces in Kuzguncuk significantly impact an individual's perception of space. The open architectural layout of mosques embraces the community, providing flexibility in worship rituals and allowing visitors to access these spaces at any time to fulfill their religious needs. Consequently, the analyses suggest that mosques are expected to be more accessible, reachable, connected, and integrated with the urban fabric. In this context, it is anticipated that at the four designated points, mosques will exhibit higher values in terms of spatial integration, connectivity, and accessibility compared to synagogues and churches.

In contrast, churches and synagogues reflect a closed, inward-looking form of worship with a divided, hierarchical building. Due to the closed, segmented, and hierarchical spatial arrangements of synagogues and churches, their values for spatial integration, connectivity, and accessibility are expected to be lower. The analysis is expected to reveal how these differences in spatial configuration and architectural features between mosques, churches, and synagogues are reflected at the four designated points for each ritual space in Kuzguncuk. These reflections shape different social interactions and community dynamics. It suggests that spatial syntax analysis can quantify the differences at points within ritual spaces. It proposes that religious architecture will impact urban social structure and perceptual experience.

1.4 Methodological Approach

The introductory section, which constitutes the first part of the study, presents the general framework of the research; the study's objective, hypothesis, scope, and methodology are detailed. These foundational details facilitate the understanding of the subsequent sections of the research.

The second section includes a theoretical discussion, addressing the role and examples of ritual space research within environmental behavior theories. Studies on ritual spaces that utilize space syntax are also reviewed, reinforcing the theoretical framework with concrete examples.

The third section further explores the relationship between Istanbul's urban morphology and precisely the ritual spaces in Kuzguncuk.

The fourth section elaborates on our methodological approach, particularly detailing space syntax and the other parameters used, thus providing comprehensive information on how the research was conducted.

The fifth section introduces the ritual buildings to be analyzed and presents the values obtained from specific points within these buildings alongside maps to foster a more visionary understanding. In this section, 'Point 1, 2, 3, 4' subsections detail the values obtained at four different points in each of the four buildings. Under the 'Comparison tables' subsection, a parametric comparison is made between Kuzguncuk Mosque, Agios Panteleimonas Greek Orthodox Church, Surp Krikor Lusavoric Church, and Bet Yaakov Synagogue, determining which point of which building has higher or lower values. This situation is discussed in detail. In the 'All points analysis' subsection, an evaluation is conducted on the points within each building's interior and exterior, thereby making significant remarks about the design and perception of the buildings.

Lastly, the sixth section discusses the results from a broad perspective, interpreting the position and design of ritual spaces within the Kuzguncuk district based on the parameters results. The transitions between these sections demonstrate how knowledge is expanded and deepened at each research step.

This study utilized three methods: literature review, measurement, and analyses made with space syntax. The research will investigate a mosque, a Greek Orthodox church, an Armenian church, and a synagogue. These buildings are Kuzguncuk Mosque, Agios Panteleimonas Greek Orthodox Church, Üsküdar Surp Krikor Lusavoric Armenian Church, and Bet Yaakov Synagogue. The first step of the research is to gather information about Kuzguncuk and its religious buildings. For this purpose, the history of the buildings was researched and provided by consulting sources. Historical research was conducted. syntactic analysis was conducted according to parameters determined from their plans of the four selected religious buildings. Space syntax is one of the urban morphology approaches. It is a theory put forward by Hillier and Hanson and their research group in the late 1980s. This method aims to reveal the relationship between the physical structure of the city and its social structure. It involves creating a numerical data set related to urban morphology. Space syntax is a quantitative method that allows for analysing open and closed spaces [1].

The effectiveness of this method was also observed in a study conducted in China, where the spatial structure of temples and historical sites was analyzed in detail using space syntax. In examples such as the Lion Grove Garden Temple in Suzhou, predictions made using space syntax theory have shown that spatial and visual characteristics impact the distribution of visitors over time and space [2].

These findings demonstrate the critical importance of analysis methods based on space syntax for conserving, redesigning, and revitalizing historical buildings. Thus,

applying the space syntax method can significantly contribute to preserving and revitalizing historical and cultural heritage.

The capacity of this method to examine interactions between different spatial configurations and human behaviors was also tested in a study conducted in Cairo, Egypt; here, the effects of various spatial arrangements on human behaviors were thoroughly investigated. The study involved looking at the syntactical properties of heritage buildings and the outcomes of various spatial properties on human behaviors. Isovist area and connectivity parameters, which express visual accessibility, were used in this study. High visual accessibility values mean that nodes connected to the heritage building from all directions can see many places directly and cover a wide visible area, enhancing visibility throughout the space. Risk managers should comprehensively examine the social context and how people use the space. The research results clearly showed that the social context should be fully considered along with the spatial context, as it was explained that when heritage buildings are in less accessible spaces where people move less and are separated, violent activities such as looting and crime increase [3].

These research results demonstrate the applicability and effectiveness of the space syntax method in various cultural and geographical contexts. For instance, a study conducted at the Daming Temple in Yangzhou City, China, mentioned multiple factors that could affect visitors' preferences in heritage areas. These include concrete and abstract characteristics of landscape elements, personal knowledge, and cultural background. It has been emphasized that the effects of spatial sequence can also affect visitors' behaviors and environmental perceptions in landscape areas [4].

In this context, understanding the impact of spatial syntax and environmental factors on visitors' perceptions is an essential part of ecological studies. Cognition and perception play a significant role in these studies. The most important contribution of

cognitive studies in the professional direction is the determination of parameters affecting human behaviors and actions in spaces and the orientation of users at the city scale [5].

An example of the practical application of this approach is the separate analysis of spaces in Chiang Saen using spatial syntax analysis. While dominant concepts such as economic politics, social inequality, and religious rituals were used to examine archaeological sites in this region, the application of quantitative space syntax analysis to understand spatial organization provided new interpretations of typical social dynamics and movement within structures with open spaces. It has played a significant societal role [6].

Similarly, in this study, the different spatial configurations of each section of the ritual buildings significantly influence how visitors perceive these spaces. For this reason, four points were selected for each ritual site: the interior, garden, front of the garden gate, and the nearest intersection. The data obtained from these points will be thoroughly analyzed using the space syntax. This analysis will employ parameters such as isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, connectivity, and integration to compare the spatial characteristics of the buildings and their effects on people. This methodology allows a better understanding of how spaces are used and how visitors respond to these environments. The concrete outcomes of these analyses are clarified by the findings obtained at Points 1, 2, 3, and 4:

At Point 1: Compared to other buildings, Kuzguncuk Mosque has the lowest isovist area, mean depth, mean radial value, connectivity, and integration, indicating it is less visible and accessible. Agios Panteleimonas Church has the highest values, while Surp Krikor Lusavoric Armenian Church has the highest occlusivity and compactness, suggesting a more enclosed building. Kuzguncuk Bet Yaakov Synagogue has the highest isovist perimeter, mean depth, and circularity.

At Point 2: Kuzguncuk Mosque has the highest occlusivity value, while Agios Panteleimonas Greek Church shows the highest values in parameters such as isovist area, compactness, mean radial, connectivity, and integration. Surp Krikor Lusavoric Armenian Church and Bet Yaakov Synagogue display distinct values and notable characteristics.

At Points 3 and 4: A comparison of the four selected points among Kuzguncuk Mosque, Agios Panteleimonas Greek Church, Surp Krikor Lusavoric Armenian Church, and Bet Yaakov Synagogue has been made. The impact of each ritual building's spatial characteristics on visitors' perceptions and behaviors was examined.

This study demonstrates that the spatial characteristics of religious buildings significantly affect how people move, perceive, and interact within these spaces. At the end of the research, data obtained inside and outside the space will be compared and interpreted. The results of how ritual buildings affect human perception and their relationship with the Kuzguncuk neighborhood will be obtained. These results emphasize the need to consider these spatial characteristics in designing and managing ritual spaces.

1.5 Chapter Results

Based on the comprehensive investigation of the Kuzguncuk district in Istanbul, this study explored the architectural and spatial characteristics of four religious buildings representing Islam, Judaism, and Christianity. Significant insights into the impact of these religious buildings on urban morphology and human perception have been garnered through applying syntactic analyses using the space syntax method.

The research revealed that each building, due to its unique architectural features and religious significance, offers distinct spatial experiences and conveys specific messages to the community. With its open and flexible layout, the mosque facilitates

communal worship and emphasizes directionality towards the qibla. In contrast, the Greek Orthodox church, the Armenian Orthodox church, and the synagogue display a more compartmentalized space, reflecting their ritual needs and hierarchical structures. Spatial syntax analysis highlighted differences in accessibility, integration, and connectivity among the buildings, providing a quantitative basis for comparing these religious spaces. Despite facing challenges in measuring and accessing all interior spaces, especially in the church and synagogue, the study efficiently utilized the available data to conduct a thorough analysis. The results underscore the role of religious buildings in shaping urban fabric and community interactions in Kuzguncuk. The diversity of architectural styles and spatial arrangements reflects the multicultural heritage of the district, contributing to a rich urban landscape. This research adds to understanding the relationship between architecture, religion, and urbanism and lays the groundwork for future studies on religious spaces and their societal implications.

CHAPTER II

THEORETICAL DISCUSSION

The neighborhood concept encompasses collective memory, forms a bond among neighbors, and reinforces shared values [7]. This social and cultural building contributes to preserving the historical and cultural richness of Istanbul's neighborhoods and deepening the relationships among its residents. The neighborhoods in Istanbul carry historical, cultural, and social significance; they play a crucial role in how residents interact with each other and their surroundings. This extensive interaction also facilitates harmonious coexistence among individuals from diverse cultural and religious backgrounds.

This study analyses a mosque, a Greek Orthodox church, an Armenian Orthodox church, and a synagogue in Kuzguncuk, both at an architectural and neighborhood scale. Neighborhoods like Kuzguncuk, which are culturally rich and diverse, possess a readily identifiable character, as highlighted by Amos Rapoport [5]. This character is shaped by the profound impacts of the neighborhood's religious buildings on the local culture. The role of ritual spaces in defining Kuzguncuk's religious diversity is significant. As Michelson [8] notes, these spaces play a critical role in the perception of the whole in cities, the perception of details, or smaller parts, aids in the deductive understanding of the city's overall structure. Each ritual space in Kuzguncuk contributes to understanding the neighborhood's general cultural and religious identity [5]. These spaces reflect neighborhoods' architectural and cultural diversity and are shaped by residents and designers. This supports Rapoport's assertion that the designer does not control the physical environment, particularly the built environment. This setting results from local

architecture, which is overlooked mainly in architectural history and theory [5]. Local architecture not only reflects aesthetic or functional characteristics but also mirrors the cultural and historical context of the society. In this context, the religious buildings on İcadiye Street and Kuzguncuk Market Street in Kuzguncuk represent the architectural features and the cultural and social buildings as integral parts of the local architecture. It can be said that religious spaces play a significant role in the settlement of the Kuzguncuk district as these spaces are established on the main and busiest streets of Kuzguncuk. The neighborhood has developed around these religious buildings.

The religious buildings serve as places of worship and influence the social structure and physical layout around them, often determining the placement and organization of other buildings in urban and rural areas [9]. For instance, the placement and orientation of these buildings typically hold significant cultural importance, impacting the surrounding areas' spatial arrangement and social functions. The effects of such religious buildings extend beyond public and societal spaces; the profound influence of religion on architecture reaches as far as the design of individual homes. The subject of religion shapes the form, plan, spatial arrangements, and orientation of homes, contributing to the emergence of both round and rectangular houses. This also affects religious spaces' form, layout, and spatial arrangements. Religious buildings reflect not only architectural features but also the spiritual and hierarchical values of the community, reinforcing these values and influencing how spaces are used and perceived by residents [9]. This relationship between religious spaces and their environmental context showcases the deep integration of cultural, religious, and architectural elements in community planning. To better understand the tangible examples of this integration, this chapter examines four ritual spaces in Kuzguncuk from various theoretical perspectives,

including architectural design, behavioral, cultural, social environments, and space syntax. This research aims to thoroughly understand the impact of the physical placement and architectural features of spaces on user experiences and perceptions, exploring these spaces' symbolic, functional, and societal roles within architectural history. The fundamental elements of culture will be defined, and how religious buildings reflect these elements will be analyzed. The influence of religious buildings on the social environment and the effects of the social climate on these buildings will be discussed. Changes in the social environment's impact on the design and functions of religious buildings will be examined. The effects of Space Syntax on the design and placement of ritual spaces will be analyzed. The differences between sociofugal and societal spaces and how these concepts are integrated into space design will be discussed. Each subsection will delve deeply into a specific theoretical perspective, enriching the discussion. The impacts of these theoretical frameworks on the analysis results will be summarized, and the integration of the four ritual spaces in Kuzguncuk into the urban fabric and their effects on social interactions will be evaluated.

2.1. Location of Religious Buildings in Architecture History

Religion is defined in the Turkish Language Association dictionary as a social institution that organizes belief in God, supernatural powers, and various sacred entities, as well as their worship. It is also described as an order that encapsulates these beliefs through rules, institutions, customs, and symbols. The English word 'religion' originates from the Latin 'religio' meaning 'obligation' or 'bond.' This term reflects how adherents are bound to God or gods and each other through religious practices. In Hebrew, religion is commonly referred to as 'Tora,' though today, Jews use the term 'data' for religion [10].

According to the Oxford Dictionary, religion is believing in and worshipping a supreme power, especially a personal God or gods. The concept of a 'personalized God' in monotheistic religions such as Judaism, Christianity, and Islam is depicted as a creator who communicates, possesses emotions, and has a purpose of creation [10]. Depictions of God in religious doctrines often present God as the highest authority [11].

These diverse definitions of religion commonly include aspects such as gathering people around a specific worldview, offering a lifestyle, organizing daily life, creating a system of values, and influencing that system. Religions are founded on sanctity [11]. The sacred and authoritative structure of religion impacts physical buildings. Religion influences space design both physically and metaphysically through its sacred spaces. Each religion's symbolic and aesthetic values are directly reflected in architecture.

According to Lynch, the physical features of a city's areas, such as texture, scale, shape, detail, building type, function, activities, population structure, and geography, are determined by various elements [12]. As Lynch noted, for a mass to be defined as a landmark, its position is more important than its size, as the most crucial feature of a landmark is its easy distinguishability and the direct visual relationship it establishes with the observer [13]. In this sense, religion plays a decisive role in individual buildings, broader urban planning, and social life. This is often seen in cities developed around religious buildings and how these buildings shape cultures, clearly showing religion's influence on social and cultural buildings as a shaping force in developing cities and communities across different regions. The excavations at Göbekli Tepe have provided evidence that cities developed around temples. According to these findings, temples were built first, and hunter-gatherer communities gathered around them for maintenance, eventually leading to the construction of dwellings and the transition to settled life, laying

the foundations of cities [11]. Greek cities can similarly see how temples at Göbekli Tepe shaped societies and transformed social buildings. Greek cities were clustered around sanctuaries, and the Acropolis was placed at the highest peak. These structural arrangements are similar in different cultures. In Mesopotamia, ziggurat-planned structures aiming to reach the sky god became the most significant buildings in these cities [14]. The impact of religion on social and cultural buildings has contributed to the formation of places of worship, such as sacred forests in Japan. Initially, holy trees, rocks, caves, springs, and holy mountains served as places of worship, later replaced by permanent temples. This transformation has similarly occurred worldwide. In early urbanization in India, large cities where ancient Buddhist stories were written serve as examples [11]. These types of urbanization dynamics have been seen in similar forms across different cultures; for example, the acceptance of Manichaeism by the Uighurs and the construction of temples encouraged the establishment of cities around these temples [14]. Similarly, in the Mayas, religious centers also manifested as large cities developed around a temple area. This religion-centered urbanization is also observed in the Ottoman Empire. Throughout history, Ottoman cities grew around markets, mosques, and fortresses. Mosques and markets were usually established in central locations that were easily accessible, and the city expanded around this core [15]. According to İnalçık [16], the city of Istanbul has historically been established around complexes it contains. These architectural arrangements emphasize the historical and symbolic significance of religious buildings that form the city's identity. Every era and every belief have left its architectural marks on the city through these buildings.

Therefore, religious buildings are not just physical spaces but also significant elements that shape and define the identity of cities with their historical and monumental

values and symbolic and architectural features [17]. During the Ottoman period, mosques were more than religious and architectural symbols. These buildings played a crucial role as centers of social and political power. Mosques have become fundamental buildings shaping the architectural and social fabric of cities. Initially, mosques were used to determine the locations for founding cities, and over time, they have become significant buildings by transforming existing religious buildings or constructing new mosques, thereby lending identity to cities [18].

The mosque serves as a symbolic gift from the central government's control following the economic and cultural prosperity period and the 1821 uprising, marking the power of the Ottoman capital in the city. Similarly, Constantine's declaration of Christianity as the state religion in the 4th century necessitated the creation of more functional and symbolic places of worship for Christian communities. This has led to a new era in architectural design. Additionally, the religious buildings of each belief utilize the natural and cultural environment in various ways [11].

In this context, synagogues during the Middle Ages reflected every aspect of Jewish social life and were built with very plain facades to avoid attracting attention within their communities. This architectural choice allowed synagogues to serve as religious spaces and social and cultural havens [10]. In this sense, synagogues within the city opted for intentional invisibility yet remained central to Jewish life. Throughout the historical development of monotheistic religions, temples have emerged as sanctified places where the presence of God is felt and where believers engage in prayers and worship. The concept of heaven has served as an initial example and a concrete manifestation of the universe's structure, mainly forming the basis for the Temple of Jerusalem and subsequent temples. Temples in monotheistic religions act as sacred points

of connection between the Creator and the created. This connection occurs within the interior spaces amidst the public exterior, as these areas are designed to sustain communal life. In this regard, the common characteristic of worship places belonging to all three religions lies in their religious functions and fulfilling social roles such as marriages, funerals, and education [10].

As a result, throughout history, places of worship have served as more than just sacred sites; they have been pivotal in shaping and expressing communities' cultural and social identities. In the evolutionary process of monotheistic religions, these buildings have not only been venues for religious rituals but have also stood as centers of social life. The dual function of religious buildings has profoundly impacted societies and urban fabrics, positioning these buildings as critical junctions where architectural, religious, cultural, and social life converge through history. Future studies can expand our knowledge in this field by examining how religious buildings have served similar or different social functions across various geographies and historical periods in more detail. The following section will closely examine the impact of these religious buildings on the social environment, mainly focusing on how these buildings intertwine with social interactions and environmental dynamics and their transformative role on the social environment. This will further elucidate that religious buildings hold religious significance and function as social and cultural influence agents.

2.2. Religious Buildings and Social Environment

Every society and culture produce spaces and cities with unique characters, identities, and histories. Thus, each society and culture's distinct urban and spatial character demonstrates how architectural styles influence individual attitudes and

behaviors and shape cultural lifestyles. When entering a building, its architectural style and function guide its users' attitudes and behaviors. This influence is supported by architecture and the religious beliefs and cultural norms accepted by society. Religion can change society through its accepted position, societal rules, and thought systems. Another influential factor is culture, which shapes the lifestyle of a society and daily life. Religion blends with culture, intertwining deeply. The concept of sanctity fundamental to each religion prominently manifests itself in architectural designs and the organization of urban spaces [19]. These phenomena impacting human life are reflected in ritual spaces. Ritual spaces are not just places of worship; they also affect the urban fabric and are deeply integrated into the social fabric of the communities they serve. Throughout history, various religions, from mosques to synagogues, have designed places of worship as sacred spaces and buildings that strengthen, shape, and express social and cultural identities.

The synagogue is one of the Jewish lifestyle's most fundamental and central institutions. In Judaism, worship includes religious practices and behaviors but is also seen as piety encompassing all aspects of life. The synagogue is more than a place of worship in the Jewish way of life; it also serves as a center for culture, education, social service, and community solidarity [20]. Besides being a place of worship, it includes facilities like a dining hall serving kosher foods, a religious school, a library, and a care home. The social arrangements within the synagogue are also reflected in the architecture, with seating areas determined by social status and roles within the community. For instance, respected members of the community sit near the front-facing east, towards the ark, while well-known Jews sit along the western wall, and ordinary Jews, beggars, and needy foreigners are seated at the back. This setup demonstrates how synagogues serve

their religious functions as social and cultural centers. In essence, the synagogue is where the Jewish nation finds its identity and is considered sacred. Therefore, the interior design elements and spatial symbols that give synagogues, churches, and mosques their identities as places of worship reveal the unique foundational building of these places of worship [10].

The origins of Western architecture trace back to ancient Egyptian religion and knowledge. The emergence and spread of Christianity in the West spurred significant advancements in architecture and visual arts over the next 1200 years. In ancient Greece, temples were solely sacred, accessible only to priests and selected individuals. During the Roman era, the focus shifted to urban life, prompting the construction of enclosed buildings for public use, thus integrating religious activities within indoor settings, and establishing the foundation for religious spaces. Early Christians established churches wherever believers gathered, initially within residential areas. Over time, the non-religious basilicas of the Roman Empire served as gathering places. Due to persecutions by Romans at the beginning of Christianity, believers were compelled to practice their faith in catacomb-like underground temples. However, they later constructed churches modelled, though not precisely, after the Temple of Jerusalem, aligning with the New Testament. Over time, these worship spaces became increasingly grandiose to inspire and attract converts, sanctifying them as 'houses of God.'

Historians such as Benevolo and Pirenne said 'episcopal cities' emerged during the 4th century A.D. In contrast, administrative powers like city councils declined in ancient and Hellenistic European cities, and bishops began to assume these roles, shaping urban development with Christian religious symbols [21]. In Islam, the primary sacred space is the Kaaba, encompassed by the Masjid al-Haram, which in Arabic means 'the sacred

mosque.' According to Liou [22], the temples of monotheistic religions are constructed as reflections of the concept of paradise mentioned in their holy scriptures. Paradise is not just the beginning of human lineage but also life itself, representing a terrestrial reflection of a celestial reality. Malaty [23], similarly describes the first paradise as 'God's Holy House,' where God planned to meet humanity without needing an altar, sacrifice, or incense, thus reimagining paradise as an architectural creation. In this context, ritual spaces of these three religions with beliefs in the afterlife have settled into the heart of cities, playing a central role in urban design.

In Islamic cities spread across vast geographies, there is a consistency in both physical and social structures. Upon conquest, these cities quickly filled with Islamic buildings like mosques, Sufi lodges, mausoleums, and madrasahs. The primary features of these cities, shaped by ethnic and religious diversity, include introverted homes, streets, fountains, water channels, bathhouses, and centrally located mosques close to marketplaces. Religion is central in these cities, with social life predominantly unfolding in mosques and marketplaces. Such cities can be viewed as conglomerates of neighborhoods centered around mosques. In a Muslim country, religious rituals are intertwined with everyday life. Major or Friday mosques, where large congregations gather for Friday prayers, are typically located near or within the city's leading commercial and production areas. The mosque serves as the forum of the Islamic city [14]. Life is shaped by respect for traditions and customs, religious rituals, celebrations of religious festivals, and sharing of material and spiritual values, all centered around mosques. The mosque is almost the venue where all social and cultural life occurs. Thus, the worldview of Islam has shaped the physical and social appearance of the city, prepared as a place where the commands and prohibitions of Islam are observed. Doğan Kuban

notes that unlike in Europe, old Turkish cities did not have distinct squares; instead, the functions of squares were fulfilled by mosques and mosque courtyards. Furthermore, there was no societal demand to support the development of squares, as seen in Europe [14]. Therefore, there was no agora in Islamic cities for daily activities, but there had to be a central Friday Mosque for Friday gatherings. Central mosques were not only the focal point of religion but also of social life. Mosques and mosque courtyards have emerged as the meeting points of the Muslim community and as public spaces where political demonstrations take place. A Turkish city's core comprises a mosque, an inn, a few shops, and a bathhouse. Over time, the cultural services provided by mosques have reflected on their surroundings. From the 16th century onwards, coffee houses around mosques served the mosque congregation like "reading houses". Additionally, spatial segregation became inevitable as social and cultural institutions developed beyond what could be managed within the mosque. Even under Islamic patterns, commercial relationships and activities have produced unique institutions and buildings [14]. In the Middle Ages, European cities were smaller than the capitals of Islamic countries and the East and did not have extensive lands. From the eleventh century onwards, cities began to gain autonomy [24]. The differences between European and Islamic cities stem from geographical conditions and differences in the priorities of people's beliefs, lifestyles, and goals.

These historical examples demonstrate that ritual spaces serve as sacred symbols and buildings with the power to shape society. Temples, churches, and other religious buildings, recognized as the house of God, have represented heaven, and influenced cities' social and cultural fabric, transforming societies. Consequently, the configurations of religious buildings and public spaces in Islamic and historical European cities emerge as

defining elements of their social and cultural life. The profound impact of religion on physical space has shaped not only the architectural building of cities but also their social dynamics and cultural identities. The public sphere forms the foundation of political community. According to Habermas, Arendt, and Sennett, the public sphere is a symbolic space that allows individuals from different ethnic and religious communities to interact to form a common political community [25]. The public sphere is where politics becomes visible. These thinkers argue that the public sphere is the stage where political actors perform, and public issues become visible and perceptible. In this context, religious buildings also serve the purpose of forming a common political community. Therefore, these structures, where political activities gain visibility, are built in the most bustling areas.

In this context, mosques, churches, and other religious buildings function not merely as places of worship but also as centers of social and cultural life, playing a critical role in understanding how cities have developed and how societies have been organized over history. These buildings hold a central place in interreligious and cultural interactions and in shaping societal buildings and individual lives.

2.2.1. The Dynamics of Social Environment

Environmental design research comprehensively examines people's interactions with their living environments and integrates this information with environmental policies, planning, and designs to enhance life quality. Known briefly as EDR, these studies hold significant theoretical importance [5]. As a practical reflection of this theoretical importance, EDR is an effort conducted with specific goals and strategies to resolve issues arising from human interaction and the environment, ensuring its orderly

functioning. This research explores physical environments that embody human behaviors and experiences, revealing the behavioral and social aspects of design and planning [5]. This general framework demonstrates how perceptions towards ritual spaces within cities are explained quantitatively at both architectural and urban scales. This approach, relevant at both architectural and urban levels, falls under the scope of environmental design research.

Perception plays a critical role in the process of environmental design research. In this context, 'perception' derives from the Latin 'precipice', meaning to understand and notice through the senses. Perception is acquiring information from one's environment, which integrates with design and planning efforts [5].

All processes related to perception are described using different concepts by Amos Rapoport [26], a prominent figure in the study of the culture-environment relationship. Rapoport focuses on structural environmental forms, integrates the concept of culture within the environmental behavior literature, and demonstrates significant variations in housing forms globally. According to him, housing forms depend on technological and extensive socio-cultural factors such as climate, materials, and construction techniques.

Rapoport asserts that our interaction with the environment goes beyond merely viewing it as a photograph. As members of a cultural, ethnic, and social group, we interact with the environment through all our senses. Rapoport emphasizes that our interaction with the environment is not limited to visual perception but is also a multidimensional process [27]. This multidimensional process illustrates how people experience space and how these experiences provide crucial insights into the design and configuration of the space. Therefore, the human experience and perceived spaces inform about the design and configuration of the space. Space organization reflects and affects communication

among people and conveys the meaning derived from the environment [28]. It demonstrates whether planning is efficient and effective according to function. The efficiency of space planning can be interpreted through comparisons among different spaces. Such comparisons are directly related to environmental perceptions. Research on environmental perception often focuses on spatial perception at neighborhood, city, and national levels, while studies on how perception is shaped in architectural fields are rarer [5]. In this context, it is necessary to conduct in-depth research to understand the efficiency of space planning and the impacts of architectural planning and design processes on users.

This type of research gains additional significance in the light of Henri Lefebvre's theory of space. According to Lefebvre, space is neither an abstract object nor a concrete physical element; it is both a concept and a reality in all its dimensions. Thus, it is a place where relationships and forms integrate [29]. Perception is a link between the external and the internal, serving as a common ground on which both sides stand. Perception enables an individual to actively select and interpret material from their surroundings. Consequently, architectural styles with different materials and forms guide varying perceptions. Generally, the perception of space is primarily associated with the sense of sight [30]. In other words, all our sensory organs provide information that helps us understand our environment, with 'sight' being the most used sense. Space, a social phenomenon, can be shaped by religion, a social value. Complex structures, including religious spaces, are a result of social life. These spaces, with their forms reflecting social life, impact users differently through their architectural styles. A building becomes a lived space when it is understood by its users, thereby influencing their attitudes and thoughts about the space [30].

Emotional and mental effects, objects, and actions with symbolic values characterize the common perception of images that unite worshippers into a believing community. During rituals or worship, not only the items used, such as ritual paraphernalia, verbal transmissions, prayers, clergy attire, hymns, incense, hand, and body movements, but also the interior design and spatial images significantly impact the congregation, invoking respect, admiration, fear, and awe. All these elements indicate the pathway to experiencing the divine or sacred. The arrangement and assembly of these elements typically occur within religious buildings; these buildings influence the social environment through their architecture and historical roles within the community. The impact of religious buildings extends beyond the physical space, profoundly shaping the cultural and spiritual life of the community. Religious spaces are dynamic, powerful areas containing the sacred. Sacred places provide a tangible, graspable connection between human life and the divine [30]. Over time, perspectives on sacred spaces and their use have evolved; for instance, while the first sacred places were natural sites not made by human hands, with the advent of settled life, the boundaries of sacred spaces have come to be defined by humans [11]. The sacred, in a theoretical sense, extends upwards indefinitely, making verticality a crucial aspect. The significance of this verticality comes from representing a vertical axis that connects the underworld, the earth, and heaven [30]. Religious buildings are perceived by society and individuals. How the community perceives these buildings is of great importance.

Christian religious spaces are dynamic areas of power. One must closely examine the material aspects of space and human experience to understand the force within churches. For a Christian today, the church is fundamental. This building is their primary means of accessing the divine. Therefore, behaviors such as staying away from or leaving

the church are believed to equate to distancing oneself from God. The church sees itself as the earthly reflection of the divine state in heaven and thus aims to govern the world by the heavenly. Although this power waned after the 20th century, it has continued covertly [30]. When examining church buildings, it is apparent that they are not just places of worship; they also include libraries, dining halls, and administrative units, indicating a complex architectural ensemble. This complex setup allows them to create a new social living space with their building community.

According to İnalçık [16], Istanbul has historically been established around the mosques and complexes it contains. A complex is defined as a group of buildings constructed for a social purpose. In Turkish architecture, it is described as a group of buildings with defined purposes located together. As a social element, complexes actively facilitate cultural integration [30].

Synagogues have served as places for religious rituals and as social spaces where the community gathers to discuss their lives and futures and make plans [31]. When synagogues were first constructed, they were not regarded by Jews as sacred as their Temples. The newly developed worship was simple, requiring only a closed space where the Torah could be heard for prayer. Therefore, the new religious buildings did not follow the architectural plan of their sacred temples; rather, they were influenced by the religious buildings of other faiths and adopted their models. The architecture of synagogues built in the Diaspora varied due to the socio-cultural diversity of the areas in which they were constructed.

This extensive impact is also supported by academic research. For instance, studies by Nesari et al. [32], have not only examined the influence of mosques on urban spatial buildings but also delved into the impacts of Islamic culture on social order and

urban governance. Specifically, Nesari and colleagues presented case studies on the Prophet's Mosque in Medina, highlighting the central role of mosques in shaping the social and spatial structure of cities across Iran and the Islamic world [33]. In another study, Diker et al. [34], focused on nine religious buildings in Antakya, analyzing their historical, cultural, symbolic, and touristic values using archival research and sociological methods. The research concentrated on the physical characteristics that make these buildings stand out in urban areas [33]. Ehrlich [35], investigated how Muslims integrated as a new ruling class in Mediterranean cities during the Umayyad period, observing that churches and synagogues were almost entirely preserved without destruction. This study demonstrated the two religions' physical coexistence and integration, especially the proximity of churches and mosques in city centers [33]. These studies clearly show that religious buildings play a significant role in urban areas and highlight the coexistence of different religions in city centers.

Sacred spaces and their complexes envelop societal areas that guide and shape our lives. The encompassing power of these spaces directly influences the attitudes and behaviors of those who use them. The emergence of these effects is aligned with the physical characteristics of the architectural form. Within sacred spaces, certain architectural elements become prominent in facilitating access and communication. Minarets and towers serve as examples in this context. Beyond their concrete functions, the components of these buildings elicit abstract meanings in users. The development of these abstract meanings is predominantly influenced by the concrete aspect, namely the architectural character of the structure.

2.2.2. Examining Culture Core Elements

The core elements of culture are the shared characteristics that shape a community's social structures, values, beliefs, and communication styles, holding individuals together and giving them an identity. These elements are divided into various categories, such as language, norms, values, symbols, traditions, and rituals, and they form the foundation of a society's lifestyle. Humans have always been present in the physical environment, shaping it through the cultural qualities they possess and the lifestyles they develop in connection. This interaction is reciprocal, where the environment also influences the formation of culture. Geographers first interpreted the interaction between environment and culture in the early 20th century, one of which is the concept of environmental perception. According to this view, every person has mental images of the physical environment, which are widely shared within a cultural group. Proponents of this idea argue that the perception criteria of the environment, rather than its actual characteristics, influence human psychology and culture [36].

In the concept of the sacred, the existence of space gains importance; thus, the sacred manifests itself through space. Sacred spaces are special because of their location and the meanings they embody, distinguishing them from ordinary spaces. These places are the center of a society's religious life, meaningfully directing human life and imbuing it. Architectural theorist Norberg-Schulz [37], described sacred spaces as "centers" in the natural environment, acting as objects that determine direction and identity and forming a spatial structure. In belief systems, places deemed sacred transform ordinary locales into spaces for religious actions, abstracting them from the outside world and purifying them from the locality. Sacred spaces possess a transitional quality across religions and cultures. Eliade [38], stated that sacred places could be transferred between different

cultures and religions. Rocks, springs, caves, and forests, revered since ancient times, are considered sacred by Christian communities today. Thus, mausoleums and worship places of monotheistic religions are seen as part of the 'Sky God Cult' [10].

The primary distinction between sacred buildings and other buildings lies in the realm of ideas. A sacred space holds a narrative value that transcends its metric boundaries, which were initially inaccessible. Reading the building as an abstract metaphor highlights its role as a communicative element where architecture ascends as a language. A structure communicates through its form, orientation, location, and context, manifesting a fundamental stance and serving as an understandable sign of its environment. This aspect is an expression of time and a representation of a specific culture. Above all, sacred spaces appear to have started with Vitruvius as constructed symbols of the content they contain. The sacred building has been viewed in linguistics as a compilation of typical forms of expression. As a social activity, religion naturally requires buildings; however, in sacred spaces, meaning, image, and symbol become more significant than their functional necessities. Sacred buildings commonly possess a language that clearly articulates the relationship between traditionalism, pioneering, and a forward-looking perspective [30]. Initially, sacred places were natural spaces not made by human hands, but with the advent of settled life, the boundaries of sacred spaces have come to be defined by humans [11].

Temples exhibit variations based on cultures and regions. The abundance and significance of temples, regarded as the residences of kings and the abodes of gods, bestowed a profound religious metropolitan identity upon Mesopotamian cities. It has even been proposed that these cities were established with a temple, considered the

dwelling place of the deity, as a central premise. Consequently, temples were thus characterized as the city's heart, rising at its core [11].

The towering staircases of ziggurats were believed to facilitate the descent of gods to Earth, thus bringing them closer to humanity [11]. Ziggurats and Maya temples, with their ascending steps towards the sky, aimed to connect humans to heaven [39]. In Maya civilization, the stepped pyramid and palace structure served as the religious center, with a temple at the pyramid's summit. Egyptian pyramids, constructed by the Egyptians, symbolize eternity, and represent the concept of an immutable universe. They embody the idea of an everlasting cosmos. Gothic cathedrals in Christianity, with their upward-reaching design, serve as an expression of turning towards God [39]. Greek temples symbolize the ideals of balance and order. Religions articulate a hierarchy of existence, building upon the notion of divinity and sanctity. Therefore, the fundamental element underlying all religions is the concept of sacredness [11].

Places of worship exist in societies where people adhere to a single religion and communities comprising individuals of different faiths. The synagogues, churches, and mosques of the three major monotheistic religions serve as public religious spaces with direct and indirect, even profound, impacts on the lives of communities and individuals. The congregation, gathering for worship, shapes and imbues these buildings with significant social centrality. Users engage directly with the spatial imagery and symbols within the interior spaces of these buildings. Therefore, in addition to their functional aspects, the meanings represented by the spatial features of these interiors and their individual, societal, and cultural dimensions are conveyed, creating environments where the space interacts directly with the user. In this context, it is necessary to examine and

elucidate the conceptual dimension of the commonalities in spatial imagery and symbols found in the interior spaces of these buildings [10].

Throughout the ages, humans have endowed places they deemed sacred with meanings, transforming them into holy spaces by constructing religious edifices upon them. The sense of belonging to a community based on shared values is often associated with a particular space. Norberg-Schulz [37], in his book "Genius Loci," interprets space by emphasizing the sense of attachment to a place and highlighting its existential significance for humans. Accordingly, belief systems often play a crucial role in defining meaningful places. This conceptual framework aids in better understanding the emergence of monotheistic religions such as Christianity, Judaism, and Islam, as well as their sacred spaces.

Judaism is considered one of the earliest monotheistic celestial religions and remains among the oldest religious traditions. Judaism, rooted in Hebrew religious beliefs and a belief in a single personal deity, began with the covenant between God and the ancestors of the Jewish nation, mediated through prophets [40]. Jewish faith is an integrated way of life, combining fundamental moral values, concepts, and traditions from generation to generation. There is no clergy class; thus, the responsibility for interpreting sacred texts, religious law, and these texts and laws is entrusted to rabbis. The institution of the Chief Rabbinate holds a significant place in Jewish communal life. Synagogues, where Jews gather or assemble, represent Jerusalem, the center of Judaism, lending symbolic meaning to the space. Jewish sacred texts indicate a particular influence from the religious thought of Iran and Mesopotamia, including beliefs in the future arrival of a savior who will bring victory over evil, the concept of heaven and hell as rewards

and punishments, and the notion of judgment after death. All these thoughts and beliefs have influenced Judaism [10].

Christianity, another religion, is a monotheistic religion originating in the Middle East. However, this religion believes in the Trinity at its core, attributing divinity and sanctity to God, Jesus, and the Holy Spirit, forming a sacred triune unity known as the "Trinity." This implies a singular divine essence in three persons [41]. The early Christians continued their worship in Jewish synagogues [10]. Unlike Jewish and Muslim worship practices, where worship is typically manifested through speech, reading, physical movement, or divine recitation, Christian worship is characterized by a dual nature.

In Christianity, denominations are referred to as "churches." While some Christian rituals are performed individually, prayers are generally conducted collectively in churches. Throughout the historical development of Christianity, various forms of church buildings have emerged according to denominations and the status of both worship places and religious institutions. In the early periods, house churches were prevalent among denominations, while later periods saw the emergence of church buildings structured differently, such as basilicas, cathedrals, or chapels. Initially, Christianity was considered a sect of Judaism. The church is seen as a single entity, akin to God, but within this entity, there are components. The part facing east is called the "Holy Place," serving as the direction of worship, akin to the qibla in Islam [10].

The term "church," denoting a gathering or assembly, originates from the Greek word "ecclesia" [42]. Churches serve as institutions that fulfil religious functions and social roles such as marriages and funerals. Priests and other religious leaders oversee worship in churches. Christianity has inherited many concepts regarding sacred space

from Judaism. For instance, Christians believe that God is present wherever believers gather. Jerusalem holds the same sacred significance for Christians as it does for Jews, serving as the world's holy center.

Both Judaism and Christianity possess a varied understanding of sacred space. This understanding has sometimes manifested itself dogmatically in response to political and social conditions and sometimes within the historical development of religious teachings. In Christianity and Judaism, Jerusalem holds a significant position as both a settlement and the earthly equivalent of symbolic spaces mentioned as heaven in the sacred scriptures of monotheistic religions.

Following Judaism and Christianity, Islam is one of the prevalent religions whose origins are also traced back to the Middle East. The word "Islam," meaning submission, originates from the Arabic root signifying the wholeness, peace, and salvation one achieves when surrendering to God [42]. It is acknowledged that divine revelation is complete with this religion. Islam emphatically emphasizes belief in a single God. It prescribes certain rules for daily life, societal conduct, and specific worship conditions. In Islamic understanding, a unity exists between the sacred and the worldly [10]. This means that God has created everything, and everything created by God is fundamentally good. Therefore, no place is inherently more sacred than another. Hence, worship of God can be performed anywhere. However, Muslims demonstrate greater proximity and historical attachment to specific geographical locations. Alongside Jerusalem, Muslims consider the cities of Mecca and Medina as sacred centers [43]. According to Islamic sources, Mecca is the center of the world, and the Kaaba is the first place of worship ordained by God. As the first architectural project divinely supported, the Kaaba serves as a key element in cosmology and architectural interaction [44]. The importance of the

Kaaba in the Islamic faith can be explained by its symbolic values and the fact that the axes of all mosques worldwide converge at the Kaaba, serving as a central point.

Regardless of the form or purpose of a religious building, they all share the common feature of having symbolic functions. In all three monotheistic religions, sacred spaces serve as means to reach vertically towards God and horizontally towards the reconstitution of the universe, culminating in a convergence with the divine at the center [10].

As Kieckhefer [45], puts it, "Any religious building tends to have rich symbolic connotations, but many do not display these connotations with equal potency." The experience of the sacred is often conveyed through form or symbols. Localism in religious architecture is not static or focused on a single cultural structure. On the contrary, cultural characteristics surrounding the building have always been utilized, especially in the architecture of places of worship. Research in architectural history, for instance, has identified broad cultural interactions behind buildings like Hagia Sophia. The dome, in terms of construction technique, was adopted from Mesopotamia, while the arch was borrowed from the Roman Empire; the origins of the central plan, on the other hand, can be traced back to the Turkish nomadic tents known as "ger" or "yurt," which are prevalent across a wide geographical region. As a roofing element, the dome is an indispensable functional and symbolic feature in world architectural history. Art historian Strzygowski [46], argues that the domed houses of Mesopotamia or the dome architecture of Iran trace their origins back to the Turkish tents representing the sky dome. The dome or domed structure has been used in early Christian buildings, Sassanian, Armenian, Byzantine, Roman, and Islamic architecture, but it reached its most developed form in Ottoman

mosques. Throughout history, the dome has been associated with meanings such as the universe, the sky, God, and the state [10].

Throughout the ages and in various geographical regions, the architecture and interior design of places of worship have evolved in unique ways, symbolizing the sacred realm, and serving as the future image of the renewed universe. Places of worship are the focal points of religiously oriented life. In these spaces, believers renew their faith and trust in God, achieving spiritual purification and renewal. Places of worship serve as social centers for various events such as festival celebrations, holiday rituals, and prayers; rites of passage like circumcision, marriage, and baptism; commemorative activities such as funerals and funeral prayers; as well as educational matters like religious instruction and teaching of sacred texts. There are differences among places of worship belonging to Jews, Christians, and Muslims, arising from each faith's distinct religious doctrines and practices. People create places of worship to represent their belief systems and to engage in religious practices.

When examining the architecture of synagogues, it is generally understood that there is no strict architectural style; however, Jewish communities have incorporated architectural elements of their surroundings into their synagogues. A religious design criterion is observed in the design of synagogues; for instance, the Ark and some synagogues are often constructed facing Jerusalem, the revered place [11]. This reflects a tradition in all Abrahamic religions, where places of worship are oriented towards sacred centers, also called the house of God [10].

Jews, at the inception of synagogues, required a closed space where they could hear only the Torah being read, thus preferring a very simple environment for worship. Therefore, synagogues have been influenced by the religious buildings of other faiths

rather than replicating the plan of their sacred temples [47]. Over time, synagogue buildings have diversified based on their region, visual culture, and local architectural understanding. For example, some synagogues have adopted domes, while courtyards have been constructed in many synagogues, while others lack them due to their location. Additionally, basilica-style synagogues (such as the Sardis Synagogue in Manisa) have been built instead of central plan ones to maximize space utilization. Hence, synagogues are generally rectangular [10]. Although Jews may claim that such synagogues reflect the plan of the Temple in Jerusalem and thus a return to their essence, this evolving style demonstrates their influence from the interior arrangement of churches [31].

However, specific interior elements meeting religious and functional requirements constitute distinctive features of synagogue interior design. Stained glass windows used in traditional synagogues provides natural lighting. Various botanical and geometric decorations, mosaics, and motifs are also used. The use of icons, images, sculptures, or figures related to human bodies is prohibited [48]. The pulpit is usually positioned at the center of the space in synagogues, while seating arrangements are placed in front of or around the three sides of the pulpit. White color is preferred on special occasions like Sabbath and Yom Kippur for Jews, symbolizing "purity and purification" [10].

In church design, symmetry is significant, and such spaces, whether rectangular or cruciform in plan, are fundamentally centralized. In 19th century churches, a raised platform is called the bema in front of the altar area. At the center of the bema is a pulpit, with seating areas for the choir and important individuals. The fundamental elements of the traditional plan are based on the interior layout of house churches in ancient Rome in the 1st century. The four focal points in church interiors are the nave, altar, pulpit, and baptismal font. Regardless of the type of plan, pews in churches are usually positioned

facing the altar on a platform. The material used in constructing the church building is as important as its style. Natural materials such as wood, natural stone, or brick are preferred, symbolically reminding us that God is the creator of all things. Stone buildings carry stronger symbolic meanings of solidity and permanence. Similarly, images of divine power are made from durable materials. Historical church interiors commonly use decorations and forms such as frescoes, carvings, paintings, sculptures, and mosaics. Importance is given to natural lighting, evident in simple windows and stained-glass windows depicting biblical scenes. Artistic stained glass draws worshippers' attention to the natural light entering the space, serves as a barrier to detach worshippers from the outside world, and thus fosters a sense of unity and wholeness among them. White is accepted as a symbol of the innocence of the spirit, purity of thought, and sanctity of life, as stated in the Old Testament [23].

The architectural plan of a mosque or masjid originates from the Mosque of the Prophet (Masjid-i Nabawi), built in the 7th century by Prophet Muhammad (peace be upon him) in Medina, Arabia, which served as a public place of worship, an administrative center, a place of education, and a refuge for the poor [49]. Early Christian church styles influenced the architecture of early mosques. However, Muslims soon developed their architectural styles. Thus, congregational prayers and religious reasons such as cleanliness led to the evolution of a new architectural style for mosques. Two prominent models in mosque interior design are enclosed central space and an open central courtyard. The enclosed central space encompasses all interior architectural features defined by a smooth geometric base with a domed, conical, or central ceiling form. No focal points or elements in the mosque interior would encourage individuals to move or stay. The environment embraces believers with a quest for perfect balance,

urging them to be in a state of devotion. The spacious, uncluttered interior spaces, rich in spatial imagery and symbols, convey the omnipresence of divinity. Unlike synagogues and churches, mosques are much simpler regarding interior elements that define spatial composition and identity. The fundamental elements include the mihrab, which indicates the direction of Mecca, and the pulpit (minbar) from which believers are addressed. The tradition of considering the inner courtyard and the worship area as separate spaces is maintained in all mosques [49]. The dome is significant in traditional architecture and is frequently used in central plan designs. Visually, the dome emphasizes the volume and grandeur of the interior space. Functionally, it regulates acoustics in the space and symbolizes the universe. Domes consist of ribs, arches, ceilings, and windows.

The main principle of monotheistic religions is the rejection of idols. Based on this belief, the use of any statues or images of humans or animals inside the mosque interior has been prohibited [48]. Besides being places of worship, mosques also serve as cultural centers and meeting and educational spaces. Therefore, apart from the prayer area, mosques often include an imam's room where the imam and muezzins are present, classrooms for teaching, offices, libraries, and conference halls. Additionally, in mosques outside Islamic countries, there are spaces such as shops selling halal foods (permissible according to Islamic law) and barber shops.

The cultural and religious traditions applicable to all three religions play a significant role in the design and aesthetic composition of worship spaces. These traditions are also reflected in the manner of the congregation, where religious activities typically involve religious leaders reading from sacred texts, delivering sermons, or giving religious speeches to the congregation. The sacred texts and sermons in these rituals indicate the depth of symbolic meaning in all three religions. The symbolic

meaning is intrinsic to religious life and constitutes an existential and universal truth for believers. The concept of boundaries, represented by the vestibule in synagogues and mosques and the narthex in churches, acts as a bridge facilitating the connection between the sacred and the profane [50].

In conclusion, sacred spaces in different religions serve as places of worship and manifest themselves as buildings rich in symbolism and deep historical origins, playing pivotal roles in shaping societal and cultural identities. These spaces facilitate interreligious and intercultural transitions, illustrating how a universal understanding of the sacred is upheld and interpreted across diverse cultural contexts.

2.3. Changes In Social Environment with Social Environment

The social environment is constantly evolving and changing, and these changes lead to significant alterations in the structural dynamics of society. This section will address how the social environment undergoes a process of change and how these transformations impact society's social, cultural, and economic structures. In particular, the transformative effects of technological advancements, globalization, and demographic changes on the social environment will be examined.

As societies change over time, the alterations observed also affect people's needs and reshape the spaces molded according to the era and context to which they belong. However, it is not the continuity of form but rather the continuity of the meaning it represents that is significant here. As societies evolve, new needs arise, and new spaces that cater to these needs are created. With the speed of change, more complex or, with the contribution of technology, simpler yet functional spatial configurations emerge in every building. A deeper understanding of the belief system to which new places of worship

belong will contribute to creating more meaningful and impactful buildings in the design and construction of new worship spaces. In this regard, understanding the spatial imagery and symbols in the interior design of synagogues, churches, and mosques and comprehending the common concepts they represent becomes crucial in this process. This deepening understanding has been a shaping factor in the design of places of worship throughout history.

Civilizations initially concealed their beliefs, but in later periods, they did not hide their places of worship; on the contrary, they made underground temples more visible with elaborate entrances, statues, or decorations [11].

Prominent city spaces began with the Greek cities (Agora) and continued to influence Roman cities [14].

With the destruction of the Temple of Jerusalem in the first century, this place, which was a sanctuary for the presence of the Jewish god, disappeared. Therefore, instead of attributing sanctity to any material structure, Judaism regarded religious practices as sacred. Consequently, religious buildings are considered containers for religious practices, and in this capacity, they are merely a means to the Jewish god [51].

The social environment refers to the physical and cultural context in which individuals and groups interact with each other and society. This context is shaped by various factors such as economic status, educational level, ethnic background, and religion. In Kuzguncuk, the coexistence of four nations has formed a rich economic and social structure. Historically, Jews were mostly a high-income group residing in mansions, while middle-income groups lived in interiors. The high-income group preferred to socialize in the central areas of Istanbul, while Kuzguncuk served as a settlement and entertainment center for middle-income families. Particularly from the 18th

century to the Republican era, situations where the different nations influenced each other in the social structure are observed. It was common for each nation to perform its religious duties on religious days, yet occurrences like Greeks fasting during Ramadan, Jews visiting churches, and Turks participating in Easter celebrations were frequent. Over time, Turks also participated in marriages between Greeks and Armenians, and the main street (İcadiye Avenue) was closed to traffic to prepare venues for fun meals [36].

From the perspective of its settlement texture, Kuzguncuk still gives the impression of being outside the metropolitan area of Istanbul, with its endless stair passages, human-scale streets, and building silhouettes. The row houses, a distinctive settlement feature, are rare examples in Istanbul. The first aspect perceived in the building texture is its form. Generally, the buildings are two to three stories high, characterized by narrow facades, balconies, and bay windows. After the fire of 1864, parcels were divided to accommodate numerous settlements in a narrow area, resulting in smaller parcels. The second-degree feature perceived in the building texture is the color of the buildings. Generally, pastel tones that create contrast and traditional Turkish house paint (a mixture of chalk and soil) are preferred. The third-degree feature perceived is the materials used in the buildings. There are mainly two types of materials: masonry and wood. Wood is predominant in Turkish and Armenian architecture, while stone is used in Jewish architecture. Additionally, in the last 20 years, there has been a rapid spread in the use of brick and concrete materials [36].

The sources examined indicate that in the 16th and 17th centuries, Kuzguncuk was mostly inhabited by Jews, with a smaller Greek population in comparison. Armenians began to migrate to the neighborhood around the 19th century, while Turks settled there predominantly towards the end of the 19th century. Unfortunately, the non-Muslim

population in present-day Kuzguncuk has decreased to as low as three per cent. As will be discussed later in this section, particularly the bitter events of September 6-7, 1955, forced the Istanbul Greeks and other non-Muslim communities, exempt from the population exchange of 1923, to migrate. Kuzguncuk is perhaps one of the few neighborhoods in the world that have such rich diversity. With a mosque and a church side by side, a Greek Orthodox Church and a synagogue back-to-back, it has been a neighborhood where people of different religions lived together in peace. The large church belonging to the Agios Panteleimonas Greek Orthodox community, where mostly Orthodox believers' worship, is included in the research. The church is on the right side as you ascend İcadiye Street, making it visible and symbolically significant with its bell tower. Another church belonging to the Greek Orthodox community is the Agios Georgios Greek Church, although it is not used due to its unsuitable physical conditions. Another church to be researched is the Surp Krikor Lusavoric Armenian Church. The contributions of Sultan Abdülaziz to the construction of this church may serve as an important example of the Ottoman State's and society's tolerance. In this context, in 1952, the Armenian church and community provided material and spiritual assistance to the Kuzguncuk Mosque, which was under construction at the time. The church allocated some of its land to the mosque, while the Armenian community contributed 500 Turkish liras. This incident is an important indicator of the respect and tolerance among the people of Kuzguncuk [52]. The Kuzguncuk Mosque, adjacent to this church, is another building to be researched in this study. The most significant feature that sets this mosque apart is the material and spiritual support it receives from the Armenian community. The Bet Yaakov Synagogue is another religious building to be explored. A large congregation gathers for Saturday prayers in this synagogue. Although the number of Jews in

Kuzguncuk has decreased, former residents who have moved to neighboring districts come here on Saturdays to worship.

After the Republic, there were changes in the social structure of Kuzguncuk; Jews, Greeks, and Armenians especially moved abroad or to the city's central districts. There is no longer a non-Muslim population among the property owners and residents living on the coast of today's Kuzguncuk [53]. Although the events of September 6-7 did not have as painful consequences in Kuzguncuk as in other neighborhoods of Istanbul, they still affected the non-Muslims here. Kuzguncuk, where a significant portion of the population was non-Muslim, experienced rapid migration after that date, and today there is only about three per cent non-Muslim population. Therefore, the number of people worshipping in churches and synagogues has decreased, and the function of these religious buildings has diminished.

Living in neighborhoods with traditional architecture like Kuzguncuk brings along some challenges alongside its positive aspects. The positive elements are authenticity, freedom, a sense of privacy, unneighborly relations, and solidarity. In Kuzguncuk, it is possible to see a Muslim making an effort to meet the needs of a synagogue and sometimes an Armenian collecting donation for a Muslim Mosque. The negative aspects are determined mainly by economic difficulties, including excessive expenses for housing and surroundings, insufficient benefit from services, inadequate infrastructure, deterioration, and, in some cases, social sanctions [36].

Religious buildings in neighborhoods like Kuzguncuk play a central role in architectural terms and in the preservation and development of social and cultural fabric. In this context, despite physical and social infrastructure challenges, these buildings are crucial in maintaining community solidarity and cultural diversity. Therefore, enriching

life in Kuzguncuk and shaping the future of such historical neighborhoods should focus on preserving religious and cultural heritage.

2.4. The Ritual Spaces and Space Syntax Relationship

The relationship between ritual spaces and spatial syntax provides a fundamental framework for understanding the placement of places of worship within urban structures and their societal functions. The design and placement of ritual spaces are examined using Space Syntax analysis, a critical tool for understanding how spaces is used and their impact on human movements and social interactions. Space Syntax evaluates the visibility relationships, accessibility, and connections within and between spaces quantitatively. In this section, the analysis focuses on how the physical layout and design of ritual spaces determine social interaction patterns within communities. Additionally, using Space Syntax, how sociofugal (disrupting social interaction) and sociopetal (encouraging social interaction) spaces are identified and their effects on society are evaluated. These analyses are fundamental in planning strategic interventions to make ritual spaces more functional and accessible.

The ritual spaces should be investigated spatially because the design and placement of these areas directly affect visitors' sacred experiences. Spatial arrangement plays a significant role in how rituals are performed and perceived. The space syntax method allows us to understand how spaces are interconnected and how people move within these spaces.

Space Syntax is a method that emerged in the 1970s by Prof Bill Hillier, Prof Julienne Hanson, and their colleagues at Bartlett School of Architecture, University College London. The theory and methodology of Space Syntax provide a suitable tool to

define and quantitatively measure the spatial configuration of urban space. Using computer technology's advantages, spatial configurations at all scales can be analyzed. For example, a spatial structure may include urban components such as buildings, roads, and boundaries, which are social and cultural parts of the community [18]. Therefore, integrating ritual practices with spatial arrangement and its effects on social interactions can be examined in detail. Space Syntax comprises a set of techniques and theories used to analyze the spatial structures of buildings and cities, explaining the connection between space and society. It is considered one of architecture and urban design's most effective scientific approaches [54]. Investigating ritual spaces with Space Syntax is necessary because this method allows us to understand how spaces are interconnected and how people move within these spaces. Thus, integrating ritual practices with spatial arrangement and its effects on social interactions can be examined in detail.

In a study titled "A Diachronic Approach to Heterochronic Urban Space" conducted by Istanbul Technical University in 2015, the heterochronic characteristics of the Kuzguncuk neighborhood and their impacts on the spatial accumulation of meaning were extensively examined. The results indicate that the religious diversity in Kuzguncuk leads to a rich accumulation of meaning in the neighborhood [7].

According to the findings of the study titled "Urban Morphology and Culture: Anatolian and Italian Cities", conducted in 2019, mosques initially marked the founding location of the city, but over time, through the transformation of existing religious buildings or the construction of new mosques, they have become significant and powerful buildings within cities. In Italy, the ancient religious buildings have given way to churches, which, like mosques, spread throughout the city and are supported by open

spaces. Additionally, the city's most important religious buildings and open spaces are located at the center, integrating with the dispersed areas within the city [18].

In research conducted in 2021, it is mentioned that mosques serve not only as places of worship but also as community centers where education and social interactions occur. Additionally, it is stated that architectural design significantly impacts how individuals interact in these spaces and perceive their surroundings. The article notes that the placement of columns within the mosque can affect the visibility and accessibility of worship areas. The position of the columns may restrict the congregation's view of the imam and the qibla wall, thereby influencing the movement and focal points of the congregation. For example, open spaces and wide corridors within the mosque encourage congregation members to interact with each other and participate in social activities. The spatial configuration of the mosque determines separate areas allocated for worship and community activities. Quiet areas designated for prayer and worship support individual devotions, while larger, open areas for collective activities promote the congregation's social interaction and solidarity. These areas directly influence how the congregation worships and gathers within the mosque [55].

In a study conducted in 2022, the spatial and social interactions of medieval mosques in Algeria were analyzed using the Space Syntax method. Mosque architecture and layout greatly influence social interactions within the building, directing individual and collective religious rituals. Previous research indicates that mosque models containing courtyards and galleries offer higher social interaction and mobility, while models without galleries lead to more static and controlled movements. The spatial depth and integration of mosques have been used to understand how individuals move within the mosque [56].

In mosque architecture, the courtyard with a fountain at its center is found in mosques. In contrast, a semi-open courtyard with a bimah at its center is planned in synagogue architecture. The interior design of monotheistic places of worship is designed based on the concept of sacred space, reflecting the required forms of the represented religious doctrine, and offered religious services. Since collective worship occurs through the gathering of believers, the religious building serves as a gathering place. Consequently, each of the three religions' places of worship includes a central space where believers gather [10]. These areas with high integration values host more social interaction and community activities.

Considering this information, we can see how Space Syntax can be strategically utilized in the design of religious spaces and how it allows for a better understanding of the effects of spatial arrangements on user experiences. This thesis aims to comprehensively understand the subject by examining the accumulated meanings from various perspectives. It will analyze in detail how the spatial positioning of religious buildings impacts social and cultural dynamics, thus contributing to the spatial accumulation of meaning in Kuzguncuk through its religious diversity.

2.4.1. Sociofugal and Sociopetal Spaces/Deep-Isolated and Integrated Spaces

In this section, a detailed examination is provided on how sociofugal and sociopetal spaces operate in religious architecture, i.e., the design features that either distance people from each other or bring them together, as well as the relationships between deep-isolated and integrated space concepts and religious buildings and social dynamics. These spaces will be thoroughly examined in both religious and social interaction contexts to understand how the community is shaped and the impact of space

on human behaviors. Sociopetal spaces are those that bring the community together and encourage social interaction. These areas facilitate communication among individuals and strengthen the sense of community. On the other hand, sociofugal spaces provide more isolated and private areas for activities such as individual tranquility and personal worship.

The primary locus of interaction between humanity and the gods is the temples. In this interaction, the manner of presenting rituals was more significant than the form. The sacred space served as the focal point of interaction between the earthly and divine realms; however, merely being the focal point does little to characterize the interaction [57]. The house of the deity, or temples with special significance, held an important place in ancient societies. The religious architecture of most ancient cultures contained some form of imagery. Additionally, the nature and scope of visual imagery have varied from culture to culture and even within a specific culture over time [30]. Temples are the center of interaction between humanity and the gods, where the presentation of rituals in this interaction is more important than form. Spatial arrangements are determinant factors in the social functionality of religious buildings. Churches, mosques, and synagogues embody sociofugal (separating individuals) and sociopetal (bringing individuals together) spatial characteristics. With sociofugal and sociopetal features, places of worship such as mosques, synagogues, and churches balance individuals' internal and external dynamics and shape their participation in social structures. For instance, churches typically encourage sociopetal areas with long corridors and sequential seating arrangements, while enclosed chapels around sacred spaces exhibit sociofugal qualities. In mosques, spacious courtyards and communal prayer areas support sociopetal interactions.

In mosques, the more isolated areas around the mihrab provide a sociofugal atmosphere, mainly conducive to individual worship. In synagogues, specific ritual spaces such as the Holy Ark, where the Torah is kept, reinforce the religious focus, and provide a sociopolitical structure by bringing the congregation together. The placement of the pulpit within the worship space varies according to local tradition, and its position relative to the ark determines the seating arrangement or the sanctuary's internal layout. Seating rows are typically arranged in a theater-like fashion. In synagogues, the pulpit is often centrally located within the space, with seating either facing the pulpit or around its three sides. The central positioning of the pulpit within the synagogue and the arrangement of seating around it facilitate congregation unity and interaction [10]. Such an arrangement enables congregants to observe rituals at the pulpit easily and encourages social interaction. Therefore, this arrangement within the synagogue is a sociopolitical space, bringing believers together and strengthening social bonds.

On the other hand, sections such as balconies reserved for women increase social distance within the community, exhibiting sociofugal characteristics. In addition, synagogues have smaller rooms for religious teachings, sometimes also containing halls and offices. Furthermore, in some large synagogues, there are separate kitchens in the form of kitchens for “kosher” meals, dining halls, club rooms, and “mikve” baths for physical and spiritual purification, known as immersion baths, either in the basement or as an annex, as well as “geniza”, an archive of unused religious items. Such separate and specialized rooms in synagogues allow users to gather in different areas for different functions, enabling individuals or small groups to conduct their religious and social activities independently. For example, separate rooms for religious teachings provide privacy for individual or small group studies; ceremony halls and club rooms offer more

isolated environments for community events. Areas with special functions such as “mikve” and “geniza” are places where specific rituals are performed away from the community, providing separate spaces designated for certain ritual or social functions. Such areas allow the community to withdraw from general interaction and be present in separate, dedicated spaces for specific ritual or social functions [10].

Synagogues have socio-fugal features, such as “mikve” and a special prayer area, and sociopetal features, such as social events where the “Torah” is read. These features demonstrate how synagogues combine sociofugal and sociopetal characteristics by serving as social community centers and providing isolated spaces for individual spirituality and personal belief practices.

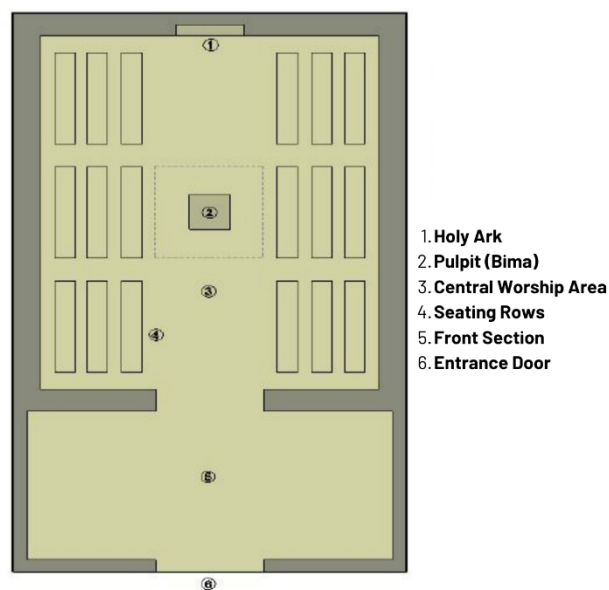


Figure 1: Central plan schema in synagogue architecture [10].

In general, there are two types of interior space arrangements in church architecture, based on either the altar, known as the "traditional plan scheme" (Figure 2), or the central pulpit (ambo), known as the "central plan scheme" (Figure 3), with four focal points. The four focal points in church interiors are the nave, altar, pulpit, and

baptismal font. Regardless of the type of plan, the seating rows in churches are typically positioned facing the altar, which is usually on a platform. Due to the Christian worship tradition, including reading the Bible and the Eucharistic liturgy, the arrangement of church interiors, particularly regarding focal points such as the pulpit and altar, poses challenges [10]. Throughout history, especially since the 19th century, various opinions have emerged among denominations. Particularly, debates have arisen among churches regarding the separation of the nave and altar areas or the location of the choir area relative to the altar area. As a result, separating the nave and altar areas while maintaining the integrity of the altar area remains a valid practice.

In both the "traditional plan scheme" and the "central plan scheme," seating rows arranged around the four focal points (nave, altar, pulpit, baptismal font) encourage the congregation's participation in religious activities while also allowing for individual religious experience and contemplation. The seating arranged around the four focal points facilitates the collective participation of community members in religious rituals. Seating positioned facing the altar encourages the congregation to focus on a central point, thus enhancing interaction within the community. Consequently, church interiors function as a socially and religiously cohesive structure, bringing the community together and strengthening social and religious bonds as a sociopetal structure [10].

The diversity in worship practices leads to diversity in spatial arrangements and sparks debates among different denominations. This indicates that the church serves as both a unifying and differentiating space, highlighting the potential of the interior space to serve as both a community-building (sociopetal) and individual worship (sociofugal) area.

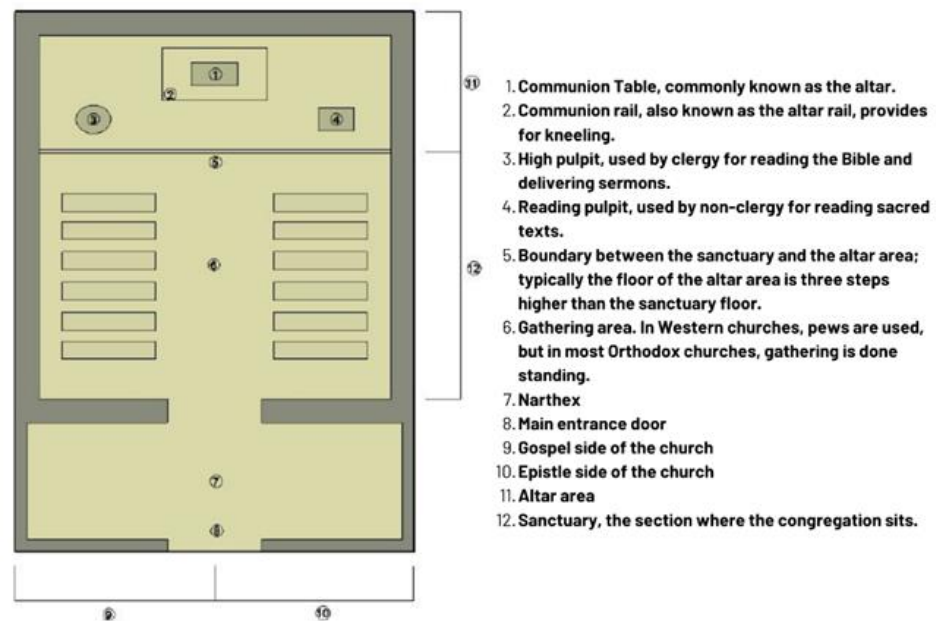


Figure 2: Traditional plan schema in church architecture [10]

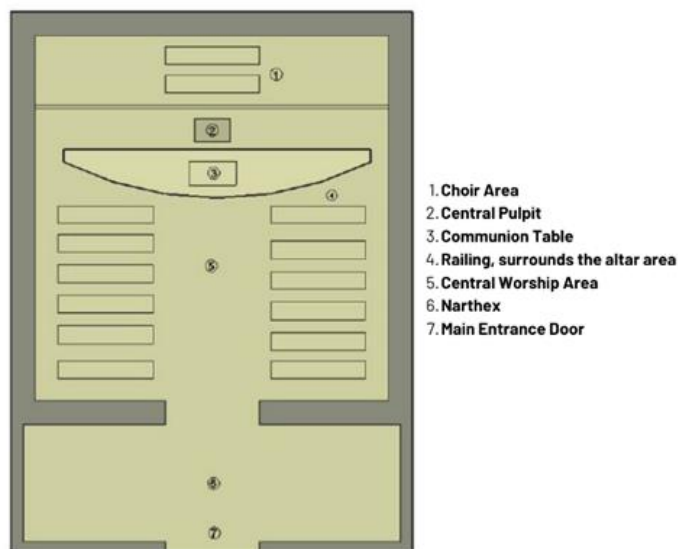


Figure 3: Central plan schema in church architecture [10].

Among the buildings designed for worship, mosques, with their architecture clearly defined, are built according to certain principles, like other places of worship. Initially, mosques were constructed with a wide rectangular plan, an open courtyard, and

an “eyvan”, following the central plan tradition, with the worship space separated from the outer perimeter by barriers like ditches, fences, or walls, thus giving rise to the interior architecture of mosques. Two main models in mosque interior arrangements stand out: the enclosed central space and the open central courtyard. The enclosed central space is built upon a geometric floor plan and includes interior architectural elements completed with a dome, cone, or other central ceiling structures [10]. The ceiling accentuates the centrality of the space, while the floor delineates its orientation and spatial expansion. In mosques, the enclosed central space and the open central courtyard allow the congregation to worship collectively. These areas are designed on a geometric floor plan and are typically completed with a central dome or other ceiling structures. Such an arrangement facilitates the congregation's internal and external presence, strengthening the sense of community and exhibiting a socio-pedal characteristic [10].

In Islam, congregational prayers require ample space; thus, partition walls do not divide the central area. Aesthetically, the dome gives a sense of unity to the interior space and emphasizes circular movement. The main dome rests upon columns called piers. The pulpit, known as the minbar, is a multi-tiered elevated platform where the imam delivers the sermon, especially in large mosques where Friday prayers are held. Beyond this, the courtyard, prayer areas, ablution facilities, carpets or other flooring materials, and shoe racks constitute the major components of mosque interior design [10]. The minbar is an elevated and multi-tiered pulpit from which the imam delivers the sermon. Typically located at the mosque's center, it is positioned at a higher point than the congregation, creating a distance between the imam and the worshippers. This symbolizes the religious leader's authority over the congregation and facilitates a focus on individual religious experience, thus exhibiting a sociofugal characteristic.

In mosques, ablution areas are designed as social spaces for individuals to perform pre-worship rituals. These areas allow congregation members to gather and engage in social interactions. Additionally, mosque courtyards exhibit sociopetal characteristics, serving as open spaces where the congregation can interact socially, relax, and converse. This facilitates communal bonding and strengthens social ties.

For instance, shoe racks with functional shelves and compartments are located on the sides of the mosque entrance. The shoe rack is a functional fixture at the mosque entrance, allowing visitors to store their shoes neatly. This helps maintain cleanliness and order within the mosque and enables individuals to disconnect from the outside world during worship. Mosques also feature designated last congregation areas for those who miss the first prayer time. This area is typically situated adjacent to the mosque in large mosques, often in a colonnaded section. It faces the courtyard and is elevated on a platform, often with windowed walls or balconies. Furthermore, mosques include a preparation area called the "gusulhana," where the bodies of deceased Muslims are prepared for funeral rites and washed according to religious customs before the funeral prayer. The designated last congregation area and the "gusulhana" exhibit sociofugal characteristics, providing a more secluded environment for personal worship and contemplation, as well as facilitating the mosque's religious and ritual functions, distinct from other social or community-oriented areas within the mosque [10]. In this regard, the last congregation area and the gusulhana demonstrate sociofugal features.

In conclusion, mosques serve as both a social center that encourages congregation and as a suitable environment for individual worship and rituals. This demonstrates that mosques possess both sociopetal and sociofugal characteristics.

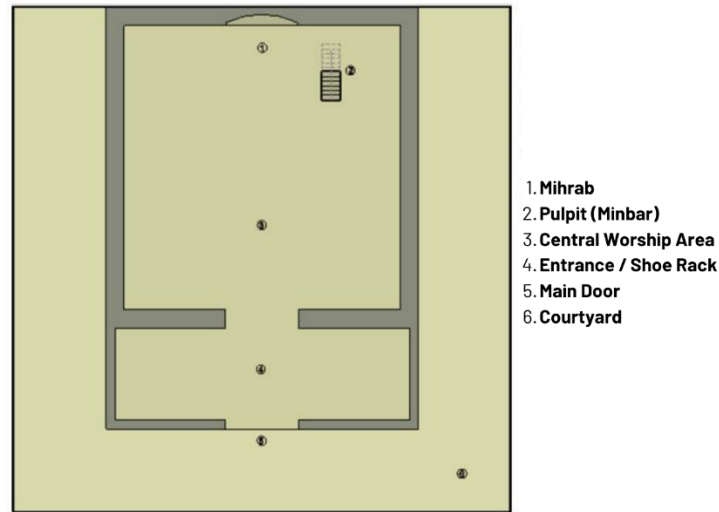


Figure 4: Mosque interior plan schema [10].

Mosques, synagogues, and churches, as sacred spaces, exhibit both sociofugal and sociopetal characteristics; these spaces, through their architecture and social functions, not only encourage individuals towards spiritual introspection but also bring together large communities, fostering a collective identity and sense of solidarity. These architectural features are significant factors that influence how communities organize themselves internally and how individuals experience their religious practices in all three religious buildings.

2.5. Results

The results of the analysis of religious buildings' architectural and social interactions have been thoroughly examined, and theoretical discussions have been supported, detailing their effects on urban and social buildings. The research demonstrates that religious buildings serve spiritual functions and play critical roles in shaping cities' social and cultural fabric. These theoretical discussions lay the groundwork

for findings derived from Space Syntax analyses of four ritual spaces in Kuzguncuk. Key insights are provided regarding integrating religious buildings into urban fabric and their effects on social rituals.

In conclusion, religion and religious buildings have profound and enduring impacts on architecture and urban structures. Throughout history, religious beliefs have shaped architecture, guided the development of cities, and occupied a central place in societal life. This study illustrates that religious buildings are not merely physical spaces but powerful symbols that shape and unite communities in cultural, social, and historical contexts.

Material objects, such as built environments, are intertwined with human beings and their lived experiences of reality. Buildings are defined as "carriers or symbols of emotionally charged events" and are in dynamic relationships with their users. Buildings shaped by human agents "adapt to the intentions and coordinates of the human body", thus becoming material representations of people's daily practices, cultural ideals, and political purposes [51].

Throughout history, emotions have been defined as causes rather than effects, and they are thus addressed in a historical context due to their constantly changing nature. Historians argue that emotions should be seen as subjective practices specific to a particular time and place rather than universal human responses. From this perspective, the body in the historical context becomes the mediator of emotions as learned emotional behaviors, cultural habits, and social norms. The body in space connects emotions to space, thus enabling participation in emotional practices and breaking down the boundaries between the built environment and human subjects. For example, the material reality of a building reinforces, stabilizes, strengthens, and transforms the emotional

practice in question [51]. Therefore, the built environment goes beyond being a material representation of emotions; it has a decisive impact on emotional discourses.

The material world is not the sole factor triggering emotional responses. Emotional experiences do not inherently belong to bodies or material structures; they only emerge when both collide [51]. Thus, emotions arising from such encounters are defined by the subject's historical context and cultural experiences, as well as the composition of the built environment.

In this study, spatial analysis of four different ritual buildings in Kuzguncuk was conducted, and how these buildings' interior and exterior spaces shape various social interactions was examined using the Space Syntax method. The findings revealed that the spatial arrangements of religious buildings, including the dimensions of worship areas and the overall geometry of the buildings, have significant effects on user experiences and social dynamics. It has been demonstrated that religious buildings can serve for worship purposes and as centers for social and cultural interactions. The design features of these buildings influence the behaviors of individuals within the community. The study's findings underscore the importance of employing spatial analysis techniques in the design processes of religious buildings. Careful planning of worship areas' dimensions, degrees of openness, and spatial connections is necessary to determine the effects of space on users.

These results enable architectural adjustments to make religious buildings more functional and interactive. Additionally, they elucidate the impact of these buildings on social and cultural life. Determining spatial perception and its impact on users and social life will prompt considerations for ritual space design and aid in identifying new approaches in planning.

CHAPTER III

RELIGIOUS BUILDINGS IN KUZGUNCUK

Kuzguncuk is a neighborhood situated on the Anatolian side of Istanbul, within the district of Üsküdar, at the base of the First Bosphorus Bridge. It lies between Paşalimanı and Beylerbeyi, directly across from the Ortaköy neighborhood on the European side [53].

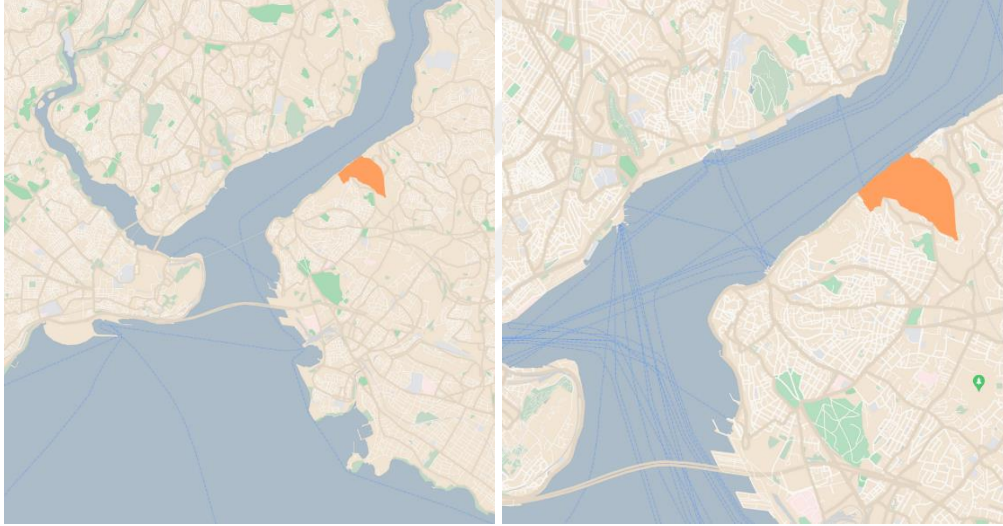


Figure 5: Location of Kuzguncuk in Istanbul Map [58].

The settlement is oriented northwest-southeast and is situated in a valley opening onto the Bosphorus. The terrain in Kuzguncuk is topographically sloped. The narrow and deep configuration of Kuzguncuk has prevented the expansion of the settlement beyond the valley. The presence of Beylerbeyi Palace to the north and the Fethi Paşa Grove starting from the southern slope has completely halted any overflow out of the valley. Including the Fethi Paşa Mansion, the coastal stretch up to Kuzguncuk Park is approximately 690 meters long, while the shoreline extends up to 800 meters. The

Kuzguncuk Pier, located on the Anatolian side of the Bosphorus, is the second ferry dock. Kuzguncuk represents a unique example of settlements in the narrow and deep valleys facing the Bosphorus. In the book 'Istanbul' by Edmondo De Amicis, he mentions Kuzguncuk's natural beauty, describing how it is adorned with iris flowers [53].



Figure 6: Aerial View of Kuzguncuk [59].



Figure 7: Kuzguncuk Aerial Photo [60].

The origin of the name 'Kuzguncuk' is not precisely known. Historically recognized as a Jewish village, Kuzguncuk is one of the first settlements of Jews in Asia. However, it is unclear exactly when the Jews who have been in the region since the Byzantine period arrived; it is generally believed that a significant influx occurred in 1492 with the settlement of Sephardic Jews from Spain along the Bosphorus [61]. Jews regard Kuzguncuk as a sacred land connected to Jerusalem. In addition, Greek and Armenian communities also reside in Kuzguncuk. The Greek population increased in the 17th century, while the Armenian community settled in the area in the 18th century. While Jews constructed places of worship such as the Great Synagogue (Beth Yakov Synagogue) and the Small Synagogue, Greeks built the Agios Georgios Greek Orthodox Church and the Agios Pantelemon Church, and Armenians built the Surp Krikor Armenian Church in the 19th century in Kuzguncuk. The settlement of Turks in Paşalimanı in the 18th century and the construction of the Üryanizade Mosque in 1860 indicate that Turks were not established in Kuzguncuk until the 19th century [62]. The presence of Jews, Armenians, Greeks, and Turks lends a cosmopolitan character to the area.



Figure 8: Kuzguncuk Aerial Photo [60].

Ritual spaces concretize the essence of civilization, embody its understanding, and visualize its belief system. They reflect an individual's perspective on the relationship with objects and their interaction with them [63]. Although the forms of ritual buildings vary across religions, the overarching theme of belief unites individuals of the same faith [64]. In Abrahamic religions, the places of worship are mosques for Islam, churches for Christianity, and synagogues for Judaism. As the primary ritual spaces for Muslims, Mosques are venues for collective worship and serve the community's social, cultural, educational, administrative, public governance, justice services, and military needs [65]. In this capacity, mosques play a pivotal role in community life.

3.1.Istanbul and Ritual Spaces

Istanbul, founded as Byzantium in the 7th century BC, was rebuilt by Roman Emperor Constantine in AD 330, becoming the capital of the Roman Empire under the name Constantinople. It subsequently went through periods of Latin occupation and Ottoman rule, followed by the Republican era. In the early 21st century, the city progressed towards modernization and a cosmopolitan structure. Today, Istanbul maintains its significance as an economic and cultural hub. Istanbul's administration has pursued A unique population policy, bringing Muslims, Christians, Armenians, and Greeks from Anatolia to increase the city's population. During the 15th and 16th centuries, a significant influx of Jews made Istanbul an essential center for the Jewish world [66]. Throughout history, Istanbul has hosted various ethnic and religious communities. Greek, Armenian, Jewish, and Turkish communities have been the principal groups shaping the city's social and cultural structure. In Istanbul, Greeks, Jews, and Armenians have historically settled in the town at different times. The settlement of the Muslim population in Istanbul began after the city's conquest by Mehmet the Conqueror [67]. With the conquest of Istanbul, Turks became the dominant ethnic group in the city. During the Ottoman Empire, Turks left significant marks on Istanbul in areas such as Islamic architecture, music, literature, and art. In this period, Turks significantly influenced and transformed the city's cultural structure. The Greek community, existing since the foundation of Istanbul, is one of the city's oldest inhabitants. The status of the Greeks changed following the conquest of Istanbul in 1453, but they have taken on significant roles economically and culturally. They have made substantial contributions to Istanbul's architecture, arts, and commerce. Armenians, one of Anatolia's oldest peoples, held an important place during the Ottoman Empire. They specialized in crafts, trade, and

construction. Many significant buildings in Istanbul, such as the Balyan family's contributions, including Dolmabahçe Palace and the Krikor Balyan-designed Ortaköy Mosque, were built by Armenian architects. The Armenian community has also been active in cultural fields such as theatre and music [67]. The Jewish community's settlement in Istanbul dates to the Roman Empire era. However, the community experienced a significant wave of migration following their expulsion from Spain in 1492, when the Ottoman Empire accepted them. During this period, Istanbul became a significant center for Sephardic Jews. Today, Istanbul is the city with the densest Jewish population in Turkey, predominantly the Sephardic Jewish community [68]. Jews have played significant roles in fields such as trade, finance, economics, medicine, press, and literature in Istanbul. Their language, Ladino (Judeo-Spanish), has been widely used, contributing uniquely to Istanbul's cultural landscape [67]. In the 20th century, the Jewish population decreased for various reasons. However, the community maintains an active presence in Istanbul, preserving its cultural identity through its schools, synagogues, and social institutions. Different religious communities within the same society have constructed their ritual buildings. Muslim Turks have built mosques, Greek Orthodox churches, Armenian Orthodox churches, and Jewish adherents synagogues to fulfil their religious needs, establishing their place in society. Orthodox churches, established during the Byzantine Empire, particularly in Istanbul, have been the center of Orthodox Christianity.



Figure 9: The Exterior of Hagia Sofya Mosque in İstanbul, the interior of Hagia Sofya Mosque in İstanbul (Photographed by the author).

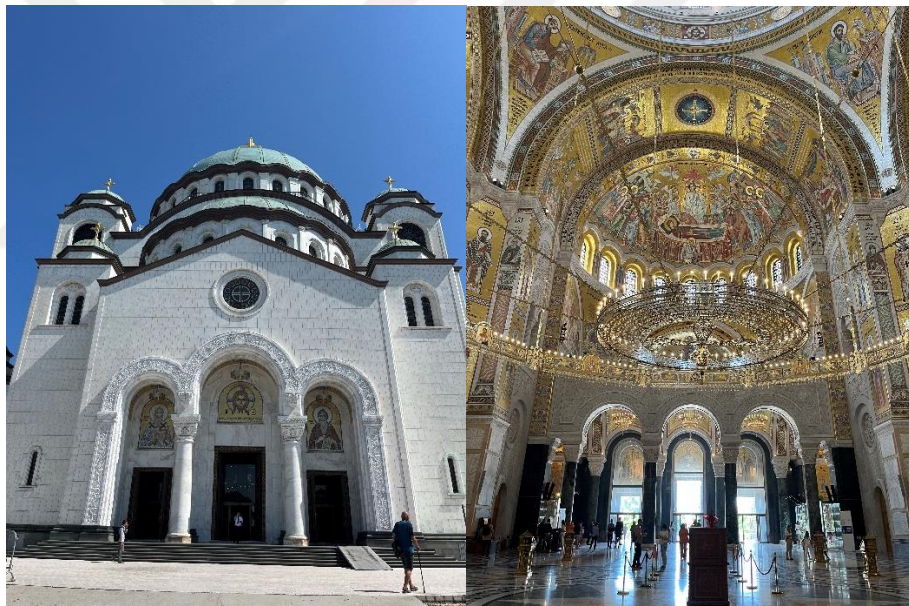


Figure 10: The Exterior of Saint Sava Orthodox Cathedral in Belgrade, the Interior of Saint Sava Orthodox Cathedral in Belgrade (Photographed by the author).

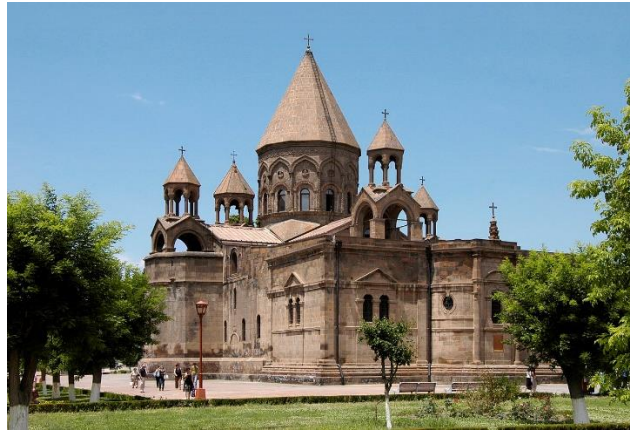


Figure 11: Etchmiadzin Cathedral [69].

Greek Orthodox churches have generally remained under the influence of Byzantine art, extensively using mosaics and frescoes in their interiors. Armenian churches, on the other hand, are more commonly characterized by stone craftsmanship and carved details. Greek Orthodox churches contain liturgical arrangements and symbols specific to Orthodox theology, while Armenian Gregorian churches contain details suitable for Armenian liturgy and traditions. Synagogues are places of worship for the Jewish community. Their history extends back to Ancient Israel. Following the destruction of the Second Temple, synagogues became the central places of worship in Judaism. In Istanbul, the presence of the Jewish community has been documented since the Byzantine Empire era. However, most of Istanbul's synagogues were established following the refuge of Spanish and Portuguese Jews in the Ottoman Empire in 1492. While synagogues generally have a simple exterior appearance, their interiors are enriched according to ritual and worship functions. Synagogues in Istanbul are typically situated in narrow and long buildings, as they have historically been created by converting existing buildings. Each synagogue contains a raised platform called 'Bima,' where the Torah is read. The 'Aron Kodesh' (Holy Ark) also stores Torah scrolls, typically

positioned on the wall facing east, towards Jerusalem. In traditional Orthodox synagogues, women, and men worship in separate areas. Women are usually located upstairs in the gallery section. In some Istanbul synagogues, this building is preserved, and wooden railings separate galleries. Decorative elements commonly used in Istanbul synagogues include rich wood carvings, colored glass, and detailed ceiling decorations. Particularly from the late 19th century, European influences have become apparent in Istanbul's interior decorations of synagogues [10].



Figure 12: Interior of the Belz Synagogue in Jerusalem [70].

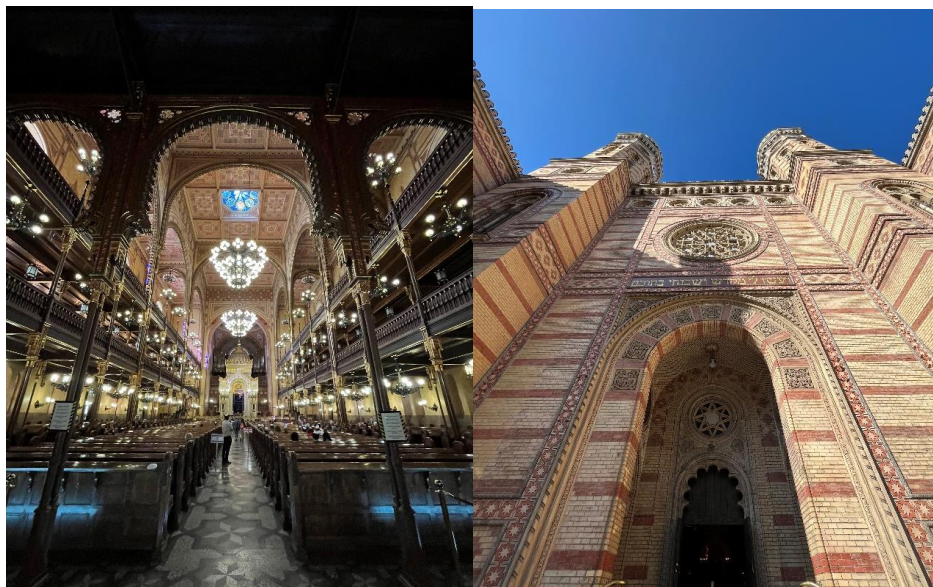


Figure 13: The interior of Dohány Street Synagogue in Budapest, the exterior of Dohány Street Synagogue in Budapest (Photographed by the author).

3.2. Urban Morphological Changes in Kuzguncuk

In the Ottoman Period, there was a notable lack of planned public open spaces; mosques emerged as the primary centers of public spaces. The characteristic diagonal streets and expansive open areas typical of Roman urban planning gradually disappeared, giving way to more organic Islamic patterns. This pattern in city planning and architecture became increasingly prominent during the Islamic Golden Age, from the 8th to the 14th century. When examining urban form components across different eras, it is evident that the dominant components of each period vary. The Greek Period spanned from 800 BC to 146 BC, covering the historical stages of Ancient Greek civilization. During this time, city walls, the Acropolis, the Agora, and temples were prominent in urban planning and architecture, serving as central elements in Greek city life and social structure, particularly during the Archaic, Classical, and Hellenistic periods. The Roman Period extended from the founding of the Roman city-state in 753 BC to the fall of the Western Roman Empire in AD 476. This era brought significant changes in architecture and urban planning. During the Republic and subsequent Imperial periods, new urban components such as city walls, forums, the Hippodrome, Mese Street, aqueducts, churches, and monasteries became predominant. Roman urban planning evolved to meet the expanding empire's needs, characterized by orderly streets and large squares. Although the walls remained almost unchanged in the Ottoman era, the most prominent buildings were mosques, the main elements of the urban form of Islamic culture. Public spaces were transformed into commercial areas, the Hippodrome was converted into “At Meydanı”,

and Mese Street was renamed “Divan Yolu”; new palaces, complexes, harbors, and neighborhoods were established. Starting from the early 20th century, the modern period saw the demolition of earlier components, such as old city walls, traditional buildings, and historical streets, during new urban planning and application processes, illustrating the continual transformation of cities and how old structures are adapted or demolished to meet modern needs. New roads, open spaces, cultural and administrative buildings, and designated functional areas were constructed. When compared across different periods, certain structures are common throughout all eras; these include city walls, palaces or administrative buildings, aqueducts, monuments, plazas/public spaces, warehouses, and religious buildings. Despite still standing today, each community has been established upon the architectural and cultural traces of the previous ones. Significant transformations were present in the city’s general structure; for instance, during the Ottoman Period, elements such as mosques, a quiet and secluded lifestyle, narrow streets, and dead ends, which are characteristic of Islamic architecture, contrasted starkly with the orderly street layouts and broad squares of the Roman Period. Urban form components can be viewed as remnants of the past despite changes in the city's general morphological structure [71]. Kuzguncuk, located on the Asian side of Istanbul in the historic district of Üsküdar, is known as the first Jewish settlement in the city. Throughout the 17th and 18th centuries, the area was home to Greek, Jewish, and many Armenian families. Despite various political events, these communities lived together peacefully for many years. Following the Tanzimat and Reform Edicts, the Greek community was granted Ottoman citizenship, increasing commercial sector prosperity. This development significantly enhanced the socioeconomic status of the Greek community within the Ottoman Empire and led to notable differences in the construction sector. Therefore,

Kuzguncuk is a neighborhood worthy of further study due to its rich historical and cultural mosaic.

3.2.1. The Ritual Spaces in Kuzguncuk

There are two mosques located in Kuzguncuk: Üryanizade Mosque and Kuzguncuk Mosque. The Üryanizade Ahmet Esat Efendi Mosque is situated on Abdullağa Street in Kuzguncuk. It was constructed in 1860 by Üryanizade Ahmet Esat Efendi [61].



Figure 14: The exterior of Üryanizade Mosque, the interior of Üryanizade Mosque (Photographed by the author).



Figure 15: Üryanizade Mosque Plan.

The Kuzguncuk Mosque, located on Kuzguncuk Main Street, was constructed between 1950 and 1952. The architect of the mosque is Cemil Şavkay Bey. The mosque, featuring a single dome, is built from cut stone and has a single minaret with one balcony [62].



Figure 16: The exterior of Kuzguncuk Mosque, the interior Kuzguncuk Mosque
(Photographed by the author).

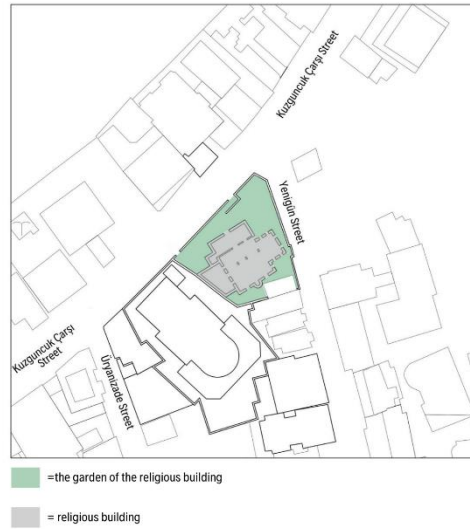


Figure 17: Kuzguncuk Mosque Plan.

Synagogues are places of worship for Jews. Besides worship, synagogues also serve functions such as religious education, community housing, courtrooms, and social activities, playing a central role in the religious and social life of the Jewish community. [72]. There are two synagogues in Kuzguncuk: Bet Yaakov and Bet Nissim. The Bet Yaakov Synagogue was built in 1878. There are two synagogues in Kuzguncuk: Bet Yaakov and Bet Nissim. The Bet Yaakov Synagogue was built in 1878 [73]. Cengiz Bektaş refers to the Bet Yaakov Synagogue as the Great Synagogue. The masonry building is covered with a hipped roof sloping in four directions. There is a direct entry from the street into the courtyard. The first door on the right leads to the women's gallery. The Bet Yaakov and Bet Nissim Synagogues in Kuzguncuk alternately provide services. The interior features an octagonal dome decorated with scenes from the Torah. The Bet Yaakov and Bet Nissim Synagogues in Kuzguncuk alternately provide religious services, offering prayer meetings, Sabbath services, and other religious observances to the local Jewish community [62].



Figure 18: The Exterior of Bet Yaakov Synagogue [74].



Figure 19: The interior of Bet Yaakov Synagogue (Photographed by the author).



Figure 20: Bet Yaakov Synagogue Plan.

Known as the Small Synagogue, Bet Nissim synagogue is located on the upper part of İcadiye Street. The construction date of the synagogue is known to be 1884. Known as the Small Synagogue, this synagogue is located on the upper part of İcadiye Street [62]. The construction date of the synagogue is known to be 1884 [75]. High courtyard walls extend along the two-story masonry building on the south and west facades. When the Jewish population in Kuzguncuk decreased, the building faced closure but continued to serve.



Figure 21: The exterior of Bet Nissim Synagogue [76].



Figure 22: The interior of Bet Nissim Synagogue [77].

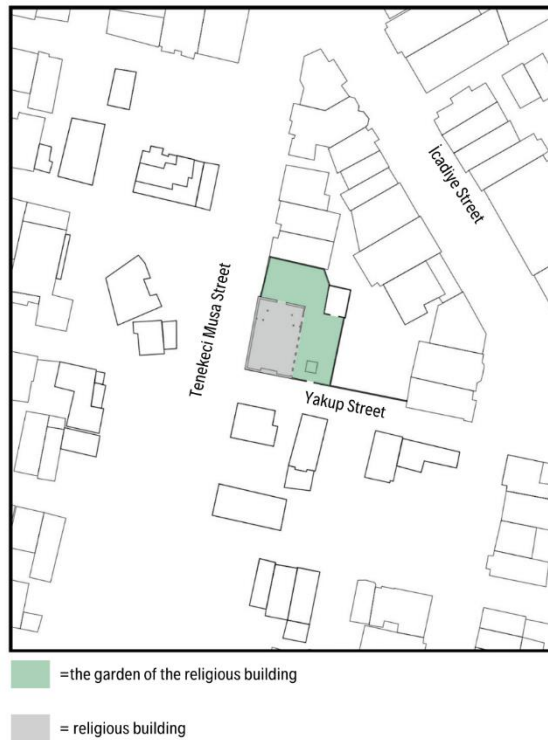


Figure 23: Bet Nissim Synagogue Plan.

Churches are places of worship for Christians. The term 'church' implies a gathering place. Churches are perceived as the house of God and are constructed facing the direction of the sunrise[78]. They serve as centers where Christian religious ceremonies are conducted, and religious teachings are preached and practiced [65]. After Christianity became freely practiced, disagreements emerged among Christians, forming new denominations. The primary denominations are 'Catholic,' 'Orthodox,' and 'Protestant' [79]. The split between the Orthodox Church and the Catholic Church has allowed the Orthodox Church to retain its name. Initially led by the Greek Church, the Orthodox Church maintained its independence under the Ecumenical Patriarchate of Constantinople [80]. In Kuzguncuk, the Greek Orthodox and Armenian Orthodox Churches, significant representatives of Orthodox Christianity, differ in their origins, religious practices, and cultural contexts. Armenians, who accepted Christianity in AD

301, participated in the first three ecumenical councils conducted by the Christian world but separated from other Christian churches by not attending the Council of Chalcedon in 451. The Armenian Church has maintained its existence as a distinct church with different doctrinal principles and continues to serve as the official religious institution of the Armenian nation [81]. The term 'Rum' derives from the word 'Romaioi,' evolving to describe people of the Orthodox Christian denomination who speak Greek and whose religious practices originate from this faith [82]. Initially, all Eastern Orthodox churches were under the administration of the Istanbul Orthodox Church (Ecumenical Patriarchate), but separations began after that. The Armenian Orthodox Church is among those that separated [79]. In Kuzguncuk, the Agios Panteleimon Greek Orthodox Church was built in 1831 and is dedicated to Saint Panteleimon. The church building was designed using the Greek cross plan, typical of Byzantine architecture. Four piers support the main dome of the building. The basilical plan of the church building has an apse projecting outward on the eastern short side [83]. The bell tower was built by Kuzguncuk resident Andon Hüdaverdioğlu in 1911. Made of marble, the bell tower is located above the courtyard entrance. Next to the church, there is a sacred spring. This church is one of the forty-two Greek Orthodox churches established in Istanbul after the Tanzimat reform era and is counted among the churches of the Kadıköy Metropolitanate [84].



Figure 24: The exterior of Agios Panteleimonas Greek Orthodox Church
(Photographed by the author)



Figure 25: Agios Panteleimonas Greek Orthodox Church.

Surp Krikor Lusavoric Church is an Armenian church opened for worship in 1835 and rebuilt in 1861. Dedicated to Gregory, this church was initially constructed out of wood on May 11, 1835, by Hovhannes Amira Serveryan [52]. The church has a rectangular, cross-in-square plan. Columns separate the entrance and the narthex of the church. A central dome is constructed on top of the building. It is the only Armenian church in Istanbul with an external dome next to the Kuzguncuk Mosque. Four large piers support the dome, and there are two additional piers. Atop the dome, there is an orb featuring an Armenian cross. Another characteristic of the church is its large windows on

the side facades, which allow abundant light inside. The church has a two-story, domed bell tower on the eastern edge of the building. Additionally, there is a fountain in the churchyard dated to 1910 [52].



Figure 26: The exterior Surp Krikor Lusavoric Armenian Orthodox Church, the interior of Surp Krikor Lusavoric Armenian Orthodox Church (Photographed by the author).

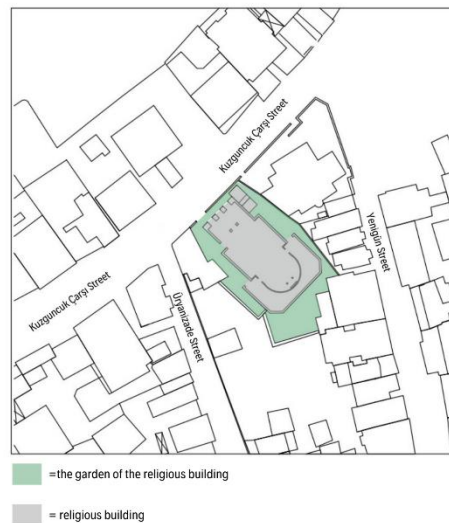


Figure 27: Surp Krikor Lusavoric Armenian Orthodox Church.

Another Greek Orthodox church in Kuzguncuk is the Agios Georgios Greek Orthodox Church. This church is located on İcadiye Street. A Greek inscription on the south facade of the building states that the church was completely renovated in 1821 [84]. The church is designed with a basilical plan. It has three naves, an apse on the eastern

edge, and a narthex on the western edge. The apse is covered with a half-dome, while the rest has a barrel roof [52].



Figure 28: The Exterior of Agios Georgios Greek Orthodox Church [85].



Figure 29: Agios Georgios Greek Orthodox Church.

People reflect their social, cultural, religious, and economic values onto their surroundings. These values influence the environment and change [53]. The religious buildings in Kuzguncuk play a significant role in shaping the social and cultural fabric of the region. This thesis examines the profound impact on social interactions and the symbolic spiritual values of four religious buildings in Kuzguncuk: Kuzguncuk Mosque,

Agios Panteleimonas Greek Orthodox Church, Surp Krikor Lusavoric Armenian Orthodox Church, and Bet Yaakov Synagogue. Each building serves the needs and rituals of different religious communities, significantly reinforcing Kuzguncuk's cultural diversity and atmosphere of tolerance. Additionally, these religious sites play a key role in preserving social memory and transmitting cultural heritage. Consequently, the religious buildings in Kuzguncuk serve not only as centers of faith but also as effective instruments in shaping the social and cultural identity of the community.



Figure 30: Ritual spaces were used in the research [86].

CHAPTER IV

METHODOLOGY

Kuzguncuk is a neighborhood where different communities, such as Turkish, Jewish, Armenian, and Greek, have peacefully coexisted since the Ottoman Empire. This religious and cultural diversity, along with its reflected historical urban structure, has been preserved to the present day. In this regard, this research provides a rich source for understanding the cultural and religious diversity of Kuzguncuk and its impact on the perception of the neighborhood residents.

Since the Ottoman Empire period, Kuzguncuk has been one of the rare neighborhoods where different ethnic and religious communities, including Turkish, Armenian, Greek, and Jewish, have lived together, preserving this diversity until today. Kuzguncuk harbors ritual places such as mosques, churches, and synagogues belonging to three different religions, serving as tangible expressions of this religious diversity embedded in the neighborhood fabric. This characteristic distinguishes the neighborhood, making it stand out. The preservation of this historical fabric in the neighborhood is one of the factors contributing to its investigation.

4.1. The Aim of Research Methodology

Studying this neighborhood from a syntactic perspective will explain how different religious communities use these spaces, how their interior and neighborhood perception is formed, and how they are reflected in the social fabric. There are seven ritual spaces in Kuzguncuk, including two mosques, two Greek Orthodox churches, one

Armenian church, and two synagogues. These are Kuzguncuk Mosque, Üryanizade Mosque, Agios Panteleimonas Greek Orthodox Church, Agios Georgios Greek Orthodox Church, Surp Krikor Lusavoric Armenian Orthodox Church, Bet Yaakov Synagogue, and Bet Nissim Synagogue. Four ritual buildings have been selected for analysis in Kuzguncuk: Kuzguncuk Mosque, Agios Panteleimonas Greek Orthodox Church, Surp Krikor Lusavoric Armenian Orthodox Church, and Bet Yaakov Synagogue. When selecting four out of the seven ritual places in Kuzguncuk, the symbolic and geographical importance of each building was taken into consideration. The reason for choosing Kuzguncuk Mosque, one of the two mosques, is its proximity and central location compared to Üryanizade Mosque on İcadiye Street. In particular, the adjacency of the Kuzguncuk Mosque and the Surp Krikor Lusavoric Church symbolizes the harmonious coexistence of different religions. This contributes to the cultural and social fabric of Kuzguncuk, emphasizing its history, diversity, and multicultural structure. Thus, choosing Kuzguncuk Mosque carries both architectural and societal significance.



Figure 31: Kuzguncuk Religious Buildings Map.



Figure 32: Kuzguncuk Religious Buildings Selected for the study, Kuzguncuk Mosque, Bet Yaakov Synagogue, Agios Panteleimonas Greek Orthodox Church, Surp Krikor Lusavoric Armenian Orthodox Church (Photographed by the author).

The Agios Panteleimonas Greek Orthodox Church has been selected from the Greek churches. This is because of its larger size compared to the other Greek churches. Between the two Greek churches, the larger one was preferred. This church has a larger area than the other Greek churches and stands out in its location on İcadiye Street. It is prominent with its size and striking architecture. Additionally, the presence of the selected Greek Church across from the Boston church further emphasizes its significance. Despite the other Greek church being in a more central location, I chose this church for research because I believe it is more visually and architecturally striking. Since there is one Armenian church in Kuzguncuk, the Surp Krikor Lusavoric Church has been directly included in the study. Additionally, the Armenian church holds a symbolic significance for Kuzguncuk due to its proximity to Kuzguncuk Mosque. Of the two synagogues in Kuzguncuk, Bet Yaakov Synagogue has been selected. Bet Yaakov Synagogue is easily accessible as it is located on İcadiye Street. It is more centrally located than Bet Nissim Synagogue. Bet Yaakov Synagogue is also larger and more functional than Bet Nissim Synagogue. While Bet Nissim is in a less known and less conspicuous location at the back

street of the avenue, Bet Yaakov Synagogue is considered more significant in size and location.

The selection criteria for the religious buildings in Kuzguncuk are directly linked to the fundamental principles of the space syntax methodology that will be utilized in this study. Space syntax quantitatively assesses how buildings and urban spaces within cities occupy the urban fabric, including their visibility and accessibility. The selected buildings' significant sizes and prominent locations provide ideal conditions for these measurements. Consequently, their selection enhances the applicability of the space syntax methodology in the study, forming a basis for a detailed examination of the social and physical interactions of spatial buildings in Kuzguncuk.

Space syntax is a method that measures how buildings and urban spaces occupy and interact within and around their environment. This method determines the visibility, accessibility, and permeability of spaces within and outside buildings, which may include streets, squares, and rooms and are often delimited by barriers such as walls, fences, and furniture [87]. This study employs space syntax because it is particularly suitable for examining open-space structures. Hillier and Hanson mention the lack of a clear description of the morphological features of environments determined by social structures. They emphasize that morphological characteristics are not confined merely to their spatial appearance [1]. Ferguson argues that understanding spaces involves more than separating them from their social context [88]. Knowing how buildings are formed and how societies are shaped and reproduced aids in a better understanding of these spaces [89]. Therefore, when describing space and the structural environment, we must consider how these buildings are formed, which helps us better understand how societies are shaped and reproduced.

4.2. The Reason of Selected Points

This analysis is conducted in a Greek Orthodox church, an Armenian church, a mosque, and a synagogue. Four points have been selected from each ritual space used in the study. Parameters such as isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial distance, connectivity, and integration are measured at these points. These parameters have been selected to comprehensively assess the visual and accessibility features of the spaces. They are crucial for understanding how spaces are perceived and utilized. A phased syntax approach is applied in this study. Initially, visits to the ritual buildings were required; therefore, permissions were obtained from the Chief Rabbinate for synagogues, the Greek Orthodox Metropolitanate for the Greek church, and the Patriarchate of Turkey's Armenians for the Armenian Orthodox Church. The permission process was challenging and lengthy. Access to mosques is unrestricted, so no issues were encountered in researching these spaces. Photography was not allowed in some locations within the synagogues and churches that needed to be visited within a specific timeframe. The ritual building plans obtained from the Üsküdar dwg map were considered, and the measurements of window and door openings determined during site visits were transferred to AutoCAD for scaled drawings. Each ritual space has a site plan drawn up with frame lengths that vary for each space. This is because four distinct points are taken from each ritual space, and the area to be analyzed in the Syntax 2D program is drawn according to the size of the ritual space. The first point is the center of the interior, the second is within the garden, the third is at the garden gate, and the fourth is taken from the nearest intersection. The first point, taken from the center of the interior, provides information on the spatial configuration within the ritual space and represents the user's experience inside. The second point, taken from the garden, is located where

communities belonging to ritual spaces conduct their religious, social, and cultural activities, providing information on how users utilize this area. The third point, taken from in front of the garden gate on the roadside, is where the ritual space interacts most with the city, providing information about its integration with the urban fabric and perception of the public space. This point informs about the accessibility and visibility of the ritual space within the city. The fourth point, nearest the road intersection, provides information about their positions within the urban network and movement to the building. The analysis of these four points offers a necessary perspective for understanding the role of ritual spaces in the urban fabric. Analyzing these points helps us understand the role of these religious spaces in the city. The first point is determined as the central point of the interior, the second point is taken from a visible area near the outer door within the garden, the third point is taken 2 meters away from the road by the garden gate of the ritual space, and the fourth point is the midpoint of the road where the closest intersection begins. Four circles with a 50-meter radius have been created based on these points. Rectangles encompassing these circles have been drawn to frame the area to be analyzed (Figure 33, 34).

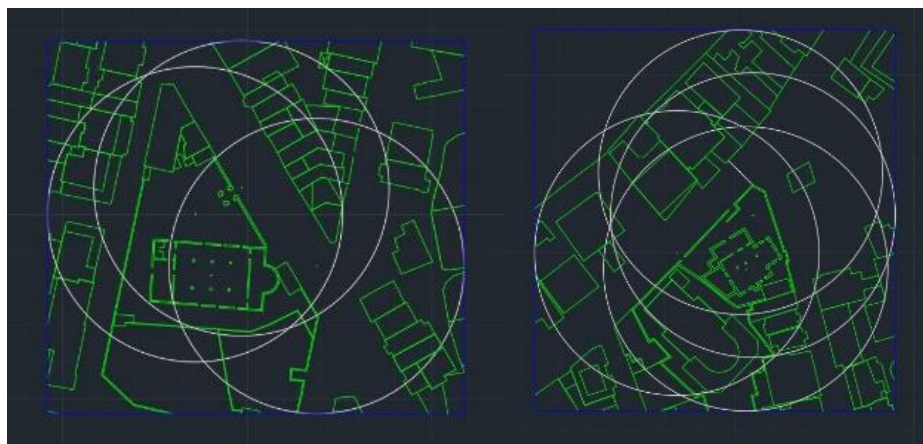


Figure 33: Circles with a 50-meter radius centered on points in the Agios Panteleimonas Greek Orthodox Church, Circles with a 50-meter radius centered on

points in the Kuzguncuk Mosque.

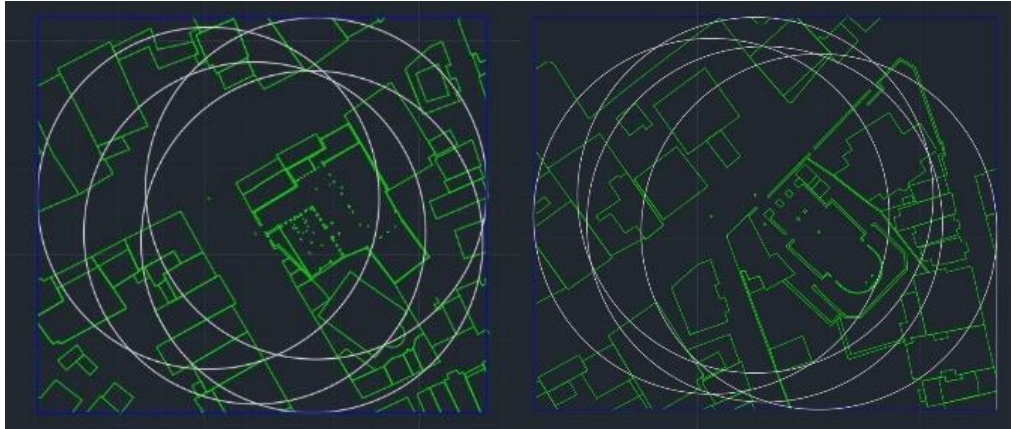


Figure 34: Circles with a 50-meter radius centered on points in the Bet Yaakov Synagogue, Circles with a 50-meter radius centered on points in the Surp Krikor Lusavoric Armenian Orthodox Church

Space syntax is a quantitative method that begins with a concise description of buildings and cities, measuring visibility, accessibility, and permeability in building interiors and urban spaces [87]. Space syntax defines spaces as voids, including streets, squares, rooms, and parks. These voids are defined by barriers such as walls, fences, or furniture obstructing views or blocking passage [90]. This study is suitable for syntax analysis because space syntax is an appropriate method for examining open-space structures. The two-dimensional plan drawings of ritual buildings drawn in the AutoCAD program were adjusted according to the layer system accepted by the Syntax 2D program. Separate layers were designated for the frame, the ritual space, and lines outside the ritual space, and then the files were converted to DWG and DXF formats. The plans in DXF format were transferred to the Syntax 2D program. The "smallest grid piece" calculated by the program for its main area of effect was made the same for all buildings, with each grid measured as one square meter. The DXF file is first loaded when the Syntax 2D

Program is run. Once the DXF file is defined, the definitions, as shown below, are necessary (Figure 35). If the drawing program has the wall and boundary layers defined under the same name, Syntax2D can automatically detect this.

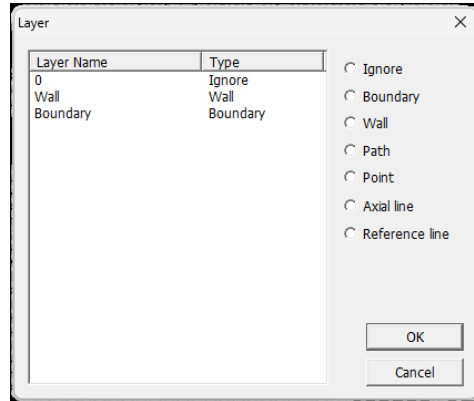


Figure 35: Syntax2D Defining Plan Layers

Next, we encounter the tab shown below (Figure 36). Here, we select the measurement unit as meters and set the isovist calculation method to approximate radial, then continue.

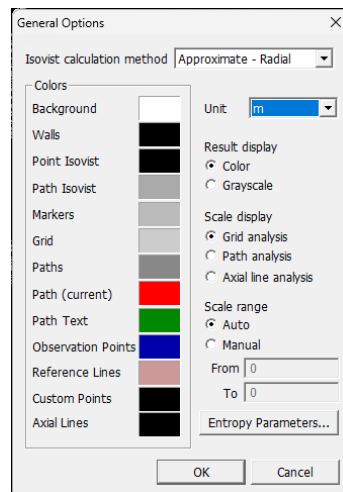


Figure 36: General Options of Syntax2D

In the next step, we need to define the grids and enter "1" as the value for the opening size, as shown in Figure 37. Additionally, we must check the "calculate graphic measurements" option to calculate integration, average depth, and connectivity values. This will result in a plan divided into grid sections, as depicted.



Figure 37: Grid Options of Syntax2D

We initiate the calculation at this stage and encounter a plan with an isovist area graph, as shown below (Figure 38). When we want to view all syntactic values simultaneously, all the values in the table are displayed. In this research, since the values of the selected point are significant, that grid is selected after determining which grid the selected four points correspond to. The values in the table are noted down (Figure 38).



Figure 38: Process of Analysis and After Process Result of Syntax2D

This study has enabled the comparison of values such as isovist area, perimeter, mean depth, occlusivity, compactness, circularity, mean radial, connectivity, and integration within the layout plan. This provides an important opportunity for the logic of comparing numerical values. The purpose of perceiving from different points is to demonstrate how the buildings are perceived from various positions (center of the interior, inside the garden, garden gate, nearby road intersection) and how they interact with the city. For instance, data collected from the center of the interior provide insights into how religious rituals are conducted and how the spiritual atmosphere of the space is experienced. External points, on the other hand, reveal the connection and accessibility of the space within the city, how it is perceived from the outside, and how it integrates with the urban environment. The phased analysis of religious buildings is critical for understanding spatial relationships at different scales, from the interior to the general urban fabric, and how these relationships change. This phased approach evaluates the

ritual building not just from a single point, like the center of the interior, but also from its surroundings and broader context. This illustrates how individual users experience ritual buildings and how their locations within the city shape social interactions and visual access.

4.3.Syntactic Parameters Used in the Research

Selected parameters for analysis are isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, connectivity, and integration.

4.3.1.Definitions

Isovist Area measures how much space an observer can see within or around a mosque, church, or synagogue. This parameter can be used to assess the visibility and accessibility within or around the place of worship. A larger Isovist Area indicates that the place of worship covers a more open and expansive area.

On the other hand, the Isovist Perimeter indicates the length of the boundary of the visible area within or around a mosque, church, or synagogue. This parameter reflects the complexity or openness of the place of worship. A larger Isovist Perimeter may suggest that the space is more intricate or irregular.

Mean Depth determines how easy or difficult it is to navigate within or around a mosque, church, or synagogue. It indicates the ease or difficulty of movement within or around the place of worship. A lower Depth value suggests that the space is easier to navigate and more accessible.

Occlusivity refers to the proportion of obstacles that block the view within or around a mosque, church, or synagogue. A high Occlusivity value indicates that the place of worship is more enclosed and obstructs the view.

Compactness measures how compact the Isovist Area of a mosque, church, or synagogue is compared to its surroundings. A more rounded and uniform Isovist Area results in a higher Compactness value.

Circularity measures how closely the Isovist Area of a mosque, church, or synagogue resembles a perfect circle, evaluating the smoothness and geometric shape of the space.

Mean Radial specifies the average distance reached towards the edges of the Isovist Area of a mosque, church, or synagogue. This parameter indicates how much the space expands from the observer's viewpoint.

Connectivity shows how much and in what manner a mosque, church, or synagogue is connected to other points. High Connectivity suggests that the place of worship has more direct connections to other points.

Integration evaluates the overall accessibility and centrality of a mosque, church, or synagogue within the surrounding space. A high Integration value indicates that the place of worship is more central and accessible, providing a more suitable environment for social interactions.

In conclusion, the syntactic parameters utilized in this research have provided valuable insights into the spatial characteristics of mosques, churches, and synagogues in the study area. By employing these parameters, the visibility, accessibility, complexity, and connectivity of these places of worship have been assessed, illuminating their spatial structures and societal significance. The findings of this study contribute to our

understanding of the impact of built environments and places of worship on social interactions. Considering the implications of the findings of this study on the design and planning of built environments for various communities is crucial.

4.4. The Reason of Selection of Syntactic Parameters

These parameters are used to understand the physical and visual characteristics of the space, as well as their potential impacts on social interactions [1]. These criteria assess how the space impacts visually and physically, evaluating users' movements, viewpoints, and proximity to the space. These parameters are important for understanding the psychological and social effects of the space on users. In a neighborhood like Kuzguncuk, where ethnic and religious diversity is pronounced, the gradual examination of different religious buildings helps better understand the reflections of this diversity on the spatial and social structure. Each religious building provides information on how different groups within the community meet their needs and rituals. This research offers a comprehensive understanding of how the spatial structure and accessibility of religious spaces in Kuzguncuk are perceived. This information is vital for understanding the role of such spaces in the city and how they shape social interactions. Measurements taken from different points at each ritual space provide insights into the visibility and accessibility of these spaces within the urban fabric. For example, low values for some parameters at Kuzguncuk Mosque indicate that the mosque has more visual and physical restrictions than other spaces. Conversely, high values at Agios Panteleimonas Church suggest it is more open and accessible. The spatial analysis of religious buildings reveals how a community's culture is reflected in architecture and the spatial organization of ritual spaces. For instance, the more complex and deep structures of synagogues and churches

indicate that these spaces are more closed and introspective within the community. These analyses show how the positions of religious buildings within the urban fabric affect their levels of interaction with the community. Spaces with high integration and connectivity values offer more suitable areas for social activities and community interactions. However, spaces with low values appear more closed and difficult to access. This research also demonstrates the impact of architectural features of religious buildings on community participation and rituals. It can be said that worship spaces with more open and expansive areas are used more frequently within the community and play a more active role. More closed and inaccessible spaces show they have more secretive, limited rituals and social interactions.

4.5.Possible Outcomes After Syntactic Analysis

This research provides insights into urban planning and architecture and how religious and cultural structures can be integrated into the urban fabric. For architects, it can serve as a guide to understanding the impacts of these buildings' placements within the city on social interactions and the urban fabric. In Kuzguncuk, where various religious buildings coexist, this study provides information through individual analysis of these spaces and their spatial relationships with each other. This study also gives insights into the themes of tolerance and respect in Kuzguncuk, which is important for supporting these social relations. It is crucial to understand how these ritual spaces create social, cultural, and architectural impacts within the city and how they establish community interactions. These findings are critically important for better understanding the urban fabric and social structures.

CHAPTER V

THE ANALYSIS OF RITUAL BUILDINGS

This section presents a detailed analysis of ritual spaces. Each selected ritual space has been examined using syntax, focusing on four predetermined points. The parameter maps and findings from these analyses have been presented in a collage format and extensively interpreted through graphics and tables. Additionally, the results obtained from different ritual spaces have been compared, leading to a detailed discussion based on the characteristics of these spaces. Thus, the aim is to develop a comprehensive understanding of ritual spaces' physical and social dynamics.

5.1. Ritual Buildings

The geographic location of the four buildings selected for the study in Kuzguncuk is depicted on the Pervititch map(1930-1936). The Bet Yaakov Synagogue, Surp Krikor Lusavoric Church, and Agios Panteleimonas Orthodox Church are featured on the Pervititch map. In contrast, the Kuzguncuk Mosque is absent from the map due to its nonexistence during that period.

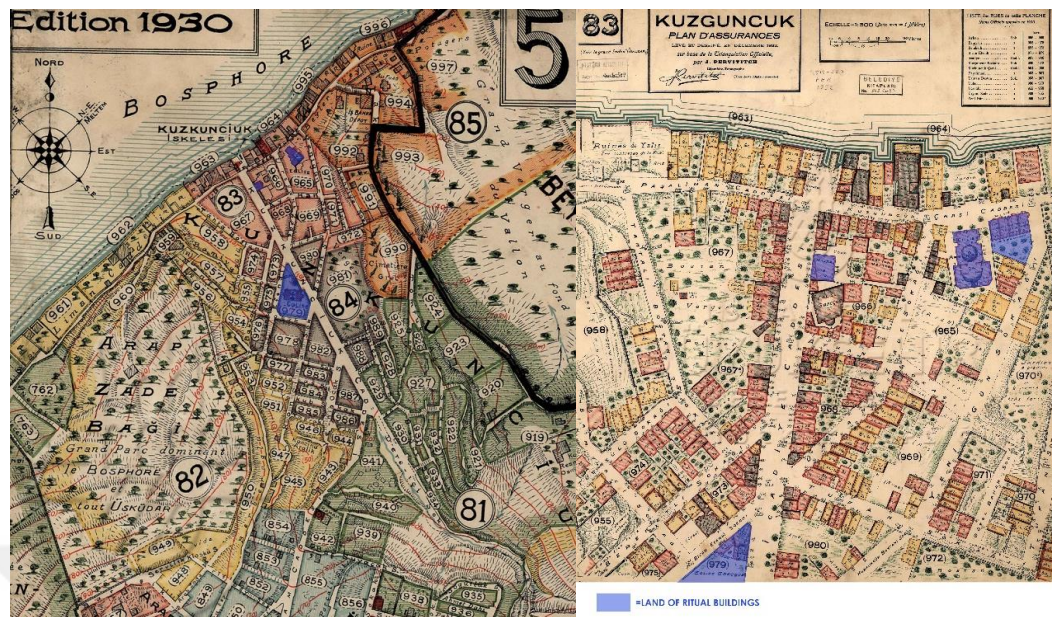


Figure 39: Location of Ritual Buildings in Pervititch Map, Location of Ritual Buildings in Pervititch Map, Location of Ritual Buildings in Kuzguncuk Map [91].

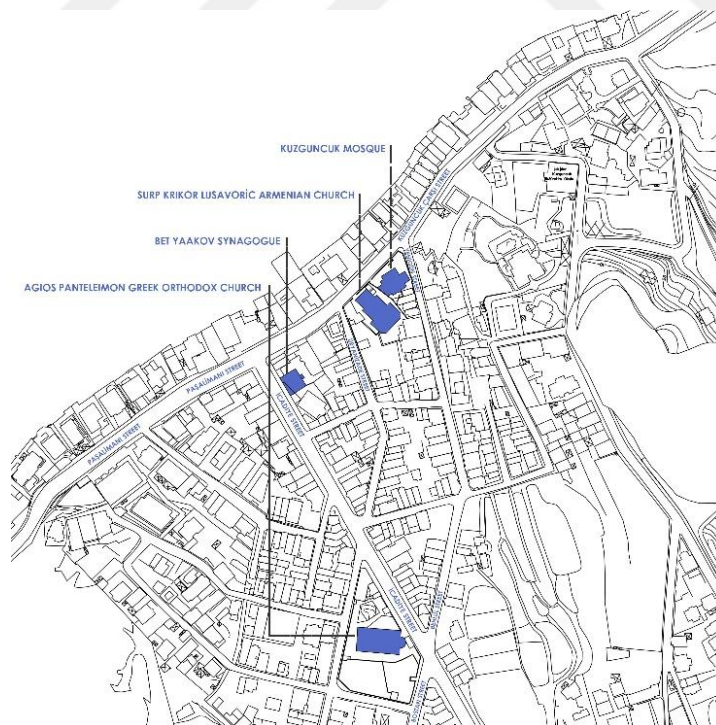


Figure 40: Location of Ritual Buildings in Cadastral Map

5.1.1. Kuzguncuk Mosque

The Kuzguncuk mosque, built in 1952, is located at the intersection of Kuzguncuk Bazaar Street and Yenigün Street. Cami is next to the Surp Krikor Lusavoric Armenian Church. Material and spiritual support was received from the Armenian community during the construction of the mosque. The single-domed mosque is made of cut stone. The qibla wall is covered with tile, and the pulpit and the sermon are wooden. The mihrab is an area within the wall in the form of a niche, and it is marble. The reinforced concrete mosque has a single minaret with a single glory [62]. It has a wooden minbar. There is a room to the right and left of the last congregation [92].

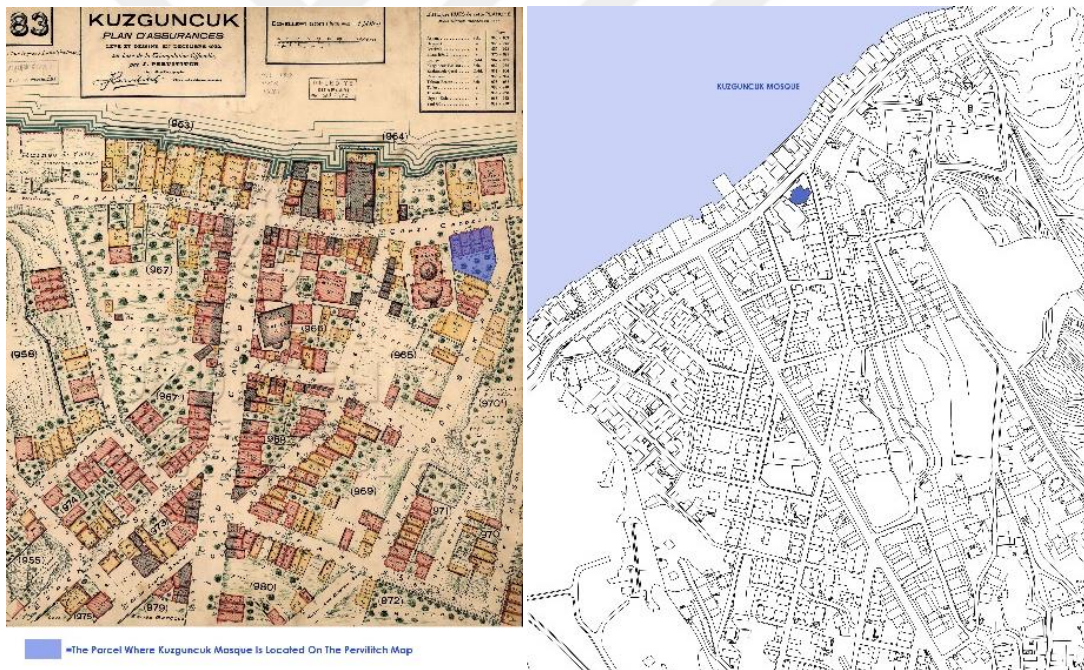


Figure 41: Pervititch Map, Location of Kuzguncuk Mosque in Kuzguncuk Map



Figure 42: Façade of Kuzguncuk Mosque, Interior of Kuzguncuk Mosque
(Photographed by the author).

5.1.2. Agios Panteleimonas Greek Orthodox Church

The Agios Panteleimonas Church is situated on İcadiye Street. This edifice serves as a place of worship for the Greek Orthodox community. It experienced a fire in 1861 and was subsequently reconstructed by tradesmen in 1896 [93]. Constructed from marble in 1911, the church's bell tower functions as the entrance gate to the garden. Atop the tower, a Greek inscription declares that it was originally erected in 1831, succumbed to fire in 1872, and was rebuilt by Architect Nikola Ziko in 1890. Adjacent to the tower lies the tomb of Andon Hüdaverdioğlu, the individual responsible for the tower's construction [92]. The saint for whom the church is named was martyred by pagans for his adherence to Christianity throughout his life [94].

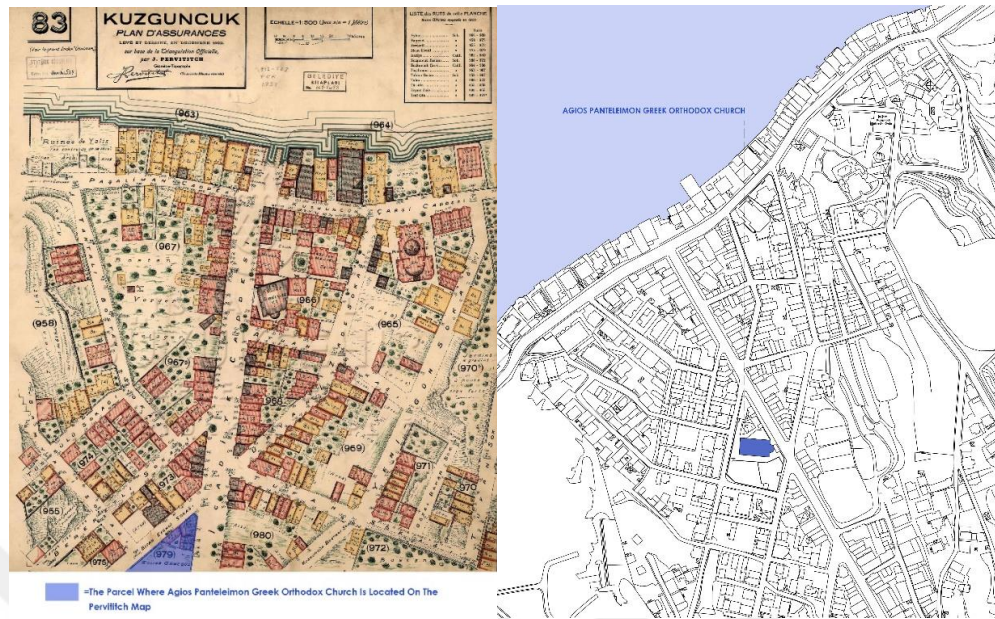


Figure 43: Pervititch Map, Location of Agios Panteleimonas Greek Orthodox Church in Kuzguncuk Map



Figure 44: The bell of Agios Panteleimon Greek Orthodox Church, The garden of Agios Panteleimon Greek Orthodox Church, Interior of Agios Panteleimonas Greek Orthodox Church (Photographed by the author).

5.1.3. Surp Krikor Lusavoric Armenian Orthodox Church

The Surp Krikor Lusavoric Church, situated adjacent to the Kuzguncuk pier, was erected in 1861 following the destruction of the original wooden church dating back to 1835. It is one of the few churches in Istanbul featuring an external dome. In 1967, it

underwent another phase of internal restoration. The church's exterior is marked by its utmost simplicity, with walls constructed from rubble stone and the incorporation of brick hatils [62]. The entrance of the church, located on the western side, comprises two doors; one serves as the main entrance, while the other functions as an airlock. The narthex adheres to the traditional design. Beyond the nave lies the 'tas' section, designated for the clergy and readers participating in the mass. The dome's width, positioned on the north and south walls, enables the illumination of the nave through semi-circular windows.

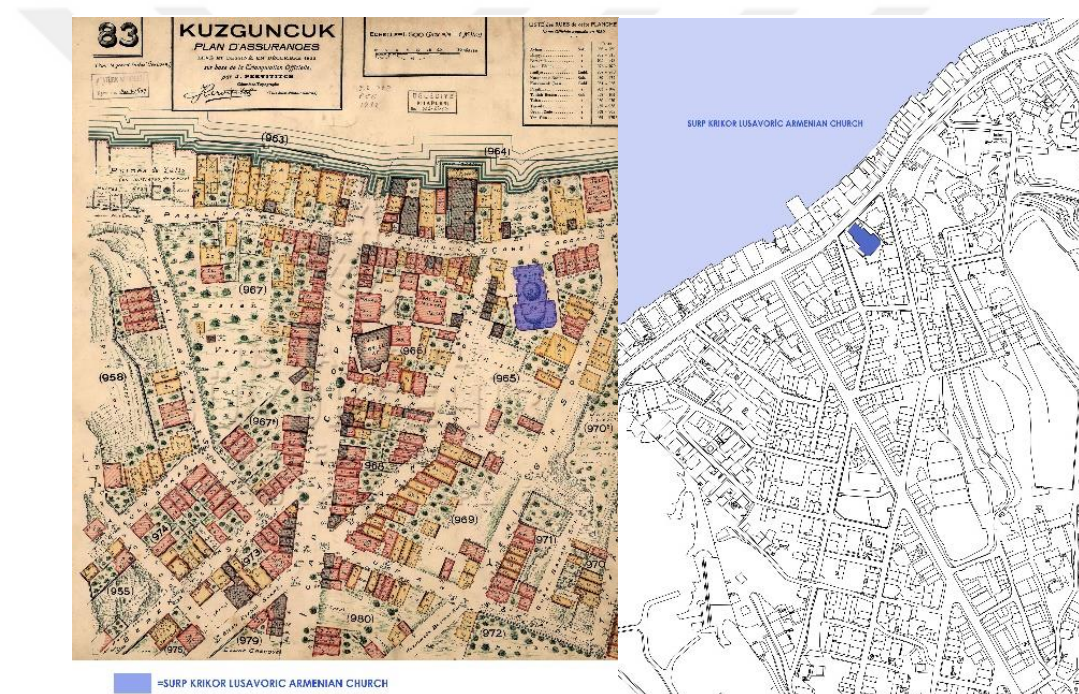


Figure 45: Pervititch Map, Location of Bet Yaakov Synagogue in Kuzguncuk Map



Figure 46: Façade of Surp Krikor Lusavoric Church, Interior of Surp Krikor Lusavoric Church (Photographed by the author).

5.1.4. Bet Yaakov Synagogue

The synagogue, established in 1878, is situated on Icadiye Street. It bears the name Bedyakov, translating to 'the house of Allah'. Upon entry from the courtyard, one encounters a significant temple to the right, crowned with a wooden dome. Within the interior, a lectern is positioned where the rabbi engages in the reading of the Torah and delivers sermons [93].

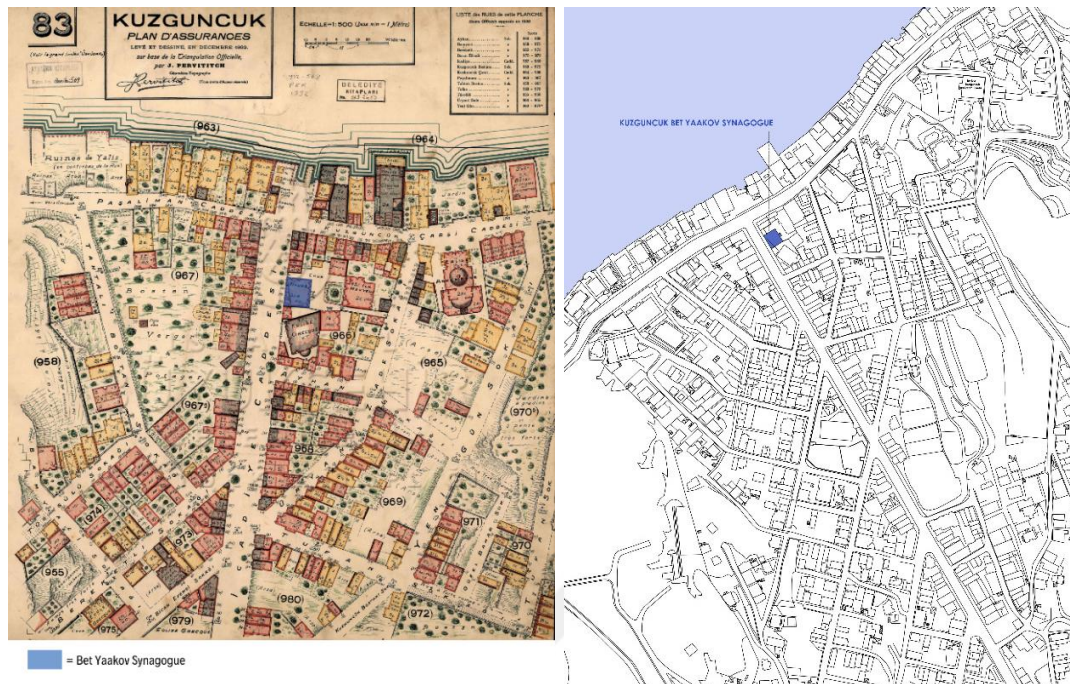


Figure 47: Pervititch Map, Location of Bet Yaakov Synagogue in Kuzguncuk Map



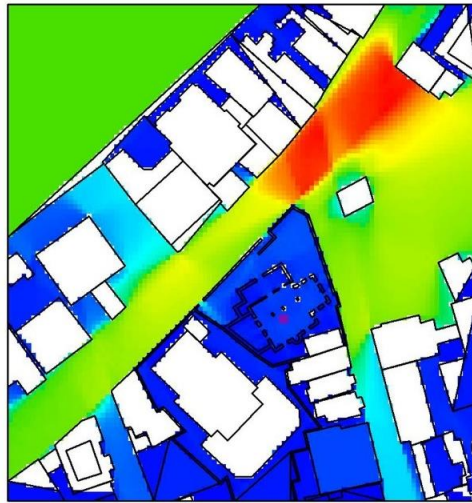
Figure 48: Interior of Bet Yaakov Synagogue (Photographed by the author).

5.2. Point 1 Analysis-Inside the Building

Point 1 in the analysis is taken from the center of the ritual buildings. The rationale behind selecting this point is its location at the center of the area within the ritual space

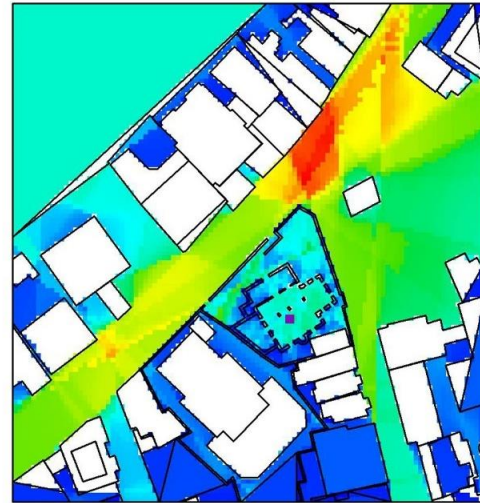
where worship is conducted. Consequently, this point represents the optimal location for a user to experience the ritual space fully. It is the site where the spiritual and social functions of the ritual space are most intensely experienced. The center of the interior space demonstrates how users experience the space through its spatial arrangement and architectural features. This point also highlights how the community congregates during rituals and the role of the space in social interaction. Data collected from the center of the interior space provides an opportunity to analyze in detail the impact of the ritual space on its users and the functionality of the space. This point is the center of the congregation area in Kuzguncuk Mosque. It is the center of the naos section of Agios Panteleimonas Greek Orthodox Church and Surp Krikor Lusavoric Church. It is the center of the congregation area in Bet Yaakov Synagogue. Isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, connectivity, and integration values in the center of the building were obtained. In the collage below, the syntax maps of these parameters are shown respectively on the building plans where point 1 is marked. At the end of the section, each parameter value of point 1 is tabulated, and comments are made between buildings.

5.2.1. Kuzguncuk Mosque Point 1 Analysis-Inside the Building



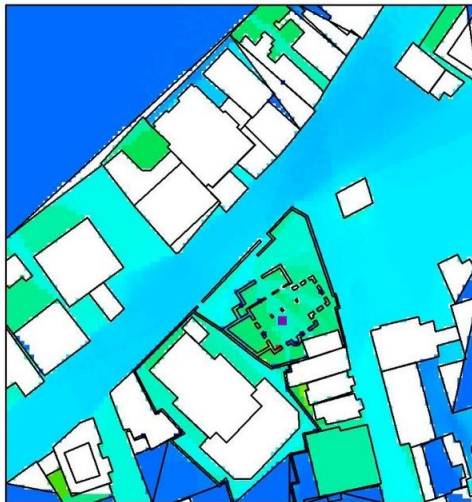
ISOVIST AREA

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Isovist Area
Point 1	167,12



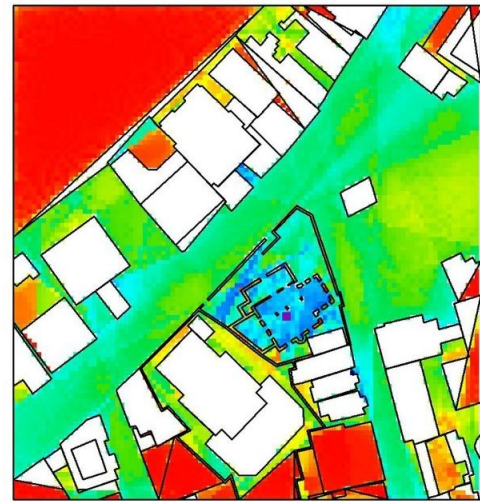
ISOVIST PERIMETER

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Isovist Perimeter
Point 1	187,05



MEAN DEPTH

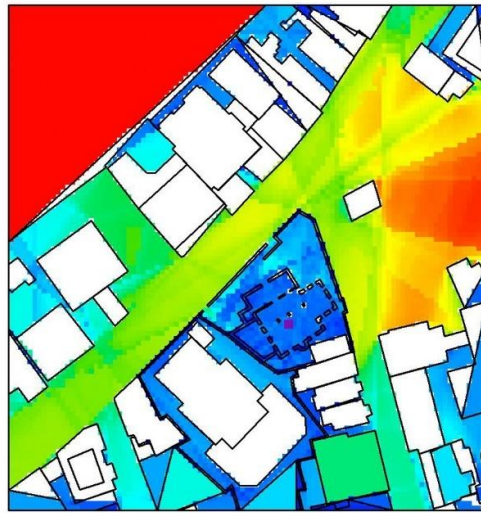
RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Mean Depth
Point 1	3,02



OCCLUSIVITY

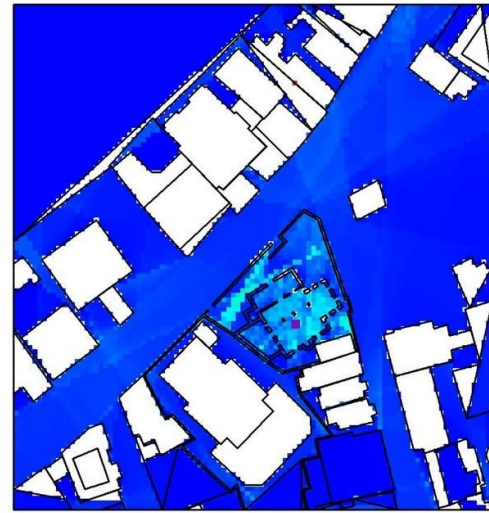
RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Occlusivity
Point 1	0,27

Figure 49: Isovist Area, Isovist Perimeter, Mean Depth, Occlusivity values
(Point 1) of Kuzguncuk Mosque



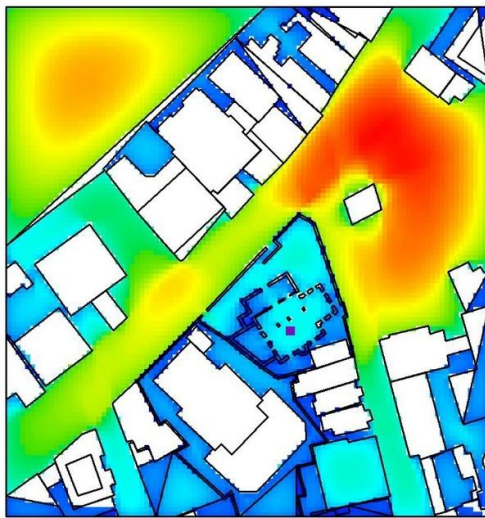
COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Compactness
Point 1	0,89



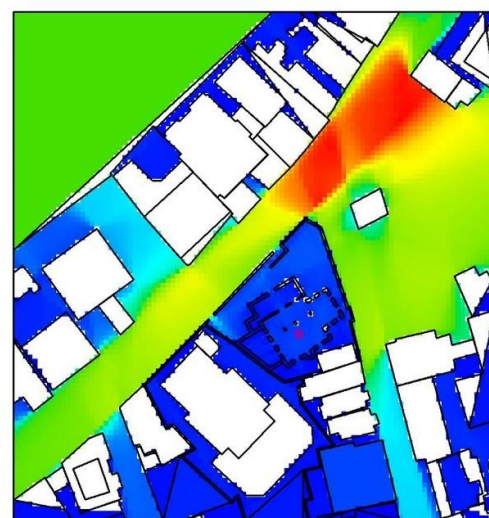
CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Circularity
Point 1	209,34



MEAN RADIAL

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Mean Radial
Point 1	6,74

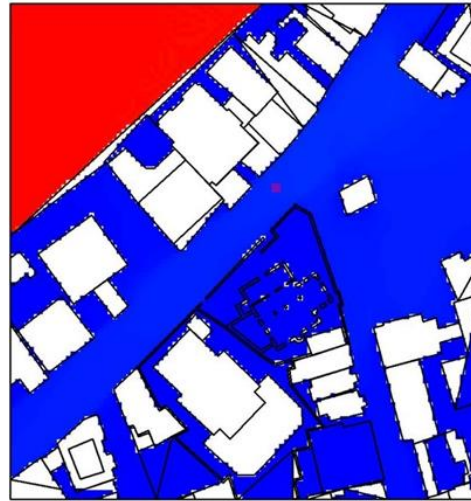


CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Connectivity
Point 1	164

Figure 50: Compactness, Circularity, Mean Radial, Connectivity values of (Point 1)

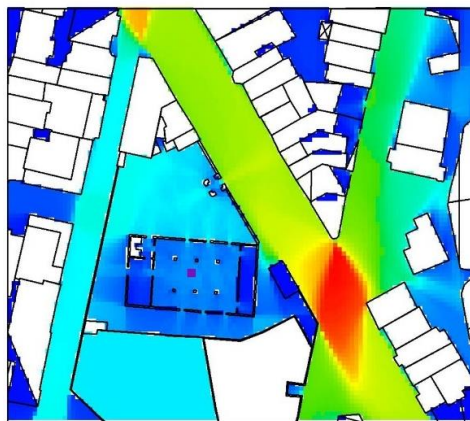
Kuzguncuk Mosque



RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Integration
Point 4	5844338,32

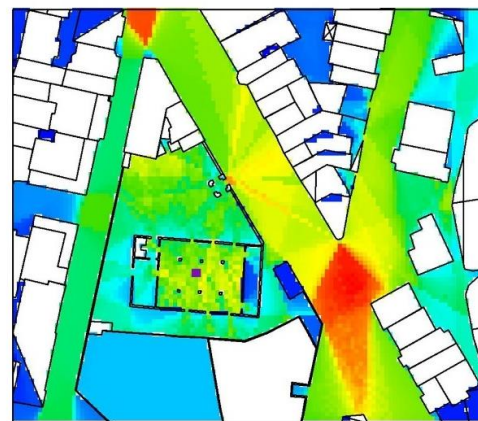
Figure 51: Integration value (Point 1) of Kuzguncuk Mosque

5.2.2. Agios Panteleimonas Greek Orthodox Church Point 1- Analysis- Inside the Building



ISOVIST AREA

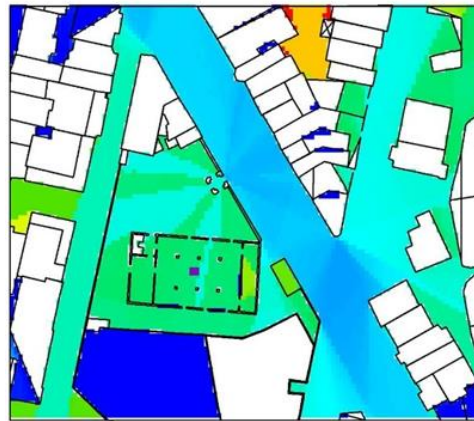
RITUAL BUILDING	ISOVIST PARAMETER
A.P. Greek Ort. Church	Isovist Area
Point 1	414,55



ISOVIST PERIMETER

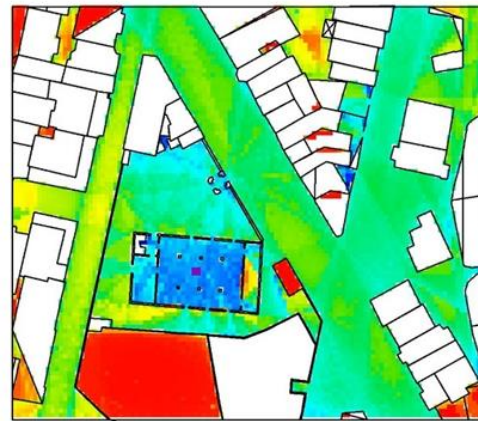
RITUAL BUILDING	ISOVIST PARAMETER
A.P. Greek Ort. Church	Isovist Perimeter
Point 1	319,97

Figure 52: Isovist Area, Isovist Perimeter values (Point 1) of Agios Panteleimonas Greek Orthodox Church



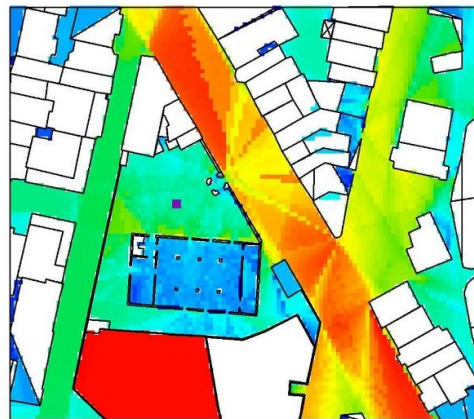
MEAN DEPTH

RITUAL BUILDING	ISOVIST PARAMETER
A.P. Greek Ort. Church	Mean Depth
Point 1	3,27



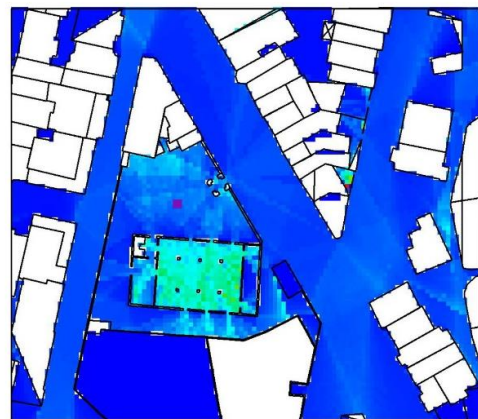
OCCLUSIVITY

RITUAL BUILDING	ISOVIST PARAMETER
A.P. Greek Ort. Church	Occlusivity
Point 1	0,23



COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Compactness
Point 1	1,29



CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Circularity
Point 1	246,97

Figure 53: Mean Depth, Occlusivity, Compactness, Circularity values (Point 1) of
Agios Panteleimonas Greek Orthodox Church

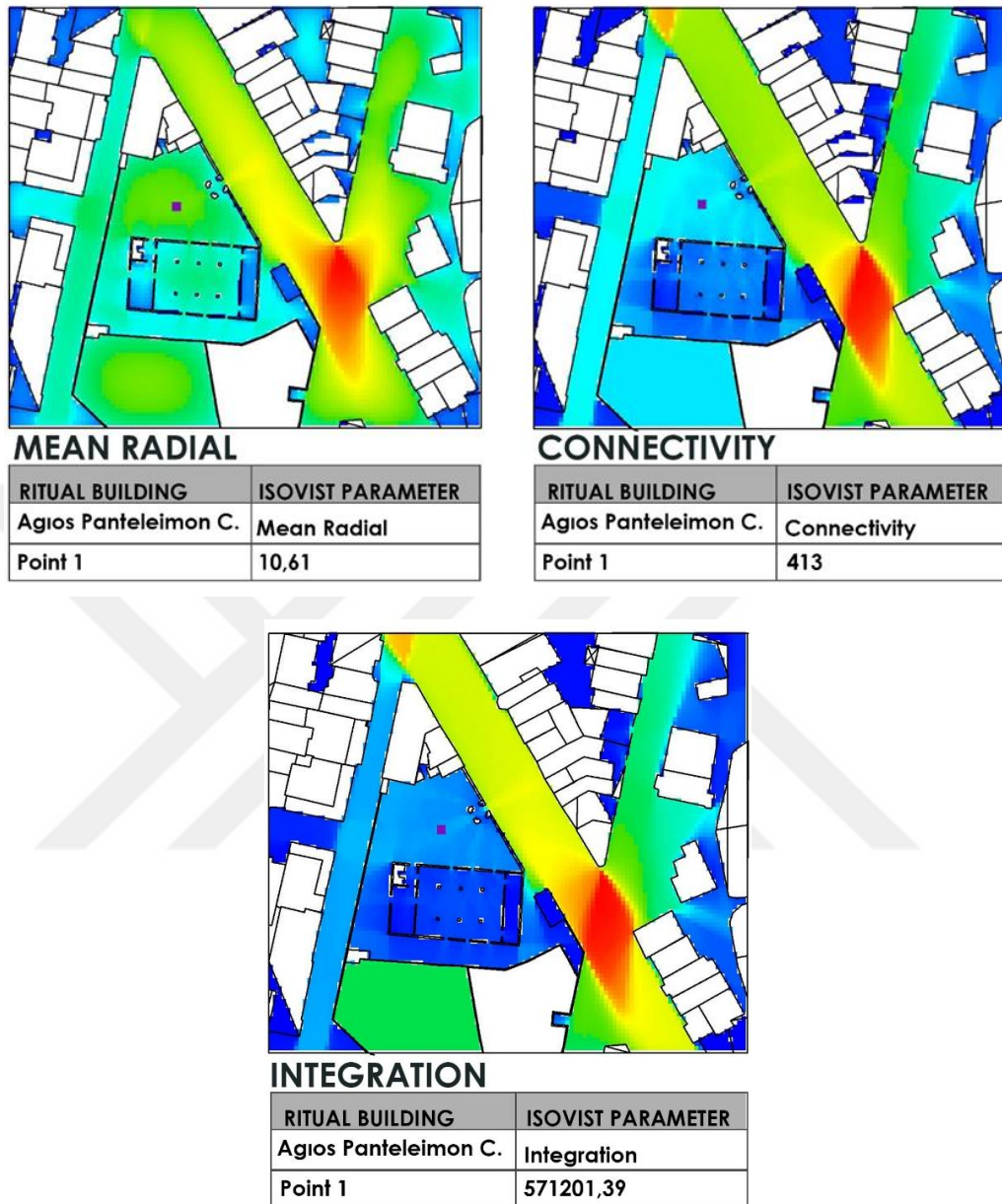
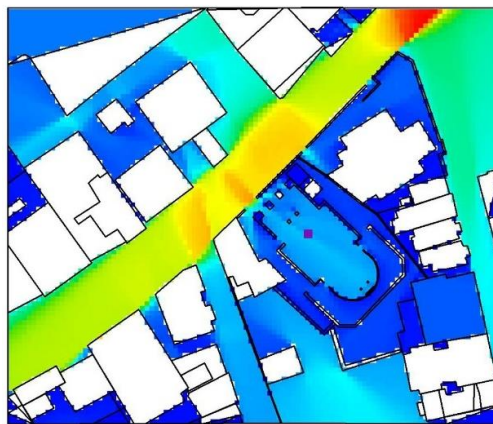


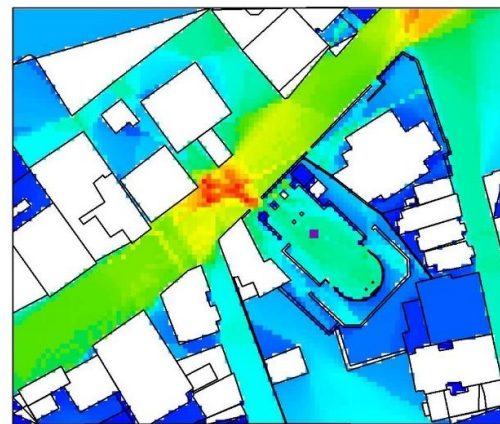
Figure 54: Mean Radial, Connectivity, Integration values (Point 1) of Agios Panteleimonas Greek Orthodox Church

5.2.3. Surp Krikor Lusavoric Church Point 1 Analysis- Inside the Building



ISOVIST AREA

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Isovist Area
Point 1	332,46



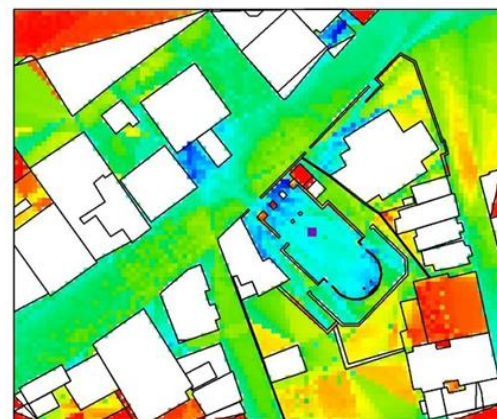
ISOVIST PERIMETER

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Isovist Perimeter
Point 1	166,03



MEAN DEPTH

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Mean Depth
Point 1	3,07

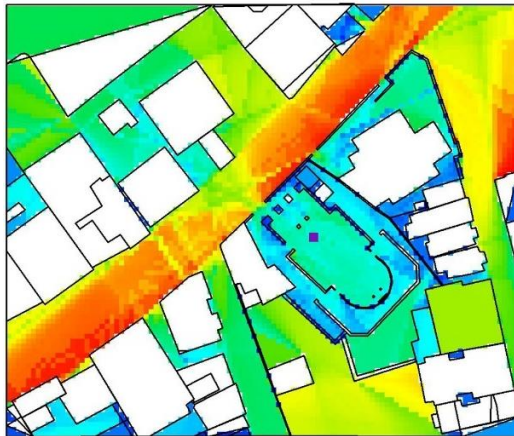


OCCLUSIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Occlusivity
Point 1	0,46

Figure 55: Isovist Area, Isovist Perimeter, Mean Depth, Occlusivity values

(Point 1) of Surp Krikor Lusavoric Armenian Church



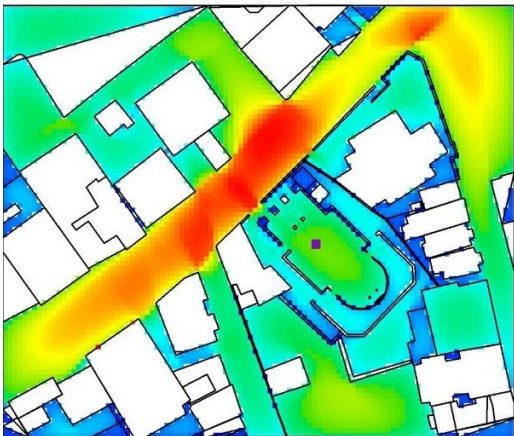
COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Compactness
Point 1	2,00



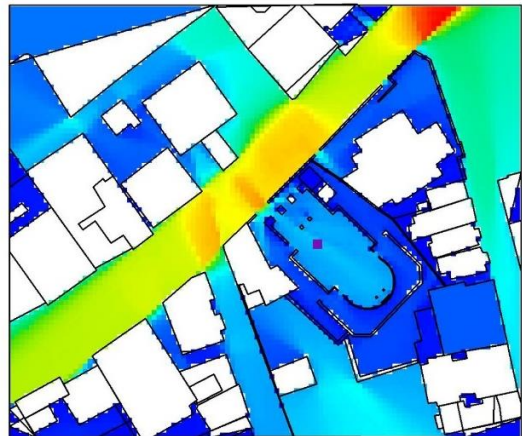
CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Circularity
Point 1	82,91



MEAN RADIAL

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Mean Radial
Point 1	9,65



CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Connectivity
Point 1	331

Figure 56: Compactness, Circularity, Mean Radial. Connectivity values (Point 1) of
Surp Krikor Lusavoric Armenian Church

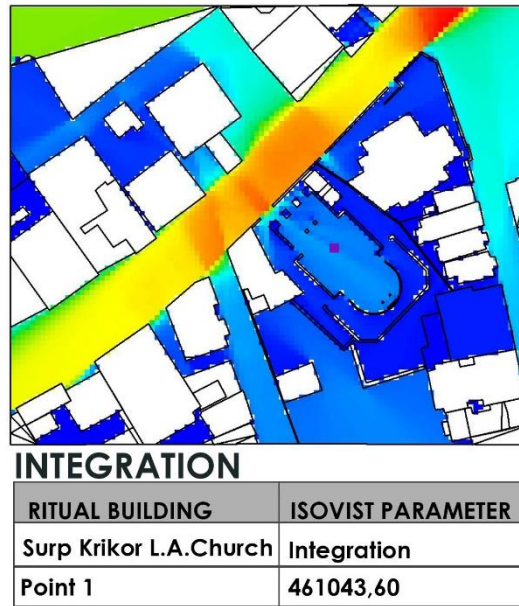


Figure 57: Integration values (Point 1) of Surp Krikor Lusavoric Church

5.2.4. Bet Yaakov Synagogue Point 1 Analysis- Inside the Building

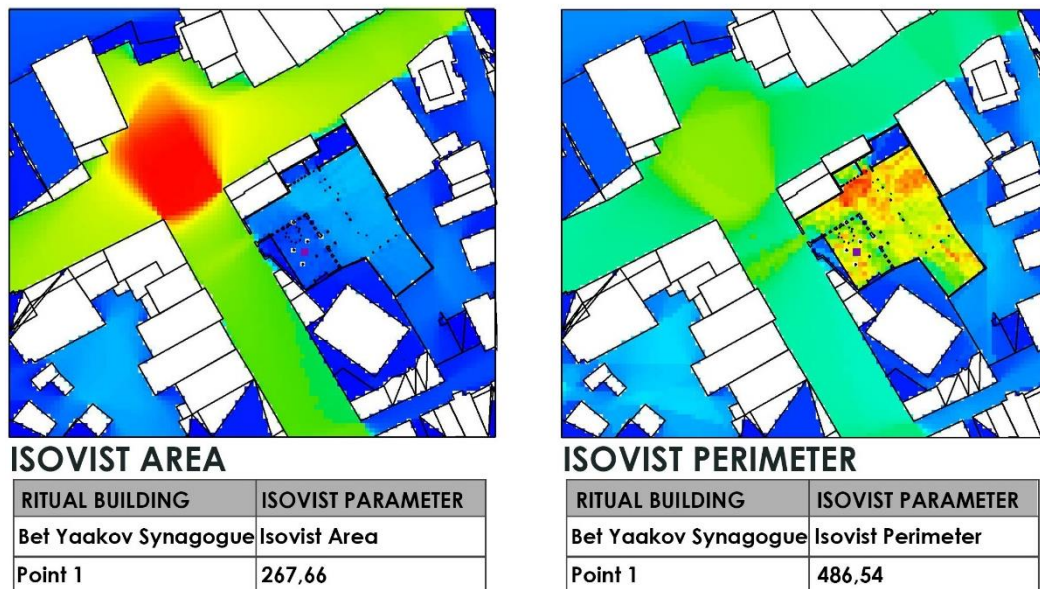
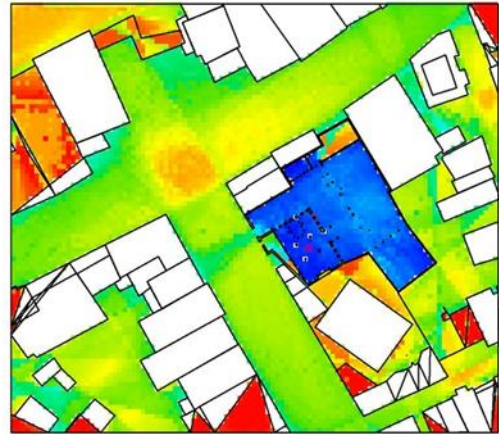


Figure 58: Isovist Area, Isovist Perimeter values (Point 1) of Bet Yaakov Synagogue



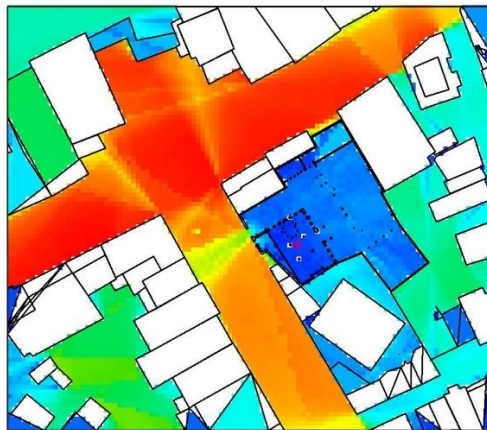
MEAN DEPTH

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Mean Depth
Point 1	3,72



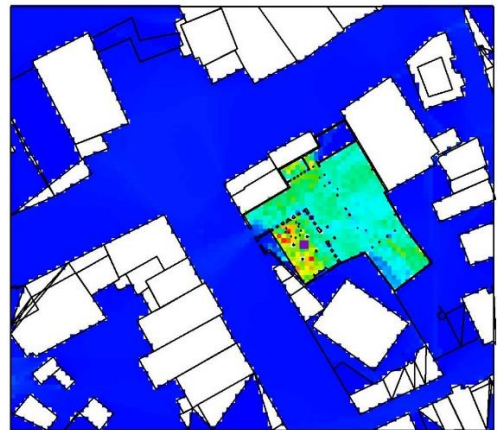
OCCLUSIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Occlusivity
Point 1	0,10



COMPACTNESS

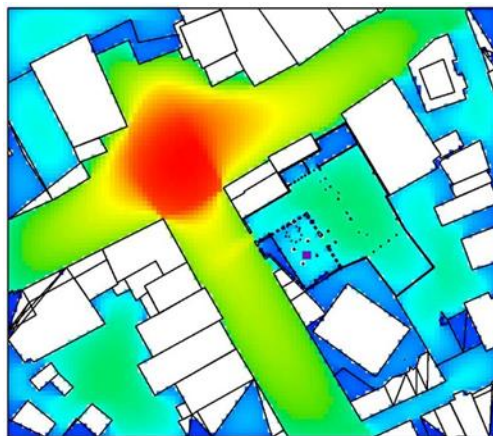
RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Compactness
Point 1	0,55



CIRCULARITY

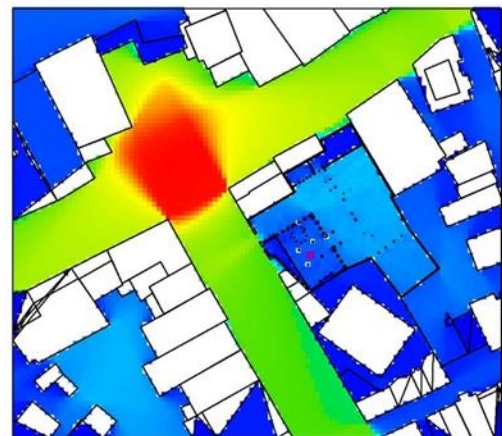
RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Circularity
Point 1	884,39

Figure 59: Mean Depth, Occlusivity, Compactness, Circularity values (Point 1) of
Bet Yaakov Synagogue



MEAN RADIAL

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Mean Radial
Point 1	7,64



CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Connectivity
Point 1	270



INTEGRATION

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Integration
Point 1	248211,78

Figure 60: Mean Radial, Connectivity, Integration values (Point 1) of Bet Yaakov Synagogue

5.2.5. Comparison of Point 1 in Ritual Examples

In this section, the isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, connectivity, and integration values of point 1 are tabulated, respectively, and comments are made between the buildings.

Table 1: Point 1-Inside the Building- Isovist Area Value

Religious Buildings	Point 1-Inside the Building- Isovist Area Value
Kuzguncuk Mosque	167,12
Agios Panteleimonas Greek Orthodox Church	414,55
Surp Krikor Lusavoric Church	332,46
Kuzguncuk Bet Yaakov Synagogue	267,66

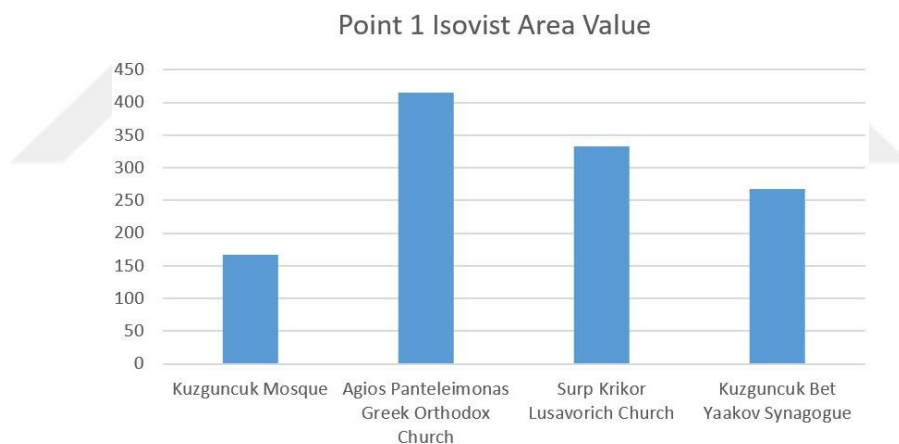


Figure 61: Point 1-Inside the Building- Isovist Area Value Chart

- The first highest value is Agios Panteleimonas Church. (414,55)
- The second highest value is the Surp Krikor Lusavoric Church. (332,46)
- The third highest value is Kuzguncuk Bet Yaakov Synagogue. (267,66)
- The fourth highest value is Kuzguncuk Mosque. (167,12)

Among the point 1 values taken from the venue, the highest isovist area value was obtained in Agios Panteleimonas Church. The church is large and spacious inside.

When the interior spaces of buildings are compared, the most visible area is obtained. Therefore, it can be said that there is more open space and fewer obstacles in the center of the building. When comparing the values of Point 1, this building is the highest, which may be the amount of space and number of openings in the interior. The area of Agios Panteleimon Church is 548 m². There are ten openings overlooking the center. There are four columns inside. Since there is a large area inside, the field of view is greater than other buildings. Surp Krikor Lusavoric Church is the church with the second highest value. The church is 341 m². The Isovist area value of Surp Krikor Lusavoric Church is almost the same as that of Agios Panteleimonas Church. There is a very small difference. This may be due to the number of openings in the interior. There are six openings in the Surp Krikor Lusavoric Armenian Church. The number of openings in this church is less than the number of openings in the Agios Panteleimonas Church. The building in third place is the Kuzguncuk Bet Yaakov Synagogue. The synagogue is 162 m². There are ten openings in the synagogue. There are twenty-five wooden columns. The fact that this building is in the third place may be due to the excess of columns in the interior. Columns are elements that block the field of view. The building in fourth place is Kuzguncuk Mosque. This is because the center has the narrowest field of view. The building is 143 m². But there is a division inside. The shoe rack area at the mosque's entrance is separate from the prayer area. Access is provided to the prayer and religious staff areas through separate doors from the entrance area. A staircase from the prayer area leads to the women's section. The area seen by the point is approximately 101 m². There are three columns inside the mosque. The number of openings is fifteen. However, the interior square meter area is the smallest compared to other buildings, so this value is low.

Table 2: Point 1-Inside the Building- Isovist Perimeter Value

Religious Buildings	Point 1-Inside the Building-Isovist Perimeter Value
Kuzguncuk Mosque	187,05
Agios Panteleimonas Greek Orthodox Church	319,97
Surp Krikor Lusavoric Armenian Church	166,03
Kuzguncuk Bet Yaakov Synagogue	486,54

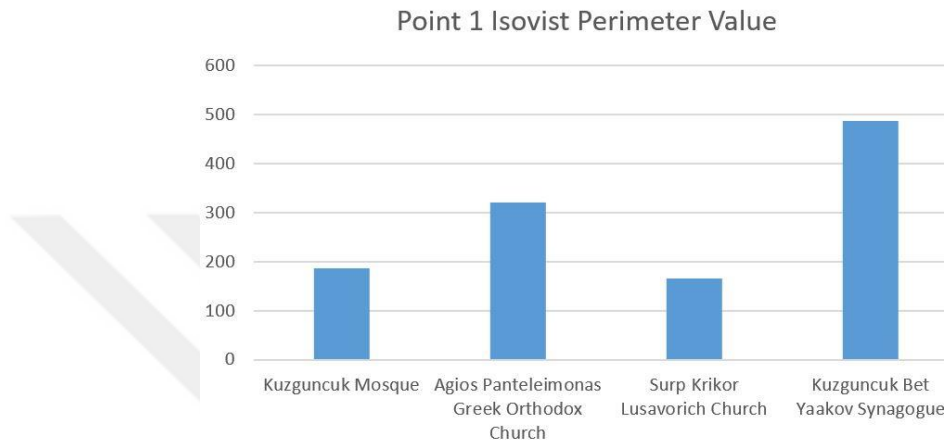


Figure 62: Point 1-Inside the Building- Isovist Perimeter Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (486,54)
- The second highest value is Agios Panteleimonas Greek Church. (319,97)
- The third highest value is Kuzguncuk Mosque. (187,05)
- The fourth highest value is Surp Krikor Lusavoric Church. (166,03)

Among the points taken from inside the venue, the highest value of the isovist perimeter obtained at 360 degrees was obtained in Kuzguncuk Bet Yaakov Synagogue. Point 1 isovist perimeter value of Kuzguncuk Bet Yaakov Synagogue is the building with the highest value among the values. Obtaining the maximum value of the perimeter of the polygon in two dimensions, determined by the equivalent field of view, in this place indicates the excess field of view of this area. Since this is the perimeter of the visible field, the visible field is created by the visibility rays coming from the analyzed point. It

is the length of imaginary lines drawn outside the areas seen by these rays. The view here is the most. This is because every part of the place can be seen from the central point. The size of the synagogue is around 14-9 m. The number of openings on one side is six, and seven on the other. This value is high because the width and number of openings in this space are higher than in other buildings. The second greatest value is the Agios Panteleimonas Church. The dimensions of the church are around 30-17 m. The number of openings facing the center allow for a substantial visible area, though less than the synagogue. The third is the Kuzguncuk Mosque. There are fifteen openings in the Kuzguncuk mosque. The mosque is 143 m². Despite its smaller size, the fifteen openings help provide a relatively good field of view. The fourth building is the Surp Krikor Lusavoric Church. There are six openings in this church. The church is 341 m². Its larger size is not as effectively utilized for visibility due to having only six openings, which restrict the view from the central point. These results demonstrate how the design and architectural features like the size and number of openings influence the extent of visibility within each building, affecting how open and accessible the interiors feel from specific points.

Table 3: Point 1-Inside the Building- Mean Depth Value

Religious Buildings	Point 1-Inside the Building- Mean Depth Value
Kuzguncuk Mosque	3,02
Agios Panteleimonas Greek Orthodox Church	3,27
Surp Krikor Lusavoric Armenian Church	3,07
Kuzguncuk Bet Yaakov Synagogue	3,72

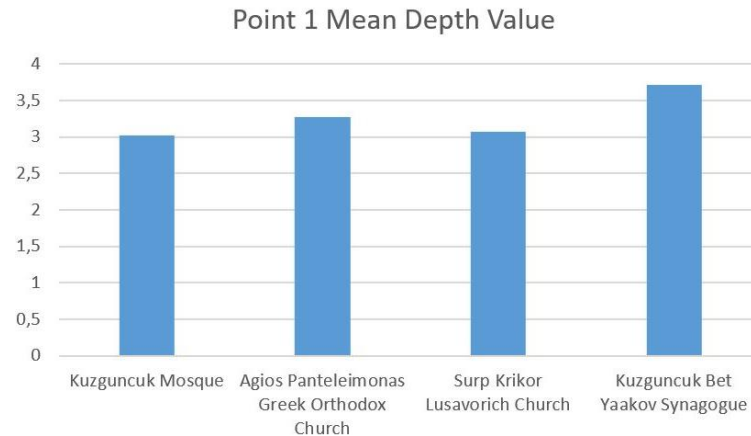


Figure 63: Point 1 Mean Depth Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (3,72)
- The second highest value is Agios Panteleimonas Greek Orthodox Church. (3,27)
- The third highest value is Surp Krikor Lusavoric Church. (3,07)
- The fourth highest value is Kuzguncuk Mosque. (3,02)

Mean Depth is at its highest value in Kuzguncuk Bet Yaakov Synagogue at Point 1. This means that the synagogue's interior is less accessible. To reach the center of the building from the outside, it is necessary to pass through the garden. Access from the synagogue's garden to the building center requires a more complex route than other buildings. In this sense, the synagogue's point 1 mean depth value is higher than that of other buildings. After the Kuzguncuk Bet Yaakov Synagogue, the building with the highest mean depth value is the Agios Panteleimonas Church. This value indicates that the interior of the synagogue is less accessible, with a more complex route required to reach the building's center from the garden. A long route is drawn to reach the interior from outside the building. But there is a straighter route than the synagogue. That's why the mean depth value of the church is lower than that of the synagogue. The interior doors of Kuzguncuk Mosque and Surp Krikor Lusavoric Church are closer to the garden gate,

which simplifies the route and makes the depth values lower than the other two buildings. These results show how the placement of entrances and the layout of paths within each building influence the ease of accessing the center, impacting how straightforward or convoluted the journey inside is.

Table 4: Point 1-Inside the Building- Occlusivity Value

Religious Buildings	Point 1- Inside the Building- Occlusivity Value
Kuzguncuk Mosque	0,27
Agios Panteleimonas Greek Orthodox Church	0,23
Surp Krikor Lusavoric Armenian Church	0,46
Kuzguncuk Bet Yaakov Synagogue	0,10

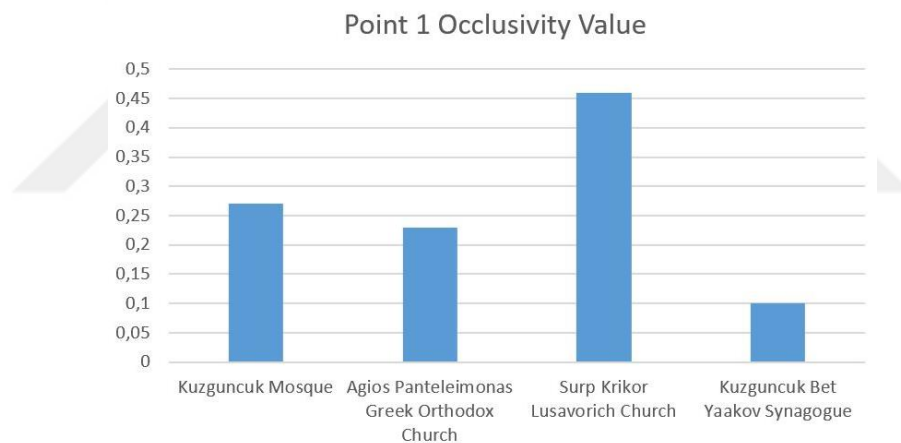


Figure 64: Point 1 Occlusivity Value Chart

- The first highest value is Surp Krikor Lusavoric Church. (0,46)
- The second highest value is Kuzguncuk Mosque. (0,27)
- The third highest value is Agios Panteleimonas Greek Orthodox Church. (0,23)
- The fourth highest value is Kuzguncuk Bet Yaakov Synagogue. (0,10)

When the first points are compared, the highest occlusivity value was obtained in the Surp Krikor Lusavoric church. This is because elements such as walls and columns

block the view around the center of the Surp Krikor Lusavoric Church. It may also be due to the number of openings facing the roadside of the building. Six openings are facing the center. There are three openings on the facade facing the street. There are three columns in the interior. Since there is a garden wall right in front of the church's front wall, the view of the interior from the outside is reduced. The visibility of the first point of the Surp Krikor Lusavoric church from the outside is lower than the point 1 values of other buildings. That's why the occlusivity value was higher.

Kuzguncuk Mosque and Agios Panteleimonas Greek Orthodox Church have slightly lower occlusivity values, suggesting fewer view obstructions from the central point compared to the first building.

Kuzguncuk Bet Yaakov Synagogue has the lowest occlusivity value. This suggests that the interior of the building has an open-plan arrangement. It indicates that the point taken from the center is visible. The point taken from the center of the building is in a more visible area than the centers of other buildings. This is because thirteen openings are facing the center of the synagogue. Additionally, the large number of openings on the northwest façade, which is close to the street, is also a factor. There are six windows on its nine-meter façade. That's why the occlusivity value is lower than in other buildings. These results demonstrate how the architectural design and placement of openings and obstructions within each building influence how much of the interior is visible from a central point, affecting the openness and perceived spaciousness of the interiors.

Table 5: Point 1-Inside the Building- Compactness Value

Religious Buildings	Point 1-Inside the Building- Compactness Value
Kuzguncuk Mosque	0,89
Agios Panteleimonas Greek Orthodox Church	1,29
Surp Krikor Lusavoric Armenian Church	2,00
Kuzguncuk Bet Yaakov Synagogue	0,55

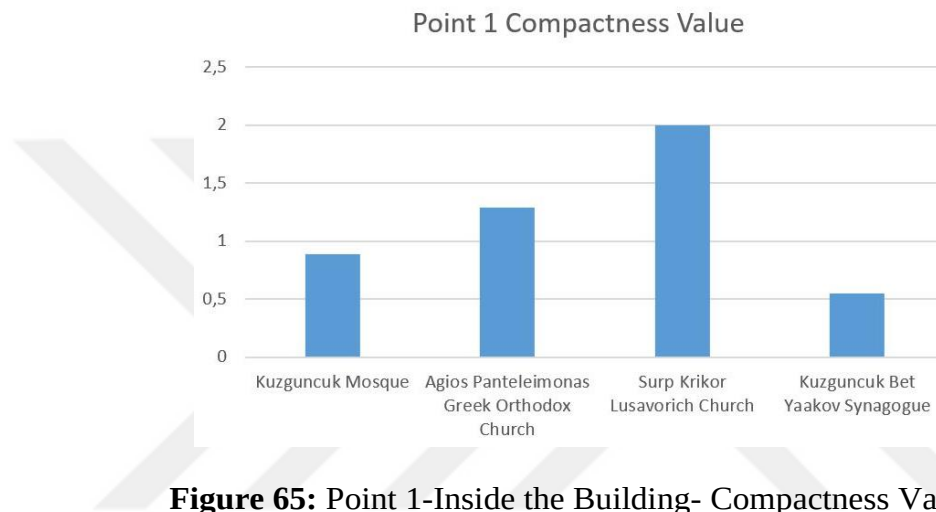


Figure 65: Point 1-Inside the Building- Compactness Value

- The first highest value is Surp Krikor Lusavoric Church. (2,00)
- The second highest value is Agios Panteleimonas Greek Orthodox Church. (1,29)
- The third highest value is Kuzguncuk Mosque. (0,89)
- The fourth highest value is Kuzguncuk Bet Yaakov Synagogue. (0,55)

The highest compactness value of point 1 was obtained among the buildings in the Surp Krikor Lusavoric Church. It has the highest value because it creates the perception of an orderly space. The fact that the building has parallel walls, and a large interior space caused this value to be high. Additionally, the number of columns in the interior is less than in other spaces. The interior is more barrier-free than other spaces. A broad environment and fewer columns provide clearer connections in the interior. Fast

and direct transportation to other points from this point is more possible than other buildings.

Agios Panteleimonas Greek Orthodox Church has a value of 1.29, indicating an orderly space but with more barriers than Surp Krikor Lusavoric Church. Kuzguncuk Mosque has a value of 0.89, suggesting more obstacles and a slightly more complex layout than the first two, yet still maintaining a functional level of order.

The lowest value was obtained in the Bet Yaakov Synagogue. The fact that the synagogue has the lowest value indicates the irregular circulation in the interior space. This suggests that the circulation pathways in the interior are more complex and offer more options. The reason for this is the high number of columns and openings in the interior. These results illustrate how the architectural layout, presence of physical barriers, and overall spatial organization impact the ease of movement within these buildings, influencing how visitors experience and interact with the space.

Table 6: Point 1-Inside the Building- Circularity Value

Religious Buildings	Point 1-Inside the Building - Circularity Value
Kuzguncuk Mosque	209,34
Agios Panteleimonas Greek Orthodox Church	246,97
Surp Krikor Lusavoric Armenian Church	82,91
Kuzguncuk Bet Yaakov Synagogue	884,39

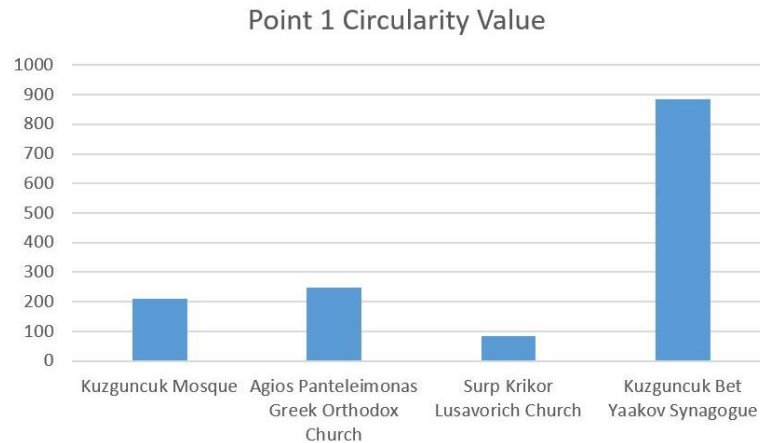


Figure 66: Point 1-Inside the Building- Circularity Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (884,39)
- The second highest value is Agios Panteleimonas Greek Orthodox Church. (246,97)
- The third highest value is Kuzguncuk Mosque. (209,34)
- The fourth highest value is Surp Krikor Lusavorich Church. (82,91)

Among the first points, the highest circularity value was obtained in the Kuzguncuk Bet Yaakov Synagogue. There is a big difference between them. This is due to the high number of columns in the interior. The venue area is small compared to other buildings. The presence of nineteen columns and thirteen openings in the space and bimah create a complex circulation area. Despite its smaller overall area, these features make navigating the space more challenging.

Agios Panteleimonas Greek Orthodox Church has a significantly lower value of 246.97, suggesting simpler circulation than the synagogue but still with some complexity. Kuzguncuk Mosque follows with a value of 209.34, indicating that while the space has fewer columns and openings than the synagogue, it still presents some navigational challenges.

The lowest circularity value among the first points was obtained in the Surp Krikor Lusavoric Church. The interior of the church is large and has three columns. There are a total of three openings on the side facades and three openings on the front facade. Therefore, it has a simpler and more direct circulation than other buildings. This place is easier to visit than others, as the circularity value shows. These results demonstrate how the physical arrangement of interior elements such as columns and openings affect the ease of movement within these religious spaces, influencing how visitors experience the interior environment.

Table 7: Point 1-Inside the Building- Mean Radial Value

Religious Buildings	Point 1-Inside the Building- Mean Radial Value
Kuzguncuk Mosque	6,74
Agios Panteleimonas Greek Orthodox Church	10,61
Surp Krikor Lusavoric Armenian Church	9,65
Kuzguncuk Bet Yaakov Synagogue	7,64

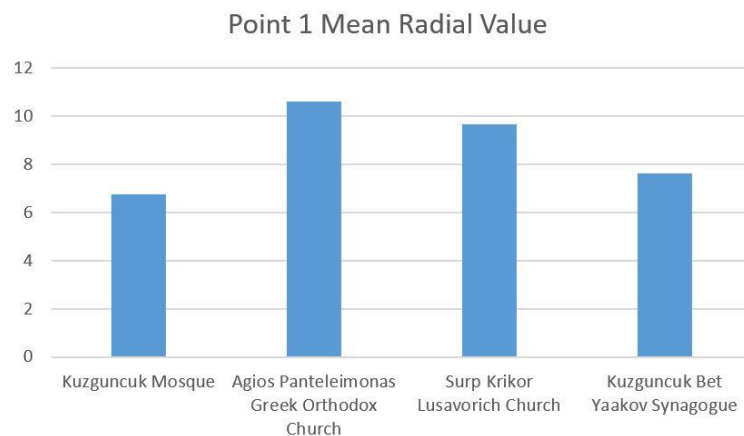


Figure 67: Point 1-Inside the Building-Mean Radial Value Chart

- The first highest value is Agios Panteleimonas Greek Orthodox Church. (10,3)
- The second highest value is Surp Krikor Lusavoric Church. (10,07)
- The third highest value is Kuzguncuk Bet Yaakov Synagogue. (7,51)

- The fourth highest value is Kuzguncuk Mosque. (6,72)

The first point was the highest mean radial value in Agios Panteleimonas Greek Orthodox Church. However, the values of the two churches are very close to each other. This is because the direct connections from the center of both buildings to the outdoors are simpler and more direct than other buildings. Both buildings have large areas and are close in several openings. The number of openings in the Agios Panteleimon Church is ten, and it is 548 m². There are six openings in the Surp Krikor Lusavoric Church, and its area is 341 m². This high value of Agios Panteleimonas Greek Orthodox Church indicates that the church offers simple and direct connections from its center to the outdoors, facilitated by its large area of 548 m² and ten openings, making movement within the building straightforward. Surp Krikor Lusavoric Church has a closely related value of 10.07, also reflecting direct and simple routes due to its six openings and a total area of 341 m². Although it has fewer openings than Agios Panteleimonas, its layout still allows for easy access. The number of openings of the synagogue is thirteen, and the synagogue is 162 m². Despite having thirteen openings, the smaller area of the synagogue makes the connections somewhat less direct compared to the larger churches. The mosque is 101 m², with fifteen openings.

Kuzguncuk Mosque has the lowest mean radial value among the first points. Despite having fifteen openings, its small area of 101 m² creates more complex pathways, decreasing the directness of routes from the center to the outside. Therefore, as the interior space becomes smaller and the number of openings increases, the connections become more complex, resulting in a lower mean radial value. These results show how the size of the interior space and the number of openings influence the ease of movement directly

from the center to the exterior of each building, impacting how open and accessible these spaces feel from within.

Table 8: Point 1-Inside the Building- Mean Radial Value

Religious Buildings	Point 1-Inside the Building-Connectivity Value
Kuzguncuk Mosque	164
Agios Panteleimonas Greek Orthodox Church	413
Surp Krikor Lusavoric Armenian Church	331
Kuzguncuk Bet Yaakov Synagogue	270

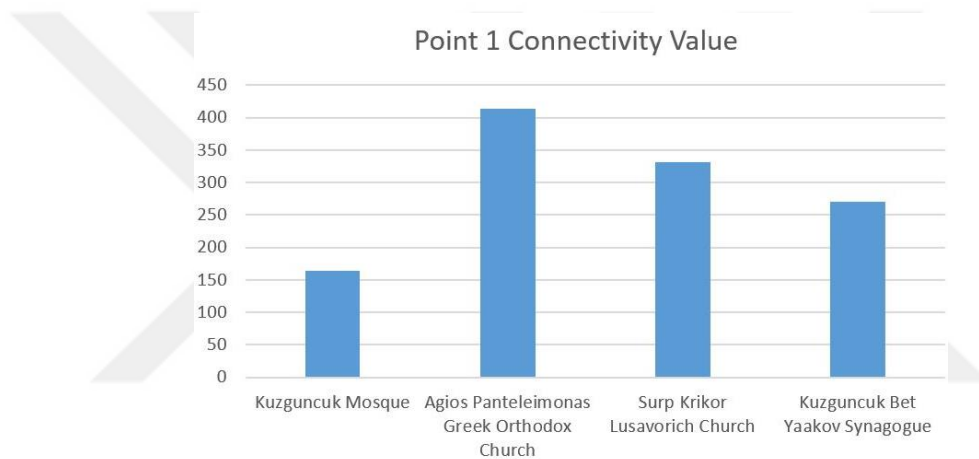


Figure 68: Point 1-Inside the Building- Connectivity Value Chart

- The first highest value is Agios Panteleimonas Greek Orthodox Church. (413)
- The second highest value is Surp Krikor Lusavoric Church. (331)
- The third highest value is Kuzguncuk Bet Yaakov Synagogue. (270)
- The fourth highest value is Kuzguncuk Mosque. (164)

The building with the highest connectivity value among Point 1 values is the Agios Panteleimonas Greek Orthodox Church. It shows strong connections between this point and other points around it. Accessibility to outside from the central point is easier compared to other buildings. This is because the garden gate is close to the church, and the connection from the road to the interior is strong. Surp Krikor Lusavoric Church

follows with a connectivity value of 331. While it has good connections, they are not as strong as those in Agios Panteleimonas Church, possibly due to slightly less direct routes or greater distance to the garden gate. Kuzguncuk Bet Yaakov Synagogue has a value of 270. Despite having several openings, the synagogue's smaller size and potentially more complex interior layout reduce the ease of moving directly to other points compared to the larger churches.

The building with the lowest value is the Kuzguncuk Mosque. Walls and columns limit the connections from the building center to the surroundings. The lowest connectivity is the mosque, which may be because the mosque is divided into a shoe hall and a congregation area. Additionally, the entrance gate's large distance from the garden gate further limits the ease of movement from the center to the outside. Additionally, the large distance between the entrance gate and the garden gate further limits the ease of movement from the center to the outside. These results demonstrate how architectural features, and the layout of entry points affect the connectivity and accessibility from the central point of each building to its surroundings, impacting how freely individuals can move within and outside these spaces.

Table 9: Point 1-Inside the Building- Integration Value

Religious Buildings	Point 1-Inside the Building- Integration Value
Kuzguncuk Mosque	176089,39
Agios Panteleimonas Greek Orthodox Church	571201,39
Surp Krikor Lusavoric Armenian Church	461043,60
Kuzguncuk Bet Yaakov Synagogue	248211,78

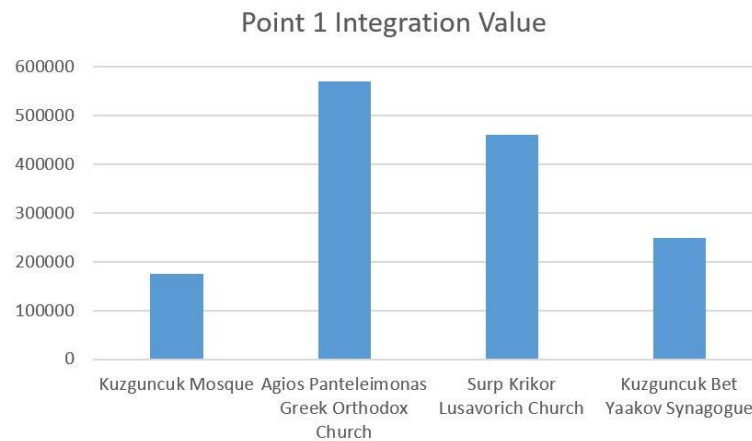


Figure 69: Point 1-Inside the Building- Integration Value Chart

- The first highest value is Agios Panteleimonas Greek Orthodox Church. (571201,39)
- The second highest value is Surp Krikor Lusavoric Church. (461043,60)
- The third highest value is Kuzguncuk Bet Yaakov Synagogue. (248211,78)
- The fourth highest value is Kuzguncuk Mosque. (176089,39)

The building with the highest value among Point 1 values is the Agios Panteleimonas Greek Orthodox Church. The church has strong connections with the outside. There is no division in the interior. The interior connects directly to the exterior. Its entrance is conveniently located near the garden gate, providing easy access. Surp Krikor Lusavoric Church follows with an integration value of 461043,60 indicating good connectivity but less so than the Greek Orthodox Church. Kuzguncuk Bet Yaakov Synagogue has a lower value of 248211,78 suggesting that while there are some connections to the outside, they are not as strong or direct as those of the first two buildings. The building with the lowest point value of 1 is Kuzguncuk Mosque. This is because the connections to the Mosque are weaker than other buildings. The mosque's entrance is far from the garden gate, and the division inside the mosque cause this. These

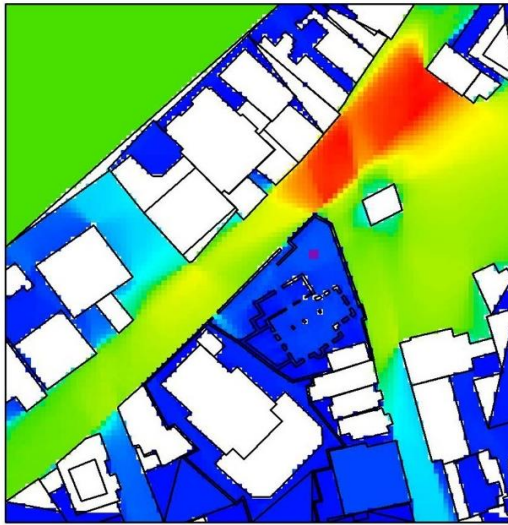
findings illustrate how the physical layout and the placement of entrances affect the integration of these points with their surroundings, influencing how easily people can access and move between the inside and outside of these buildings.

5.3. Point 2 Analysis-In the Garden

The second point in the analysis is the point taken from the gardens of the buildings. The garden's center emphasizes the relationship between the ritual space and its natural or outdoor elements. This point also allows visitors to experience the sacred atmosphere of the space in an outdoor setting. Data from this location demonstrate how the outdoor area is utilized for ritual practices and social interactions. Furthermore, the garden center represents an area where visitors might prefer individual rituals such as meditation and personal worship.

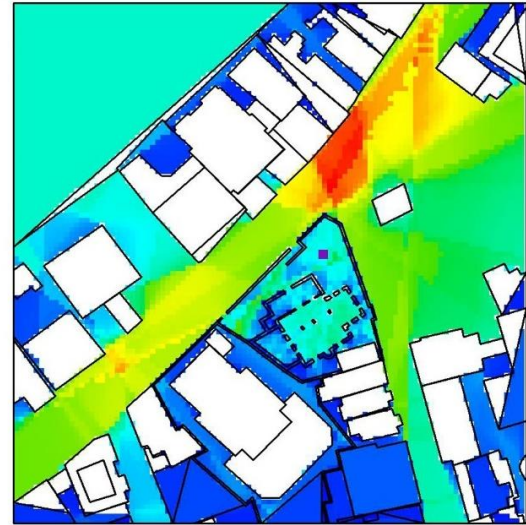
Isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, connectivity, and integration values in the garden of the building were obtained. In the collage below, the syntax maps of these parameters are shown respectively on the building plans where point 2 is marked. At the end of the section, each parameter value of point 2 is tabulated, and comments are made between buildings.

5.3.1. Kuzguncuk Mosque Point 2 Analysis-Inside the Garden



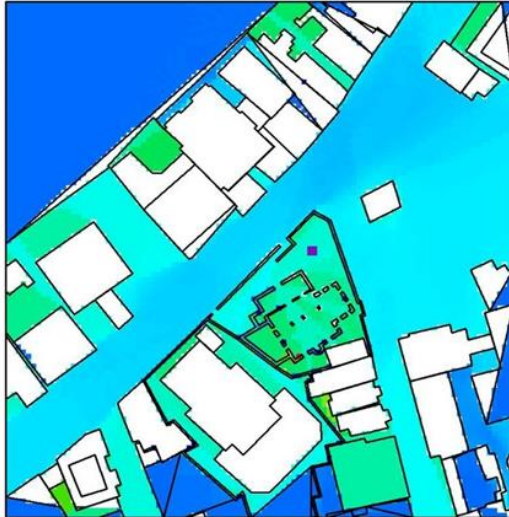
ISOVIST AREA

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Isovist Area
Point 2	218,51



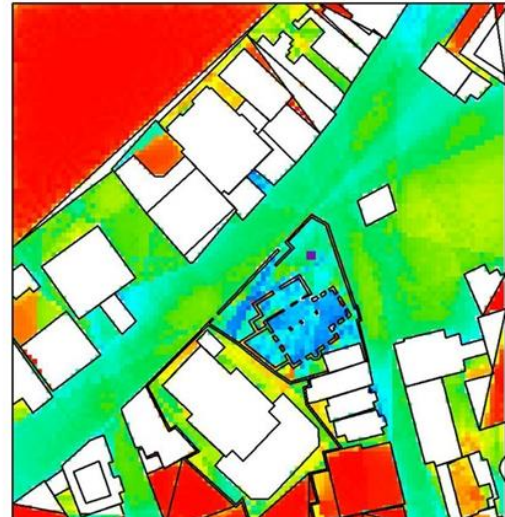
ISOVIST PERIMETER

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Isovist Perimeter
Point 2	148,08



MEAN DEPTH

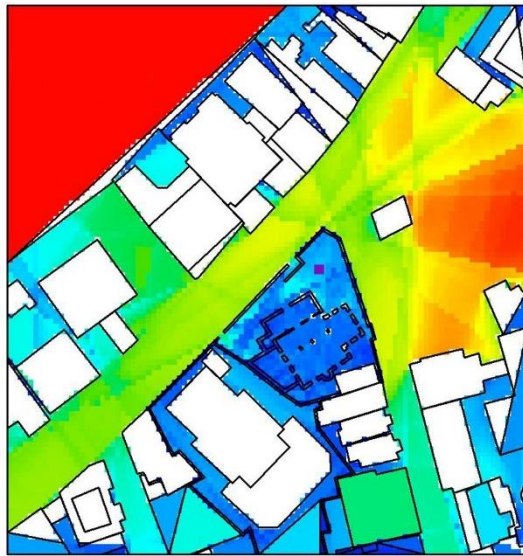
RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Mean Depth
Point 2	2,81



OCCLUSIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Occlusivity
Point 2	0,49

Figure 70: Isovist Area, Isovist Perimeter, Mean Depth, Occlusivity values (Point 2) of Kuzguncuk Mosque



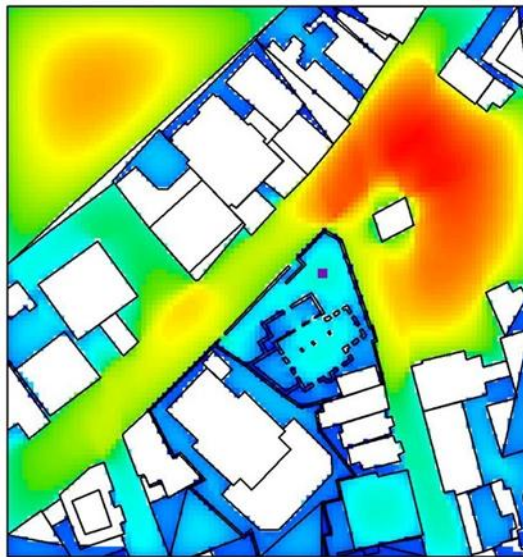
COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Compactness
Point 2	1,47



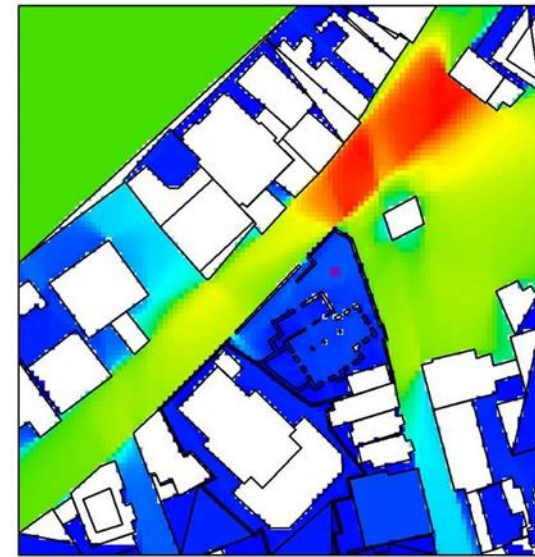
CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Circularity
Point 2	100,35



MEAN RADIAL

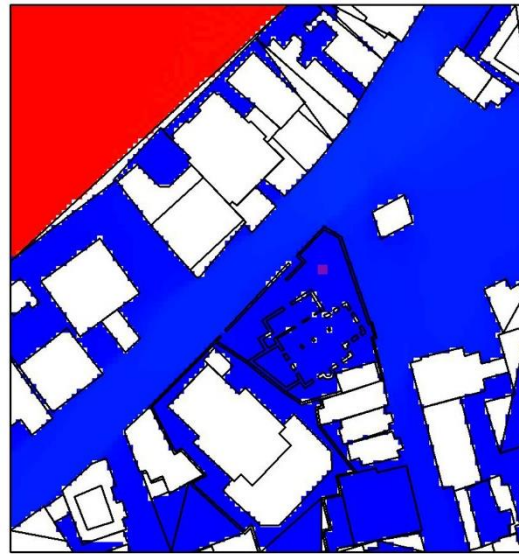
RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Mean Radial
Point 2	7,34



CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Connectivity
Point 2	221

Figure 71: Compactness, Circularity, Mean Radial, Connectivity values (Point 2) of Kuzguncuk Mosque

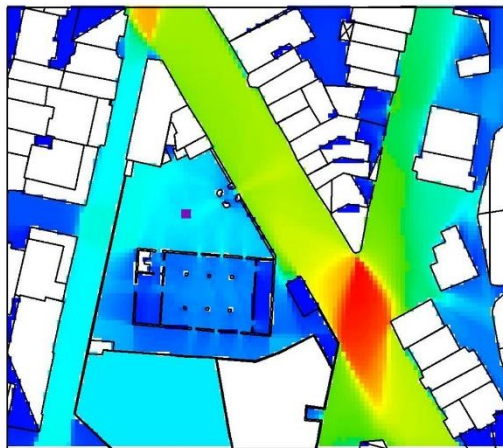


INTEGRATION

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Integration
Point 2	296066,86

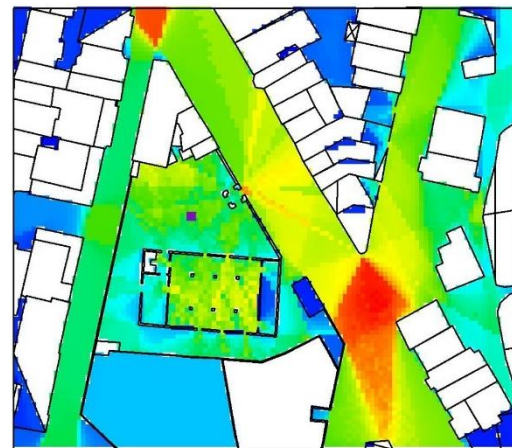
Figure 72: Integration value (Point 2) of Kuzguncuk Mosque

5.3.2. Agios Panteleimonas Greek Orthodox Church Point 2 Analysis-Inside the Garden



ISOVIST AREA

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Isovist Area
Point 2	655,17



ISOVIST PERIMETER

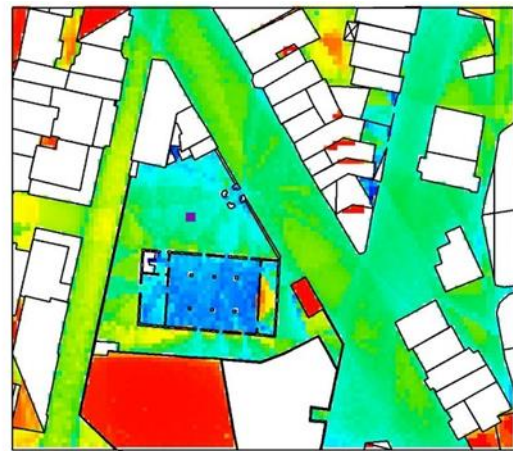
RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Isovist Perimeter
Point 2	248,38

Figure 73: Isovist Area, Isovist Perimeter values (Point 2) of Agios Panteleimonas Greek Orthodox Church



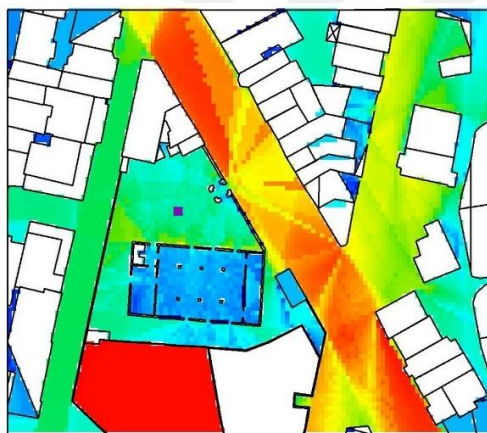
MEAN DEPTH

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Mean Depth
Point 2	2,53



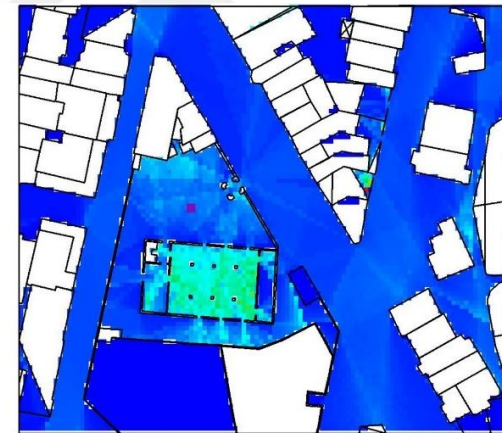
OCCLUSIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Occlusivity
Point 2	0,42



COMPACTNESS

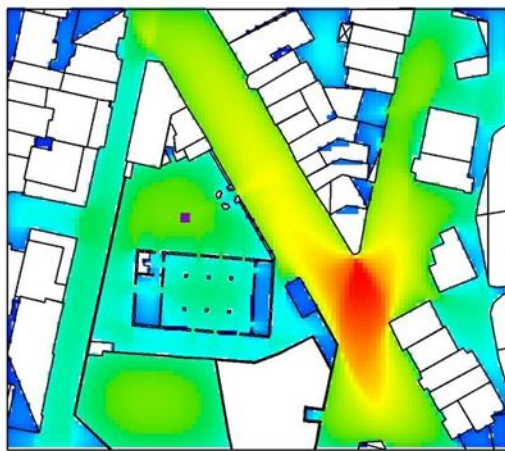
RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Compactness
Point 2	2,63



CIRCULARITY

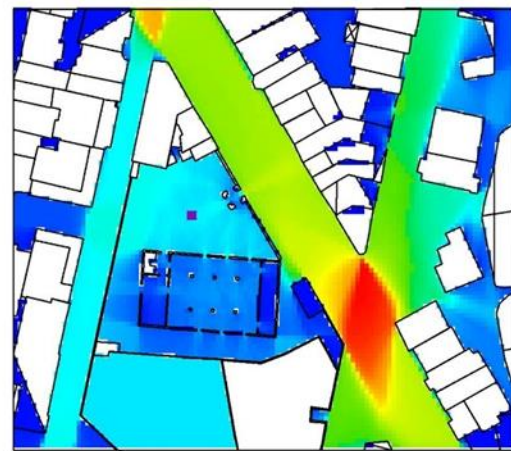
RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Circularity
Point 2	94,16

Figure 74: Mean Depth, Occlusivity, Compactness, Circularity values (Point 2) of
Agios Panteleimonas Greek Orthodox Church



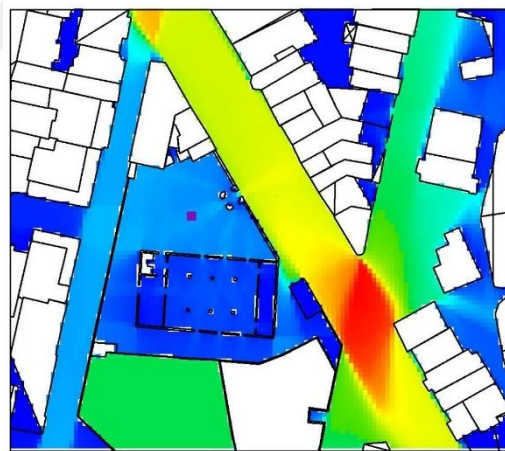
MEAN RADIAL

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Mean Radial
Point 2	13,73



CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Connectivity
Point 2	651

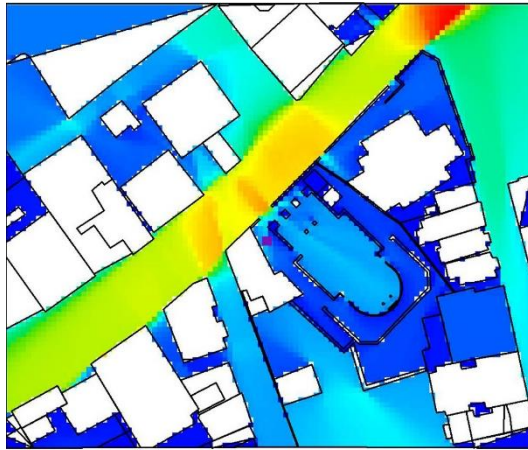


INTEGRATION

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Integration
Point 2	1137631,56

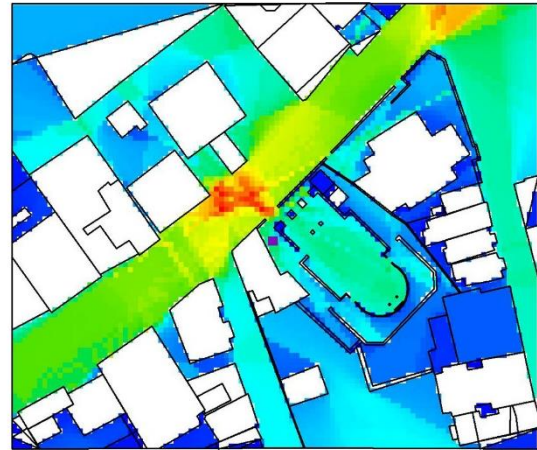
Figure 75: Mean Radial, Connectivity, Integration values (Point 2) of Agios Panteleimonas Greek Orthodox Church

5.3.3. Surp Krikor Lusavoric Church Point 2 Analysis of the Garden



ISOVIST AREA

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Isovist Area
Point 2	155,52



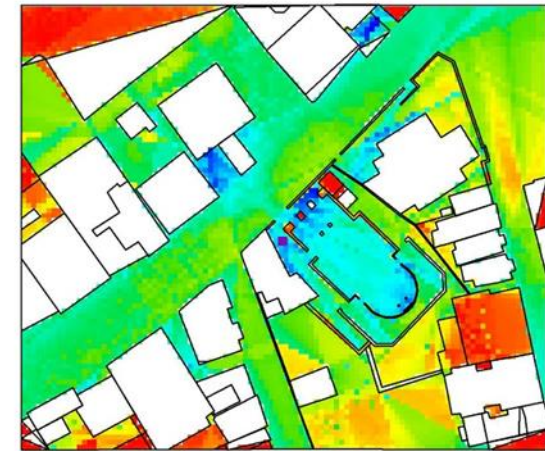
ISOVIST PERIMETER

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Isovist Perimeter
Point 2	176,61



MEAN DEPTH

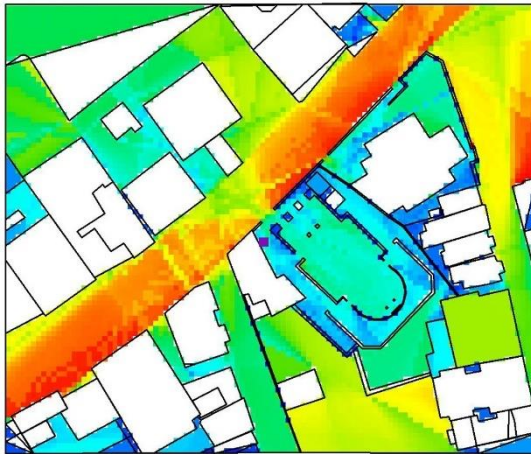
RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Mean Depth
Point 2	2,60



OCCUSIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Occlusivity
Point 2	0,27

Figure 76: Isovist Area, Isovist Perimeter, Mean Depth, Occlusivity values
(Point 2) of Surp Krikor Lusavoric Armenian Church



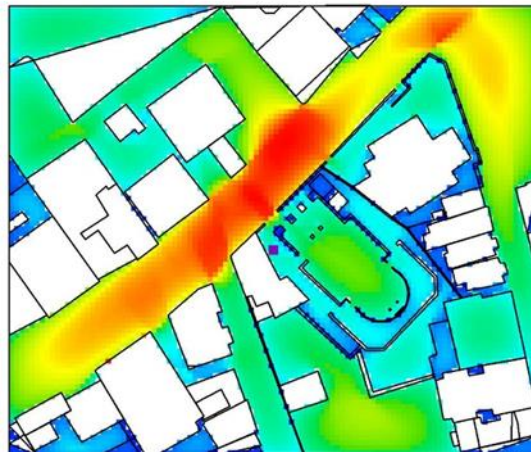
COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Compactness
Point 2	0,88



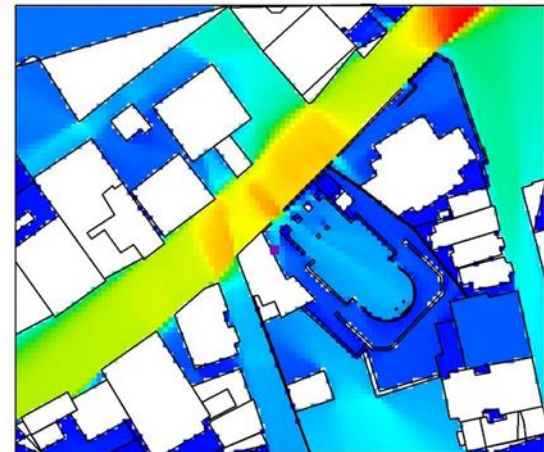
CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Circularity
Point 2	200,56



MEAN RADIAL

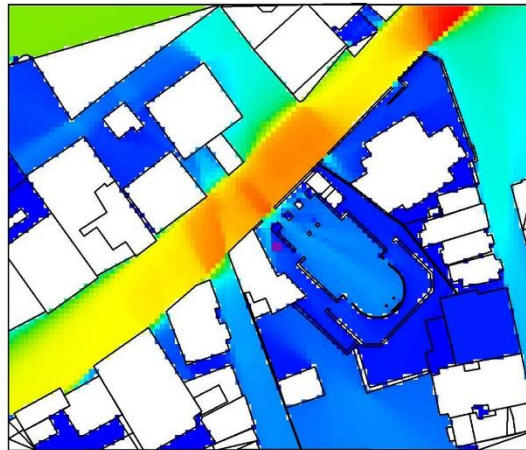
RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Mean Radial
Point 2	4,72



CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Connectivity
Point 2	153

Figure 77: Compactness, Circularity, Mean Radial, Connectivity values (Point 2) of
Surp Krikor Lusavoric Armenian Church

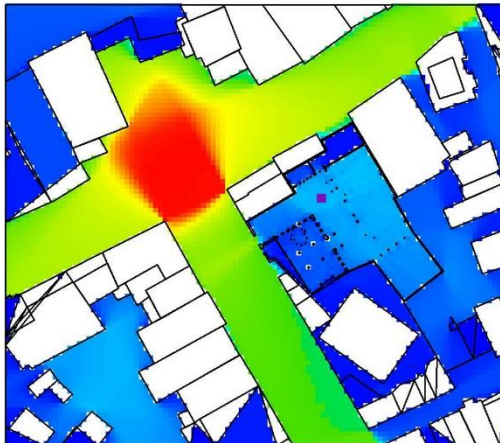


INTEGRATION

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Integration
Point 2	461043,60

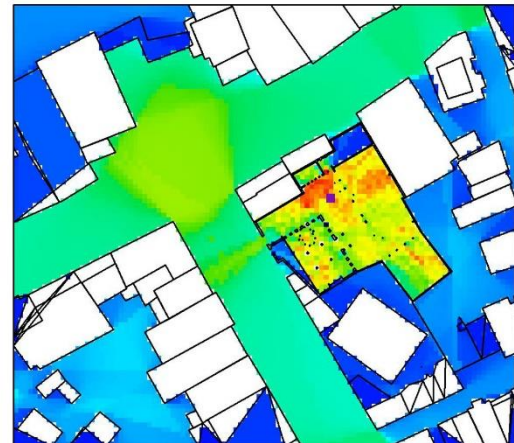
Figure 78: Integration value (Point 2) of Surp Krikor Lusavoric Armenian Church

5.3.4.Bet Yaakov Synagogue Point 2 Analysis- Inside the Garden



ISOVIST AREA

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Isovist Area
Point 2	509,53



ISOVIST PERIMETER

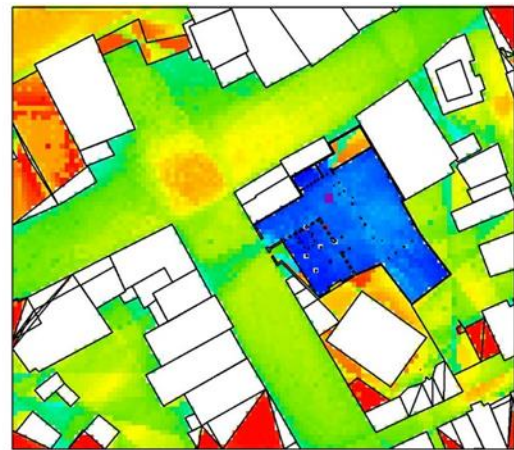
RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Isovist Perimeter
Point 2	621,23

Figure 79: Isovist Area, Isovist Perimeter values (Point 2) of Bet Yaakov Synagogue



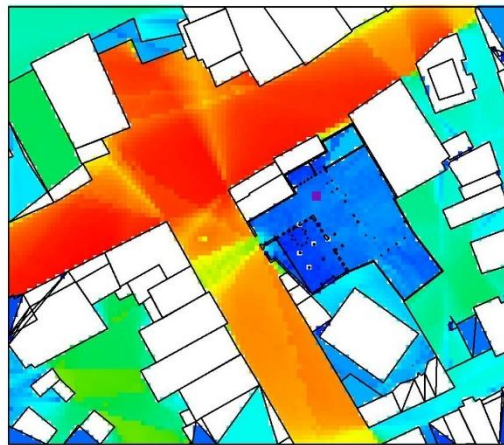
MEAN DEPTH

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Mean Depth
Point 2	2,92



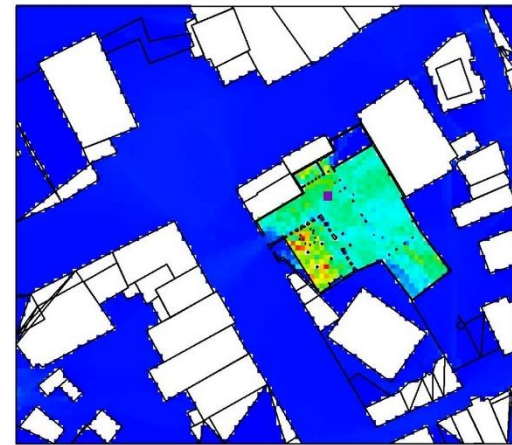
OCCLUSIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Occlusivity
Point 2	0,14



COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Compactness
Point 2	0,82



CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Circularity
Point 2	757,42

Figure 80: Mean Depth, Occlusivity, Compactness, Circularity values (Point 2) of

Bet Yaakov Synagogue

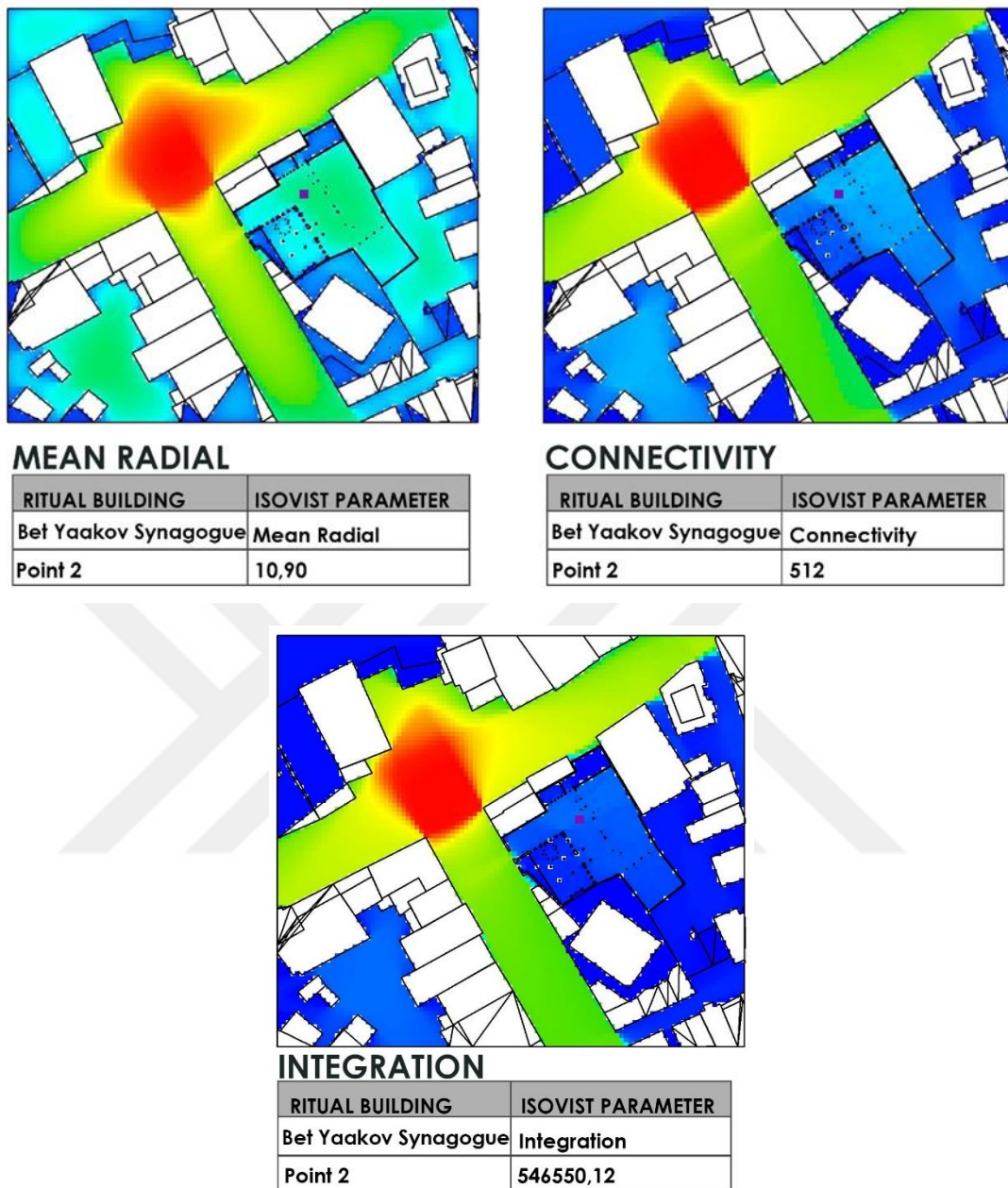


Figure 81: Mean Radial, Connectivity, Integration values (Point 2) of Bet Yaakov Synagogue

5.3.5. Comparison of Point 2 in Ritual Examples

In this section, the isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, connectivity, and integration values of point 2 are tabulated, respectively, and comments are made between the buildings.

Table 10: Point 2-In the Garden- Isovist Area Value

Religious Buildings	Point 2-In the Garden-Isovist Area Value
Kuzguncuk Mosque	218,51
Agios Panteleimonas Greek Orthodox Church	655,17
Surp Krikor Lusavoric Armenian Church	155,52
Kuzguncuk Bet Yaakov Synagogue	509,53

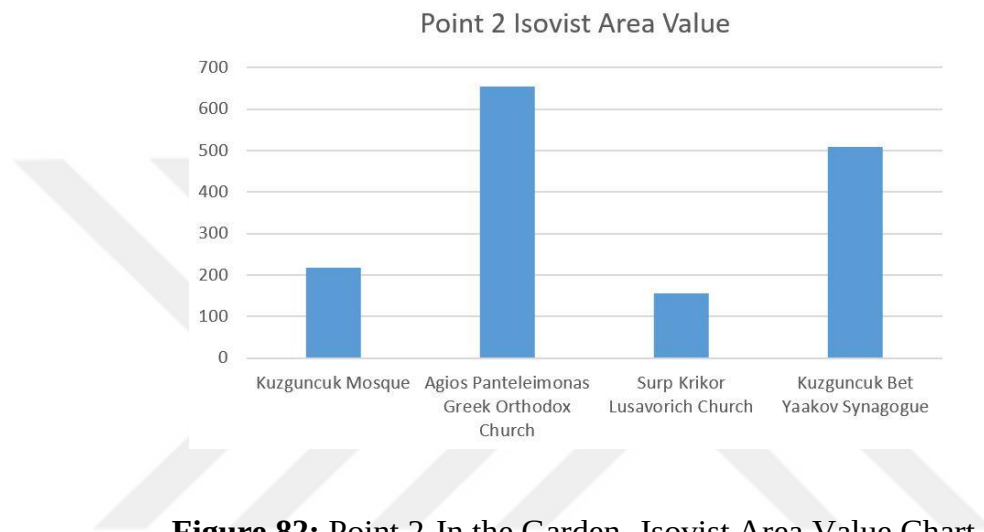


Figure 82: Point 2-In the Garden- Isovist Area Value Chart

- The first highest value is Agios Panteleimonas Greek Orthodox Church. (655,17)
- The second highest value is Kuzguncuk Bet Yaakov Synagogue. (509,53)
- The third highest value is Kuzguncuk Mosque. (218,51)
- The fourth highest value is Surp Krikor Lusavoric Church. (155,52)

The highest Isovist area value among the values for Point 2 was recorded at Agios Panteleimonas Greek Orthodox Church. This can be attributed to the fact that the garden is more expansive than the other buildings, with the church's garden encompassing 715 m². The garden has no obstructive elements at eye level, apart from the buildings designated for religious officials. Subsequently, the synagogue exhibits the second highest value. Kuzguncuk Bet Yaakov Synagogue follows with a value of 509.53,

indicating a significant visible area, although smaller than that of the Greek Orthodox Church. Kuzguncuk Mosque has a lower value of 218.51, reflecting more limitations in the visible area from this point compared to the synagogue and the church.

Surp Krikor Lusavoric Church records the lowest isovist area value at 155.52. The limited field of view in its garden suggests the presence of more obstructive elements or a smaller garden size compared to the other sites. These results demonstrate how the size of the garden and the presence of visual barriers affect the amount of visible space from specific points, highlighting the influence of garden layout and design on visibility and openness.

Table 11: Point 2-In the Garden- Isovist Perimeter Value

Religious Buildings	Point 2-In the Garden-Isovist Perimeter Value
Kuzguncuk Mosque	148,08
Agios Panteleimonas Greek Orthodox Church	248,38
Surp Krikor Lusavoric Armenian Church	176,61
Kuzguncuk Bet Yaakov Synagogue	621,23

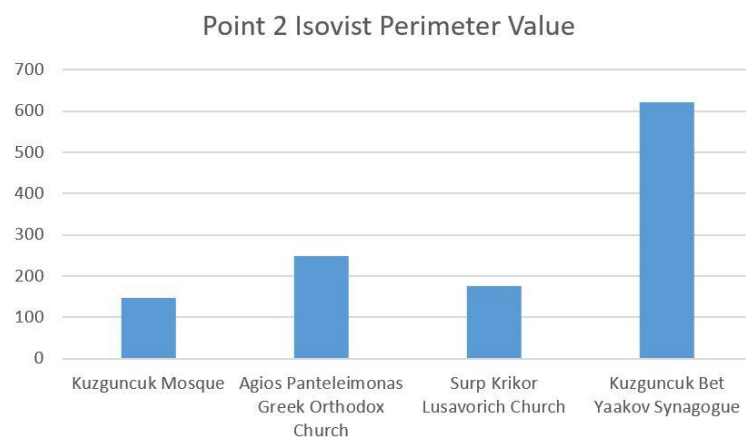


Figure 83: Point 2-In the Garden- Isovist Perimeter Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (621,23)

- The second highest value is Agios Panteleimonas Greek Orthodox Church. (248,38)
- The third highest value is Surp Krikor Lusavoric Church. (176,61)
- The fourth highest value is Kuzguncuk Mosque. (148,08)

Among the points taken from the garden, the highest value of isovist perimeter obtained at 360 degrees was obtained in Kuzguncuk Bet Yaakov Synagogue. Point 2 isovist perimeter value of Kuzguncuk Bet Yaakov Synagogue has the highest value among the values. The fact that the maximum value of the perimeter of the polygon in two dimensions determined by the field of view is obtained at this place indicates the excess of the field of view at this point. The opinion on this point is the highest. This is because everything can be seen from the point of view of the garden. The area seen by the spot in the garden is large. The area of the synagogue's garden is 251 m². However, the synagogue's garden has sections such as a wedding hall, a restaurant, and a garden. The surfaces created by these functions caused this value to increase.

Among the buildings, the one with the lowest point 2 value is the Kuzguncuk Mosque. The garden of the mosque is 277 m². Despite its garden being slightly larger at 277 m², the point's view is limited primarily to garden walls and the mosque's facade, which do not contribute significantly to expanding the visible area. The surface-enhancing element is less than other points. Therefore, the isovist perimeter value was the lowest compared to other points. The Surp Krikor Lusavoric Church is also quite close to the value of the Kuzguncuk Mosque. The limited field of view in its garden also contributes to a lower isovist perimeter value, indicating fewer areas are visible from this point compared to the synagogue. These results highlight how the arrangement of structures and open spaces within the gardens affects the extent of visibility from specific

points, showing how spatial design influences how much of the surrounding area can be seen and experienced.

Table 12: Point 2-In the Garden- Mean Depth Value

Religious Buildings	Point 2-In the Garden-Mean Depth Value
Kuzguncuk Mosque	2,81
Agios Panteleimonas Greek Orthodox Church	2,53
Surp Krikor Lusavoric Armenian Church	2,60
Kuzguncuk Bet Yaakov Synagogue	2,92

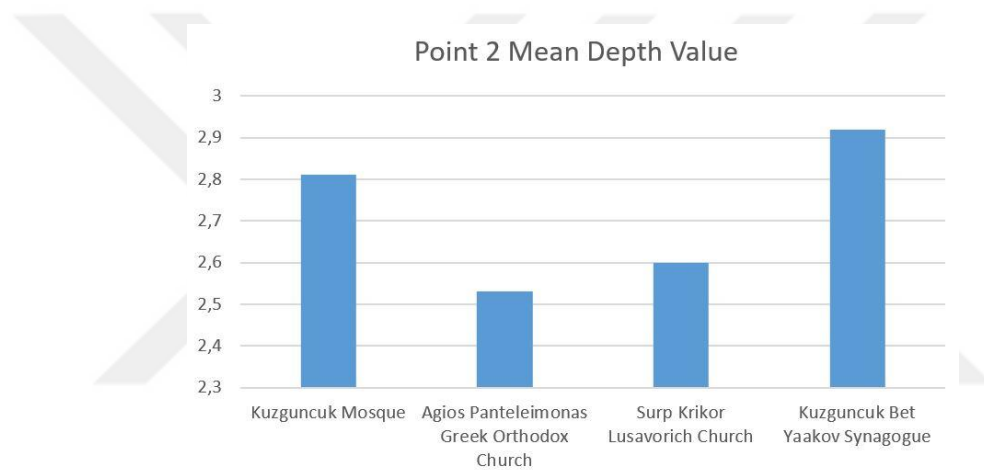


Figure 84: Point Mean Depth Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (2,92)
- The second highest value is Kuzguncuk Mosque. (2,81)
- The third highest value is Surp Krikor Lusavoric Church. (2,60)
- The fourth highest value is Agios Panteleimonas Greek Orthodox Church. (2,53)

The building with the highest value among Point 2 values is the Kuzguncuk Bet Yaakov Synagogue. This shows that the synagogue's garden was less accessible. Access from the synagogue's garden to other areas requires a more complex route than other buildings. This complexity contributes to a higher depth value, suggesting that it's more

isolated compared to other points. The Kuzguncuk Mosque, with a value of 2.81, indicates some complexities in accessing other areas, though slightly less so than the synagogue. The Surp Krikor Lusavoric Church has a value of 2.60, reflecting moderate accessibility with some barriers to direct routes.

Among the buildings with the lowest point 2 value is the Agios Panteleimonas Greek Orthodox Church. The garden gate of this church, accessed from the street, is closer to the point taken from the garden, which strengthens its connection and results in a lower depth value compared to other buildings.

Table 13: Point 2-In the Garden- Occlusivity Value

Religious Buildings	Point 2-In the Garden- Occlusivity Value
Kuzguncuk Mosque	0,49
Agios Panteleimonas Greek Orthodox Church	0,42
Surp Krikor Lusavoric Armenian Church	0,27
Kuzguncuk Bet Yaakov Synagogue	0,14

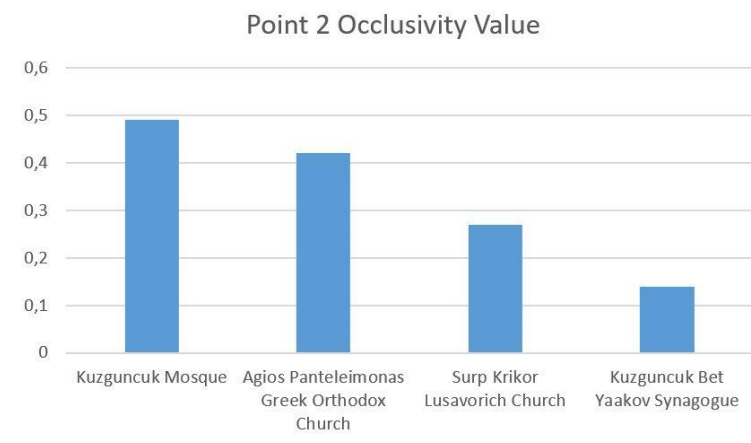


Figure 85: Point 2-In the Garden- Occlusivity Value Chart

- The first highest value is Kuzguncuk Mosque. (0,49)
- The second highest value is Agios Panteleimonas Greek Orthodox Church. (0,42)

- The third highest value is Surp Krikor Lusavoric Church. (0,27)
- The fourth highest value is Kuzguncuk Bet Yaakov Synagogue. (0,14)

When the second points are compared, the highest occlusivity value was obtained in the Kuzguncuk Mosque. This is because of the walls that block the view around the mosque garden. The visibility of the second point of Kuzguncuk Mosque from the outside is lower than the point 2 values of other buildings. That's why the occlusivity value was higher. The Agios Panteleimonas Church is also quite close to this value. The reason for this is the garden walls surrounding the church. The Agios Panteleimonas Greek Orthodox Church also has a high value of 0.42, which is quite close to the mosque's value. The garden walls surrounding the church similarly limit visibility from the outside. The Surp Krikor Lusavoric Church, with a lower value of 0.27, indicates fewer obstructions and better visibility from the outside compared to both the mosque and the Agios Panteleimonas Church.

Among the buildings, the one with the lowest occlusivity value of 2 is the Kuzguncuk Bet Yaakov Synagogue. This shows that the garden of the building has an open-plan arrangement. It means that the point taken from the garden is visible. The garden of the building is in a more visible area from the outside compared to the gardens of other buildings. That's why the occlusivity value is lower than in other buildings. These findings highlight how the design and placement of walls and other elements in the gardens affect the visibility of these points from outside, influencing the level of privacy and openness of each space.

Table 14: Point 2-In the Garden- Compactness Value

Religious Buildings	Point 2-In The Garden-Compactness Value
Kuzguncuk Mosque	1,47
Agios Panteleimonas Greek Orthodox Church	2,63
Surp Krikor Lusavoric Armenian Church	0,88
Kuzguncuk Bet Yaakov Synagogue	0,82

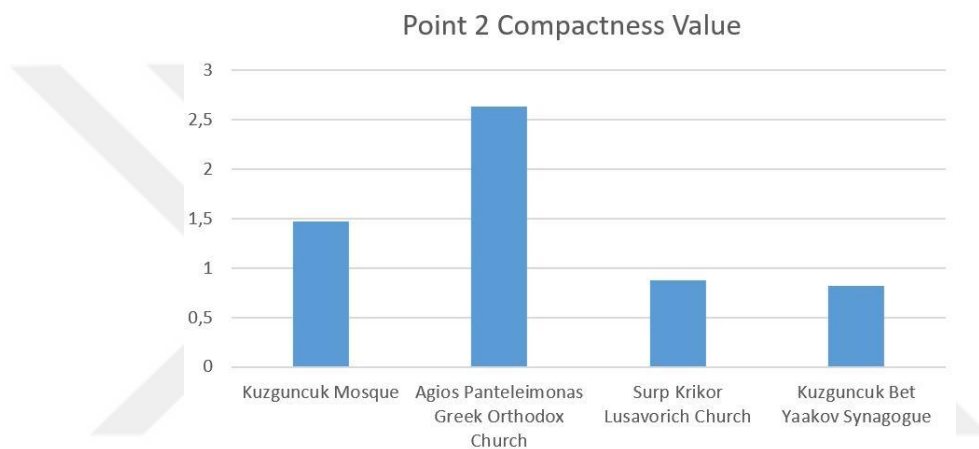


Figure 86: Point 2-In the Garden-Compactness Value Chart

- The first highest value is Agios Panteleimonas Greek Orthodox Church. (2,63)
- The second highest value is Kuzguncuk Mosque. (1,47)
- The third highest value is Surp Krikor Lusavoric Church. (0,88)
- The fourth highest value is Kuzguncuk Bet Yaakov Synagogue. (0,82)

Among the buildings, the highest compactness value of point 2 was obtained in the Agios Panteleimonas Church. This is due to the regular geometry of the garden wall around the garden, which suggests a very regular and orderly garden layout. The environment has appropriate geometry to create the perception of a regular space. The Kuzguncuk Mosque has a compactness value of 1.47, indicating a reasonably regular layout, though not as

tight and orderly as that of the Greek Orthodox Church. The Surp Krikor Lusavoric Church and Kuzguncuk Bet Yaakov Synagogue have the lowest values, at 0.88 and 0.82 respectively. These low values suggest more irregular garden layouts, with the Bet Yaakov Synagogue's garden featuring diverse functions that disrupt uniformity. The Surp Krikor Lusavoric Church exhibits similar irregularity due to the placement and design of elements within its garden. These compactness values highlight the impact of garden design on the cohesiveness and organization of the spaces, affecting their overall perception and functionality.

Table 15: Point 2-In the Garden- Circularity Value

Religious Buildings	Point 2 -In the Garden- Circularity Value
Kuzguncuk Mosque	100,35
Agios Panteleimonas Greek Orthodox Church	94,16
Surp Krikor Lusavoric Armenian Church	200,56
Kuzguncuk Bet Yaakov Synagogue	757,42

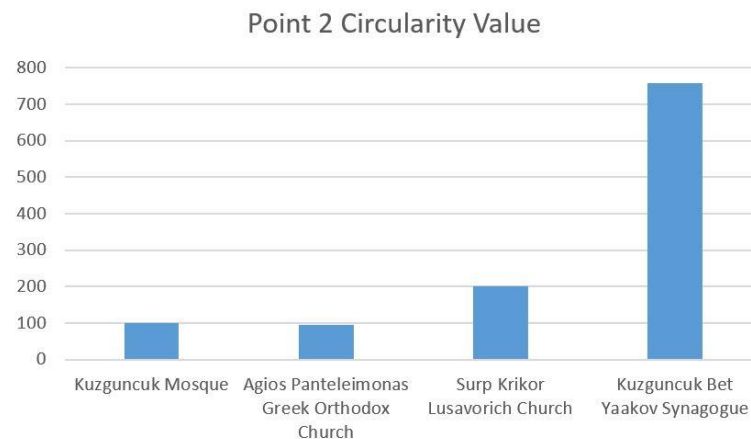


Figure 87: Point 2-In the Garden- Circularity Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (757,42)
- The second highest value is Surp Krikor Lusavoric Church. (200,56)
- The third highest value is Agios Panteleimonas Greek Orthodox Church. (100,35)

- The fourth highest value is Kuzguncuk Mosque. (94,16)

Among the Point 2 values, the Kuzguncuk Bet Yaakov Synagogue obtained the highest circularity value. When looking at the results, there is a big difference between them and other buildings. This is due to the functions that create a complex circulation area in the garden, such as the restaurant and the wedding hall. Surp Krikor Lusavoric Church has a significantly lower value of 200.56, indicating simpler movement within the garden compared to the synagogue.

Agios Panteleimonas Greek Orthodox Church and Kuzguncuk Mosque have even lower values of 100.35 and 94.16, respectively. These low values indicate that their gardens are easier to navigate. For the Kuzguncuk Mosque, the straightforward layout with clear boundaries such as garden walls and the mosque's facade contributes to easy movement around the garden. Agios Panteleimonas Church, with a value close to that of the Kuzguncuk Mosque, also indicates a garden that is easily navigable. These results demonstrate how the design and use of space within the gardens affect how easily people can move around, with higher circularity values indicating more complex circulation paths.

Table 16: Point 2-In the Garden- Mean Radial Value

Religious Buildings	Point 2 -In the Garden-Mean Radial Value
Kuzguncuk Mosque	7,34
Agios Panteleimonas Greek Orthodox Church	13,73
Surp Krikor Lusavoric Armenian Church	4,72
Kuzguncuk Bet Yaakov Synagogue	10,90

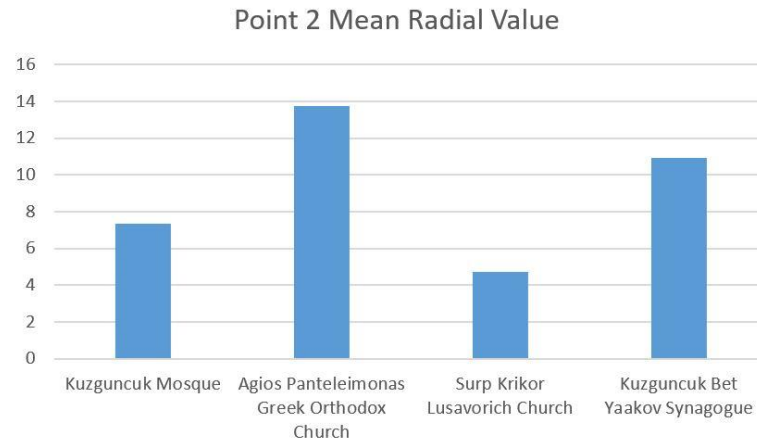


Figure 88: Point 2-In the Garden- Mean Radial Value Chart

- The first highest value is Agios Panteleimonas Greek Orthodox Church. (13,73)
- The second highest value is Kuzguncuk Bet Yaakov Synagogue. (10,90)
- The third highest value is Kuzguncuk Mosque. (7,34)
- The fourth highest value is Surp Krikor Lusavoric Armenian Church. (4,72)

Among the second point, the highest mean radial value was obtained in Agios Panteleimonas Greek Orthodox Church. This is because the connection from the building's garden to other spaces is simpler and more direct than other buildings. It has one garden gate. You can directly access the street from the garden gate. The Kuzguncuk Bet Yaakov Synagogue follows with a value of 10.90, indicating that its connections are quite direct, although not as much as those of the Greek Orthodox Church. The Kuzguncuk Mosque has a lower value of 7.34, suggesting more complex connections compared to the first two buildings.

The building with the lowest mean radial value among the first points is the Surp Krikor Lusavoric Armenian Church. The connections in the garden of Surp Krikor Lusavoric Armenian Church are complicated due to the narrow area. The reason for this is the placement of the units in the garden. There are few connections from the church

garden to the street and garden units. Additionally, access from the point in the garden to the street and into the space can be confusing due to the garden's layout. For this reason, the mean radial value decreases. These results highlight the impact of garden layout and the placement of entry points on how easily people can move to and from these religious sites.

Table 17:Point 2-In the Garden- Connectivity Value

Religious Buildings	Point 2-In the Garden- Connectivity Value
Kuzguncuk Mosque	221
Agios Panteleimonas Greek Orthodox Church	651
Surp Krikor Lusavoric Armenian Church	153
Kuzguncuk Bet Yaakov Synagogue	512

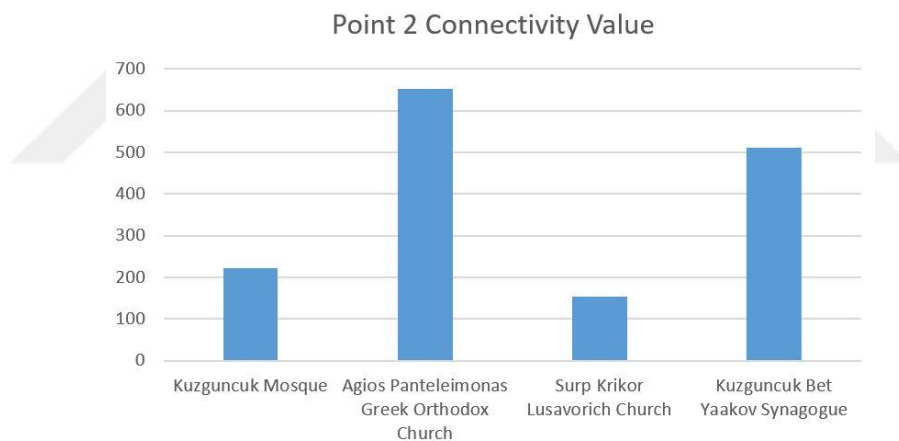


Figure 89: Point 2-In the Garden- Connectivity Value Chart

- The first highest value is Agios Panteleimonas Greek Orthodox Church. (651)
- The second highest value is Kuzguncuk Bet Yaakov Synagogue. (512)
- The third highest value is Kuzguncuk Mosque. (221)
- The fourth highest value is Surp Krikor Lusavoric Armenian Church. (153)

The building with the highest connectivity value among Point 2 values is Agios Panteleimonas Greek Orthodox Church. This indicates strong connections between this point in the garden and the surrounding areas, including direct access to both the garden itself and the street, making it highly accessible. Accessibility from this point within the garden is stronger than at other Point 2 locations. Kuzguncuk Bet Yaakov Synagogue follows with a connectivity value of 512, showing strong connections but not as extensive as the Greek Orthodox Church. Kuzguncuk Mosque has a connectivity value of 221. Its connections are less effective compared to the first two, indicating some limitations in accessibility from this point.

The building registering the lowest value is the Surp Krikor Lusavoric Armenian Church. The limited space of the garden and the presence of garden walls constrain the connections between the garden, the street, and other units within the garden, significantly restricting accessibility. These results highlight the impact of garden layout and size on the connectivity and accessibility of different points within these religious buildings. They demonstrate how physical barriers and spatial arrangements can affect the ease of movement between different parts of the buildings and their gardens.

Table 18: Point 2-In the Garden- Integration Value

Religious Buildings	Point 2-In The Garden- Integration Value
Kuzguncuk Mosque	296066,86
Agios Panteleimonas Greek Orthodox Church	1137631,56
Surp Krikor Lusavoric Armenian Church	244624,88
Kuzguncuk Bet Yaakov Synagogue	546550,12

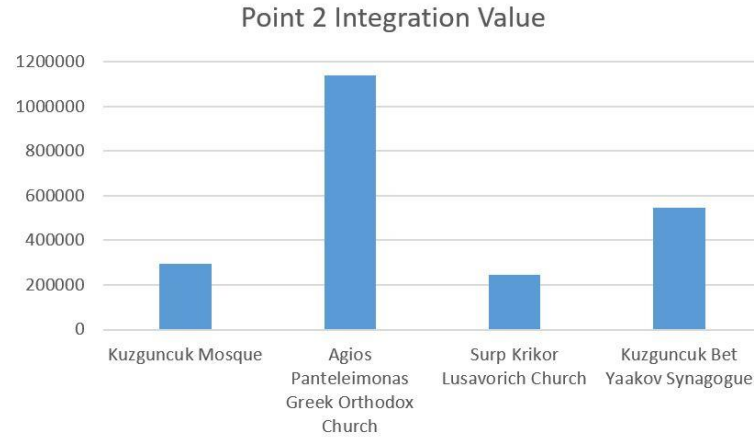


Figure 90: Point 2-In the Garden- Integration Value Chart

- The first highest value is Agios Panteleimonas Greek Orthodox Church. (1137631,56)
- The second highest value is Kuzguncuk Bet Yaakov Synagogue. (546550,12)
- The third highest value is Kuzguncuk Mosque. (296066,86)
- The fourth highest value is Surp Krikor Lusavoric Armenian Church. (244624,88)

Among the buildings, the highest point 2 integration value was obtained in the Agios Panteleimonas Church. The reason for this is that this point taken from the garden has strong connections because it is in a wide area. The garden is around 1000 m². The point taken strongly connects to the church and the street because these areas can be reached directly without changing direction. Kuzguncuk Bet Yaakov Synagogue has a notable integration value, though it is less than half of the Greek Orthodox Church's value, indicating it has fewer or less effective connections. Kuzguncuk Mosque possesses an even lower integration value, reflecting more restricted connections compared to both the synagogue and the church.

The lowest integration value of point 2 among the buildings was obtained in Surp Krikor Lusavoric Armenian Church. This low value is due to its smaller garden area, which restricts the number of connections that can be established from the point.

5.4. Point 3 Analysis- In the Gate

The third point in the analysis is the point taken from the front of the garden gates of the buildings. This point symbolizes the transition of the ritual space to the public realm and its accessibility. As the initial entry step into the space, it reflects visitors' first reactions and perceptions towards the space. Furthermore, it demonstrates the relationship of the space with its surroundings and its openness to the external world. This point is of critical importance for understanding the role of the ritual space within society and its interaction with the public domain. Isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, connectivity, and integration values in the garden of the building were obtained. In the collage below, the syntax maps of these parameters are shown respectively on the building plans where point 3 is marked. At the end of the section, each parameter value of point 3 was tabulated, and comments were made between buildings.

5.4.1. Kuzguncuk Mosque Point 3 Analysis-In the Gate

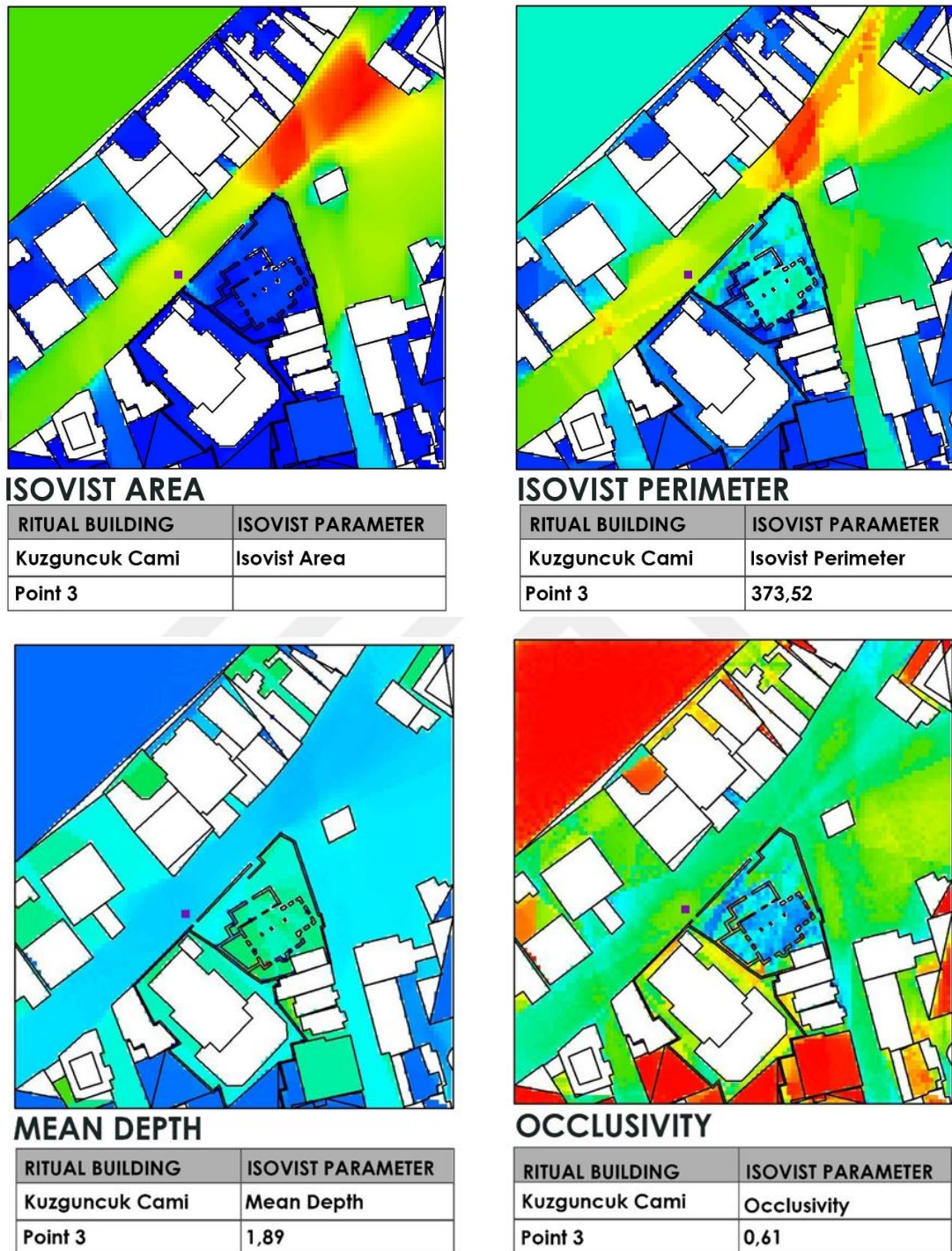
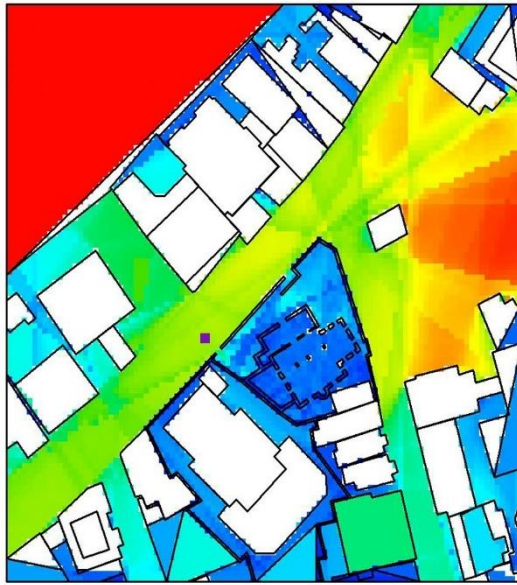


Figure 91: Isovist Area, Isovist Perimeter, Mean Depth, Occlusivity values

(Point 3) of Kuzguncuk Mosque



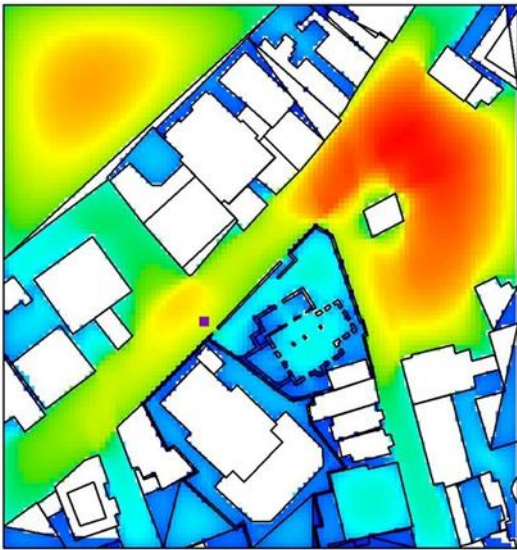
COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Compactness
Point 3	4,79



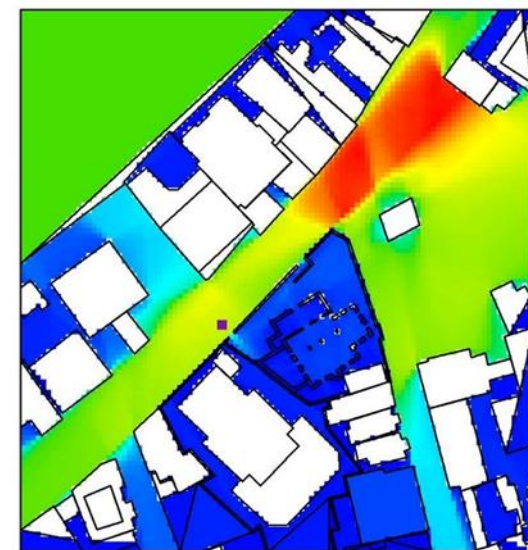
CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Circularity
Point 3	77,87



MEAN RADIAL

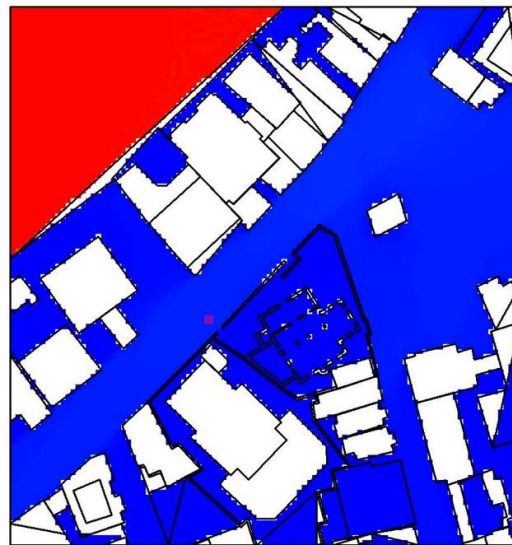
RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Mean Radial
Point 3	16,78



CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Connectivity
Point 3	1791

Figure 92: Compactness, Circularity, Mean Radial, Connectivity values (Point 3) of Kuzguncuk Mosque

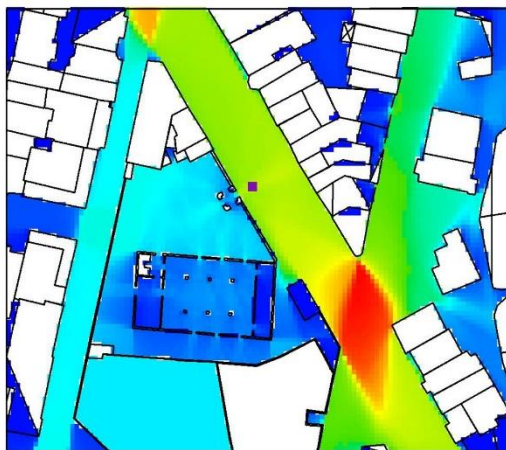


INTEGRATION

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Integration
Point 3	4648079,12

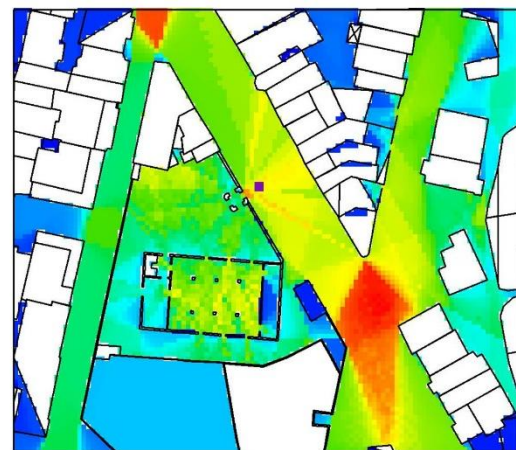
Figure 93: Integration value (Point 3) of Kuzguncuk Mosque

5.4.2. Agios Panteleimonas Greek Orthodox Church Point 3 Analysis-In the Gate



ISOVIST AREA

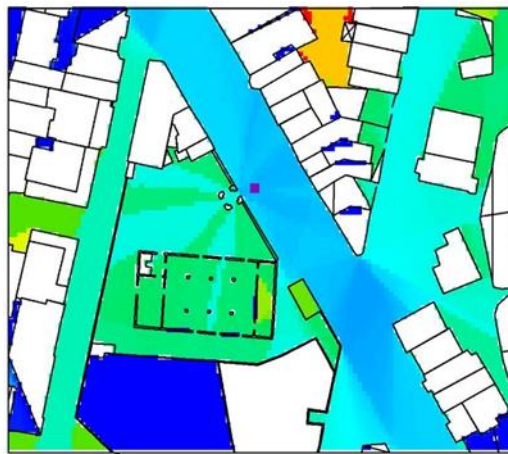
RITUAL BUILDING	ISOVIST PARAMETER
A.P. Greek Ort. Church	Isovist Area
Point 3	1763,16



ISOVIST PERIMETER

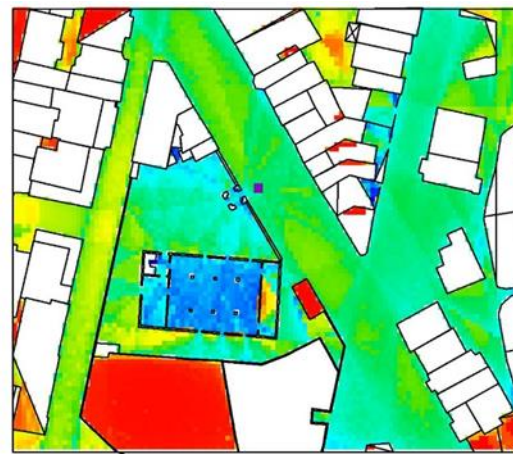
RITUAL BUILDING	ISOVIST PARAMETER
A.P. Greek Ort. Church	Isovist Perimeter
Point 3	380,80

Figure 94: Isovist Area, Isovist Perimeter values (Point 3) of Agios Panteleimonas Greek Orthodox Church



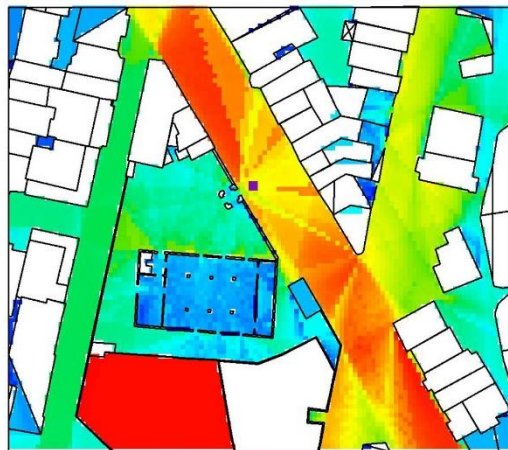
MEAN DEPTH

RITUAL BUILDING	ISOVIST PARAMETER
A.P. Greek Ort. Church	Mean Depth
Point 3	1,95



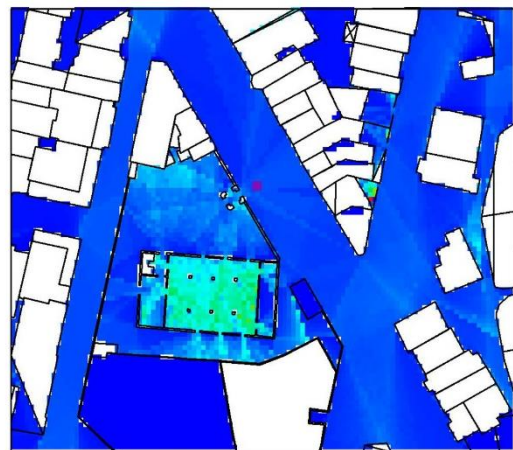
OCCLUSIVITY

RITUAL BUILDING	ISOVIST PARAMETER
A.P. Greek Ort. Church	Occlusivity
Point 3	0,46



COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Compactness
Point 3	4,63



CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Circularity
Point 3	82,24

Figure 95: Mean Depth, Occlusivity, Compactness, Circularity values (Point 3) of
Agios Panteleimonas Greek Orthodox Church

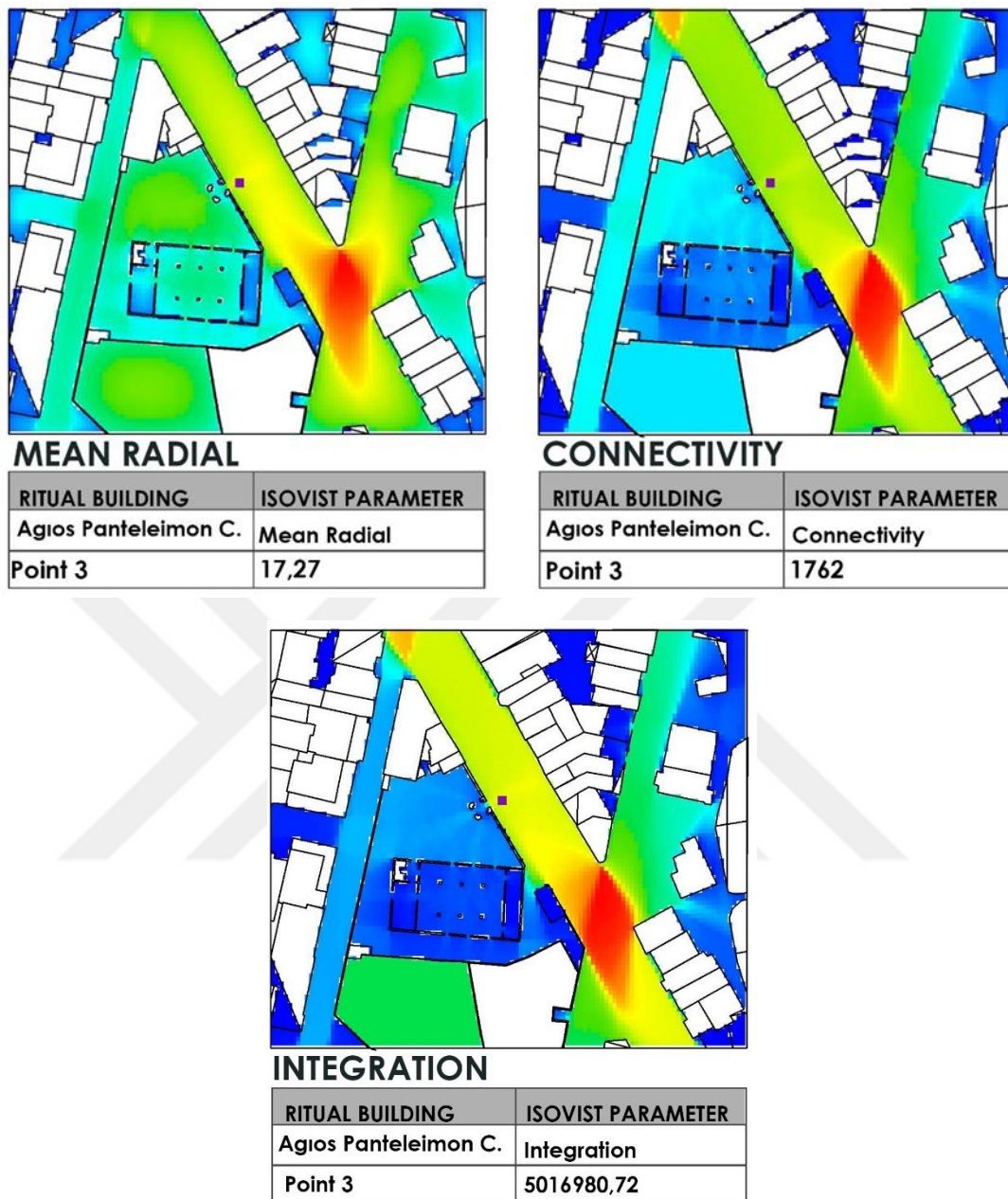
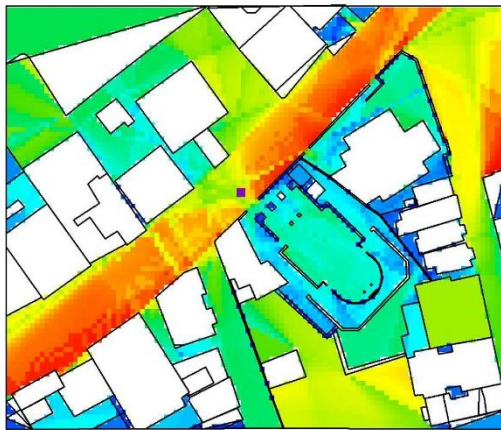


Figure 96: Mean Radial, Connectivity, Integration values (Point 3) of Agios Panteleimonas Greek Orthodox Church

5.4.3. Surp Krikor Lusavoric Church Point 3 Analysis-In the Gate



Figure 97: Isovist Area, Isovist Perimeter, Mean Depth, Occlusivity values
(Point 3) of Surp Krikor Lusavoric Armenian Church



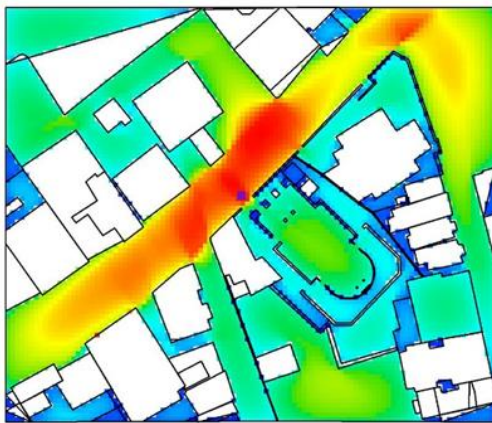
COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Compactness
Point 3	3,55



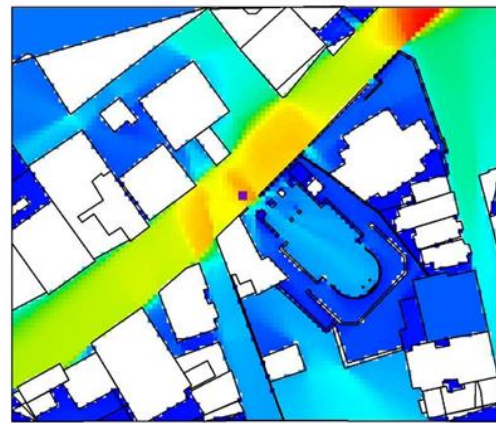
CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Circularity
Point 3	135,97



MEAN RADIAL

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Mean Radial
Point 3	17,74



CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Connectivity
Point 3	1719

Figure 98: Compactness, Circularity, Mean Radial, Connectivity values (Point 3) of
Surp Krikor Lusavoric Armenian Church

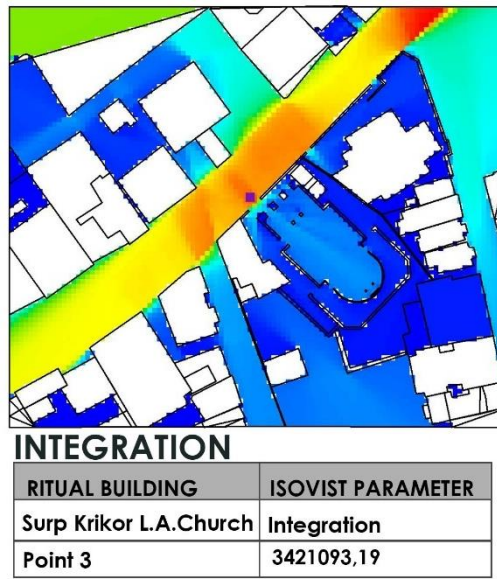


Figure 99: Integration value (Point 3) of Surp Krikor Lusavoric Armenian Church

5.4.4. Bet Yaakov Synagogue Point 3 Analysis-In the Gate

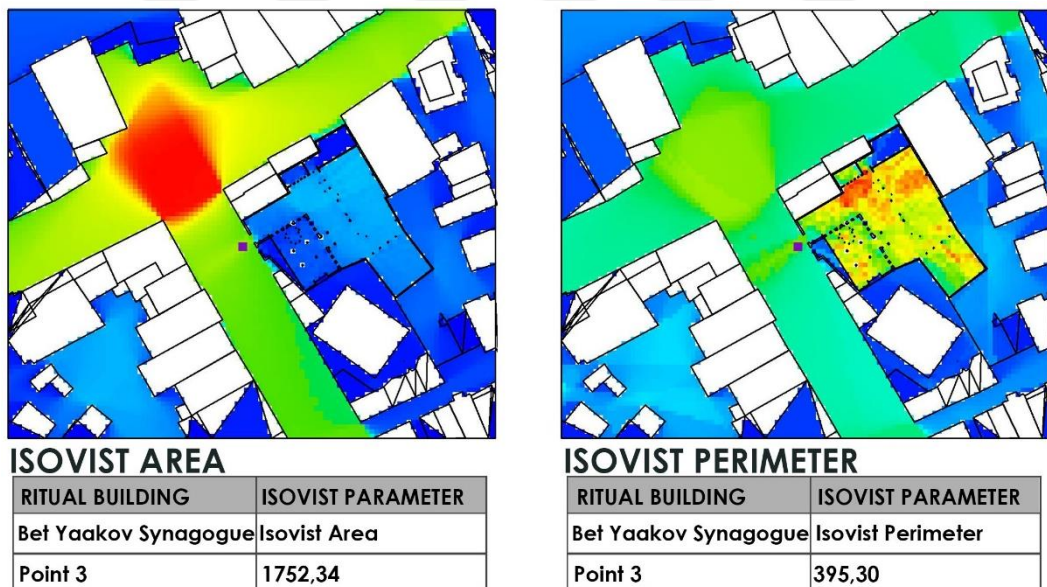
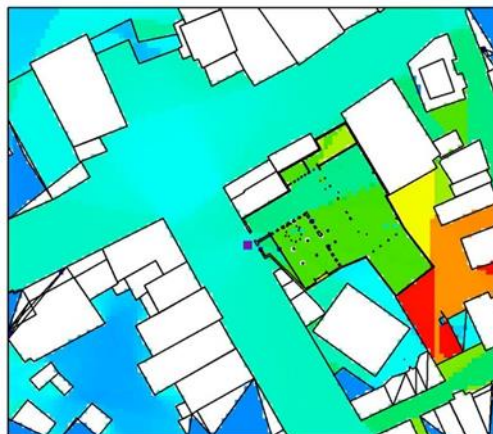


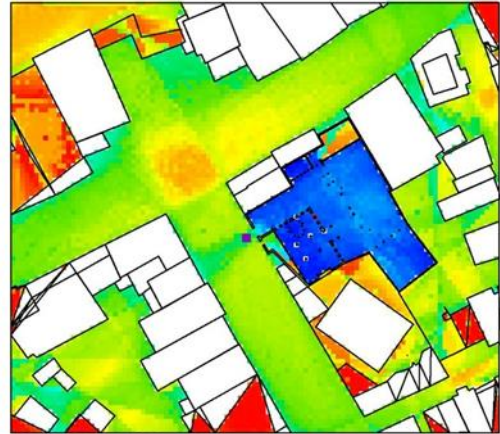
Figure 100: Isovist Area, Isovist Perimeter values (Point 3) of Bet Yaakov

Synagogue



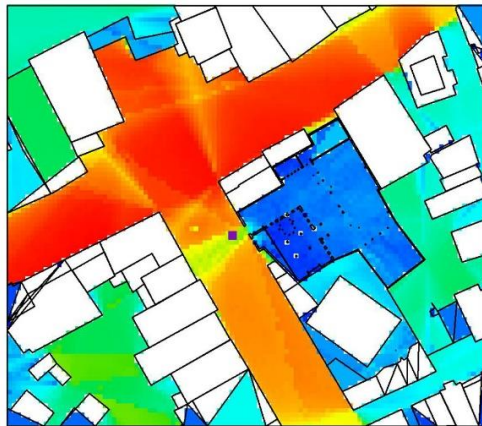
MEAN DEPTH

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Mean Depth
Point 3	2,22



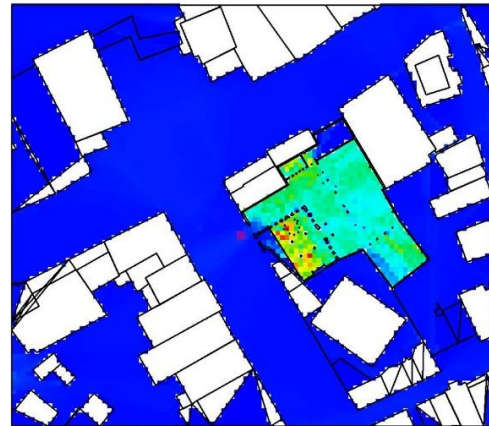
OCCLUSIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Occlusivity
Point 3	0,48



COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Compactness
Point 3	4,43



CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Circularity
Point 3	89,17

Figure 101: Mean Depth, Occlusivity, Compactness, Circularity values (Point 3) of
Bet Yaakov Synagogue

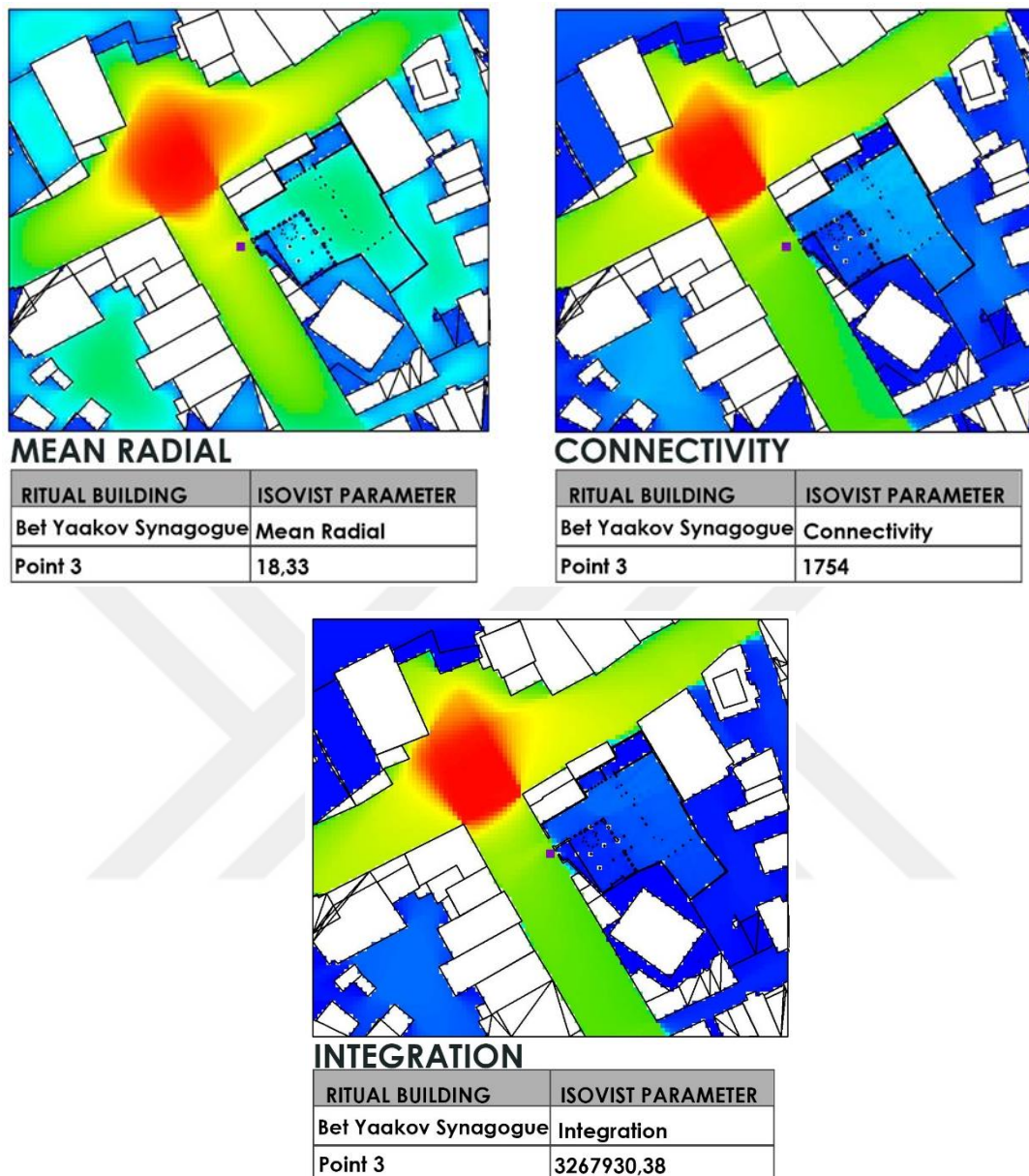


Figure 102: Mean Radial, Connectivity, Integration values (Point 3) of Bet Yaakov Synagogue

5.4.5. Comparison of Point 3 in Ritual Examples

In this section, the isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, connectivity, and integration values of point 3 are tabulated, respectively, and comments are made between the buildings.

Table 19: Point 3-In the Gate- Isovist Area Value

Religious Buildings	Point 3-In the Gate-Isovist Area Value
Kuzguncuk Mosque	1791,51
Agios Panteleimonas Greek Orthodox Church	1763,16
Surp Krikor Lusavoric Armenian Church	1714,17
Kuzguncuk Bet Yaakov Synagogue	1752,34

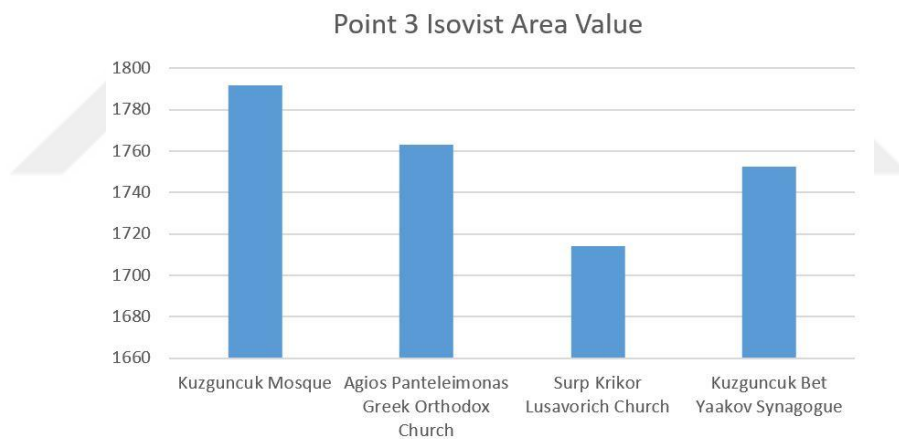


Figure 103: Point 3-In the Gate- Isovist Area Value Chart

- The first highest value is Kuzguncuk Mosque. (1791,51)
- The second highest value is Agios Panteleimonas Greek Orthodox Church. (1763,16)
- The third highest value is Kuzguncuk Bet Yaakov Synagogue. (1752,34)
- The fourth highest value is Surp Krikor Lusavoric Armenian Church. (1714,17)

The highest Isovist area value among point 3 values was obtained in Kuzguncuk Mosque. This is because the point taken in front of the garden gate allows the wider area of the linear road to be seen. After this comes the second highest value, Agios Panteleimonas Greek Orthodox Church. Agios Panteleimonas Greek Orthodox Church follows, with a slightly smaller visible area but still substantial, indicating a good field of view from its point. Kuzguncuk Bet Yaakov Synagogue has a slightly smaller isovist area than the Greek Orthodox Church, suggesting that while the view is extensive, it is somewhat more limited than the first two.

The lowest Isovist perimeter value for Point 3 was obtained in Surp Krikor Lusavoric Armenian Church. Among the points taken from the front of the garden, the field of view is narrower than the others. Additionally, the point was taken over a linear road connecting two streets, which restricts the visible area compared to other locations.

Table 20: Point 3-In the Gate- Isovist Perimeter Value

Religious Buildings	Point 3-In the Gate-Isovist Perimeter Value
Kuzguncuk Mosque	373,52
Agios Panteleimonas Greek Orthodox Church	380,80
Surp Krikor Lusavoric Armenian Church	482,78
Kuzguncuk Bet Yaakov Synagogue	395,30

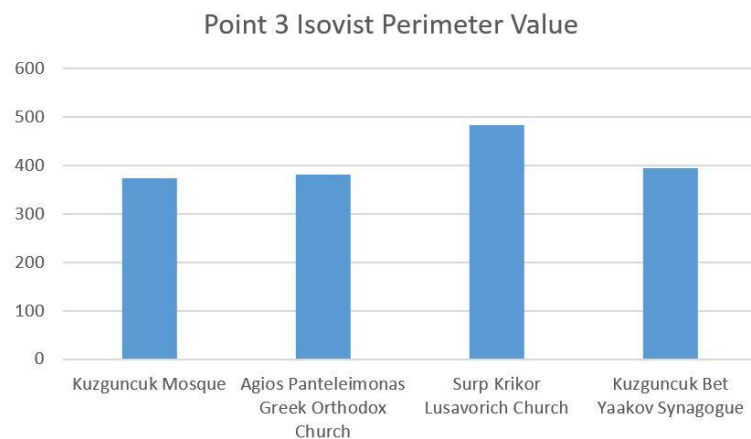


Figure 104: Point 3 Isovist Perimeter Value Chart

- The first highest value is Surp Krikor Lusavoric Church. (482,78)
- The second highest value is Kuzguncuk Bet Yaakov Synagogue. (395,30)
- The third highest value is Agios Panteleimonas Greek Orthodox Church. (380,80)
- The fourth highest value is Kuzguncuk Mosque. (373,52)

Among the points taken from the garden gate, the highest value of the area's perimeter obtained at 360 degrees was obtained at the Surp Krikor Lusavoric Armenian Church. The view here is the most. This is because there is a wide field of view from the point in front of the garden. At the same time, Kuzguncuk Çarşı Street, where point 3 is located, expands towards the east, increasing the field of view. Kuzguncuk Bet Yaakov Synagogue and Agios Panteleimonas Greek Orthodox Church also have high values, indicating a wide field of view, though slightly less spacious than that of the Armenian church.

Among the points taken from the garden gate, the lowest isovist perimeter value was obtained in the Kuzguncuk Mosque. This lower value is due to the view from this point being clear along the street but more restricted because of its linear street placement, which limits the breadth of the visible area. These findings illustrate the extent of visibility from key points near these buildings, showing how architecture and street layout influence the amount of the surrounding area that can be seen.

Table 21: Point 3-In the Gate- Mean Depth Value

Religious Buildings	Point 3-In the Gate-Mean Depth Value
Kuzguncuk Mosque	1,89
Agios Panteleimonas Greek Orthodox Church	1,95
Surp Krikor Lusavoric Armenian Church	1,97
Kuzguncuk Bet Yaakov Synagogue	2,22

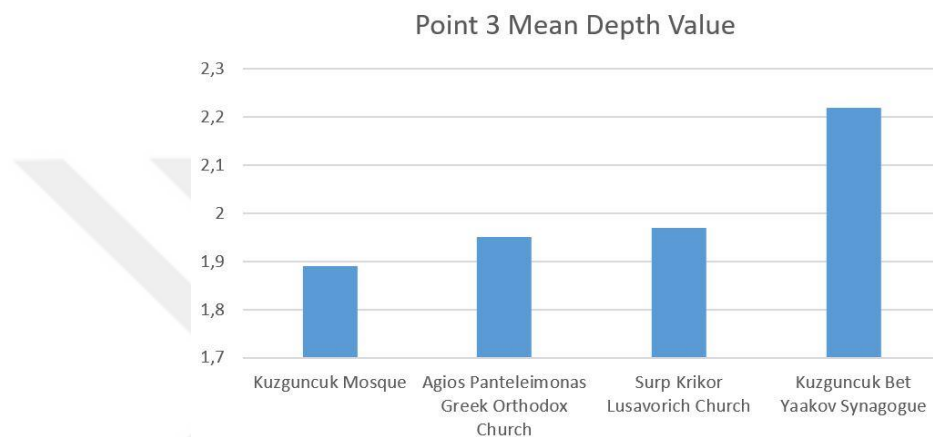


Figure 105: Point 3 Mean Depth Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (2,22)
- The second highest value is Surp Krikor Lusavoric Armenian Church. (1,97)
- The third highest value is Agios Panteleimonas Greek Orthodox Church. (1,95)
- The fourth highest value is Kuzguncuk Mosque. (1,89)

Among the point 3 values, the building with the highest mean depth is the Bet Yaakov Synagogue. This shows that the synagogue's garden gate was less accessible. Access to other areas from the point in front of the garden gate of the synagogue requires a more complex route than other points. Due to the layout of the roads, this point is in a deeper area than other points.

Surp Krikor Lusavoric Armenian Church and Agios Panteleimonas Greek Orthodox Church have slightly lower values, indicating better accessibility but still some complexity in reaching other areas. Kuzguncuk Mosque has the lowest mean depth value of point 3, suggesting that the area in front of the mosque is more accessible and visible, with stronger connections to nearby roads and points, making it easier for people to approach and move around. These results inform us about the physical layout and accessibility of the points near these buildings, influencing how people interact with these spaces and move through them.

Table 22: Point 3-In the Gate- Occlusivity Value

Religious Buildings	Point 3-In the Gate- Occlusivity Value
Kuzguncuk Mosque	0,61
Agios Panteleimonas Greek Orthodox Church	0,46
Surp Krikor Lusavoric Armenian Church	0,47
Kuzguncuk Bet Yaakov Synagogue	0,48

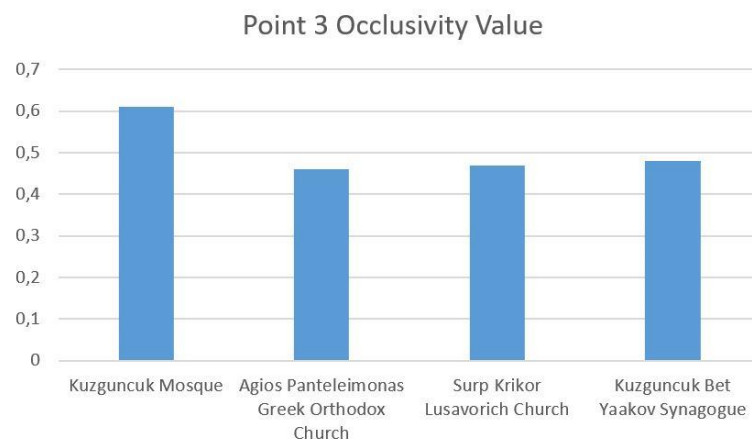


Figure 106: Point 3-In the Gate-Occlusivity Value Chart

- The first highest value is Kuzguncuk Mosque. (0,61)
- The second highest value is Kuzguncuk Bet Yaakov Synagogue. (0,48)
- The third highest value is Surp Krikor Lusavoric Church. (0,47)

- The fourth highest value is Agios Panteleimonas Greek Orthodox Church. (0,46)

The building with the highest occlusivity value among Point 3 values is the Kuzguncuk Mosque. The view around the garden gate is quite restricted due to the irregular arrangement of buildings along the road. The Kuzguncuk Bet Yaakov Synagogue follows with a slightly lower occlusivity value, indicating that while there are some obstructions, they are less severe than those at the mosque. The Surp Krikor Lusavoric Church has a value nearly identical to the synagogue, suggesting similar conditions regarding view restrictions.

Among the Point 3 values, the building with the lowest occlusivity is the Agios Panteleimonas Church. This is because the road on which it is located is linear, and the construction is compatible with it, so few elements restrict the view. These findings highlight how the arrangement of buildings and roads can influence visibility at specific points near these religious sites, affecting how open or enclosed these spaces feel.

Table 23: Point 3-In the Gate- Compactness Value

Religious Buildings	Point 3-In the Gate-Compactness Value
Kuzguncuk Mosque	4,79
Agios Panteleimonas Greek Orthodox Church	4,63
Surp Krikor Lusavoric Armenian Church	3,55
Kuzguncuk Bet Yaakov Synagogue	4,43

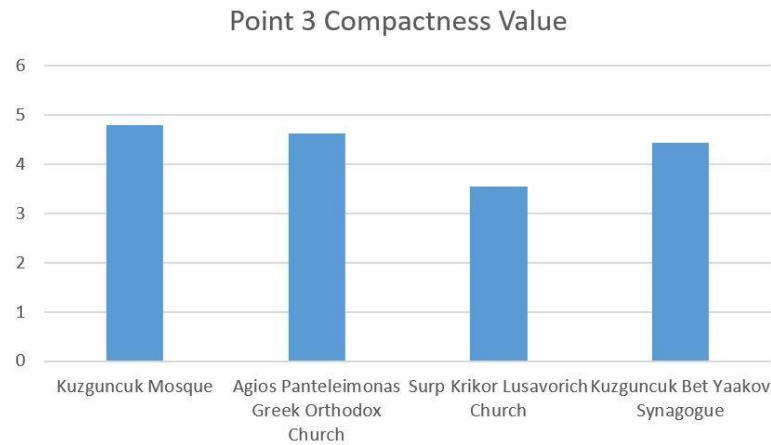


Figure 107: Point 3 Compactness Value Chart

- The first highest value is Kuzguncuk Mosque. (4,79)
- The second highest value is Agios Panteleimonas Greek Orthodox Church. (4,63)
- The third highest value is Kuzguncuk Bet Yaakov Synagogue. (4,43)
- The fourth highest value is Surp Krikor Lusavoric Church. (3,55)

Among the buildings, the highest compactness value of 3 was achieved in the Kuzguncuk Mosque. The reason for this is the layout of the road and buildings around the point in front of the garden gate. Road and building layouts are regular. That's why the highest value was obtained in this building. Agios Panteleimonas Greek Orthodox Church also shows high compactness, slightly less than the mosque, indicating a similarly regular layout. Kuzguncuk Bet Yaakov Synagogue follows with a moderate compactness value, suggesting slightly less regularity in the layout compared to the first two.

The lowest compactness value of point 3 among the buildings was obtained in the Surp Krikor Lusavoric Armenian Church. This is due to the irregular geometry of the buildings around it, which creates a less compact arrangement.

Table 24: Point 3-In the Gate- Circularity Value

Religious Buildings	Point 3-In the Gate-Circularity Value
Kuzguncuk Mosque	77,87
Agios Panteleimonas Greek Orthodox Church	82,24
Surp Krikor Lusavoric Armenian Church	135,97
Kuzguncuk Bet Yaakov Synagogue	89,17

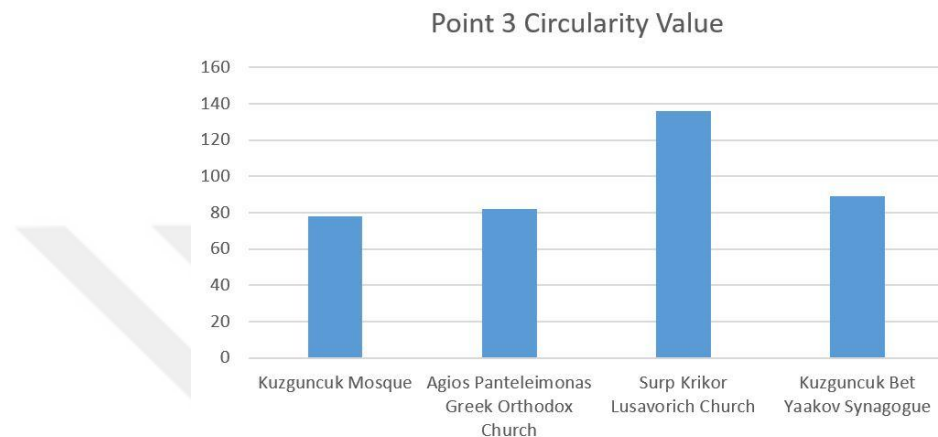


Figure 108: Point 3 Circularity Value Chart

- The first highest value is Surp Krikor Lusavoric Armenian Church. (135,97)
- The second highest value is Kuzguncuk Bet Yaakov Synagogue. (89,17)
- The third highest value is Agios Panteleimonas Greek Orthodox Church. (82,24)
- The fourth highest value is Kuzguncuk Mosque. (77,87)

Among the Point 3 values, the highest circularity value was obtained in the Surp Krikor Lusavoric Armenian Church. The interior space is closer to this point, causing more complex connections. This point has a connection to both the street and the interior. Its connection with the interior creates a complex circulation area. Kuzguncuk Bet Yaakov Synagogue has the second highest value, indicating complex circulation, but less so than the Armenian church. Agios Panteleimonas Greek Orthodox Church follows with a slightly lower circularity, suggesting easier navigation compared to the first two.

Among the Point 3 values, the lowest circularity value was obtained in the Kuzguncuk Mosque. This low value is due to the point being far from the building's interior, primarily connecting only to the street, which simplifies the circulation.

Table 25: Point 3-In the Gate- Mean Radial Value

Religious Buildings	Point 3-In the Gate- Mean Radial Value
Kuzguncuk Mosque	16,78
Agios Panteleimonas Greek Orthodox Church	17,27
Surp Krikor Lusavoric Armenian Church	17,74
Kuzguncuk Bet Yaakov Synagogue	18,33

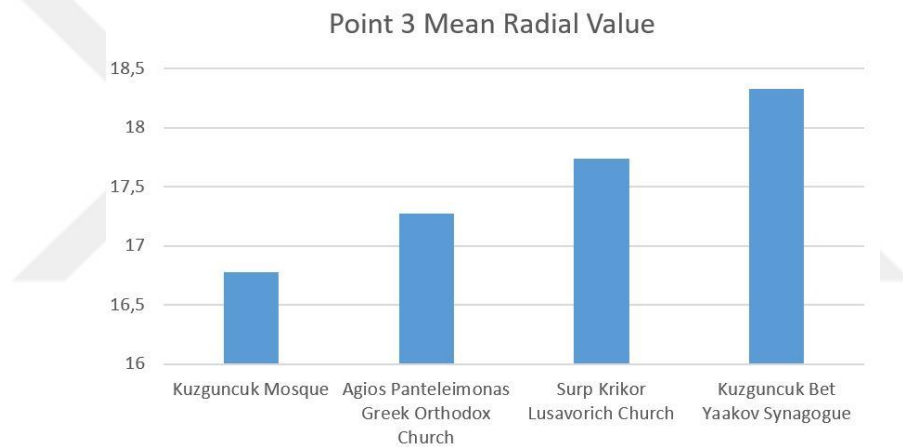


Figure 109: Point 3-In the Gate- Mean Radial Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (18,33)
- The second highest value is Surp Krikor Lusavoric Armenian Church. (17,74)
- The third highest value is Agios Panteleimonas Greek Orthodox Church. (17,27)
- The fourth highest value is Kuzguncuk Mosque. (16,78)

Among the third point, the highest mean radial value was obtained in Kuzguncuk Bet Yaakov Synagogue. The reason for this is that the connection to other areas from the garden door of the building is simpler and more direct. This point is a 14 m wide road

that continues linearly and joins three separate streets. Surp Krikor Lusavoric Armenian Church follows closely, showing good connectivity but slightly less than the synagogue. Agios Panteleimonas Greek Orthodox Church also demonstrated good connectivity, with values only slightly lower than the Armenian church.

The building with the lowest mean radial value among the third points is the Kuzguncuk Mosque. The connections in front of the mosque garden gate are complicated because the mosque garden has two gates, which complicates the exit. One of the reasons for this is that the connection to the mosque's interior follows a long and complex path. For this reason, the mean radial value decreases.

Table 26: Point 3-In the Gate- Connectivity Value

Religious Buildings	Point 3-In the Gate-Connectivity Value
Kuzguncuk Mosque	1791
Agios Panteleimonas Greek Orthodox Church	1762
Surp Krikor Lusavoric Armenian Church	1719
Kuzguncuk Bet Yaakov Synagogue	1754

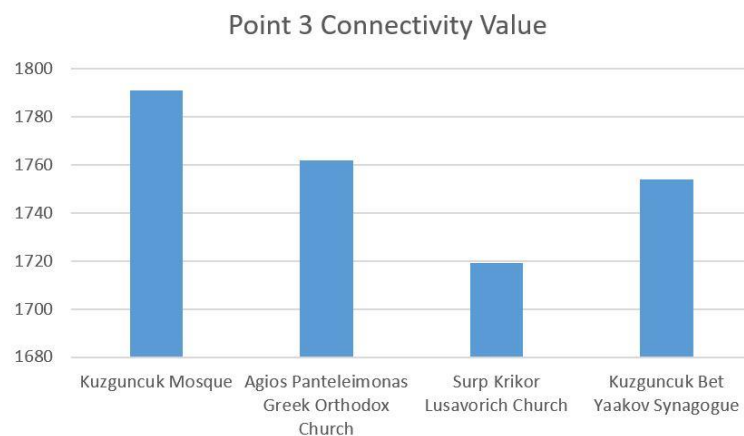


Figure 110: Point 3-In the Gate- Connectivity Value Chart

- The first highest value is Kuzguncuk Mosque. (1791)
- The second highest value is Agios Panteleimonas Greek Orthodox Church. (1762)

- The third highest value is Kuzguncuk Bet Yaakov Synagogue. (1754)
- The fourth highest value is Surp Krikor Lusavoric Armenian Church. (1719)

The building with the highest connectivity value among point 3 values is Kuzguncuk Mosque. It shows strong connections between this point and other places around it. Accessibility from the point in front of the garden gate is stronger than other point 3 locations. The Agios Panteleimonas Greek Orthodox Church and the Bet Yaakov Synagogue have similar values, both indicating good connectivity, though slightly less than the mosque.

The building with the lowest value is the Surp Krikor Lusavoric Church because the garden wall limits the connections from the building garden to the environment.

Table 27: Point 3-In the Gate- Integration Value

Religious Buildings	Point 3-In the Gate-Integration Value
Kuzguncuk Mosque	4648079,12
Agios Panteleimonas Greek Orthodox Church	5016980,72
Surp Krikor Lusavoric Armenian Church	3421093,19
Kuzguncuk Bet Yaakov Synagogue	3267930,38

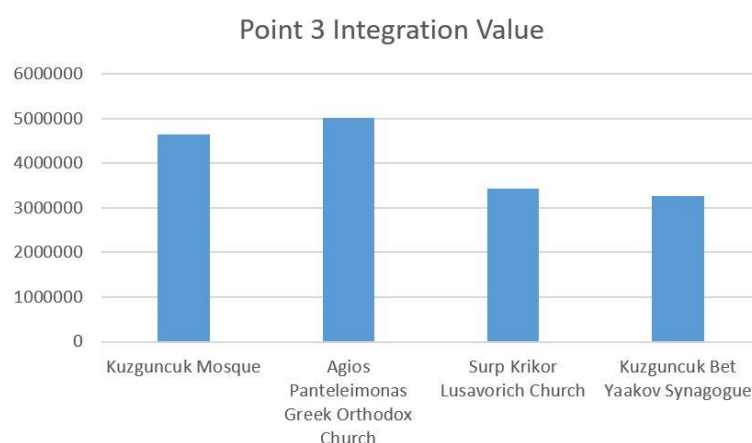


Figure 111: Point 3-In the Gate- Integration Value Chart

- The first highest value is Agios Panteleimonas Greek Orthodox Church. (5016980,72)
- The second highest value is Kuzguncuk Mosque. (4648079,12)
- The third highest value is Surp Krikor Lusavoric Armenian Church. (3421093,19)
- The fourth highest value is Kuzguncuk Bet Yaakov Synagogue. (3267930,38)

Among the buildings, the highest integration value of point 3 was obtained in the Agios Panteleimonas Church. This point has a good view of the garden of the building and has a strong connection with other areas on the linear İcadiye Street. The second highest integration value is found in Kuzguncuk Mosque, followed by the Surp Krikor Lusavoric Armenian Church.

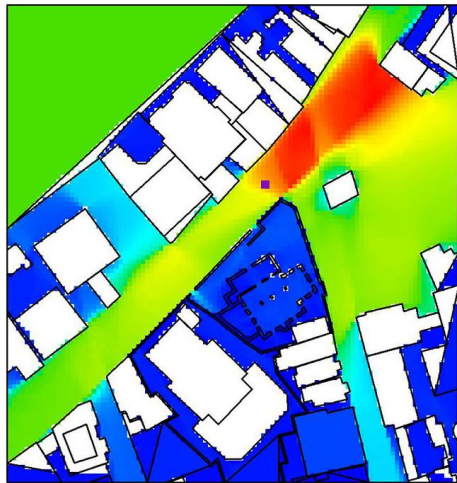
The lowest point 3 integration value among the buildings was obtained in the Kuzguncuk Bet Yaakov Synagogue. This is because the point in front of the garden gate is connected to the street that curves with an intersection instead of a linear street.

5.5. Point 4 Analysis- In the Street

Point 4 in space analysis is taken from the intersection closest to the buildings. This offers a broader perspective on the relationship of the ritual space with its surroundings. The intersection symbolizes the connection of the space with the surrounding community and other social areas. Analyzing this point can reveal the impact of the ritual space's location within the city and its accessibility on visitor flow. Additionally, it evaluates the visibility of the space in a social context and the ease of transportation to it. Isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, connectivity, and integration values on the street of the building were obtained. In the collage below, the syntax maps of these parameters are shown

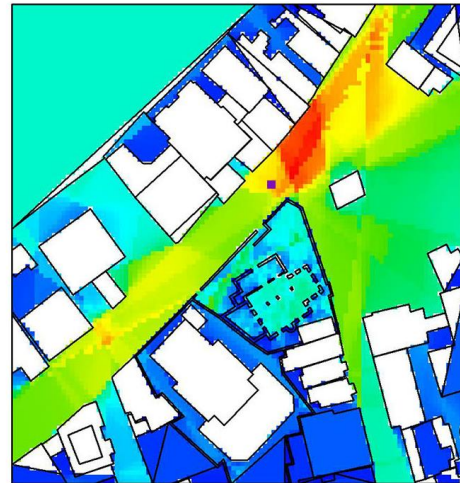
respectively on the building plans where point 4 is marked. At the end of the section, each parameter value of point 4 was tabulated, and comments were made between buildings.

5.5.1. Kuzguncuk Mosque Point 4 Analysis the Street



ISOVIST AREA

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Isovist Area
Point 4	2220,12



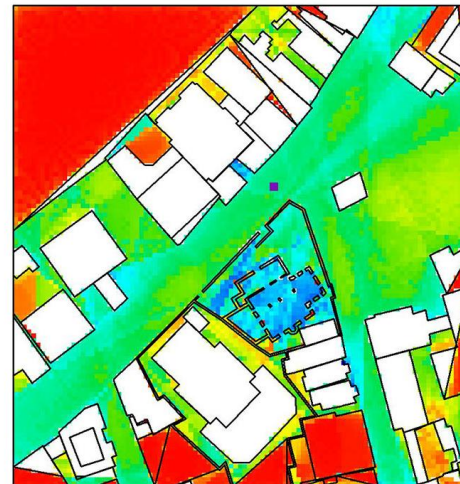
ISOVIST PERIMETER

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Isovist Perimeter
Point 4	432,06



MEAN DEPTH

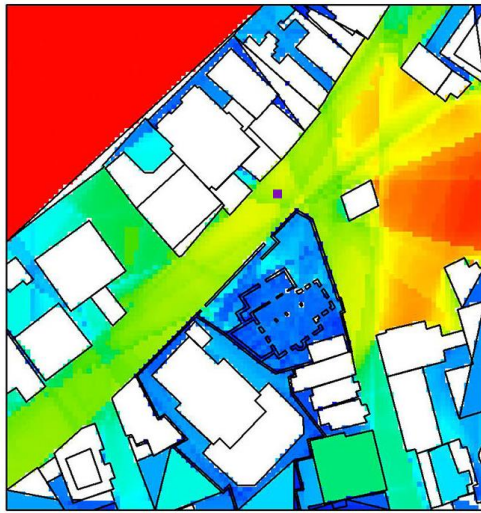
RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Mean Depth
Point 4	1,84



OCCUSIVITY

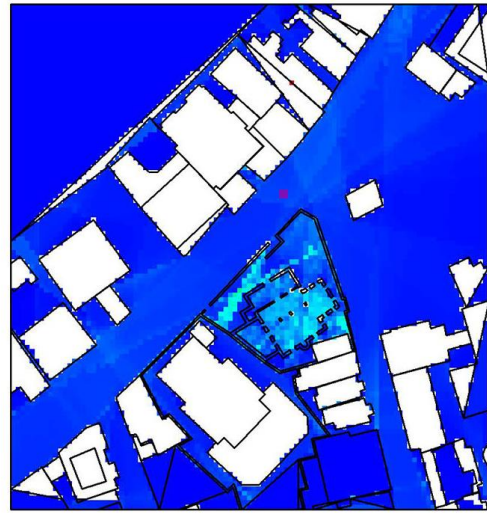
RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Occlusivity
Point 4	0,48

Figure 112: Isovist Area, Isovist Perimeter, Mean Depth, Occlusivity values (Point 4) of Kuzguncuk Mosque



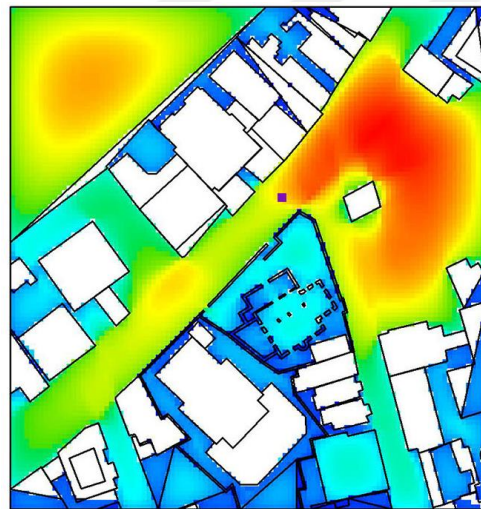
COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Compactness
Point 4	5,13



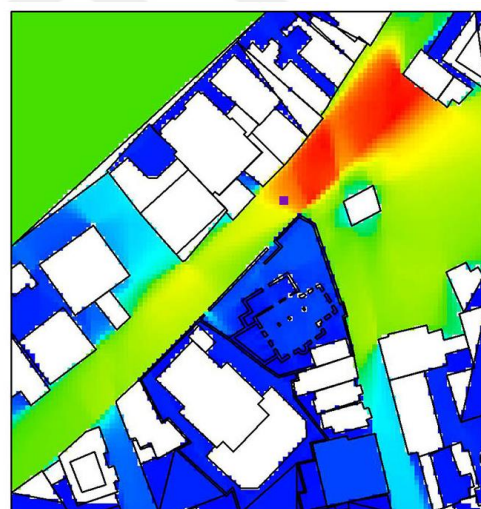
CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Circularity
Point 4	84,08



MEAN RADIAL

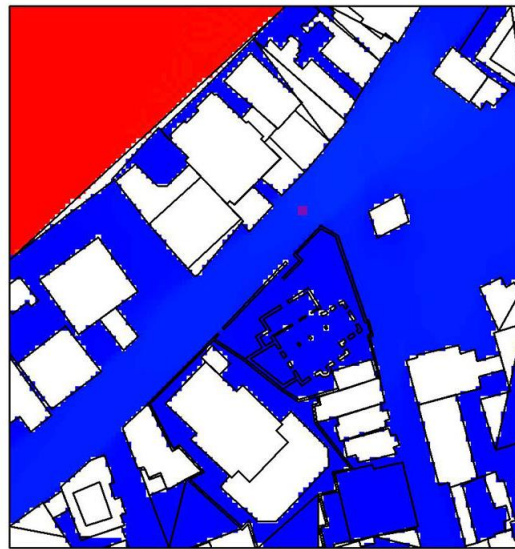
RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Mean Radial
Point 4	19,05



CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Connectivity
Point 4	2209

Figure 113: Compactness, Circularity, Mean Radial, Connectivity values (Point 4)
of Kuzguncuk Mosque

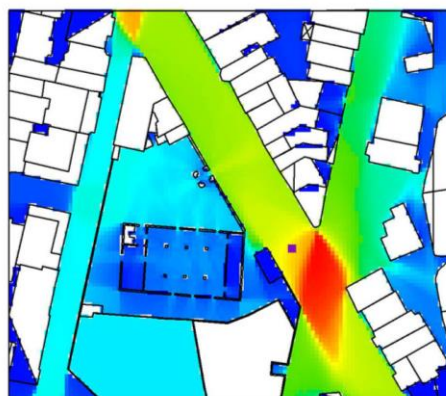


INTEGRATION

RITUAL BUILDING	ISOVIST PARAMETER
Kuzguncuk Cami	Integration
Point 4	5844338,32

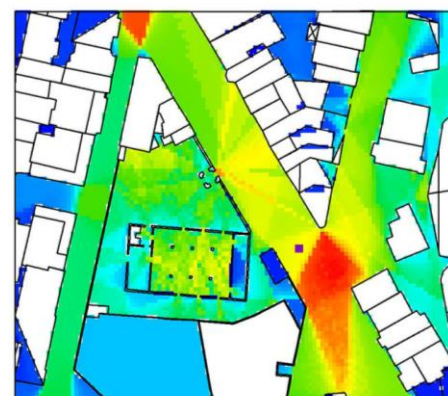
Figure 114: Integration value (Point 4) of Kuzguncuk Mosque

5.5.2. Agios Panteleimonas Greek Orthodox Church Point 4 Analysis-In the Street



ISOVIST AREA

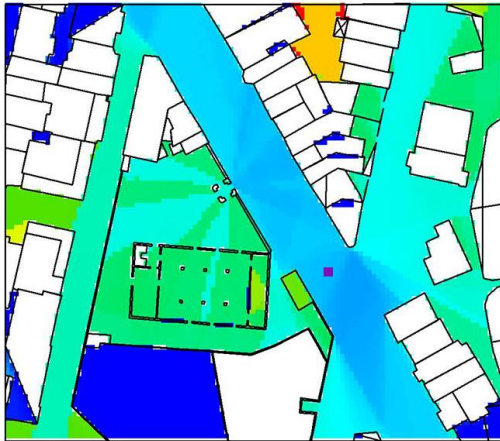
RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Isovist Area
Point 4	2088,09



ISOVIST PERIMETER

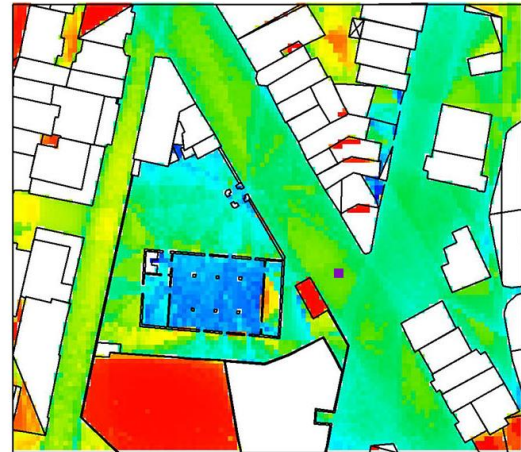
RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Isovist Perimeter
Point 4	366,74

Figure 115: Isovist Area, Isovist Perimeter values (Point 4) of Agios Panteleimonas Greek Orthodox Church



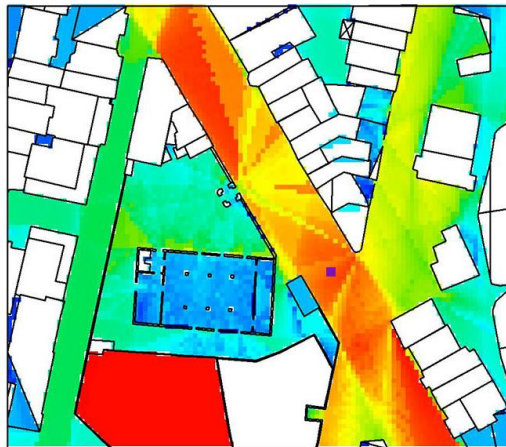
MEAN DEPTH

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Mean Depth
Point 4	1,99



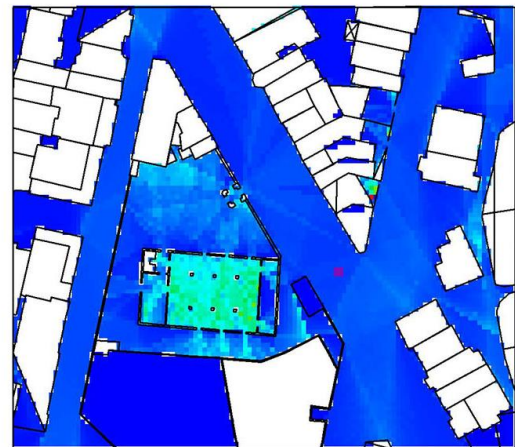
OCCUSIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Occlusivity
Point 4	0,57



COMPACTNESS

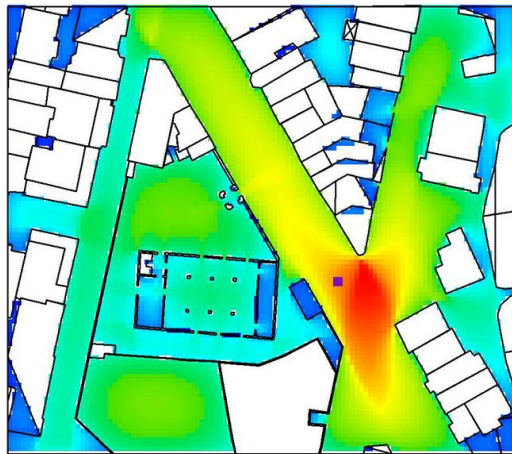
RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Compactness
Point 4	5,69



CIRCULARITY

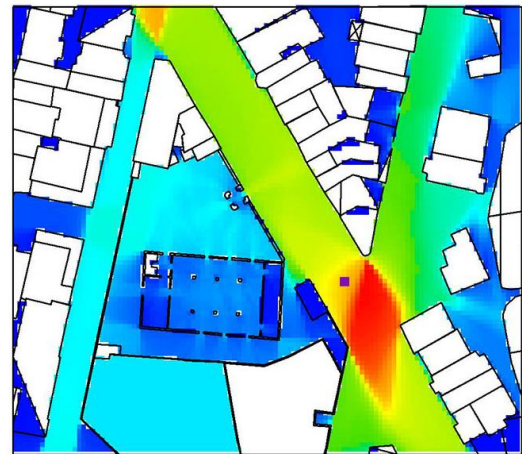
RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Circularity
Point 4	64,41

Figure 116: Mean Depth, Occlusivity, Compactness, Circularity values (Point 4) of
Agios Panteleimonas Greek Orthodox Church



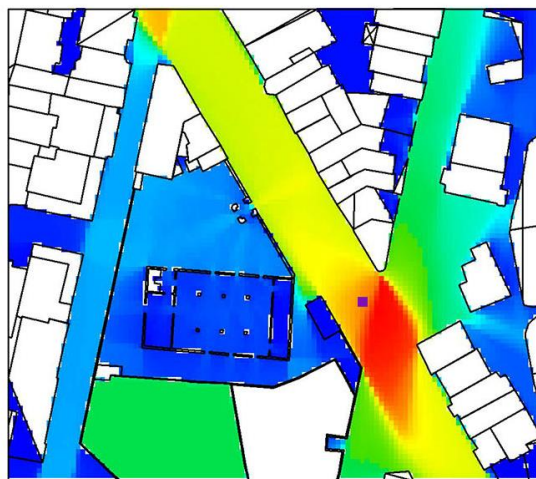
MEAN RADIAL

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Mean Radial
Point 4	20,58



CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Connectivity
Point 4	2082

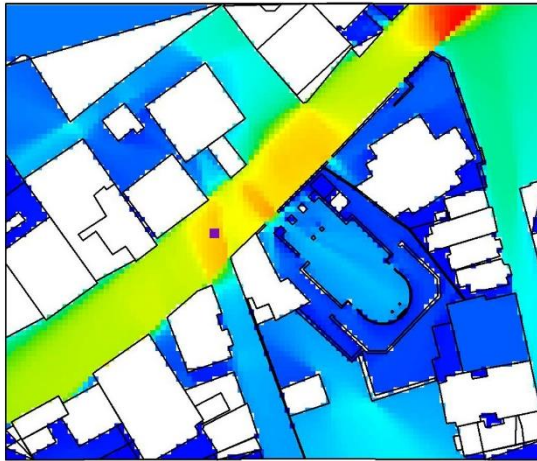


INTEGRATION

RITUAL BUILDING	ISOVIST PARAMETER
Agios Panteleimon C.	Integration
Point 4	5786412,19

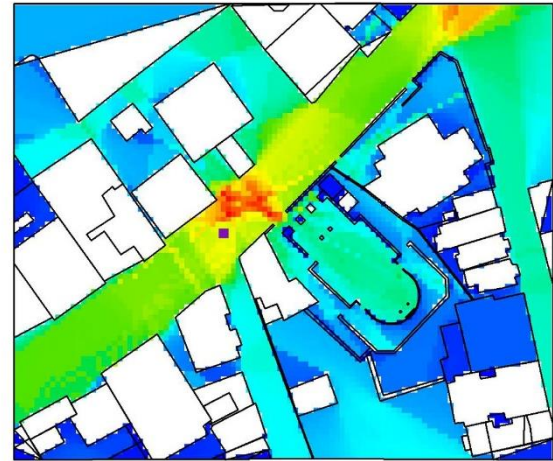
Figure 117: Mean Radial, Connectivity, Integration values (Point 4) of Agios Panteleimonas Greek Orthodox Church

5.5.3. Surp Krikor Lusavoric Armenian Church Point 4 Analysis-In the Street



ISOVIST AREA

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Isovist Area
Point 4	1673,71



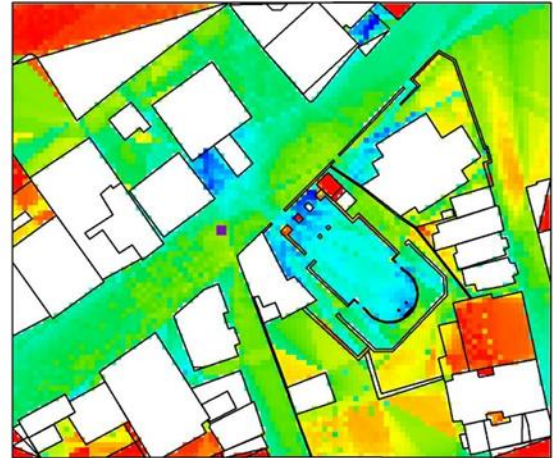
ISOVIST PERIMETER

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Isovist Perimeter
Point 4	377,01



MEAN DEPTH

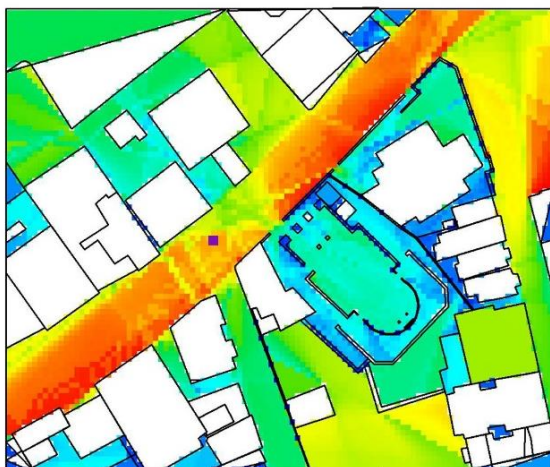
RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Mean Depth
Point 4	2,08



OCCUSIVITY

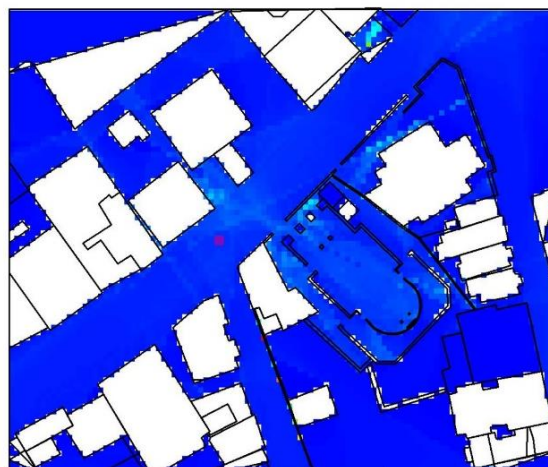
RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Occlusivity
Point 4	0,64

Figure 118: Isovist Area, Isovist Perimeter, Mean Depth, Occlusivity values (Point 4) of Surp Krikor Lusavoric Armenian Church



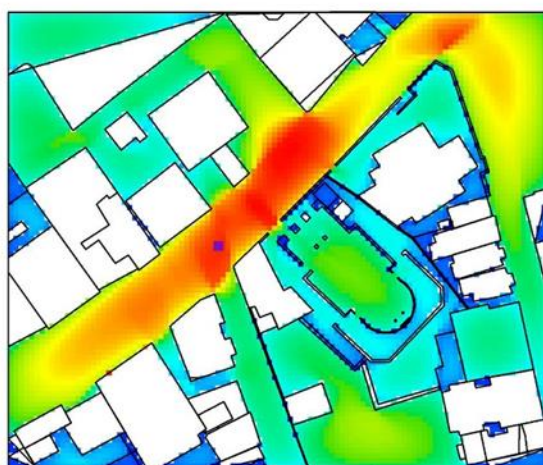
COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Compactness
Point 4	4,43



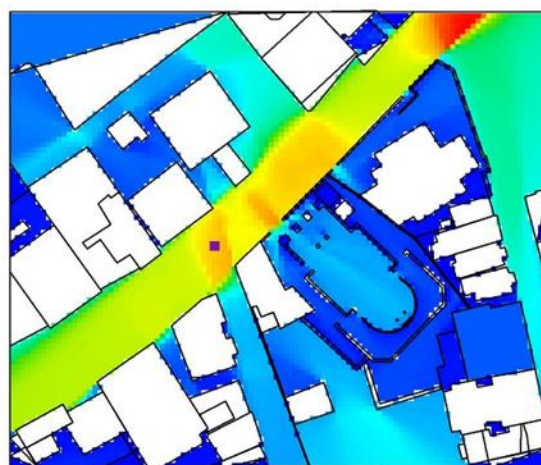
CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Circularity
Point 4	84,92



MEAN RADIAL

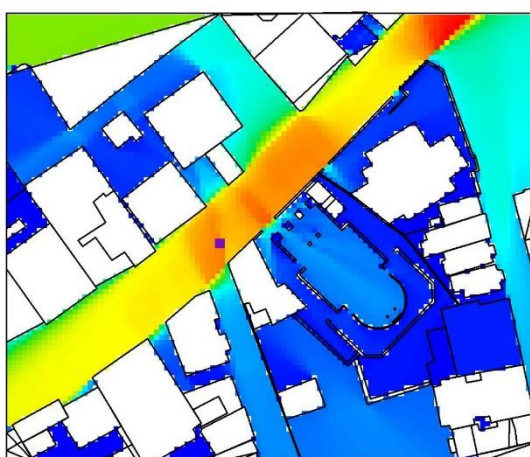
RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Mean Radial
Point 4	17,43



CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Connectivity
Point 4	1671

Figure 119: Compactness, Circularity, Mean Radial, Connectivity values (Point 4)
of Surp Krikor Lusavoric Armenian Church

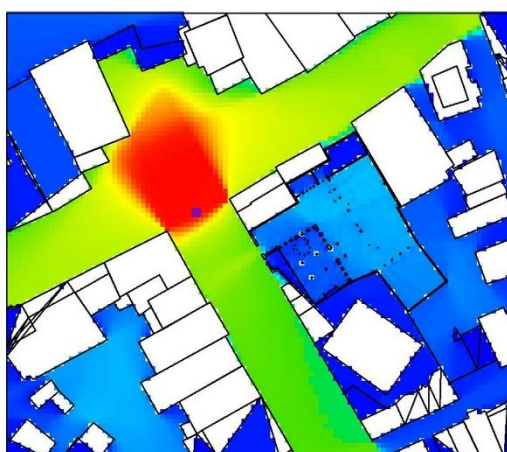


INTEGRATION

RITUAL BUILDING	ISOVIST PARAMETER
Surp Krikor L.A.Church	Integration
Point 4	3310626,07

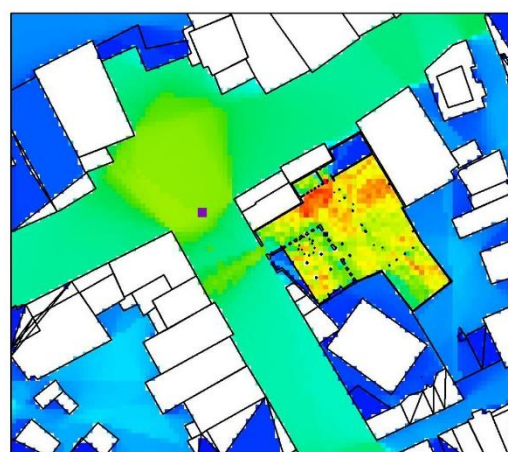
Figure 120: Integration value (Point 4) of Surp Krikor Lusavoric Armenian Church

5.5.4. Bet Yaakov Synagogue Point 4 Analysis the Street



ISOVIST AREA

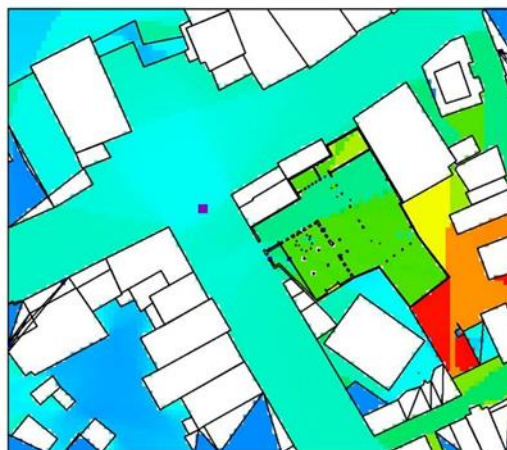
RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Isovist Area
Point 4	2822,05



ISOVIST PERIMETER

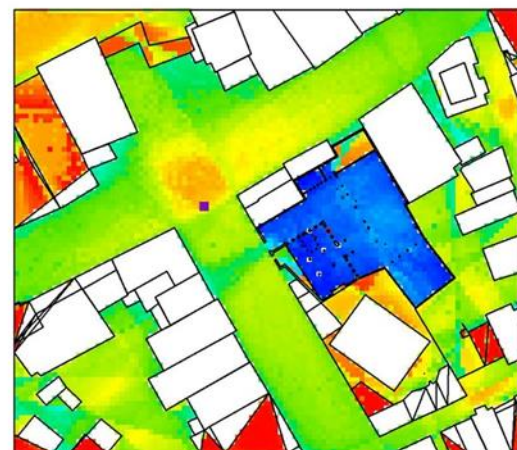
RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Isovist Perimeter
Point 4	414,27

Figure 121: Isovist Area, Isovist Perimeter values (Point 4) of Bet Yaakov Synagogue



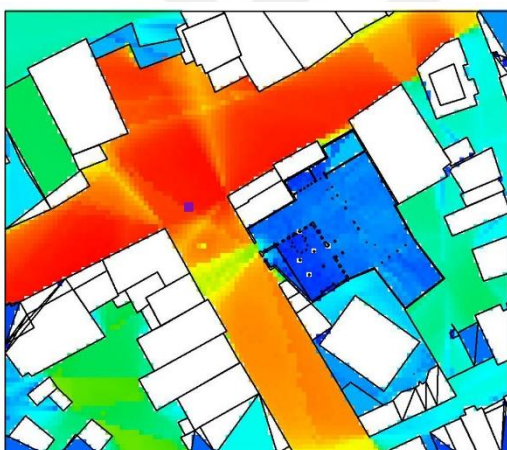
MEAN DEPTH

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Mean Depth
Point 4	1,93



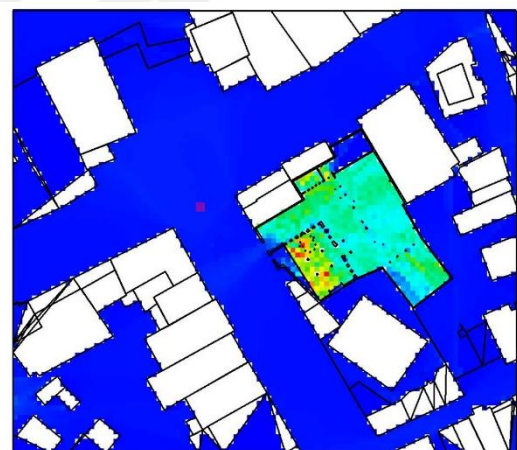
OCCLUSIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Occlusivity
Point 4	0,67



COMPACTNESS

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Compactness
Point 4	6,81

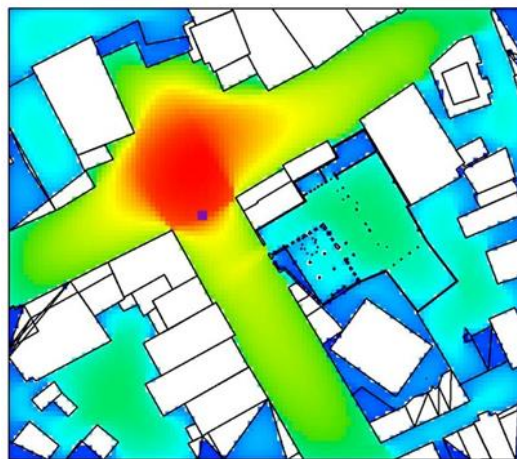


CIRCULARITY

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Circularity
Point 4	60,81

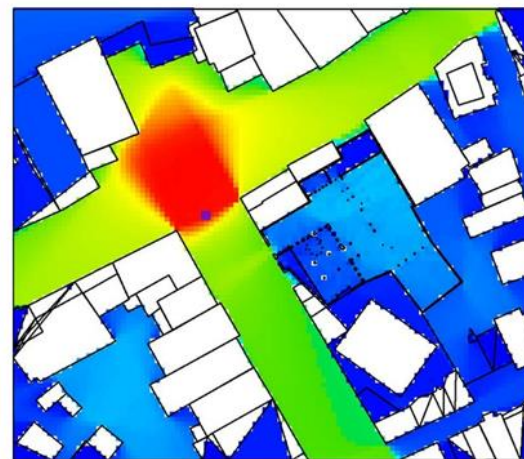
Figure 122: Mean Depth, Occlusivity, Compactness, Circularity values (Point 4) of

Bet Yaakov Synagogue



MEAN RADIAL

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Mean Radial
Point 4	25,45



CONNECTIVITY

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Connectivity
Point 4	2833



INTEGRATION

RITUAL BUILDING	ISOVIST PARAMETER
Bet Yaakov Synagogue	Integration
Point 4	5254916,73

Figure 123: Mean Radial, Connectivity, Integration values (Point 4) of Bet Yaakov Synagogue

5.5.5. Comparison of Point 4 in Ritual Examples

In this section, the isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, connectivity, and integration values of point 4 are tabulated, respectively, and comments are made between the buildings.

Table 28: Point 4-In the Street- Isovist Area Value

Religious Buildings	Point 4-In the Street- Isovist Area Value
Kuzguncuk Mosque	2220,12
Agios Panteleimonas Greek Orthodox Church	2088,09
Surp Krikor Lusavoric Armenian Church	1673,71
Kuzguncuk Bet Yaakov Synagogue	2822,05

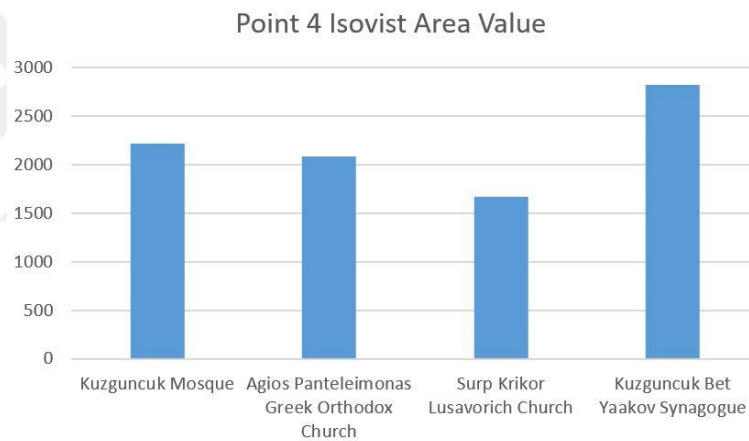


Figure 124: Point 4-In the Street- Isovist Area Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (2822,05)
- The second highest value is Kuzguncuk Mosque. (2220,12)
- The third highest value is Agios Panteleimonas Greek Orthodox Church. (2088,09)
- The fourth highest value is Surp Krikor Lusavoric Armenian Church. (1673,71)

Among the Point 4 values, the Kuzguncuk Bet Yaakov Synagogue has the highest isovist area. This is because the point is situated at the intersection of two streets,

providing a wider viewing angle compared to other points. Following this, the Kuzguncuk Mosque and the Agios Panteleimonas Greek Orthodox Church also demonstrate high isovist areas, reflecting their strategic locations.

Among the Point 4 values, the building with the lowest isovist area value belongs to the Surp Krikor Lusavoric Church. This is because although the point taken is at the junction of two streets, it has a less field of view than the others. The isovist area indicates the extent of visible space from a specific point, particularly from the nearest intersection to the religious building, highlighting how the layout of these buildings and their surrounding streets influence visibility.

Table 29: Point 4-In the Street- Isovist Perimeter Value

Religious Buildings	Point 4-In the Street- Isovist Perimeter Value
Kuzguncuk Mosque	432,06
Agios Panteleimonas Greek Orthodox Church	366,74
Surp Krikor Lusavoric Armenian Church	377,01
Kuzguncuk Bet Yaakov Synagogue	414,27

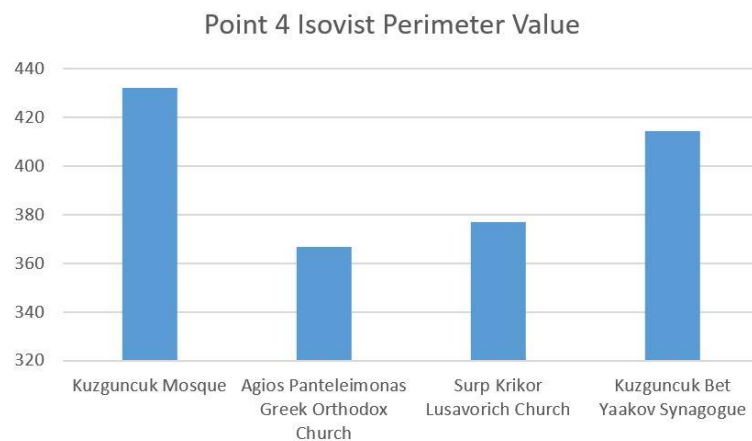


Figure 125: Point 4-In the Street- Isovist Perimeter Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (432,06)
- The second highest value is Kuzguncuk Mosque. (414,27)

- The third highest value is Surp Krikor Lusavoric Armenian Church. (377,01)
- The fourth highest value is Agios Panteleimonas Greek Orthodox Church. (366,74)

Among the points taken from the street, the highest value of the area's perimeter obtained in 360 degrees was recorded at the Kuzguncuk Bet Yaakov Synagogue. This point is where Kuzguncuk Çarşı Street meets İcadiye Street, providing the widest field of view from the street. The second highest value was found at the Kuzguncuk Mosque, followed by the Surp Krikor Lusavoric Armenian Church. The high isovist perimeter value at the Kuzguncuk Mosque can be attributed to its open courtyard and minimal obstructions, which allow for a broad field of view. In contrast, the Surp Krikor Lusavoric Armenian Church, despite having a more compact garden layout and being surrounded by structures, still maintains a higher isovist perimeter value due to its strategic positioning that provides better visibility from certain angles.

Conversely, the lowest isovist perimeter value among the street points was found at the Agios Panteleimonas Church. This is because İcadiye Street, where this point is located, creates a minimal surface area due to its linearity.

Table 30: Point 4-In the Street- Mean Depth Value

Religious Buildings	Point 4-In the Street- Mean Depth Value
Kuzguncuk Mosque	1,84
Agios Panteleimonas Greek Orthodox Church	1,99
Surp Krikor Lusavoric Armenian Church	2,08
Kuzguncuk Bet Yaakov Synagogue	1,93

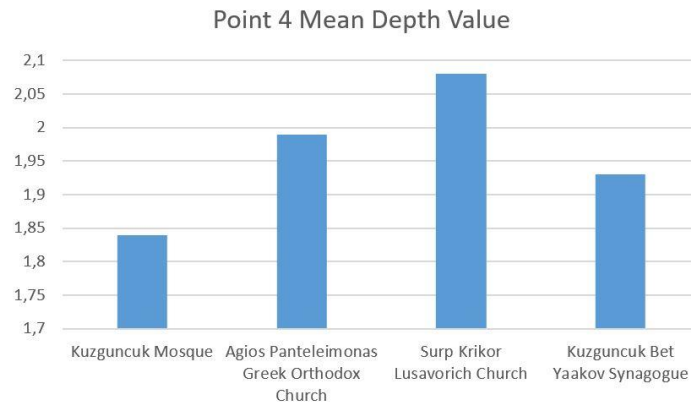


Figure 126: Point 4-In the Street- Mean Depth Value Chart

- The first highest value is Surp Krikor Lusavoric Armenian Church. (2,08)
- The second highest value is Agios Panteleimonas Greek Orthodox Church. (1,99)
- The third highest value is Kuzguncuk Bet Yaakov Synagogue. (1,93)
- The fourth highest value is Kuzguncuk Mosque. (1,84)

Among the point 4 values, the building with the highest mean depth is the Surp Krikor Lusavoric Church. The point taken from the street is high because this point is located at a less connected point than other points. The connection between these points is deep because it is less than that of other points. The second highest mean depth value is found at the Agios Panteleimonas Greek Orthodox Church, indicating a slightly higher complexity in its connections compared to the following buildings. The third highest mean depth value is observed at the Kuzguncuk Bet Yaakov Synagogue, which suggests moderate connectivity within its location.

The building with the lowest mean depth value of point 4 is the Kuzguncuk Mosque. This is because it is located at a point with wide connections due to the junction of two wide roads. These mean depth values highlight the varying levels of connectivity and accessibility among the different religious buildings, emphasizing the influence of

their specific locations and surrounding street networks on how integrated and navigable each site is.

Table 31: Point 4 In the Street- Occlusivity Value

Religious Buildings	Point 4 In the Street- Occlusivity Value
Kuzguncuk Mosque	0,48
Agios Panteleimonas Greek Orthodox Church	0,57
Surp Krikor Lusavoric Armenian Church	0,64
Kuzguncuk Bet Yaakov Synagogue	0,67

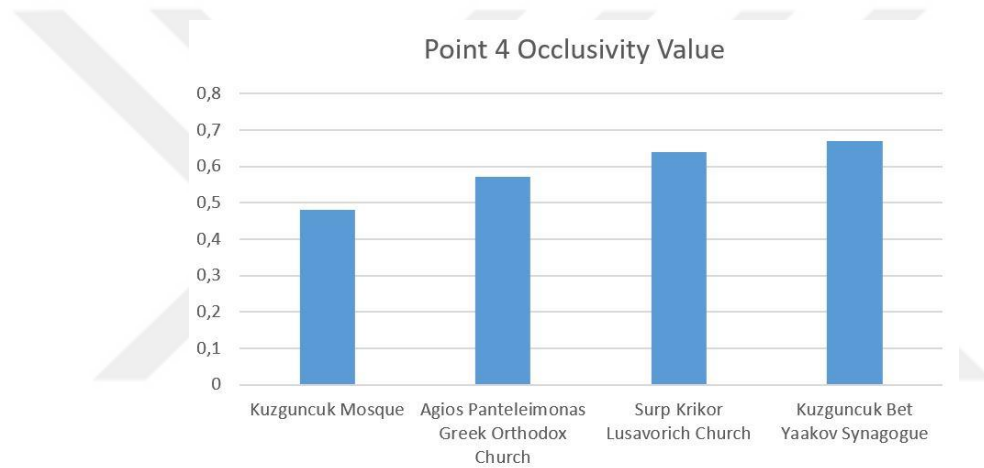


Figure 127: Point 4-In the Street- Occlusivity Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (0,67)
- The second highest value is Surp Krikor Lusavoric Armenian Church. (0,64)
- The third highest value is Agios Panteleimonas Greek Orthodox Church. (0,57)
- The fourth highest value is Kuzguncuk Mosque. (0,48)

The building with the highest occlusivity value among Point 4 values is Kuzguncuk Bet Yaakov Synagogue. The reason for this is that the point blocks the view of the junction of İcadiye Street and Kuzguncuk Çarşı Street. The second highest value is found at the Surp Krikor Lusavoric Armenian Church, followed by the Agios

Panteleimonas Greek Orthodox Church. These values indicate moderate levels of occlusivity, with some obstructions, such as surrounding buildings and garden walls, affecting the visibility at these points.

Among the buildings, the one with the lowest occlusivity value of point 4 is the Kuzguncuk Mosque. This is because the field of view of point 4 is quite clear compared to other points. There are minimal obstructions around this point compared to other points. These occlusivity values reflect how the physical layout and surrounding structures of these religious buildings influence the visual accessibility and openness at Point 4.

Table 32: Point 4-In the Street- Compactness Value

Religious Buildings	Point 4-In the Street- Compactness Value
Kuzguncuk Mosque	5,60
Agios Panteleimonas Greek Orthodox Church	6,28
Surp Krikor Lusavorich Armenian Church	4,41
Kuzguncuk Bet Yaakov Synagogue	6,65

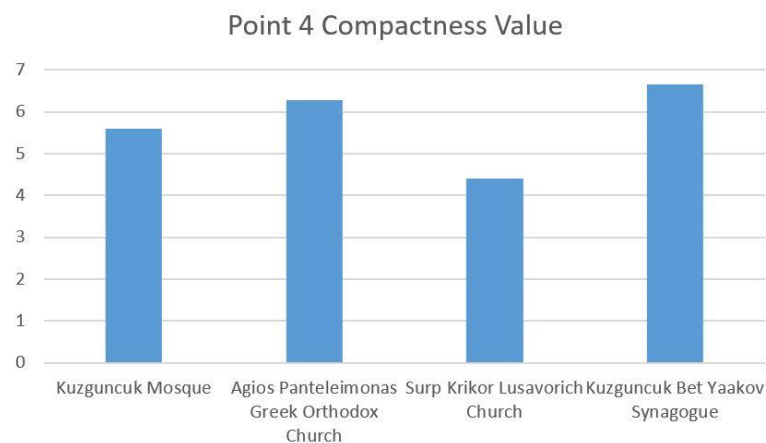


Figure 128: Point 4-In the Street- Compactness Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (6,65)
- The second highest value is Agios Panteleimonas Greek Orthodox Church. (6,28)

- The third highest value is Kuzguncuk Mosque. (5,60)
- The fourth highest value is Surp Krikor Lusavoric Armenian Church. (4,41)

The highest compactness value of point 4 among the buildings was obtained in Kuzguncuk Bet Yaakov Synagogue. This is due to the geometry of the area that this point sees. Roads connecting at right angles create the perception of a regular space. This value was high due to the regular layout of the houses on the roadside. The second highest value is found at the Agios Panteleimonas Greek Orthodox Church. This value can be attributed to the compact nature of the intersection where the church is located, providing a sense of order and regularity. The third highest value is at the Kuzguncuk Mosque, where the intersection also contributes to a high compactness value, though slightly less than the previous two buildings, due to a slightly more open layout.

The lowest compactness value of point 4 among the buildings was obtained in the Surp Krikor Lusavoric Armenian Church. This is due to the trapezoidal geometry of the houses at the intersection. In this sense, the perception of an orderly space is less than at other points.

Table 33: Point 4 In the Street- Circularity Value

Religious Buildings	Point 4 In the Street- Circularity Value
Kuzguncuk Mosque	84,08
Agios Panteleimonas Greek Orthodox Church	64,41
Surp Krikor Lusavoric Armenian Church	84,92
Kuzguncuk Bet Yaakov Synagogue	60,81

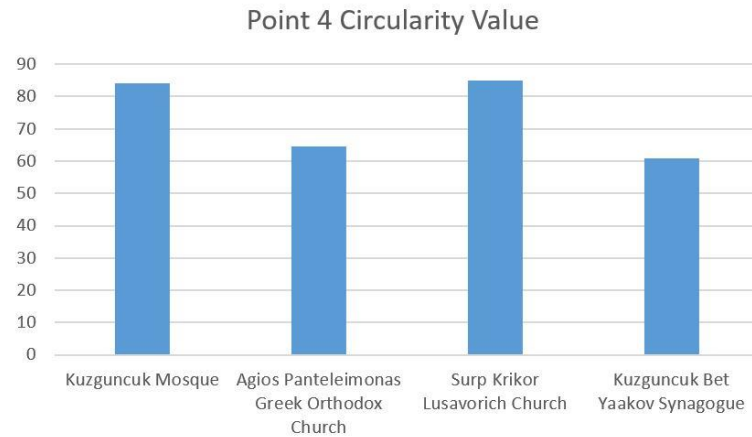


Figure 129: Point 4-In the Street- Circularity Value Chart

- The first highest value is Surp Krikor Lusavorich Church. (84,92)
- The second highest value is Kuzguncuk Mosque. (84,08)
- The third highest value is Agios Panteleimonas Greek Orthodox Church. (64,41)
- The fourth highest value is Kuzguncuk Bet Yaakov Synagogue. (60,81)

The highest circularity value among Point 4 values was obtained at Surp Krikor Lusavorich Church. This is due to having a wider field of view, resulting in more connections with the surroundings. The second highest value is found at the Kuzguncuk Mosque, with a notable difference compared to the third value. The third highest value is at the Agios Panteleimonas Greek Orthodox Church, which, along with the fourth value at Kuzguncuk Bet Yaakov Synagogue, shows relatively similar connectivity.

The lowest circularity value among Point 4 values was obtained at Kuzguncuk Bet Yaakov Synagogue. Despite its location on the busy İcadiye Street, the synagogue's connectivity is lower due to potential physical barriers such as building density and layout, which might limit direct connections from the point.

Table 34: Point 4-In the Street- Mean Radial Value

Religious Buildings	Point 4-In the Street- Mean Radial Value
Kuzguncuk Mosque	19,05
Agios Panteleimonas Greek Orthodox Church	20,58
Surp Krikor Lusavoric Armenian Church	17,43
Kuzguncuk Bet Yaakov Synagogue	25,45

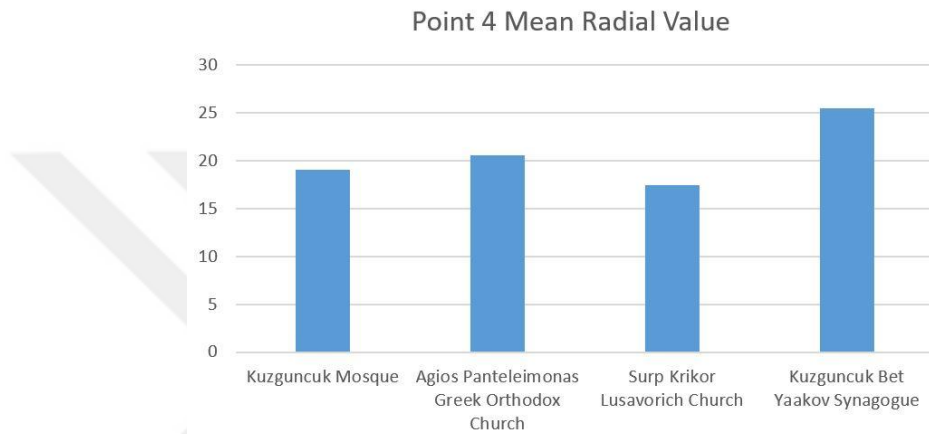


Figure 130: Point 4-In the Street- Mean Radial Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (25,45)
- The second highest value is Agios Panteleimonas Greek Orthodox Church. (20,58)
- The third highest value is Kuzguncuk Mosque. (19,05)
- The fourth highest value is Surp Krikor Lusavoric Armenian Church. (17,43)

Among the fourth points, the highest mean radial value was obtained in Kuzguncuk Bet Yaakov Synagogue. The reason for this is that the connection of this point to other areas is simpler and more direct. At this point, İcadiye Street merges with Kuzguncuk Çarşı Street. The location of the point is in the busiest area of Kuzguncuk. It has strong connections. The junction has a layout that does not cause complex connections. The second highest value is found at the Agios Panteleimonas Greek

Orthodox Church, followed closely by the Kuzguncuk Mosque. Both locations benefit from their strategic positions, with their values being quite similar.

The building with the lowest mean radial value among the fourth points is the Surp Krikor Lusavoric Church. The mean radial value is low at the intersection closest to Surp Krikor Lusavoric Armenian Church because the connections become more complicated. The irregular settlement of terraced houses around it complicates the connection with the environment.

Table 35: Point 4 In the Street- Connectivity Value

Religious Buildings	Point 4 In the Street-Connectivity Value
Kuzguncuk Mosque	2209
Agios Panteleimonas Greek Orthodox Church	2082
Surp Krikor Lusavoric Armenian Church	1671
Kuzguncuk Bet Yaakov Synagogue	2833

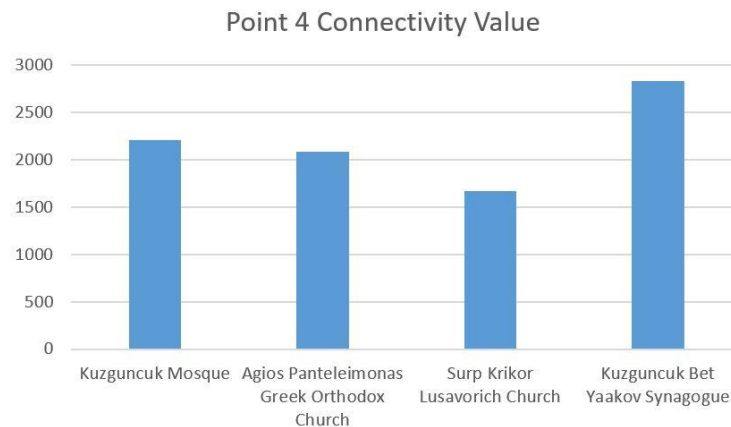


Figure 131: Point 4-In the Street- Connectivity Value Chart

- The first highest value is Kuzguncuk Bet Yaakov Synagogue. (2833)
- The second highest value is Kuzguncuk Mosque. (2209)
- The third highest value is Agios Panteleimonas Greek Orthodox Church. (2082)
- The fourth highest value is Surp Krikor Lusavoric Armenian Church. (1671)

The building with the highest connectivity value among point 4 values is the Bet Yaakov Synagogue. It shows strong connections between this point and other places around it. Accessibility from the point in the street is stronger than other point 4 locations. The second highest value is found at the Kuzguncuk Mosque, followed closely by the Agios Panteleimonas Greek Orthodox Church. Both locations exhibit strong connectivity due to their strategic positions.

The building with the lowest value is the Surp Krikor Lusavoric Church because the garden wall limits the connections from the building garden to the environment.

Table 36: Point 4 In the Street- Integration Value

Religious Buildings	Point 4- In the Street- Integration Value
Kuzguncuk Mosque	5844338,32
Agios Panteleimonas Greek Orthodox Church	5786412,19
Surp Krikor Lusavoric Armenian Church	3310626,07
Kuzguncuk Bet Yaakov Synagogue	5254916,73

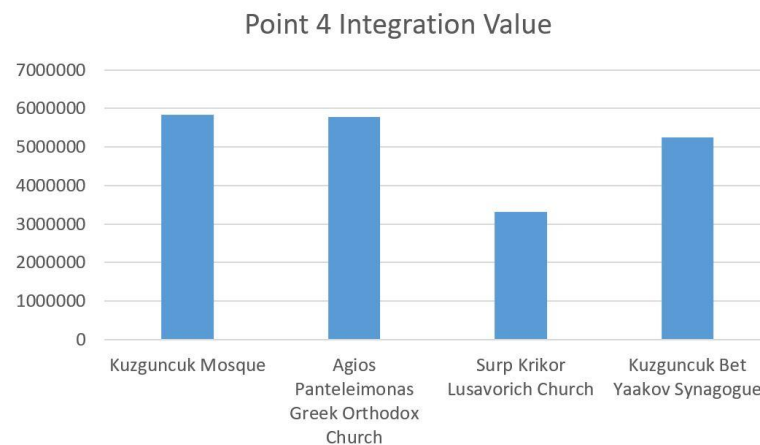


Figure 132: Point 4-In the Street- Integration Value Chart

- The first highest value is Kuzguncuk Mosque. (5844338,32)
- The second highest value is Agios Panteleimonas Greek Orthodox Church. (5786412,19)

- The third highest value is Kuzguncuk Bet Yaakov Synagogue. (5254916,73)
- The fourth highest value is Surp Krikor Lusavoric Armenian Church. (3310626,07)

Among the buildings, the highest integration value of point 4 was obtained in the Kuzguncuk Mosque. The reason for this is that point 4 was taken from the point where Kuzguncuk Çarşı Street meets Yenigün Street. The field of view is in an open place. The connection of this point with its surroundings is stronger than other points. There are also Agios Panteleimonas Church and Bet Yaakov Synagogue, which are very close to this value. This is because these points are located on a side street and are taken from strong places where connections with other streets begin.

Among the buildings, the lowest integration value of 4 was obtained in the Surp Krikor Lusavoric Church. The reason for this is that Üryanizade Street, where Kuzguncuk Çarşı Street meets, is a narrow street. At the same time, the connections at this point are weaker due to the small width of the streets to which this point is connected.

5.6. ALL POINTS ANALYSIS

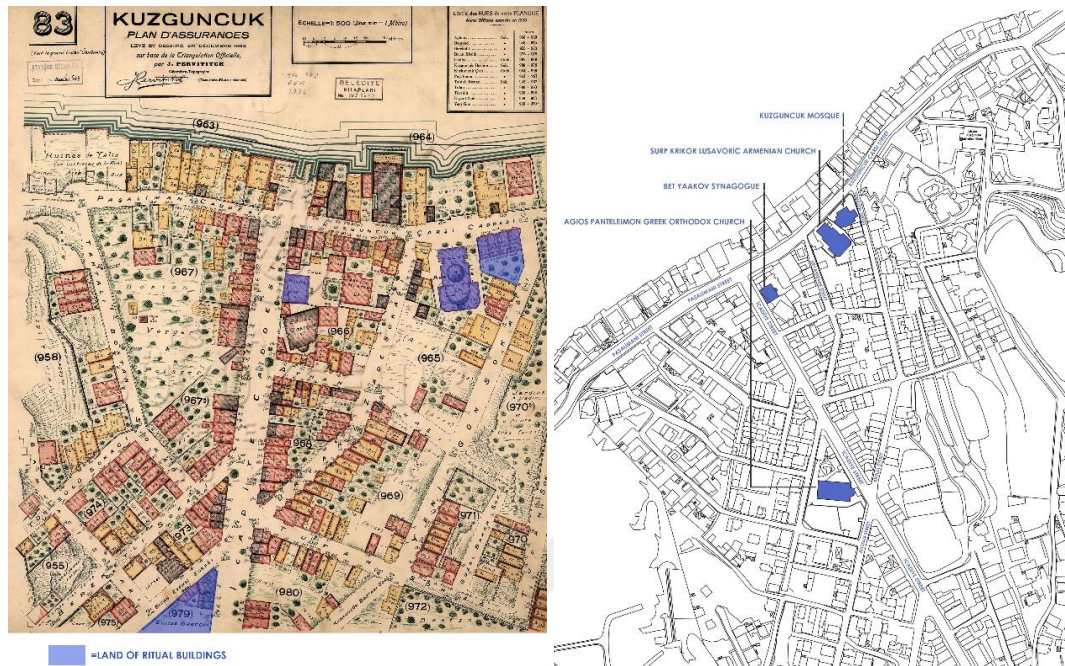


Figure 133: Location of Ritual Buildings in Pervititch Map, and Location of Ritual Buildings in Pervititch Map, Location of Ritual Buildings in Kuzguncuk Map

5.6.1.Kuzguncuk Mosque

In this section, the isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial and integration parameter values of 4 points taken from Kuzguncuk Mosque were compared between the points. Comments were made on the results of the parameter values.

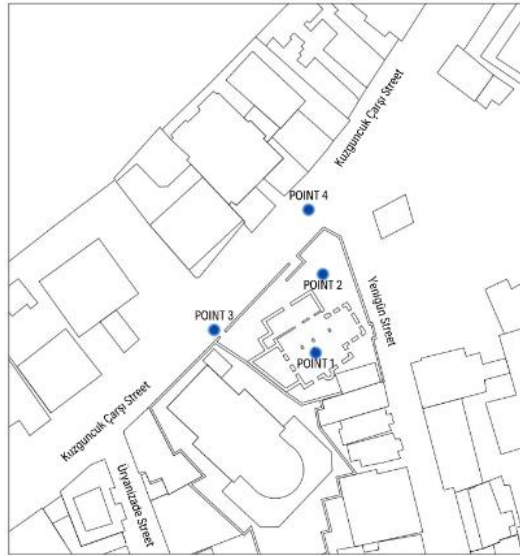


Figure 134: Location of points taken from the synagogue

5.6.1.1. Isovist Area

The point with the lowest isovist value among the points in the mosque is Point 1. There are three columns in the interior. This situation was caused by the columns in the interior. Columns are elements that block the field of view. Among the points in the mosque, the point with the highest isovist value is Point 4. The field of view around Point 4 is quite clear compared to other points. It has a broad perspective. This situation increased the isovist area value.

Table 37: Isovist Area Value

	ISOVIST PARAMETER
Kuzguncuk Mosque	Isovist Area
Point 1-Inside the Building	167,12
Point 2 In the Garden	218,51
Point 3-In the Gate	1791,51
Point 4 In the Street	2220,12

5.6.1.2. Isovist Perimeter

Among the points taken from the mosque, the point with the lowest isovist perimeter value is the 2nd point. The low isovist perimeter value of Point 2 indicates that the field of view of this point is regular. Point 2 is a point taken from the garden of the building. It is located overlooking the garden wall and the mosque wall. The walls surrounding the mosque garden continue linearly. This ensures an orderly perception of space. Therefore, no irregularity increases the surface area. The point with the highest isovist perimeter value is the 4th point. Point 4 is a point taken from the Kuzguncuk Çarşı street. However, the large green area creates a perception of irregularity in vision. Buildings in the visible area create more surface area. Therefore, its environmental value is the highest among mosque points.

Table 38: Isovist Perimeter Value

ISOVIST PARAMETER	
Kuzguncuk Mosque	Isovist Perimeter
Point 1-Inside the Building	187,05
Point 2 In the Garden	148,08
Point 3-In the Gate	373,52
Point 4 In the Street	432,06

5.6.1.3. Mean Depth

The highest mean depth value was obtained at Point 1. This indicates that there are more obstacles indoors. The second highest value was obtained at Point 2. 2nd point is more accessible than 1st point because it is in the garden. However, it is a more difficult area to reach than other points. The lowest mean depth value was obtained at Point 4.

Since Point 4 is a point taken from the beginning of the street, the environment has minimal obstructive elements. This point is easier or faster to reach other areas.

Table 39: Mean Depth Value

	GRAPH MEASURES
Kuzguncuk Mosque	Mean Depth
Point 1-Inside the Building	3,02
Point 2 In the Garden	2,81
Point 3-In the Gate	1,89
Point 4 In the Street	1,84

5.6.1.4.Occlusivity

Point 1 has the lowest occlusivity value among the points taken from the mosque. This shows that the interior has a regular plan. Parallel walls surrounding the interior create the perception of a regular space. The point with the second highest value among the occlusivity values of the mosque points is the 4th point. This situation shows that Kuzguncuk Çarşı Street has a regular settlement. At point 4, it was concluded that few building settlements or other obstructive elements on the street restrict the view of the surroundings. The highest value was obtained at point 3. This is 3rd point because it was taken from Kuzguncuk Çarşı Street in front of the garden gate. The occlusivity value is high because the buildings and corners on the roadblock the view around.

Table 40: Occlusivity Value

	ISOVIST PARAMETER
Kuzguncuk Mosque	Occlusivity
Point 1-Inside the Building	0,27
Point 2 In the Garden	0,49
Point 3-In the Gate	0,61
Point 4 In the Street	0,48

5.6.1.5. Compactness

Point 1 has the lowest value. Point 1 having the lowest value indicates irregularity of indoor circulation. It indicates that circulation routes are more complex, offering more options. The reason for this may be the columns located indoors. Point 4 has the highest value. The 4th point is high because point 4 is in an unobstructed street pattern. In this case, it can be said that the connections around Point 4 are not complex. Reaching other points faster and more directly from point 4 is possible.

Table 41: Compactness Value

	ISOVIST PARAMETER
Kuzguncuk Mosque	Compactness
Point 1-Inside the Building	0,89
Point 2-In the Garden	1,47
Point 3-In the Gate	4,79
Point 4-In the Street	5,13

5.6.1.6.Circularity

The highest value was obtained at Point 1. This is because the interior creates a complex circulation space. The presence of columns and the large number of openings increases the complexity. The lowest value was obtained at Point 3. 3rd point is in a linear area as it is taken from the street in front of the garden gate. So, it has a simple and direct circulation. The fact that Point 3 has the lowest circularity value among the values of the points taken from the mosque shows that the area at this point is easier to navigate.

Table 42: Circularity Value

	ISOVIST PARAMETER
Kuzguncuk Mosque	Circularity
Point 1-Inside the Building	209,34
Point 2-In the Garden	100,35
Point 3-In the Gate	77,87
Point 4-In the Street	84,08

5.6.1.7.Mean Radial

The highest mean radial value was obtained at point 4. Since Point 4 is a point taken from the street, it has a high mean radial value. Because it has direct links. Point 1 has the lowest mean radial value. This is due to the complexity of direct connections within the building. For example, the transition from the center of the building to the outside is made by passing through two different areas. There is an indirect passage inside the building. Therefore, the mean radial value of point 1 was the lowest.

Table 43: Mean Radial Value

	RADIAL DATA
Kuzguncuk Mosque	Mean Radial
Point 1-Inside the Building	6,74
Point 2-In the Garden	7,34
Point 3-In the Gate	16,78
Point 4-In the Street	19,05

5.6.1.8.Connectivity

The highest connectivity value was obtained at Point 4. It shows strong connections between this point and other points around it. The connection is strong. A higher connectivity value may indicate that a point is more important or centrally located than others. Therefore Point 4 is more important than 3rd from a hierarchical perspective. The lowest connectivity value was obtained at Point 1. Because walls and columns restrict the connections from the building center to the surroundings.

Table 44: Connectivity Value

	GRAPH MEASURES
Kuzguncuk Mosque	Connectivity
Point 1-Inside the Building	164
Point 2-In the Garden	221
Point 3-In the Gate	1791
Point 4-In the Street	2209

5.6.1.9.Integration

The highest integration value was obtained at Point 4. This indicates that the 4th point has strong and effective connections with other areas. The lowest value was obtained at Point 1. Because the connection from the center of the building to other places is weak compared to other points. Walls and columns block the connection.

Table 45: Integration Value

	GRAPH MEASURES
Kuzguncuk Mosque	Integration
Point 1-Inside the Building	176089,39
Point 2-In the Garden	296066,86
Point 3-In the Gate	4648079,12
Point 4-In the Street	5844338,32

5.6.2.Agios Panteleimonas Greek Orthodox Church

In this section, the isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, and integration parameter values of 4 points taken from Agios Panteleimon Greek Orthodox Church were compared between the points. Comments were made on the results of the parameter values.



Figure 135: Location of points taken from the synagogue

5.6.2.1. Isovist Area

The highest Isovist area value was obtained at Point 4. Since Point 4 is the point taken from the street, it can be said that there is more open space and fewer obstacles around it. Point 4 is located at an intersection connecting to three separate streets. These are Bostan Street, Behlül Street and İcadiye Street. The field of view is the widest point, and this has caused the isovist area value to increase. The lowest value was obtained at Point 1. This is because the center of the building has the narrowest field of view among the points. The field of view of the point taken from the garden is greater than Point 1. This is because the garden has a larger area than the interior and fewer obstacles at eye level. The value of 3rd point is much higher than Point 1 and Point 2. Point 3 has the effect of being picked up from İcadiye Street. Because it sees a wider area. Since Points 3 and 4 are points taken from İcadiye street, their values are close and high.

Table 46: Isovist Area Value

	ISOVIST PARAMETER
Agios Panteleimonas Greek Orthodox Church	Isovist Area
Point 1-Inside the Building	414,55
Point 2-In the Garden	655,17
Point 3-In the Gate	1763,16
Point 4-In the Street	2088,09

5.6.2.2. Isovist Perimeter

The point with the lowest Isovist perimeter value is the 2nd point. The lower isovist perimeter value of point 2 indicates that the field of view of this point is more regular. In the garden, only garden walls form boundaries at eye level as an obstacle. There is no recessed surface in the area visible to the garden that would increase the surface area, so the isovist perimeter value was low. The highest point of Isovist perimeter value is the 3rd point. Point 3 is the point in the front of the garden gate from the street. One side of this point overlooks the entrance under the clock tower used as a garden gate. The other side of this point looks at the linear buildings on the street. The columns of the clock tower have increased the surface area in the vicinity of this point. This caused the isovist perimeter value to increase. The lowest value after Point 2 is Point 1. This indicates that the building interior plan is orderly and clear. The presence of only columns as obstructing elements at eye level in the plan and surrounding the space with parallel walls creates the perception of an orderly space. This reduces the isovist perimeter value.

Table 47: Isovist Perimeter Value

	ISOVIST PARAMETER
Agios Panteleimonas Greek Orthodox Church	Isovist Perimeter
Point 1-Inside the Building	319,97
Point 2-In the Garden	248,38
Point 3-In the Gate	380,80
Point 4-In the Street	366,74

5.6.2.3. Mean Depth

The highest mean depth value was obtained at Point 1. This indicates that there are more obstacles indoors. The second highest value was obtained at Point 2. Point 2 is more accessible than Point 1 because it is in the garden. However, it is in a more difficult area to reach than other points. Since Point 4 is a point taken from the beginning of the street, the environment has minimal obstructive elements. The lowest mean depth value was obtained at Point 3. Taking Point 3 from a place close to the garden gate on İcadiye Street reduced the mean depth value. It is more accessible than other points. This point is easier or faster to reach other areas.

Table 48: Mean Depth Value

	GRAPH MEASURES
Agios Panteleimonas Greek Orthodox Church	Mean Depth
Point 1-Inside the Building	3,27
Point 2-In the Garden	2,53
Point 3-In the Gate	1,95
Point 4-In the Street	1,99

5.6.2.4. Occlusivity

Point 1 has the lowest occlusivity value. This indicates that the building has an open plan arrangement. Since Point 1 is taken from the center of the building's interior, it is concluded that few interior regulations or other obstructive elements restrict the view around it. Point 2 has a lower occlusivity value than Point 3 and Point 4. This may indicate that the point taken in the garden has a clearer field of view. The highest value was obtained at Point 4. This is because Point 4 is located on the corner connecting three streets. These are Behlül Street, Bostan Street and İcadiye Street. The corners block the view around, so the occlusivity value is high.

Table 49: Occlusivity Value

	ISOVIST PARAMETER
Agios Panteleimonas Greek Orthodox Church	Occlusivity
Point 1-Inside the Building	0,23
Point 2-In the Garden	0,42
Point 3-In the Gate	0,46
Point 4-In the Street	0,57

5.6.2.5. Compactness

Point 1 has the lowest value. Point 1 having the lowest value indicates irregularity of indoor circulation. It indicates that circulation routes are more complex, offering more options. The reason for this may be the columns located indoors. Point 4 has the highest value. The reason why Point 4 is high is because Point 4 is in an unobstructed street pattern. In this case, it can be said that the connections around Point 4 are not complex. Reaching other points faster and more directly from Point 4 is possible.

Table 50: Compactness Value

	ISOVIST PARAMETER
Agios Panteleimonas Greek Orthodox Church	Compactness
Point 1-Inside the Building	1,29
Point 2-In the Garden	2,63
Point 3-In the Gate	4,63
Point 4-In the Street	5,69

5.6.2.6. Circularity

The highest value was obtained at point 1. This is because the wall and columns separating the naos and narthex section within the building create a complex circulation area. The lowest value was obtained at Point 4. 4th point has a simple and direct circulation as it is taken from the middle of a linear street. Lower circularity values may indicate that an area is more easily navigable.

Table 51: Circularity Value

Agios Panteleimonas Greek Orthodox Church	ISOVIST PARAMETER
	Circularity
Point 1-Inside the Building	246,97
Point 2-In the Garden	94,16
Point 3-In the Gate	82,24
Point 4-In the Street	64,41

5.6.2.7. Mean Radial

The highest mean radial value was obtained at Point 4. Since Point 4 is a point taken from the street, it has a high mean radial value. Because it has direct links. Point 1 has the lowest mean radial value. This is due to the complexity of direct connections within the building. For example, the transition from the center of the building to the outside is made by passing through two different areas. There is an indirect passage inside the building. Therefore, the mean radial value of Point 1 was the lowest.

Table 52: Mean Radial Value

	RADIAL DATA
Agios Panteleimonas Greek Orthodox Church	Mean Radial
Point 1-Inside the Building	10,61
Point 2-In the Garden	13,73
Point 3-In the Gate	17,27
Point 4-In the Street	20,58

5.6.2.8.Connectivity

The highest connectivity value was obtained at Point 4. It shows strong connections between this point and other points around it. Because Point 4 is taken from the middle of İcadiye street and a little further on it connects to three different streets. The connection is strong. Point 1 has the lowest connectivity value among the points taken from the street. The connectivity value can also express the hierarchy between circulation paths. A higher connectivity value may indicate that a point is more important or centrally located than others. Therefore, when we compare the streets where 3rd point and 4th point are located, we can say that 4th point is more important from a hierarchical perspective. At the same time, when we look at the plan, we can say that Point 4 has a higher connectivity value by connecting to three roads. The lowest connectivity value was obtained at Point 1. Because walls and columns restrict the connections from the building center to the environment.

Table 53: Connectivity Value

	GRAPH MEASURES
Agios Panteleimonas Greek Orthodox Church	Connectivity
Point 1-Inside the Building	413
Point 2-In the Garden	651
Point 3-In the Gate	1762
Point 4-In the Street	2082

5.6.2.9.Integration

The highest integration value was obtained at Point 4. This indicates that the 4th point has strong and effective connections with other areas. The lowest value was obtained at Point 1. Because the connection from the center of the building to other places is weak compared to other points. Walls and columns prevent the connection.

Table 54: Integration Value

	GRAPH MEASURES
Agios Panteleimonas Greek Orthodox Church	Integration
Point 1-Inside the Building	571201,39
Point 2-In the Garden	1137631,56
Point 3-In the Gate	5016980,72
Point 4-In the Street	5786412,19

5.6.3. Surp Krikor Lusavoric Armenian Church

In this section, the isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, and integration parameter values of 4 points taken from Surp Krikor Lusavoric Armenian Church were compared between the points. Comments were made on the results of the parameter values.

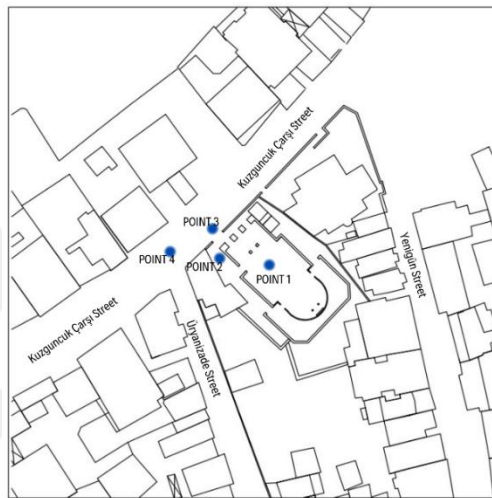


Figure 136: Location of points taken from the synagogue

5.6.3.1. Isovist Area

The highest Isovist area value was obtained at point 3. The field of view around Point 3 is quite clear. Because Point 3 is in front of the garden gate, some buildings limit the view. A more open street perspective has increased the isovist area value. The lowest Isovist area value was obtained at the 2nd point. Since Point 2 was taken from the garden, high garden walls in this area blocked the view. At the same time, the garden area is between the garden wall, the Ohan Ohanyan Hall used for the church and the church building. The garden area is narrow and the isovist area value is low due to these elements obstructing the view around it.

Table 55: Isovist Area Value

	ISOVIST PARAMETER
Surp Krikor Lusavoric Armenian Church	Isovist Area
Point 1-Inside the Building	332,46
Point 2-In the Garden	155,52
Point 3-In the Gate	1714,17
Point 4-In the Street	1673,71

5.6.3.2. Isovist Perimeter

The point with the lowest Isovist perimeter value is 1. The lower isovist perimeter value of Point 1 indicates that the field of view of this point is more regular. The only obstacles at eye level in the interior are the columns and the church walls that form the borders. The building interior plan is orderly and clear. The isovist perimeter value is low since there are flat surfaces instead of recessed surfaces. The highest Isovist perimeter value is the 3rd point. Since Point 3 is a point taken in front of the garden gate, it sees both the front of the church and the buildings on the street. This creates more surface area. That's why the perimeter value was high.

Table 56: Isovist Perimeter Value

	ISOVIST PARAMETER
Surp Krikor Lusavoric Armenian Church	Isovist Perimeter
Point 1-Inside the Building	166,03
Point 2-In the Garden	176,61
Point 3-In the Gate	482,78
Point 4-In the Street	377,01

5.6.3.3.Mean Depth

The highest mean depth value was obtained at Point 1. This means that the center of the interior is less accessible. To reach the naos, the center of the building from the outside, you must pass through the narthex. There is a depth compared to other points. The second highest value was obtained at Point 2. Point 2 is more accessible than point 1 because it is in the garden. However, it is in a more difficult area to reach compared to points 3 and 4. The lowest value was obtained at Point 3 and Point 4. Point 3 was taken from a place close to the garden gate on the street and Point 3 has a lower mean depth value than Point 4, which is located at the intersection of Kuzguncuk Çarşı Street and Üryanizade street. This is because the number of buildings around 3rd point is less than that of 4th point. Since 4th point is a point taken from the intersection of the Kuzguncuk Çarşı street and Üryanizade street, there are minimal obstructive elements in the environment. This point is easier or faster to reach other areas.

Table 57: Mean Depth Value

	GRAPH MEASURES
Surp Krikor Lusavoric Armenian Church	Mean Depth
Point 1-Inside the Building	3,07
Point 2-In the Garden	2,60
Point 3-In the Gate	1,97
Point 4-In the Street	2,08

5.6.3.4.Occlusivity

The occlusivity value of Point 2 taken from the interior is the lowest. This shows that the garden of the building has an open plan arrangement. It means that the point taken from the garden is visible. Because the point taken from the garden is in an area that can be seen from the outside. Since 1st point is taken from the center of the interior of the building, more elements such as walls and columns obstruct the view around it than Point 2. Point 4 has the highest occlusivity value because point 4 is in an area at the corner of two different streets. This value may have been high due to the buildings in the intersection around Point 4.

Table 58: Occlusivity Value

	ISOVIST PARAMETER
Surp Krikor Lusavoric Armenian Church	Occlusivity
Point 1-Inside the Building	0,46
Point 2-In the Garden	0,27
Point 3-In the Gate	0,47
Point 4-In the Street	0,64

5.6.3.5.Compactness

Point 2 has the lowest value. The fact that Point 2 has the lowest value indicates irregularity of circulation in the garden. It indicates that circulation routes are more complex, offering more options. This may be due to the shape of the garden. Point 4 has the highest value. The 4th point is high because Point 4 is located in an unobstructed street pattern. In this case, it can be said that the connections around 4th point are not complex. Reaching other points faster and more directly from Point 4 is possible.

Table 59: Compactness Value

	ISOVIST PARAMETER
Surp Krikor Lusavoric Armenian Church	Compactness
Point 1-Inside the Building	2,00
Point 2-In the Garden	0,88
Point 3-In the Gate	3,55
Point 4-In the Street	4,43

5.6.3.6. *Circularity*

The highest value was obtained at point 2. This is because the shape of the garden creates a complex circulation area. The garden surrounding the church's facade facing the roadside does not expand to the back of the church. Therefore, the garden covers a narrow area from the two side facades to the church's front facade. The lowest value was obtained at Point 1. Point 1 has a simple and direct circulation because it is taken from inside the building. Low circularity values may indicate that an area is more easily navigable.

Table 60: Circularity Value

	ISOVIST PARAMETER
Surp Krikor Lusavoric Armenian Church	Circularity
Point 1-Inside the Building	82,91
Point 2-In the Garden	200,56
Point 3-In the Gate	135,97
Point 4-In the Street	84,92

5.6.3.7. *Mean Radial*

The highest mean radial value was obtained at Point 3. Since Point 3 is a point taken from the Kuzguncuk Çarşı street, it has a high mean radial value. Because it has direct links. Point 2 has the lowest mean radial value. This is due to the complexity of direct connections within the garden. For example, the transition from the garden to the church can be made from two places. Therefore, the mean radial value of point 2 was the lowest.

Table 61: Mean Radial Value

	RADIAL DATA
Surp Krikor Lusavoric Armenian Church	Mean Radial
Point 1-Inside the Building	9,65
Point 2-In the Garden	4,72
Point 3-In the Gate	17,74
Point 4-In the Street	17,43

5.6.3.8.Connectivity

The highest connectivity value was obtained at Point 4. It shows strong connections between this point and other points around it. Because point 4 was taken from the middle of the Kuzguncuk Çarşı street and connects to Üryanizade street. The connection is strong. Point 2 has the lowest connectivity value among the points taken from the streets. The lowest connectivity value was obtained at Point 2. Because the garden wall and the church building restrict the connections from the garden to the environment.

Table 62: Connectivity Value

	GRAPH MEASURES
Surp Krikor Lusavoric Armenian Church	Connectivity
Point 1-Inside the Building	331
Point 2-In the Garden	153
Point 3-In the Gate	1719
Point 4-In the Street	1671

5.6.3.9.Integration

The highest integration value was obtained at Point 4. This indicates that the 4th point has strong and effective connections with other areas. The lowest value was obtained at point 2. Because the connection from the garden of the building to other places is weak compared to other points. The walls surrounding the church and the columns inside prevent the connection.

Table 63: Integration Value

	GRAPH MEASURES
Surp Krikor Lusavoric Armenian Church	Integration
Point 1-Inside the Building	461043,60
Point 2-In the Garden	244624,88
Point 3-In the Gate	3421093,19
Point 4-In the Street	3310626,07

5.6.4.Kuzguncuk Bet Yaakov Synagogue

In this section, the isovist area, isovist perimeter, mean depth, occlusivity, compactness, circularity, mean radial, and integration parameter values of 4 points taken from Bet Yaakov Synagogue were compared between the points. Comments were made on the results of the parameter values.

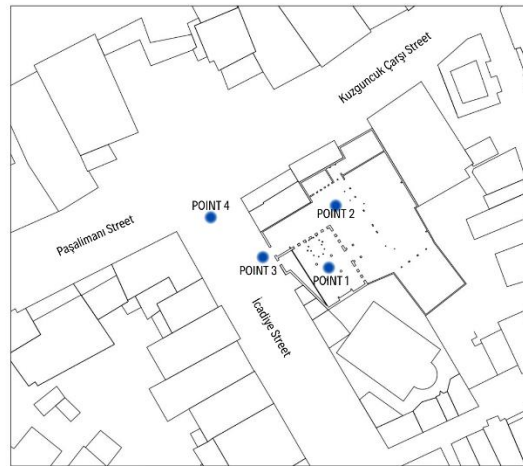


Figure 137: Location of points taken from the synagogue

5.6.4.1. Isovist Area

The lowest isovist area value is at point 1, possibly due to the abundance of columns in the interior. There are twenty-five wooden columns in the interior. Columns are elements that block the field of view. The highest Isovist area value was obtained at point 4. The field of view around 4th point is quite clear. It has a broad perspective. This situation increased the isovist area value.

Table 64: Isovist Area Value

	ISOVIST PARAMETER
Kuzguncuk Bet Yaakov Synagogue	Isovist Area
Point 1-Inside the Building	266,19
Point 2-In the Garden	509,53
Point 3-In the Gate	1752,34
Point 4-In the Street	2822,05

5.6.4.2. Isovist Perimeter

The lowest Isovist perimeter value is at point 3. The low isovist perimeter value of Point 3 indicates that the field of view of this point is regular. The buildings on the linear street are arranged in the same direction and rows. This provides a regular street perspective. Therefore, there are no irregularities that increase the surface area. The point with the highest Isovist perimeter value is the 2nd point. Point 2 is a point taken from the garden. In the area seen by Point 2, there are different units of the synagogue such as a restaurant and a wedding hall. The surface area created by each unit due to its location is more than other points. That's why the perimeter value was high.

Table 65: Isovist Perimeter Value

	ISOVIST PARAMETER
Kuzguncuk Bet Yaakov Synagogue	Isovist Perimeter
Point 1-Inside the Building	486,54
Point 2-In the Garden	621,23
Point 3-In the Gate	395,30
Point 4-In the Street	414,27

5.6.4.3. Mean Depth

The highest average depth value was obtained at Point 1. This means that the center of the interior is less accessible. To reach the center of the building from the outside, you must pass through the garden. There is a depth compared to other points. The lowest value was obtained at Point 4. Point 4 was taken from where Kuzguncuk Çarşı Street meets İcadiye Street. At this point, obstructive elements in the environment are at a minimum level. It is easier or faster to reach other areas from this point.

Table 66: Mean Depth Value

	GRAPH MEASURES
Kuzguncuk Bet Yaakov Synagogue	Mean Depth
Point 1-Inside the Building	3,72
Point 2-In the Garden	2,92
Point 3-In the Gate	2,22
Point 4-In the Street	1,93

5.6.4.4. Occlusivity

The occlusivity value of point 1 taken from the interior is the lowest. This indicates that the interior of the building has an open plan arrangement. It indicates that the point taken from the center of the interior is visible. Because the point taken from the garden is in an area that can be seen from the outside. Point 4 has the highest closing value. Because the 4th point is located at the corner where Kuzguncuk Çarşı Street meets İcadiye Street. This value may have been high due to the buildings in the intersection around Point 4.

Table 67: Occlusivity Value

	ISOVIST PARAMETER
Kuzguncuk Bet Yaakov Synagogue	Occlusivity
Point 1-Inside the Building	0,10
Point 2-In the Garden	0,14
Point 3-In the Gate	0,48
Point 4-In the Street	0,67

5.6.4.5.Compactness

Point 1 has the lowest value. Point 1 having the lowest value indicates irregularity of indoor circulation. It indicates that indoor circulation pathways are more complex, offering more options. This may be due to the abundance of openings in the interior. The 4th point has the highest value among the points. The reason why Point 4 is high is because Point 4 is in an unobstructed street pattern. In this case, it can be said that the connections around Point 4 are not complex. Reaching other points faster and more directly from Point 4 is possible.

Table 68: Compactness Value

ISOVIST PARAMETER	
Kuzguncuk Bet Yaakov Synagogue	Compactness
Point 1-Inside the Building	0,55
Point 2-In the Garden	0,82
Point 3-In the Gate	4,43
Point 4-In the Street	6,81

5.6.4.6.Circularity

The highest value was obtained at Point 1. This is because the abundance of columns in the interior creates a complex circulation area. The lowest value was obtained at Point 4. Point 4 has a simple and direct circulation as it is taken from the middle of a linear street. Lower circularity values may indicate that an area is more easily navigable.

Table 69: Circularity Value

	ISOVIST PARAMETER
Kuzguncuk Bet Yaakov Synagogue	Circularity
Point 1-Inside the Building	884,39
Point 2-In the Garden	757,42
Point 3-In the Gate	89,17
Point 4-In the Street	60,81

5.6.4.7. Mean Radial

The highest mean radial value was obtained at Point 4. Since Point 4 is a point taken from the street, it has a high mean radial value. Because it has direct links. 1st point has the lowest mean radial value. This is due to the complexity of direct connections within the synagogue. The multitude of openings in the synagogue causes complicated connection. Therefore, the mean radial value of point 1 was the lowest.

Table 70: Mean Radial Value

	RADIAL DATA
Kuzguncuk Bet Yaakov Synagogue	Mean Radial
Point 1-Inside the Building	7,64
Point 2-In the Garden	10,90
Point 3-In the Gate	18,33
Point 4-In the Street	25,45

5.6.4.8.Connectivity

The highest connectivity value was obtained at Point 4. It shows strong connections between this point and other points around it. Because 4th point is taken from the middle of the street. This point is located at the intersection of Kuzguncuk Çarşı street and İcadiye street. The connection is strong. The lowest connectivity value was obtained at 1st point. Because the multitude of columns may block the connections from the interior to the environment.

Table 71: Connectivity Value

Kuzguncuk Bet Yaakov Synagogue	GRAPH MEASURES
	Connectivity
Point 1-Inside the Building	270
Point 2-In the Garden	512
Point 3-In the Gate	1754
Point 4-In the Street	2833

5.6.4.9.Integration

The highest integration value was obtained at Point 4. This indicates that the 4th point has strong and effective connections with other areas. The lowest value was obtained at point 1. Because the connection from the center of the synagogue to other places is weak compared to other points. The walls surrounding the synagogue and the columns inside the interior prevent the connection.

Table 72: Integration Value

	GRAPH MEASURES
Kuzguncuk Bet Yaakov Synagogue	Integration
Point 1-Inside the Building	248211,78
Point 2-In the Garden	546550,12
Point 3-In the Gate	3267930,38
Point 4-In the Street	5254916,73

5.6.5.Comparison of Syntactic Parameters According to Points

5.6.5.1. Isovist Area

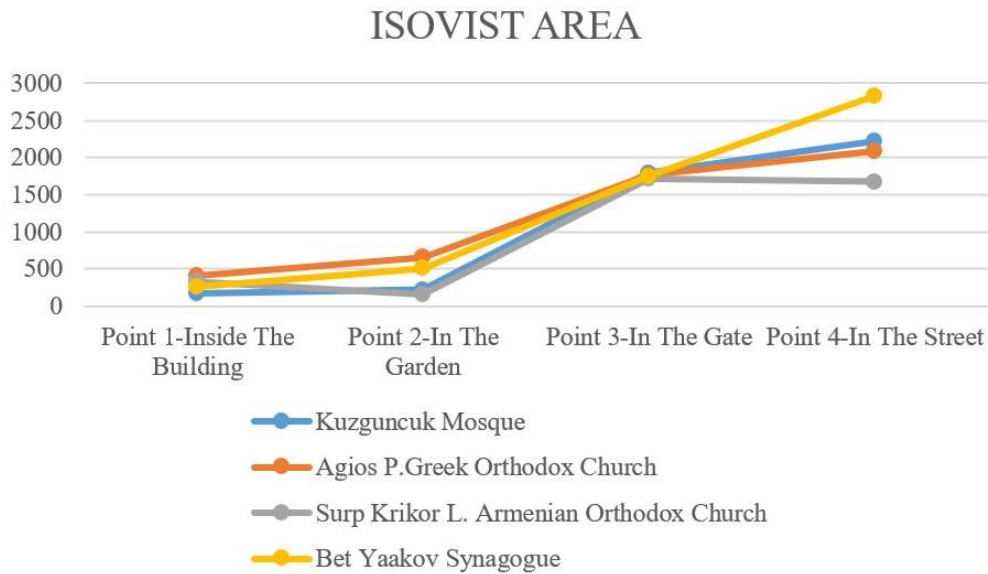


Figure 138: Graph of Isovist Area Values of Points According to Religious Buildings

It is observed that mosques, starting from the third and fourth points, are characterized by a more transparent, understandable, and accessible building than churches. This phenomenon is attributed to the openness and wide access possibilities

inherent in the architectural design of mosques. In contrast, churches and synagogues tend to have an arrangement focused on the interior center, particularly at the first point. While all ritual spaces demonstrate a similar leap in values at the first, second, and third points, synagogues distinguish themselves at the fourth point, breaking away from the general trend. This indicates that synagogues are positioned more centrally in location than others. Moreover, the wider isovist area of the Armenian church at the first point suggests a broader utilization and visibility of the interior space compared to the others.

5.6.5.2. Isovist Perimeter

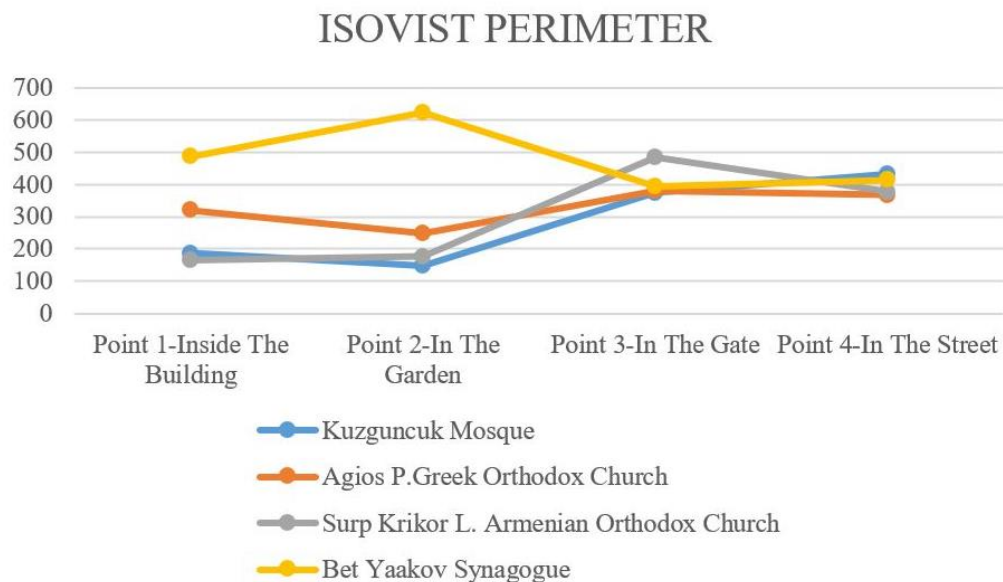


Figure 139: Graph of Isovist Area Values of Points According to Religious Buildings

The isovist perimeter of synagogues follows a parallel trend, particularly at the third and fourth points, while a notable increase has been observed at the first and second points. This is attributed to the wider interior and garden spaces of synagogues, which allow for a more extensive visibility of the area. The synagogue's garden is larger than other ritual spaces, accommodating more functions. In churches and mosques, the isovist

perimeter value is lower at the first point due to divisions within the interior space. Synagogues' open and expansive spaces have provided an advantage in visual access. The interior configuration of churches and mosques has limited visual access, resulting in a perception of these spaces as more focused areas of worship.

5.6.5.3. Mean Depth

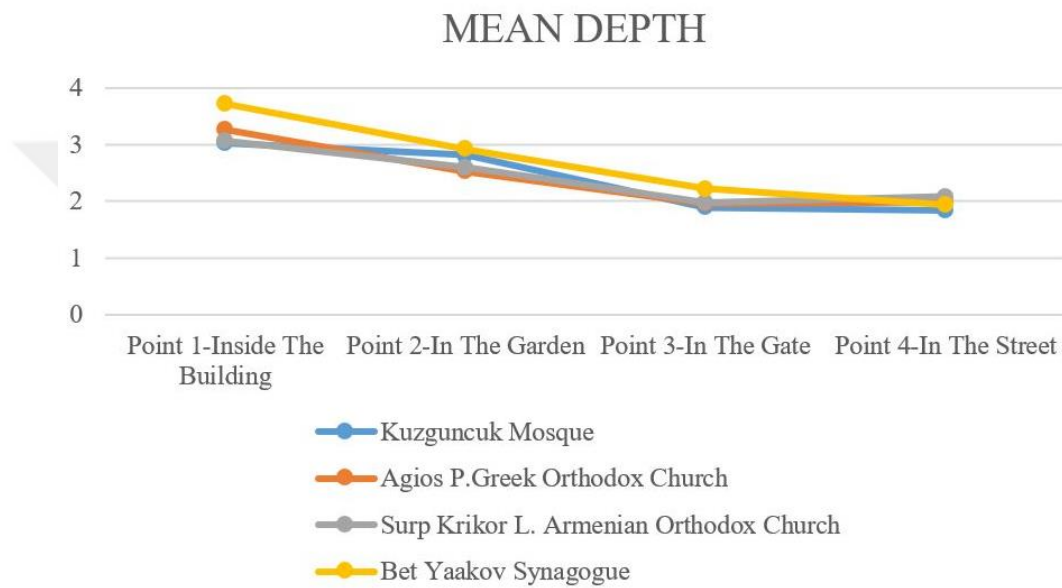


Figure 140: Graph of Isovist Area Values of Points According to Religious Buildings

Depth measurements generally show closely related values. The Greek and Armenian churches demonstrate an increase between the third and fourth points. In these ritual spaces, the depth of the exterior exceeds that of the interior. This suggests that the garden possesses a more enclosed character. A decrease in depth values from the first to the fourth point is observed for both the synagogue and the mosque. Despite the Armenian Church and the mosque being situated side by side, an increase in depth values at the third and fourth points is observed for the Armenian Church. This discrepancy may result from the observation perspective and the surrounding structures' configuration.

5.6.5.4. Occlusivity

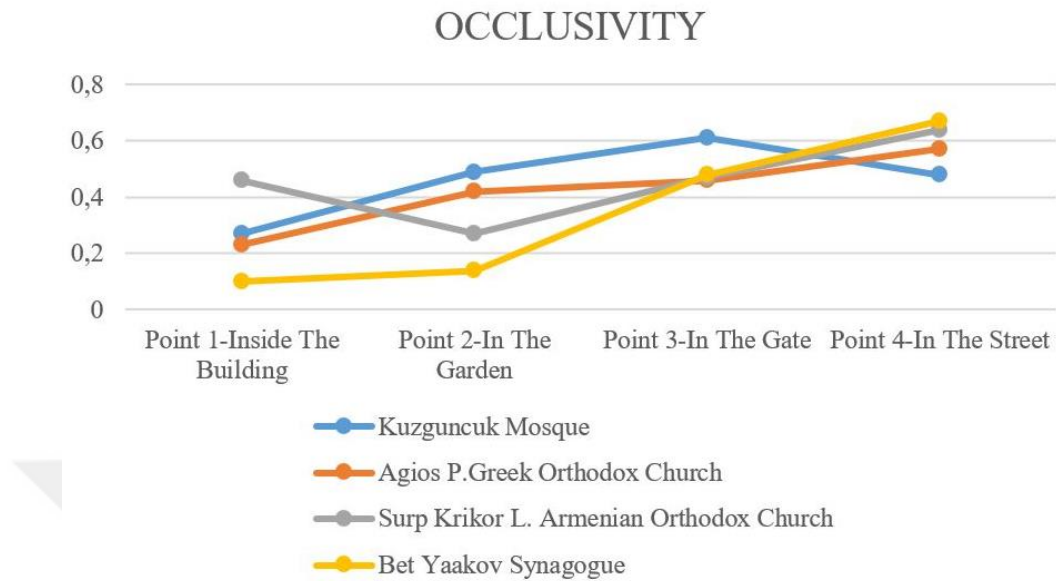


Figure 141: Graph of Isovist Area Values of Points According to Religious Buildings

When examining occlusivity, or the values of enclosure, each ritual space exhibits a distinct trend within itself. The synagogue is observed to have a less enclosed structure at the first and second points, while it shows similarities with other ritual spaces at the third and fourth points. The lower enclosure values at the synagogue's first two points may stem from an abundance of openings in the worship area, indicating that the synagogue has a more open interior building than others. The Armenian church being the most enclosed space points to a scarcity of openings and a narrow garden arrangement, suggesting that the Armenian church has a more limited field of view. The Kuzguncuk Mosque and the Greek Church exhibit a similar trend at the first three points. The enclosure increases from the interior towards the exterior, which is attributable to limiting elements such as walls and buildings in the external part of the space and environmental barriers.

5.6.5.5. Compactness

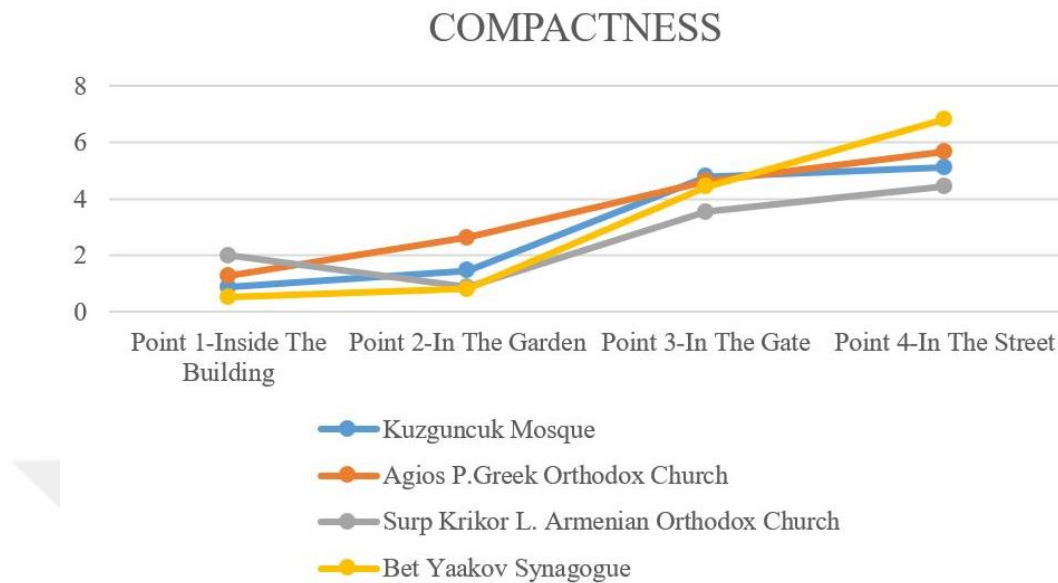


Figure 142: Graph of Isovist Area Values of Points According to Religious Buildings

Excluding the Armenian Church, all other ritual spaces follow a parallel trend regarding compactness values. The Armenian Church stands out at the first point with a higher compactness value than the others. This indicates that the church's interior has been designed regularly, thus paying attention to ease of use and spatial efficiency. On the other hand, at the fourth point, the synagogue stands out in terms of compactness value. The synagogue's highest compactness value may be attributed to the ritual space's adaptation to the surrounding settlement pattern. It also indicates that the open areas and access paths around the synagogue are arranged to enhance the synagogue's interaction with the exterior environment.

5.6.5.6. Circularity

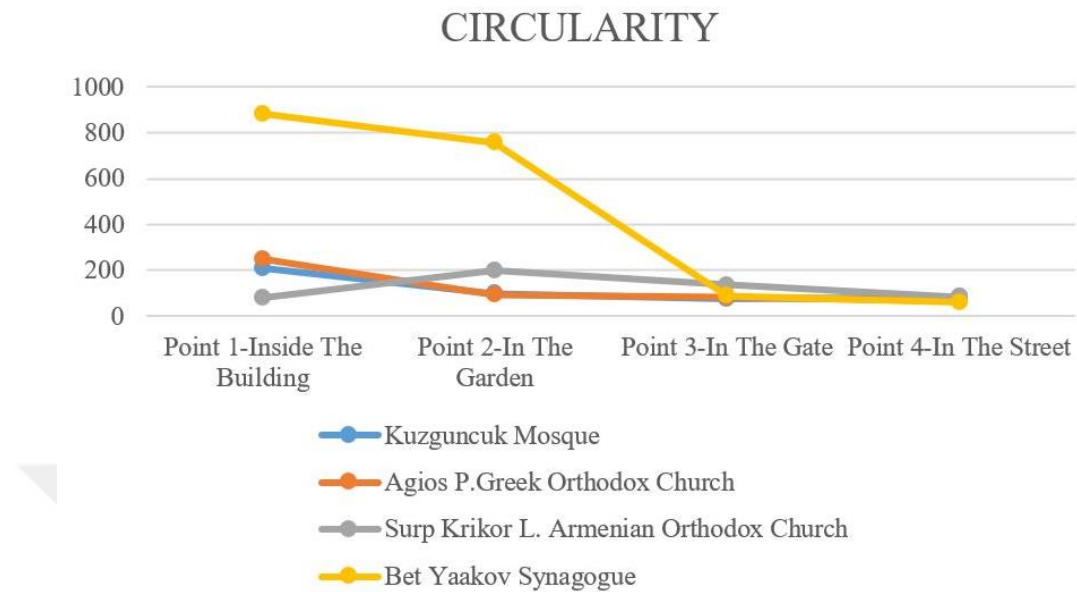


Figure 143: Graph of Isovist Area Values of Points According to Religious Buildings

In the analysis based on circularity values, the similar trends exhibited by the Greek Church, Armenian Church, and Mosque can be associated with their orderly architectural designs, possessing a central plan, and simple geometry. Hence, a similar trend has emerged in circularity values. The synagogue following a markedly different trend at the first and second points is due to its interior and garden having a geometrically more complex structure. This situation could be attributed to the presence of sections designed for religious rituals and social activities within the synagogue's architectural design. Mosques and churches have low circularity values at all four points. This indicates that these ritual buildings generally adopt an architectural design philosophy oriented towards complex geometric forms, such as long corridors, polygonal shapes, or facades with recesses and projections. This situation stems from the need of mosques and

churches for complex spatial arrangements to accommodate religious rituals and community activities.

5.6.5.7. Mean Radial

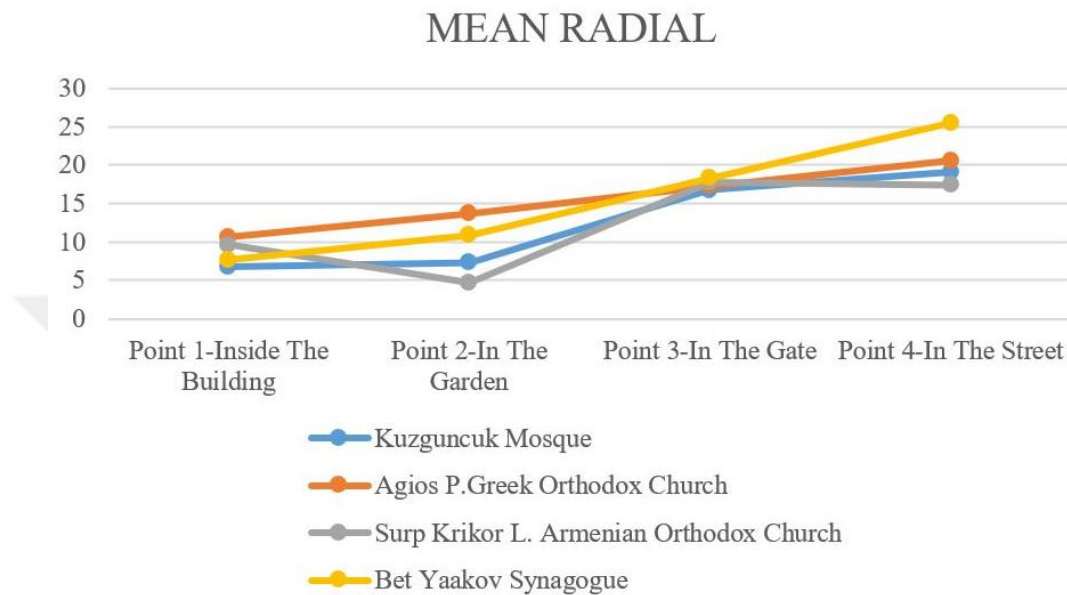


Figure 144: Graph of Isovist Area Values of Points According to Religious Buildings

The mean radial value measures the average length of rays drawn from a point towards its surroundings, indicating a space's openness. According to the graph, mean radial values in ritual buildings display similar characteristics. The lowest mean radial value at the second point, taken from within the garden, is observed in the Armenian Church. This suggests that the field of view from this point towards the surroundings is more limited compared to others, likely due to the Armenian Church's garden having higher walls or other structural elements within. These features reduce the average length of rays from the garden to the surroundings, lowering the mean radial value. At the third point, the very close values reached by all ritual spaces indicate that observations from this point suggest a similar level of openness in their relationships with the external

environment. This could be explained by the third point being a common access point or a location with visual openness for all spaces. At the fourth point, however, the synagogue distinguishes itself by achieving the highest mean radial value among the ritual spaces. This indicates that the field of view from this point towards the surroundings is more open and less obstructed compared to the fourth points of other ritual buildings. The reason for the synagogue reaching a high value at this point can be associated with its location, possibly having less dense construction around it or being surrounded by wider open spaces.

5.6.5.8. Connectivity

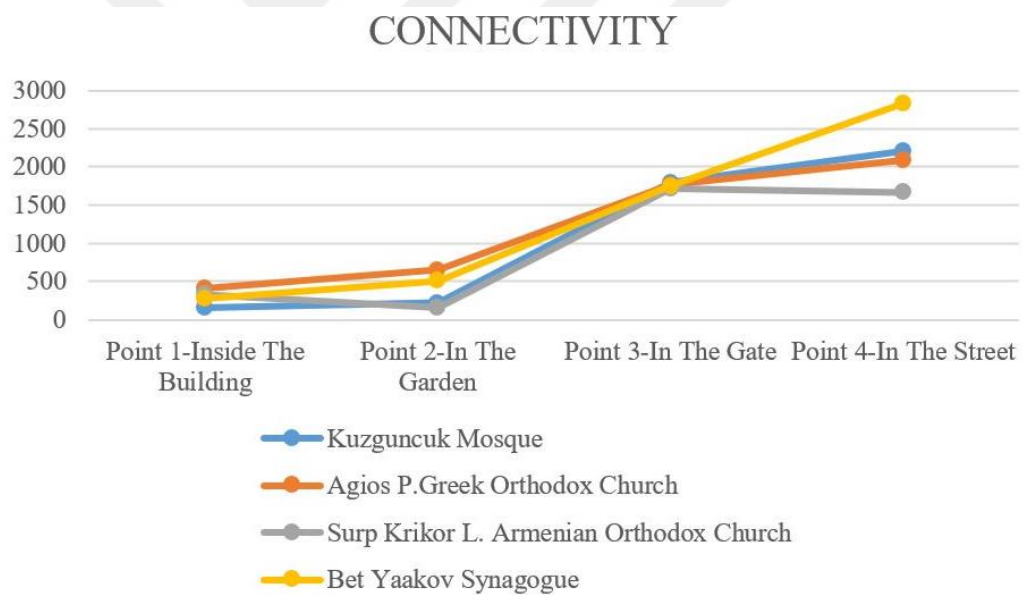


Figure 145: Graph of Isovist Area Values of Points According to Religious Buildings

The connectivity value measures the number and quality of connections a point has with its surroundings, providing significant information about the accessibility and environmental integration of spaces. The similar connectivity trends observed at the first three points suggest that observations made from these points indicate similar connections

established by the ritual buildings with their surroundings. This situation may stem from these points sharing common characteristics regarding proximity to general access routes or environmental connections. At the fourth point, however, the synagogue significantly achieves the highest connectivity value compared to other ritual spaces. This indicates that the connections established by the synagogue at its fourth point are stronger and more diverse than those established by other spaces at their fourth point. It is understood that the synagogue's location at this point enhances its environmental integration and relationships with the community. On the other hand, the lowest connectivity value at the fourth point observed for the Armenian Church suggests that this point is taken from a less accessible or less connected junction. This situation could be associated with the Armenian Church being more isolated or having limited connections with urban elements surrounding it. It may also imply that the integration of the Armenian Church with the community and its surroundings is organized differently than other ritual spaces.

5.6.5.9. Integration

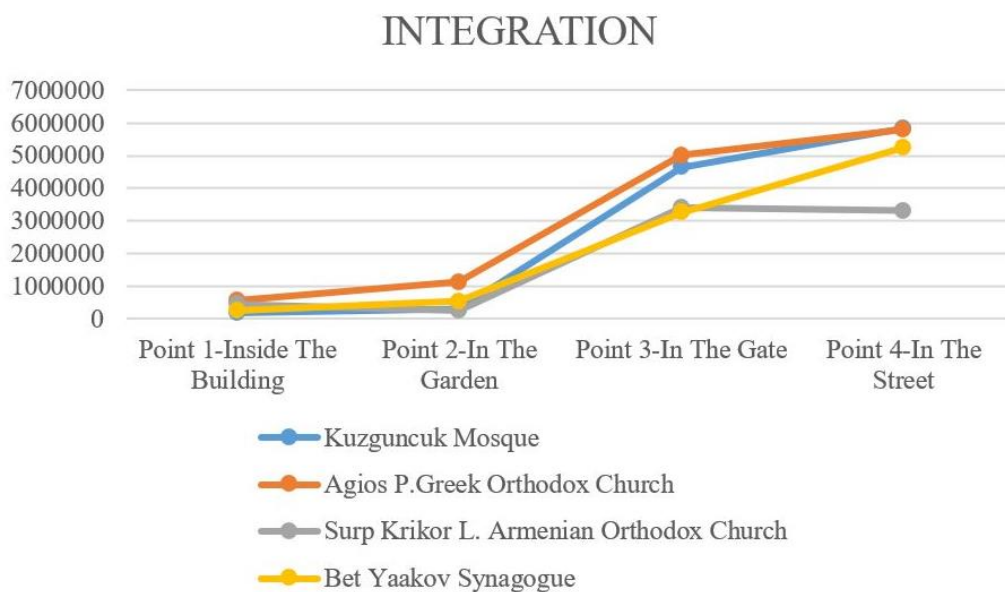


Figure 146: Graph of Isovist Area Values of Points According to Religious Buildings

The integration value measures how integrated a point or space is with its surroundings. It indicates a space's harmony with the urban fabric, social connections, and accessibility. The similar integration values observed at the first, second, and third points of ritual spaces indicate that these points share a similar level of integration with their surroundings. The lowest integration value at the fourth point for the Armenian Church suggests that the connections at this junction may be weak. This situation indicates that the Armenian Church has less access to the surrounding social and physical connections at the fourth point. This could be due to the church's positioning within the city, the arrangements of roads and buildings around it, or environmental barriers. The close increase observed at the fourth point for other ritual spaces suggests that these spaces have a stronger integration and connection with their environment, especially from this viewpoint. This indicates that the Mosque, Synagogue, and Greek Church at this point could be more effectively integrated with environmental connections.

5.7.DISCUSSION

Table 73: Highest-Lowest Value of Point 1-Inside the Building

ISOVIST PARAMETER	Highest Value	Lowest Value
Isovist Area	Agios P. Greek O. Church	Kuzguncuk Mosque
Isovist Perimeter	Bet Yaakov Synagogue	Surp K. Lusavoric Armenian Church
Mean Depth	Bet Yaakov Synagogue	Kuzguncuk Mosque
Oclusivity	Surp K. Lusavoric Armenian Church	Bet Yaakov Synagogue
Compactness	Surp K. Lusavoric Armenian Church	Bet Yaakov Synagogue
Circularity	Bet Yaakov Synagogue	Surp K. Lusavoric Armenian Church
Mean Radial	Agios P. Greek O. Church	Kuzguncuk Mosque
Connectivity	Agios P. Greek O. Church	Kuzguncuk Mosque
Integration	Agios P. Greek O. Church	Kuzguncuk Mosque

Research findings indicate that the Kuzguncuk Mosque at Point 1 has not achieved the highest value among the ritual buildings. However, the Kuzguncuk Mosque possesses the lowest isovist area, mean depth, mean radial, connectivity, and integration values at Point 1. The Agios Panteleimonas Greek Orthodox Church holds the highest isovist area, mean radial, connectivity, and integration values at Point 1, yet it does not possess the lowest value. The Surp Krikor Lusavoric Armenian Church has the highest occlusivity and compactness values at Point 1 but has the lowest isovist perimeter and circularity values. The Kuzguncuk Bet Yaakov Synagogue exhibits the highest isovist perimeter, mean depth, and circularity values at Point 1, while having the lowest occlusivity and compactness values. When considering the status of ritual buildings at Point 1, the Kuzguncuk Mosque has a smaller worship area than the others. Consequently, the area visible from the worship space is considerably less than in other buildings. However, the Kuzguncuk Mosque has the least deep space due to a higher number of openings than other buildings. The small size of the worship area results in lower connectivity compared to other buildings. The greater number of openings and the geometry of the building indicate it has complex connections. The Kuzguncuk Mosque exhibits contrasting values compared to the Agios Panteleimonas Greek Orthodox Church. The worship area of the Agios Panteleimonas Greek Orthodox Church is designed to be more visible and open. Unlike other buildings, the depth of the worship area was not prioritized over visibility. Its wider worship area and simpler geometry make clearer connections within the space. The Surp Krikor Lusavoric Armenian Church, in contrast to the Agios Panteleimonas Greek Orthodox Church, has a more compact and enclosed worship area. The Armenian church's worship area involves a more complex circulation space than the others, due to fewer openings. The worship area of the Kuzguncuk Bet Yaakov Synagogue is designed

to be deeper than in other buildings. It has the second-highest number of openings following the mosque. Its worship area includes numerous columns, making it the building with the most complex circulation among the worship spaces. These conclusions are reached upon comparing the interior worship area designs.

Table 74: Highest-Lowest Value of Point 2-In the Garden

ISOVIST PARAMETER	Point 2-Highest Value	Point 2-Lowest Value
Isovist Area	Agios P. Greek O. Church	Surp K. Lusavoric Armenian Church
Isovist Perimeter	Bet Yaakov Synagogue	Kuzguncuk Mosque
Mean Depth	Bet Yaakov Synagogue	Agios P. Greek O. Church
Occlusivity	Kuzguncuk Mosque	Bet Yaakov Synagogue
Compactness	Agios P. Greek O. Church	Bet Yaakov Synagogue
Circularity	Bet Yaakov Synagogue	Kuzguncuk Mosque
Mean Radial	Agios P. Greek O. Church	Surp K. Lusavoric Armenian Church
Connectivity	Agios P. Greek O. Church	Surp K. Lusavoric Armenian Church
Integration	Agios P. Greek O. Church	Surp K. Lusavoric Armenian Church

Research results reveal that among the ritual buildings at Point 2, the Kuzguncuk Mosque has the highest occlusivity value. However, it possesses the lowest isovist perimeter and circularity values at Point 2. The Agios Panteleimonas Greek Orthodox Church at Point 2 has the highest isovist area, compactness, mean radial, connectivity, and integration values, but it has the lowest mean depth value at Point 2. The Surp Krikor Lusavoric Armenian Church at Point 2 has not achieved the highest value in any category but has the lowest isovist area, mean radial, connectivity, and integration values. The Bet Yaakov Synagogue at Point 2 holds the highest isovist perimeter, mean depth, and circularity values, yet it possesses the lowest occlusivity and compactness values. Examining the conditions of ritual buildings at Point 2, the Kuzguncuk Mosque's garden

contains obstacles that obstruct visibility. The garden wall and the mosque's layout have increased the occlusivity value. This situation is due to the garden area being below average compared to other buildings' gardens, which suggests that the garden is as sheltered as the worship area. However, the number of connections in the garden is the lowest, likely due to the small garden area and the limited number of openings facilitating circulation. This might have been intended to reduce circulation diversity in the garden and prevent confusion. The Agios Panteleimonas Greek Orthodox Church's garden is the widest compared to other buildings. The presence of buildings belonging to religious officials within the garden might be one of the reasons for its spacious design. Therefore, this garden has the widest field of view and the highest connectivity. The garden of the Surp Krikor Lusavoric Armenian Church has the narrowest field of view. This is because, from a design perspective, the synagogue surrounds the garden with a narrow width of hard surface. The garden, enclosed by a garden wall, is not visible from the outside, making it the garden with the few connections to this building. The Bet Yaakov Synagogue's garden is the deepest and has significant connective qualities. A garden wall encloses the garden. However, the garden is functional, with strong connections between functions. Within the garden, restaurants and spaces belonging to religious officials are visible and accessible.

Table 75: Highest-Lowest Value of Point 3-In the Gate

ISOVIST PARAMETER	Point 3-Highest Value	Point 3-Lowest Value
Isovist Area	Kuzguncuk Mosque	Surp K. Lusavoric Armenian Church
Isovist Perimeter	Surp K. Lusavoric Armenian Church	Kuzguncuk Mosque
Mean Depth	Bet Yaakov Synagogue	Kuzguncuk Mosque
Occlusivity	Kuzguncuk Mosque	Agios P. Greek O. Church
Compactness	Kuzguncuk Mosque	Surp K. Lusavoric Armenian Church
Circularity	Surp K. Lusavoric Armenian C.	Kuzguncuk Mosque
Mean Radial	Bet Yaakov Synagogue	Kuzguncuk Mosque
Connectivity	Kuzguncuk Mosque	Surp K. Lusavoric Armenian Church
Integration	Agios P. Greek O. C	Bet Yaakov Synagogue

Research indicates that among the ritual buildings at Point 3, the Kuzguncuk Mosque has the highest isovist area, occlusivity, compactness, and connectivity values. However, at Point 3, the Kuzguncuk Mosque has the lowest isovist perimeter, mean depth, circularity, and mean radial values. The Agios Panteleimonas Church at Point 3 possesses the highest integration value but has the lowest occlusivity value at Point 3. The Surp Krikor Lusavoric Church at Point 3 holds the highest isovist perimeter and circularity values, yet it has the lowest isovist area, compactness, and connectivity values. At Point 3, the Bet Yaakov Synagogue has the highest mean depth and mean radial values, but it has the lowest integration value. When examining the conditions of ritual buildings at Point 3, it is observed that the point in front of the garden gate of the Kuzguncuk Mosque on Kuzguncuk Çarşı Street has the highest visibility area. A person walking on the street towards the garden will have the mosque enter their field of view more than other buildings, indicating that the mosque is built in an area with strong street connectivity. The Kuzguncuk Mosque is the building with the least depth from the

outside, located on Kuzguncuk Çarşı Street, one of Kuzguncuk's major streets. The Agios Panteleimonas Church, at the point in front of the garden gate on İcadiye Street, has stronger connections than other buildings. This is attributed to its location on a main street in Kuzguncuk. The linear continuation of the street and the alignment of the houses result in fewer obstructions in this area's field of view. The point in front of the garden gate of the Surp Krikor Lusavoric Church on Kuzguncuk Çarşı Street has the highest circulation. The church, built in a bustling area, is in an accessible location. However, the adjacent buildings on the street restrict the view from the garden gate. The point in front of the Bet Yaakov Synagogue's garden gate on İcadiye Street has the deepest point. Therefore, due to the street's alignment and its narrower width compared to other streets, it appears less visible and has a deeper characteristic. Consequently, the synagogue evokes a sense of enclosure before entering the garden premises.

Table 76: Highest-Lowest Value of Point 4-In the Street

ISOVIST PARAMETER	Point 4 Highest Value	Point 4 Lowest Value
Isovist Area	Bet Yaakov Synagogue	Surp K. Lusavoric Armenian Church
Isovist Perimeter	Bet Yaakov Synagogue	Agios P. Greek O. Church
Mean Depth	Surp K. Lusavoric Armenian Church	Kuzguncuk Mosque
Occlusivity	Bet Yaakov Synagogue	Kuzguncuk Mosque
Compactness	Bet Yaakov Synagogue	Surp K. Lusavoric Armenian Church
Circularity	Surp K. Lusavoric Armenian Church	Bet Yaakov Synagogue
Mean Radial	Bet Yaakov Synagogue	Surp K. Lusavoric Armenian Church
Connectivity	Bet Yaakov Synagogue	Surp K. Lusavoric Armenian Church
Integration	Kuzguncuk Mosque	Surp K. Lusavoric Armenian Church

After research, it has been ascertained that among the ritual edifices at Point 4, the Kuzguncuk Mosque is endowed with the paramount integration value. Nonetheless, at Point 4, it manifests the minimal mean depth and occlusivity values. The Agios Panteleimonas Church at Point 4 has not attained the apex value in any designated category but is characterized by the minimal isovist perimeter value. At Point 4, the Surp Krikor Lusavoric Church is distinguished by the maximal mean depth and circularity values; however, the minimal isovist area, compactness, mean radial, connectivity, and integration values are ascribed. The Bet Yaakov Synagogue at Point 4 is attributed with the highest isovist area, isovist perimeter, occlusivity, compactness, mean radial, and connectivity values, yet it exhibits the lowest circularity value. Upon examining the configurations of ritual buildings at Point 4, it emerges that the locus adjacent to the Kuzguncuk Mosque on Kuzguncuk Çarşı Street at the proximate intersection is vested with the most robust connections. Therefore, the mosque is conspicuously visible from the juncture of Yenigün Street with Kuzguncuk Çarşı Street, with obstructive elements being minimal from this vantage point. The church of Agios Panteleimonas is perceptible from the perspective at the nearest junction on İcadiye Street, where it intersects with Behlül and Bostan streets. The edifices surrounding this point and the geometry of the intersection amplify the area visible from this location. From the vantage point at the nearest intersection to the Surp Krikor Lusavoric Church on Kuzguncuk Çarşı Street, where it converges with Üryanizade Street, the church's garden wall, the street's breadth, and the geometry of the adjacent aligned buildings serve as obstructive elements. The elevated mean depth value at this church's Point 4 intimates that, due to surrounding elements, this viewpoint is situated in a position impacted by closed and obstructive factors instead of offering an open and unobstructed view. Circulation from this point is

more facile and varied compared to points at intersections nearer to other edifices. However, owing to a constrained field of view and impediments, the connections count is reduced relative to other intersections. The perspective at the intersection nearest to the Bet Yaakov Synagogue on Kuzguncuk Çarşı Street, linking to İcadiye Street, commands the highest visibility among the points at Point 4. Thus, an external view enables a clear sight of the synagogue. Nevertheless, this viewpoint also encompasses the most obstructive elements, such as the garden wall and the buildings on the street. An individual approaching from outside can discern the synagogue and establish numerous connections with the edifice. Concurrently, due to the low circulation from Point 4 and the synagogue's closed façade, the individual perceives entry into a secure area. In conclusion, the design decisions of the selected ritual spaces in Kuzguncuk have emerged through the obtained values, affecting the perception of these spaces.

5.7.1.Chapter Results

	ISOVIST AREA				ISOVIST PERIMETER				MEAN DEPTH				OCCLUSIVITY				COMPACTNESS				CIRCULARITY				MEAN RADIAL				CONNECTIVITY				INTEGRATION			
	P1	P2	P3	P4	P1	P2	P3	P4	P1	P2	P3	P4	P1	P2	P3	P4	P1	P2	P3	P4	P1	P2	P3	P4	P1	P2	P3	P4	P1	P2	P3	P4	P1	P2	P3	P4
K.M.	167.32	218.55	1791.51	2230.12	187.05	148.08	173.52	452.06	3.02	2.81	1.89	1.84	0.27	0.48	0.61	0.48	0.89	1.47	4.79	5.60	209.34	100.35	77.87	84.08	6.74	7.34	16.78	19.05	164	221	1791	2209	176089	296064	464807	584433
A.P.G.O.C.	414.55	655.17	1763.16	2088.09	319.97	248.38	180.80	366.74	1.27	2.53	1.95	1.99	0.25	0.42	0.46	0.57	1.29	2.63	4.63	6.28	246.97	94.16	82.24	64.41	10.61	13.73	17.27	20.58	413	651	1762	2082	571201	113763	101698	178641
S.K.L.A.C.	332.40	335.52	1714.17	1673.71	346.03	176.61	492.78	377.01	3.07	2.60	1.97	2.08	0.46	0.27	0.47	0.64	2.00	0.88	3.55	4.41	82.91	200.54	155.97	84.92	9.65	4.72	17.74	17.45	331	155	1719	1671	461043	244624	342109	151062
B.Y.S.	267.66	509.53	1752.54	2822.05	486.54	621.23	195.30	414.27	3.72	2.92	2.22	1.95	0.10	0.14	0.48	0.67	0.55	0.82	4.45	6.65	884.39	757.42	89.17	60.81	7.64	10.90	18.35	25.45	270	512	1754	2833	248211	546550	526793	525491

■ = Highest value

■ = Lowest value

K.M. = Kuzguncuk Mosque

A.P.G.O.C. = Agios Panteleimonas Greek Orthodox Church

S.K.L.A.C. = Surp Krikor Lusavoric Armenian Orthodox Church

B.Y.S. = Bet Yaakov Synagogue

Figure 147: All Points Analysis of Religious Buildings (Appendix A)

In this section, the syntactic features of ritual buildings in Kuzguncuk have been examined in detail. The analysis of interior spaces of ritual buildings at Point 1 reveals

significant variations in their isovist parameters. The Kuzguncuk Mosque consistently exhibits the lowest values for isovist area, mean depth, mean radial, connectivity, and integration, indicating a smaller and less connected worship area. This contrasts sharply with the Agios Panteleimonas Greek Orthodox Church, which shows the highest values for isovist area, mean radial, connectivity, and integration, suggesting a more open and visible worship space. The Surp Krikor Lusavoric Armenian Church displays the highest values for occlusivity and compactness. Yet, it has the lowest isovist perimeter and circularity values, indicating a more enclosed and compact worship area. Conversely, the Bet Yaakov Synagogue holds the highest isovist perimeter, mean depth, and circularity values but the lowest occlusivity and compactness values, reflecting a deeper and more complex interior space.

At Point 2, the Kuzguncuk Mosque demonstrates the highest occlusivity value in the garden spaces, implying significant visibility obstructions. It also has the lowest isovist perimeter and circularity values, reflecting a limited and less circular garden space. The Agios Panteleimonas Greek Orthodox Church stands out with the highest values for isovist area, compactness, mean radial, connectivity, and integration, indicating a spacious and well-connected garden. The Surp Krikor Lusavoric Armenian Church does not achieve the highest value in any parameter. Still, it has the lowest values for isovist area, mean radial, connectivity, and integration, suggesting a more restricted garden space. The Bet Yaakov Synagogue shows the highest values for isovist perimeter, mean depth, and circularity, reflecting a deep and well-connected garden, despite having the lowest occlusivity and compactness values.

The gate areas at Point 3 show that the Kuzguncuk Mosque holds the highest values for isovist area, occlusivity, compactness, and connectivity, indicating a prominent

and well-connected gate area. However, it has the lowest values for isovist perimeter, mean depth, circularity, and mean radial, reflecting a less expansive and simpler gate space. The Agios Panteleimonas Church, with the highest integration value, is located on a main street, enhancing its visibility and connection. The Surp Krikor Lusavoric Church, despite having the highest isovist perimeter and circularity values, shows the lowest values for isovist area, compactness, and connectivity, indicating a less open and connected gate space. The Bet Yaakov Synagogue, with the highest mean depth and mean radial values, indicates a deeper gate area but the lowest integration value, reflecting less connectivity.

At Point 4, the Kuzguncuk Mosque street spaces show the highest integration value, making it highly visible and connected at the street intersection. However, it has the lowest mean depth and occlusivity values, indicating fewer obstructions and a shallower space. The Bet Yaakov Synagogue stands out with the highest values for isovist area, perimeter, occlusivity, compactness, mean radial, and connectivity, suggesting a highly visible and complex street space. In contrast, the Surp Krikor Lusavoric Church, with the highest mean depth and circularity values, shows the lowest values for isovist area, compactness, mean radial, connectivity, and integration, indicating a more enclosed and less connected street space. The syntactic analysis of ritual buildings in Kuzguncuk reveals that the design decisions significantly impact these spaces' spatial perceptions and connectivity. The Kuzguncuk Mosque, with its smaller and less connected interior and garden spaces, contrasts with the more open and connected spaces of the Agios Panteleimonas Greek Orthodox Church. The Surp Krikor Lusavoric Armenian Church and the Bet Yaakov Synagogue exhibit varying complexity and connectivity, reflecting diverse design approaches. These findings highlight the unique spatial characteristics and

design strategies employed in the ritual buildings of Kuzguncuk, contributing to a deeper understanding of their architectural and social significance.

In conclusion, analyzing the syntactic features of ritual buildings in Kuzguncuk has helped us understand the varying elements in their design and use. This study contributes to a more comprehensive understanding of religious buildings' physical and social dynamics.



CHAPTER VI

CONCLUSION

Kuzguncuk is a neighborhood in Istanbul known for its multicultural and multi-religious character. Analyzing it from an architectural perspective helps explain the tolerance-based social interactions observed there. This research provides insights into urban planning and architecture on how religious and cultural buildings can be integrated into the urban fabric. For architects, it guides how the placement of such buildings within the city impacts social interactions and the urban texture. This study offers an analysis of various religious buildings in Kuzguncuk, focusing on the individual analysis of these spaces and their spatial relationships. The research also sheds light on issues of tolerance and respect in Kuzguncuk, which are crucial for supporting these social relationships. Understanding the social, cultural, and architectural impact of these ritual spaces within the city and how they facilitate interactions between communities is essential. These findings contribute to a better understanding of the urban fabric and social structures.

The field study of this thesis involved the analysis of four ritual spaces located in the Kuzguncuk neighborhood: Kuzguncuk Mosque, Bet Yaakov Synagogue, Agios Panteleimon Greek Orthodox Church, and Surp Krikor Lusavoric Armenian Church. These ritual buildings were selected due to their central location, larger architectural dimensions compared to other ritual spaces, and significant symbolic impact. The Space Syntax methodology used in this study provides valuable information for making ritual spaces more functional and accessible. For example, these analyses can support design changes that would increase visitor flow to ritual spaces or expand their sightlines. This analytical method does not only address one aspect of the space but examines all its

dynamics from a multi-dimensional perspective using various parameters. It reveals the relationships between the space's physical characteristics and social interactions, playing a significant role in enhancing its social functionality. Space Syntax has deepened the understanding of ritual spaces and provided insights into how their design impacts visitor experiences. This approach has allowed for a scientific examination of the impact of each area of the space on human behaviors and perceptions. Separate analysis results have been obtained for four ritual spaces within the program. Scaled architectural drawings of these spaces were obtained in DWG format, followed by detailed on-site visits to further refine the plans. Analyses using the Syntax 2D program detailed the perceptual effects of the space on individuals, thereby offering opportunities to optimize the general usability of these areas through internal and environmental connections. The program provides quantitative data on sightlines and accessibility from every point within the space, offering researchers a concrete foundation for understanding how perception is shaped. This method demonstrates the effects of interior and exterior arrangements on human interaction and movement, considering the space as an integrated whole. This situation allows for strategic decisions to be made in the planning and development processes of ritual spaces for the future. The results are critical for the spatial planning and design of ritual buildings.

The study aimed to explore perception at four points, both inside and outside the buildings. The first point was taken from the center of the building's interior, facilitating the measurement of internal perception. Measurements taken at the center of the interior reflected the spiritual and architectural harmony, revealing how visitors perceive these sacred spaces. The isovist area obtained from this point demonstrated the clarity and unobstructed view from the center, affecting individual perceptions. Measurements from

within the garden assessed how the combination of natural elements like trees, flowers, and water features, and artificial elements like statues, paths, and benches, shape visitors' spatial experiences. The coexistence of these elements molds the aesthetic and functional characteristics of the space and influences how visitors perceive these areas. The data from the measured points helped analyze the impact of these elements on visitor movements, sightlines, and overall spatial experience. The combined environment of natural and artificial buildings plays a significant role in shaping visitors' perceptions of the space; for example, while natural elements can provide a sense of peace and authenticity, artificial buildings can enhance the usability and accessibility of the space. At the second point, the mean depth and compactness values highlighted the role of garden design in visitor mobility and spatial perception. Data from the nearest intersection revealed the impact of the ritual space's environmental context and its relationship with urban structure on visitors' overall spatial perception. Connectivity and integration values measured at this point indicated the significance of the space's location within the city and its accessibility. Measurements taken near the third point at the garden entrance gate examined the impact of the connection between the external environment and the interior on perception. The measurements at the entrance point determined how the integration and accessibility of the space are perceived through data.

The results show that different points of the same building stood out in the same parameters. For example, the Greek Orthodox Church emerged as the most integrated space in the first three points. Compared to other spaces, the interior and garden design have been seen as reasons for this, indicating a more intensely used space. A cultural conclusion has also been drawn that social interaction within this community is high. Bet Yaakov Synagogue showed the highest average depth in the first three points. This result

is due to the low number of openings to the exterior. Despite the substantial functionality and amount of space in the garden, the high depth has led to the conclusion that the worship rituals are private and not open to the outside. Kuzguncuk Mosque and Surp Krikor Lusavoric Church generally have the lowest parameter values among the spaces, indicating a similar design philosophy between these two buildings. The design or layout of the garden has shown to be less interactive or accessible in spatial terms. Particularly, the garden area has not been inviting or functional enough for visitors to explore the surroundings or socialize. Measurements taken from four points have enabled a multifaceted evaluation of ritual spaces. Each point's unique characteristics have illuminated the perception of the space from various angles. Each point represents different aspects of the space and diversifies the spatial experiences of visitors. This diversity ensures that the overall perception measurement is more comprehensive and accurate. The measurements from various points have allowed for a better understanding of the relationships between the interior and exterior buildings of the space. For example, measurements between the center of the interior and the nearest intersection have shown the space's position within the urban fabric and its effects on visitor perceptions. Each measurement point represents a specific spatial feature or existing interaction. This detailed analysis reveals how the space functions and shapes visitor behaviors.

This thesis has highlighted the impact of the physical placement and architectural features of ritual spaces on how users experience and perceive these areas. Additionally, this research has raised awareness about the perception of ritual spaces within the city for future studies. It has informed the necessity of enhancing their integration with the urban context due to these buildings' role in fostering community cohesion. This study has also emphasized how the architecture, interior design, and functionality of these spaces reflect

the culture and their role in the community, contributing to an increase in tolerance. Subsequent studies can leverage the designs and urban placements of these ritual spaces to quantitatively infer the perception process of users. The optimization of this design to foster tolerance within the community will serve as a guiding principle for future research.



APPENDIX A

[illegible]

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