ISTANBUL TECHNICAL UNIVERSITY ★ GRADUATE SCHOOL

MORPHOLOGICAL ANALYSIS OF THE FORMATION AND CONSOLIDATION OF THE MAIN STREET: THE CASE OF KURTULUŞ STREET, ANTAKYA

M.Sc. THESIS

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Department of Urban Design

Urban Design Master Programme

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To those who enjoy the city,
despite its challenges…

FOREWORD

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MORPHOLOGICAL ANALYSIS OF THE FORMATION AND CONSOLIDATION OF THE MAIN STREET: THE CASE OF KURTULUŞ STREET, ANTAKYA

SUMMARY

Moving in a linear space to go from one place to another is an instinctive characteristic of humans. In this context, the street that emerges as a linear space enabling movement and serves as a fundamental response to humans' innate needs is a significant element of the city formed by a combination of various parameters. These parameters affect the street's evolution by being influenced by the changing and transforming process of the city. In its evolutionary change, the street becomes essential to the city's internal integrity by initially incorporating social and economic dimensions into its physicality. In this part and whole relationship, the continuation of the process depends on responding to the needs of the period. The street that meets the local needs of the space undergoes various physical changes while continuing its existence. Therefore, it began to assume different roles involving multiple actors and responsibilities emerging from this changing process. As a result of these roles, the streets are primarily divided into main streets and local streets, with the main street representing a space that stands out from the rest of the street network. Thus, the main street, a linear public space where society spends the most time, the commercial axis that forms an economic centre, the primary carrier of pedestrian and vehicle transportation and the city's backbone is an essential element of the city. The physical integration of the street and its consolidation within the texture of the city is one of the most critical stages in transforming the street into a main street. Therefore, it is necessary to define the permanence of the main street in the urban texture and determine the parameters during the transformation process.

This study aims to analyse the parameters of the formation of the main street based on the concept of consolidation. In this context, the research examines significant developments in the formation of the main street from the past to the present and how these steps were realised within an existing urban fabric. Furthermore, the study investigates the physical characteristics that led to the integration and consolidation of the main street with the urban fabric, allowing it to survive throughout history up to the present. Kurtuluş Street, Antakya, is selected as a research area that preserves its main street identity through its rich historical background. The study focuses on analysing the historical past that demonstrates the consolidation of the street and the parameters that make up this consolidation and integration. Accordingly, the study includes five main stages

The first stage of this study examines the historical development of the street, starting from ancient settlements where the street is not visible and continuing throughout history. Starting from Çatalhöyük, considered one of the first settlement areas where the street did not exist, the street found its place spatially in the subsequent settlements. Then, it differentiated itself into primary and secondary roles by gaining different functions. As its importance grew, the need for different categories and subcategories in classification arose to increase its ability to respond to transportation needs. As a

result of these needs, the street classification system reached its current form. While projects to reduce the impact of the street emerged in the early 19th century as its importance increased, counter-arguments revealed that the street continues to exist as one of the most crucial components of the city today and has solidified its role within the city. At this point, the diversity of functions that emphasise the importance of the street and the physical characteristics that consolidate it within the urban fabric are prominent topics worth analysing.

The second stage covers the concept of the main street, including a section that explains the different roles and functions the street serves. The street acquires several names due to its responsibility to provide solutions to multiple variables, including its location and the user group it serves. Thus, the main street, which stands out from the street network, is most commonly defined as the most frequently used street, but its definition varies due to many reasons, such as the urban form and cultural structure of societies. The multiple meanings of the main street create confusion during the management and design phases, making it necessary to redefine it. Therefore, the main street is defined as an urban backbone, a linear space that has a historical past within traditional cities, is accustomed to people's use, meets various urban functions for daily and administrative needs, provides opportunities for vehicular and especially pedestrian transportation, and is designed according to human scale for creating a robust spatial perception in the third dimension.

The third stage involves examining the parameters of consolidation within the urban fabric of the main street, with Kurtuluş Street, Antakya, selected as the pilot region. The historical plans and maps of Kurtuluş Street were examined during this phase, dating back to the Hellenistic period. Despite the destructive events that the city has undergone, such as fires, earthquakes, and invasions, it has been observed that Kurtuluş Street has maintained its status as the city's main street throughout history and has survived until the present day. Analysis of historical maps and plans reveals that, despite changes in the city’s fabric, the street has remained integrated into the urban fabric and has mostly remained unchanged, consolidating within the urban core over time.

The fourth stage investigated the physical parameters underlying the street’s continuous importance during history. Based on the literature review, worldwide examples examined, and historical changes in the pilot region analysed, it was found that the degree of integration of the street within the urban fabric, the diversity of land use, and the density and continuity of buildings along the street are the parameters that affect the process of consolidation of the main street within the urban texture. Different examination methods were used for each parameter. The spatial arrangement method was used to investigate the integration of the avenue within the urban fabric, examining both global and local integration values. As a result, it was observed that the axes with the most integration with the fabric at both global and local scales are parts of the street. This observation explains why the street is the most frequently used street in the city centre and fulfils the role of the city's most commonly used artery. For land use analysis, the land use functions of the city's historical core in 1925 and 2022 were compared and evaluated, showing that the roles of the street have diversified and increased over the past century. Thereupon, it satisfies the need for the street to offer a variety of functions to the community and provide access to different social opportunities. The building continuity and density parameter was analysed by examining how buildings are positioned on the street to study building continuity and by analysing the number of doors, windows, and showcase to check building density.

As a result, it was observed that buildings are mostly located in line with the street, creating an uninterrupted perspective on the street, thus strengthening the sense of space. Regarding building density, the high number of doors, windows, and showcases in buildings indicates the level of building density and permeability on the street, which increases the frequency of street use and thus consolidates the street within the urban fabric. The building continuity and density on Kurtuluş Street support the street's strong perception of space, which is essential for the main street.

The fifth stage of the study is evaluating the analysis data resulting from all stages. As a result, it has been observed that various parameters are effective in the analysis conducted towards the permanence of the main street within the urban fabric. In this context, it has been determined that Kurtuluş Street, with the highest integration rate within the street network, providing various functions primarily as a commercial route, and increasing spatial perception with building density and continuity, is a permeable and used route. These features that Kurtuluş Street possesses as a main street have enabled it to reach the present day as the most frequently used and integrated artery within the city.

The parameters examined in the study and the pilot area are thought to contribute to proving the importance of the main street and making interventions for Kurtuluş Street. As a result of the analyses presented by this study, it is believed that examining the formation and consolidation process and parameters of the main street will allow for a different approach to the location and function of the main street in future urban planning and urban design studies. Additionally, after the significant destruction caused by the earthquakes on February 6, 2023, preserving the city's values and reviving Kurtuluş Street as the host to the community's cultural existence has become even more critical to maintain Antakya in the future. In this context, the thesis emphasises the necessity of evaluating Kurtuluş Street as a living space and examining it through this context.

ANA CADDENİN OLUŞUM VE SAĞLAMLAŞMASININ MORFOLOJİK AÇIDAN İNCELENMESİ: ANTAKYA KURTULUŞ CADDESİ ÖRNEĞİ

ÖZET

Bir yerden bir yere gitmek için doğrusal bir mekanda hareket etme durumu insanın içgüdüsel bir özelliği olarak var olmaktadır. Bu bağlamda, hareketi sağlayan ve lineer bir mekan olarak ortaya çıkan sokak, insana içkin ihtiyaca temelden yanıt veren bir kent elemanıdır ve bir dizi farklı parametrenin birleşmesiyle oluşmaktadır. Bu parametreler, kentin değişen ve dönüşen süreci içerisinde varlığını sürdüren sokağı etkisi altında alarak sokağın evrimine yol açmaktadır. Geçirdiği bu evrimsel süreçte kendi fizikselliği içerisine başta sosyal ve ekonomik boyutun katılmasıyla sokak, kentin içsel bütünselliğinin önemli bir parçası haline gelmiştir. Bu parça-bütün ilişkisinde sürecin devamına katılabilmek, süreç içerisindeki ihtiyaçlara cevap vermekle ilgilidir. Mekanın yerel dinamiklerine cevap verebilen sokağın var olmaya devam ederken bir dizi fiziksel değişikliğe uğramıştır. Bu gelişim ve dönüşüm sürecinden değişerek çıkan sokak, birçok farklı sorumluluk ve aktörün bu sürece dahil olmasıyla birlikte farklı roller üstlenmeye başlamıştır. Ortaya çıkan bu rollerin sonucunda sokaklar temelde ana sokak ve yardımcı sokaklar olarak ilerlerken ana sokak toplumun çoğunun zaman geçirdiği ve diğer tüm sokak dokusundan ayrışan doğrusal bir mekanı ifade etmektedir. Bu bağlamda, toplumun en çok zaman geçirdiği doğrusal kamusal alan, ekonomik bir merkezi oluşturan ticari bir eksen ve yaya taşıt ulaşımını ana taşıyıcısı olarak kent omurgasını ifade eden ana cadde kent içerisindeki önemini kanıtlamış bir sokaktır. Sokağın ana caddeye dönüşümü sırasında yaşanan değişiklikler içerisinde caddenin fiziksel dokusunun kentle bütünleşmesi ve doku içerisinde sağlamlaşması en önemli aşamalarındandır. Bu bağlamda, ana caddenin kent dokusu içerisindeki kalıcılaşmasını tanımlanmasına ve süreç içerisindeki parametrelerin belirlenmesine ihtiyaç duyulmaktadır.

Çalışmanın amacı, sağlamlaşma kavramından yola çıkarak ana caddenin oluşum parametrelerini analiz etmektir. Bu bağlamda araştırma, geçmişten günümüze ana caddenin oluşumuna dair önemli gelişmeleri saptayarak bu adımların var olan bir kent dokusu içerisinde nasıl gerçekleştiğini incelemektedir. Ek olarak, bu oluşumun yanı sıra ana caddenin geçmişten günümüze ulaşmasını sağlayan fiziksel özelliklerin neler olduğu sorusuna yanıt aramaktadır.

Bu çalışma kapsamında sahip olduğu zengin tarihi geçmiş boyunca ana cadde olma özelliğini koruyarak günümüze ulaşan Antakya Kurtuluş Caddesi araştırma alanı olarak seçilmiştir. Çalışma caddenin sağlaşmasını gösteren tarihi geçmişinin incelenmesi ve bu sağlaşmayı oluşturan parametrelerin analiz edilmesi üzerine odaklanmaktadır. Bu kapsamda, çalışma beş ana aşama üzerinden geliştirilmiştir.

Birinci aşamada, sokağın görülmediği yerleşim alanlarından başlayarak sokağın oluşması ve sonrasında farklı rollere bürünmesi ile başlayan sokağın tarihi süreç boyunca gelişimi incelenmiştir. İlk yerleşim alanlarından biri olarak kabul edilen ve sokağın yer almadığı Çatalhöyük'ten başlayarak 20. yüzyılda sokağın temel araştırma konusu olduğu projelere kadar olan süreç içerisinde sokak sırasıyla kendine mekansal

olarak yer bulmuş, farklı roller kazanarak ana ve yardımcı olmak üzere ayrışmıştıştır. Sonrasında öneminin artması ve temelde ulaşım ihtiyacına yanıt verebilirliğini artırmak adına sınıflandırmada farklı kategori ve alt kategorilere ihtiyaç duyulmuş ve sokak bugünkü haline ulaşmıştır. Sokağın öneminin artması sonucunda 19. yüzyılın başında sokağın etkisini azaltmaya yönelik projelerin ortaya çıktığı görülse de ortaya atılan karşı argümanlarla sokağın günümüzde kentin en önemli yapı taşlarından biri olarak varlığını sürdürdüğü ve kent içerisindeki rolünü kalıcılaştırdığı görülmektedir. Bu noktada, sokağın önemini vurgulayan işlev çeşitliliği ve bu işlevleriyle birlikte sokağın doku içerisinde sağlamlaşmasını sağlayan fiziksel özellikler incelemeye değer bir konu olarak öne çıkmaktadır.

İkinci aşama, caddenin sahip olduğu farklı rolleri ve buna bağlı olarak hizmet ettiği işlevleri anlatan kısmın dahil olduğu ana caddenin ne anlama geldiğinin açıklandığı etabı kapsamaktadır. Caddenin farklı sorumluluklar kazanmasıyla birlikte bulunduğu konum ve hizmet verdiği kullanıcı kitlesi başta olmak üzere çeşitli değişkenlere farklı olarak cevap vermesi gereken sorumluluklar sonucu farklı adlar kazanmaktadır. Bu bağlamda, Sokak ağı içerisindeki bir sokaktan ana caddeye dönüşme süreci içerisinde diğer sokaklardan ayrışarak ön plana çıkan ana cadde en sık kullanılan cadde tanımıyla diğer kentlerdeki tanımıyla ortaklaşsa da kent formu ve toplumların kültürel yapısı ana caddenin birçok farklı anlam ifade etmesine ve kavramın farklı şekillerde ortaya açıklanmasına neden olmaktadır. Ana cadde kavramının sahip olduğu bu çoklu tanım durumunun karışıklıklık yaratmasından dolayı caddenin yönetimi ve tasarımı aşamasında problem oluşmaktadır. Bu nedenle, ana cadde kavramının yeniden tanımlanmasına ihtiyaç duyulmuştur. Bu bağlamda ana cadde, geleneksel şehirler içerisinde sahip olduğu tarihi geçmişle birlikte insanların kullanmaya alışık olduğu, sahip olduğu farklı kentsel işlevlerle insanların gündelik ve idari ihtiyaçlarını giderebileceği, yaya ulaşımı önceliklikli olmak üzere yaya ve taşıt ulaşımına imkan veren, genişlik ve uzunluk ölçüleri insan ölçeğine uygun olarak tasarlanan ve üçüncü boyutta kuvvetli bir mekan algısı yaratan doğrusal bir mekan ve bir kentsel omurgadır.

Üçüncü aşama, ana caddenin kent dokusu içerisindeki sağlamlaşma parametrelerinin pilot bölge olarak Antakya Kurtuluş Caddesi üzerinde incelendiği aşamadır. Bu etapta Kurtuluş Caddesi Helenistik Dönemden başlayarak var olan kent planları ve haritalar üzerinden incelenmiştir. Kentin geçirdiği yangın, deprem ve istila başta olmak üzere tüm yıkıcı olaylara rağmen Kurtuluş Caddesi'nin tarih boyunca kentin ana caddesi olma ünvanını koruyarak günümüze ulaştığı görülmüştür. Tarihi harita ve planlar analiz edildiğinde, dokunun değişen yapısına rağmen caddenin kent dokusu içerisinde bütünleşmiş bir şekilde çoğunlukla değişmeden varlığını koruduğu ve zaman ilerledikçe doku içerisinde sağlamlaştığı görülmüştür.

Dördüncü aşamada, Kurtuluş Caddesi'nin tarih boyunca önemini kaybetmeden bugüne ulaşmasının altında yatan fiziksel parametreler araştırılmıştır. Literatür taraması, incelenen dünya örnekleri ve pilot bölgenin tarihi süreçteki değişimi analiz edildiğinde caddenin kent içerisindeki bütünleşme derecesi, caddenin sahip olduğu arazi kullanım çeşitliliği ve cadde üzerinde bulunan yapıların yoğunluğu ve sürekliliğinin, ana caddenin kent dokusu içerisindeki sağlamlaşma sürecine etki eden parametreler olduğu görülmüştür. Bu parametrelerin incelenmesi adına her parametre için farklı bir inceleme yöntemi kullanılmıştır. Caddenin kent içerisindeki bütünleşmesini incelemek için mekan dizim yöntemi kullanılmış ve caddenin global ve yerel ölçekteki bütünleşme değerlerine bakılmıştır. Sonucunda, doku içerisinde hem global hem yerel ölçekte dokuyla en bütünleşmiş durumda olan eksenlerin caddenin üzerinde olduğu görülmüştür. Arazi kullanım analizi için kentin tarihi

çekirdeğinin 1925 ve 2022 yılındaki arazi kullanım işlevleri karşılaştırılarak değerlendirilmiş ve caddenin sahip olduğu işlevlerin son yüzyıl içerisinde çeşitlenerek arttığı görülmüştür. Son parametre olan yapı sürekliliği ve yoğunluğu parametresinde, yapı sürekliliğini incelemek için binaların sokak üzerinde nasıl konumlandığı; yapı yoğunluğunu incelemek için binaların sahip olduğu kapı, pencere ve vitrin sayıları analiz edilmiştir. Analiz sonucunda binaların büyük çoğunlukla sokakla aynı hizada konumlandığı ve böylece cadde üzerinde kesintisiz bir perspektif algısı yaratarak mekan hissini güçlendirdiği görülmüştür. Ayrıca, binaların sahip olduğu yüksek sayıdaki kapı, pencere ve vitrin sayıları caddenin sahip olduğu bina yoğunluğunu ve geçirgenliğini göstererek caddenin kullanım sıklığının yükselmesi ve böylece caddenin doku içerisinde kalıcı olmasına sebep sunmaktadır.

Çalışmanın beşinci aşaması, tüm aşamaların sonucunda ortaya çıkan analiz verilerinin değerlendirildiği etaptır. Sonucunda, ana caddenin kent dokusu içerisinde kalıcı olmasına yönelik yapılan analizlerde farklı ölçeklerde farklı parametrelerin olduğu görülmüştür. Bu bağlamda Kurtuluş Caddesi'nin sokak ağı içerisinde bütünleşme oranının en yüksek arter olması, sokağın temelde ticari bir hat olarak hizmet vermesi ile birlikte çeşitli işlevler sunması ve bina yoğunluğu ve sürekliliği ile birlikte mekan algısını yükselterek geçirgen ve kullanılan bir hat olduğu görülmüştür.

Çalışmada ele alınan parametreler ve pilot bölge, ana caddenin öneminin kanıtlanması ve Kurtuluş Caddesi'ne yönelik müdahalelerin yapılması aşamasına katkı sağlayacağı düşünülmektedir. Bu çalışmanın ortaya koyduğu analizler sonucunda, ana caddenin oluşum ve sağlamlaşma süreci ve parametrelerinin incelenmesinin gelecek şehir planlama ve kentsel tasarım çalışmalarında ana caddenin konumunun ve işlevinin daha farklı bir şekilde ele alınmasına imkan sağlayacağına inanılmaktadır. Ayrıca 6 Şubat 2023 depremleri sonucunda kentte meydana gelen büyük yıkım sonrası kentin değerlerini korumak ve bu değerler ışığında toplumun kültürel varlığına ev sahipliğini ev sahipliği yapan Kurtuluş Caddesi'ni ayağa kaldırmak Antakya'yı geleceğe aktarmak adına daha önemli hale gelmiştir. Bu bağlamda tez, Kurtuluş Caddesi'nin yaşayan bir mekan olarak değerlendirilmesi ve bu bağlam üzerinden incelenmesi gerekliliğini vurgulamaktadır.

1. INTRODUCTION

> With cities, it is as with dreams: everything imaginable can be dreamed, but even the most unexpected dream is a rebus that conceals a desire or, its reverse, a fear. Cities, like dreams, are made of desires and fears, even if the thread of their discourse is secret, their rules are absurd, their perspectives deceitful, and everything conceals something else (Calvino, 1972).

Main streets stand out as arteries embody the essence of urban life, encompassing cultural identity, economic vitality, and physical characteristics. They hold vital importance not only within the contemporary urban fabric but also in historical settlements. Positioned at the heart of the city, the main street, often referred to as the city's core (Marshall, 2004, p. 3), has been the focal point of all social, economic, and cultural changes throughout the city's history, influenced by its location, characteristics, and stakeholders. Despite the emergence of various urban focal points, transportation and settlement types, and cultural and social structures within the constantly evolving urban form, main streets persist as significant urban elements that hold great value for cities. Thus, it builds the community and identity (Kostof, 1992, p. 194). With the growing emerging discourse about the importance of the street (Anderson, 1978; Gehl, 2010; Jacobs, 1961; Jacobs; 1995), understanding the formation and evolution of main streets, as well as their ability to preserve themselves amidst change, is crucial for professionals such as architects, urban planners, urban designers, sociologists, and policymakers who aim to create sustainable cities in the future as well as for the citizens who reside within these cities.

The concept of a main street has emerged based on society's need to travel from one place to another and has a history that dates back centuries (Rykwert, 1978, p. 22). From the Panathenaic way in ancient Greece, which had power in the planning and architecture of Athens (Bacon, 1976, p. 65), the evolution of main streets can be observed as parallel to the evolution of society. Throughout the historical process, main streets have acquired their contemporary meaning and significance through the influence of various dynamics, including the geographical features of the region, the city's economy, and the community's social structure. Additionally, main streets shape

the physical and social network within the city. Streets have served as venues for community activities, celebrations, and protests, bearing witness to significant historical events and becoming a fundamental part of local identity. Therefore, these streets are the most prominent places in the city (Appleyard & Appleyard, 2021, p.492). Government and civic leaders have recognised the importance of main streets and designed and made decisions to harness their power within society (Gates, 2011, pp. 182-183; Kostof, 1991, p. 230). Understanding and evaluating the social and cultural significance of the main street in this context is crucial. Thereby, it is necessary to consider the main street as the city's productive force and focal point, reevaluate and redefine its evolving status and functions within the historical framework, and examine the parameters that have sustained the street within the urban fabric until today.

The main street is the community's beating heart, where people come to shop, socialise, and participate in urban life. The main street is not just a commercial hub but a cultural and historical landmark that tells the story of the city's past, present, and future (Mehta, 2013, p. 17). It embodies the collective memory and identity of the community; therefore, preserving and enhancing its physical and social attributes is essential. Also, as a fundamental component of the city, the main street has gained increasing significance in response to the challenges posed by evolving urban planning and design trends. Understanding its importance requires a comprehensive examination of the parameters contributing to consolidating the main street within the urban context while preserving the city's distinctive character and aligning with the community's social structure. Preserving and enhancing existing main streets play a vital role in revitalizing the city center and ensuring its long-term sustainability amid urban transformations.

Exploring the multifaceted aspects that shape the main street and its surrounding urban fabric is crucial to understand the intricate dynamics within urban environments. This entails examining factors such as historical formation that define the main street's role and significance within the city. The research focuses on comprehensively exploring the historical formation and consolidation of the main street as a critical urban element. By delving into the historical evolution of main streets and their contextual adaptation over time, this study will contribute to a deeper understanding of the main street's significance and potential for promoting social cohesion, economic vitality, and cultural preservation within urban contexts.

1.1 Aim of the Study and Research Question

Within the theoretical framework drawn up to this point, the main objective of this study is to examine the strengthening of the main street within the urban fabric. Current work practices typically consider the main street within the urban fabric as a city space that emphasises its economic function and is physically examined through vehicular transportation. In this sense, it is observed that the current urban planning and design practice needs to include the continuity of the formation of the main street and its form within the city while preserving it. Therefore, this study focuses on the physicality of the main street, the factors that have influenced and been influenced by it during its historical process, and draws attention to the urban morphology of the main street and the physicality of the space it creates within the city. Also The study focuses on consolidating and integrating the main street throughout history within the urban fabric and its change in this process. In this context, the main street concept will be re-examined through a literature review. By doing so, the importance of the main street for the city will be emphasised.

In this context, the study mainly seeks to answer two questions related to the permanence of the main street within the urban fabric. For the answer to the second question, the first question must be answered, and a definitional framework must be established. In this context, the first question is: “What are the dynamics that lead to the transformation of a street into the main street?” As a result of this question, it is examined which factors cause a street to differentiate and transform into the main street and what physical features distinguish it from other streets. This research question forms the basis for the second question of the study. The second research question, "What are the parameters that make the main street within the urban fabric of the city's integrity?" seeks a physical transformation for the artery within the urban fabric that transforms from a street to the main street. Thus, the study aims to examine the parameters of the permanence of the main street that emerged from the literature review. Therefore, instead of including the planning and design stages of the main street as an economic and vehicle-focused space, this study emphasises the importance of the other roles and physicality of the main street within the urban fabric and highlights the need to approach it from different perspectives in urban planning and design.

1.2 Methodology of the Research

This study conducted an extensive literature review to examine the concept of the main street, its classification, and the parameters of its consolidation within the urban fabric. To answer the research questions and objectives stated above, the concepts of public and private space and street were explored and discussed through the definitions of researchers such as Sitte (1889), Krier (1979), Norberg-Schulz (1971), Newman (1972), and Moudon (1987). Following this, the definitions and functions of the main street, as well as its categorisation in different classes of countries, were examined using various sources. Based on this review, a definition of the main street was formulated for the study, and this concept was used throughout the rest of the study.

A site study was conducted after establishing a framework for what constitutes a main street. The physical transformation process that the main street underwent throughout the city's historical development was examined during this site study. To do so, plans and maps from the city's first urban plan to the present day were analysed to investigate the reasons for changes and the street's significance within each period. Following these investigations, three parameters were identified and examined within the site. In this scope, the space syntax method was used to investigate the degree of integration of the street into the city, and the connectivity and global and local integrity (n, r3) of the street with the urban texture were analysed. For the land use parameter, the 1929 land use of the city was compared with the 2022 land use created using resources and Google Maps. For the building density and continuity parameter, the analysis of the city's evolving urban form since the 16th century and the number of doors, windows, and showcases on the buildings along the street were examined. The analysis was conducted to achieve this by calculating the amount of facades per unit distance along the building and the number of doors, windows, and showcases per unit distance. By doing so, the study proposes the fundamental physical factors that have aided the main street's integration within the city during its historical development by examining the literature review and site study.

1.3 Structure of the Research

This study consists of four chapters (Figure 1.1). Chapter 1, the current chapter, describes the study's fundamental motivation, research questions, objectives,

methodology, and structure. Chapter 2 provides an extensive literature review of the research topics of the study. The definition of public space is examined to answer the first research question and introduce the publicness of the street. Hereby, the relationship between urban space, public space, and streets has been examined. Subsequently, the reasons for use and users of the street are discussed. After submitting the roles of the street and its user groups, the evolution of the street from a non-existent street settlement to the present day is examined through existing urban plans. In this part, which examines the physical formation stages of the street, the differentiation of the main street has also been emphasised. At this stage, examples of the street classified as the main and other streets and the reasons for the classification were analysed. Based on these analyses, the street was evaluated under two different headings as a generator and generated element, along with its consolidation process within the city, and the reasons for this examination were explained. Then, to define the main street concept in the research question, the types of street classifications in different countries were examined, and the various spatial characteristics of these streets were conveyed within this section. Additionally, it was evaluated why the main street concept was included in these classifications. After the literature review, three examples demonstrating the main street feature (Regent Street in London, High Street in Glasgow, and Stone Avenue in Greenville) were examined worldwide to see the practical examples of the theoretical study. The parameters that affect the formation and consolidation of the main street, seen in these examples, were examined. The end of the section explains how the main street was formed from essential steps, what it means in its current state and what physical parameters it must have to become permanent within the urban fabric. Chapter 3 covers the analysis of the chosen study area's historical and literature review parameters by examining the physical changes that Kurtuluş Street in Antakya has undergone throughout history, starting from the Hellenistic period. The three identified parameters were applied to Kurtuluş Street in the literature review and case study context, and the results were analysed. Chapter 4 presents critical thinking of the formation and consolidation stages of the main street and the parameters that affect them based on the analysis results. The importance of Kurtuluş Street for Antakya's cultural and social values is emphasised. Finally, this section covers the limitations experienced in the study and critical thoughts on the future of the main street concept.

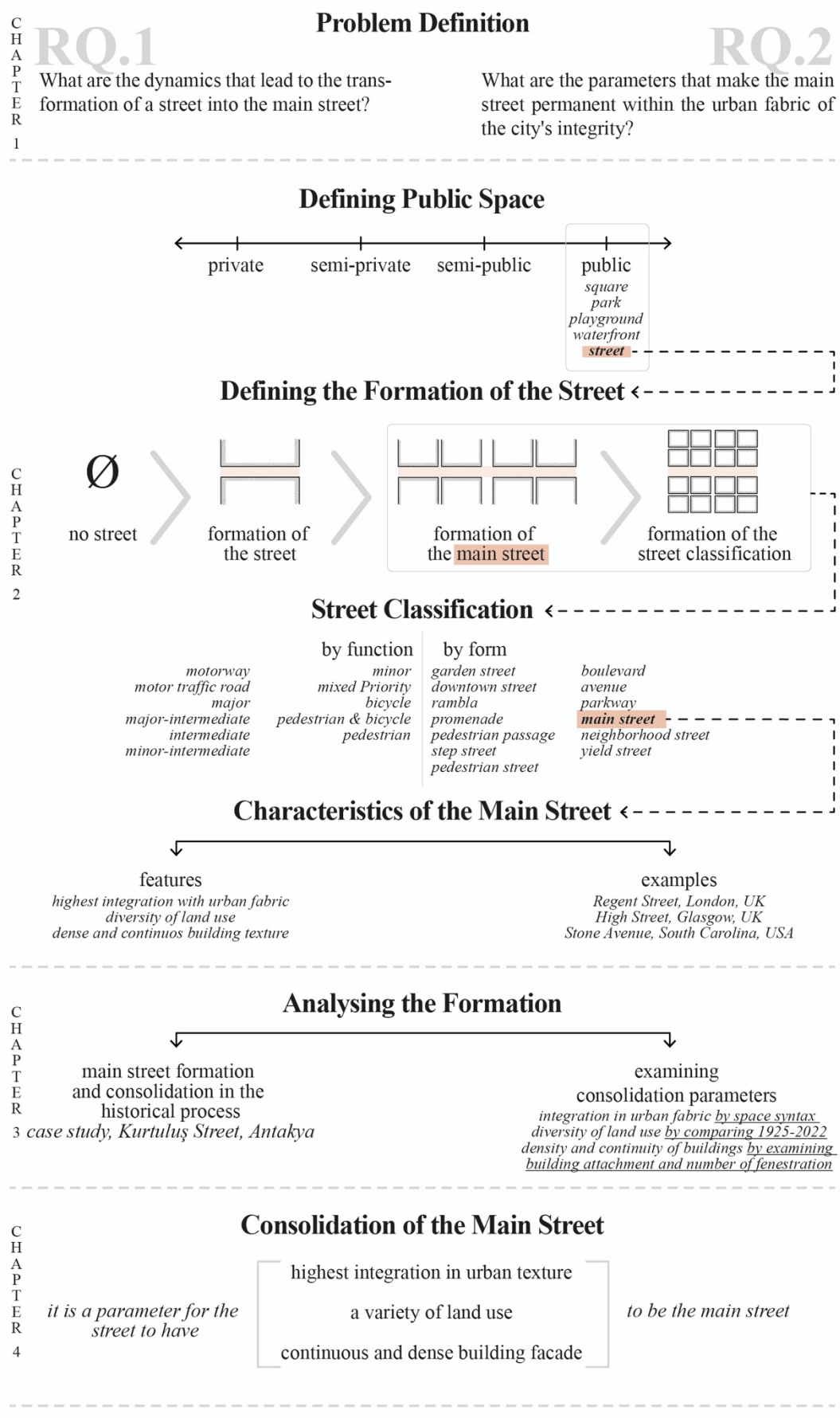


Figure 1.1 : Structural framework of the research

2. STREET AS A DYNAMIC COMPONENT OF THE CITY

In this chapter, the concept of the street is discussed in general. First, the public space and the street's publicness are discussed when reviewing this concept. In the next step, the historical formation of the street is examined, and the roles of the street during this formation and the types of streets arising from these roles are detailed. The concept of the main street is examined, and the implications of its treatment in urban planning and design practice are discussed. Subsequently, three examples were analysed: a street with a solid main street feature, a street that has moved away from its central position within the city due to urban development, and a street to be transformed into a main street. In doing so, the parameters that affect a street's existence as a main street and its consolidation within the urban fabric are discussed.

2.1 Public Space as a Part of the Street

In a narrow frame of thought, space can be defined as everything within the universe. However, in today's world, space has generated meaning by being approached from several perspectives. In this context, in architecture, space can be defined as the place where a person does their actions while existing within it. Within space, humans create different forms of relationships through various behaviours. Among these relationships, space is not a product but rather a host to the order or disorder between the existence of things (Lefebvre, 1991, p. 73). Within this totality of relationships, space enables the emergence of these relationships while seeking to sustain their existence through various forms and styles. In this pursuit, it hosts its users and contains the resulting web of relationships. However, space is not produced as a product but rather a place and a social relationship that is used and consumed as well as produced, depending on the productive forces (Lefebvre, 1991, p. 85).

The city hosts urban life. According to Lofland, urban space "quite uniquely, provides a kind of socio-psychological environment that is not duplicated elsewhere" (1998, xi). Urban space is where relationships between things present themselves, and production and consumption occur between settlements. It is not just a spatial gap.

According to Foucault, the space where we live is not an emptiness where we have located but an entirety of relationships that cannot be boiled down to each other. (1984, p. 3). Space creates social life by providing interaction between production and consumption. Urban space is not only a place that contains social life but also a place where social values are required to be supported and reproduced (Stavrides, 2019, p. 27). While people continue their social lives interacting with the thing(s), they also shape the social life of the future during this interaction. In this regard, space does not host only today but also values that come from yesterday, are produced today and will be produced in future.

In the meantime, production of values, while these social spaces get on and inside each other, they do not produce borders that limit themselves (Lefebvre, 1991, pp.86-87). Social space is transitional and does not have a physical barrier for users; in opposition, overlapped space may contribute by gathering numerous people in different places to the social dimension of the place. As a consequence of involving social life, the space is related to daily life dynamics. The impreventable relation between physical space and social life, which is held in everyday life, requires (re)producing whole aspects of social life in the production of an urban place (Purcell, 2002, p.102). Users interact with their environment depending on their physical, perceptional and cultural values that result from their needs and expectations (Rapoport, 1987, p. 80). In this context, the relationship between space and social life is open to feedback and a formation which transforms by this feedback. Canter summarises this by saying that users comply with space, which is shaped by users' conduct (1970, p. 25).

According to evidence, urban space has occurred as a meeting place with the aim of religion before the permanent settlements (Mumford, 1961, p.10). Coming together with the intention of an object may be the first manifestation of the desire to be together. By this means, the atmosphere of togetherness, which is society's first step, may have occurred. This meeting place witnessed the first moment of social life by providing the prototype of society. Existing together means residing in social life has been critical from past to present. Cullen describes encountering people in the city by saying,

> ...You might assemble in the Forum at Pompeii or round the market cross, but you still assembled; it was a ritual proper to man, both a rite and a right. Nor, in a general way, did you have to explain whether your motives were proper or profane. ... (1961, p. 103).

While people come together in line with a purpose, they produce the first variation of public space by materialising their physical needs of gatherings. As stated by Krier, excluding the aesthetical criteria, urban space is the whole space between buildings in all settlement areas (1979, p. 15). Norberg-Schulz emphasises that for the space perceived as an urban, density, variety, and continuity should exist (1985, pp. 53-55). Trancik divided urban space into two categories as urban solid and urban voids. According to this categorisation, the spaces that count as an urban solid are,

A. public buildings that have to be centre
B. building blocks that have functions such as living and working.
C. nonrecurrent buildings without directive effect that formed urban voids
D. passages that provide a pass between public and private spaces
E. middle of building blocks that enables rambling and rest in shopping areas and hosts communal use in residential areas
F. street and square network that allows mobility and time spending
G. parks and gardens that serve for relaxation and recreation
H. linear open spaces, including waterways (Figure 2.1) (1986, pp. 101-105).

From this standpoint, it is seen that urban space does not only refer to the building but that the space is a set of elements.

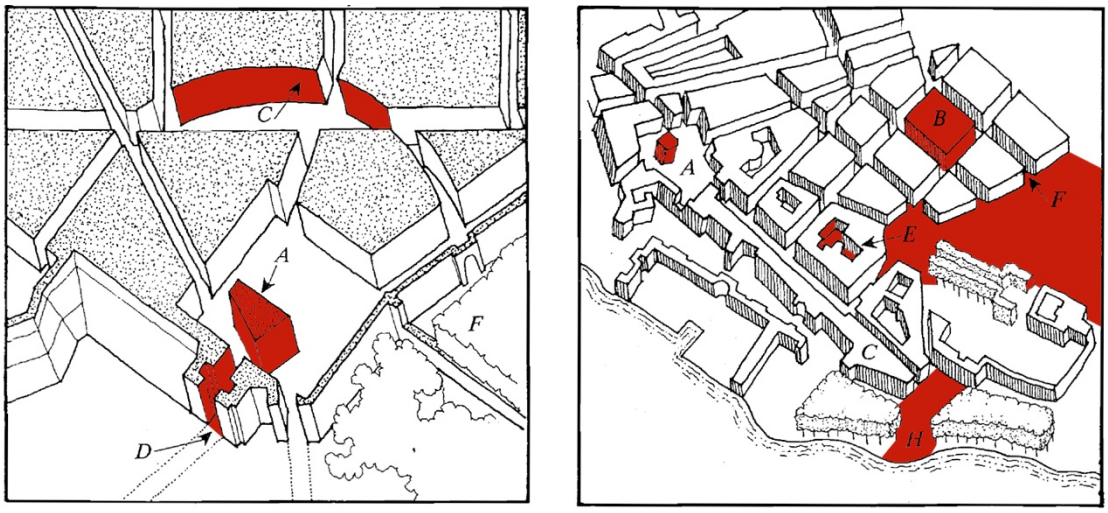


Figure 2.1 : Types of urban voids and solids, adapted from (Trancik, 1986).

Among the elements of urban spaces, according to Krier's definitions, places defined as "indoor" mean "private ownership", and "outdoor" mean "places that enable

mobility and publicness" (1979, p. 15). Public and private life notions become part of the subject at this stage. All the differentiations between public and private life are related to the distinction between the inner and outer world (Madanipour, 2003, p. 37). In parallel, the dissimilarity of a person's inner and outer world and this difference may be the starting point, shapes public and private life. In cartesian dualism, separating the inner world from external conditions and the mental world from corporeality becomes the subject of debate (Scruton, 1996, p. 48). As a matter of this debate, similar to the inseparability of the inner and outer world, public and private life cannot be considered separately. Within this unity, there are some divergences between public and private life. These two places provide different experiences. According to Brill (1989), public space offers some experiences different from private life. These experiences can be listed as follows:

- Public life is a forum that is balanced by the intelligence and justice of a person
- Public life is a group action in that society gathers to strengthen and show its power
- Public life is a learning school
- Public life is a common ground that meets with strangers (p. 8).

With these objectives, public life separates private life. Based on this divergency, public and private spaces demonstrate similarities and differences and their derivative life.

Figure 2.2 : Public life experience (Left: Url-1; Middle: Url-2; Right: Url-3).

The meanings of the words public and private are related to each other; therefore, they cannot be considered without each other (Madanipour, 2003, p. 37). In other words, places in and between public and private spaces and their degree of publicness exist as a unity and are mutually dependent.

In the historical process, the private space emerges when the nuclear family changes its sociality by separating from the outside world with the concern of privacy (Madanipour, 2003, pp. 106-107). As Madanipour argues, private space is a place where an individual has control and the government and society have no control or surveillance (2003, pp. 37-38). In discordance with private space, public space is a place that is shared and used by society and provided and controlled by the government (Madanipour, 2003, pp. 37-38). At this point, private space can be defined as a place people fall under to protect their privacy, while public space can be explained as a place where people are ready and want to communicate and interact. Sommer defines the manner of proximity and distance as "Like the porcupines in Schopenhauer's fable, people like to be close enough to obtain warmth and comradeship but far enough to avoid pricking one another." (1969, p. 26). In this regard, the existence of public and private spaces enables freedom for people to be in a place according to their emotional states and needs. According to Arendt (1958), the relationship between public and private space is the same as the need to hide and show (p. 72).

The production of urban spaces cannot be considered singular. Each production develops by participating with the other output. It is impossible to think of inner space without outer space and private space without public space. Throughout history, the first thing that architects should do is to create or strengthen public space (Massengale & Dover, 2014, p. 3). Regarding being indoors being considered a basic need for human life, there is an inseparable relationship between private-public and indoor-outdoor space.

Public space is explained by the unity of the parts of a built-up environment, such as squares, streets, and buildings and the experiences of public life while walking, commuting, or sitting on the balcony (Gehl & Svarre, 2013, p. 2). Opportunities occur in public spaces, allowing people to see, hear and encounter each other (Gehl, 2011, p. 15). The city is a cultural polarization that includes interrelated and interactive situations rather than a building community (Mumford, 1961, p. 85). Therefore, each culture needs a centre to live, see and be seen as a public presence (Alexander et al., 1977, p. 164). By way of the presenting together of people with different production and consumption dynamics in the same city, the urban space creates a place where different extreme views coexist. These different views accumulate in the same space and contribute to the production and transformation of the space. As Auguste Comte

stated, society is an “accumulation activity”, and the city acts as a warehouse, a collector as a container that hosts it (Mumford, 1961, p. 97).

In line with the togetherness of society, new sets of behaviours join the practice of everyday life. The requirements of living together influence the formation of civilisation towards society’s needs and desires. There is bidirectional integration between place and life. “City (*civitas*)” is a place where people come together to build civil life in Greek and Roman civilisations comes from the same root of a word “civil”, “civilisation”, and “citizen” (Massengale & Dover, 2014, p. 3). In circumstances where the city, civilisation and citizenship are the subjects, considering them independent may lead to a deficiency in the issue.

The word “*polis*” means the city in Ancient Greek is the roof of the word “polite”, “political”, and “police” (Massengale & Dover, 2014, p. 3). The public place contains civilisation, and access to the place is guaranteed to people, and the public body is produced by people (Habermas, 1989, p. 136). In brief, public space is a political representation of people. In addition to the relationship between the mentioned words, there is another relationship between the words oikos and polis. *Oikos*, which means home, and family in Ancient Greek, is the basic unit of the *polis* (Roy, 1999, p. 2). While in a Greek city that is completely developed, the *polis*, which is commonplace for free (*koine*) citizens, is separated from oikos which is a place everybody is in their place (*idia*), the public life (*bios politikos*) continues in the marketplace (*agora*) (Habermas, 1991, pp. 2-3).

There is a distinction between public space and urban open space concepts. Therefore, in order to understand the difference between these two concepts, it is necessary to examine researchers' studies on the concepts. Historically, public space and urban open space notions may not have differentiated in the past. According to researchers who write about the history of urban open spaces (e.g., Crouch, 1979; Carr et al., 1992; Madanipour, 2003; Carmona et al., 2008), The Greek Agora symbolised a starting point for an urban open space, while planned Roman Forum and squares are the other ancient places that talked about (Stanley et al., 2012, p. 1092). The classification of urban open spaces that has been ongoing from the past has been made by different researchers under multiple subjects such as urban squares, outdoor spaces, public spaces and urban open spaces (Table 2.1).

Table 2.1 : Urban-open-public space classification.

Perspective of Classification	Researcher	Classified Area	Sub-category	Source
Design	Sitte (1889)	Urban squares	Deep square Wide square	(Sitte, 1965)
	Zucker (1959)	Urban squares	Closed square Dominant square Nuclear square Grouped square Amorphous sqaure	(Zucker, 1959)
	Alexander et al. (1977)	Outdoor spaces	Figure (Buildings) Ground (Open spaces) Negative space (Irregular shape) Positive space (Regular shape) Figure (Buildings)	(Alexander, C. Ishikawa, S. & Silvestein, M., 1977)
	Krier (1979)	Urban open spaces	Streets Squares	(Krier, 1979)
	Trancik (1985)	Urban spaces	Urban solids Urban voids	(Trancik, 1985)
	Carr et al. (1992)	Urban spaces	Public parks Square and plazas Memorials Markets Streets Playgrounds Community open spaces Greenways and parkways Atrium/indoor marketplaces Found spaces/everyday spaces Waterfronts	
	Gehl & Gemzoe (2011)	Urban squares	Main city square Recreational square Promenade Traffic square Monumental square	(Gehl & Gemzoe, 2011)
	Burgers (1999)	Public spaces	Erected public space Displayed space Exalted space Exposed space Coloured space Marginalized space	(Carmona, 2010)
	Dines & Cattell (2006)	Public spaces	Everyday places Places of meaning Social environments Places of retreat	Dines & Cattell (2006)
Politic & Economy	Gulick (1998)	Public spaces	Negative spaces Public property Semiotic Public sphere	(Carmona, 2010).
	Kilian (1998)		Public space as the sites of contact Public space as the sites of representation	(Carmona, 2010).

Table 2.1 (continued) : Urban-open-public space classification.

Perspective of Classification	Researcher	Classified Area	Sub-category	Source
	Flusty (1997)	Space	Stealthy space Slippery space Crusty space Prickly space Jittery space	(Flusty, 1997)
Function, Perception & Ownership	Carmona (2010)	Urban spaces	Positive space Negative space Ambiguous space Private space	(Carmona, 2010)
Function & Form	Stanley et al. (2012)	Urban open spaces	Food production areas Parks and gardens Recreational space Plazas Streets Transport facilities Incidental space	(Stanley, Stark, Johnston & Smith, 2012)

While Sitte (1986) and Zucker (1959) classify urban squares under the theme of design, Carr et al. (1992) categorise urban spaces under the design perspective. While Burgers (1999) analyse spaces from a social perspective, Gulick (1998) examines them from social and political philosophy, and Carmona (2010) studies them about function, perception and ownership. Nowadays, definitions of public and private spaces have new meanings due to public and individual lives (Bravo, 2013, p. 2). Therefore, they do not carry the same meaning. The concept of public space comprises urban open spaces since it includes public enterprises that are not freely accessible (Figure 2.3) (Stanley et al., 2012, p. 1091).

a. A Street, Brugge **b.** Parque de El Retiro, Madrid **c.** Piazza San Pietro, Rome

Figure 2.3 : Examples of public spaces (Personal archive).

The differentiation that arises from the accessibility of public and urban open spaces has also shown itself within the urban open spaces. Concerning ownership, urban open spaces can be divided into four categories: private, semi-private, semi-public and public (Ashihara, 1981, pp. 82-83; Newman, 1972, p. 9) (Figure 2.4). These four categories are explained as follows:

Private urban open spaces: These spaces are places like a courtyard and terrace with an individual and institutional owner and are used by a determined user group.

Semi-private urban open spaces: These spaces are places like a front garden that has surveillance of society and contribute to the users.

Semi-public urban open spaces: These spaces are places like a shared garden and parking area that serve a shared function and have certain inside users and uncertain outside users who come together as an experiential.

Public urban open spaces: These spaces are places like streets, squares, and playing gardens that everyone can use freely.

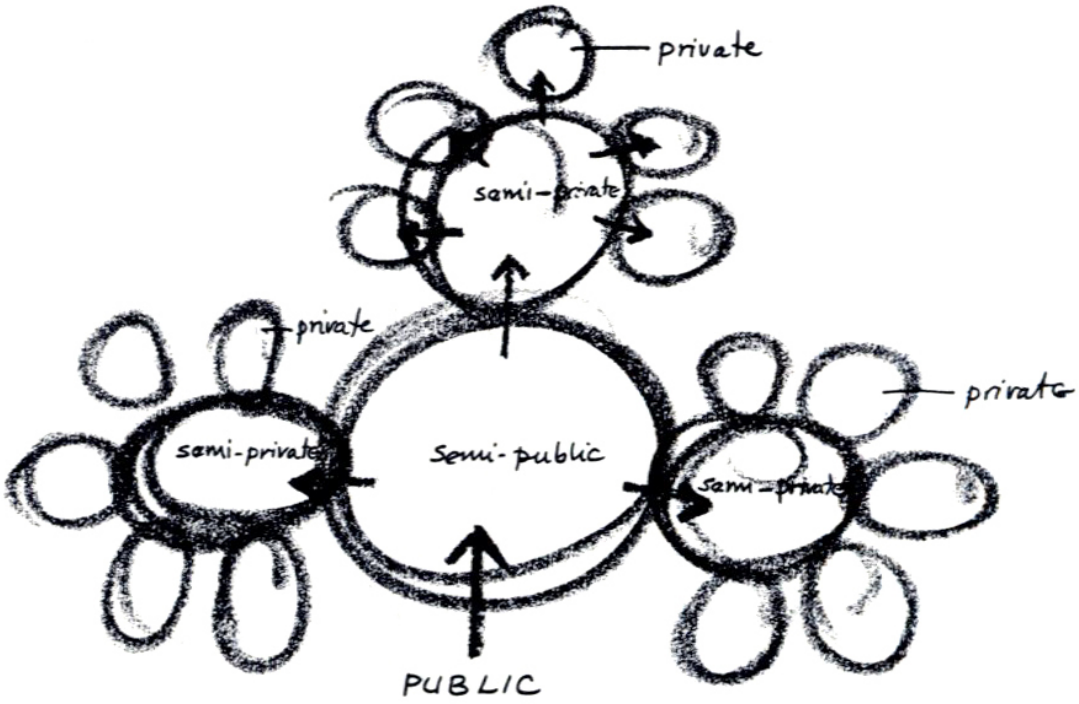


Figure 2.4 : Relationship between public, semi-public, semi-private and private spaces (Newman, 1972).

There is a hierarchy among these urban spaces that have different functions. The expected spatial movement goes from the open urban space accessible to everyone to the semi-public space, then to the semi-private space, and finally to the private space. Relationality among these places generally progresses in this way. However, this may be different in each place. Sometimes, movement skips stages and flows directly from public to private spaces without passing through semi-public or semi-private spaces. It can not be said that there is a sharp boundary between these spaces. People of the first civilisations bond public and semi-public spaces by locating houses around

courtyards and connecting neighbourhoods to the streets (Birch, 2007, p. 118). This shows that these places nourish each other. As indicated by Madanipour, while individuality has been shaped by the physical and social environment and shaped them, it also connects the public and private spaces by forming indefinite borders between them (2003, pp. 229-232). For example, an open space of a housing cluster that creates a wall counts as a public and semi-public place, and the same version of open space without a wall creates public space (Figure 2.5).

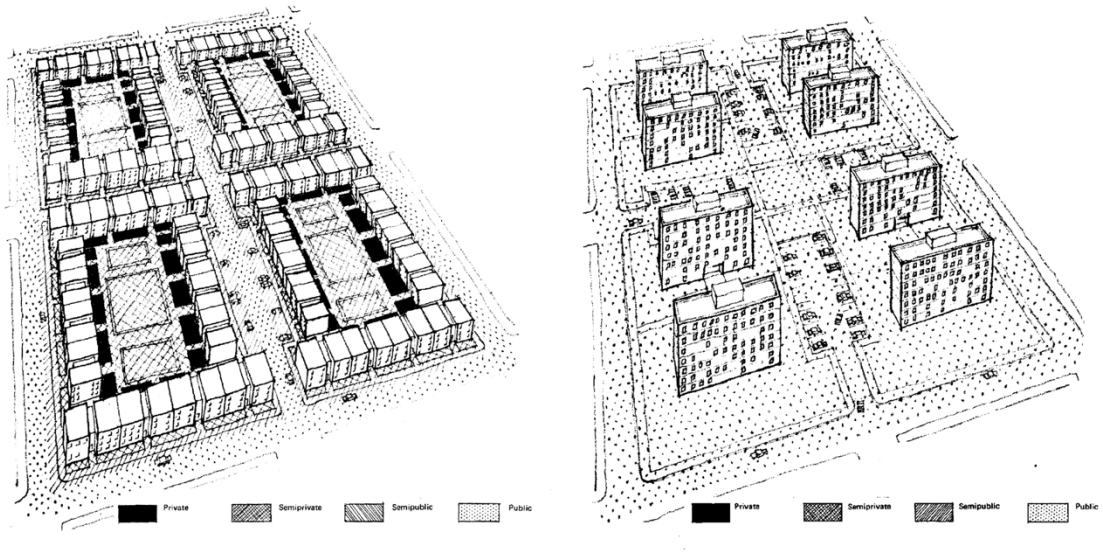


Figure 2.5 : Differentiation in public-private places in various situations (Newman, 1996).

Smith has classified urban open spaces into four categories by strengthening socialisation. These spaces are catalogued as follows:

- formal places that host social and religious events,
- daily places that host public and unofficial commercial life,
- protector places where people sit and talk with sheltering areas and
- linear places that host shopping streets, promenades and arcades (Pressman, 1991, p. 40).

In addition to categorisation by socialisation, urban open spaces are also classified by their length and width. According to this classification, static spaces are considered point spaces where the difference between length and width is slight, while dynamic spaces are considered linear spaces where the difference between length and width is high (Ashihara, 1981, p. 64; Booth, 1989, pp. 145-146). As an example of this

classification, the street means a linear place as long and where mobility takes place, and the square defines point space where length and width are close with a standstill position. Like these definitions of spaces, point and linear spaces are also used for images of urban spaces by Kevin Lynch. Lynch catalogued point spaces of a city as nodes and landmarks and linear spaces of a city as districts, edges and paths in his book (1960). Classifications that focus on different objectives of urban open spaces define various aspects of the elements of the city. These formations of the elements of the city play a part in the historical process.

The agora, one of the first examples of the first conscious physical space formation specific to public life and emerged in many ancient cities, can be shown as an example of public open space (Figure 2.6). Agora has different importance and function and is a place where people meet and interact. Agora is not only a marketplace but a stage where people gather and have a ceremony; therefore, it is a place where political, economic and cultural values sustain simultaneously (Lawrence & Tomlinson, 1996, p. 191). Even its users have to be qualified to enter Agora. The Agora in the north of the Acropolis is sanctified by the stones with the expression “I am the boundary of the Agora.” (Gates, 2011, p. 230). Demosthenes' statement that those who betrayed the state and persecuted their parents would do wrong by entering the Agora proves that people who are thought to defile this sanctity are prohibited from entering the Agora (Camp, 1986 as cited in Gates, 2011, p. 230).

Figure 2.6 : Examples of ancient Agora (Left: Url-5, Right: Url-6).

The first forms of Agora emerged as amorphous and irregular (Mumford, 1961, p. 149). In the Hellenistic Period, the Agora expanded as the most significant planned unit of the city and nourished the collonaded streets in the Roman period (Lawrence & Tomlinson, 1996, p. 196). Since the time spent in the agora could not be predicted during the initial formation of the space, there was no search and organising for a remarkable physical quality because that unconscious transformation of the space led

to the Agora. The expansion of the main street forms the Agora in the village of High Wycombe, Great Britain (Mumford, 1961, p. 149). Since the primary function of the settlement area is commerce, the length of the street would be enough for all the merchandisers (Platt, 1976, p. 30). Each Great Britain village has at least one street and no recognisable square, which is unavailable in Continental Europe (Madanipour, 2003, p. 197). Having different characteristics of streets and squares shows that life experience creates in various spaces in each city. Herein, the formation of the Agora that the first conscious attempt at the place for interaction and street may amplify each other. Panathenaic Way passes through the Agora and reaches the Acropolis by interacting with other parts of the city (Morris, 2013, pp. 46-47), showing the supporting connection between the square and street (Figure 2.7).

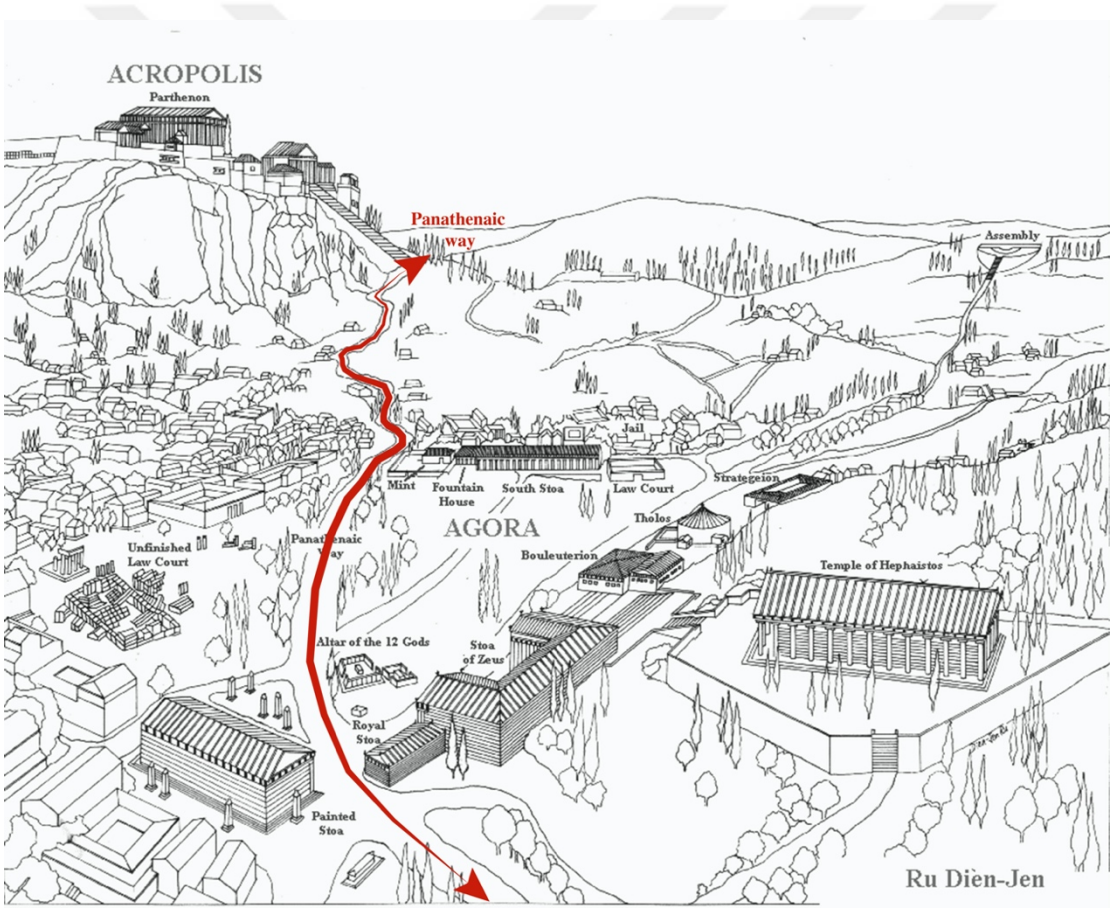


Figure 2.7 : Panathenaic way from Agora to Acropolis adapted from (Url-6).

People who come across and catch each other's eye and have a chance to have quick and short communication might feel the need to increase this integration, which might cause them to be in quest of a space. Trancik defines the street as an extension of the square that occurs when the square is full of houses (1986, p. 67). Similarly, Le Corbusier describes the street as “a sort of stretched-out workshop” (1987, p. 167).

The place where an individual can practice their inside communication in the outside world is an experimental area for them. This place is the street where people witness society and their experiences. The "see and hear contact" people create by seeing, hearing, and experiencing each other on the street is part of all social movements, ranging from simple contacts to complex connections (Gehl, 2011, p. 15). As the first representative of the public open space, the street is a contact place where life takes place and the actions of individuals influence and are influenced by each other. These street features enable contingency, allow the emergence of public life, and change the interplay. Researches on pedestrian behaviours show that people seek a place where the density of people is high when they are available (Alexander et al., 1977, p. 164). People are in search of other people. The interaction on the street meets the essential requirement of being in the exact location - on the street - for communication to occur, providing participants with an opportunity to elevate these conversations to a higher level based on their desires (Gehl, 2011, p. 19). When the street allows people to be in the same place, which allows for communication, it is under people's initiative whether they keep communication up. The relationship between the streets and residents is vital and may be seen between the squares and residents and social facilities and squares (Alexander et al., 1977, p. 165). Since the street is where it sprawls after the construction of building the city centre, it has apparent features and functions rather than the square in terms of its size (Krier, 1979, p. 17). In this context, a street is where urban life has been produced and consumed and may be the first witness of publicness. The ever-growing journey of the street as it began as an urban space and has taken on different meanings over time is worthy of discussion.

2.2 Formation of the Street

As a critical element of urban existence, a street is where urban fabric and society interact (Çelik et al., 1994, p. 7). The social atmosphere on the street cannot escape from the physical environment even if it does not want to. Nonetheless, this exposure is not only available for people but also for the street itself. The street constantly changes due to the acts it is exposed to (Figure 2.8). This change process makes the street a witness to the city's historic transformation. The street in the city shows the anticipation of society in eras (Karndacharuk et al., 2014, p. 193). By analysing the transformation and change of the city, it is possible to comment on the periods the city

passes through, its users and the users' expectations. The street records the form of the city more than any other element in the city (Moudon, 1987, p. 13). The street is a physicality and tangibility that saves the city's history. Also, the street evokes re-arousing relations, acts and values (Fyfe, 1998, p. 174). The street speaks for society and its memory (Jacobs, 1995, p. 11). This representation of memory manifests itself in physicality and sociality. It is a never-ending process, such as the street's endless transformation in line with the era's needs. The street's process through physicalities is a dynamic element of the city. Considering the aim and will of people to direct the formation of a city (Kostof, 1991, p. 53), it can be said that street formation is also affected by the users. Uniquely meeting the requirements of people makes the street the most crucial element of the urban texture (Barlas, 2006, p. 95). In this way, the street reflects the city's history, form, and society that generate this form (Karndacharuk et al., 2015, p. 193).

Figure 2.8 : Transformation of Vienna's Mariahilferstrasse according to the needs of the society (Url-7).

According to Bachelard (1969), Cooper (1974) and Rykwert (1974), the house is a representation of individualism, and there is a relationship between the physical structure of the home and the spirit and anatomy of people (see Nurberg-Schulz, 1971, pp. 30-31). The same logic is valid for the connection between the street and society; therefore, considering the characteristics of society have emerged from the communication between the individual and others, it can be said that individuals identify themselves with their home, and the community identifies themselves with the street (Barlas, 2006, p. 63).

A street is a place where individual experiences turn into cumulative. Moreover, it is a concreteness where the individual's values, judgements, emotions and thoughts meet other parts of the city. Where life flows is the street. As stated by Whyte, the street is a primary place where we come together and a river of life that goes to the city centre (2009, p. 7). Jukes sees the street as a shortcut or summary of the city (Jukes, 1990, p. xv). In this context, the street shows unique characteristics through a combination of social, technical, artistic and political (Çelik et al., 1994, p. 7). Based on the analogy made above, when the changeable nature of individuals and society is considered, the street is expected to have a dynamic structure. These unique spatial qualities that emerge on the street are influenced by every part of urban life and are changed and reproduced. This situation is inevitable as it is affected by the past and undergoes changes for the future. A street is where people with the same values from past to present meet and interact (Alexander et. al, 1977, p. 169).

The street as a communication place is in a process that is as variable as life and never interrupted; also it is defined as the "urban process" by Spiro Kostof due to its retrospective and future-oriented structure (Çelik et al., 1994, p. 7). In this regard, the street is where people interpret the today based on their past experiences and adapt to the potential needs of the future physically and socially. Many researchers have made different definitions of the street (Table 2.2). Definitions emphasise many features, such as the transportation function of the street, its impact on social life and its ability to record the city's history. Depending on various parameters, such as the researchers' era, where they live, and the research subject, these definitions focus on different topics. In this context, it can be concluded that the street is an interdisciplinary space that can be examined within the scope of many different subjects.

Table 2.2 : Definitions of the street

Researcher	Definition	Source
Jukes (1990)	″[T]he 'street' is often shorthand for the urban world.″	(Jukes, 1990, p. xv)
Norberg-Schulz (1971)	″...in the past . . . was a "small universe' where the character of the district and of the town as a whole was presented in condensed form to the visitor. The street represented, so to speak, a section of life – history had shaped its details.″	(Norberg-Schulz, 1971, p. 81)
Rapoport (1987)	″The more or less narrow, linear space lined by buildings found in settlements and used for circulation and, sometimes, other activities.″	(Rapoport, 1987, p. 81).
Moudon (1987)	″More than any other element of the urban infrastructure, streets both record and determine the history of city form.″	(Moudon, 1987, p. 13).
Le Corbusier (1929)	″A machine for traffic, an apparatus for its circulation, a new organ, a construction in itself and of the utmost importance, a sort of extended workshop.″	(Le Corbusier, 1929, p. 123)
Kostof (1992)	″The street, furthermore, structures community. It puts on display the workings of the city, and supplies a backdrop for its common rituals.″	(Kostof, 1992, p. 194)
Malone (2002)	″For many young people, the street is the stage for performance, where they construct their social identity in relation to their peers and other members of society.″	(Malone, 2002, p. 163)
Appleyard (1980)	″The street is a learning environment. On it children can learn much about nature, through plants and trees, the sun and the wind, and through exposure to the earth itself. They can learn about social life if there are people on the street whom they can safely meet.″	(Appleyard, 1980, p. 108)
Fyfe (1998)	″Streets are the terrain of social encounters and political protest, sites of domination and resistance, places of pleasure and anxiety.″	(Fyfe, 1998, p. 1)

At this point, the main street, which plays the most crucial role in the city as an element of the centre of the streets, is a physical line. As a result of street dynamism, the main street and its roles that are undertaken based on the users' requirements and the transformation throughout history based on these roles are worth discussing in terms of the main street being a generator in the city.

2.2.1 Roles of the street

Rapoport simply defines the street as a linear space for mobility (Rapoport, 1987, p. 81). Similarly to this fundamental description which holds the street only as a physical hiatus, Gibberd explains that a street is a place that can be transformed into a square (1967, p. 230). The primary function attributed to the street in these definitions is to serve as a space that separates buildings from each other. In addition to being an empty space, another function of the street is providing mobility. While Gehl defines streets as "reflects the linear movement pattern of feet…" (2010, p. 32), Le Corbusier defines the street as " A machine for traffic, an apparatus for its circulation" (1987, p. 123).

Within this context, the primary duty of the street is transportation. The street creates spaces, entrances and exits that enable the transport of people and things. Thus, communication with other parts of the city is ensured through the street. The street is the way of interaction between the parts of the city. Moving pedestrians, vehicles and goods by way of the streets ensures integrity in the city. According to Francesco di Giorgio, the relationship between the human body and its parts is similar to the city and its territories (Blumenfeld, 1953, p. 44; cited in Kostof, 1991, p. 52). As emphasised by Sennett, the streets are divided into categories to maintain urban life, like the veins scattered all over the body that provides blood circulation (Sennett, 1994, pp. 324-328). As can be seen from this distinction, streets have different usages, such as sidewalks, pedestrian ways, and vehicle transportation (Jacobs, 1961, p. 29). The street claims responsibility for transport, accessibility, mobility, connectivity and integration because of its spatial features. These responsibilities end up with the consolidation of the street in the urban fabric and becoming an essential urban element. On that aspect, the main street is the place that shows all these features most clearly. The main street is the street that has the highest transportation and access options in the city.

Moreover, the city's mobility rate and connectivity are the maxima on the main street, and it is the most integrated among the streets in the city. Besides, the street plays a role in sustainability by supporting the urban ecology with its walkable form (Massengale & Dover, 2014, p. 42). Consequently, the main street is the wealthiest city component in terms of physical structure. Along with the physical features, the street also contains social and economic functions depending on the purpose, for whom it was built, and by whom it is used and controlled (Moughtin, 1991, p. 57). Contrary to Rapoport and Gibberd, who defines a street only as an emptiness between buildings, some researchers emphasise the streets from other angles. According to Norberg-Schulz, a path from a symbolic perspective is an original symbol of existence that remove the people where they live and take them to their purpose and destination (1971, p. 21). The path is a space where all the connections are linked, and all the mobility and activities concentrate (Lynch, 1960, pp. 47-56). Nonetheless, the street is not only a path; it means more (Moughtin, 2003, p. 138). Norberg-Schulz describes the old times of the street when the visitor experienced the neighbourhood’s characteristics intensively as a “small universe” representing a part of life (1971, p.

81). In another definition, Jacobs expresses the street as one of the most crucial vital organs of the city by saying, “Think of a city and what comes to mind? Its streets.” (1961, p. 29). The significance given to the street may vary among different interpreters. However, it always remains a place with potential topics for discussion.

The street is a required interface for activities inside to enter public life. While the interaction of people in buildings is limited to their location and surroundings, following the people go out to the street, the interaction flows into life, and the people are included in public life and society. The street shapes shared habits (Stavrides, 2016, p. 149). The street where the behaviours take place is a part of the culture and has the power to restrain and support actions like the culture (Mehta, 2013, p. 182). For an individual, the street becomes a part of life, while for the street, an individual becomes an object. The street is a stage where the feeling of observation reflects on the attitude of performers-street users (Whyte, 2009, p. 21). Even a child playing on the street or a person passing through the street draws attention (Gehl, 2011, p. 28). A street is a place of interest. Each person always finds something for their claim on the street. For that, they do not have to be on the street physically. Even a person sitting on the balcony gets involved in the street. The street is inclusive. It interacts with many social and physical things, such as building facades and connecting paths. The impact area of the street is quite extensive. The street mediates the communication system, conformity and form (Jacobs, 1995, p. 3). Therefore, the street and related things affect each other by bringing them closer and further away, changing and transforming them. The street exhibits society's mechanism and shapes the community (Kostof, 1992, p. 194). The street as an activity area hosts various events but attracts other events (Figure 2.9). The more activities on the street, the more increase in the number activity; the more crowded the street, the more people come to the street. Gehl explains this equation: “Something happens because something happens because something happens.” (Gehl, 2011, p. 75).

In the context of life, just as every actor, participant, event, and activity mutually influences and is influenced by one another, the street, too, is affected by the multitude of its participants and influences the degree of their involvement. Therefore, considering space without taking into account the relationship between individuals and the environment leads to erroneous conclusions, both in terms of human psychology and in the fields of urban planning and design.

Figure 2.9 : Different activities on the street (Left-up: Url-8, Right-up: Url-9, Left-bottom: Url-10, Right-bottom: Url-11).

The street is an atmosphere where residents come across each other, become involved or witness activity. A specific event, location or user group do not restrict this witnessing. Walking, running, standing and sitting on a balcony are some of the activities in which the users of the streets participate. These activities can be shared by various users (Figure 2.10). While street users can be categorised as pedestrians, cyclists, public transport vehicles and private cars in essential transportation functions, there are many categorisation themes such as age groups, physical necessity and social needs. In these classifications, each theme has different subtitles. In age groups, every age range falls under the influence of other actions within the scope of their interests and pleasures. For instance, the street, used only for walking by pedestrians, has many parts and activities that catch children's attention. For the children, the street is a learning environment where they encounter public life and experience nature by being exposed to it (Appleyard, 1980, p. 108). The street is an entertainment area where they create fun by playing chess and card games (Edensor, 1998, p. 203) and expanding the play area (Landman, 2003, p. 143). For young people, it is the stage where they shape their social character concerning other members of society (Malone, 2002, p. 163). According to some, politeness decreases when the street is not used as a stage (Madanipour, 2003, p. 234). In addition to attention to the street's physical features, it

creates a socially inclusive and exclusive space. A street is a place that is a subsistence place for disabled people and reflects their exclusion (Gleeson, 1998, p. 95) and a metaphor that concretises the traces of different sex lives (Bell & Binnie, 1998, p. 130). As can be understood from this, the street is a space that encompasses and is shared by everything and everyone.

Figure 2.10 : Different users of the street (Url-10).

Jukes discusses the street from a sociological perspective and defines the street as an arena where strangers come across each other but also diversity and greatness of urban life (1990, p. xiv). As a space where different users encounter diverse situations, the street is an urban space that encompasses the whole diversity of the city. The street is always a place for discussion between residents and travellers and stay and access (Appleyard & Appleyard, 2020, p. xxxiii). A street is a meeting place where a child and an adult, authority and society, and an individual and community come face to face. As a meeting place, the street is a way of communication where these interactions are transferred (Figure 2.11). Society communicates by way of the street. Therefore, the street is the primary place for communication that has vital importance on a unique scale from the starting date of the settlements (Czarnowski, 1978, p. 207). In these communications, each user and street has multiple types of usages (Jukes, 1990, p. xiv). In the way of use, residents may not be joined to the street that acts as a debate and conversation place; however, the street should be where residents can participate in all actions whenever they want (Appleyard, 1980, p. 108). This state of participation should be left to the will of the person. It is open to debate whether a street that is inaccessible or unusable by people can still be considered a street. In other words, it is questionable whether such a space should be classified as a street according to the criteria defining what a street is. Therefore, the harmony between the street users, its function, and the relationship between the two is crucial for ensuring the utilisation and richness of the urban space.

Figure 2.11 : Street as a meeting place (Whyte, 2009).

While the social meetings occur in the street, it also hosts political protest and resistance by living pleasure and apprehension (Fyfe, 1998, p. 1) (Figure 2.12). Like other public spaces, the reality of the street is political (Kostof, 1992, p. 194). In this way, people have the right to present their opinion in real action in the street publicly. The street symbolises people's thoughts, and by this function, it serves the public physically and socially. While people come into being by occupying a place alone, they may have a part of the unity in a common idea. A street that respects people's personal space and protects the right to be alone should be where people feel responsible and belong (Appleyard, 1980, p. 108). A street that people do not feel belonging to cannot be different from any other place, and this does not allow the street to have a special meaning for the individual.

Figure 2.12 : Street as a political place (Left: Daly, 1998, Middle: Url-12, Right: Url-13).

The transformation of streets into a political tool is not only by individual and communal usage but governmental usage. The street uses its political power on society in events such as religious rituals and military ceremonies. During the Mussolini period in Italy, large streets were constructed to maintain urban order, and these streets

were explicitly designed to serve as venues for government-organised demonstrations and parades (Atkinson, 1998, p. 24). The power of the government specialised in architecture (Kostof, 1992, p. 197). According to Goebbels, whoever rules the street also dominates the society, and the person who dominates the community also takes over the state (Mehta, 2013, p. 12). Hence, the street shapes daily life (Stavrides, 2016, p. 149).

At this point, the main street is where the street's social function is most intense. With its pedestrian density, the place where people come across each other is an activity area with diverse activities, playing and learning areas for children and an urban element that reflects the culture and identity of the city. A place with these characteristics can consolidate mutual relations in the city fabric by nourishing them and being nourished. One of the most significant roles distinguishing the main street from all other streets is that it hosts a much higher social life than other streets. Together with the physical and social functions of the street, a street is also a place where the economic life concretes in the city. Beyond its architectural dimension, the street is an economic occupation (Kostof, 1992, p. 189). Following its functions, standing in residential, commercial, business or social areas is one factor affecting the street's economic value. While the land use of the street shows its commercial role, it also helps economic development. This economic development proves the financial contribution of the street to the city with the help of employment it creates.

Moreover, the street works as a tourist place with its social and physical features, advancing the economy. While the materials used in the street design affect the city's economy in terms of cost and lifespan, cases such as causing traffic jams and accidents cause the street to impact the city's economy (Global Designing Cities Initiative, n.d). Furthermore, considering the street’s high commercial function and user density, it is one of the city’s most important places with the leading economic position. The main street brings employment and services, especially to small villages, with the help of its economic function. The economic value of the main street is of great significance for the urban environment, in addition to its social and physical dimensions.

The street, examined from various perspectives by several researchers, can be categorised into three main categories (Table 2.3). While some researchers analyse the street by its physical function, others focus on the social and economic dimensions of the street. At that point, some subjects in the street’s physical and social functions

overlapped. Gutman summarises the social and spatial dimensions of the street and dates back to the Renaissance as follows:

- The street is a social asset that reflects social and cultural elements.
- In addition to its two-dimensionality with facades, the street has a third dimension that includes the buildings that define it.
- The street provides not only physical connection but communication and integration between residents.
- Except customised streets, streets are accessible and open to the use of every individual.
- The street consists of the three parts: people, vehicles and animals.
- The street is both a connector and emptiness with boundaries.
- It is a mid-scale between buildings and public spaces (1978).

In this categorisation, Gutman mentions the social and spatial dimensions of the street. Nevertheless, this definition does not touch on the economic dimension of the street. The diverse range of users and functions, in conjunction with all the roles played by streets, demonstrates their critical impact on the urban economy.

Table 2.3 : Roles of the street

Physical	Social	Economic
Transportation	Culture & Identity	Commerce
Accessibility	Learning place	Economic growth
Mobility	Encounter place	Tourism
Connectivity	Activity place	Employment
Integration	Communication place	Land use
Sustainability	Political place	Design

Here, it has been summarised that besides being a space, the street also houses the city, is open to the city dwellers' different uses, and has various roles. Based on this, the street is not considered as one dimension since it has an effect and is affected by the city's past, present and perfect dynamics. Therefore, the street is one of the main focuses of the city with its function. The street may be the most frequently used urban space by city residents outside their dwellings. While serving as a simple transportation tool and as a host for social activities, the street is the secondary space for individuals within the city. While Lefebvre states that urban life cannot be possible without the streets, he defines that street as a lively disorder space where all the actions

taking place in other areas come out of buildings and interact with each other and where the flow to the centres within the city (2003, pp. 18-19).

Accordingly, the street is the main element that breaks the stagnancy of the city. Access to a whole of actions in the house, school or square is only possible with streets. The street is a space of transition between things by its nature. This transition contains not only physical transportation but also social and timewise mobility. The street's identity, which undergoes changes and transformations following the different needs of various users over time, is unique. The street's shift from being a mere "channel" to a significant "place" is attributed to people's pride in unique identities, highlighting the importance of street history and leading to the prominence of certain streets over others, despite all streets having a past (Appleyard, 1980, p. 109). This unique identity has also influenced the use, change and transformation throughout history. The streets where this unique identity is felt stronger comprise traces of historical texture when it moves from past to present. At this point, the street has the characteristics of urban treasure, which are the values lost during the transformation process because the street is the subject of a spatially changing structure in the reflection of the constantly evolving system of the city. Hence, the transformation of the street throughout history is a clue for enlightening society's occasions. For this reason, scrutinising the formation history of the street is valuable for understanding the definition of the street and comprehending the street's development parameters.

2.2.2 The street in history

According to Rykwert, even before the permanent settlement, the thought of a linear place where movement occurs along a path with defined boundaries and even the shaping of the path with limited public space emerged in the search for food and shelter and has deeply ingrained itself in human nature (1978, p. 22). The primary reason for the formation of the street is the conscious and unconscious movement in a definite direction to go from one place to another. Although the street is considered in rural and urban areas, the history of the path which goes through a piece of land dates back to the old times (Mehta, 2013, p. 27). The images that the word "street" evokes in a person's mind today differ from the first attempts or drafts of street formations. For the street to assume its current form, a series of spatial alterations had to be reflected in the urban context. In short, the street is an invention (Kostof, 1992, p. 190).

2.2.2.1 The early cities

The physical street has yet to exist since the first day of settlement. Although the early villages had buildings, the places for mobility did not comprise the streets in each settlement (Kostof, 1992, p. 190). Starting from early settlements, the current form of streets, as we know them today, has been obtained through various changes and transformations. At Catalhuyuk, the proto-urban environment of West Asia (in present-day Konya, Turkey), where its first ruins date back to 7400 BC, is a settlement area without streets, and it is estimated that pedestrians move on the roof, socialise in the courtyards and enter their houses from the roofs (Gates, 2011, p. 25; Kostof, 1992, p. 190) (Figure 2.13).

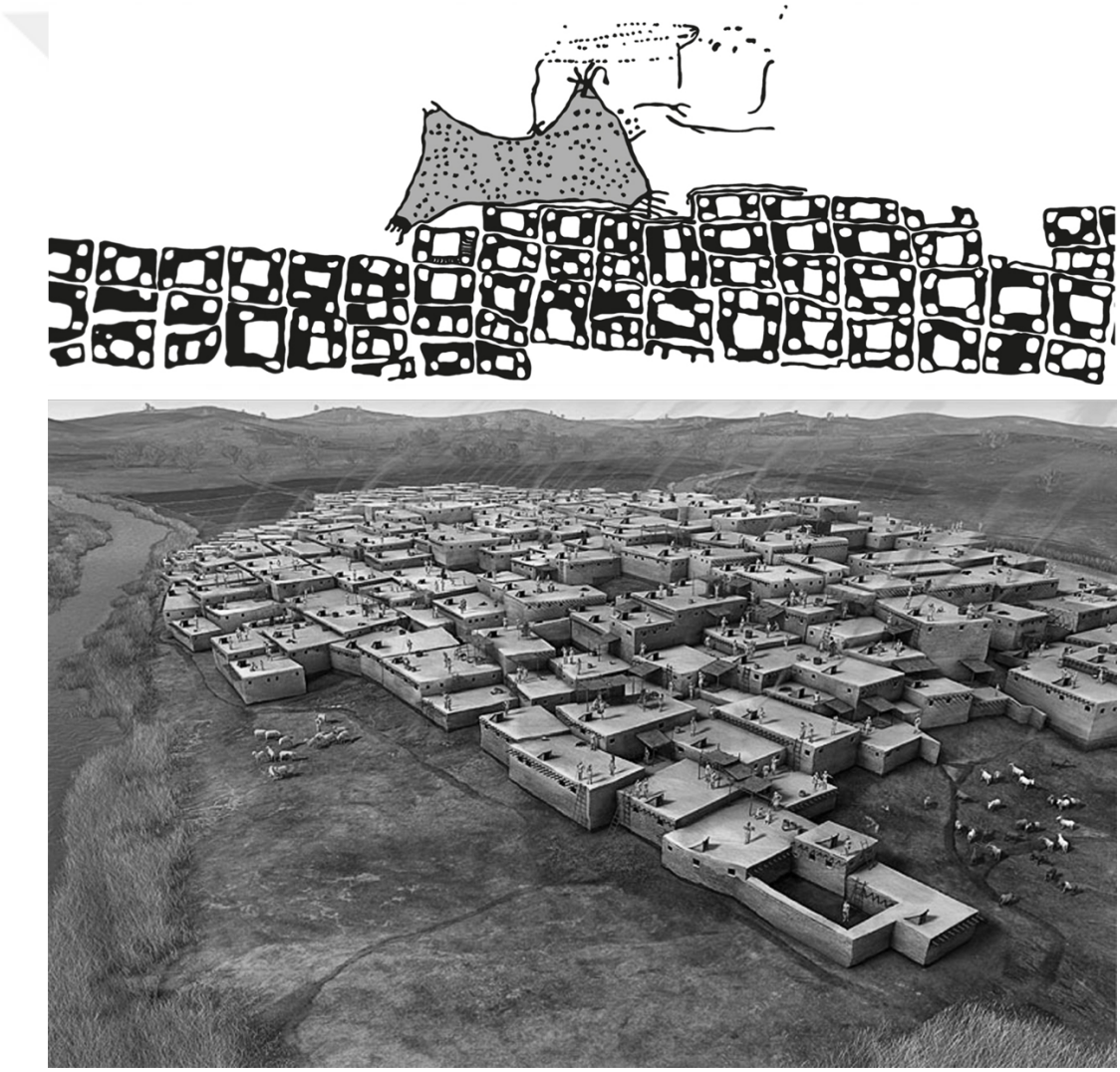


Figure 2.13 : Above: City plan of Çatalhöyük, adapted from (Love, 2013), Below: Visualisation of Çatalhöyük (Url-14).

Mellaart states that the entrance is on the roof at Catalhuyuk due to defence (Morris, 2013, p. 19). The houses are generally built with adobe and wood columns and beams and cluster by touching the neighbouring walls in a heap (Gates, 2011, p. 25). The Catalhuyuk community created a seamless whole consisting of houses and storerooms accessible from the rooftops rather than constructing a wall for defensive purposes in the city (Morris, 1994, p. 19). The plan of the city being formed by the combination of the rectangular or similar shapes may give rise to the thought of deliberate city planning; however, Catalhuyuk is a model of controlled organic growth and, as stated by Daniel, it is not a civilisation but a settlement that could be called a proto-town (Morris, 2013, pp. 19-20). The building entrances from the upper elevation make the roofs equal to the current street use in this urban form where the houses are adjacent. From this point of view, it can be interpreted that the roofs fulfilled the street needs of the period. The roof network in Catalhuyuk constitutes the beginning of various street examples produced throughout history. The roof layout as a street carries through the mission of accessibility as a transportation tool while it provides reach to the courtyards where socialising on. Therefore, the formation of streets may primarily be attributed to the need for transportation and social interaction between different places. People reach the roof as soon as they leave their buildings—this point where the interaction overflows may generate the preliminary trial and first draft. According to evidence, in 5600 BC, Catalhuyuk has abandoned, and a new settlement was established in the west (Morris, 2013, p. 19). A while later, in Hacılar (presently located in Burdur, Turkey), where its first ruins date back to 7000 BC (Republic of Türkiye Ministry of Culture and Tourism, n.d.), narrow lanes for pedestrians have shown up (Kostof, 1992, p. 190). This model has been shown as the first-line prototype of the street notion. Creating empty places between buildings and using these places for transportation may be the first morphological transformation of the street. The changing level of the street from the roof to the land surface is because of the needs, and this is the first spatial example of the street. As emphasised by Mumford, the need to widen the main street is the desire to free movement and breathe in light and air (1961, p. 195). The reason for the formation of the street in Hacılar may have been due to these climatic needs.

Right after the formation of the street in Hacılar, the first consciously built street has found in 6000 BC in Khirokitia (in present-day South Cyprus) and goes along with the

riverbank with buildings on both sides, is seen as a backbone made of limestone (Kostof, 1992, p. 190) (Figure 2.14). The fact that the street has become a place indicates that the meaning of the street has changed physically for the inhabitants. The effort to construct a street consciously proves that the street has acquired some function. Society has made an effort to build the street for a purpose. However, this conscious creation of a street does not indicate that the city's overall plan has been designed in an orderly.

Figure 2.14 : The Neolithic settlement of Choirokoitia (Left: Url-15, Right: Url-16).

In the Isin-Larsa Period (between 2000-1760 BC), in some settlements, there was no need to produce streets in a regular plan; conversely, it is estimated that the streets were shaped by the construction of the surrounding buildings (Gates, 2011, pp. 59-60). The emphasis on the buildings rather than the streets indicates that while society plays a role in creating streets, the buildings serve as the primary focal points. The reason for this thought is that if the public space is the focus, it is expected that it is not the buildings that form the streets but the streets that shape the buildings. Thus, the generator power of the space within the city is the private areas, namely the buildings. The street is different from the space that takes attention. Moreover, it is also known that in these times, people freely threw their garbage onto the streets (Gates, 2011, p. 111). Based on people's behaviour to treat the streets as they wish, it can be said that the streets have not yet been embraced. Instead of being considered a special place for the city, the streets are a residual area.

In Ur (present-day Iraq), which coincides with the Isin-Larsa period, the streets were designed to be narrow, meandering and protective from the sun to adapt to the climatic conditions (Mumford, 1961, p. 74). Although the form of the street is similar to the other settlements in the Isin-Larsa period, the conscious street design to be adaptable to the climate indicates that people spend time on the streets, even for transportation

and gave importance to the street. The street may have become a place where people could see each other and engage in informal interactions without sitting down.

Diverse attitudes and ideas about the street cause various street designs and demonstrate that the streets differentiate in culture. Depending upon the traditions and necessities of the host city of the street, the people's mobility and the street's character are the reflections of the culture (Kostof, 1992, p. 198). Similar to these features affected by culture, the spatial sense and the acts of society on the streets also affect the cultural structure. In this period, there were some innovations in the public space due to culture. The fact that public spaces should not be reserved for private use in Ur was stated in the following statement:

> If a house blocks the main street in its building, the owner of the house will die; if a house overshadows [overhangs] or obstructs the side of the main street, the heart of the dweller in that house will not be glad (Frankfort, 1950, pp. 109-111).

Even if people throw garbage onto the streets, this quotation shows one of the first steps to change society's perspective towards the street. Based on this prophecy, it is deduced that the street is a physical space while it is also started to use as a public space. Conceivably, this period may be the first time that the ownership of the street is evaluated as a public space. Social places may have been the first areas where the concept of property, traditionally applied to private spaces, was considered. Furthermore, this results in the preservation of the physical characteristics of the street. The street's social meaning leads to the street's physical development.

In addition to the social meaning of the city, also in this period, some streets, which may be characterised as the main street, had names (Frankfort, 1950, pp. 109-111). "Store Street" and "Straight Street" were some of the names (Figure 2.15). Naming the street indicates that the street is subject to talk among society, and there might be a need to mention the street for directions or a meeting place. Giving a name to the street proves that the street is recognised by society. This demonstrates that the social role of the street is included in the functions of the street. Until this time, the emergence of the social role in the street, which moves from the roof level to the ground and makes its physical relationship with society more concrete, can be interpreted as a turning point for the street. Developing the social role of the street affects the spatiality of the street. Hence, the sociality and physicality of the street are the notions that have a mutual relationship and enhance each other.

Figure 2.15 : City plan of Ur, adapted from (Frankfort, 1950).

In the same period, unlike the settlements in Mesopotamia, In Mohenjo-Daro, located in Sind, Pakistan, present-day, has a grid order arranged according to the compass (Gates, 2011, pp. 69-70) (Figure 2.16). Ur's narrow, curved and heterogeneous street texture gives place to straight and homogeneously dispersed streets. Mohenjo-Daro and Harappan cities host houses almost the same size (Kostof, 1991, pp. 103-104). In Mohenjo-Daro, there are shops - perhaps restaurants - on the side roads and main streets that connect to the main roads at right angles in the lower city texture (Morris, 1994, p. 33). However, this situation is separate from a planned city. On the other hand, some information about the design of Hindu cities with gridiron plans is found in texts such as Manasara and Silpa Shastra, which date back to the 1st century BC but are estimated to have an older history (Kostof, 1991, pp. 103-104).

Figure 2.16 : City plan of Mohenjo-Daro, adapted from (Vidale, 2010).

As evident from the examined urban fabrics, the diverse layouts of the cities that existed in similar periods and occurred in different geographies reveal that the form of the street was shaped in line with the people's needs and the city's geographical characteristics. In addition to the grid and organic layout of the city, the need arises for a specific classification for street users (Mehta, 2013, p. 30). The need for this classification finds an answer by paving a street for the first time in Central Anatolia in the 2000s BC, now within Türkiye's borders (Kostof, 1992, 191). Remains of stone pavements in the street were found in Beycesultan (1900-1750 BC), located within the borders of Denizli, Türkiye (Kostof, 1992, p. 190). These stone pavements declare that the street is not only a physical emptiness and that society works on the street by attaching importance. Furthermore, based on this, it can be concluded that people have started to spend time on the streets and desire to make these moments more comfortable. As emphasised by Kostof, the artificial marking of the street, which is a delimited surface, indicates that the concept of the street has become central (1992, p. 190). Also, there was a street classification for the first time in history in this period. Unlike Beycesultan, where all the streets have the same character, in Hacılar, streets are divided into two categories: the main street and the local street (Kostof, 1992, p. 190). The most primitive example of street classification can be seen in Mohenjo-Daro

earlier by differentiating the main street from the others (Kostof, 1992, p. 190). This categorisation may be the first trial of the present street classification that occurs by several themes. Although not the same as modern-day, the categorisations of streets in this way have revealed that different types of spatial lines were needed in prehistoric settlements.

During the Late Cypriot III period, ranging from approximately 1225-1050 BCE, the settlement of Enkomi exhibited a clear grid plan layout, with a main street running along the north-south axis and intersected by perpendicular side streets, and it is noteworthy that public structures and temples were constructed along this main street (Gates, 2011, pp. 156-157) (Figure 2.17).

Figure 2.17 : City plan of Enkomi, adapted from (Gates, 2011).

Alike the layout of Enkomi, in the Babylon Empire that existed between 612-539 BC, the streets were parallel to each other in a grid plan, and Heredot defines the city as "intersected by straight streets, some parallel and some at right angles to the river" (Gates, 2011, pp. 181-182; Kostof, 1991, p. 104). Although surviving evidence dates the grid layout in Babylon to Nebuchadnezzar, around 600, it is estimated that the grid layout dates back to 2000 BC, the time of Hammurabi (Kostof, 1991, p. 104). Despite a grid plan known in the 2000s BC, it cannot be proven that the layout was designed holistically because there does not appear to be a logical union between public buildings and houses (Kostof, 1991, p. 104). In this case, it can be said that rather than the thought that it was made consciously, the reason for using the grid-iron street network in ancient cities is that it makes the land easier to share. While the city is typically viewed as a physical space, there has been a lack of understanding regarding the interconnection between the building and the street within an urban morphological framework.

Like the city of Ur, the streets have names in Babylon. Some of the street names have the names of the gods, while some have moral, political and religious meanings and can be seen in these words: "Ishtar, intercessor for her men (people).", "Bow down, proud one!" and "Pray and he will hear you." (Gates, 2011, pp. 181-182). The street naming in Ur in 3000 BC was seen in Babylon around 600 BC, indicating that the street gained social meaning in diverse cultures on different dates. Therefore, the street gained importance without being tied to a single geography or culture.

As an example of the gaining importance of the street, the moving of the semblance of the gods along the Processional Way starting from the Ishtar Gate, the religious centre of the city, during the New Year Festival held in March or April in the Babylon Empire can be shown (Gates, 2011, pp. 182-183) (Figure 2.18). In this context, the social significance of the street may have initially come from its religious functions. The fact that the street names in Babylon carried a moral meaning and a street was used for religious ceremonies demonstrates that the street had a physical and social meaning for the society in the formation stage of cities. Similar to the pre-urbanization use of the city space as a gathering place for religious purposes, the primary meaning and purpose of the street may have been religious display.

Figure 2.18 : The processional way in Babylon (Url-17).

2.2.2.2 The Greek cities

After the early cities, where the street came to life as a physical line and began to gain meaning within society, the ancient Greek cities were substantial settlements where significant steps were taken for the street. During this period, Athens was one of the cities where the street stood out the most. Here, Panathenaic Way, which starts from Dipylon Gate and leads to the statue of goddess Atena on the Acropolis, is a prime example of the importance of the street in ancient Greek cities by serving as a main street for the daily use of Athenians as well as for its ceremonial significance (Bacon, 1976, pp. 64-67). It clearly illustrates the value of the street, which was recognised in the early cities. For the city of Athens, this main street is so robust that the city developed along this street, and the street became the producer of the city (Figure 2.19). The city has developed in line with the generative power of the main street, which has become a guiding urban space for the city residents. Besides its ceremonial function, where the people and animals act in harmony, this street differentiates itself from other streets by having the power to connect the holy places and planning the architecture in the city (Bacon, 1976, p. 65, 67). In this period, the street has ceased to be an urban element that is only produced and gains meaning from its surroundings and has become a place where all urban life, including economic, political, political, cultural and religious issues, is staged in the city and produced the space according to its morphology. This also indicates that during this period, the significance of the street has gained a more prominent position compared to previous periods.

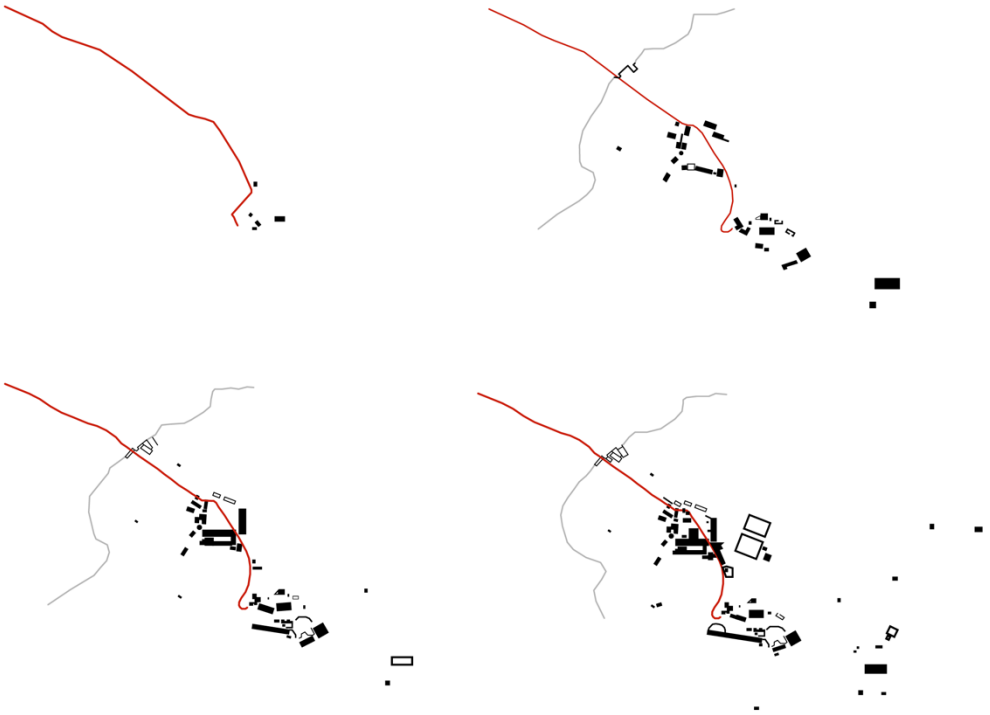


Figure 2.19 : Panathenaic Way as an urban generator in the city, redrawn from (Bacon, 1976).

Miletus is one of the great cities of this period. The planned grid can be seen in Miletus, which began to take shape after the city's abandonment following the Persian invasion in 494 BC (Ministry of Culture and Tourism of Türkiye, n.d.) and is now located within the borders of Aydın, Turkey. According to Stanilawski, it is impossible to create a grid-iron layout in terms of political and economic terms without removing the whole ruins of the city, so the grid plan is a consequence of adding to the city or as a reconstruction of a destroyed city (Paden, 2001, p. 28). Demolishing existing city parts and creating a new urban texture will be seen in the following dates in Haussmann's Paris, but in this period, undertaking such a political and economic burden could be challenging for both the society and the government. Therefore, Miletus was probably built on the ruins of an old city to meet society's needs quickly (Paden, 2001, pp. 28-29). As Morris stated, the Miletus grid plan was prepared by a Miletian architect and the father of urban planning and architecture, Hippodamus of Miletus (2013, p. 43). Although the common idea is that the Hippodamus made the plan of Miletus, no evidence shows the relation between the Hippodamus and the plan of Miletus (Burns, 1976, p. 426). As Wycherley declared, Aristotle, a crucial source to learn about Hippodamus, did not provide much detail about his city planning, so he is not a definitive source (1962, pp. 17-18). Therefore, Morris argues that naming cities with

grid layouts "Hippodamian cities" is entirely inaccurate due to grid plans in Mesopotamian, Assyrian, and Egyptian cities before the Miletus (2013, pp. 26-34).

Independently from the conservations about the owner of the grid-iron plan, there is no doubt that the Miletus-type plan introduced numerous innovations. This plan created streets of the same width and length (Mumford, 1961, p. 192). So, the streets and building blocks were formed in the same shape and size (Figure 2.20). This order makes the regular spatial organisation for the public space possible. Furthermore, the developments that come together with the grid-iron plan are related to physicality and the economic and social structure and lead to change. The grid city plan, associated with regulating commercial relationships in the economy and social networks, has consciously formed the neighbourhood unit for the first time by clearly separating the city (Mumford, 1961, pp. 193-192).

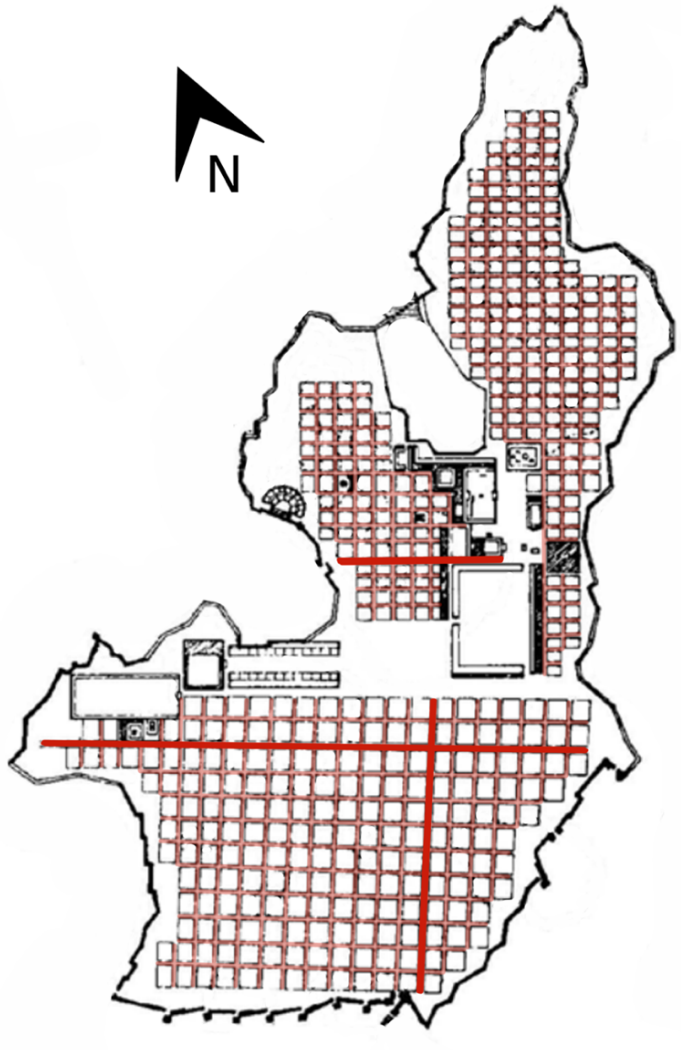


Figure 2.20 : City plan of Miletus, adapted from (Paden, 2001).

With the grid city plan, the street has started to emerge as a separate and autonomous space rather than a meandering space in building masses, and this has been followed by the concept of widening the street to serve more people (Mumford, 1961, p. 195). The grid plan of the Miletus has led to the following city plans and fundamental changes and provides inferences to the researchers. This grid plan is also seen in the cities such as Alexander the Great; the south garrisoned French cities in the 14th century and North American cities for over two thousand years, particularly in Philadelphia (Mumford, 1961, p. 192). The grid street layout, which was previously seen in history but gained a broader place in sources by Miletus, is an essential milestone in the morphological development of the street and its physical, economic, and social impact.

Side, Perge, Priene, Alexandria and Sinope are examples of cities with grid plans in that era. The outstanding feature of the Side and Perge city plan is the street which is the primary carrier of the city and shows the existence of political authority (Günay, 2007, p. 105). The political significance of the street, exemplified by the Panathenaic Way, highlights its importance beyond its religious connotations. Moreover, it demonstrates that the street, which differentiated socially and physically within the city, became the main street.

This era does the honours to organic and grid city plans. According to Mumford, Aristotle asserts the need for organic and grid texture combinations. The underlying reason for this claim is that the irregular street makes it difficult for thieves to leave the city and aggressors to enter it (1961, p. 187). Aristoteles placed the issue of security as the central theme of the street. On the other hand, the grid system considers its beauty and argues that this layout should only be arranged in certain places to achieve security and beauty, that is, the combination of organic and grid structure (Mumford, 1987, p. 187).

During this period, some differences can be seen in the city plans and main street formations of other cities and continents. For example, Teotihuacan, located in one of the Mexican Valleys and defined as a Mesoamerican city, is one of the cities where the formation of the main street can be observed (Figure 2.21). Looking at the city plan that forms Teotihuacan, there is no regular street structure or building arrangement within the city. The city's most prominent feature is the line that carries the city and includes the Sun and Moon Pyramids. This situation, similar to the Panathenaic Way,

indicates the role of a street as a generator in the city. Teotihuacan was shaped by this line as the irregular settlement structure within the city was suspended on this axis.

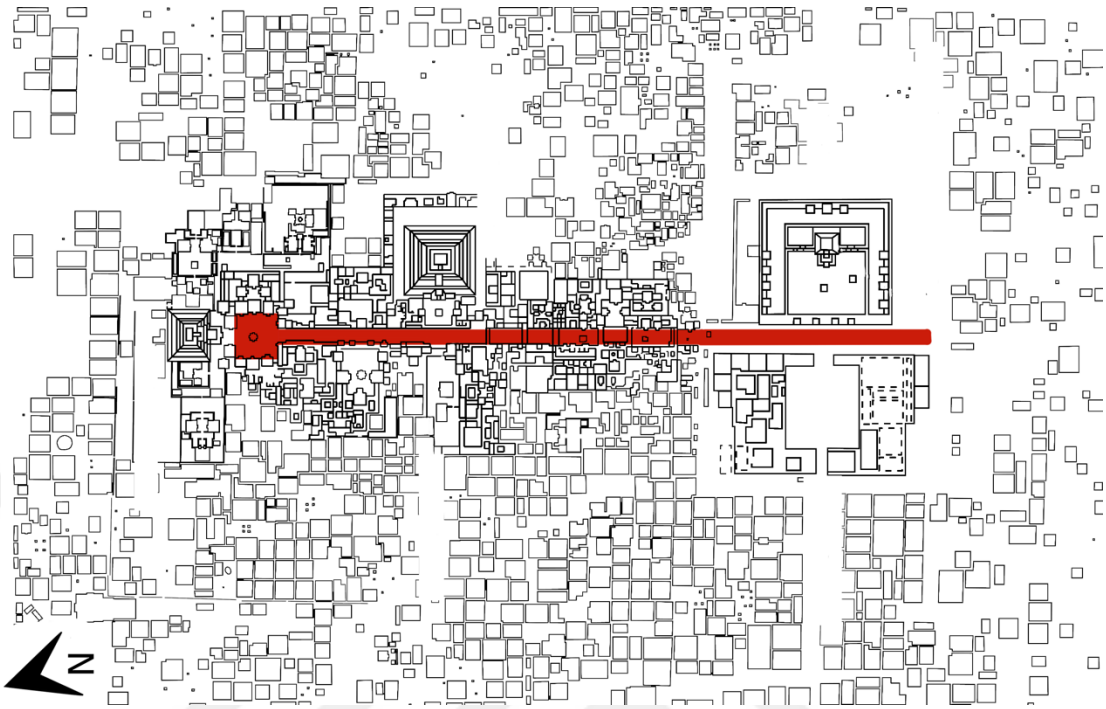


Figure 2.21 : City plan of Teotihuacan, adapted from (Morton et al., 2012).

At the beginning of this period, the street's fundamental characteristic, which helped it to be more than just a physical void in the city, was its specialisation in main and local roads. The street experienced spatial changes and transformations and hosted essential functions of the economy, politics, defence, and religion while acquiring social meanings. The period has hosted the street's creation of spatial changes and transformations. The street became a form that not only was formed within the city but also formed the city itself.

2.2.2.3 Ancient and Classical Rome

In Rome, the military camps (*castrum/castra*) that designed with straight streets intersecting each other at right angles, with the commander's tent located at the centre, due to the effect of the Hippodamus Plan (Gates, 2011, pp. 334-335), greatly influenced urban planning in this period. The castrum, controlled by the military organisation, is located in the productive centre of the city, grows with the city, and serves as the city centre. In this case, the streets intersecting at right angles having a central administration function will form a linear system that goes along the city and leads the individual to the centre. The Romans named the street that runs north-south

cardo and the street that runs east-west decumanus (Gates, 2011, p. 319). It is seen that the differentiation of the street continues from the first day of the street ceaselessly. Ostia is an example of this street classification. Ostia, which was established as a military camp but turned into a city as the need for military bases decreased, is one of the first examples of cities in Italy with cardo and decumanus that intersect at right angles (Gates, 2011, p. 335, 367) (Figure 2.22). Marzabotto, Orvieto, Cryne, Napoli and Paestum are the other ancient cities for a grid city plan (Gates, 2011, p. 139; Mumford, 1961, p. 192). At this stage, the street has undertaken the purpose of defence in addition to its transportation and religious purposes.

Figure 2.22 : City plan of Ostia, adapted from (Gates, 2011).

Unlike the grid city plan, Etruscan cities (800-200 BC) were designed according to topographical structure and needs, while they were famous for two main streets that intersect at right angles in the city's centre (Gates, 2011, 319). The reason behind the construction of two main streets crossing perpendicular to each other is that contrary to the organic structure, the defence purpose may be like in Roman cities. The grid city plan is quite suitable if the field is flat and the defence tools are artificial (Kostof, 1991, p. 139). Therefore, the Etruscans might also design the intersecting streets for defence purposes.

The main reason that shaped the city in the era might be the requirement of defence. Like in cardo-decumanus that intersect orthogonally, the primary motivation of the spatial order of the city might be protection and attack. In the city planning of the 200s BC, when religion had not yet had much influence, streets began to be widened, and

public spaces were created by leaving gaps between structures that were very close to each other (Mumford, 1961, pp. 193-195). Here, it is seen that the street has gained a role as a public space. This case shows the usage of the street as a public space, and it changed in line with the purpose. The spatial changes made to the street concept are also essential in forming the street whose physical existence was established in Hacılar, proven in Khirokitia, and gained a social aspect by being given names in Ur and Babylon.

Besides the existence of the street in the Pre-Greco-Roman Period, the Greek Agora and its streets are recognised as public spaces of the middle ages in the Western world (Crouch, 1979). The street is more known as a public space in Rome (Rudofsky, 1969, pp. 83-85). After the Great Fire of Roma in 64 AD, the streets were widened, and buildings were planned for various functions, providing the public with opportunities to carry out different activities in public spaces (Crouch, 1979; Rudofsky, 1969, pp. 83-85).

Rome took over the closed shape Agora and the straight and wide streets that surround buildings from Hellenistic cities and combined this system with magnificence and glory (Mumford, 1961, p. 207). However, excessively ornate and expensive arched promenades, theatres, public toilets, and baths were standard amenities in Roman cities (Mumford, 1961, p. 207). The urban planning system continues by being influenced by its past, transferring the plan arrangements by changing or transforming them to the present day. Antioch (Antakya) and Ephesus in Anatolia can be given as an example with their arched shopping streets, as they still carry traces of Roman period city plans (Mumford, 1961, pp. 207-208) (Figure 2.23). Based on Mumford's declaration, it can be said that the plan inherited from Hellenistic cities significantly affected Roman cities, and Roma is an advanced version of the Hellenistic city spatially. The main streets in Rome intersect at a central point, which is the location where the Acropolis and the Agora were merged to create the Forum (Mumford, 1961, p. 207). The arched shopping streets that extend from this intersection point were called "boulevards" in Sumerian texts and indicated the presence of the first concentrated open marketplaces in history (Mumford, 1961, p. 212). Here, the street became a place where commerce and sociality merged. The streets also benefited from the luxury and magnificence of the Roman era; thus, the streets that still exist today were built. Around the year 360 AD, Libanius spoke about urban life in Antioch, a Roman city that had these

collonaded streets, by saying, "...Well, it seems to me that the pleasantest, yes, and most profitable side of city life is society and human intercourse, and that, by Zeus, is truly a city where these are most found." (Mumford, 1961, p. 212).

Figure 2.23 : A Roman collonaded street from Ephesus (Url-18).

The grid city plan has been most prominently seen in Italy in the context of reorganising housing (Kostof, 1991, p. 50). Here, the concept of property ownership of the street has been opened to discussion. Families have closed the local streets by bringing buildings together around inner courtyards, creating autonomous cells and leading to the necessity of reclaiming the street and public spaces on behalf of citizens, which was one of the main challenges of the medieval city (Kostof, 1991, p. 50).

Analysing the Greek and Ancient, and Classical Roma Periods, it is seen that the outstanding and guiding features of the street formation are political, defence and religious. The cities of this era developed organic and grid plans with political or military power in their centres; their main streets were also formed and shaped according to these purposes. Along with the meaning that streets gained, the main street became an essential defence tool for the city's defence, as necessary as castle walls, a unique stage for the king's display of power, as important as a castle, and a suitable space for religious ceremonies, as convenient as a temple.

2.2.2.4 The Middle Age

The Middle Ages cities can be dated from the end of the antique age to Renaissance. Although urban plans of this period are commonly referred to as organic in form, according to Lilley, the cities of this era cannot be categorised as only grid or organic form because the cities consist of the merge of these two plans (Lilley, 2002 cited in Lilley, 2014, p. 4745) (Figure 2.24). Nevertheless, the Middle Ages is often associated

with settlements characterised by a meandering street network and an organic urban form. The functions of the street in medieval cities are represented by various terms depending on their development, such as a street village, crossroads village, commons village, and round village, and are depicted using symbols =, +, #, and O (Kostof, 1991, p. 32; Mumford, 1961, pp. 300-301). According to Jackson, the street in the middle age is a stage that witnesses the shopping, religious and formal ceremonies and deals (1987, p. 289). People of the Middle Ages played ball and raced on the street thanks to the open spaces they had, so they were pretty familiar with street life (Mumford, 1961, p. 289). Within all these functions, the street has become a summary of the city and, in contrast to the characteristics of the open spaces of previous settlements, has become narrow, private, and places where public use overlaps (Kostof, 1991, p. 32). The street where the public uses overlaps, and the use of religion comes to the forefront. Regardless of the needs of the city and its residents, the middle age cities are the stage of the ceremony of the church, and life expresses itself as a pilgrim's journey (Mumford, 1961, p. 277). Based on the emphasis on the religion and social life that the street had, the open spaces have the highest value the mediaeval city has ever seen. Similar to the railway station being the image of the late industrial era, the notion of this period is to serve for salvation and to spend even half of what is in one's possession on religious acts (Mumford, 1961, p. 277).

Figure 2.24 : City plan of Cologne, adapted from (Url-19).

With the increase in activities hosted by the streets, the time spent on the streets has also increased. Accordingly, the division of streets in medieval cities probably occurred due to this congestion and differences in activities. In these cities, a distinction was made between streets with carriage traffic and other streets, with the latter being highlighted as a pathway for pedestrians while transportation duties remained in the background (Mumford, 1961, p. 308). The emphasis on religious thought might suggest the existence of long and straight roads representing ceremonial paths within the city, but the streets that sheltered city dwellers from weather conditions in mediaeval cities were narrow and irregular, characterised by sharp turns (Mumford, 1961, p. 308). Like Aristotle, who advocated the combination of grid and organic orders around 350 BC, Italian architect Alberti supported this idea in the 1400s. While approving the existence of straight and wide streets for strong cities, Alberti defended the necessity of winding streets in medieval cities by saying that the traveller would discover different things with every step (Mumford, 1961, pp. 308-309). As a result, mediaeval cities consist of city forms in which organic and planned structures coexist.

Meanwhile, another development took place in the mediaeval city where street differentiation occurred, and streets were paved approximately three hundred years before wheeled vehicles became widespread, starting in 1185 in Paris, 1235 in Florence, and 1310 in Lübeck (Mumford, 1961, p. 310). Due to the traffic congestion that emerged around the 10th century because of the city's growth, individuals invaded the streets, making them irregular, unhealthy, and dangerous (Soutworth & Ben-Josepf, 2013, p. 22). Although the street continued to function as a communication line within the city, the lack of specific maintenance dedicated to the street led to a problem that could disrupt the entire order due to irregularity on the street. The issues of traffic congestion in the spatial role and invasion by society in the social role of the street combined to create an unsanitary street network. At this time, it was observed that garbage was thrown onto the street, similar to old settlements years ago, while it is known that Parisians could throw trash onto the street whenever they wanted after shouting three times (Soutworth & Ben-Josepf, 2013, p. 22).

In conclusion, in the mediaeval city, the streets were the summary of life. Every event that occurred within the city shaped the street. During this period, when the street became a gathering and socialising place for the community, it also became a gathering

place for vehicles, and a distinction was made between streets, and street classification started to come to the forefront. The combination of organic and regular urban forms has led to differentiation in the street texture within the city and thus has affected its use. During this period, the street was a mirror of the city.

2.2.2.5 The Renaissance and Baroque period

In this period when the Enlightenment was reflected in society, the cultural, physical, and social changes of European cities were influenced by the Renaissance period, which corresponds to the 15th-16th centuries (Kürkçüoğlu, 2010, p. 80). One of the basic ideas in planning Renaissance cities was the army's needs (Mumford, 1961, p. 369). With the change in military technology and the decline of the old defence system, a physical and social transformation began in the Renaissance city (Kürkçüoğlu, 2010, p. 80). The uselessness of the defence system forced a change in the city form and the scale of streets and buildings. As a result, in the later periods, star-shaped and differently shaped medieval cities in Europe, which would be called the war policy of the Middle Ages, were formed, but it was only applied in Palmanova, an Italian city, due to the economic inadequacy and political situation of the period (Kürkçüoğlu, 2010, pp. 85-87) (Figure 2.25).

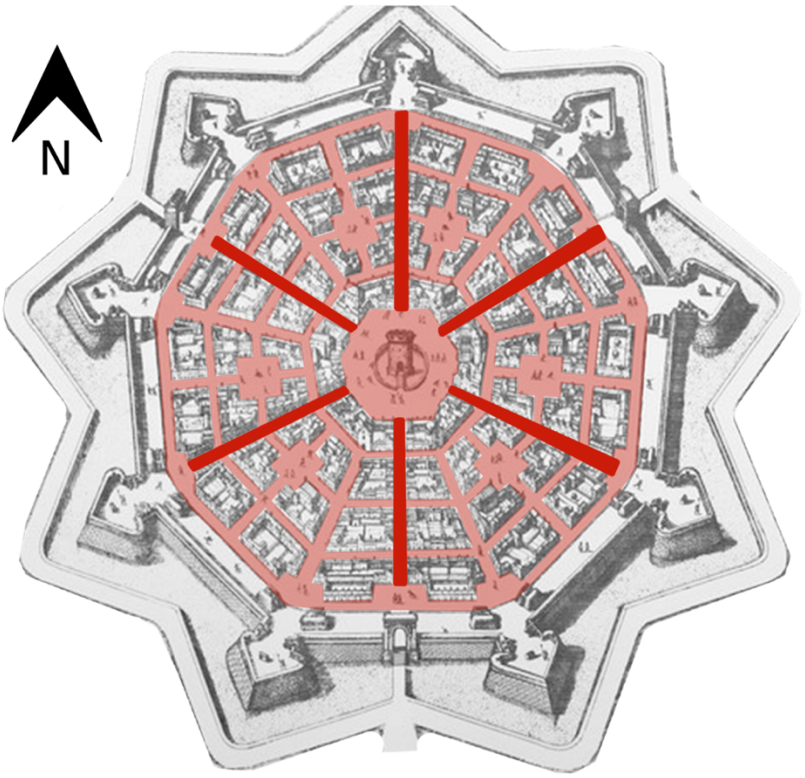


Figure 2.25 : City plan of Palmanova, adapted from (Url-20).

The influence of the Renaissance period affected not only the defensive organisation of urban form but also other arrangements. During the late Middle Ages, cities' winding streets became crime-ridden and disorderly (Mumford, 1961, pp. 347-348). With the influence of the Renaissance, changes were made to the urban form, as narrow streets were considered a danger to the State by King Ferdinand of Naples (Braudel, 1981, p. 498). Straight streets were seen as a way to support public order by eliminating secluded corners in cities (Kostof, 1991, p. 230). The importance of straight streets in this role is illustrated in a 1499 source describing Via Alessandrina:

> The architects decided to run a street straight from the bridge [of Castel S. Angelo] to the [Vatican] palace gate to give the palace an open perspective, free of obstacles, and in case of riots…one can get help quickly and defend oneself from the urban attackers (Michele Ferno cited in Kostof, 1991, p. 230).

At this particular time, urban planning was designed as a tool for rulers to govern the people rather than for the benefit of the public. Military boulevards, known as "via militares," were considered necessary, and it was believed that the more they resembled the structure of an army boulevard that allowed all kinds of vehicles and troops to pass through in official order, the better (Mumford, 1961, p. 369). Similarly, the design of Palmanova, where every street connects to a square, demonstrates that the civilian population was being controlled by the state (Kürkçüoğlu, 2010, p. 89). These interventions carried out without considering the people's needs, were used to establish authority over them.

Furthermore, in addition to the functional organisation of the city, the visual arrangement has also been a focal point during this period. During this period, the influence of design in cities, from geometric shapes to magnificent sculptures and columns, as well as changes in the perception of beauty, began to spread worldwide. This transformation process, which also included other cities along with France, affected the street form along with the change in structures and details within the city. Although this change was also seen in other cities, no other city experienced Paris's significant impact with its magnificent sculptures, columns, and gardens (Brown, 1909, pp. 1-2). During this period, urban design and planning were influenced by each other across countries and even continents. L'Enfant, who asked for the plans of European cities such as London, Paris, Amsterdam, Madrid, and Naples from the American Secretary of State Jefferson in 1791, made conclusions for the plan he would

make for Washington by comparing the maps of these cities (Brown, 1909, p. 4). The Washington Plan, which L'Enfant revealed by examining European cities and is named after him, shows traces of the Renaissance and Baroque-style planning seen in Europe. This plan also has a street network designed geometrically and managed by wide boulevards (Figure 2.26). As can be seen, the flat and long street form that influenced Europe also had an impact on America

Within this era, geometric and formal urban forms were preferred over the organic texture in medieval cities. There were new aesthetic pursuits and considerations of scale and size in architecture and urban structures (Kürkçüoğlu, 2010, p. 81). Streets and urban forms were greatly influenced by the social changes experienced by the city, shaping not only the social role of the street but also its physical form. During this period, streets became geometric and formal strips, shaped by aesthetic functions and scale, under the influence of military and governmental order.

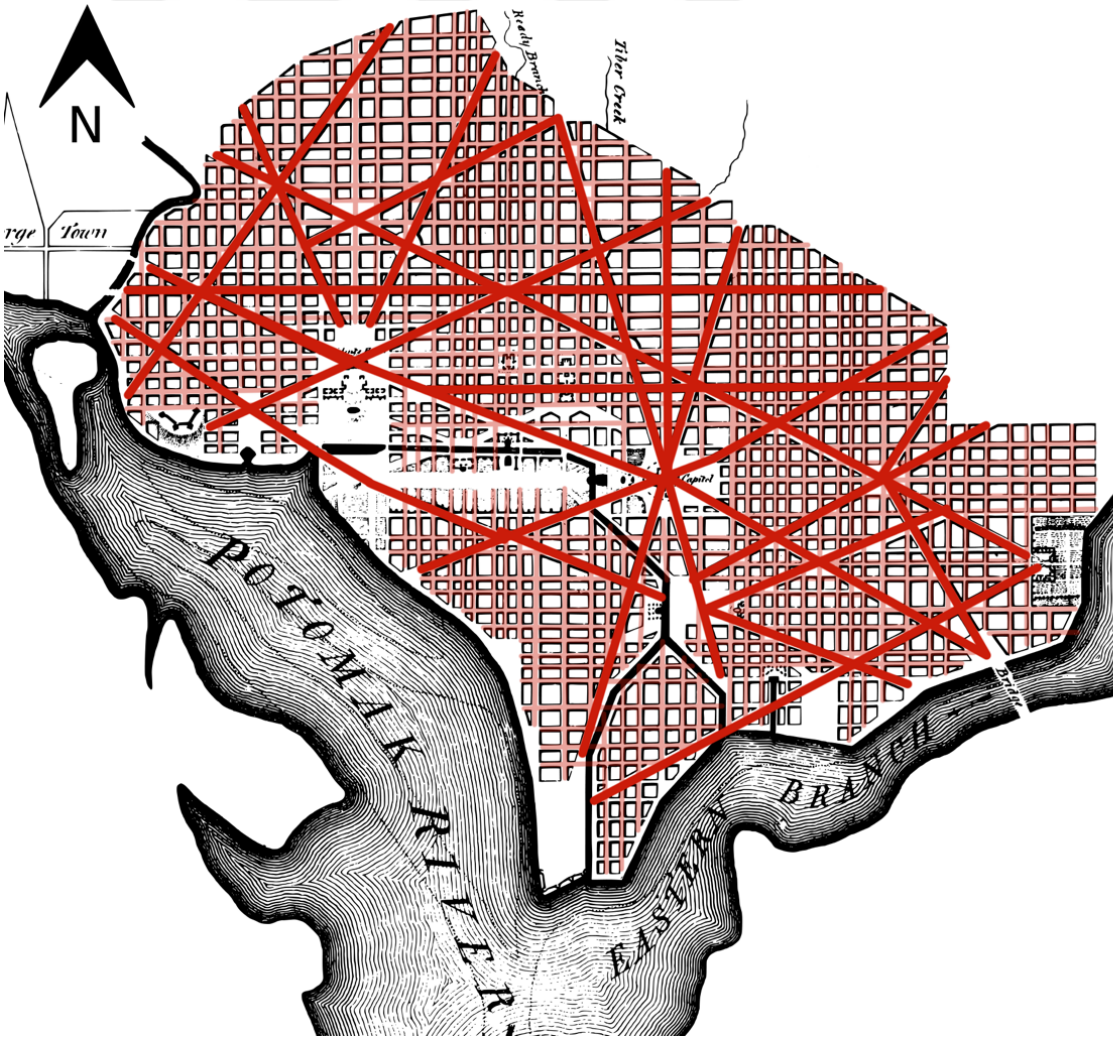


Figure 2.26 : L'Enfant map of Washington, adapted from (Url-21).

In conclusion, this period witnessed not only a changing relationship between urban form and organisation but also a transformation in the design and aesthetic perception of the city and the street. During this period, a prominent notion of flat, geometric, and wide streets emerged, indicating that the governing bodies utilised the street as a tool and turned it into an ideological system. However, the emphasis on aesthetics and design as a response to this imposed system signifies a first step in efforts to create a more livable city during this period.

2.2.2.6 Eighteenth and nineteenth century

Similar to the street interventions carried out in Italy during the Renaissance period, Haussmann created straight streets by turning winding roads into straight ones in France after the bloody revolution of 1848, sometimes making streets called "revolt-preventive avenues" (Kostof, 1991, p. 230) (Figure 2.27). This way, the best precautions were taken against possible attacks from the public (Mumford, 1961, pp. 369-370). In addition, police and soldiers were stationed at all crucial intersections to prepare for a possible civil disobedience threat, and Sebastopol Boulevard is described as the excavation of old Paris, which was the neighbourhood of the uprising (Kostof, 1991, p. 230). Thus, the boulevard became a ceremonial path where spectators watched the soldiers' situation and magnificent procession (Mumford, 1961, p. 370).

Figure 2.27 : Current Boulevard Saint Germain before and after Haussmann demolition (Left: Url-22, Right: Url-23).

The period between the 15th and 17th centuries was not a time when milestones were set for urban planning but rather a time when the traffic of wheeled vehicles became a problem in the 17th century (Kostof, 1991, p. 111, 368). The primary purpose of widening and flattening the streets during the Absolute Monarchy era, which lasted from around the 17th to the 18th century, was to facilitate the use and parking of

wheeled vehicles, which had been increasing since the 16th century (Kostof, 1991, p. 231). The geometrical urban planning that characterised the Baroque period was the element that facilitated the use of wheeled vehicles in the city (Mumford, 1961, p. 368). According to utopians of the 18th and 19th centuries, such as Morelly, Fourier, Owen, and Laugier, changing the settlement form directly affecting the role of the street could help improve the illnesses that the old city had (Mehta, 2013, p. 41). In Baroque-era France, a transformation similar to this description took place. The boulevard became the symbol of the Baroque city, and a series of boulevard formations within the city reshaped it (Mumford, 1961, p. 368).

Old grid cities lose their physical integrity at the end of the classical world, erasing their traces (Kostof, 1991, p. 108). This trend has changed over the centuries in line with the needs of society and global trends. At this point, the perception of the street and the main street and their roles within the city are changing. The meaning of the street, previously a dividing and transportation street within the city, has changed compared to the medieval period, leading to the abandonment of the perception of streets used solely for transportation in 20th-century cities.

2.2.2.7 Twentieth-century and present dates

The increasing use of wheeled vehicles has also increased the pressure on urban planning to serve transportation functions. The force of this period on the street, initially formed by the process of pedestrian transportation and shaped by various period needs that it was subsequently subjected to, is now caused by automobiles. The automobile has surrounded the building blocks of the city and made the situation worse (Kostof, 1991, p. 153). In his project, which he first introduced in 1922 as Contemporary City and later in 1930 as Ville Radieuse (Radiant City), Le Corbusier demonstrated the streetless urban planning system of modernist urban design (Figure 2.28) (Kostof, 1992, p. 235). Le Corbusier sees the street as a machine that only provides circulation (1987, p. 131) and argues that the notion of the street has become old-fashioned and, therefore, must be replaced by something else (Le Corbusier, 1964, p. 121). In his designs, Corbusier opposed the street texture that each settlement had as its own and emphasised that the roads should be straight (1987, pp. 207-211) and that the vehicle roads should remain on the ground and separate from pedestrian paths (p. 168). Roads will never come near the street again, and pedestrians will be directed

to parks as fast-moving vehicle roads move away (Kostof, 1992, p. 235; Jacobs, 1961, p. 23). In the Contemporary City, which suggests 24 skyscrapers with 60 floors each within the city, Le Corbusier eliminates narrow streets with heavy vehicular traffic, referred to as "corridor streets," by utilising vertical elevators as street elements (Fishmann, 1977, pp. 191-192). In both his Contemporary City and Radiant City designs, Le Corbusier steals the street from the urban space and imprisons it inside the building, ignoring the social space that the street creates. Le Corbusier wants the street to disappear, expressing it with the following words: “TO LIVE! To breathe—TO LIVE! Homes to inhabit. The present idea of the street must be abolished: DEATH OF THE STREET! DEATH OF THE STREET!” (Le Corbusier, 1987, p. 124).

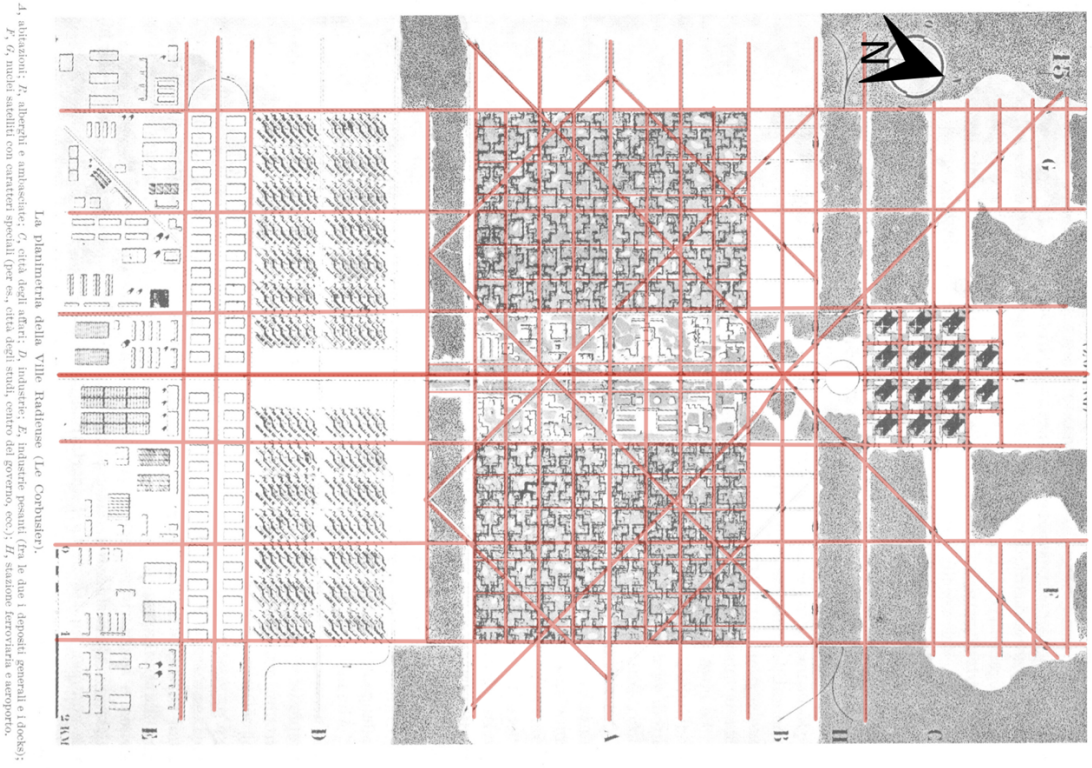


Figure 2.28 : Le Corbusier’s Ville Radieuse, adapted from (Url-24).

This situation suggests a more radical form in the Voisin Plan, which was started in 1925, proposing the demolition of the Rive Droite district and the construction of 18 skyscrapers divided by a highway (Fishman, 1977, pp. 206-207). According to Donald, the geometric street layout creates the most efficient urban order for the circulation of goods, people, and money (1999, p. 46) and has found a place not only in modern urban planning but also in the imagination of Hausmann before him (Stavrides, 2016, p. 133). Le Corbusier, who saw streets as dark canyons clogged with traffic (Fishman, 1977, p. 208), admired Haussmann as a surgeon who opened up

congestion in Paris's main roads (Donald, 1999, p. 57). Le Corbusier continues to view the idea of streets as unnecessary and thinks that vehicular lanes can completely replace traditional street functions. However, this view has sparked controversy. The first reason for the backlash against the Voisin Plan was its demand for radical changes in the areas with the highest land value and its design of large and empty spaces without public life, diversity, and human scale by eliminating the streets (Fishman, 1977, p. 207). According to Lefebvre, Le Corbusier overlooks the streets' symbolic and playful function and turns the city into a mere dormitory (2003, p. 18). Le Corbusier, criticised for his idea of eliminating streets, defends his attitude towards streets by saying that it is to save them and claims that the congested streets only create a sense of pity as "joyless streets" (Le Corbusier, 1964 cited in Fishman, 1977, p. 208).

Like Le Corbusier, Wright also worked on a utopian city based on a different perspective on the road system. Wright created a new urban design world with the freedom brought by the idea that everyone could own a car and thus manage their time and location (Fishman, 1977, pp. 93-94) (Figure 2.29). Accordingly, the car brings freedom, and people who can be at any place at any time have the right to live where they choose, not where they are imposed to live. The purpose of streets is to take people to their destinations (Mehta, 2013, p. 46). With the modern road network, people no longer need to gather in specific city areas because they can access every location (Fishman, 1977, pp. 93-94). Wright exhibited the utopia of a city where everyone owns a car in his Broadacre City exhibition at New York Rockefeller Center in 1935 (Gray, 2018). This idea of a city where cars are the primary means of transportation was innovative for the designers of the time. Despite focusing on car use, Wright removed railways and trams in Broadacre City, claiming there would be no traffic (Gray, 2018). As a defender of natural economic order, Wright provided for producing “the great Roadside Market” under one roof at an intersection, which would be permanently present and bring people together, with cafes and restaurants around it (Fishman, 1977, p. 133). According to Wright, the roadside market is the city's most attractive and entertaining unit (1945, p. 94). Despite assigning functions to the road, Wright does not design the street with a perspective very different from Le Corbusier's. Both researchers view the street as only a means of transportation for the city. However, this attitude towards the street will be criticised in later periods.

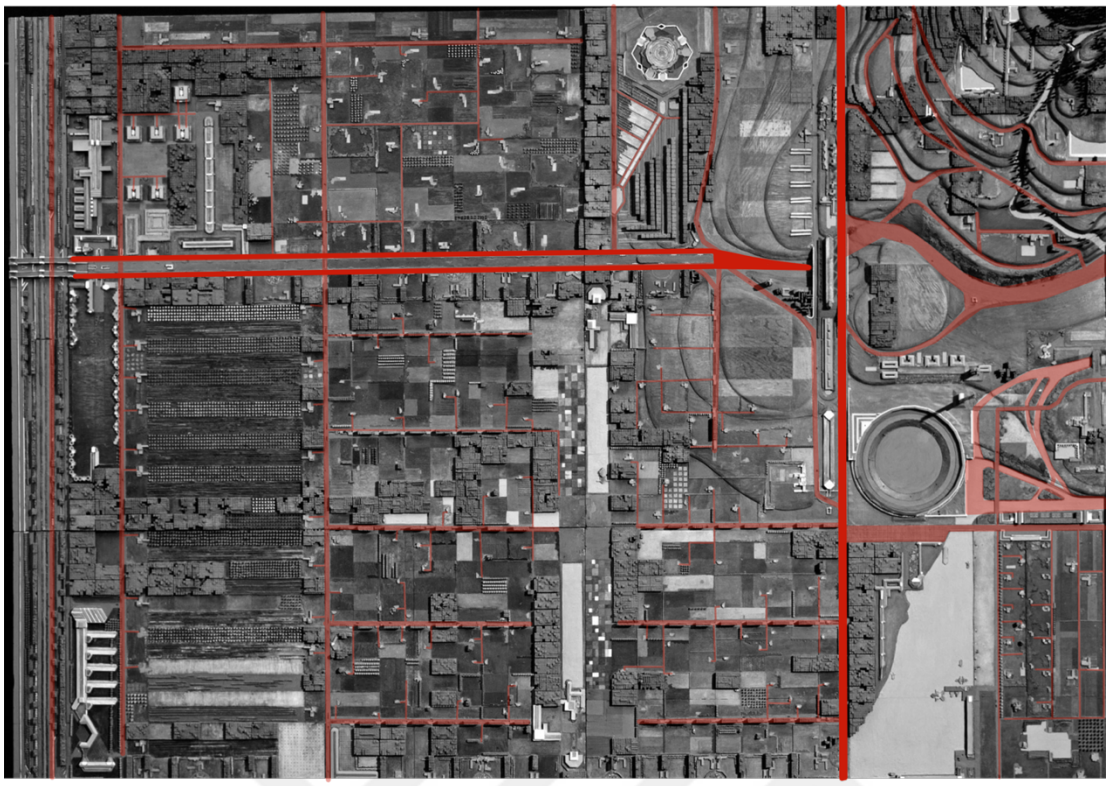


Figure 2.29 : Frank Lloyd Wright's Broadacre City, adapted from (Url-25).

The ideas put forward by Stein, Wright, Mumford, and Bauer argue that the streets are a terrible environment for people and that homes should be separated from the streets, and that making streets too wide is wasteful (Jacobs, 1961, p. 20). Although not all modernists shared Le Corbusier's views, their vision resulted in streets that only served traffic and did not meet basic human needs, ignoring the idea that streets are a place for society and that vehicles should be integrated into society (Southworth & Ben-Joseph, 2013, p. 80).

If the 1920s and 1930s are considered when the streets were abandoned, then the 1960s and 1970s were the years of efforts to rescue the streets from deteriorating conditions (Kostof, 1992, p. 239). As a reaction to the modernist architects' idea of eliminating streets, a group of British architects, Team X, approached the street with a new perspective (Kostof, 1992, p. 238). At this point, the street experienced a significant turning point when it lost its social function and was saved from being a victim of wheeled vehicles. The Golden Lane Project (1952) is designed with streets containing shops and mailboxes, the Park Hill and Hyde Park Projects (1957) with streets between blocks on all three floors, and the Shadrack Woos-Le Mirail (1962) with low roofs opened for pedestrian use (Kostof, 1992, p. 238).

The change in the perception of streets began to accelerate in Europe with the adoption of the Historic Preservation Law in 1966, and some roads used for transportation in cities were transformed into pedestrian areas (Kostof, 1992, p. 239). During this process, designers have produced different projects with diverse functional approaches attributed to streets. During this time, Le Corbusier, who believed that using streets within the city was unnecessary and that they only occupied space, implemented the Chandigarh plan in the Indian city. In this plan, which considered the city centre as the city's heart, roads were classified with a 7V system assigned to 7 different functions (The official website of the Chandigarh Administration, 2023). In Chandigarh, one of the examples of a modernist city, blocks are divided by market areas located on the main street, and a park system moves between the building blocks (Kostof, 1991, pp. 155-156) (Figure 2.31). This city plan, where the functions within the city are divided by streets with different purposes, reflects the idea that streets exist only for transportation, as seen in current urban plans. This project, which overlooks the impact of the street on the social structure of society, reduces the street space to a single purpose, thereby removing it from being an integral part of the urban space.

In addition to Chandigarh, Brasília, the capital city of Brazil, is also influenced by Le Corbusier. The master plan of the new city, designed by architect Oscar Niemeyer, was selected through a competition won by Lúcio Costa, which highlighted two monumental axes intersecting at right angles as the most crucial feature (Stierli, 2010, p. 234) (Figure 2.30). These two main roads represent the city's two central spines. The east-west axis forms an axis of government and administrative buildings, while the north-south axis consists of a highway formed by super blocks with residential areas on both sides (Stierli, 2010, p. 234). Le Corbusier's "functional city" motto inspired this project (Stierli, 2010, p. 235).

Ultimately, the importance and function of the street have changed, leading to a shift in how researchers approach the concept. Some projects view the street merely as a means of transportation, perceiving it as a void within the urban space and therefore failing to design it to accommodate human presence. On the other hand, some projects acknowledge the street as a space for people and emphasise that a significant part of urban life unfolds on the street.

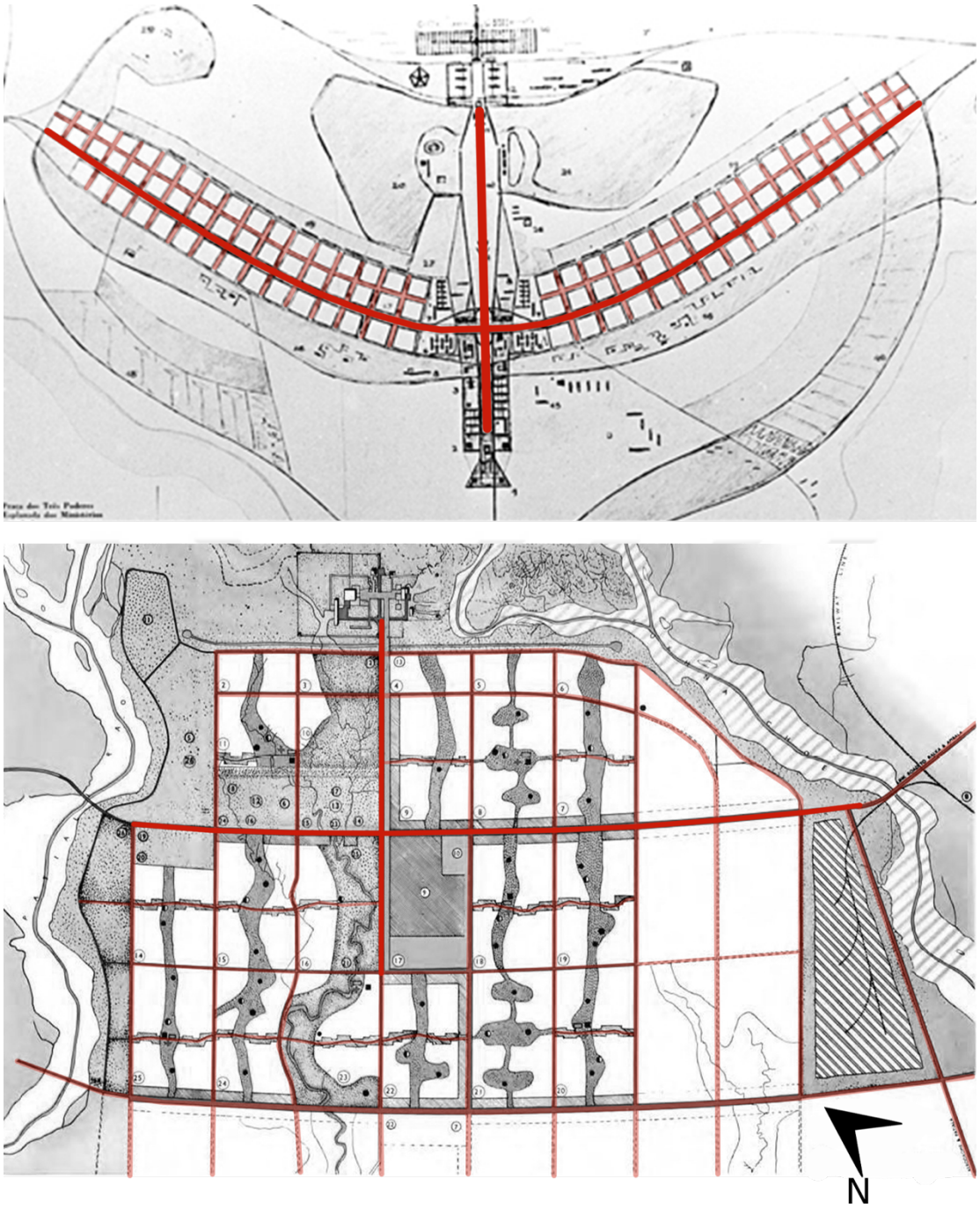


Figure 2.30 : The city plans of Brasilia (above) and Chandigarh (below), adapted from (Url-26, Url-27).

Throughout the annals of human history, the notion of streets has undergone a series of transformative changes, evolving from primitive paths to their present-day critical role in modern urban environments. This research has revealed that, in their nascent iterations, streets were primarily regarded as conduits for transportation purposes. However, as urbanisation progressed and cities grew more intricate, these areas underwent significant physical modifications and became integral components of the urban milieu (Figure 2.31).

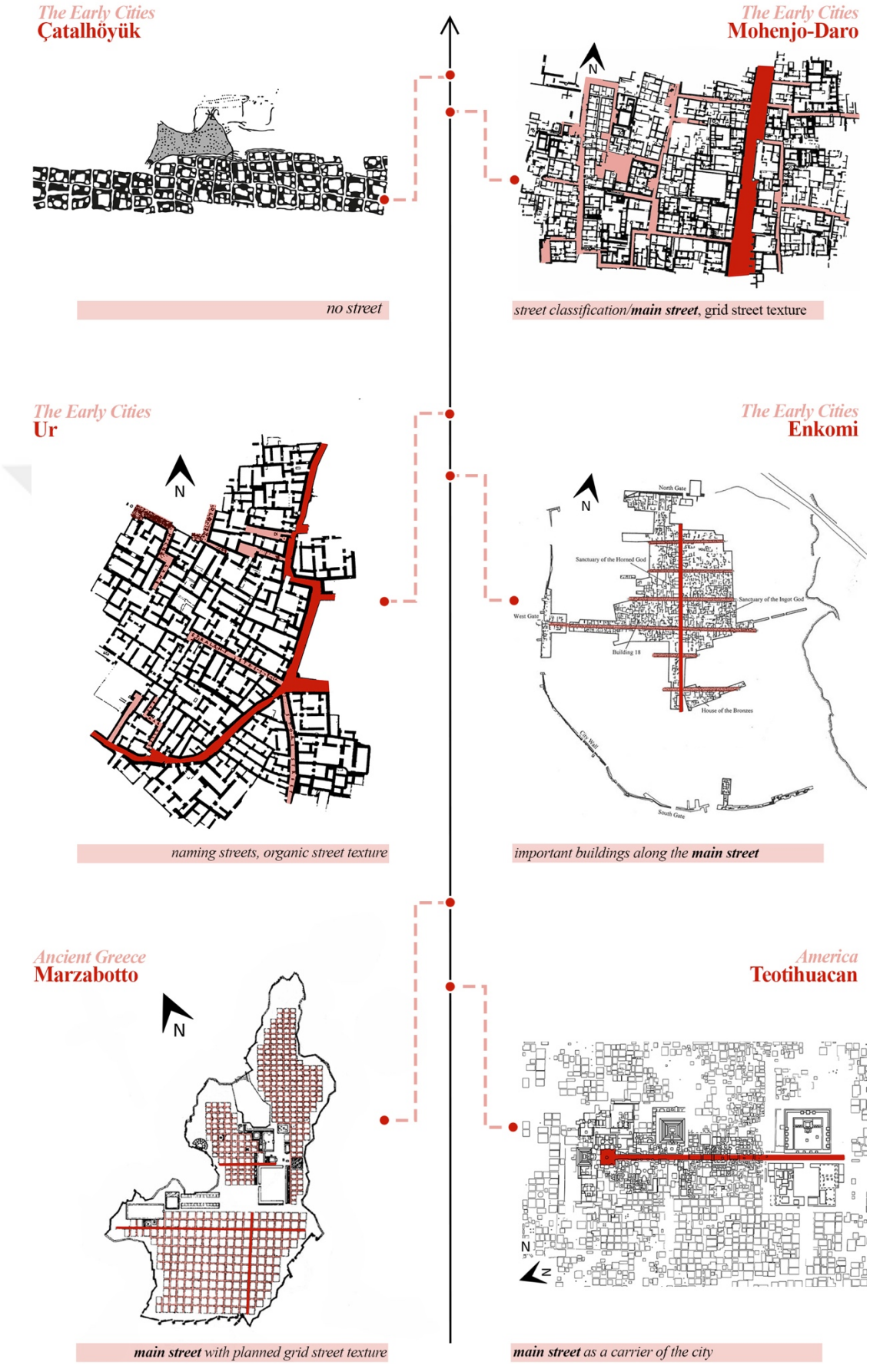


Figure 2.31 : Timeline of the street formation.

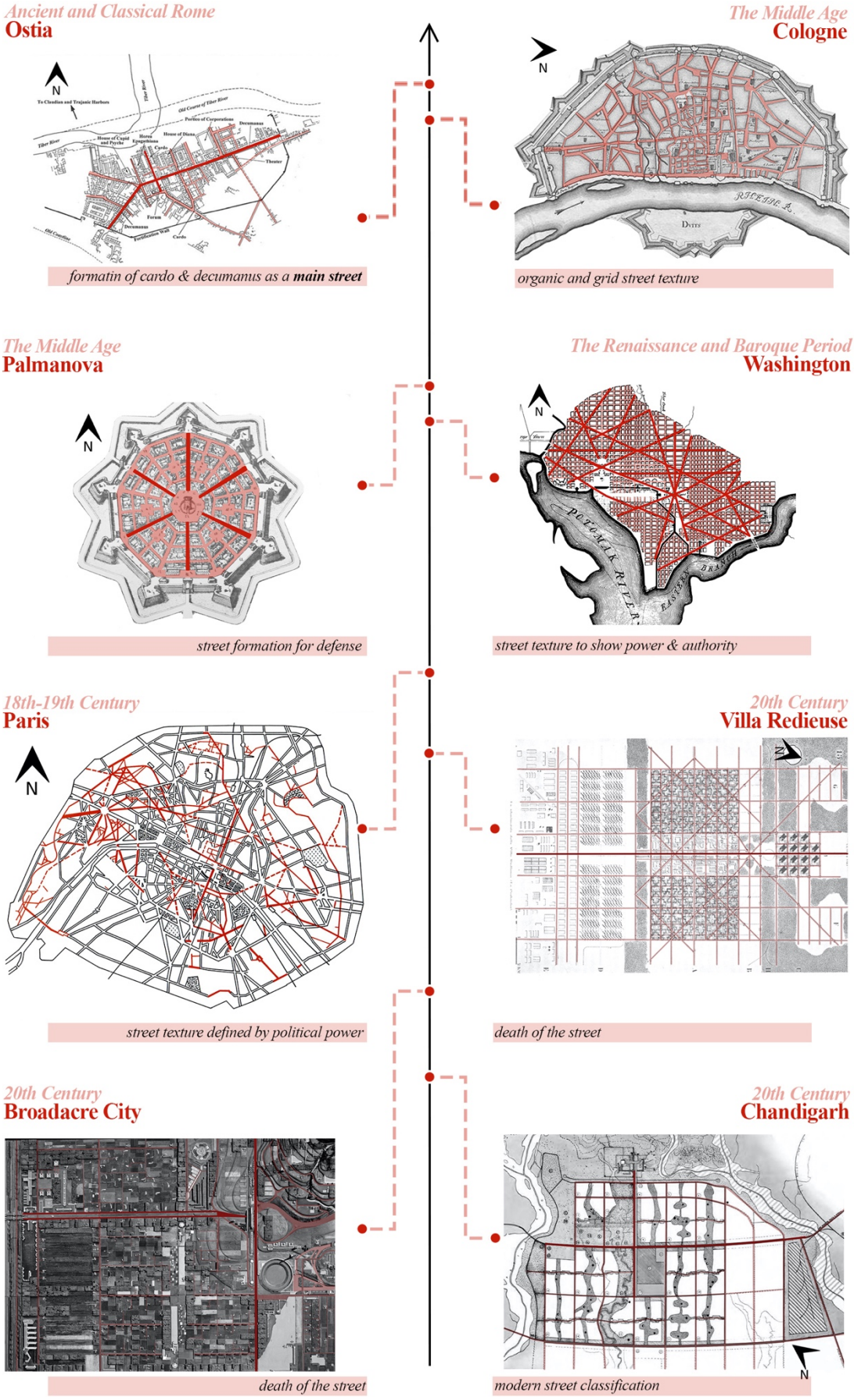


Table 2.31 (continued): Timeline of the street formation.

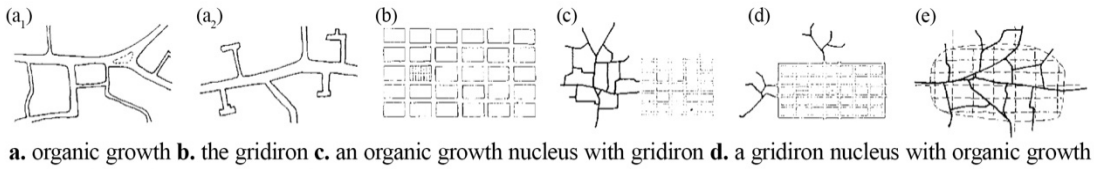
2.3 Street as a Generated and Generating Element

Streets have undergone physical transformations in different ways, influenced by various cultures and geographies during their journey. In addition to the street form that emerged based on the needs and shaped along with the city, some streets shape the city according to their structure. In other words, some streets have become pivotal to the city's growth, while others have been created due to the city's expansion. At this point, the street is both a generated and a generator component of the city. At this point, their significance also varies. Research is interested in understanding the factors that influence the production of streets and how the city is impacted during the production process. By analysing the intricate details of street formation, researchers can gain valuable insight into the evolution of the relationship between urban morphology and city dynamics, such as history, social and cultural values and how they have adapted to the changing needs of cities over time.

2.3.1 Generation of the street

Many different factors affect the physical form of a settlement when it is formed. The society designs the most useful settlement area for themselves by considering both their own needs and the characteristics of the settlement area in the formation stages of the city.

The street network should be a space that spreads within the settlement area and responds to the era's requirements. Designing the street structure to meet the community's demands, understanding the community's needs, and adapting them to the natural characteristics of the settlement area is an exigence. In early settlement history, diverse street layouts and plan types came from the city’s requirements to meet these necessities (Figure 2.32). At this point, the parameters that affect the formation of the street can be examined under two main headings: natural parameters and human-made parameters (Morris, 2013, p. 10).



a. organic growth **b.** the gridiron **c.** an organic growth nucleus with gridiron **d.** a gridiron nucleus with organic growth **e.** special plan (i.e. organic growth was superimposed on the abandoned grid)

Figure 2.32 : Different street layouts (Morris, 2013).

2.3.1.1 Natural elements

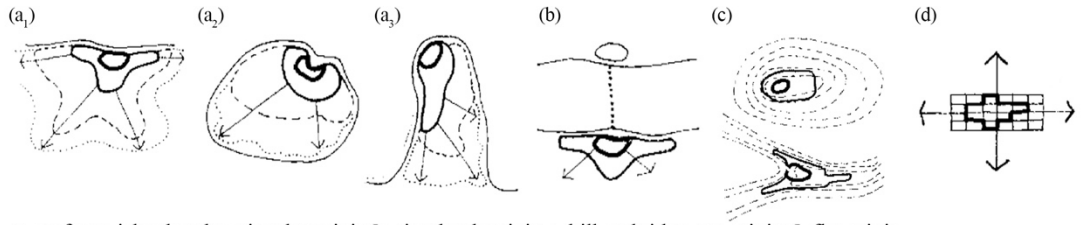
The natural element that affects the form of the street can be categorised into three headings: climate, topography and material (Morris, 2013, pp. 11-12).

Climate

The climate is one of the essential criteria that society pays attention to when transitioning to settled life. In primitive life, city forms were arranged according to climatic characteristics to protect against weather conditions. Although this situation still exists, today's technological infrastructure can protect settlements from extreme weather conditions. However, in old settlements, society adapts to the climate factors by designing city elements such as buildings and streets according to conditions such as temperature and precipitation. Jeddah, Mecca, Olynthus, Pompeii, and Timgad are examples of cities where the climate impacts structural conditions (Morris, 2013, p. 11).

Topography

From the first evidence of human life, the topography and landform significantly impact how the society settles and moves. While the streets are meandering where the topography is not flat, the grid-iron layout can be found where the city has less slope. In addition to forming streets, the organisation of open spaces and buildings are also influenced by topography. Numerous different settlement patterns demonstrate how the differentiation in topography affects the street form (Figure 2.33). An example of topography's impact on the street layout is ancient Rome and the city of Miletus. Ancient Rome had a meandering street layout with a heavy topography, while the city of Miletus had a grid-iron street plan on a flat surface. Therefore, the topography is the prominent natural element that shapes the street form. Thus, the physical characteristics of topography play a pivotal role in shaping street networks' overall layout and structure.



a. seafront, island and peninsular origin **b.** riverbank origin **c.** hill and ridge-top origin **d.** flat origin

Figure 2.33 : Different urban forms based on topography (Morris, 2013).

Material

In the early times, the acts and decisions of society were more related to nature than today. The community should obey the rules of the environment to exist and protect themselves. At this point, only primary sources came from nature to satisfy their needs, and people used these sources to arrange their living habitat. Until the development of technology, raw materials of nature were the determinants of the physical environment. Hence, the constructions are limited by the materials and the existing methods. The design of buildings in historic cities on a human scale is due to the influence of the materials and construction techniques of that period on the dimensions of the floors, roofs, and walls (Morris, 2013, p. 12). In short, the existing material is some objects that influence street form.

2.3.1.2 Human-made elements

The human-made elements are those that are related to not only nature but also to society. Among these parameters, fundamental distinctions exist between the physical and the non-physical indicators.

- Non-physical

The non-physical determinants contain economic, political, religious, and legislation.

Economic

The city has always been a critical issue for the economy. The activities that the city involves are the ones that create the urban economy. Economic growth affects city development, while city development also influences the urban economy. This mutual relationship expresses itself in many ways but in the spatial characteristics of the city. In some cities, the street's formation and importance are related to economic functions such as a market or a production space. Saalman emphasised that the entire city was a market during the Middle Ages, the holistic relationship between the urban space and the economy. The horrea (horreum/horrea: a kind of public warehouse) in ancient Rome and the fruit and vegetable market in Covent Garden in London both consolidated themselves as markets within the urban fabric (Morris, 2013, p. 13) demonstrate how the economy and urban relationship can become long-lasting when buildings and spaces necessary for a city to become a market are designed accordingly.

Political

The urban space has always been a place for expressing the political ideas of society and the government. The street has been a space where society comes together to express themselves through actions and demonstrations to oppose something, celebrate an event, and voice their thoughts on a particular issue. In addition to society, on a larger scale, another power affects the street form in the city: the government. The government influences the street form to regulate and dictate what is happening in the city. Locating the military or administrative building in the city centre is proof of the political effect on the urban form, while the widening of streets to make intervention easy against public actions and the creation of boulevards where military power could be demonstrated to the public -like Haussmann's Paris- are also examples of the political effects on the form of the street.

Religious

Even before the contemporary settlement, meeting society for a religious purpose in a specific place is the most significant evidence of the effect of religion on the urban form (see chapter 2.1 para. 5). To show the devotionality of the city, there are always some unique spaces. Having the highest and most magnificent tower or dome as a place for religion in the city demonstrates how religion is necessary for this society. The necessity of a place for worship caused the construction of temples, churches and mosques on a building scale, while the desire to show commitment resulted in the formation of streets such as the Processional Way in Babylon.

Legislation

Similar to the political reasons, the want of the government to have power over the spatiality of the city resulted in changes under the name of legislation. Despite experiencing issues in its implementation, London is an example of how government intervention has changed the urban fabric (Morris, 1994, p. 17). This example demonstrates how the desire of the government to exert control over the urban space has led to significant alterations to the city.

- Physical

Physical determinants contain aesthetics, urban mobility, pre-urban cadastre and defence.

Aesthetic

In addition to the political, economic, religious, and legislative effects on the city form, the desire for aesthetics is another major determinant in the city. These are the crucial elements for the city form, so we can not know if the primary concern in the construction of the Acropolis is related to the religion by apotheosising the goddess or to the aesthetic by providing an eye-pleasing city environment (Morris, 2013, p. 16). The impact of aesthetic needs on urban planning and, thus, the form of the street is one of the most critical issues during the Renaissance period in structuring the city. Also, the desire for aesthetics in living units and environments is still valid today. This determinant is influential not only in the formation of all city elements but also in the formation of streets.

Urban mobility

One of the fundamental roles of the street is to facilitate movement within the city, making it the primary determinant for the formation of street form. The form of the street has taken on various shapes within different urban fabrics, shaped by the transportation options available during a given period and the cultural and geographic context in which it is located. Some of the impacts of urban movement on the form of the street include the need for multiple lanes of traffic that emerged with the increasing transportation options as technology advanced, the need for street design to accommodate high pedestrian traffic, and the need for wider streets to accommodate the transportation needs of camel traffic in Islamic cities (Morris, 2013, p. 16). Arranging the urban mobility in the city is one of the reasons for the formation of the shape of the street, such as narrow, flat, wide or meandering.

Pre-urban cadastre

The city's existing structure is one of the binding conditions for developing and restructuring the city. After the concept of property emerged, all the spatial regulations in the city form were organised by the property's boundaries to avoid legal issues. The reason for the confounding plans of London's suburbs in the 19th and 20th centuries is the pre-existing urban cadastres that occurred in the 1920s and 1930s due to the expansion of London (Morris, 2013, p. 10). Therefore, it can be observed that the organisation of the city according to the pre-urban cadastre impacts the formation of the street form.

Defence

The need for defence has always been an issue from the earliest settlements. In Çatalhöyük, for the defensive purpose, the entrances of the buildings are from the top, so transportation was carried out on the roofs (Morris, 1994, p. 19) (see chapter 2.2.2.1. para. 1, 2). Different city layouts have been developed throughout history, and the need for defence has influenced many. The arrangement of streets and buildings was often dictated by the requirements of defence, which led to various street forms such as the grid, the castrum, and the star shape (see chapters 2.2.2.3 and 2.2.2.5). These street forms reflect the importance of defence in shaping the physical form of cities.

With the cities having modern technological capabilities, the influence of natural factors on the forms of streets has decreased. Climate conditions, topography, and materials can now be overcome through technology as challenges that affect urban form. However, it would be incorrect to say that these natural and physical elements have no impact on contemporary street forms, although their influence may not be as strong as in past settlements. Many parameters continue to have an evident effect in today's cities.

2.3.2 Generated by the street

As described in the previous paragraph, the formation of the urban fabric is influenced by natural and human-made factors, which can be broadly categorised into two main headings: physical and non-physical. These parameters provide insights into how urban fabric is shaped and developed through external interventions, offering clues to researchers in understanding the reasons behind the forms that have emerged during the evolutionary process of cities. Given that the street network is a fundamental component and a subject influenced by various dynamics shaping the city, the above parameters are considered variables controlling street morphology within this study. However, the street fabric also possesses the power to shape and influence the city alongside its vital economic and social functions. The direction and nature of urban development, as well as the functions it accommodates, can vary depending on the role of the street within the city. Therefore, the spatiality of the street is not merely a produced element but a reality that shapes the city. This section of the research will delve into specific examples of how streets operate as productive elements, further emphasising their importance in shaping urban areas.

Each city conforms to a specific form within the classification system of urban layouts based on its shape. Spreiregen has categorised urban forms into seven main headings: radiocentric, rectilinear, star, ring, linear, branch, sheet, articulated sheet, constellation, and satellite (1965, pp. 53-54). While each urban form possesses unique characteristics, all different formation forms have been derived from a single line. This line represents one of the fundamental components of the city from its inception (Gürsel, 2012, p. 5) (Figure 2.34).

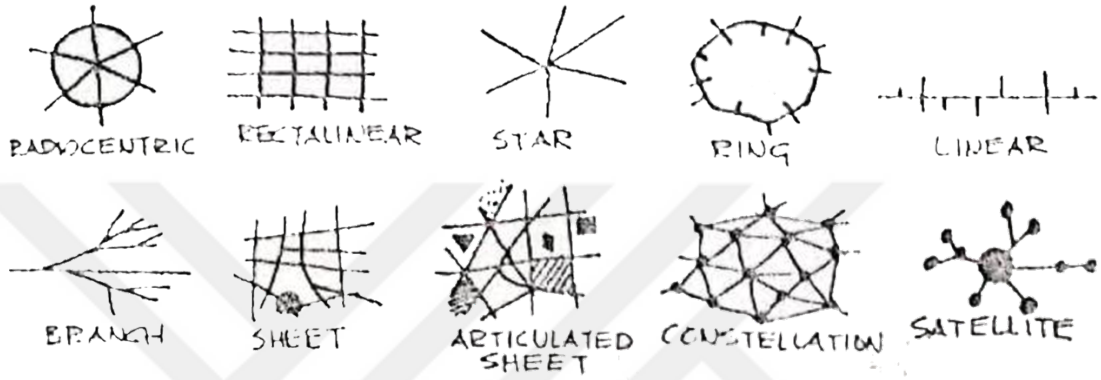


Figure 2.34 : Variations of urban forms (Spreiregen, 1965).

By occupying a central position and forming the city's supporting axis, this line can be correlated with the skeletal system's spine due to its functional role. The spine, composed of numerous stacked and interconnected small bones, fulfils the body's requirements for movement, upright posture, and protection (Gürsel, 2012, pp. 7-8). Considering that the term "spine" signifies a macro-scale concept that holds together and forms a system with its components, its functions in the body can be interpreted within the context of the urban space. In this regard, the connection of the spine to the small bones corresponds to the relationship between the main street and local roads, the ability of the spine to move aligns with the economic, social, and physical functions of the main street in sustaining the city and metaphorically advancing, and the spine's function of keeping the body upright and balanced can be associated with the main street forming a central and generative force within the city. Consequently, this analogy explains the identification of the main street as the city's spine. From an urban perspective, Büyükcivelek defines the spine as follows: "elements that connect pedestrian and vehicular circulation, retail activities, public uses, tourist attractions, business areas, educational institutions, as well as railway stations, airports, and bus terminals, facilitating the operation of these systems together" (2012, pp. 238-239).

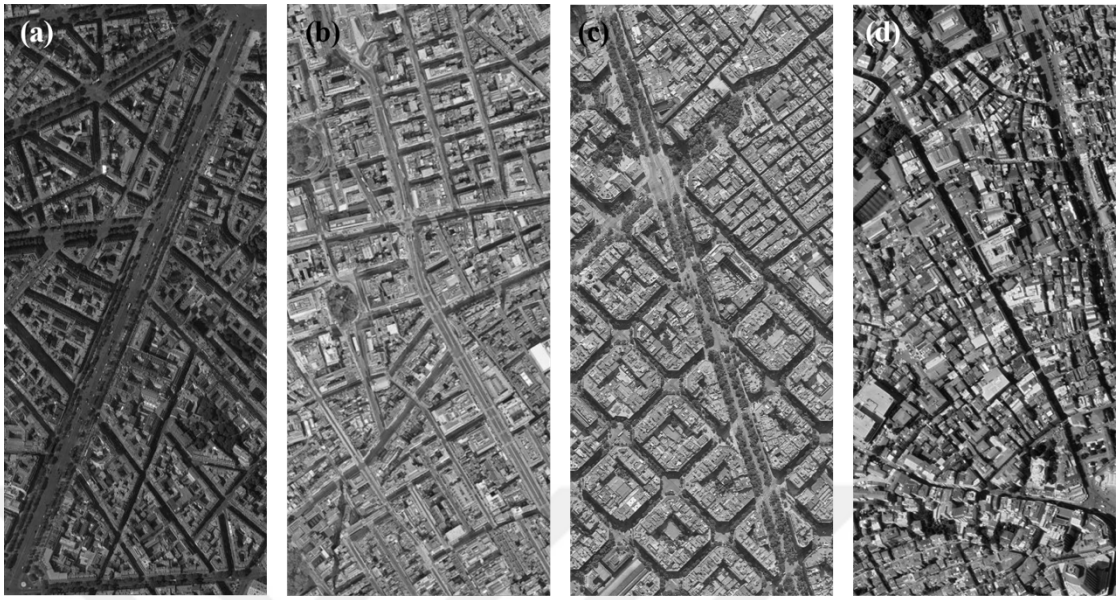
According to Ekinci, the first urban spines in history are found as "columnar axes" and share common characteristics in the cities where they exist (2019, p. 22). Examples of cities with columnar streets include Ephesus, Ostia, Alexandria, and Antioch. In these cities, columnar streets also serve as the main thoroughfare and offer different functions as the most frequently used streets in the city. Similar to Lynch's studies on Jersey City and Los Angeles, where the majority of participants emphasised the presence of urban elements on the city's spine (Büyükcivelek, 2012, p. 239), the main streets with columnar design also accommodate the distinctive and foundational aspects of the city as its spine.

The urban spine constitutes one of the constructive elements of the city with its substantial form. It has been used as the generator of urban form in Ancient Greek, Roman, Medieval, Renaissance, Baroque, and 18th and 19th-century cities, while the prominent examples of this usage in the 20th century are represented by the "Linear City" and the "Beautiful City Movement" (Gürsel, 2012, p. 9). Similar to the politically and aesthetically designed spines observed in the "Beautiful City Movement," the urban spine in Washington, DC, exemplifies the monumentality of the capital and is intended to follow a purpose extending between public buildings, subsequently serving as a model for many American cities (Gürsel, 2012, pp. 19-20). The spine has also been conceived as the central circulation system within the city. Examples of this include the proposed plan by the CIAM organisation for the reconstruction of London and Louis Kahn's design proposal for Philadelphia (Spreiregen, 1965, p. 46).

When examining the histories of cities, it is observed that the urban spine is predominantly used throughout the entire city or a part of it (Gürsel, 2012, p. 26). The most powerful example of using this spine as a centre of the movement is the Panathenaic Way in Athens, which has also become a generative force in its architecture and planning (Bacon, 1967, pp. 64-65). The cardo and decumanus seen in Roman cities also function as generative systems similar to the spine. In contemporary times, many cities have streets that can be referred to as urban spines (Figure 2.35).

When considering the roles of the urban spine within the city, it is evident that it is one of the city's most important arteries. At this point, a deduction can be made that, much like the Panathenaic Way, the urban form is generally produced about the urban spine and develops based on the form of the street. As the street emerges within the city, it becomes the most significant physical extension of the city due to its functional

diversity and presence in the city centre, acting as a guiding path for the city's growth. In this regard, the urban spine is identified as the city's generator.



a. Champs-Élysées, Paris, France **b.** Regent Street, London, UK **c.** Avinguda Diagonal, Barcelona, Spain **d.** İstiklal Street, İstanbul, Türkiye

Figure 2.35 : Examples of the urban spine (Google Earth, 2023).

2.4 Street Classification

The street serves multiple users while hosting various functions in its structure. Therefore, the street is a space with numerous personalities simultaneously possessing different characteristics (Marshall, 2004, p. 26). For example, Marylebone Road in London is a main street, a strategic traffic artery, a bypass road, and more (Marshall, 2022, p. 8). Defining the street solely within a conceptual framework is quite challenging as it caters to the needs of each user in different ways. Thus, creating a classification system is a way to define the street with its multiple personalities. When the street type needs to be determined, it may be challenging to take actions that enable the continuation and development of the street (Marshall, 2002, p. 4). Street classification is also a political behaviour as it shows the priority order of the people who classify them (Marshall, 2002, p. 9). Different classification methods can be observed as the priorities of the person or institution who classify the streets are based on individual or mono-directional thoughts, intentionally or unintentionally. Therefore, the street classification system includes different headings and subheadings depending on the distinct qualities considered, which vary from one country to another (Marshall, 2002, p. 9). These differences in characteristics indicate the purpose of the

road classification. Although it seems like a decent start to use headings such as the width of the road for vehicle traffic or land use indicating usages such as residential, commercial, etc., in street classification in urban design literature, the relationship between this situation and traditional street arrangements must be examined (Marshall, 2004, p. 26). Road classification is a complicated issue as long as the headings remain open to individual interpretation, and it is challenging to group the contents under a single title (Marshall, 2002, pp. 8-9). The street is studied as a circulation line by engineers, a public space by city planners, and a built façade by architects and urban designers (Marshall, 2004, p. 6). Due to the involvement of many professional groups, several street classification systems have been created, and street designs have been constructed according to these different hierarchical systems. Whether we are designing for street classification or classifying streets for design purposes may confuse (Marshall, 2002, p. 9). In this case, it can be said that the two steps cultivate each other, and they are mutually dependent.

Before discussing any parameters of street classification, it is necessary to mention when and how this classification emerged. At this point, the first reference to be made is the European urbanist Vitruvius. According to Vitruvius, roads can be examined under three main headings, which are different from each other as schematic, namely tragic scenes suitable for kings with stage columns and statues, private residential buildings with scenic views following ordinary residences, and satirical scenes explained with landscape elements such as trees and caves (Vitruvius, 1914, p. 150). Even before Vitruvius, society had used different functions between the streets, and the other street functions had influenced urban morphology. When ancient city plans are examined, it is seen that the width and functionality between streets vary, which indicates that there was a street classification in the street network of that period. The cardo and decumanus seen in Roman military camps are basic examples of street classification in ancient times. In addition, it is observed that terms such as via, the smaller vicus, the clivus, cul-de-sac, and scalae were used for street types in the ancient classical period (Kostof, 1992, p. 218). These terms used by society prove that the street was defined with different names by serving different needs.

Following Vitruvius's three scenes, Alberti created two main categories by advocating that the streets of solid and noble cities should be straight and wide and the streets of small towns should be winding (Alberti, 1986, p. 75). Similar to Alberti, Palladio also

classifies streets into two main categories: inner-city and outer-city roads (Moughtin, 2003, p. 162). Similarly, Leonardo da Vinci suggested separating pedestrian and high-traffic roads (Mumford, 1961, p. 360). Such classifications are made according to the current needs and traditions of the cities where the streets are located. One of the examples showing the impact of culture and the requirements of society on street classification is the essential differentiation between secondary and dead-end streets, which was designed to protect the privacy and reduce mobility in Islamic cities (Kostof, 1991, p. 249). This condition demonstrates that streets are shaped according to multiple different parameters.

One of the essential steps in making street classification official was the meeting held in Athens in 1933 under the name of Congrès Internationaux d'Architecture Moderne/International Congress of Modern Architecture/CIAM. Article 63 of the declaration published at the Congress contains an official statement regarding street classification: "Roads should be differentiated according to their functions: residential streets, promenades, through roads, major highways, etc." (Athens Center of Ekistics, 1963, p. 263, 266). With this article, street classification, which has been developing unclearly since the past, became official.

After this international step emphasising the necessity of classification, in the second half of the twentieth century, American planners and engineers developed a system for the variety of all roads to determine their economic qualities, which was included in the Federal Aid-Highway Act of 1968 (Massengale & Dover, 2014, p. 26).

The formalisation of road classification for financing purposes in the United States has continued, with each country or city developing its street hierarchy by establishing standards (Marshall, 2002, p. 14). The road classification system created by each country takes different forms depending on various themes. There are some themes that are applied systematically, such as traffic speed, speed length and strategic role, themes that use partially, such as mode of transportation, traffic volume and access control and themes that are used diversely, such as spatial integration, land use or frontage function and pedestrian use of streets. These parameters can be analysed under different headings depending on their importance and the street's themes of form, use, design, and relationship (Figure 2.36).

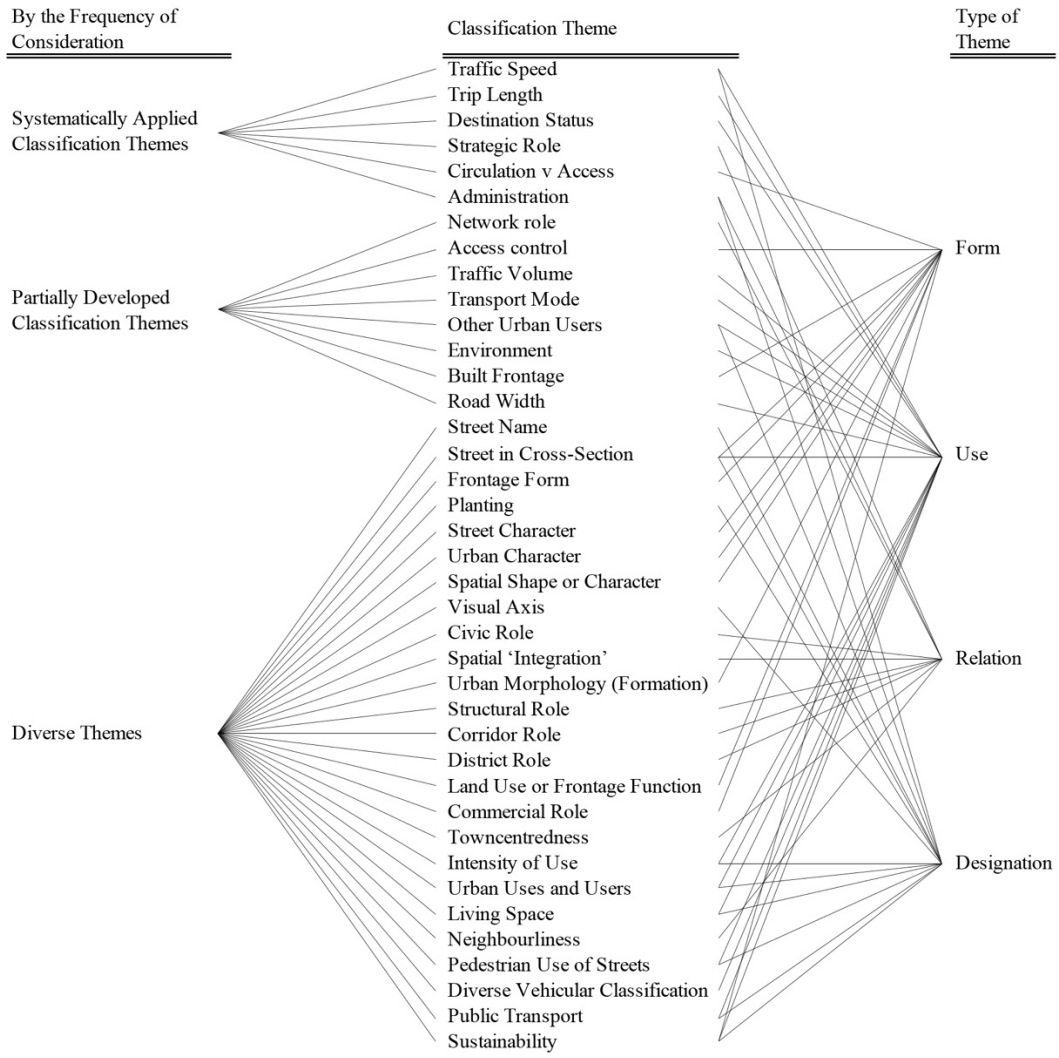


Figure 2.36 : Diversity of themes in classification of the street, produced from (Marshall, 2002; 2004).

The road classifications established by each country according to its own needs and traditions are formalised through various themes. For instance, while Denmark and Greece utilise traffic speed as the main parameter for street classification, Belgium and the United Kingdom employ it only for certain streets (Marshall, 2002, p. 52). The purpose of this system varies across different countries, similar to the differentiation of the designated themes for street classification. For example, street classification in Belgium aims to enhance accessibility and quality of life, while in Portugal, it is to identify and solve problems associated with roads serving different functions, and in the UK, it is to reduce traffic intrusion into residential areas (Marshall, 2002, pp. 53-56). Based on these diverse themes and objectives, each country - and in some cases, even cities such as Copenhagen and London - has developed its own street types and classification systems (Table 2.4).

Table 2.4 : Different road classification sets according to countries (Marshall, 2002).

Denmark	Hungary	Portugal	Sweden+Malmö	Germany
Traffic Roads: High Speed Medium Speed Low Speed Local Roads: Medium Speed Low Speed Very Low Speed	Motorway Semi-Motorway I. Class Main Road II. Class Main Road Collector Road Service Road Bicycle Road Footpath	Collector Roads Main Distributor Roads Local Distributor Roads Access Roads Pedestrian Streets	Throughfare/Radial Road Main Street(Arterial) Collector Street Local Street Woonerf Pedestrian Street	III+IV Non Frontage Arterial Street: III Arterial Streets IV Main Collector Streets: IV Collector Streets V Access Street VI Access Street

The foundations of road classification for Turkey began in the 19th century. Although, decisions were made in 1839 to prevent the rapid spread of fires due to factors such as the fast population growth in the city, the creation of dense urban fabric, and the use of wooden building materials, which included widening roads and preventing dead-end streets; the first official document regarding road regulation was the "Building Regulation (*Ebniye Nizamnamesi*)" in 1848 (Tatlı & Erkan, 2021, p. 521). This document shows that road differentiation in the Ottoman Empire was created according to the needs of the urban environment. Official documents published from this date until the declaration of the Republic contained direct or indirect information regarding street classification.

Following these regulations, although the "Municipal Construction and Roads Law (*Belediye Yapı ve Yollar Kanunu*)" in 1933 established standards for road regulation, the "Zoning Law (*İmar Kanunu*)" that replaced this law in 1957 did not contain any regulations regarding transportation planning (Tatlı & Erkan, 2021, p. 524). The lack of any decision regarding the organisation and classification of the streets between those dates has led to the development of the street network, which is one of the fundamental elements of the city, without a standardisation, leaving it to individual design and planning concepts. The fact that streets and avenues, public places, have been given less importance compared to other built environments, especially the inner side, which provides privacy, elements in Turkey's planning history can be interpreted as the practice of private life being more important than public life, as seen in the Ottoman era. In the history of the Republic, the general regulation of road classification was determined by examining four primary categories, which are controlled access roads (freeways - expressways), passage roads, highways, and

secondary roads, in the "Highways Traffic Law (*Karayolları Trafik Kanunu*)" in 1983 (Tatlı & Erkan, 2021, p. 527). However, it cannot be said that this law includes a highly detailed design and classification system. The first precise regulation regarding road classfication was seen in the "Planning Law No. 3194 (*Mekansal Planlar Yapım Yönetmeliği*)," which came into effect in 2014, approximately thirty years after 1983 (Tatlı & Erkan, 2021, p. 527). The road hierarchy in the Turkish planning system, which began with road regulation in the Ottoman Empire in 1839 but could not be examined within a clear framework until 2014, presents problems due to its late regulation and approach to streets solely based on function.

The classification system in Turkey, which considers the streets functionally, has the same basis of the classification system in other countries. Although the types of streets that range from main roads with heavy traffic flow to minor roads with limited access and are located at both ends of the street classification spectrum differ terminologically, there are similar basic principles for each country (Marshall, 2004, p. 47). While the traditional road classification is primarily vehicle-focused transportation, the names of the types of roads that result from this classification indicate the transport capacity of the road. Their regulation and design are aimed at helping traffic to flow quickly, reducing traffic, or preventing possible problems in traffic. Examining the classification of a road based only on vehicle-focused parameters has the potential to create problems instead of solving problems in today's complex urban structure. Although the purpose of the functional classification based on the philosophy of mobility and accessibility is to increase safety and reduce deaths due to traffic, research shows that regulations aimed at functional classification can increase deaths from traffic accidents (Massengale & Dover, 2014, p. 27). The vehicle-focused design approach that the street structure, whose existing purpose in the city is pedestrian transportation from one place to another, has reached today shows the need for a new regulation in this classification system. This series of standards, designed for the most efficient car journey, rather than creating a public space where people want to be, causes the design of noisy and bland areas that people want to avoid as much as possible (Massengale & Dover, 2014, 2013, p. 27). In addition to these inefficient spaces based on functional classification, this classification system poses a problem for roads with multiple personalities. While the city's social structure finds a place in the streets, in designs where the car becomes the subject, the characteristic features of

the street cannot be shown. Therefore, a different system is needed to preserve the unique texture of the streets from the traditional road hierarchy and standards. In the New Urbanism Congress held in 2006, a system that emphasises connectivity and placemaking, where walkable and mixed-use streets are preferred over the functional classification, was proposed for the streets (Massengale & Dover, 2014, p. 27). The classification understanding based on the street's characteristic features and form is vital in creating walkability and public spaces where the community wants to spend time. At this point, the functional and form-based street classification systems are the two classification systems examined in this study.

2.4.1 Street by function

Over the centuries, various street types have developed with different responsibilities to meet society's needs. These additional responsibilities that the street needs to fulfil have resulted in the emergence of other street types. Since it would be problematic to determine the function of a street without a definition and how it should be organised and designed, classifying streets with different names facilitates the management of the street network within the city. Although the importance of roads has increased in urban design practice with varying types of roads when viewed within a conceptual framework, roads appear indistinct (Marshall, 2004, p. 21). This is because there needs to be a systematic hierarchy and planning system between different streets. Although roads with other functions are used in the design, cities have been deprived of a large-scale road system because their relationship with their surroundings still needs to be considered. While it is agreed that grid plans consisting of streets, alleys, and boulevards need to be renewed more creatively, how this renewal will be done needs to be clarified (Marshall, 2004, p. 21). Although the street hierarchy seen in the Roman period, such as the street intersections seen in Ur and Mohenjo-Daro, and the different hierarchies of streets in Edinburgh's Georgian New Town after the Great Fire of London show a change in the street order based on the basic needs of the city, this situation cannot prevent the current street hierarchy from being traffic-focused and anti-urban (Marshall, 2004, p. 46). These classification types are essential for urban planners because they try to find the ideal situation for each street and provide solutions in the search for this ideal (Marshall, 2002, p. 5). This classification type is progressing as a vehicle-focused classification type. In this classification type, which

contemporary urban planners use, there are three main categories: arterial roads, collector roads, and local roads (Massengale & Dover, 2014, p. 26). Accordingly, Marshall examines this category under three different main headings but goes for the same essence: roads designed for motorised traffic, roads designed for mixed-use, and roads that motor vehicles cannot use (Marshall, 2002, p. 103). Under these main headings, there are 11 defined types of roads: Motorway, motor traffic road, major road or street, major intermediate road or street, intermediate road or street, minor intermediate road or street, minor road or street, mixed priority route, street or area, bicycle road, street or path, pedestrian and bicycle road, street or path and pedestrian road, street or path.

Motorway

This type of road is only used for motorised vehicles. Pedestrian, low-speed mopeds, bicycles, and animal traffic are prohibited on this type of road, which does not include commercial and public use areas or service and parking areas (Marshall, 2002, pp. 104, 106-108).

Motor Traffic Road

Designed for motor traffic, this type of road is similar to a motorway in terms of access, public role, and service and parking areas, but the use of non-motorized vehicles is not prohibited (Marshall, 2002, pp. 104, 106-108).

Major Road or Street

This multi-purpose road with pedestrian walkways on its edges is the highest level among all streets that accommodate all users and is commonly found in public areas, commercial areas, and residential areas, but its primary purpose is to carry heavy traffic and provide public transportation (Marshall, 2002, pp. 104, 106-108).

Major Intermediate Road or Street, Intermediate Road or Street and Minor Intermediate Road or Street

These types of roads provide shared use for motorised vehicles, pedestrians, and bicycles, and while they differ from each other, they include service and parking areas

and are located in commercial areas, public areas, and residential areas (Marshall, 2002, pp. 104, 106-108).

Minor Road or Street

Designed for all users, regardless of motorised vehicles, pedestrians, or bicycles, this road is generally used to access other streets and buildings and provides service and parking areas (Marshall, 2002, pp. 104, 106-108).

Mixed Priority Road, Street or Area

This type of road, the lowest classification among multi-purpose streets, is designed for motorised vehicles but can also be used by non-motorized vehicles, with priority given to pedestrians and bicycles (Marshall, 2002, pp. 104, 106-108).

Bicycle Route, Street or Path

While theoretically designed only for bicycles, this type of road can also be used by pedestrians and found in public, commercial, and residential areas (Marshall, 2002, pp. 104, 106-108).

Pedestrian & Bicycle Route, Street or Path

Designed with priority given to public, commercial, and residential areas, this road provides service and parking areas and accommodates pedestrians and bicycles (Marshall, 2002, pp. 104, 106-108).

Pedestrian Route, Street or Path

While theoretically designed only for pedestrians, this type of road is also used by bicycles, and with low-speed mobility, it generally provides service and parking areas for access to commercial sites, residential areas, and public areas (Marshall, 2002, pp. 104, 106-108).

The different requirements of these different road types resulted in the design of roads with different physical features (Figure 2.37).

a. Motorway **b.** Major Road **c.** Intermediate Road **d.** Mınor Road **e.** Mixed Priority Road **f.** Bicycle Road **g.** Pedestrian&Bicycle Road **h.** Pedestrian Road

Figure 2.37 : Examples of road types based on function (a: Url-28, b: Url-29 c, d: Marshall, 2004, e: Url-30, f: Url-31, g: Url-32, h: Url-33).

Although street classification is thought to assist urban planners, it is seen that it needs to reflect the different and numerous types of streets from past to present (Marshall, 2004, p. 50). Although this system designs the future, despite not representing the spatial features of today, it turns into a set of errors where mistakes increase and result in chaos in place. Despite new developments in the city, the road hierarchy system that does not represent the city's existence (Marshall, 2004, p. 50) still maintains its power over the spatial form of the city (Southworth & Ben-Joseph, 2013, p. 105). While the traditional functional classification among street types is still valid for some parts of the city, it needs improvement in some areas. Therefore, classification types based on different themes are required. Thus, street typologies that respond to the basic needs and traditional habits felt in other parts of the city emerge.

As a result, producing different types of classification that fit the characteristic texture of the city instead of just a fundamental parameter in the hierarchy (Marshall, 2004, p. 160) that only groups elements from large to small under certain structural features (Marshall, 2004, p. 83) will better meet the needs of today's urban planning. While the street types are within a web of abstract relationships and hierarchy is seen as a tool, it is also a type of structure (Marshall, 2004, p. 165). However, this structure has been planned recently by solely focusing on traffic (Marshall, 2002, p. 4). Therefore, in this study, a different classification type will be pursued due to the need for a system that encompasses the main street, which forms the backbone of the city with its economic and social functions. study.

2.4.2 Street by form

Due to the inadequacy of the main road, collector road, and local road types that emerge together with traditional functional classification in producing walkable cities and streets, engineers, city planners, and urban designers need to create a different classification system and a wide variety of road types accordingly (Massangale & Dover, 2014, p. 49). Therefore, although functional street classification may be valid for some parts of the city, a new street classification and hierarchical arrangement is needed, especially for areas where people prefer to walk more, have commercial and social uses, and are defined as the city centre. Looking back on history, increasing the variety of street types enhances the potential design options and leads to more solutions oriented towards the street (Massangale & Dover, 2014, p. 49). Therefore, this study

section examines street types in a classification system based on their forms to expand the range by differentiating street types. According to this, thirteen streets are discussed under three headings, mainly on the vehicle, mixed-use, and pedestrian transportation.

Avenues & Boulevard

The etymology of the words Boulevard and Avenue came from the French and can be traced back to the streets built during the reigns of Louis XIII and Louis XIV, which Haussmann later constructed for Emperor Napoleon III (Massangale & Dover, 2014, p. 52). Today, an Avenue is defined as a wide road with buildings or trees on both sides, while a Boulevard is a wide street with trees in the centre or on both sides (Cambridge Dictionary). Paris contains some of the oldest and best examples of boulevards and avenues, including Avenue Montaigne, Champs-Élysées, and Avenue Charles-de-Gaulle (Neuilly-sur-Seine) (Massangale & Dover, 2014, p. 52). The wide streets with all their components were seen as proof of the city's progress. However, with the dominance of the traffic flow from the 1960s onwards, sidewalks were eliminated to make room for more lanes and parking areas (Massangale & Dover, 2014, p. 52). These streets divide the neighbourhoods they pass through and diminish the quality of public space while creating a discomfortable place for pedestrians and cyclists due to the high speed of vehicles (Global Designing Cities Initiative, 2016, p. 250).

Promenades and Ramblas

Promenade is a place with trees and different streets and parks (Massangale & Dover, 2014, p. 76). The dictionary meaning of Promenade is a walking path (mainly located by the sea), while Ramble refers to a road walked for pleasure (predominantly located in rural areas) (Cambridge Dictionary). The word Rambla comes from the Arabic word "rmel", meaning sandy and dry waterway (Semler et al., 2020). While boulevards and promenades may share specific characteristics, such as their size and landscaping features, they serve different purposes within an urban context. Therefore, it is essential to recognise and differentiate between the two to assess their respective functions and impacts accurately. While boulevards are designed for drivers, providing the fastest route through the city with wide lanes, promenades have narrow lanes and disrupted traffic flow from pedestrians on side streets (Massangale & Dover, 2014, p.

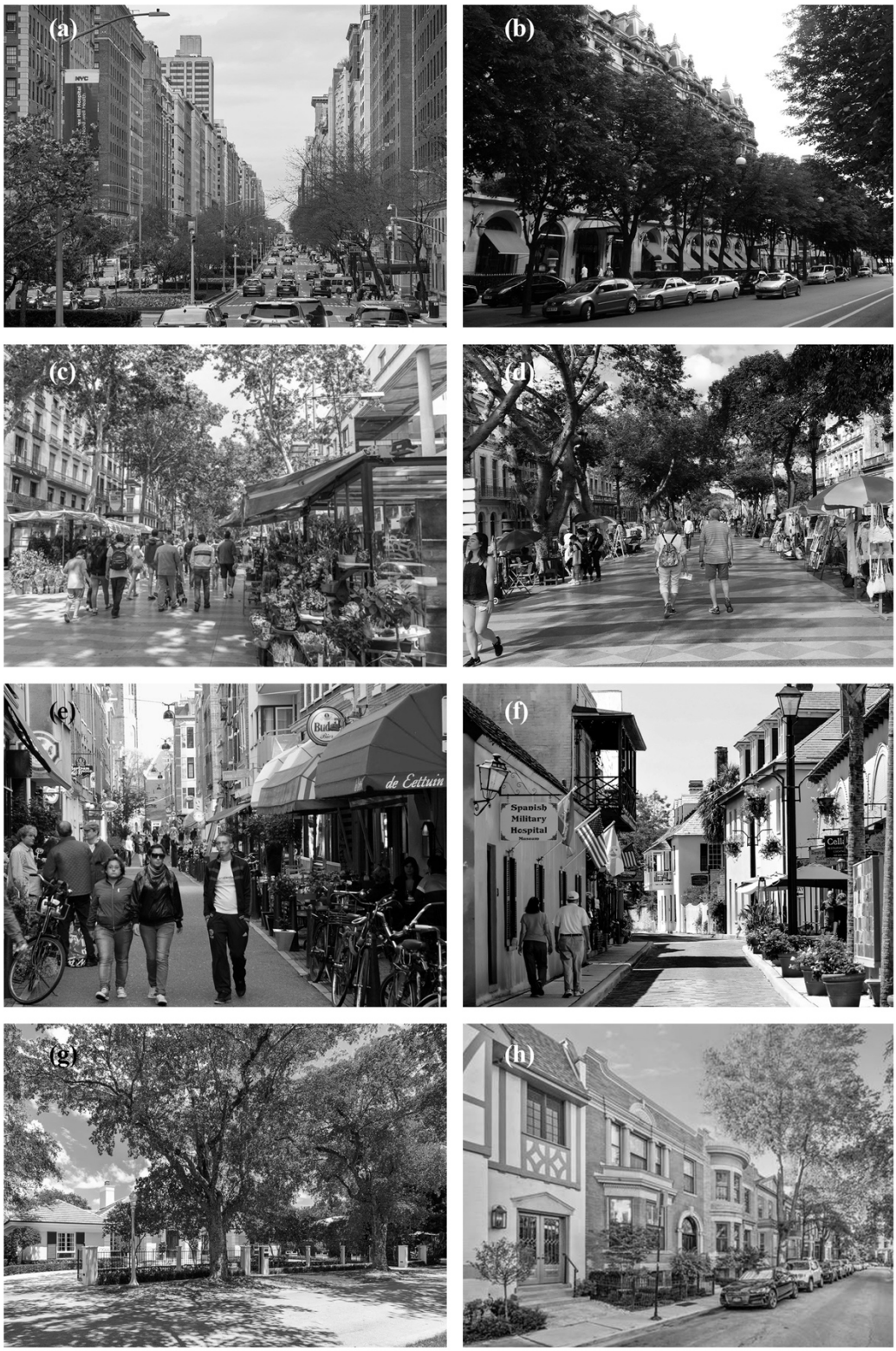
76). Just as boulevards serve a purpose for vehicles, promenades serve a similar purpose for pedestrians. Although promenades may appear as a park where people gather and socialise around the trees in the heart of the city, it functions as a spatial connector that generates movement and activity dispersed throughout the city rather than concentrating them in one place (Massangale & Dover, 2014, p. 77). The promenade and rambla serve as a social and spatial advantage for the city and provide a transportation axis for pedestrians through a linear public space such as a social centre, commercial world, or community stage. However, they were not included in twentieth-century urban design ideas (Massangale & Dover, 2014, p. 77).

Downtown Streets

Downtown streets are thoroughfares that host the functions required to ensure the continuity of small urban centres within the city. Although pedestrians are usually the majority on the street, drivers also use the street, which can easily accommodate two types of transportation (Massangale & Dover, 2014, p. 77). Magnolia Road in Avondale (South Carolina), River Market Avenue (Arkansas), Stratford Road (London) and Vester Voldgade (Copenhagen) are examples of downtown streets (Dover, Kohl & Partners, n.d.-a).

Neighbourhood Streets

Neighbourhood streets accommodate a large volume of daily pedestrian traffic, serving as a line for local access within the city, carrying out commercial functions and hosting recreational activities (Global Designing Cities Initiative, n.d.). While this street type, which became widespread throughout the 20th century, can be created in various forms with bicycle paths and parking lots, the common feature is parking space for vehicles on both sides (Movement and Place, 2023, p. 154). These streets should be designed to limit traffic speed, accommodate multiple users with sidewalks capable of handling high pedestrian volumes, and provide services such as restaurants, public transportation stops, and shops (Global Designing Cities Initiative, 2016, p. 242). Dartbrook Road (Auburn) and Hesper Drive (Forster) are Monitor Road (Merrylands) examples of this street type (Movement and Place, 2023, pp. 154-156) (Figure 2.38).



a. Avenues and boulevards $\mathbf{a}_1$ Park Avenue, New York, New York $\mathbf{a}_2$ Avenue Montaigne, Paris, France **b.** Promenades and ramblas $\mathbf{b}_1$ Les Rambles, Barcelona, Spain $\mathbf{b}_2$ Paseo Del Prado, Havana, Cuba **c.** Downtown streets $\mathbf{c}_1$ Tweede Tuindwarsstraat, Amsterdam, Netherlands $\mathbf{c}_2$ Aviles Street, St. Augustine, Florida **d.** Neighbourhood streets $\mathbf{d}_1$ Santa Maria Street, Coral Gables, Florida $\mathbf{d}_2$ Alta Vista Terrace, Chicago, İllinois.

Figure 2.38 : Examples of street types based on form (1) (a1: Url-34, a2: Url-35, b1: Url-36, b2: Url-37, c1: Url-38, c2: Url-39, d1: Url-40, d2: Url-41).

Yield and Garden Streets

Yield Streets are residential areas with lower traffic speeds than other streets (Movement and Place, 2023, p. 161). Yield and Garden Streets are narrow streets requiring one car to pull to the side for two vehicles to pass each other and are commonly found in England's old towns and villages (Massangale & Dover, 2014, p. 152). Evan Road (Ruschcutters Bay) is an example of urban scale yield streets, while Earl Street (Hunters Hill) is an example of suburban scale yield streets (Movement and Place, 2023, pp. 162-165).

Pedestrian Passages and Step Streets

In urban design practice, where the emphasis is often placed on major streets, these streets break the monotony of the city, provide diversity, and bring large blocks of the city down to a pedestrian scale. They are typically designed for pedestrian use only (Massangale & Dover, 2014, p. 154). While High Falls Bridge (New York) and Jan Shardeni Street (Georgia) are examples of pedestrian passages (Dover, Kohl & Partners, n.d.-b), Merrill Avenue (New York), and Ping An (China) are examples of step streets (Dover, Kohl & Partners, n.d.-c).

Parkways

Parkways are roads that allow city dwellers to travel to the countryside and provide a pleasant, rural experience during the journey (Massangale & Dover, 2014, p. 157). Zoo Boulevard (Florida) is an example of parkways (Dover, Kohl & Partners, n.d.-d).

Main Streets

Since people or communities refer to as the main street varies depending on location, it has an unclear meaning (Maliene et al., 2022, p. 1). Despite this ambiguity, main streets have a familiar role of being the backbone of a city or town in every settlement unit (Massengale & Dover, 2014, p. 89). While in a small city, a main street can be a single street where the city residents can access any use and meet their daily needs, in large cities, it can assume a role that caters to a region (Massengale & Dover, 2014, p. 89). In addition, main streets play many roles in physical, social and economic terms for cities of all scales (Figure 2.39).

a. Yield and garden streets $\mathbf{a}_1$, $\mathbf{a}_2$ Beaufort Gardens **b.** Pedestrian passages and step streets $\mathbf{b}_1$ Longitude Lane, Charleston, South Carolina $\mathbf{b}_2$ The Ninety-Nine Steps, Charlotte Amalie, St. Thomas, Virgin Islands **c.** Parkways $\mathbf{c}_1$ Taconic parkway, Hudson River Valley, New York $\mathbf{c}_2$ Bronx River parkway, the Bronx, New York **d.** Main Streets $\mathbf{d}_1$ Regent Street, London, Great Britain $\mathbf{d}_2$ Quinta Avenida, La Antigua, Guatemala.

Figure 2.39 : Examples of street types based on form (2) (a1, a2: Massengale & Dover, 2014, b1: Url-42, b2: Url-43, c1: Url-44, c2: Url-45, d1: Url-46, d2: Url-47).

The primary purpose of street classification is to organise and manage the design and use of streets according to the user group and function they serve. By defining the street, it can serve its purpose best within its physical boundaries. Therefore, street classification helps the street network within the city to function properly and ensures the smooth progress of street life. Although a perfect street cannot be claimed, this classification enables the determination of standards (Appleyard, 1980, p. 109).

The urban planning practice at the centre of the street classification system has become an interdisciplinary practice that includes political strategies as a detail and action stage (Lefebvre, 1996, p. 96). At this point, taking the street into account only through a physical function does not allow the formation of a design and management organisation that can respond to the needs of today's city. Although street width, traffic flow speed, and the vehicles using the street are essential parameters in examining the hierarchy between streets, they are inadequate. The street hierarchy, the fundamental classification component, should comprehensively define the relationship between street types. Like merging networks, the street hierarchy formed by joining street types is not just an organisation, an intermediary, or a relationship system but a structure type (Marshall, 2004, p. 165). Although the street hierarchy in classic examples such as London's reconstruction and Edinburgh Georgian Town is a system that includes different street types, today's street hierarchy is seen as a system that is against the city and engineering and vehicle-focused transportation (Marshall, 2004, p. 46). When the hierarchy is approached only as a tool, many design problems arise, such as the mismatch between street design and user, usage density of street width, and traffic flow speed on the street. Although the traditional functional classification of road hierarchy contains uncertainties, the underlying fundamental principles of existing hierarchy systems are unclear (Marshall, 2004, p. 34). Therefore, streets' definitions and classification steps should be re-examined in creating this hierarchical system. The current street hierarchy does not represent the variety of existing street types or reflect actual street types, neither today nor in the past (Marshall, 2004, p. 50). Although classification based on form and function encompasses many themes under different subjects (Figure 2.40), it is still necessary to reconsider this classification and hierarchical system and to discuss it with the actors involved, such as civil engineers, architects, urban planners, and urban designers.

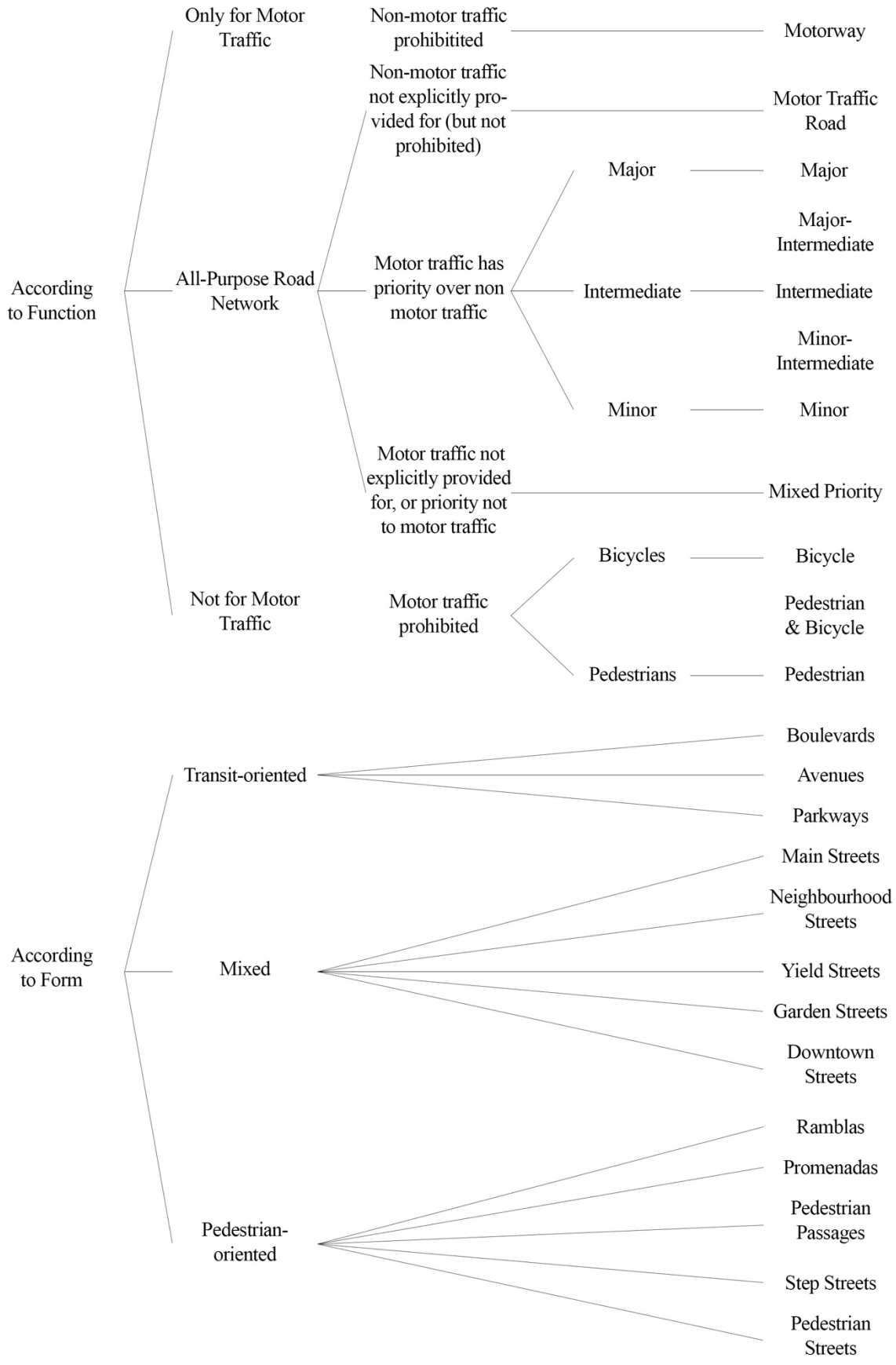


Figure 2.40 : Differentiation of the street classification based on the form and function, produced from (Marshall 2002; 2004; Massengale & Dover, 2014).

The current hierarchical system does not respond to existing needs and, instead of solving the problems, creates the source of the issue at some points. However, there should still be a hierarchical system on the streets. The result that emerges from this complex hierarchical system is the necessity of having a single standardisation system (Marshall, 2004, p. 83). Street classification, which will be based on the themes determined in line with the city's requirements and street network, offers solutions that can impact economic and social life, especially transportation, within the city. For example, a classification system related to transportation can affect the intersection and route systems, while a classification system based on city morphology can draw attention to the physical characteristics of building blocks (Marshall, 2004, p. 83). Different types and functions of streets will emerge according to all these themes. Despite the different types of roads that arise from all these diverse themes, the main streets have standard features within many themes. However, they have several roles and physical characteristics within the street network. Therefore, it should be examined which other features the main street has besides these standard features and what affects and is affected by it. Therefore, there is a need to redefine the main street in this study.

2.5 City's Vivid Line: Main Street

The main streets, which are examined as a separate category in the classification based on urban function, have been chosen as the subject of this research. Although they are present in most settlements, it does not necessarily mean they have the same meaning for every location. For example, in the United Kingdom, the term "high street" is used to define the most crucial street in towns and cities, whereas, in America, Ireland, and Canada, it is referred to as "main street" (Carmona, 2015, p. 3). Similar to the differentiation of terminology depending on the location it is used, the main streets that stand out as the place where society and culture are experienced for third world countries, depending on the site where the term is used, seem to have a different role compared to a main street at a regional scale (Appleyard & Appleyard, 2021, p. 492). Therefore, redefining the main street and determining its features is necessary. The main street, which is not only a type of street but also a metaphor (Massengale & Dover, 2014, pp. 89-90), is where each imagines it differently. Despite all these differences, the main street is where various urban activities such as addressing large

crowds, street vending, meetings, and street musicians have been taking place and where the most significant urban places are formed (Marshall, 2004, p. 3).

The main street has a different meaning and responsibilities than other streets within the city. Among the street network, the main street is where the community spends the most time, where the most urban function diversity is found, and where it provides opportunities for walking, spending time, and gathering. Although other streets may have some of these features, the streets considered the main street within a settlement, and usually where all these features come together, stand out as the main street with more frequent use by the community than other streets. The main streets, which are embraced by the community as the main street, can grow, shrink, narrow, widen, become more robust, or disappear, depending on many parameters, but the physical characteristics of the street constitute the main variables of this situation. The spatial features of the street are of great importance for the continuation of the main street and its position among other streets in the city.

The main street serves as an urban focal point due to its hosting of financial, business, shopping, and management services, as well as its cafés, restaurants, art venues, entertainment, and cultural spaces, which distinguish it from other locations within the city (Maliene et al., 2022, p. 1). Along with its functions, the main street contributes to preserving the community's traditions and fabric by allowing for social interaction among people, making it a place where social interaction is as valuable as economic value (Mehta, 2013, p. 17). The traditional structure of main streets, which enabled the preservation of community traditions and fabric, has begun to change with the characteristics of being connected, adaptable, mixed, social, and intense (Carmona, 2015, p. 8). With this structure, the main street reflects the essence of life by providing a function for every group of people in society (ODPM, 2005, cited in Carmona, 2015, p. 6). This place, where the essence of life is realised, has some qualities. Although the roles, characteristics, and meanings may vary, there are standard features that main streets offer. One of the standard features of a thriving main street is that it evokes a sense of discovery in people (Massengale & Dover, 2014, p. 91). As a result of this sense of discovery, society contributes to the dynamic structure of the main street by spending time and socialising there. Ultimately, the street should be a place with physical and social features that people want to be a part of. This creates social, political, and economic significance within society. Main streets, which have symbolic

value in addition to their social, economic, and political importance, should be carefully designed since they have the largest audience and are the most visible locations in the city (Appleyard & Appleyard, 2021, p. 492). The physical characteristics that the main street must have to create an area where society wants to be present in terms of spatial design are demonstrated at different scales: neighbourhood, street, and building scales.

At the neighbourhood scale, a main street can be referred to as an unplanned central place and creates a network of roads for individuals and all other forms of mobility (Carmona, 2015, p. 5). This road network should be considered not just a "transport network" but a route system, an essential component of the urban structure (Marshall, 2004, p. 130). The relationship between streets within this system is a fundamental parameter that affects the use of the street. Hillier clearly expresses the importance of the relationship between streets with his statement, "How the urban system is put together spatially is the source of everything else" (2007, p. 126).

Depending on its scale, the main street emerges at the point where both pedestrian and vehicle movement is highest within the street network. Along with this high movement level, the main street is one of the most integrated streets within the urban fabric. Although people tend to think of the form and function of the space as separate issues, there is a necessary relationship between form and how people use it (Hillier, 2007, p. 114). Therefore, the location and form of an arterial road within a street network and the relationship between the frequency and variety of its use by people allow the arterial road to become a main street and integrate within the urban fabric. According to Lynch, the distance of a road from particular locations within the city increases its importance (1960, p. 51). Therefore, the location of the main street within the city allows it to become a more integrated artery within the urban fabric compared to other streets. For these reasons, the location of the road within the city and its relationship with other streets affect the use of the road, thereby strengthening its integration within the urban fabric.

At the street scale, the characteristics that a main street should have differ from those at the neighbourhood scale. When walking, people want to feel safe, look at interesting sights, and participate in various activities (Massengale & Dover, 2014, p. 91). The diversity of activities offered by the street affects its preference within society and, consequently, its frequency of use. While the primary motivation for people going

outside is to satisfy their need for seeing and being seen, having a specific purpose for going outside makes it easier for them to move around (Alexander et al., 1977, p. 172). To meet these needs, particular parameters need to be considered in the design of the street. Some of the essential criteria for a main street at the street scale include parking areas for vehicles, buildings designed for the street with mixed uses, canopies, arcades, entrance canopies, wide sidewalks, narrow lanes for cars, small turning angles for streets, and pedestrian crossings (Figure 2.41).

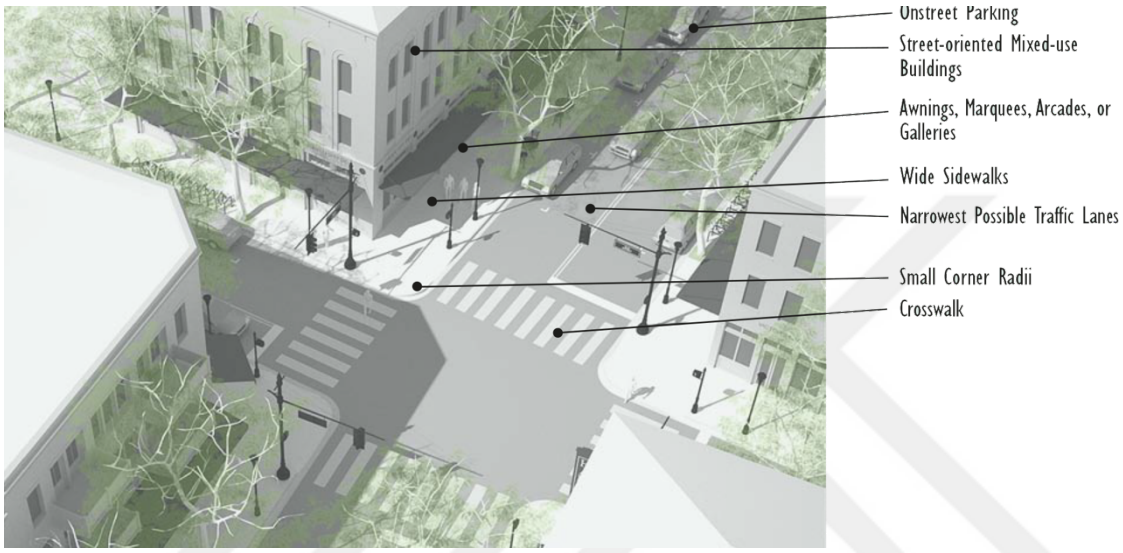


Figure 2.41 : Features of the Main Street (Massengale & Dover, 2014).

Therefore, having different uses for the main street will increase people's reasons for coming to it and help it appeal to various users. According to Jones, Roberts, and Morris, three of the seven critical functions that a main street must have emphasised the need for mixed-use: the enrichment of the main street by various uses such as residential, office, and service; the provision of roadside equipment such as banks, garbage cans, and kiosks; and the presence of diverse user profiles (2007, pp. 27-41).

The different uses provided by the street include small-scale commercial facilities such as grocery stores, barbershops, and bakeries for daily needs, as well as optional commercial facilities such as cafes, restaurants, and supermarkets, administrative facilities such as police stations and city halls, educational facilities such as high schools and elementary schools, health facilities such as hospitals and clinics, and religious facilities such as mosques and churches. With its functional diversity, the main street is an artery that offers users the most options in its location compared to other streets in its immediate vicinity. Due to the abundance of choices, the main street

creates the richest artery in terms of the number and diversity of users in the city, making it possible to appeal to many users while offering more options. With its diverse functions and user density, the main street is the most preferred and, therefore, the most durable street among the streets. Thus, the land use of the main street is a parameter that affects the consolidation of the main street in the urban fabric at the street scale.

Like the relationship of the street with other streets, the relationship of the street with other buildings is also a variable that affects the character of the main street. In this context, the street is not just a two-dimensional physicality but a space with a third dimension. According to Massengale and Dover, good streets require good buildings and can only be controlled by good buildings (2014, p. 1). Therefore, the preference for a main street frequently used by the community also depends on the buildings surrounding the street. When buildings are lined up along the street and form a strong façade, it becomes easier for people to perceive the space. Creating a perspective view that directs the user to a final point strengthens the uniform façade (Kostof, 1991, p. 261). In this context, buildings that add a third dimension to the street and contribute to its use and permanence also contribute to the perception of space created by the street.

Similar to street design, it is possible to extract a general structure of buildings located on this street that serve the crowd on the street. Typically, these structures are adorned with glass surfaces that provide permeability between the street and the building, awnings, arches, and entrance canopies that depict the entrance to the building, a signboard that characterises the building, and other details similar to the architectural features of other buildings on the street (Figure 2.42). The density of windows and doors on the street increases the permeability and transparency of the street and enhances the feeling of security on the street. This situation will increase the use of the street. In this context, the degree of number of doors and windows in the buildings on the street affects the use of the street and, thus, the street's permanence within the fabric.

At the neighbourhood, street, and building scales, the parameters examined are elements that affect and interact with each other, with indistinct boundaries separating them. Thus, the scale has been used as an auxiliary topic while questioning these headings without creating a clear distinction between distinct differences. As

observed, the organisation of urban space, the diversity of land use functions along the street, the continuity of buildings along the street, and the density of doors and windows that increase the street's permeability have emerged as the main parameters in the study of the permanence of the main street within these scales.

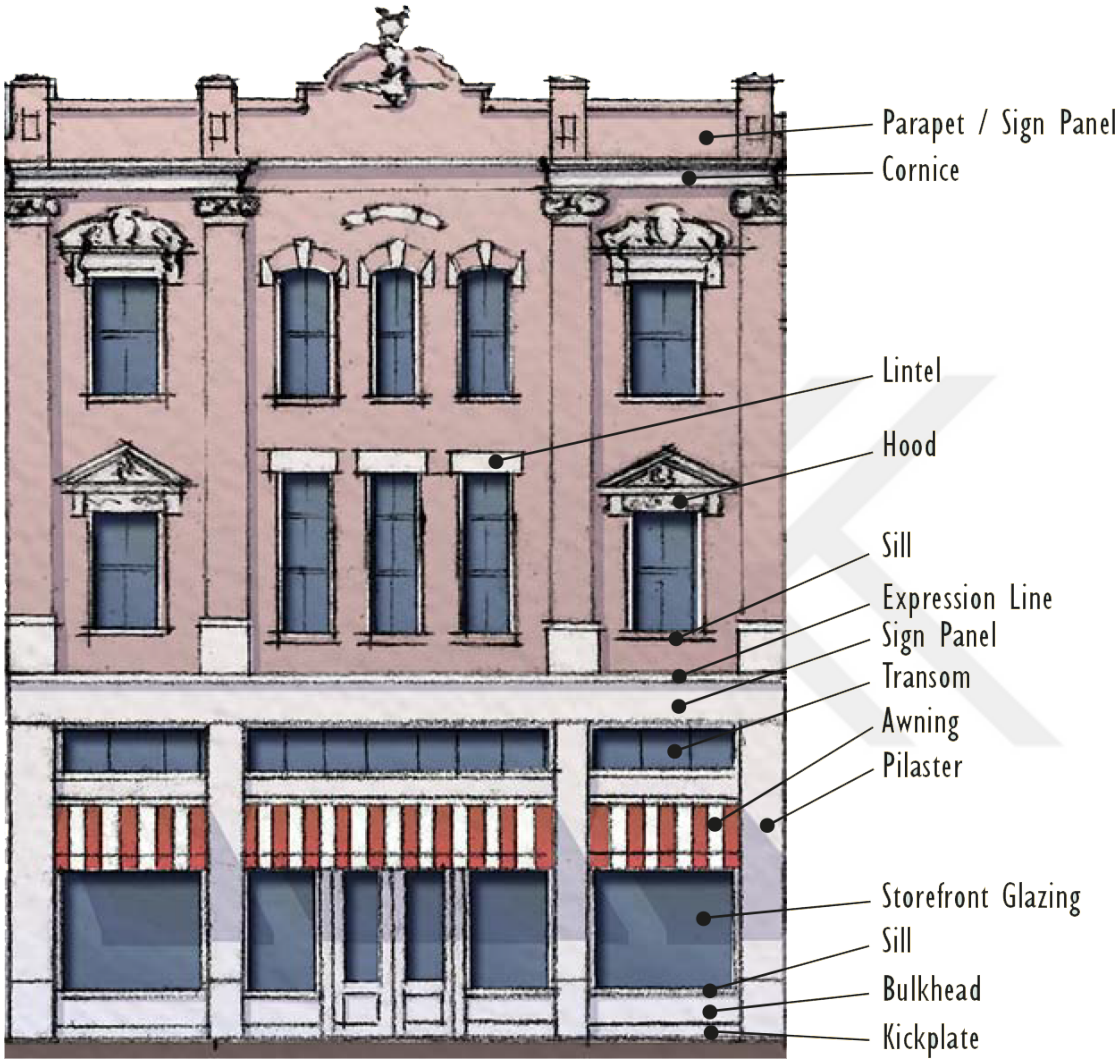


Figure 2.42 : Anatomy of Main Street Buiding (Massengale & Dover, 2014).

The degree of existence of parameters that interact with other parameters, including those that affect the formation and consolidation of the main street's role and importance within the urban fabric, also affects the street's disappearance and the change in its significance. Examples need to be examined to see the impact of these parameters in practice. In this study, Regent Street in London, which has formed as a planned main street, is reviewed, as well as examples of High Street in Glasgow, which has lost its importance and characteristics due to the city's growth and change in form, and Stone Avenue in Greenville, which has been created as a project main street.

Main Street throughout History: The Case of Regent Street, London

Regent Street, which extends from Waterloo Palace to Regent's Park and whose initial plans were prepared by Sir Christopher Wren and John Evelyn, is one of the first urban planning examples in London, even though it was implemented after the Great Fire of London (City of London, 2022). The importance of Regent Street began when Parliament granted full administrative authority to Prince Regent, the son of Mad King George III, in 1811, and Prince Regent hired John Nash to create a ceremonial street on Pall Mall due to his admiration for Napoleon's interventions in Paris (Massengale & Dover, 2014, p. 120).

The street, which is named after Prince Regent by John Nash as a result of this request, and which is considered a step towards the transformation of the city into a metropolis, has created a part of the "new" London instead of the "old" London (Walford, 1878). Completed in 1825, the street is between Oxford Street and Piccadilly, dividing Mayfair and Soho (City of London, 2022). The street, which is now the retail centre of London, located between Oxford Circus and Piccadilly Circus, which is a centre for tourists and Londoners, serves as the main street for London and its visitors (Massengale & Dover, 2014, p. 120) (Figure 2.43).

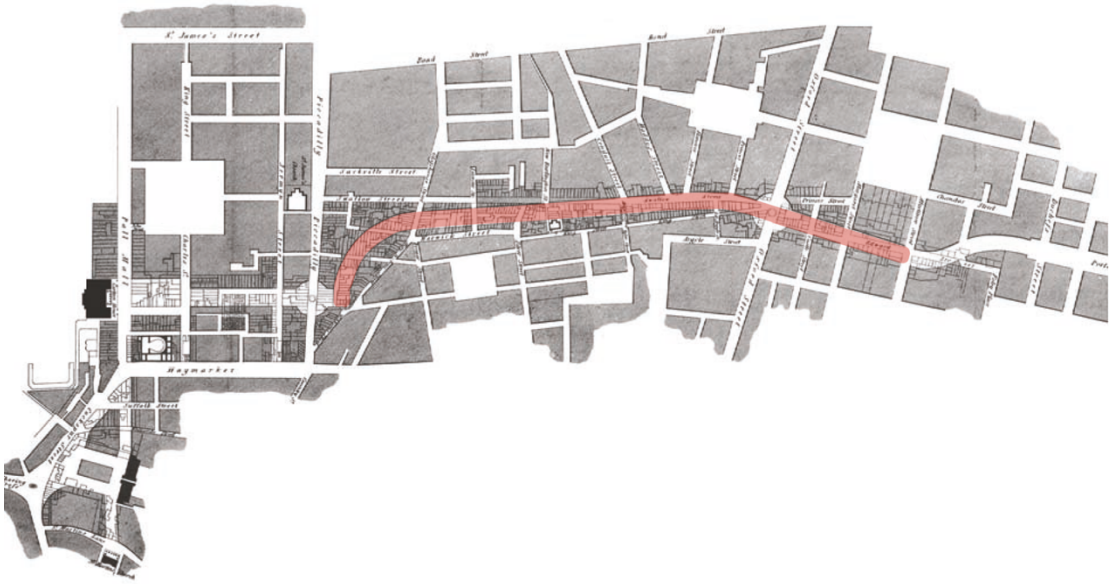


Figure 2.43 : Regent Street Plan, London, adapted from (Massengale & Dover, 2014).

The street design, which Trafalgar Square and Carlton House bound, has reached the present day by expanding some existing streets and with other interventions (Massengale & Dover, 2014, pp. 120-121). Although John Nash's desire to create a

boulevard connecting a park surrounded by a group of buildings to the city centre was partially successful, the street suffered damage due to the compromises that resulted in bends and architectural inconsistencies (Spreiregen, 1965, p. 24). Designer John Nash considered many design principles, such as building continuity, facade design, etc., to make the street superior to other areas in the city (Walford, 1878). Allowing different materials to avoid a uniform appearance (City of London, 2022) is also one of these design principles. Along with its various shops, it became a place for friend groups to meet and a space where cars and carts roamed (Walford, 1878), and it became a shopping area within the city by the end of the 19th century (City of London, 2022) (Figure 2.44).

Figure 2.44 : Regent Street in 1910 (above) and 2010 (below) (Above: Url-48, Below: Url-49).

Although the street structure designed by Nash has mainly remained the same until today, the structures except All Souls church were demolished and changed according to the plan prepared by Richard Norman Shaw between 1895 and 1927, and prohibition

for the use of different materials in Nash's design was removed, resulting in the construction of an impressive facade and scale with a continuous street front formed by separate blocks using only Portland stone for the street facade (City of London, 2022). Although the buildings designed by Nash have been demolished, the essence and driving force of Nash's plan have continued to stand without disrupting the volumes between the buildings, demonstrating that appropriate area design is more important than building design (Bacon, 1976, p. 211). In addition to being located along Waterloo Place and Trafalgar Square, it expanded with the purchase of neighbouring buildings when the need for new commercial areas arose at the end of the 19th century, increasing its interaction with other buildings and streets within the city.

As seen in this example, numerous parameters affect the formation process of the main street. The initial ideas that bring the street into existence during this process may change over time and even give way to other design principles. In this case, while the designer's general planning approach was not disrupted, the integration level of the street into the urban fabric increased with facade details and usage-related changes. With the city's growth, including new settlement areas in the street has expanded its integration compared to other streets. The diversity of land use functions has made the street permanent in the fabric, turning it into a shopping street with the increase in integration and contributing to the integration in a mutually related manner. At the same time, demolishing and rebuilding buildings while paying attention to facade continuity and scale in the new arrangement has contributed to the perspective perception within the street and ensured facade continuity. As a result of analysing this example, it is seen that fundamentally these three parameters have contributed to the formation and consolidation of Regent Street.

Main Street with Decreasing Significance: The Case of High Street, Glasgow

In Glasgow, located in the centre of Scotland, although the population tripled between 1707 and 1780, the city did not undergo significant spatial changes (Moore, 1994, p. 14). However, this population growth resulted in a need for new space and urban expansion within the city. The High Street, which had run north-south since 1560, gained importance within the city due to the buildings that emerged around the street and the local roads that fed into it due to the growing population by the 1780s. In this way, the use of the street, an important axis and a physical direction for the city, and

the number of users increased. Although the city's growth occurred primarily along the main street in the 1789 plan, the first signs of the city's westward expansion are visible (Figure 2.45). In the early 1800s, the city's expansion westward was not only due to the increasing population but also the desire of the city's merchants to move away from the crowds (Moore, 1994, p. 15).

Figure 2.45 : Growth of Glasgow from 1560 to 1992, adapted from (Evans, 1999).

There were other reasons behind the city's westward movement, including delays in construction due to disruptions in the existing urban fabric and the region being taken over by industrial areas, which resulted in imbalances in prices and the middle class moving to the suburbs on the west side of the city (Moore, 1994, p. 15). As a result, the main street, which served as the city's backbone in the 16th century and connected residential and commercial buildings and the main movement within the city, began to lose its power as the city moved westward. The formation of the new development areas of the city in different areas and the changes in the land use of the region have affected the use of the main street. The 1896 plan clearly shows that the urban morphology of the buildings along the main street changed and moved westward. Although the buildings on the main street maintained their urban forms, it became apparent that the east-west axis that had emerged within the city was now the main carrier of movement. Similarly, the 1992 plan shows that the traditional main street

has given prominence to other streets within the city and that even the morphology of the buildings on the old street has now changed.

In 1995, as part of the plan of the Strathclyde Regional Council, pedestrianisation was carried out on Buchanan Street, and regeneration was done in Merchant's Quarter to create more space for pedestrians, improve the appearance and quality of the area (Evans, 1999, p. 345). These arrangements contributed to the decline of the High Street's power, which lost its role as the main street in the city to other streets. The essence of this plan, aimed at the city's redevelopment, is to create new office developments in the city centre, improve local services, and create a focal point for tourists (Evans, 1999, p. 347). Because of these interventions, the structure and role of the High Street of Glasgow have started to change (Figure 2.46).

Figure 2.46 : Glasgow High Street in past (above) and present (below) (Url-50).

In the 16th century, the main street served as the city's backbone, but it began to lose its function as it expanded westward. Following the city's westward progression in the 18th century, the area between the north and west axes was constructed, leading to the

city's current form in the 20th century. At this point, High Street, which serves as the backbone of the city, has started to lose its role and priority as the main street within the city due to the expansion of the city towards the west and the emergence of commercial centres in new areas. Primary commercial functions within the new developing areas has influenced the shift of mobility in the city. As a result, although the development of the city form in a different direction from the main street has an effect on the use of the main street, the most important move towards the loss of the high street's feature is the emergence of commercial centers in newly developing areas. All these factors have caused the importance of the main street in the urban fabric to change. Considering the location of the high street in the city today, the fact that it is connected to the roads where vehicle transportation is the focus at the ends of the street proves that the role of the street as the main street in the 1500s has changed.

Main Street as a Project: Stone Avenue, Greenville, South Carolina

The street, located at the northern end of Greenville, South Carolina's city centre, served as a residential corridor with the restoration of historic houses but became a vehicle-oriented highway in the late 1940s (Massengale & Dover, 2014, p. 260). This caused the street to deviate from a pedestrian-oriented design and emerge as an axis where only vehicles would be present. The narrow sidewalks of the street, wide traffic lanes for cars, inadequate buildings surrounding the street, high-speed traffic, and the resulting sense of insecurity within the street have led businesses and homeowners in the neighbourhood to strive to make the street a centre (Massengale & Dover, 2014, pp. 260-261). In this case, city dwellers will not take action for the development of the street. This iterant cycle can be changed by an approach from the government from the top down or, as in this example, with a bottom-up intervention approach from the community. As a result of the efforts of city dwellers to intervene on the street and add it to the city, Stone Avenue will be the main street in the city.

To bring Stone Avenue into a central position within the city, necessary improvements can be made through several steps. These steps include creating areas with different uses such as residential, office, open space, and administrative regions that are located on and within walking distance of the street, creating a connected network of streets along the street, reducing traffic speed to facilitate pedestrian movement, and finally, creating sidewalks, shaded areas, and pedestrian-oriented spaces (Massengale & Dover, 2014, p. 262) (Figure 2.47).

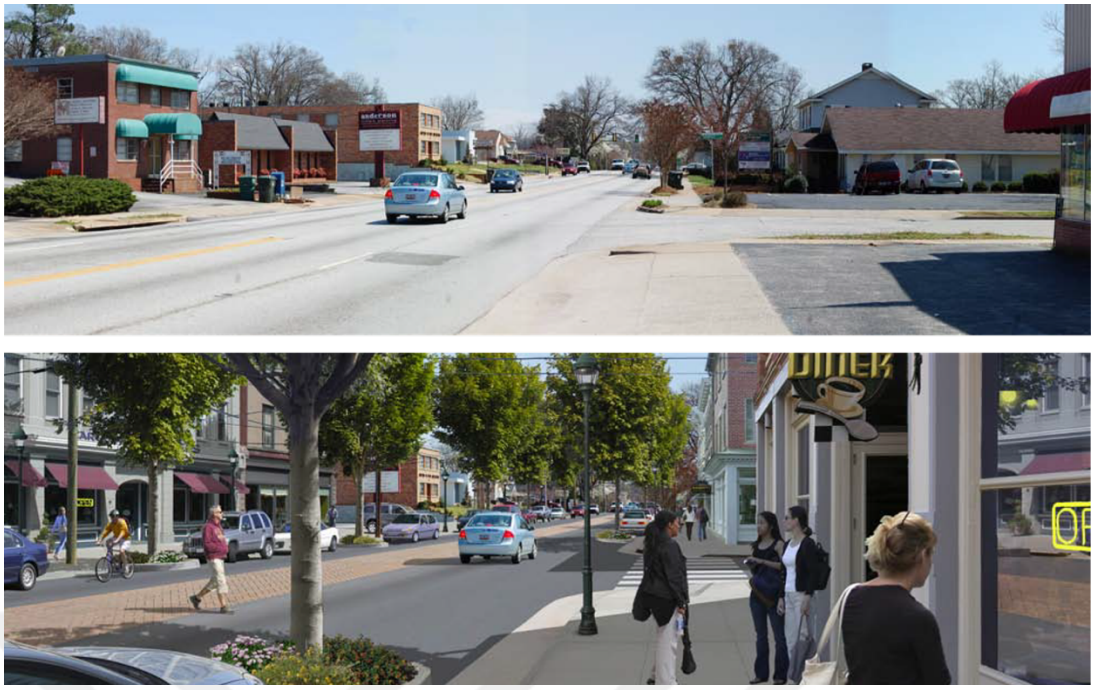


Figure 2.47 : Street view before and after retrofit (Massengale & Dover, 2014).

In addition to this phased approach, interventions aimed at providing continuity of construction along the avenue will also help Stone Avenue assume its role as a main street in the city by addressing the lack of buildings around the street that contribute to a sense of insecurity within the community (Figure 2.48).

Figure 2.48 : Aerial view before and after retrofit (Massengale & Dover, 2014).

During the transformation of Stone Avenue from a road used solely for vehicular transportation to a road that accommodates pedestrian traffic and spaces for groups to spend time, various parameters were evaluated. Among these parameters, two fundamental features stood out: buildings with different uses along the street and achieving façade continuity by replacing meaningless voids with buildings. These two interventions on the street were made in line with the decision to use the street as the main avenue. In this context, the land use and façade continuity on the street are the two primary methods employed to transform Stone Avenue into the main thoroughfare.

These three examples examined have been influential in understanding the formation of main streets, their significance within the city, and the characteristics required for a street to be considered a main street due to their different main street conditions. In this context, as an example of a main street that developed during a historical process, Regent Street, London; High Street, Glasgow, whose status as a main street has diminished over time due to the city's growth and changes in the commercial centre, and Stone Avenue, Greenville, which was initially seen solely as a transportation artery but was later transformed into a main street through a project aimed at increasing its usage, have contributed to the understanding of the fundamental dynamics between main streets and urban form.

In the past, the term "main street" referred to a street in a town or suburb that embodied the local identity and carried its cultural values within it, where people interacted with each other while satisfying their daily needs. Nowadays, the term has found its place in the literature as a place where individuals meet and interact while fulfilling their daily needs (Griffiths, Vaughan, Haklay, & Jones, 2008, p. 1155). Despite the differences in the formation of main streets, which depend on different societies and cultures, there are common points where they converge. These points contribute to the physical characteristics of the street, affecting its user diversity and usage intensity, and thus have a say in the future of the street. Some parameters that stand out at this point affect the development process of the main street throughout its historical process. This enables the main street to integrate and solidify the urban fabric during the transformation process.

The functional and semantic transformation that main street has undergone from the past to the present is the result of a series of changes experienced by society. According

to Carmona, main streets are traditional structures that have reached our day but are rapidly changing and threatened by the future (2015, pp. 7-8). Griffiths, Vaughan, Haklay, and Jones emphasise that main streets as a socio-spatial entity face more and more daily problems due to the economic and cultural changes that society undergoes (2008, p. 1155). To solve the issues of main streets, defined as wicked problems by Rittel and Webber, involving the already complex solution process has made main streets an intractable problem (1973, p. 161).

In the process of rethinking cities under the heading of sustainability, the concept of main the street has come back on the agenda due to promoting mixed-use living spaces (Mehta, 2013, p. 17). Therefore, the need has arisen to solve the problems that main streets have and to produce and revitalise main streets. Although there are traditional evaluation methods to determine whether the proposed solutions to this need are right or wrong, there are no right or wrong answers for the problems arising from poor planning (Rittel & Webber, 1973, pp. 161-162). Therefore, the planning process of the main street must be rethought. Redefining and classifying the main street, followed by applying the design decisions based on the identified users and functions, are necessary stages. In this study, which examines the fundamental aims and parameters of street classification based on the physical and social changes that the main street has undergone throughout history, a new definition and classification of the main street have been proposed to make more accurate interventions for the future of main streets.

2.6 Chapter Evaluation

Numerous factors have influenced their transformation in the spatial formation and evolution of streets from the earliest settlements to the present day. In this context, the main street, as one of the most frequently used spaces in the city, has been shaped by various social and spatial variables to reach the present day. Despite being one of the most significant components of the city, the concept of the main street needs to receive more focus in planning and design decisions, mainly due to the prominence of other street types focused on transportation and their importance in contemporary planning practice. At this point, there is a need to redefine the main street to address the problems it encounters and make feasible decisions for its future. Among the classification types of streets, the main street is classified as a street where pedestrians and vehicles coexist, as it appears in the form-based classification. Each street type in

this classification has distinctive features and serves fundamental purposes. The characteristics of the street types included in the category based on form and function are summarised in the following table (Table 2.5).

Table 2.5 : Features of street types

Street Type	Transportation	Speed	Land Use
Motorway	Transit-oriented	Fast	-
Motor Traffic R.	Transit-oriented	Fast	-
Major Road	Mixed	Average	-
Intermediate Road	Mixed	Average	Mixed
Minor Road	Mixed	Average	Mixed
Mixed Priority R.	Mixed	Slow	Mixed
Bicycle Road	Transit-oriented	Slow	Mixed
Pedestrian & Bicycle	Pedestrian-oriented	Slow	Mixed
Road	Mixed	Slow	Mixed
Pedestrian Road	Transit-oriented	Average	Mixed
Avenue	Transit-oriented	Average	Mixed
Promenade	Pedestrian-oriented	Slow	Mixed
Downtown Street	Mixed	Slow	Mixed
Neighbourhood St.	Mixed	Slow	Residential
Yield Street	Transit-oriented	Fast	Residential
Parkway	Pedestrian-oriented	Slow	-
Pedestrian Street	Pedestrian-oriented	Average	Mixed
Main Stret	Mixed	Average	Mixed

As seen from this table, the functional street classification system, which forms the basis of the current street classification system, opens up possibilities for urban space formation where pedestrians are secondary. In this regard, street types that are more commonly found in traditional cities and classified based on form enable the creation of more livable spaces accessible to pedestrians. Among these street types, the main street is situated in the middle of the polarised street types that allow both pedestrian and vehicular transportation, with its speed and function.

In this study, the main street is defined as an urban space that enables both vehicular and pedestrian transportation but prioritises pedestrian movement. It serves as a central artery and urban spine where other auxiliary roads connect, forming the subcenter of the city. Its administrative, commercial, and accommodation facilities offer multiple usage and leisure options to the community, and it creates a human-scale environment through the continuous presence of buildings actively engaged with the street. Hence, in the subsequent parts of the study, the concept of the main street refers to the place that embodies this definition.

3. MAIN STREET CONSOLIDATION THROUGHOUT HISTORY: THE CASE OF KURTULUŞ STREET, ANTAKYA

3.1 Kurtuluş Street

Street history, as examined, has a history that has evolved in many respects with the formation of cities. The main street concept has also changed and developed with different meanings to accompany this history. An essential street since the early days of Antakya's establishment and later becoming the main street and becoming the backbone of the city, Kurtuluş Street has been chosen as a working area with its rich history and urban formations.

3.1.1 History of Kurtuluş Street

Antioch is a district of Hatay that is located on the Mediterranean coast of Turkey. As the second largest district of Hatay in terms of surface area, it is located at the foot of Habib-i Neccar Mountain, bordered by Nur Mountain (Amanos Mountain) to the north and Kel Mountain (Cebel-i Akra) to the south. The population of Antioch is 399.045 in 2022 (TUIK). Since the beginning of the first settlement, Antioch has hosted many civilisations. From the earliest civilisations, Antioch witnessed significant events such as earthquakes and devastating fires, and these events throughout history have changed Antioch’s spatial characteristics, both physically and socially. Being the subject of destructive events, and hosting several civilisations throughout history, has provided Antioch with a layered urban structure that is worthy of examination. While hosting many civilisations in different periods, Antioch can be examined in the following 11 main periods in order:

Hellenistic period (320 BC-31 BC)

Roman period (31 BC-324)

Byzantine period (324-637/638)

Early Islamic period (637/638-969)

Middle Byzantine period (969-1084)

The Seljuq period (1084-1098)

The Frankish Principality of Antioch (1098-1268)

Mamluk period (1268-1516)

Ottoman period (1516-1918)

French Mandate period (1918-1938)

Hatay's accession to the Republic of Turkey (1938-1939) and the Turkish Republic Period (1939-present) (Tezer, 2019; Bakır, 2022).

Evidence shows human life before the Hellenistic period in the area. According to excavation studies carried out in Antakya, Altınözü, Çevlik, and Şenköy, researchers suggest that settlements may have existed in the region between 100.000 and 40.000 BC, coinciding with the Middle Paleolithic period (Hatay Valiliği, 2019). However, there is no source showing city plans to examine these periods. Also, for the periods when the Akkadian, Hittite, Assyrian, and Persian Empires also dominated the city (Hatay Valiliği, 2019), there is no city plan to analyse. Therefore, this study takes the Hellenistic period as a starting point from 320 BC, which can be examined by looking at the periods when city plans were available.

Hellenistic period (320 B.C.-31 B.C.)

Although there are many myths about the city's establishment, the information came from the local Antiochian historians Libanius and John Malalas. According to them, Antioch was founded on May 22, 300 BC, by Seleucus I Nicator, a general of Alexander the Great (Jeffreys & Scott, 1990, pp.105-106; Bakır, 2022, p. 15). According to John Malalas, while the population of Antioch was at least 5.300 in 300 BC (Jeffreys & Scott, 1990, p. 106), Downey indicates the population between 17.000-25.000 excluding local people and enslaved people in the early date of the city (Pamir, 2009, pp. 16-19).

While the settlement consisted of two neighbourhoods located between Asi River and present-day Kurtuluş Street, it hosted four neighbourhoods after the establishment of two neighbourhoods in the period of Selevkos (Pamir, 2009, pp. 16-19). From 300 BC to 64 BC, during the Seleucid period, the settlement area of Antioch was approximately 302 hectares, bounded by the Arontes River (Asi) to the west, the Silpius Mountain (Habib-i Neccar) to the east, the Parmenius (Hacı Kürüş) Stream to

the north, and the Phyrminus (Hamsen) Stream to the south (Tezer, 2019, p. 180). The city was planned by architect Xenarius in the form of a Hippodamus plan, parallel and straight streets with intervals of 112 meters that almost go along the Asi River and straight streets with intervals of 56 meters intersecting each other with a right angle on the foot of Silpius mountain which is the eastern border of the settlement (Rifaioğlu, 2012, p. 129). In this plan, the direction of the streets was designed according to climatic conditions, and placing the main street on the southwest-northeast axes allowed the wind from the sea to Asi Valley to enter the city (Tezer, 2019, pp. 188-189). According to Sauvaget, the existing street fabric of the northeast part of the city centre shows the similarity between the 112x58 intervals seen in this era (Sauvaget, 1925 cited in Rifaioğlu, 2012, p. 30). Locating the city's main streets on a grid plan for physical reasons is similar to the Mesopotamian cities. Another known urban arrangement during this period is the presence of public buildings gathered around the Agora, and the commercial centre of the era was located in a direction similar to today's direction, positioned towards the north-northeast from the Asi River (Tezer, 2019, p. 187) (Figure 3.1).

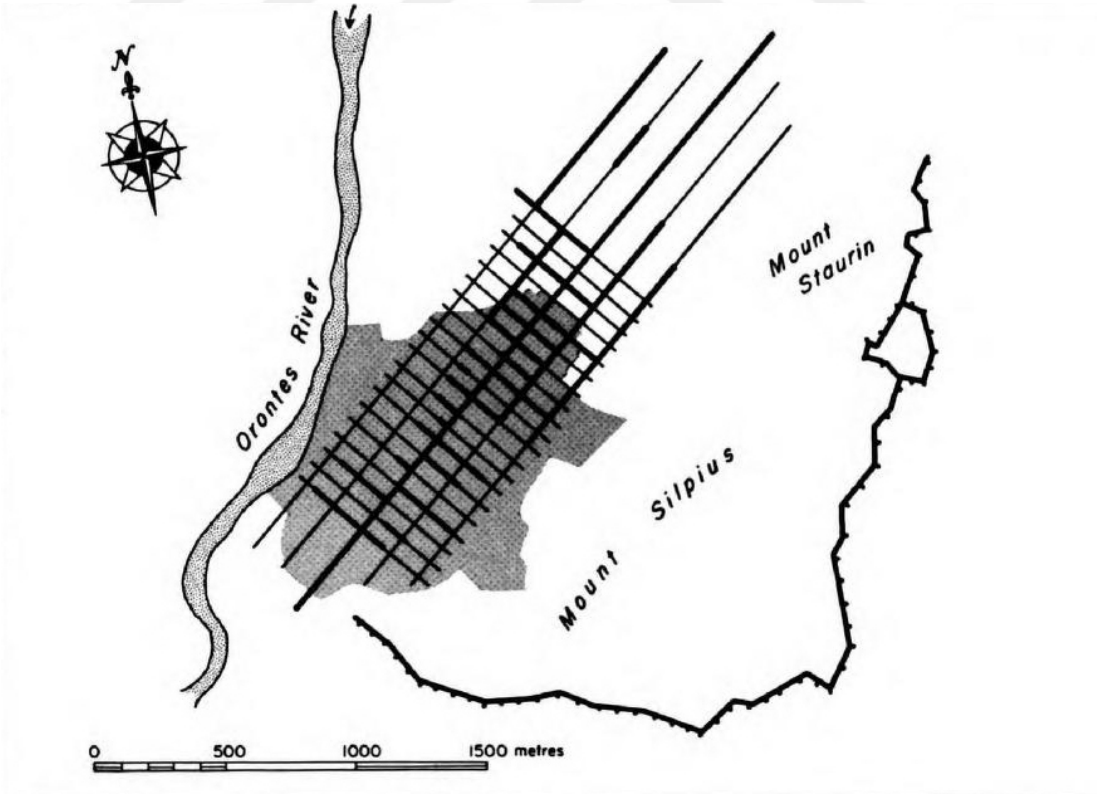


Figure 3.1 : City plan of Antioch in the Hellenistic Period (Downey, 1961).

Because of the earthquake in 148 BC and the most destructive one of its eras, Epiphanea Bath and Heronion- the head of Charonion are the only two historical

artefacts that reach the present day from Hellenistic Period (Pamir, 2009, pp. 16-19; Sahillioğlu, 1998; 228-232). Following this devastating earthquake, there were also significant earthquakes between 83 and 90 (Hatay Valiliği, 2019). Bakır states that the earthquakes of 148 and 130 may be the same (2022, p. 214).

In this period, the city was a production space for the raw material from the East and Far East while also becoming a commercial road for the products from Indian Region and the Far East to Antioch via Asi Valley (Tezer, 2019, pp. 190-191). Furthermore, during this period, the port, which served as the hub for commercial activities, gradually became landlocked and eventually became unusable during the Arab Period (Turgut, 1986, p. 44). In addition to port trade, the fact that the Royal Road and other significant trade routes passed through Antioch positioned it as a commercial centre for cities in the Middle East and the Far East (Tezer, 2019, p. 191). The commercial centre title that Antakya gained with its geographical location enabled it to be compared with Rome and Alexandria (Turgut, 1986, p. 51).

Roman period (31 B.C.-324)

In this period, called the "Golden Age", Antioch became the most important city in the Mediterranean basin, and its name came with Rome, Constantinople and Alexandria (Tezer, 2019, p. 178). In this period, the city's population was 300.000 in 50 AD, 600.000 in 100 AD and between 300.000-400.000 in 165 AD (Downey, 1961, pp. 582-583).

During this period, Antakya underwent spatial changes with the construction of the theatre, aqueduct, the basilica built in honour of Caesar (Kaisarion), and many other public buildings (Tezer, 2019, p. 189). The most important of these changes, dating back to the reign of Tiberius (14-37), was the Colonnaded Street, which lies four miles within the city and is now known as Kurtuluş Street (Bakır, 2022, p. 28). The Collonaded Street, which has served as a commercial centre throughout history, connects the lower parts of the city and hosts the East Gate (Beroea Gate) in the northeast, the Middle Gate near the Parmenius (Hacı Kürüş) stream and the Temple of Ares, and the Bridge Gate in the west (Tezer, 2019, p. 189). Tiberius merged Collonaded Street and ornamented it with bronze statues and figures, with the wall built by Seleucus; moreover, the community valued his work by erecting a bronze statue of Tiberius on the Theban column in the middle of Collonaded Street (Jeffreys

& Scott, 1990, p. 124; Bakır, 2022, p. 28). The other important feature of Collonaded Street is that this is the first street with street lighting (Hatay Valiliği, n.d.). After the reign of Tiberius, it is known that Antoninus Pius (138-161) looked after the street and maintained the columns (Bakır, 2022, p. 33). In this era, when the grid plan of the Hellenistic period developed and buildings like theatres and basilicas were constructed, it can be said that the most critical urban element in this term was Collonaded Street. The streets with 112 meters intervals, which are all the same, have started to differentiate with the construction of Collonaded Street. While Collonaded Street was becoming the city's commercial centre, it was also transforming the social centre of the street, and people have started to spend time on it much more than on the other streets.

The status of an essential centre along the commercial route continued during the Roman period. The commercial logistics system, which originated from the port of the Hellenistic period, contributed significantly to this situation. In the early 4th century, Antioch maintained its presence as a military, commercial, and industrial hub (Tezer, 2019, p. 191). It is reported that during this period, the city housed a royal mint, weapon and bronze armour factories, as well as Agora and a market square known as Valens form (Tezer, 2019, pp. 191-192; Turgut, 1986, pp. 73-74). The city's location, which has made it a centre from a commercial perspective, is also significant in terms of its structural changes. The city being a used and internationally accessible city has influenced not only the port but also the transportation system and the development of the urban form.

As stated by Strabon, after the Hellenistic Period, the city plan of Antioch changed two times (Tezer, 2019, p. 181). Although significant events caused spatial changes in the city, the maps of Uggeri and Müller that show Antioch in the Roman Period show the distinctness of Collonaded Street from the other streets (Figure 3.2).

In this era, despite the emperor's acts in developing the city, some events negatively affected the city's spatiality. Following the earthquake in 23, because of the fires in the years 37 and 41, the city was demolished entirely (Turgut, 1986, p. 63). In addition to the fires, major earthquakes were put on the records in the years 35, 37, 41-45 and 115 (Hatay Valiliği, 2019). The earthquake that occurred in 115 resulted in the death of approximately 260,000 people (NCEI Hazard Earthquake Information - NOAA, n.d.).

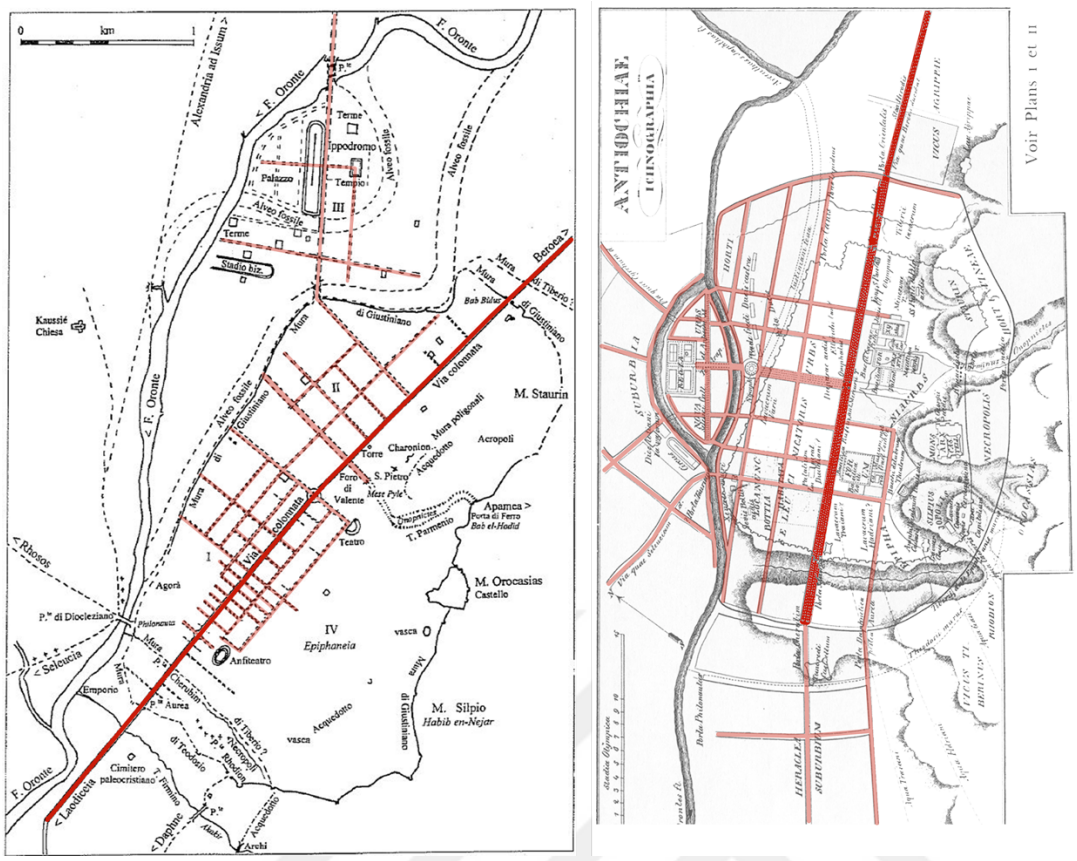


Figure 3.2 : Uggeri's (Left) and Müller's (Right) map of Roman Period adapted from (Left: Uggeri, 1996; Right: Downey, 1961).

Byzantine period (324-637/638)

In this period, the resident population was 185.000 (Turgut, 1986, p. 84). Similar to the comparison between Istanbul and Alexandria in old times, it is seen that Antioch was on the race again. In the 400s, Antioch became the patriarchate centre in the same class as Istanbul and Alexandria (Tezer, 2019, p. 178). While the city, located in the 12 miles city wall, encloses the palace, pavilion, hippodrome, bath, water channel and temples, it also has the city gates, such as St. Paul Gate and St. George Gate were located on Herod Street (Collonaded Street) (Figure 3.3) (Çekmecelioğlu, 2016, p. 28).

The term that Antioch became a religious centre, it experienced destructive earthquakes. Earthquakes in 341, 365, 396, 458, 525, 526, 528, 531-534, 532, 551, 557, 588 and 5889 are some of the significant earthquakes in this period (Hatay Valiliği, 2019; Tekin, 2002, p. 207).

It is impossible to determine the number of deaths in these earthquakes; people who recorded these events generally indicate the number of deaths by saying relatively high without an exact number (Bakır, 2022, p. 20). The earthquake in 458 was the most

destructive after the one in 115, and it caused massive damage in the island region, especially in the palace and bath (Tezer, 2019, p. 194). This earthquake greatly affected the city's island region, relocating the city centre to the opposite side of the river (Bakır, 2022, p. 155). Considering the destructive impact of the earthquake, it can be said that it caused significant and irrecoverable changes in the urban form, not only in the building scale but also in the city. In addition to the earthquake, the fire that occurred after it affected the city to a large extent, and this caused a decline in the importance of Antioch (Tekin, 2002, p. 207; Tezer, 2019, p. 194).

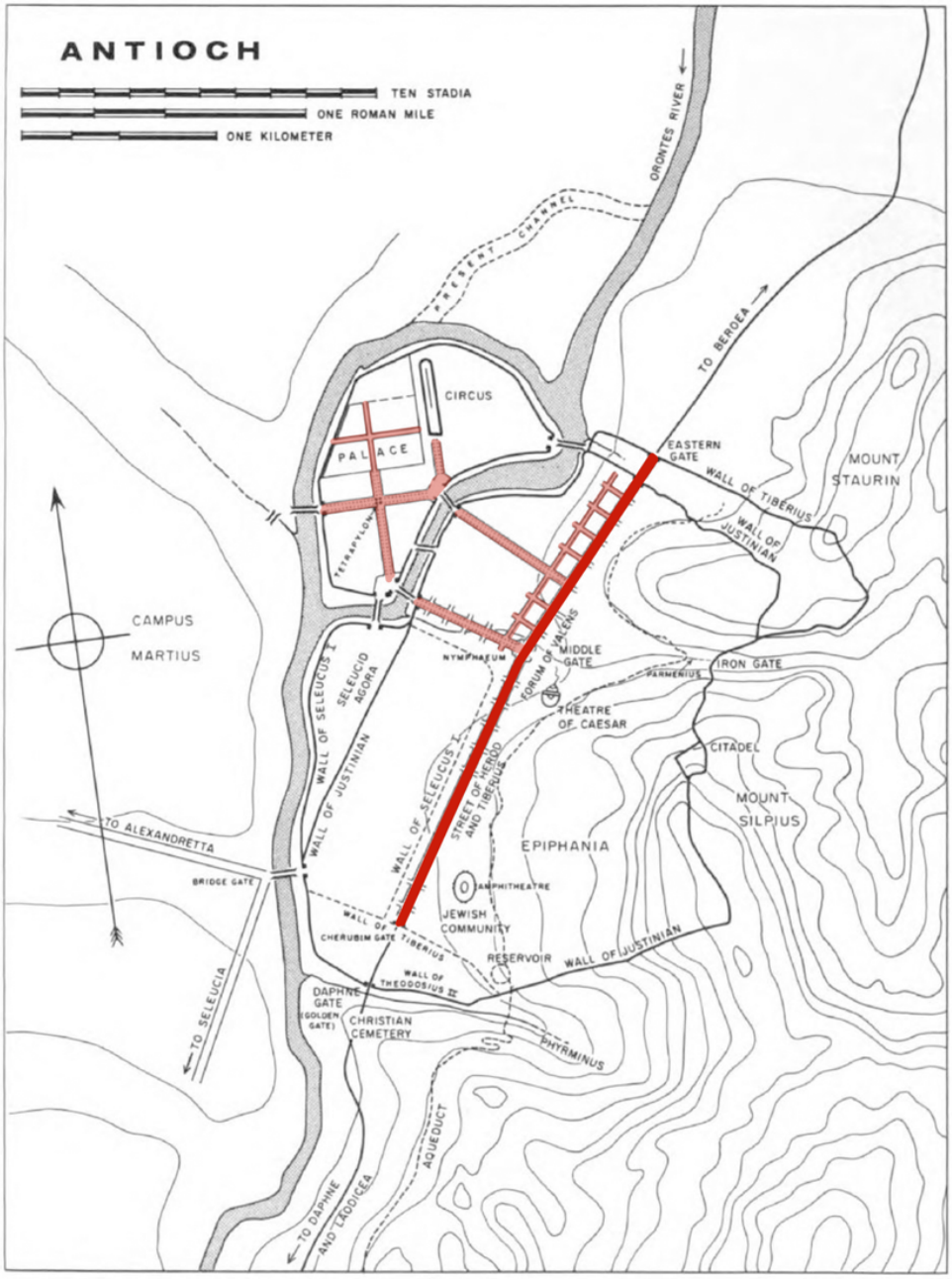


Figure 3.3 : City map of Antioch in the Byzantine Period, adapted from (Downey, 1961).

After 458, another strong earthquake that affected the city occurred in 525, and the fires that broke out after the earthquake and lasted for six months caused significant damage to the city (Tekin, 2002, p. 207). Following this earthquake, 526, 528, and 557 earthquakes also significantly damaged the city (Tezer, 2019, p. 194). However, the most effective among these earthquakes are the ones in 526 and 528. In the earthquake in 526, which coincided with the Feast of Mary, many people came to the city from outside (Tezer, 2019, p. 195) and, as declared by Malalas, the effect of the earthquake resulted in the death of 250,000 people (Jeffreys & Scott, 1990, p. 239), while according to Procopius, it resulted in the death of 300,000 people (Procopius, 1914, p. 383). The earthquake on November 29, 528, was probably the most destructive and most influential effect on the urban form and with the following fire, it is estimated that the buildings that survived the earthquake went to ruin (Bakır, 2022, 76-155). It is understood that the city suffered so much damage after this earthquake that it needed to be rebuilt entirely. From the mentioned events, inference can be drawn that the morphological structure of Antioch is affected by destructions as much as constructions. The earthquakes and fires are significant events that affect Antioch's urban form. As well as the spatial changes, Antioch was involved in the social dimension of these destructive events, and the society migrated to the west side of the settlement (Tekin, 2002, pp. 208-209). The island part of the city, which was affected by the earthquake in 458, was destroyed after the earthquakes of 526 and 528 (Bakır, 2022, p. 156) and was relocated to the area where the historic centre of Antakya is located today (Kaip, 2009, p. 21, cited in Tezer, 2019, p. 195). After the considerable damage between 526-528, Emperor Justinian took steps in the direction of repairing the damage and revitalising the city by bringing craftsmen and artisans from other cities to Antioch (Bakır, 2022, 155). In this revitalisation process, places such as the market, hospital and church were built in the city (Dewing & Downey, 1940, pp. 165-173 cited in Bakır, 2022, p. 20), and the infrastructure system and road network were rebuilt (Bakır, 2022, p. 155). The emperors' desire for the city's recreation has enabled Antioch to survive until today. It is quite challenging to recover from these disasters, which had a significant impact and caused many losses of life in the city without a physical renewal. During this recovery process, Persians occupied Antioch, and in 573, the city and its surroundings were burned by Persians (Hatay Valiliği, 2019, Bakır, 2022, p. 219). All these earthquakes and fires influenced Collonaded Street to a great extent. (Figure 3.4). Although Collonaded Street, which hosted several buildings, such

as public buildings and shops, lost its importance because of these devastations, it has still protected its title as a cardo of the city (Bakır, 2022, p. 178).

Figure 3.4 : Antakya city illustration of the 4th century (Above: Kaplan et al., 2014; Belove: Url-51).

During this period, commercial relations progressed through maritime trade, with Seleucus Port serving as a gateway for goods to be transported to Antioch and Antioch-produced goods being shipped to overseas countries (Tezer, 2019, p. 192). Antioch held a significant position in the exchange of products reaching Rome from the Far East via Syria and the Red Sea (Turgut, 1986, p. 92). This status as a commercial centre was one of the factors that contributed to the increased importance of Antioch during the Byzantine period.

Early Islamic period (637/638-969)

Antakya, which started to lose its identity with the evacuation of Iran in 628, came under Arab domination in 638, although it was taken back by the Byzantines for a

while (Tezer, 2019, p. 178). Also, in this period, it is known that the local people of Antioch had left the city, and people from different societies came to the city (Sahillioğlu, 1988, p. 230). Collonaded Street was greatly affected by the earthquakes in the Byzantine Period but still has the role of a main street under the influence of Arabs in this era. In this term, the buildings are located on the sidewalks of Collonaded Street, and the settlement is observed to be dense on the east of the street (Stillwell, 1941, p. 17; Bakır, 2022, pp. 54-55). Also, several castles were built in the region between 705-715 (Hatay Valiliği, 2019).

In this period, the city had influenced by several earthquakes. Some of the most important ones occurred in 713, 856, 847 and 868 (Hatay Valiliği, 2019; Bakır, 2022, p. 83). While it is thought that 50.000 people lost their lives in the earthquake of 847, the Notitia Annorum described the earthquake of 713 as having an unknown death with the following statement:

> … [which is 713] on 28 Shebat, in the middle of the night between Monday and Tuesday, there was a tremor and a severe earthquake, with the result that village houses and churches and many great cities collapsed on top of their inhabitants, and killed them in many terrible ways. … (Guidoboni et al., 1994, p. 359, 378).

During this period, the prominent location in Antioch's commercial relations was Colonnaded Street, where shops were built between the columns; additionally, new market areas were constructed around Antioch's first market and agora in the style of an Arab bazaar (Turgut, 1986, pp. 94-95, 105; Sauvaget, 1935, cited in Tezer, 2019, p. 193).

Middle Byzantine period (969-1084)

There is no specific information on the sources about the city's spatial layout for this period since the significant occupations were about defence and other domestic affairs (Bakır, 2022, p. 59).

The Seljuq period (1084-1098)

Till the command of rebuilt the city by Sultan Melikşah, Antioch stayed a ruin after the earthquake in 1091; many people died, and the church of the Virgin Mary was destroyed (Ambraseys, 2009, p. 279; Bakır, 2022, p. 91).

The Frankish Principality of Antioch/ Crusaders period (1098-1268)

Antakya was a city of about 100,000 inhabitants during the Crusaders period, 1.5 km wide and 5 km long, between the Orontes River and Mount Silpius (Hatay Valiliği, 2019). When the crusader army came to the city, they mentioned the city's beauty, city walls and geographical location (Bakır, 2022, p. 61). However, after the Crusaders occupied Antioch, the city was plundered, and massacres and fires broke out (Bakır, 2022, p. 62), and it lost its beauty. In this era, the city was famous for its religious meaning. It has become one of the four important cities for Christianity by taking the title "Principality of Antioch" (Tezer, 2019, p. 179). At the same time, the city became an important position in the commerce of the West and called in the Western Source the City of Water (Sahillioğlu, 1988, pp. 228-232). Besides the rise in the religious and commercial meaning of the city, Antioch experienced destructive earthquakes. According to Bakır, there were destructive earthquakes in 1114, 1115, and 1170, but no record of these earthquakes (2022, p. 21). On the other hand, Tekin states that more than 80.000 people died due to the earthquake, with a magnitude 9 that occurred in 1169 (2002, p. 213). Regarding the number of deaths, it is seen that in this era, the city underwent quite destructive earthquakes, and as a consequence, there was no spatial progress in the city. As a result of these earthquakes, there were too many collapsed buildings, and the city developed towards the north of the city (Demir, 1996, pp. 63-79).

Mamluk period (1268-1516)

Due to being a place where Christianity spread, the Mamluks destroyed the city, Westerners began to avoid passing their trade routes through Antioch, and as a result, the city could not regain its former value (Sahillioğlu, 1998, pp. 228-232; Tezer, 2019, p. 179).

Ottoman period (1516-1918)

The city's population in the 1500s were between 5.000-6.000 people (Tezer, 2019, p. 210). In this period, the city was located on the “Right Way of Anatolia” and took on the task of meeting the requirements of transportation, commerce, military and communication (Temiz, 2009, cited in Tezer, 2019, p. 201). The city's location between East and West affects the urban form (Rifaioğlu, 2012, p. 141). Since the new development areas of the city were located in the commercial centre and its

surroundings, there were only two neighbourhoods west of the Habib Neccar Mountain until the 18th century (Rifaioğlu, 2012, p. 143). Collonaded Street is unambiguously seen in the map of 1663, which was prepared by the traveller and researcher Della Valle (Figure 3.5).

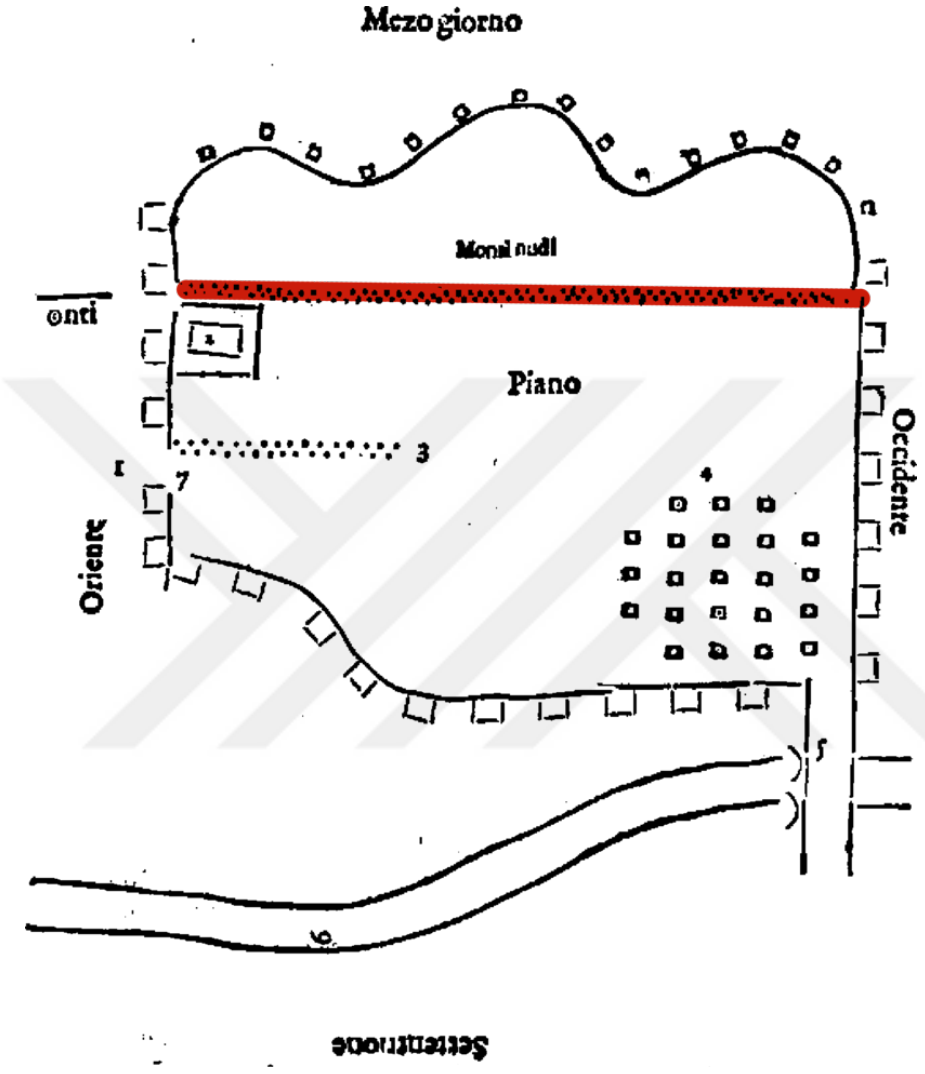


Figure 3.5 : Della Valle's Antioch map in 1663, adapted from (Della Valle, 1663 cited in Meyer, 2010).

With the development throughout the south direction in the 18th century, new mosques such as Sarımiye Mosque (1718) and Şeyh Muhammed Camii (1724) on the street and new neighbourhoods in its surroundings were built (Tekin, 2000). At this time, the city's population was 15.000, while in the 19th century, it was between 15.000-20.000 (Tezer, 2019, p. 210). Nieburh indicated that in his visit in 1766, there were 2500 houses in bad condition, and the size of the city (inner of the castle walls) was 2300 double-step in length while 950 double-step in width (Figure 3.6) (Çekmecelioğlu, 2016, p. 32).

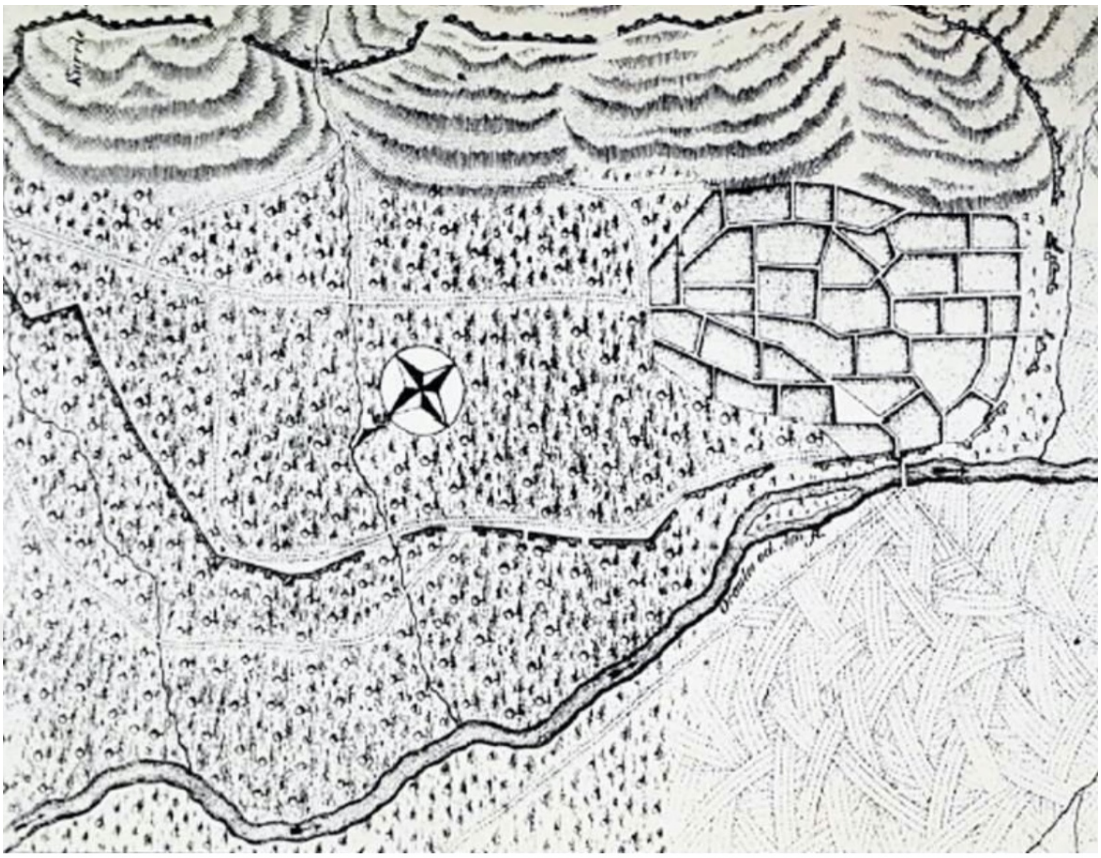


Figure 3.6 : Nieburh's Antioch map (Niebuhr, 1837).

The Tanzimat reforms in the 1800s influenced the urban form, and the banks of the Orontes River transformed into a new social centre with new social facilities and shops (Rifaioğlu, 2012, p. 147). In 1871, the map Emmanuel Guillaume Rey prepared shows that the built-up is in red, the protected walls by a line, and the ruined walls by a dashed line (Figure 3.7) (Çekmecelioğlu, 2016, p. 36). After this map, in 1872, a significant earthquake occurred in the city, resulting in the deaths of a thousand people and great destruction (Rifaioğlu, 2012, p. 151). Until then, the city was generally affected by sudden changes such as earthquakes, fires and occupations. Due to the war between the Ottoman Empire and Russia, a new settlement area with a grid plan consisting of one or two-story buildings was established on the opposite side of the Asi River in the city because of the need for housing for the Circassian refugees who settled in the city and the damage suffered by the existing housing during the earthquake (Rifaioğlu, 2012, p. 151). With the settling of refugees in 1892, the city's population was 60.394, and 54.423 were Muslim (Turgut, 1986, p. 119). All the events that occurred in this era, which is the most dynamic period in terms of development, concluded of growth of Antioch in the direction of north, south and west (Rifaioğlu, 2012, p. 147).

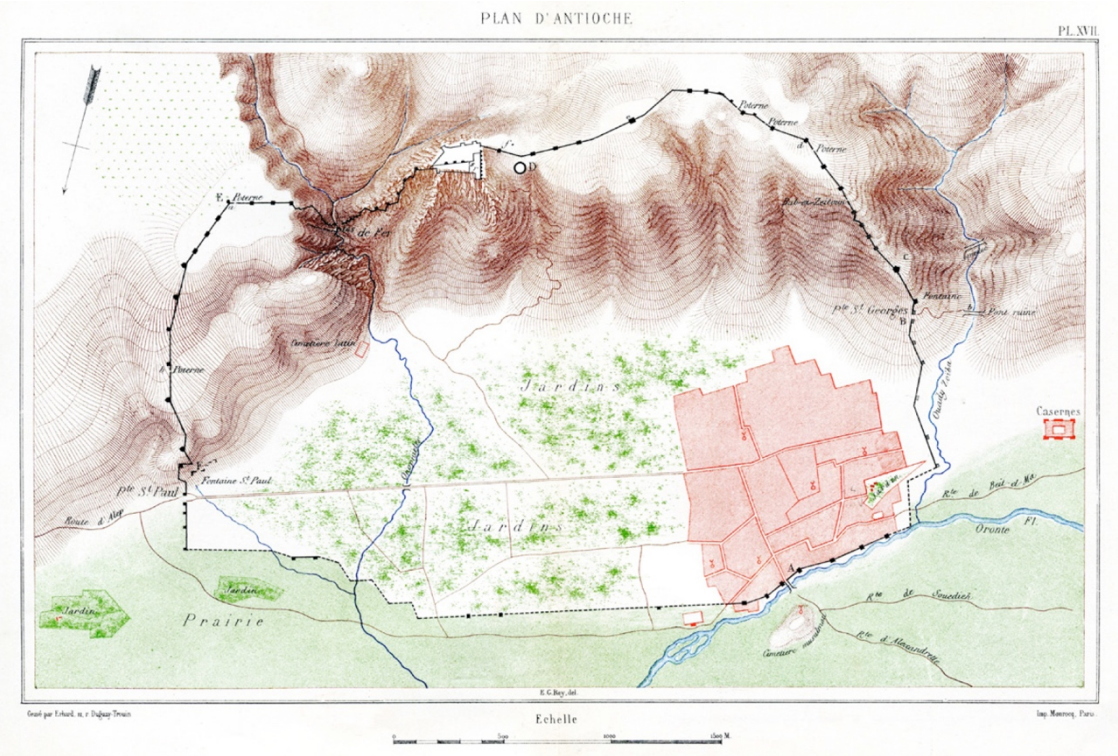


Figure 3.7 : Rey's Antioch map (Rey, 1871 cited in Meyer, 2010).

The influence of the Ottoman period on the urban form was the replacement of grid patterns with narrow and dead-end streets (Rifaioğlu, 2012, p. 154). In this term, the high walls created the narrow streets while the traditional courtyard is located behind the deaf walls, small squares formed haphazardly at the intersection of streets, and at the neighbourhood scale, there were small mosques and masjids in public spaces (Sahillioğlu, 1988, p. 232; Tezer, 2019, p. 215, Temiz, 2009 cited in Tezer, 2019, p. 215). In 1888, the map that shows the information from different periods of Antioch was prepared by Le Camus (Çekmecelioğlu, 2016, p. 37); Collonaded Street is visible on the map (Figure 3.8).

Except for the Hellenistic period, when Colonnaded Street was not differentiated yet, when the maps and plans drawn by the researchers and travellers are examined, it is seen that Colonnaded Street was specifically mentioned. The travellers who explored and mapped the city depicted the drawing of the colonnaded street, emphasising its columns, on their maps. This situation shows that the person in the city of the street easily notices the differentiation of the street. At the same time, this feature ensures that the street becomes permanent within the urban fabric.

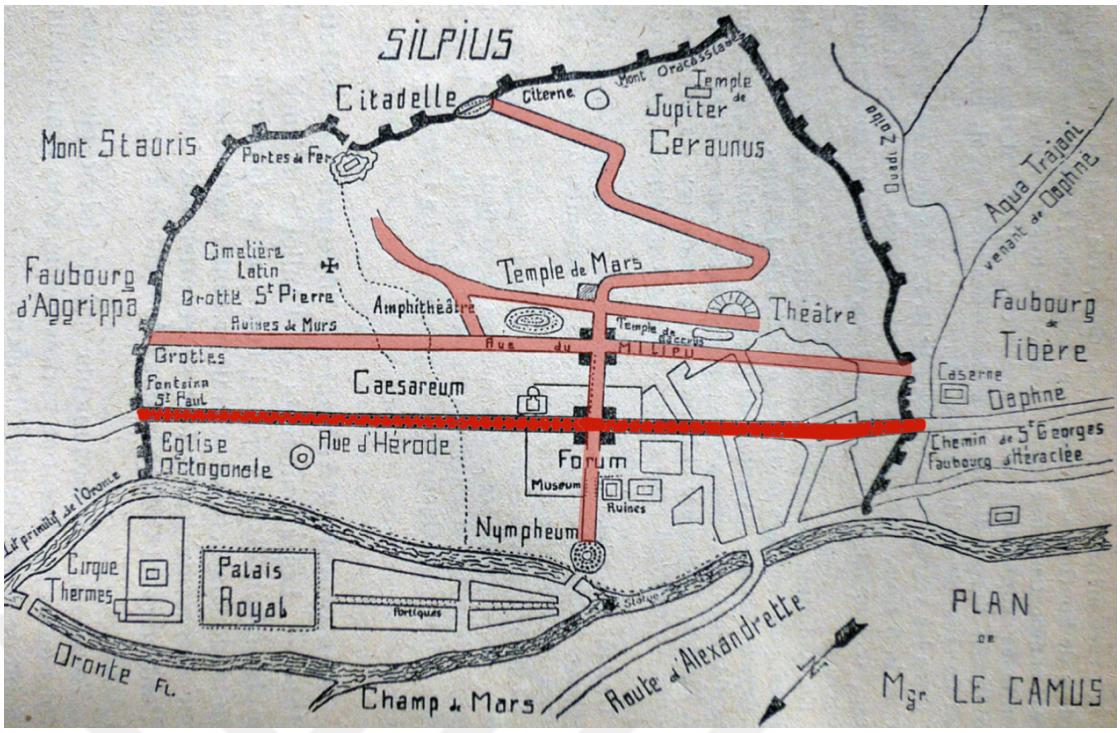


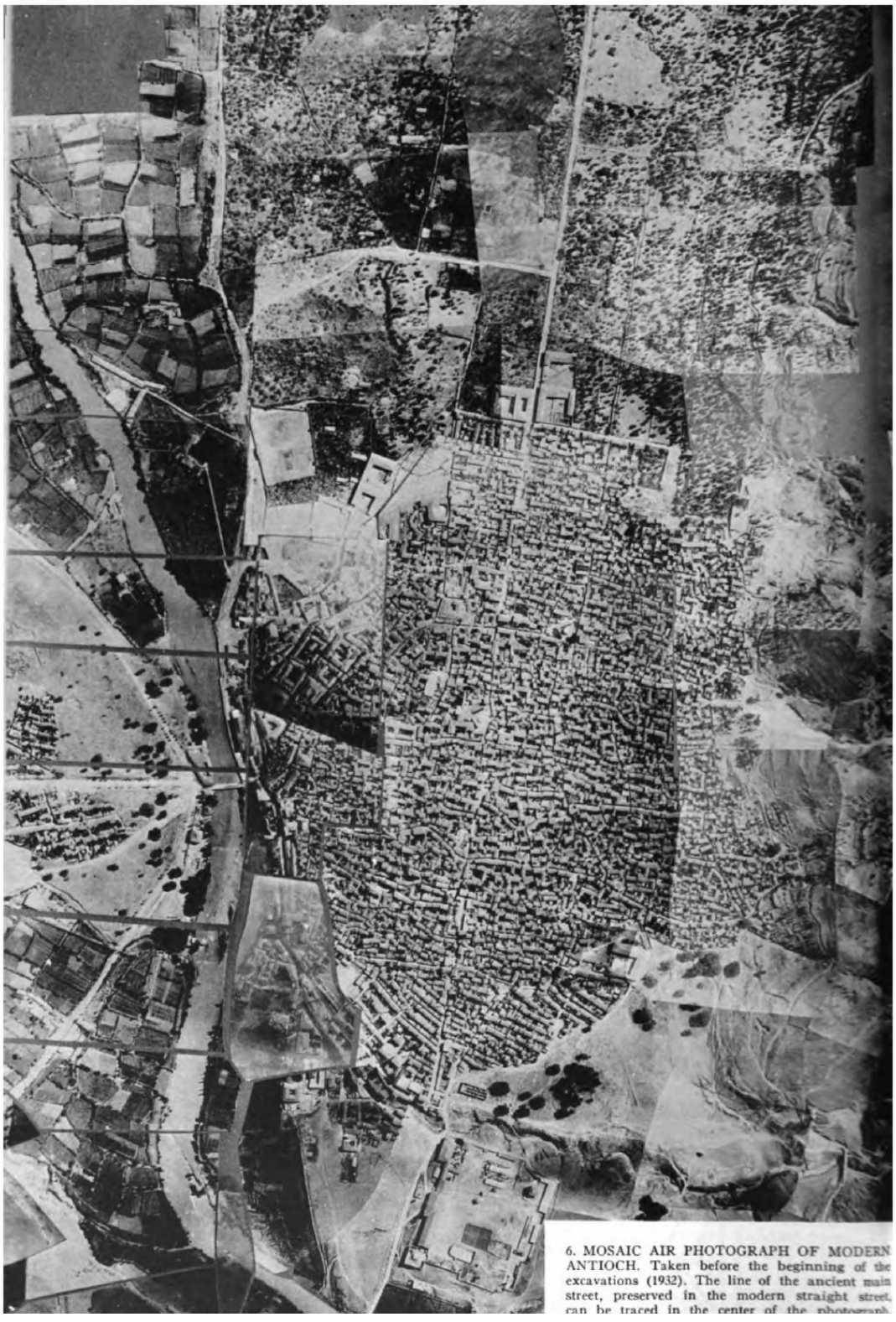
Figure 3.8 : Le Camus's Antioch map, adapted from (Le Camus, 1931 cited in Meyer, 2010).

During the Ottoman period, the opening of the Baghdad Railway between 1872 and 1981, the building of the Suez Canal in 1869, and the use of the trade route, including the canal, in 1951 resulted in a decrease in the significance of Antioch within its commercial logistics system (Tezer, 2019, p. 132).

French Mandate period (1918-1938)

It is stated that after the occupation of the city by the British in 1918 and then by the French, there were populations of many different religions, including Muslims, Armenians, Jews, and Orthodox, living in the city (Temiz, 2009 cited in Tezer, 2019, p. 214).

In Antioch, the narrow and dead-end streets that were introduced during the Islamic period continued to exist, which led to a transformation in the grid system and the emergence of an organic street network; moreover, the importance of classification in the streets within the city became evident, except Kurtuluş Caddesi (Tezer, 2019, p. 201, 217). In the satellite image, which shows the urban texture in 1932, Kurtuluş Street, located on Collonaded Street, is seen (Figure 3.9).



6. MOSAIC AIR PHOTOGRAPH OF MODERN ANTIOCH. Taken before the beginning of the excavations (1932). The line of the ancient main street, preserved in the modern straight street, can be traced in the center of the photograph.

Figure 3.9 : Aerial view of Antioch in 1932 (Downey, 1961).

Within this date range, one of the most crucial spatial changes is the opening of the street between Kışla and Dörtayak, previously known as *Herod Caddesi*, *Sütunlu Cadde*, *Rue Jadid* (Great Street), which is now referred to as Kurtuluş Street (Tezer,

2019, p. 216). The opening of the main street affected the present-day Kemalpaşa Street, which intersects the Kurtuluş Streets orthogonally (Tezer, 2019, p. 216). This image that allows to read old streets and contours of the buildings is proof of the ancient city (Pamir, 2009 cited in Tezer, 2019, pp. 187-188).

Another significant event of the term is the 1/10.000 scaled city plan prepared by Réne Danger in 1932 and focused on developing the street network and zoning (Pinto, 1938 cited in Rifaioğlu, 2012, p. 160). The plan prepared by Réne Danger in 1932 and the proposed street network, Kurtuluş Street, is evaluated as the city's main street, and all the local streets are connected to it. Also, city squares connected to Habib Neccar Mosque on Kurtuluş Street and Ulu Mosque (Rifaioğlu, 2012, p. 160), thus increasing the publicity of Kurtuluş Avenue (Figure 3.10). Although the Antakya Municipality approved the plan, it could not be fully implemented in the historic city centre (Rifaioğlu, 2012, p. 163).

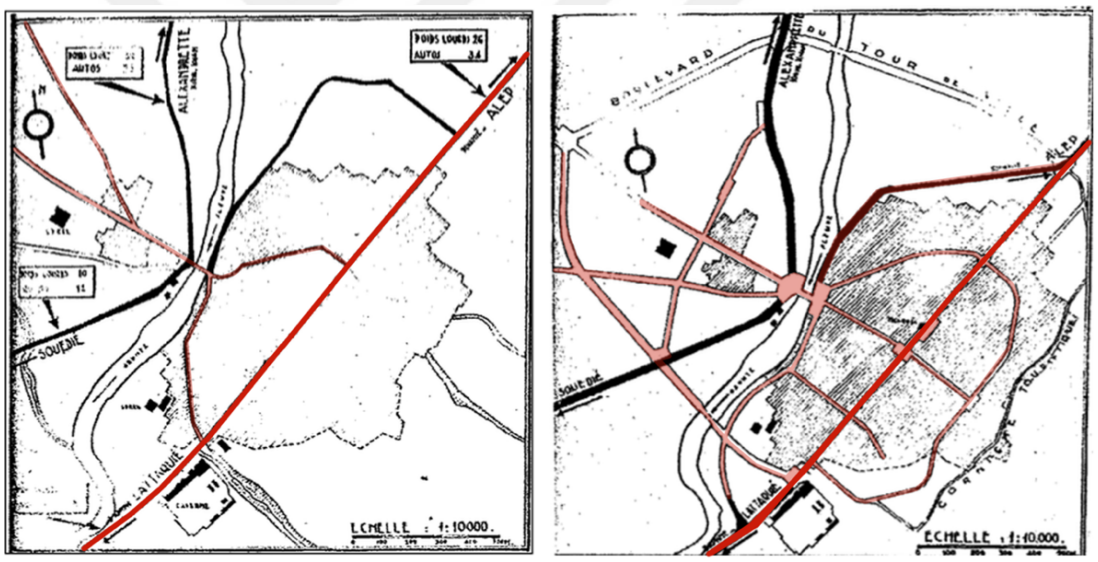


Figure 3.10 : Existing street network in 1932 (Left), Proposed street network (Right), adapted from (Pinto, 1938 cited in Açıkgöz, 2008).

Hatay's accession to the Republic of Turkey (1938-1939) and the Turkish Republic Period (1939-present)

After hosting many different cultures and undergoing changes in urban form, Antioch took steps towards preservation and transformation after 1938, following its joining the Republic of Turkey. Although the Development Plan of the City by Asım Kömürcüoğlu in 1948 was the first step in protecting the urban values of Antioch, it couldn't be implemented (Tezer, 2019, p. 208). After this plan, in 1957, the 1/5000,

1/1000 and 1/500 scale plans of Gündüz Özdeş that the built-up area developed through to the southwest and the street network radically changed was implemented (Rifaioğlu, 2012, p. 174). After the plan proposed in 1948, which was not put into practice, the implementation of Gündüz Özdeş's plan was the first concrete step towards preserving urban values. This plan suggested changes to the urban streets, including widening Kurtuluş Street up to 20 metres and removing narrow streets by creating large building blocks along the city centre, indicating that the plan was aimed at changing the fabric of the city rather than preserving it (Rifaioğlu, 2012, p. 176, 178). After this plan, which was valid until 1978, resulted in the opening of Cumhuriyet Street in the 1960-70s and the construction of apartment buildings on the new street leading to the abandonment of old Antioch houses for a while (Tezer, 2019, pp. 208-209).

After Özdeş Plan, Antakya Historical Site Zoning Plan (*Antakya Tarihi Sit Mevzii İmar Planı*) was prepared by Yavuz Taşçı in 1978 and was approved, and in 1987, Urban Conservation and Development Plan (*Kentsel Koruma ve Gelişme Planı*) by Nurcan Uydaş with renewed the protection and registration list (Tezer, 2019, p. 209). In this plan which described the borders of archaeological, natural and urban historical sites, there were some regulations for the widening, form, slope of the streets, form of the sidewalk, the cadastral status of secondary streets and buildings on Kurtuluş Street (Rifaioğlu, 2012, pp. 183-185). Based on this plan, the northeast part of Kurtuluş Street was defined as a 3rd-degree archaeological conservation area, while the southwest part was described as an urban conservation area. Rifaioğlu stated that there were deteriorations in various topics, such as street design and new architectural elements after the 1987 plan, and the reason for this was the unsuitable decisions and insufficient control and management for the city's conservation (2012, p. 198). The decisions made during the planning process that are not applicable to the plan implementation adversely affect the positive qualities that urban planning should provide the city. Despite the comprehensive initiative in 1987, the planning process of Antioch, which started in 1948, has still not reached the desired level and has remained at a level of planned unplannedness. This situation affects the urban values at the urban and building scales and does not prevent the loss of values. Examples of this situation in the 1987 plan include widening the streets contrary to the plan, changing the original pavement of the street, and constructing buildings that are different from the traditional

residential character on Kurtuluş Street and other streets in the historic city centre (Rifaioğlu, 2012, pp. 187-189). Decisions made during this period, similar to the changes in the structure of the street over time, have also shaped the future of Kurtuluş Street (Figure 3.11).

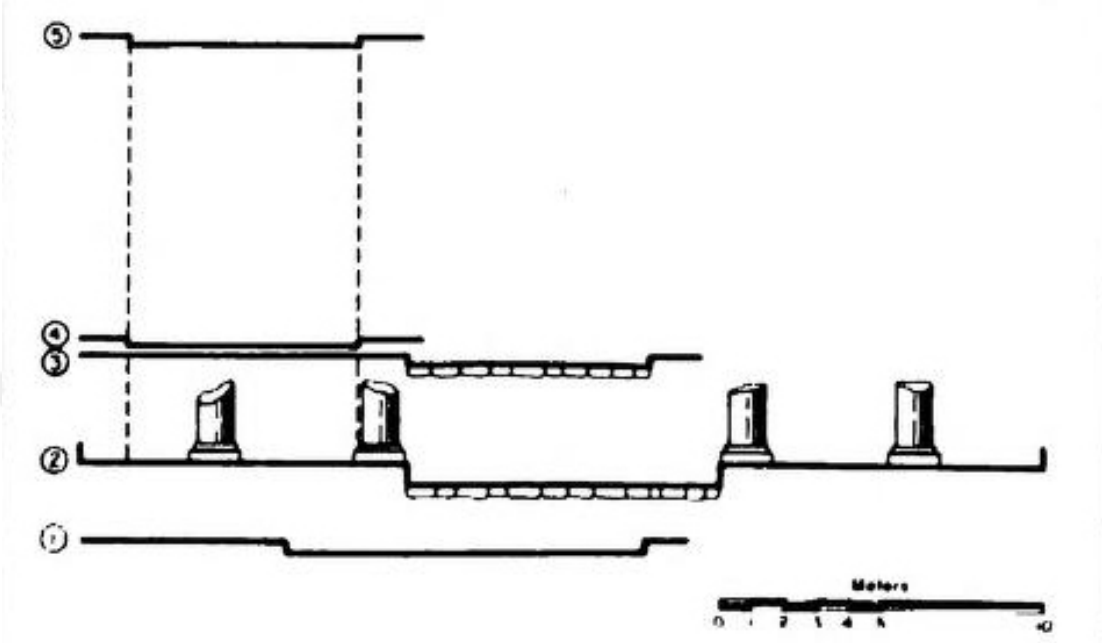


Figure 3.11 : The sections of Collonaded Street in different centuries (Downey, 1961).

Following the 1987 plan, The Revision of the Conservation Master and Implementation Plan of Antioch (*Antakya Koruma Amaçlı Nazım ve Uygulama İmar Planı Revizyonu*) that regulated the borders of the protected areas was approved (Rifaioğlu, 2012, p. 192). According to this plan, Kurtuluş Streets was described as a third-degree archaeological and urban site area.

To gain a comprehensive understanding of the urban values that Antakya embodies, it is imperative to conduct a thorough investigation on different scales. Specifically, one of the most significant values of Antakya has the collonaded street. This street has played a pivotal role in the city's growth and development, witnessing all of Antakya's significant events since its establishment. While it lacked distinct characteristics in its early days, the street gradually transformed into a unique avenue with granite paving and arcades on both sides (Downey, 1961, p. 778). The columned street has undergone numerous changes, advancements, and losses. Despite this, it symbolises Antakya's rich cultural heritage and enduring legacy. (Figure 3.12).

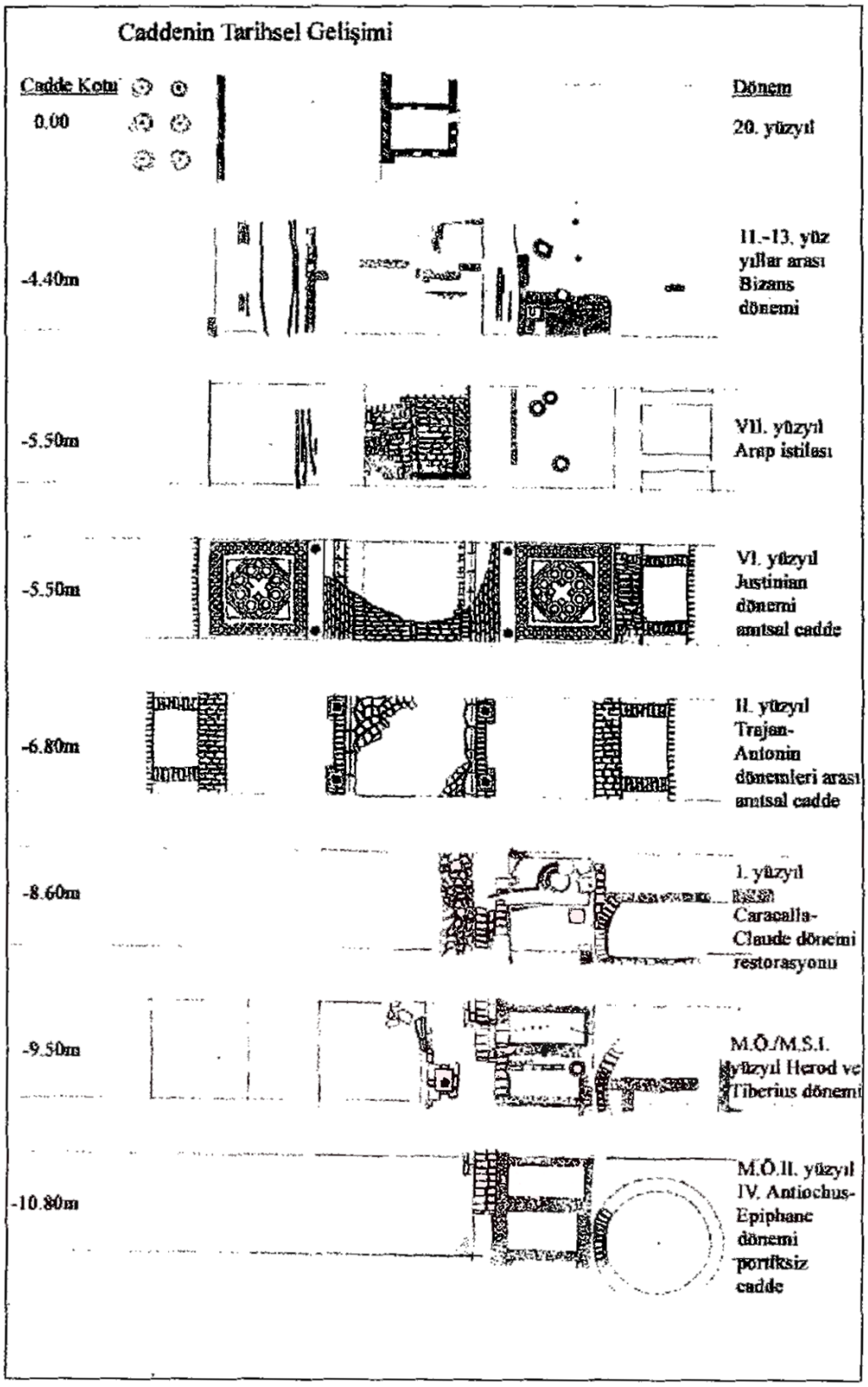


Figure 3.12 : The change of the Colonnaded Street between the 3rd century BC and the 20th century CE (Lassus, 1972 cited in Akbaş, 2001).

Throughout its rich history, Antioch's spatiality has been shaped by an array of impactful events. These events can be categorised into two distinct groups: natural disasters, such as earthquakes and fires, and human-driven events, including war, occupation, migration, and urban planning issues (Figure 3.13). When examining the city's history under eleven main time periods from the Hellenistic period to the present dates, it can be observed that these events, which fundamentally affected Antakya, mainly occurred and resulted in severe damage.

In the Hellenistic Period, the architect, Xenarius, played a pivotal role in setting the foundation for the city's spatial structure, which was subsequently impacted by a series of destructive earthquakes and fires from 320 BC. Subsequently, in the city's development, dating back to the Roman period and constructed by Tiberius, Collonaded Street has remained a prominent and essential part of the city, despite the physical challenges that the city has undergone. Although earthquakes, fires, and invasions that emerged in the early periods have led to spatial destruction and changes in the urban form and buildings.

Throughout different periods, the street, which has been approached in various ways by the city's rulers and society, has maintained its character as the main street and the city's cardo. During this process of change and reconstruction, despite minor variations experienced by the collonaded street, it has consistently maintained its significance within the urban fabric.

It is worth noting that the significance of the street has been consistently maintained, indicating its strong integration within the overall structure of the city. It is observed that the street possesses specific significant characteristics within the urban fabric to achieve this consolidation. This main street has been a pivotal hub for trade and social interaction and a showcase of Antioch's grandeur. As such, it is essential to Antakya's urban heritage, a testament to this remarkable city's enduring spirit and resilience. To ensure that the future of Kurtuluş Street is preserved, it is crucial to recognise and consider the parameters that have contributed to its consolidation within the urban fabric. A comprehensive approach considering the consolidation of nature-based and human-based aspects will ensure the street's continued role as a thriving and cohesive element within the city's urban landscape.

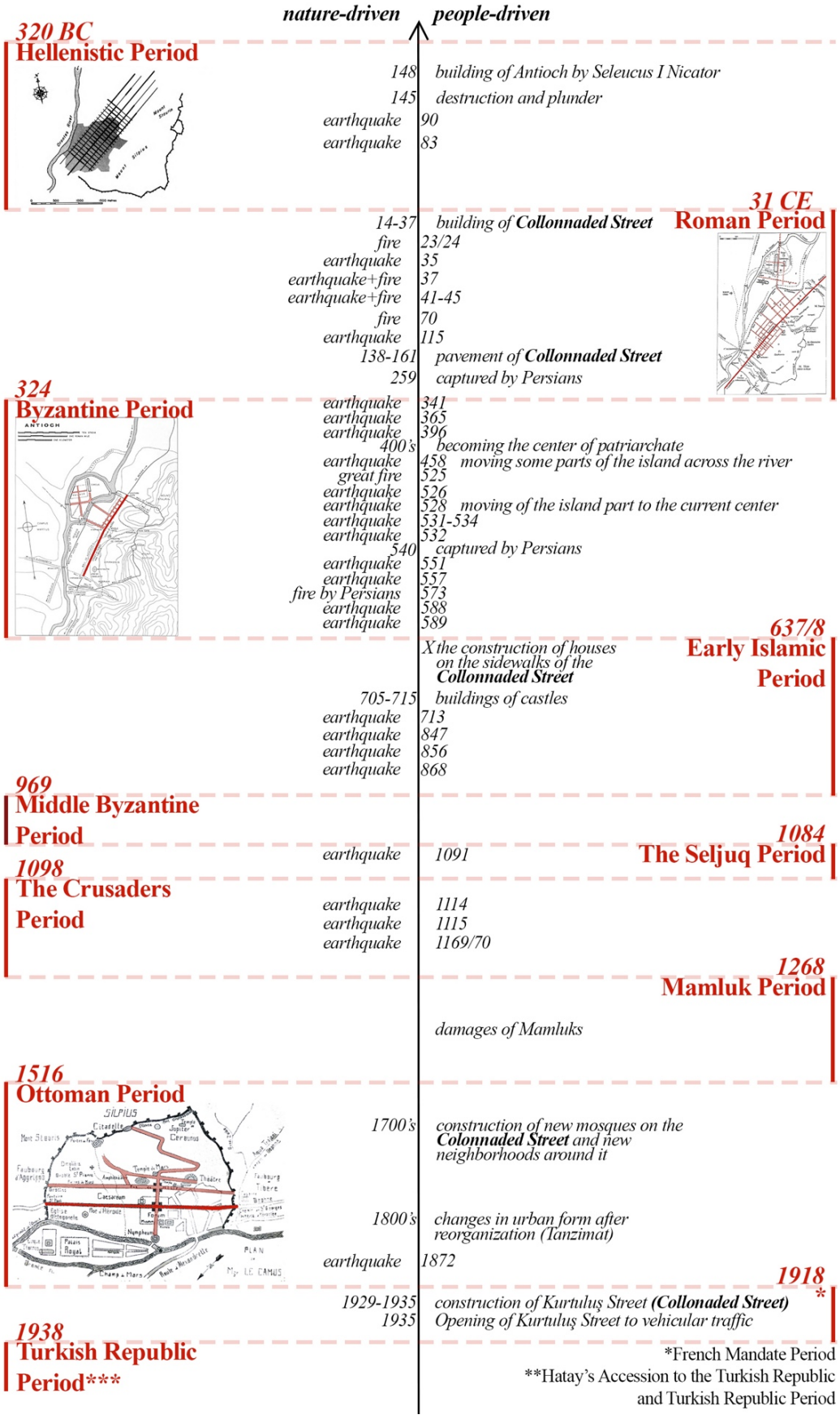


Figure 3.13 : Timeline of the occasions affecting Collonaded Street in different centuries.

3.1.2 Morphological evolution

The earthquakes, fires and destructions that Antakya has experienced in the historical process have affected the construction and demolition of the city. This situation can be seen because the city did not have the size of the Roman period corresponding to the Ottoman period (Figure 3.14).

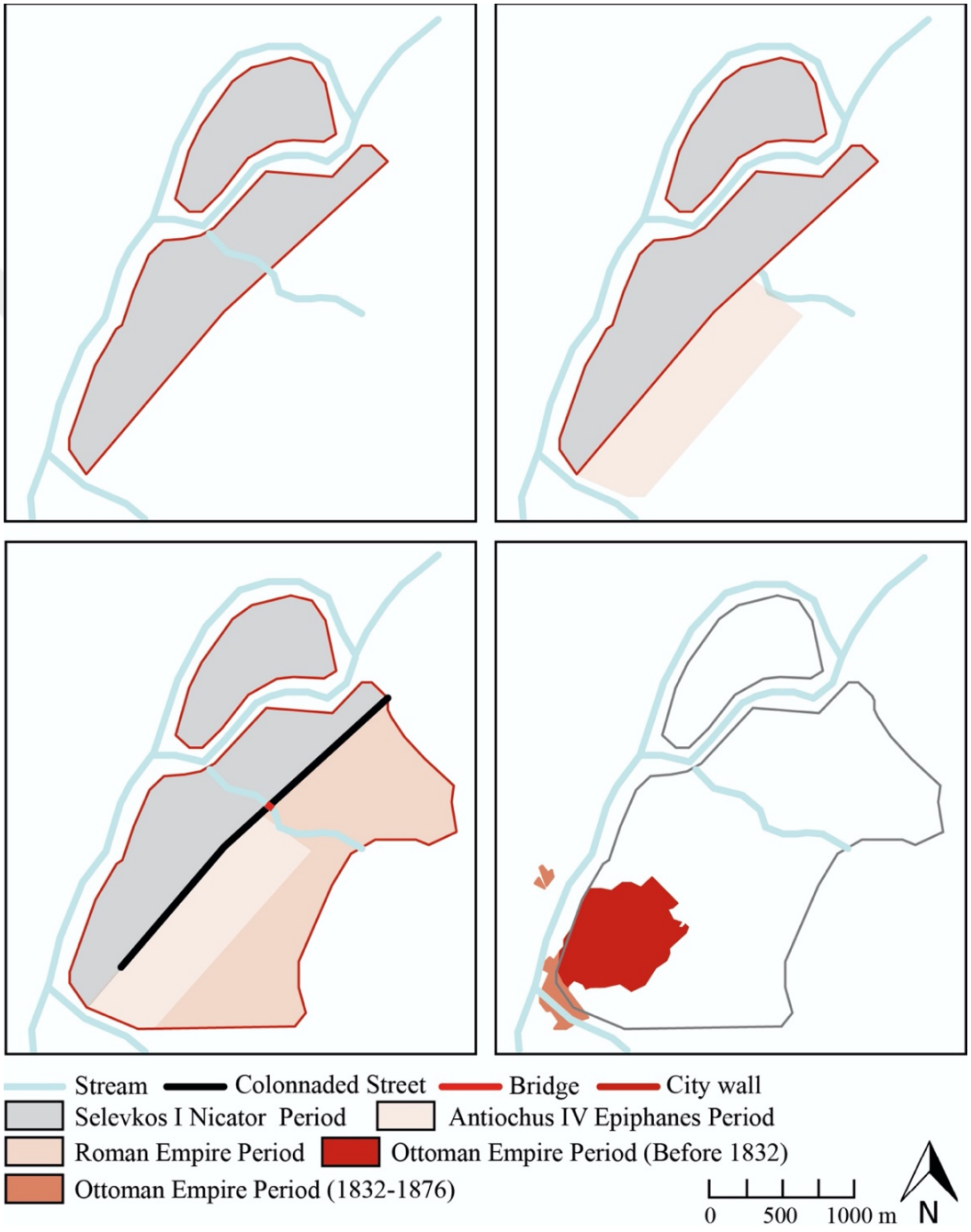


Figure 3.14 : Evolution of Antakya urban form between BC 300-AD 1876, adapted from (Dinç, 2014; Tezer, 2019).

Since the Ottoman period, the macroform of the city has been developing from the core of the city to the northwest. During this development, it is seen that the city extends towards and beyond the Asi River and proceeds in a scattered manner. As the city's development mostly moved to the other side of the river, the historical centre of Antakya remained outside the new development areas. While the macroform of the city progressed around the historical core until the 1960s, it changed drastically after 1960 by going beyond the river.

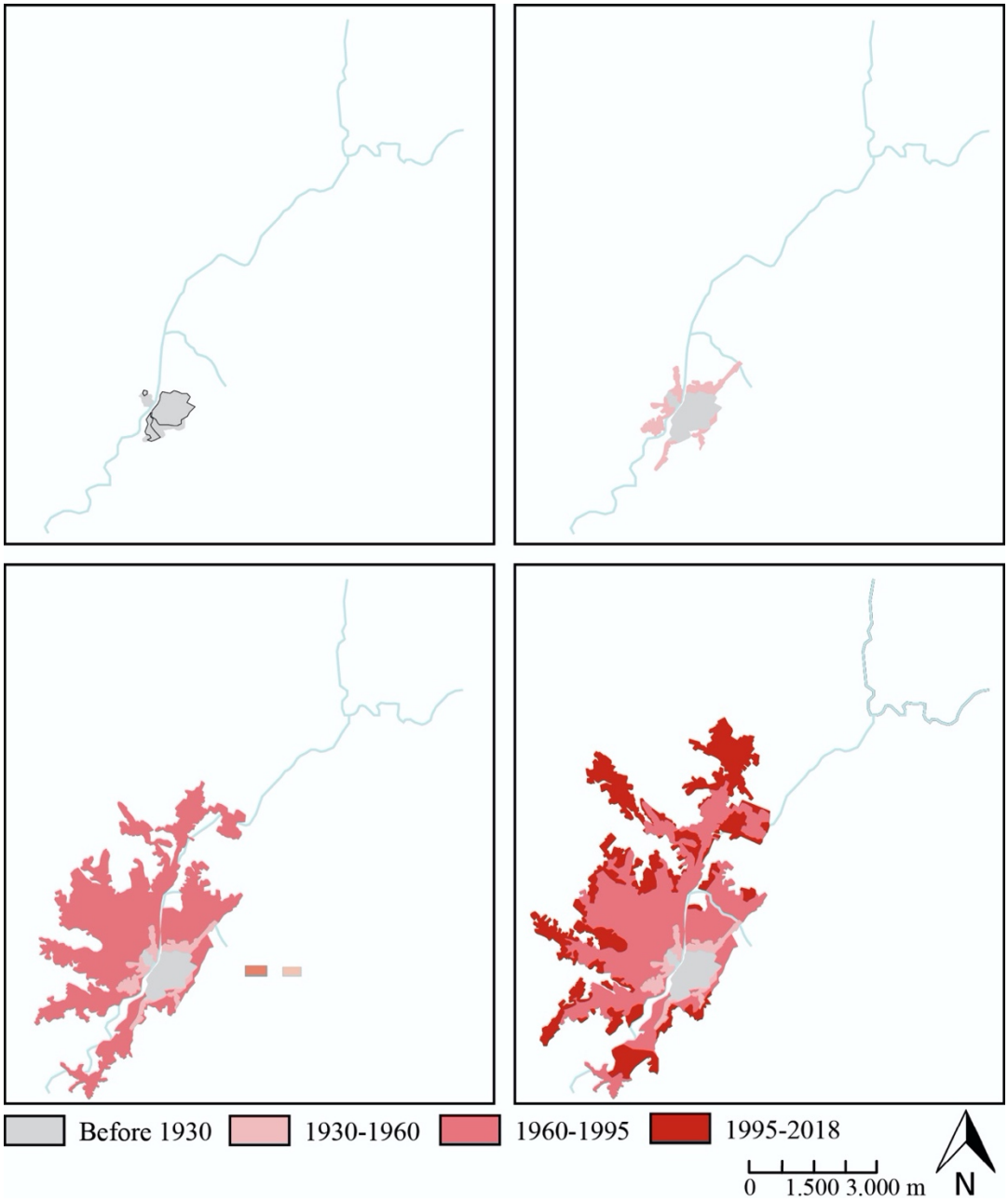


Figure 3.15 : Evolution of Antakya urban form between 1930-2018, adapted from (Dinç, 2014; Tezer, 2019).

3.2 Kurtuluş Street

For any urban element to maintain its continuity, it should be responsive to the city's needs. According to Griffith et al., one of the essential characteristics of the main street is its responsiveness to the city's needs (2008, p. 1162). This characteristic has enabled it to adapt to the needs of the time and to survive in the present day through historical changes and transformations. This adaptive quality manifests itself at many scales, such as neighbourhoods, districts, cities, or regions, and each scale's unique and individual characteristics should be considered within a larger context (Karimi, 2012, p. 304). Therefore, the main street is a space where many micro and macro elements have simultaneous effects and is seen as a single framework. Not all of the features seen in the micro-space will be seen in the macro-space; conversely, none of the features seen in the macro-space will be found in the micro-space (van Nes & Yamu, 2021, p. 126). As a result, all elements within the urban space are used in different ways (Karimi, 2012, p. 304). Since the city's vitality depends not only on macro features but also on micro features, urban analysis is conducted at both scales to assist in understanding and shaping the city space (van Nes & Yamu, 2021, p. 126).

Ye and van Nes's theory of urban transformation, developed based on the theory of natural movement, highlights the interdependence of road network configuration, building density, and land-use diversity (2014). Considering that the urban transformation process aims to improve the quality of urban space and make it more sustainable, it can be observed that the configuration of the road network, the degree of building density, and the functional diversity and intensity of land use are effective in organising urban elements and making them permanent. To create sustainable cities and societies and to design effective urban spaces, the variety of land use, influenced by the spatial arrangement and the resulting human volume and density, can test the potential of street life (Yamu et al., 2021).

In this context, there are several prominent parameters regarding the permanence of the main street within the urban fabric. These primary parameters have been identified as the integration of the street with the urban fabric, the intensity of land use along the street, and the continuity, permeability, and constitutedness of buildings. These parameters have been examined and tested in a sampled area, Kurtuluş Street, establishing a framework for the consolidation of the main street.

3.2.1 Space syntax analysis

Space syntax is concerned with analysing the form of buildings and urban spaces, as well as human activities within them, by examining where individuals are located, how they adapt to their surroundings, how they move, and how they develop (Space Syntax, n.d.). Bafna defines space syntax as a "research program that investigates the relationship between human societies and space from the perspective of a general theory of the structure of inhabited space in all its diverse forms: including buildings, settlements, cities, and even landscapes" (Bafna, 2003, p. 17). This program enables the analysis of the form and use of space by investigating the relationship between humans and space at different scales. Space syntax defines the structure of space at the architectural, urban, and landscape scales and analyses the relationship between the cognitive intention of individuals and the form of space (Chen, Sen, & Mai, 2019, p. 160). Space syntax, which is based on the proposition that everything within a space is related to the space and all other spaces it is connected to (Space Syntax, n.d.), rejects the notion that space and its contents are independent (Hillier & Hanson, 1984, p. 9) and instead emphasises the argument that the nature of spatial configuration is shaped by the social structure that exists within it (Bafna, 2003, p. 18). This method, employed at different scales, is also used to investigate many urban issues. Crime (Hillier, 2004), land use (Kim & Sohn, 2002), social segregation (Vaughan, 1997), and the location of critical urban elements (Hanson, 1989) are some of the urban issues that have been examined in this method. Furthermore, this method is used in various fields, such as anthropology, archaeology, geography, and psychology (Yamu et al., 2021, p. 3).

Hillier and Hanson stated the objectives of the space syntax method in four points:

- to reveal the basic structures in the interest system of humans,
- to represent these structures with a fundamental representation instead of commonly used verbal patterns,
- to create a consistent system by showing the relationships between the basic structures, and
- to demonstrate how more complex configurations can emerge (1984, p. 52).

The inevitable relationship between human activities and the form of space creates a strong argument for the use of space syntax in the design of urban spaces (Karimi, 2012, p. 305). The application of the space syntax method to Trafalgar Square in the

United Kingdom for public space analysis (House of Lords, Science and Technology Committee, 2006, p. 37) and to the city of Jeddah in Saudi Arabia for urban planning (Space Syntax Limited, 2006), demonstrates the versatility of the method in different scales. Also, Asami, Kubat, and İstek (2001) emphasise in their study that includes 14 Turkish cities, namely Adana, Diyarbakır, and İznik, as well as 15 international cities, namely Amsterdam, Barcelona, and Edinburgh, that space syntax analysis helps determine street network characteristics (pp. 780-781, 792). The axiality inherent in the method is also apparent in the earliest settlements. Archaeologists have found evidence of geometric patterns in the layout of ancient cities but with one axiality, such as in the case of Teotihuacan, where the central axis connects the Sun and Moon Pyramids (Hillier, 2007, p. 176). In Brasilia, which is not formally similar to Teotihuacan, the dominant axis is an instrument, symbol, and means of control, with its practical role subsuming its symbolic and ideological aspects (Hillier, p. 176, 180).

Space syntax analysis encompasses various concepts, including convex space, convex map, axial line, axial map, segment map, isovist, connectivity, axial integration, global and local radius, syntactic step, edge effect, and visual graph analysis. Among these concepts, the axial line, axial map, connectivity, axial integration, and global and local radius are explained in this study.

Axial line: Despite debates about the axial line representing the public urban area by connecting to other areas, the consensus is that it is the longest line of sight that indicates the movement path within a space by connecting different areas (Hillier & Hanson, 1984, p. 97; Batty, 2004, p. 5).

Axial map: The axial map is a map that is created by minimising the lines between the axial lines with the longest lines of sight in between (Hillier & Hanson, 1984, p. 97).

Connectivity: Connectivity, a fundamental concept in graph theory in mathematics, is a static measure that explains the number of connections of each street with other streets that are connected to it (Hillier & Hanson, 1984, p. 103).

Axial integration: This concept analyses the accessibility ratio of a street to other streets based on movement (Hillier & Hanson, 1984, p. 104). The longer the axial line is in a built environment, the higher its integration with other lines will be (Yamu et al., 2021, p. 8).

Global and local radius: Radii are generally used to indicate the number of changes in direction (Yamu et al., 2021, p. 8). Understanding the relationship between parts and the whole in the urban environment can be facilitated by reflecting different urban scales using different radii (Hillier, 2007, p. 124). Radius n is used to calculate the global integration value, which indicates the centrality of an area among other areas and is defined as integration analysis across the city. On the other hand, the local integration value, which is used to analyse the proximity of a space to its neighbouring spaces, is generally calculated using 3, 5, and 7 radius values (Hillier & Iida, 2005; Hillier, 2007, p. 135; Chen, You & Mai, p. 164). Local integration is typically used as the best indicator of small-scale movement as it shows pedestrian movement and reads urban form in a local manner, whereas global integration is generally used as the best indicator of large-scale movement that shows vehicular movements and analyses the grid at a more broad scale (Hillier, 2007, pp. 99-101). The resulting map expresses integration degrees through colours. Accordingly, the integration degree with the highest level of integration in the urban fabric is represented by a transition from dark red to dark blue, which means from the most integrated to the least integrated line (Karimi, 2012, p. 305).

To examine the integration of Kurtuluş Street with the urban fabric, the axial map of the street and the surrounding historical fabric was first generated using the DepthMapX software. The connectivity degrees of the streets in the area were then analysed, revealing that the northeast section of Kurtuluş Street had the highest connectivity degree within the urban fabric. To observe the local integration degree after generating the axial map, a radius value of 3 was given, while a value of n was assigned to observe the global integration value. Additionally, the connectivity degrees of the streets in the area were analysed. To investigate the formation and consolidation of Kurtuluş Street as the main street, its macro form that has developed since the 16th century was taken into consideration; in this context, axial maps, connectivity maps, and integration (rn, r3) maps of Kurtuluş Street and the surrounding historical fabric were generated for the 16th, 18th, 19th, and 21st-century urban forms. Analysis revealed that, in the 16th-century integration map, Kurtuluş Street and especially its northeast part were the most integrated street in the area with the highest global integration value (rn). In the local integration analysis (r3), although the integration of the southwest part of the street decreased, it still stood out as one of the most integrated

lines in the area, and the northeast part of the street emerged as the highest integrated line in the area, similar to the global integration calculation.

When examining the connectivity of the 18th-century urban fabric, the map was similar to the 16th-century map. The northeast section of Kurtuluş Street and the lines connecting to it were the highest connected lines within the fabric. When looking at the global integration map, the integration of the overall street layout was found to be at a high degree compared to other centuries. The local integration map also showed similarities to the 16th century but differed from the global one. Although the integration ratio is generally high in the overall layout of the global degree, the city does not have this high integration degree in local integration analysis. However, while the other streets' integration decreased, Kurtuluş Street, especially with its northeast line, constitutes the most integrated street in the city.

By the 19th century, it was observed that with the city's expansion towards the southwest, the connectivity degrees of the southwest of Kurtuluş Street increased. However, it is also seen that the northeast line of Kurtuluş Street, which had the highest connectivity in its network during the 16th and 18th centuries, has lost its integration degree. The global integration degrees of streets within the structure have decreased compared to the 18th-century global integration map. Nevertheless, the centre of the street and its northern part is the most integrated line in the city. While in local values, the northern and southern ends of Kurtuluş Street have the highest integration value, the middle of the street has less integration compared to the global degree.

Looking at the analysis of the 21st century, it is observed that with the city's expansion towards the southwest within the urban pattern, the connectivity degree of the southwest part of the street has the highest connectivity degree. In global integration analysis, the middle part of Kurtuluş Street, with the highest level, and the south ends of the street are the axes with the most integrated parts. When the local integration map is examined, it is seen that the integration degree of the middle part of Kurtuluş Street, which had the highest integration value in the global degree, has decreased. The global and local integration maps of the 19th century and the 21st century are compared, and it is seen that the integration values have become common as the city grows to the southwest (Figure 3.16).

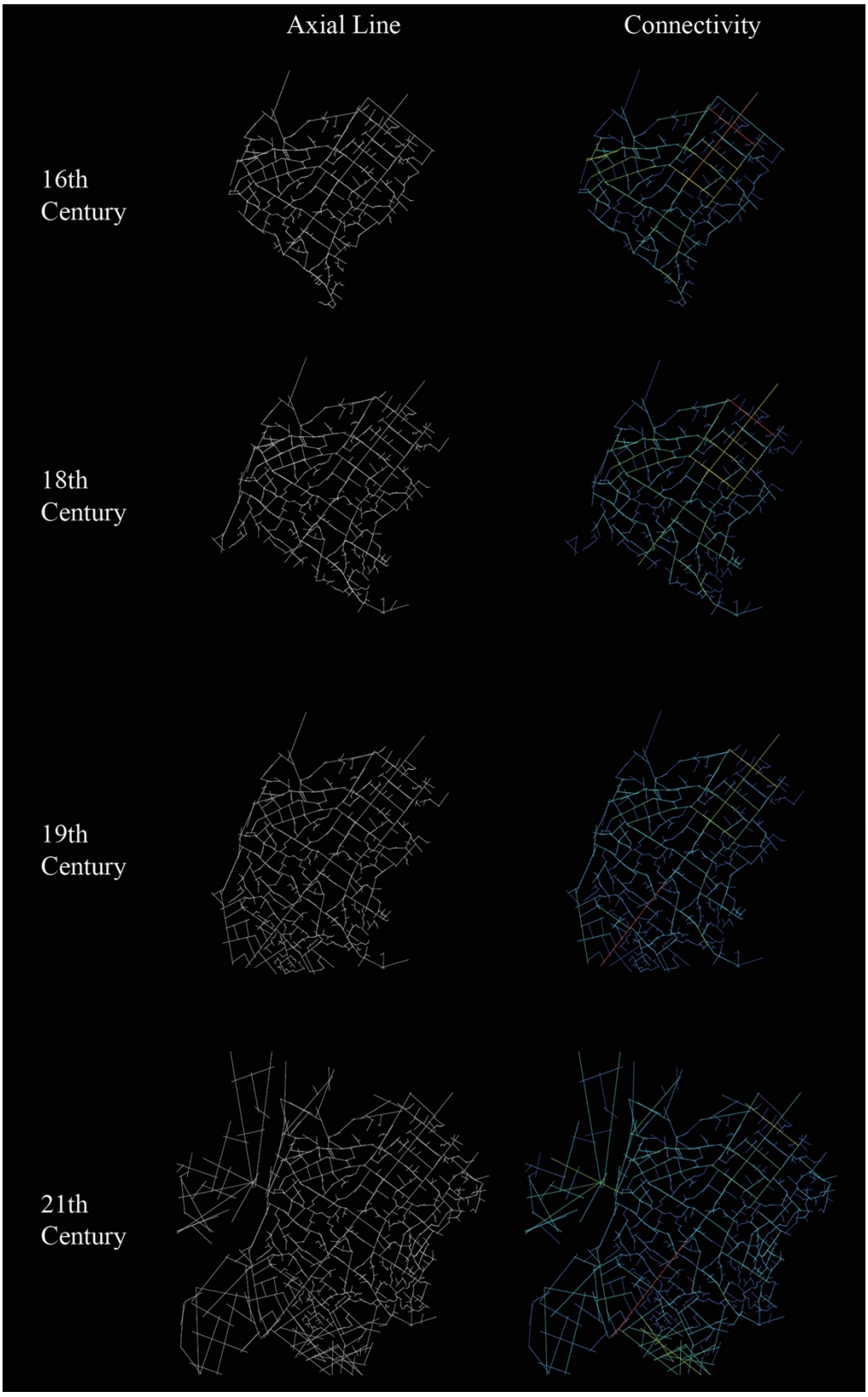


Figure 3.16 : Connectivity and integration (Rn, R3) analysis of Kurtuluş Street from the 16th century.

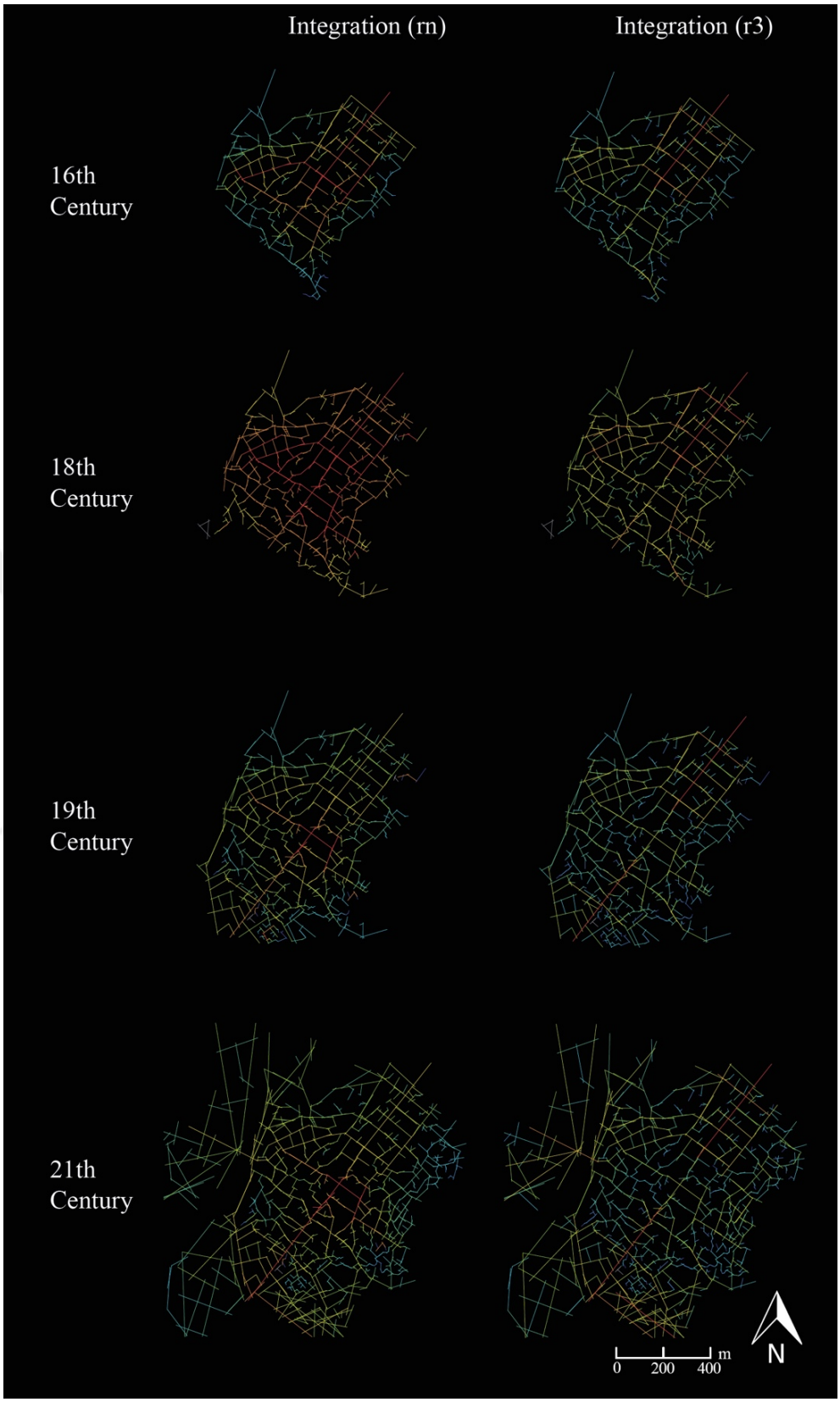


Figure 3.16 (continued) : Connectivity and integration (Rn, R3) analysis of Kurtuluş Street from 16th century.

The space syntax analyses examined the city's development from the 16th century to the 21st century. Besides, the size of the city was different in the studied periods and global and local integration values are calculated differently; the street is the most integrated street with the city. When examining the local integration analysis, which shows small-scale movement and typically focuses on pedestrian movements (analysis with r3 values), and global integration analysis, which demonstrates large-scale movement and emphasises vehicular transportation (analysis with n values), it is observed that Kurtuluş Street has the highest integration value within the city. As one of the focal points for pedestrian and vehicular transportation, Kurtuluş Street has been examined based on these two values, thus concluding that it is the axis with the highest integration value in both pedestrian and vehicular movement scales.

This study focuses on the historical development of Kurtuluş Street and analyses its consolidation within the urban fabric; therefore, the conducted space syntax analysis is centred around the historical urban area. Within this scope, during the analysis phase, the areas outside the city's historical core were not considered in evaluating the city's 21st-century map. However, Topçu and Kubat's (2007, 2012) studies demonstrate space syntax analyses for Antioch's old and new settlement areas (Figure 3.17). Upon examining these analyses, it can be observed that the integration of Kurtuluş Street within the city remains one of the highest-ranking arteries regarding spatial integration, regardless of whether the analysis is based solely on the historical fabric or includes the entire settlement area of the city.

The city's main street has the highest level of integration within the urban fabric and can be examined in relation to other historical cities as well. In a comparative study of Eskidemir, he analysed Atatürk Street (*decumanus*) and Kılıçarslan Street (*cardo*) in İznik, Via Santa Giustina (*cardo*) in Lucca, and Ortapazar Street (*cardo*) in Bursa and determined that these streets, historically used as cardo and decumanus in the cities, have the highest level of integration within the current form of the cities (Tezer, 2019). Thus, the space syntax analysis conducted within the historical urban form of Antakya and throughout the whole city indicates that the main street has the highest spatial integration within the city. This characteristic is also found in other world and Anatolian cities. This finding suggests that integration is a parameter for the permanence of the main street within the urban fabric without losing its axial direction throughout the historical process.

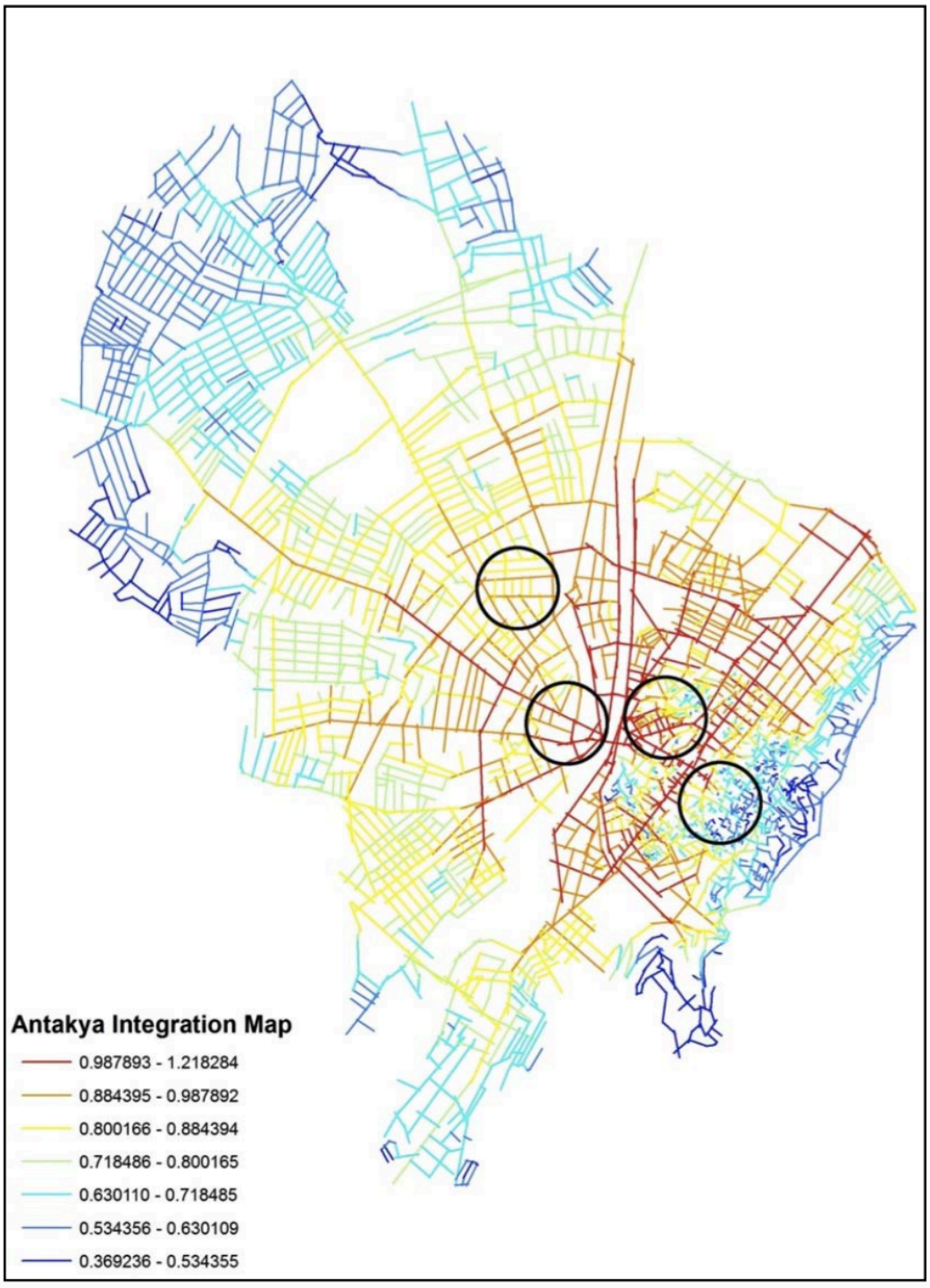


Figure 3.17 : Integration analysis of Antakya (Topçu & Kubat, 2012).

3.2.2 Land use analysis

A goal in the city rises mobility and creates areas where people can gather. The abundance, diversity and intensity of destinations and gathering spaces in a town increase movement and ensure that the users of these spaces are diverse. A street with multiple uses along a single axis symbolises the city's richness. The combination of

businesses that meet daily needs, official institutions that handle administrative matters, and cultural venues usually frequented by tourists along the same street make the street a central place used throughout the day. These types of land use are visible in various parts of the city, but there are certain specialised areas where all these uses are concentrated together. These areas form the centres of cities, while the road network that surrounds these centres has the most heavily used arteries. A street where buildings are lined up one after another usually stands out as the area's most frequently used and well-known street and is typically referred to as the main street. The intensity of uses on the main street helps to ensure its longevity throughout the historical changes and transformations of the city. In Virginia, Columbia Pike in Arlington is an example of a street that was renovated and transformed into a main street through collaboration between Dover, Kohl & Partners and Ferrel Madden Associates, with the addition of a variety of mixed-use buildings such as residential, office, automotive, parking and retail spaces (Massengale & Dover, 2014, pp. 250-251). In this context, it can be concluded that a high degree of intensity and land use on streets are more significant for a city than other streets and therefore are one of the essential spaces in the city's morphological structure. The number of main streets, their length, width, and building density vary depending on the scale of the city, but their land use intensity feature is common. In this context, the characteristics of Kurtuluş Street in Antakya have been examined to determine whether it is a main street and its uses.

The historical variety of the street's land use in 1929 and 2022 was investigated to analyse the impact on the street's usage and consolidation. To do so, the city's land use in 1929 was compared to the current land use in 2022.

To start with current land use in 2022, it was observed that the predominant use on the street was commercial, and these commercial units had many different types among themselves. Many other commercial uses can be found on the street, such as food and beverage services like bakeries, restaurants and cafes, office services like dentists, pharmacies and businesses, and clothing sales places like jewellery and clothing stores. In addition to residential use, there are also religious facilities such as mosques and churches on the street, including the city's symbolic structures such as the Habib-i Neccar Mosque and the Antakya Turkish Catholic Church located on Kurtuluş Street, and structures such as the Antakya Long Bazaar area, Antakya Glass Museum and Antakya Museum Hotel located on adjacent roads (Figure 3.18). It was analysed that

these uses, which are focal points for tourists coming to the city, also increased the use of Kurtuluş Street, making it an essential street for the locals and tourists.

Figure 3.18 : Different land use functions on Kurtuluş Street (Left-up: Url-52, Right-up: Url-53, Left-bottom: Url-54, Right-bottom: Url-55).

The land use of 1929, did not have significant differences on the overall land use of the city, on the other hand, showed great diversity on Kurtuluş Street. In 1929, the area that now includes Uzun Çarşı, Hasırcılar Çarşısı, Çıkrıkçı Çarşısı, and Kunduracı Çarşısı was identified as a commercial area in terms of the city's land use functions. The analysis revealed that the residential texture in other parts of the city merged with commercial functions in this area, forming the city's sub-centre.

In addition to the commercial concentration in this area, another region where trade was seen within the city was the current Kurtuluş Street. Although commercial areas on this street were not as concentrated as in the Uzun Çarşı area, they extended along the street. Similar to commercial uses, it was observed that education, religious and administrative facilities were concentrated in the Uzun Çarşı area and also grew along Kurtuluş Street while being dispersed throughout the city.

In 2022, a significant transformation occurred on Kurtuluş Street, regarded as one of the most noteworthy changes since 1929 (Figure 3.19). Originally, the street was primarily utilised for small-scale commercial activities and had some public facilities.

However, it has now been transformed into a bustling commercial centre with residential use. This shift in land use has led to an increase in the intensity of commerce, the street's frequency of use and the diversity of users, thereby increasing its importance within the city. The concentrated commercial usage along the alignment of a route plays a significant role in utilising the main street. It can be argued that the street itself now possesses more power to effect change in the city, rather than mostly changing by the events going on.

The change in land use and the emergence of a retail centre along the street has significantly impacted the urban form of Kurtuluş Street. The transformation has enabled the street to strengthen its identity as a vital commercial hub within the city and become a popular destination for a diverse range of users. Commercial activity on the street has increased, leading to more economic opportunities for the local community. At the same time, the residential use has added to the street's vibrancy, enabling it to become a lively and dynamic part of the city.

The concentration of commercial uses along a single axis within the city, thus supporting the utilisation and permanence of this axis, is also observed in other cities. One of the historic streets where commercial usage is concentrated and prominent is Ordu Street in Istanbul. The main axis of Constantinople, known as the Mese Street and referred to as Divan Yolu in the Ottoman era, which is currently preserved as Ordu Street (Kubat, 2018, p. 22), is an example of a prominent thoroughfare in the urban fabric with high land use intensity. With its structures that serve economic and social functions, Mese Street stands as one of the liveliest streets in the region (Kubat, 2018, p. 22).

Hereby, Kurtuluş Street, which has reached the present day by consolidating in history, which is essential in the city from the establishment of Tiberius until today, has increased its permanence in the urban fabric exponentially by enriching the land use functions it had from 1929 to 2022. The intensity of land use, especially commercial uses along a single axis, has contributed to the strengthening and permanence of Kurtuluş Street as a main street. Overall, the shift and commercial use intensity in Kurtuluş Street's land use has had a positive impact on the city, and it is likely to continue to play a significant role in shaping the urban landscape in the years to come. This also demonstrates the potential of the street's usage for future years.

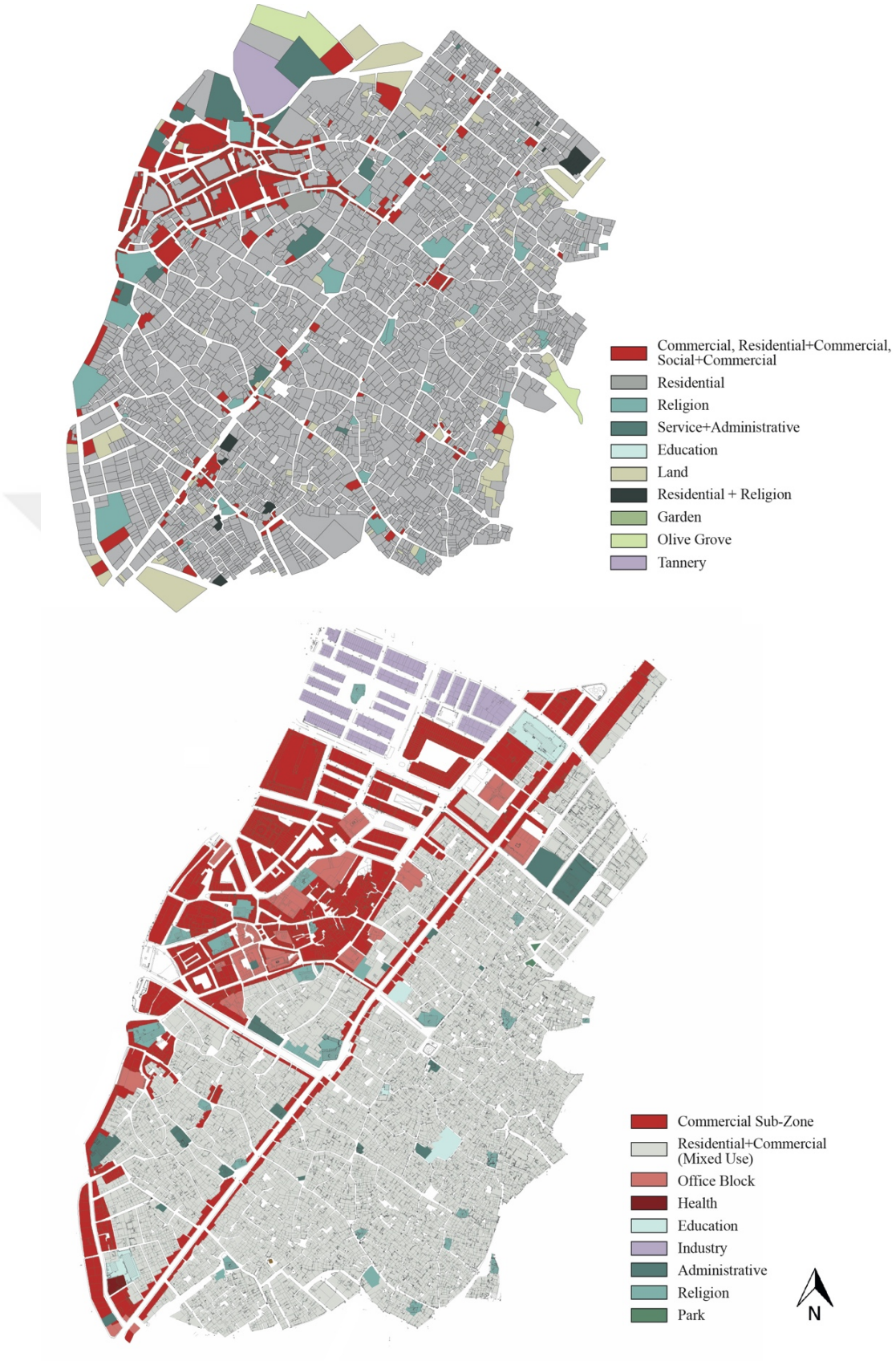


Figure 3.19 : Land Use Distribution of Kurtuluş Street, 1929-2022 (1925: Reproduced from Rifaioğlu, 2012; 2022: Author).

3.2.3 Building density and continuity analysis

According to Zeka and Yüzer, the building is the most crucial element in defining the form and function of the urban space and is the smallest unit that can be analysed in urban morphology (2019, p. 374). Therefore, the building scale should also be examined and included in the research process in analysing a street. Ultimately, a street is a two-dimensional spatiality and three-dimensional urban space with buildings and facades. Good streets require good buildings and can only be controlled through good buildings (Massengale & Dover, 2014, p. 1). Additionally, understanding the ambiguity created by the urban space requires examining not only the two-dimensional axis of the area but also the buildings and facades that serve as tools for creating spatial differences (Hillier, 2007, p. 180). The spatial characteristics of streets help to strengthen the image of roads, while the distinctive features of facades are also crucial in defining the streets (Lynch, 1960, p. 50). The relationship between facades and building forms and their relationship with the urban space is interesting (Hillier, 2007, p. 187). The continuity of streets, as demonstrated by people's trust in them, highlights street continuity as a necessary feature (Lynch, 1960, p. 52). The power of a facade is increased by directing the user to a point by creating a perspective view (Kostof, 1991, p. 261).

The heading of building density and continuity encompasses several subheadings. In this regard, building continuity is examined to create a strong sense of place by measuring the continuity of buildings along the street. This analysis examined linear voids and solids on Kurtuluş Street by calculating the building facade falling per unit distance. Building density, on the other hand, is analysed through two subheadings. The first subheading focuses on the number of buildings along the street. In this analysis, the number of buildings per unit distance is calculated. The second subheading of the analysis pertains to the inference drawn from the number of doors, windows, and showcases, which contributes to the permeability and constitutedness of the street. The number of doors, windows, and showcases per unit distance is calculated for this analysis. Thus, under different subheadings, studies of continuity, permeability, continuity, and constitutedness are conducted based on buildings and their architectural elements along Kurtuluş Street.

When looking at the urban form that developed in Antakya from the 16th century onwards, it can be seen that Kurtuluş Street is located at the centre of the urban form as a line (Figure 3.20).

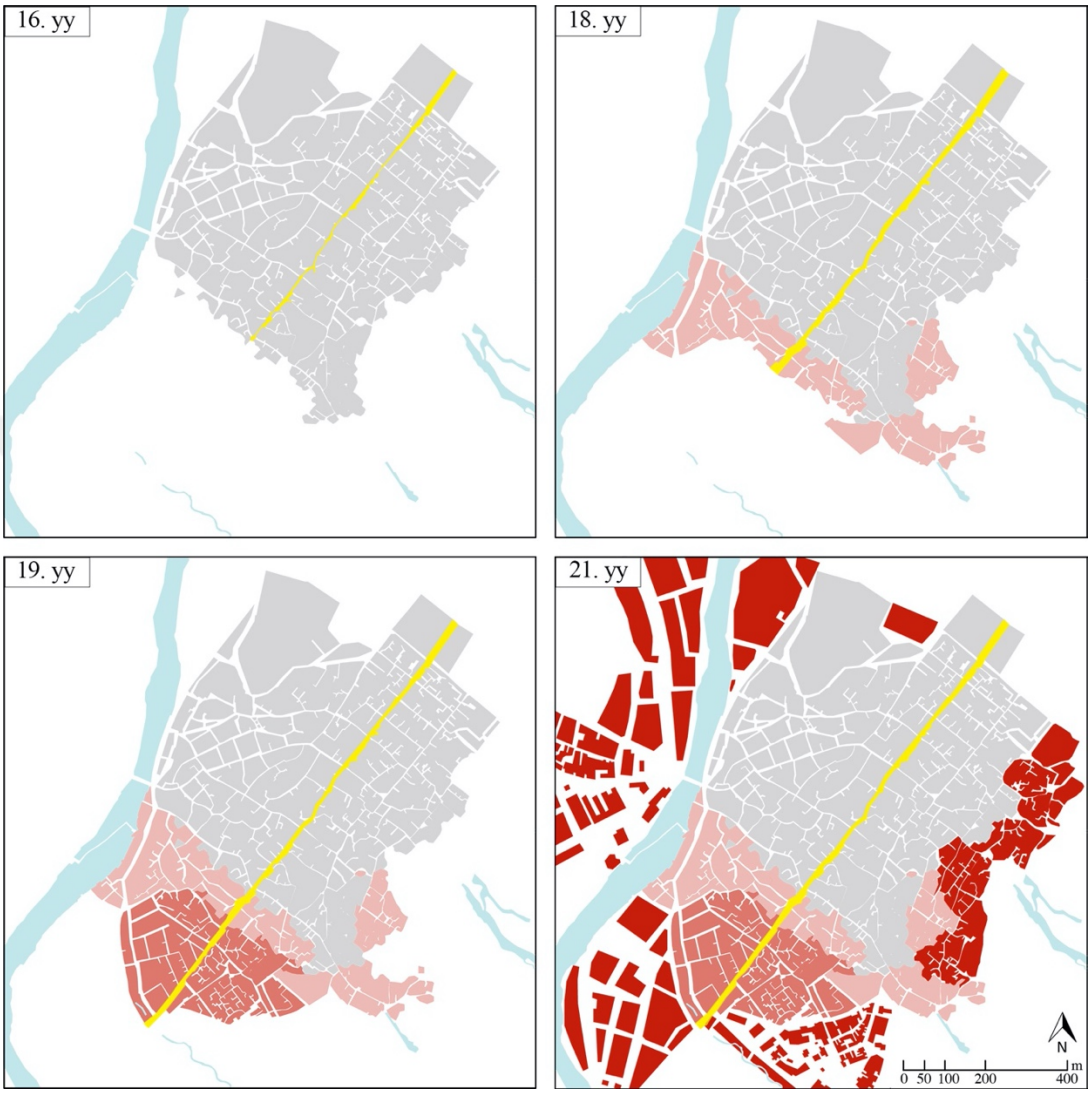


Figure 3.20 : Urban Growth from the 16th Century (Reproduced from Rifaioğlu, 2014).

By the 18th century, it is interpreted that the city grew southwestward in the same direction as Kurtuluş Street and that the building blocks expanded based on Kurtuluş Street. During this period, urban growth continued adjacent to the city's historic centre on both sides of Kurtuluş Street. When looking at the urban form in the 19th century, it can be seen that the city continued with Kurtuluş Street as its focus during this period. The urban area, which progressed in the same direction as the growth direction of the 18th century, along with the building blocks produced in the same direction as Kurtuluş Street, ensured the continuation of the street. In the 21st century, it can be

seen that the city has expanded towards the end of the historical core in the northeast direction and beyond the Asi River in the north, in addition to the part of Kurtuluş Street that has grown. With this growth, the main street has contributed to the continuity of the street. As a result of this analysis, it can be seen that the city's progression along Kurtuluş Street over the centuries has made it a productive space within the urban fabric, ensuring the continuity of Kurtuluş Street within the city.

In addition to the continuous perspective created by buildings along the street, the relationship between buildings and the street at a micro scale is also a factor that affects the use of the street and, therefore, its permanence. To understand and analyse this relationship, the building blocks and buildings on the street were coded on the map (Figure 3.21) (see Appendix A.1).

Figure 3.21 : Building block code map.

Within this relationship, the building's relationship with the street can be analysed through its placement on the street and the doors and windows through which it communicates with the street. The setback distance between the building's parcel line and the street, the distance between buildings, the number of buildings with a facade on the street, and the number of buildings and empty spaces at street level are essential in examining the morphological characteristics of buildings and their surroundings (Zeka & Yüzer, 2019, pp. 374-375). Therefore, this study analysed the distance between the building's facade facing the street and the street and number of doors and windows on the facade. To do the distance between the building's facade facing the street and the street analysis, two basic categories, namely attached and detached building facades, are fundamentally classified according to their distance to the street line. The detached building facade at a distance from the street is further divided into three subcategories, namely impermeable walls, permeable walls, and without walls (Figure 3.22).

a. Attached **b.** Detached (permeable wall) **c.** Detached (impermeable wall) **d.** Detached (without wall)

Figure 3.22 : Building along the street (Google Maps).

In this context, Kurtuluş Street, with a total length of approximately 1.5 kilometres, was examined in terms of the quantities per unit distance. It was found that there are 240 buildings along the 1.5-kilometre. Among these 240 buildings, only 11 are detached from the street category, while the rest contribute to the formation of street

facades, enhancing the sense of place (Figure 3.23). Additionally, when examining the continuity of facades per unit distance, it was calculated that the northern facade of the street, which is the side closer to the river, has approximately 12 meters of gap every 100 meters - representing street voids and detached from street buildings - resulting in a continuity rate of facade 88%. On the other hand, when looking at the lower facade of the street, this rate slightly decreases with the presence of detached houses on the northern side, with approximately 20 meters of gap per 100 meters. The continuity rate for this facade is calculated as 80%. Based on these calculations, it can be interpreted that the facade continuity along the street is mainly continuous.

Figure 3.23 : Building along the street map.

As a result of the analysis, it is observed that a large proportion of the buildings on the main street continue adjacent to the street boundary. Buildings without a facade on the street but located on the street have permeable or impermeable walls that create a facade continuity. The doors of buildings without a facade on the street but providing passage to the rear parcel also contribute to the continuity of the facades. The only area where the facade continuity is disrupted on Kurtuluş Street is the region with the new buildings located in the northeast. The absence of any element forming a boundary or facade of some of the structures in the area disrupts the perception of facade continuity at the northeast end of the street. However, this perception is strongly established in the historic city centre.

The micro-scale relationship between the street network and private spaces is connected to how building openings, such as doors and windows, connect to the street, thus linking private to public space (van Nes & Yamu, 2021, p. 114). According to Hillier and Hanson, if the buildings on a street or a space in the city have a direct entrance to it, a space is constituted (1984, p. 105). Therefore, constituted and unconstituted spaces are the important part of the city that affects the permeability. However, Jacobs and Gehl, whose main topics are public spaces, did not address in their work the parameters and methods for measuring the degree of liveliness associated with doors and windows on streets, which are commonly associated with urban vitality (van Nes & Yamu, 2021, p. 114).

This study analysed the doors and windows on building facades because they contribute to the sense of security and increased street usage, thus promoting its permanence within the city. As a result of this analysis, the facades on Kurtuluş Street were classified as active or passive. Each entrance must have at least one adjacent window to be classified as active. If a facade has only one entrance that leads to a storage room or a parking lot, or if it lacks windows, it is classified as passive (Figure 3.24). The number of entrances and doors on a facade will positively influence the perception of safety on the street. Therefore, visibility and accessibility are essential (van Nes & Yamu, 2021, p. 115).

The number of doors, windows, and shop windows per unit distance has been calculated within this analysis. When examining the building facades on both sides of Kurtuluş Caddesi, which has a length of 1.5 kilometres, it was calculated that there are

89 doors, 79 windows, and 228 showcases on the facade closer to the river. In this context, on average, there are 6 doors, 5 windows, and 15 showcases per 100 meters on this facade. On the other side of the street, 106 doors, 85 windows, and 278 showcases are observed. When examining the number of doors, windows, and shop windows per unit distance on this facade, it is found that there are an average of 7 doors, 6 windows, and 19 showcases per 100 meters. This analysis provides evidence of the high permeability rates of the buildings along the street.

a. Door with windows **b.** Door and commercial use **c.** Only door **d.** Commercial use

Figure 3.24 : Building-street relations (Google Maps).

Upon analysing the facades on the street, it is seen that most of them are active. Buildings along the street often have multiple entrances and windows due to their commercial usage requirements. This results in more active surfaces on buildings than the number of buildings, contributing to street usage (Figure 3.25). Passive facades on the street usually have doors to areas such as parking lots and storage rooms, which are not frequently used. As a result, it can be inferred that the relationship between buildings and the street is strong due to their direct connection and visibility on Kurtuluş Street.

Figure 3.25 : Building-street relation map.

3.3 Chapter Evaluation

When examining the history of Antakya under eleven main headings, it is observed that the events that profoundly affected the city were where the city was initially established, between Habib-i Neccar Hill and the Orontes River, which was later referred to as the historic core and its surroundings. Despite minor variations experienced by Kurtuluş Street, which stands out from other streets in the city with its distinctive treatments and embellishments, it has consistently maintained its significance as a critical element in urban design and planning decisions since its

separation. Throughout the city's history, various factors, such as nature-based disasters like earthquakes and fires and human-based variables like invasions and destruction, have led to changes in the city's form and resulted in the loss of many architectural structures, street patterns, and urban values. Like the lost urban values throughout the city's historical process, Kurtuluş Street has also witnessed periods where it lost its form, structures, and grandeur. Nevertheless, it regained its former importance through the efforts of the period's administrators and the public. In this regard, an investigation was conducted to determine the factors that have sustained the avenue's sustainability within the city and ensured its physical continuity. A literature review revealed that for a street to endure from the past to the present, it must be frequently preferred by the community, transforming it into a main street.

Consequently, it was observed that the street's permanence depends on specific fundamental parameters in conjunction with the characteristics associated with the main street concept. First, the attributes of Kurtuluş Street were examined to understand this. Some of the features that contribute to Kurtuluş Street being considered a main avenue within the city can be listed as follows:

- Its central location within the city
- The majority of secondary streets connect to this street
- Its function as an urban spine
- Serving various user types
- Having significant pedestrian traffic
- Facilitating both vehicle and pedestrian traffic
- Connecting important urban landmarks
- Hosting historically substantial structures.
- Having buildings with commercial functions
- Accommodating public and service structures such as educational, religious, and healthcare facilities
- Exhibiting diverse architectural characteristics.
- Being proportionate to the human scale in terms of length and width

- Strengthening the perspective perception through the sequential arrangement of buildings along the street
- Providing a sense of security with building entrances and windows facing the street

At this point, these distinctive features that Kurtuluş Street possesses compared to other streets are categorised under three main headings. The functions of being centrally located within the city, having a secondary street connected to it, serving as an urban spine, and having critical urban landmarks emphasise the street's location within the city's form and its relationship with other streets. Therefore, these features are grouped under the "urban integration." The functions of serving different user types, hosting historically significant buildings, having commercial functions, accommodating public and service facilities and carrying diverse architectural characteristics primarily highlight the street-scale attributes and the use of the street. Therefore, they are classified under the heading of "land use." The parameters of being proportionate to the human scale, creating a continuous facade of buildings along the street to enhance perspective, and the entrances and windows of buildings facing the street emphasise building scale and details and, thus, fall under the heading of "building density and continuity." With these identified parameters of urban integration, land use intensity, and building density and continuity, the relationship between Kurtuluş Street and the permanence of the main street is examined.

The parameter of integration with the urban form was examined using the space syntax analysis method, and it was observed that throughout the historical development process of the city, Kurtuluş Street has consistently been the most integrated street. This situation and the street's status as a main thoroughfare are mutually interrelated. Including the city's most integrated arteries within the street ensures its greater utilisation. Likewise, the community's preference for Kurtuluş Street contributes to its designation as a main street. Within this reciprocal relationship, the integration of the street is nourished by various factors, enabling Kurtuluş Street to integrate with the urban fabric throughout history.

When considering land use intensity, a similar mutualistic relationship between the street's frequent usage and its integration within the city is observed. It is evident that it is the most intense area in terms of commercial functions within the city, and due to

its status as a main street, there is an increase in different land use functions. Therefore, Kurtuluş Street has solidified itself within the city by providing various usage options that nourish itself and other parts of the city.

The building continuity and density, which can be examined at the architectural scale, primarily influence perception and spatial experience. The uninterrupted façade of buildings along Kurtuluş Street, its permeability and their impact on enhancing the liveliness and utilisation of the street have contributed to the consolidation of the street within the urban fabric.

Table 3.1 : Features of Kurtuluş Street

Features	16th century	18th century	19th century	20th century	21th century
Degree of connectivity	Medium	Low-Medium	Medium-High	-	Medium-High
Degree of integration	High	High	High	-	High
Variety of land use	-	-	-	Medium	High
Building (block) continuity	Highest	High	High	-	High
Number of fenestration	-	-	-	-	High

In conclusion, Kurtuluş Street is a historical asset that has existed and stood out since its inception in Antakya. This city has evolved its urban values through various events and the influence of society throughout history. In this context, along with its distinctive features, it has strengthened within the urban fabric, ensuring the continuity of the main street as a historical line that the city possesses.

4. CONCLUSION

This research aims to examine the historical process and consolidation of the main street, a fundamental element of cities since ancient times, within urban planning and design practice and to develop parameters for its enhancement. This thesis reconsiders its definition and roles within the urban context from a critical perspective to analyse the formation and consolidation parameters of the main street. In this context, a new definition of the main street is proposed to control its design and management stages, which have encountered challenges due to its various interpretations. This approach aims to increase the feasibility of design and management decisions to create a more sustainable and livable environment. Within the dynamic structure of urban form, the study introduces specific parameters to examine the preservation of the main street, historically regarded as a central and vital component of the city, reaching the present day and maintaining its integration within the urban fabric. Thus, the main motivation of the study is to enhance the design and management capacity of the main street and, consequently, the city's future.

Aligned with the aforementioned objectives and motivations, this study problematises main street's current challenges and future. The global design trends that have led to the transformation of streets into vehicle-oriented spaces, detached from the human scale and devoid of meaningful urban experiences, have resulted in urban spaces where people no longer spend time. In this regard, the study seeks to explore the factors that have contributed to the current state of main streets, which should be spaces for public use within the city but have been encroached upon by vehicle-oriented design approaches, hindering people's engagement with and utilising these spaces. In this context, the study provides insights into the analysis of parameters that shape and consolidate the main street within the urban fabric, drawing on the historical process of its formation and consolidation, and offers guidelines for design decisions concerning the future of the street.

4.1 Evaluation of the Findings

As stated, this study examines the integration of the main street with the urban fabric by analysing its formation through a historical reading. During its formation, the concept of the main street evolved into many different types of streets, acquiring different roles as the city grew and various dynamics came into play. In this context, the meaning of the main street concept has been re-evaluated, and its standards have been established.

Following the examination of the main street concept, Antakya Kurtuluş Street was selected to investigate the practical integration of the main street with the urban fabric, and the historical transformation of Kurtuluş Street from Antakya's founding period to the present was analysed. Through a review of the literature, the parameters that contribute to establishing the main street, which has received the designation of a main street within the city and has solidified within the urban fabric, were identified. In this regard, the integration of the street within the urban context, the intensity of land use along the street, and the continuity and density of the buildings along the street were researched as parameters. The evaluation of these parameters in the study area confirmed that these three parameters generate the formation and solidification stages of the main street. As a result, the study demonstrates that the main street is strengthened by its central location in the city, the diverse range of activities it offers to users, and the strong sense of place it creates. In this regard, the highest level of integration of the main street within the city ensures that it occupies a central position, connects to many secondary roads, supports various modes of transportation, especially pedestrian movement, and carries the city's intense mobility. This enhances the usability and desirability of the street, contributing to its solidification within the urban fabric. Another parameter examined in the research is the diversity and intensity of land use, which has transformed the street into a highly functional urban space, providing the highest level of services within the city along with the opportunities it offers. It has been observed that individuals who leave their homes to meet their daily and administrative needs generally have their destination along this street.

Furthermore, the presence of historical and cultural structures on this street has made it accessible not only to the local population but also to tourists visiting the city. In this context, the functional aspects of land use have played an essential role in the street's

usage and evolution into one of the city's solid elements. The parameter of building continuity and density, which was examined in the research, investigated the influence of building scale on the street's permanence. It was observed that throughout history, buildings forming an uninterrupted facade along the street by progressing along its axis, with continuous building surfaces and garden walls, contribute to a strong sense of place that supports the street's usage.

Similarly, the large number of doors, windows, and shop fronts on the buildings along the street enhance permeability, create a sense of security, and thus increase the frequency of usage, leading to the street's solidification within the urban fabric. These emerging parameters can address the risk of power loss that existing main streets face in contemporary urban planning and design practices, particularly in relation to the decreasing emphasis on pedestrian transportation in urban spaces. Furthermore, they can serve as a recipe for creating vibrant and well-utilized main streets in newly designed areas, offering various options for their development.

4.2 Limitations and Further Studies

Within the research, although the concept and definition set created in the study redefines the concept of the main street and establishes standards based on a literature review, it can be argued that the concept of the main street is subject to certain limitations due to its entry into the sphere of interest and intervention of different professional groups, making it an interdisciplinary urban space. Similarly, although the research conducts a literature review to identify the factors contributing to the permanence of the main street within the urban context and consequently establishes fundamental parameters, it highlights the need for more detailed studies specific to each city due to the unique and individual characteristics of urban fabrics.

Furthermore, the course of the study has been significantly influenced by the two major earthquakes that occurred in the city on February 6, 2023. While the efforts of individuals from various professional backgrounds to contribute to the city by producing studies facilitate the availability of photographs and information about the city, challenges were encountered in the analysis part of the study due to issues such as limited access to official documents, including the current map of the city, due to security concerns and operational disruptions in the respective official institutions.

The results of the study, which provide an opportunity to reexamine and interpret the relationship between the main street and the city morphologically, are likely to guide future research. However, the most significant contribution of the study to future studies is expected to be the documentation and preservation of the pre-earthquake form of Kurtuluş Street in Antakya, one of the cities severely affected by the earthquakes that occurred on February 6, 2023, and serves as a hub for the city's social structure and the production of cultural values. The displacement of the city's other areas by establishing new settlement areas following the earthquake poses a threat to the existence of spaces encompassing cultural, social, and historical values. In this context, Kurtuluş Street should be considered not only independently of the city's social structure but also with regard to the cultural and social richness inherent in the city within the framework of the city's reconstruction process. This study is believed to contribute to the organisation and preservation of Kurtuluş Street by considering its historical values and relationship with the city as it is projected into the future.

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APPENDICES

APPENDIX A: Figures

APPENDIX B: Tables

APPENDIX A

Figure A.1 : Building code map.

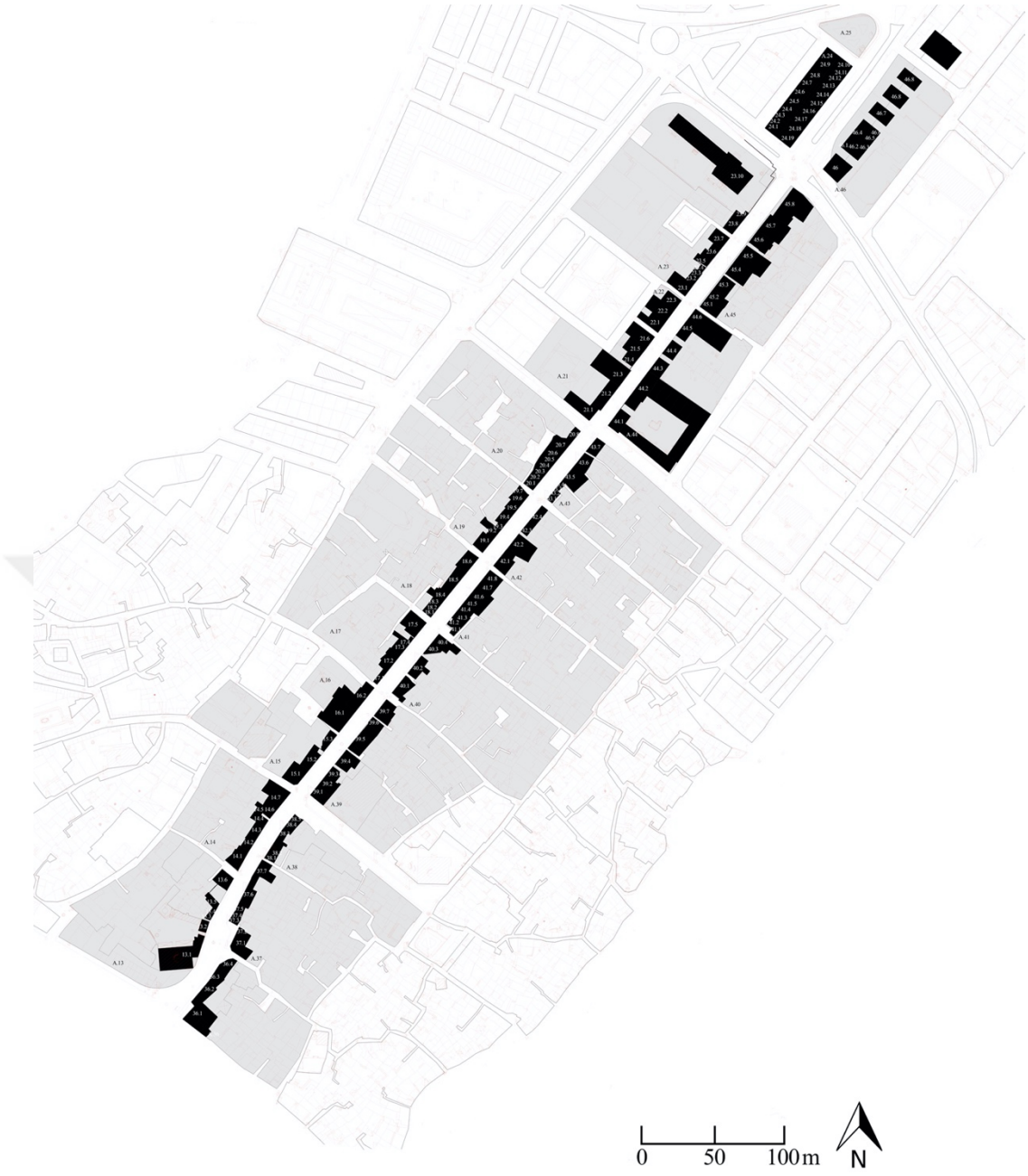

Figure A.1 (continued) : Building code map.

APPENDIX B

Table B.1 : Number of doors, windows and showcases on the buildings

Building Block	Parcel	Showcase	Window	Door
1	1.1	2	0	0
	1.2	0	2	1
	1.3	0	0	1
	1.4	0	0	1
	1.5	2	0	1
	1.6	2	0	0
2	2.1	0	6	2
	2.2	2	0	1
3	3.1	2	3	1
	3.2	0	5	6
4	4.1	3	0	1
	4.2	7	0	1
5	5.1	4	1	1
	5.2	6	0	1
6	6.1	2	0	1
	6.2	2	0	0
7	7.1	0	0	1
	7.2	2	0	0
	7.3	1	0	0
	7.4	1	0	0
	7.6	1	0	3
	7.7	4	0	1
8	8.1	1	4	2
	8.2	1	3	1
	8.3	2	0	1
	8.4	3	0	0
	8.5	0	0	0
	8.6	6	0	1
9	9.2	2	0	0
10	10.1	0	3	1
	10.2	0	6	1
	10.3	10	0	0
	10.4	6	0	0
11	11.1	1	0	0
	11.2	2	0	0
	11.3	4	0	2
	11.4	3	0	2
	11.5	1	0	1
	11.6	4	0	0
	11.7	1	0	1
	11.8	4	0	1
	11.9	0	6	2
	11.10	6	0	3
12	12.1	6	0	1
	12.2	2	0	1

Table B.1 (continued) : Number of doors, windows and showcases on the buildings

	12.3	3	0	0
	12.4	3	0	1
	12.5	2	0	1
	12.6	2	0	0
13	13.1	0	11	1
	13.2	0	0	1
	13.3	1	0	1
	13.4-13.5-13.6	5	0	2
14	14.1	0	4	1
	14.2	2	0	1
	14.3	2	0	2
	14.4	3	0	5
	14.5	1	0	0
	14.6	1	0	3
	14.7	1	4	9
15	15.1	5	0	0
	15.2	2	1	3
	15.3	4	0	0
16	16.1	0	6	3
	16.2	2	0	0
17	17.1	4	2	2
	17.2	0	0	1
	17.3	1	1	1
	17.4	2	2	1
	17.5	4	0	1
18	18.1	4	0	0
	18.2	0	6	3
	18.3	2	0	0
	18.4	4	2	2
	18.5	0	0	1
	18.6	1	1	1
19	19.1	5	0	2
	19.2	1	1	1
	19.3	3	0	1
	19.4	4	0	2
	19.5	1	1	2
	19.6	1	0	0
	19.7	0	2	1
20	20.1	0	2	0
	20.2	1	0	0
	20.3	1	0	0
	20.4	2	0	1
	20.5	0	2	1
	20.6	3	0	0
	20.7	1	0	0
	20.8	4	2	2
21	21.1	0	0	1
	21.2	1	1	1

Table B.1 (continued) : Number of doors, windows and showcases on the buildings

	21.3	5	0	2
	21.4.	1	1	1
	21.5	3	0	1
	21.6	4	0	2
22	22.1	1	1	2
	22.2	1	0	0
	22.3	0	2	1
23	23.1	0	2	0
	23.2	1	0	0
	23.3	1	0	0
	23.4	2	0	1
	23.5	0	2	1
	23.6	3	0	0
	23.7	1	0	0
	23.8	1	0	0
	23.9	1	0	0
	23.10	0	0	0
24	24.1	2	0	0
	24.2	1	0	0
	24.3	-	-	-
	24.4	-	-	-
	24.5	2	0	1
	24.6	2	0	1
	24.7	-	-	-
	24.8	-	-	-
	24.9	1	0	0
	24.10	2	0	0
	24.11	1	0	0
	24.12	1	0	0
	24.13	2	0	0
	24.14	1	0	0
	24.15	1	0	0
	24.16	1	0	0
	24.17	2	0	0
	24.18	1	0	0
	24.19	1	0	0
26	26.1	2	0	0
	26.2	0	4	0
27	27.1	0	1	1
	27.2	1	0	0
	27.3	1	0	0
	27.4	1	0	0
	27.5	0	2	1
	27.6	0	3	1
	27.7	1	0	1
	27.8	0	4	0
28	28.1	0	0	0
	28.2	0	1	0
	28.3	6	0	1

Table B.1 (continued) : Number of doors, windows and showcases on the buildings

	28.4	0	2	1
	28.5	3	0	2
	28.6	1	0	0
29	29.1	2	0	0
	29.2	1	0	1
	29.3	6	0	1
	29.4	2	0	1
	29.5	0	0	2
	29.6	3	1	1
	29.7	8	0	1
30	30.1	1	0	0
	30.2	2	0	1
	30.3	0	3	3
	30.4	1	0	1
	30.5	3	0	0
	30.6	0	4	2
	30.7	9	0	2
	30.8	0	2	3
	30.9	0	6	1
31	31.1	3	0	0
	31.2	3	0	0
	31.3	2	0	0
	31.4	0	0	2
	31.5	3	0	0
	31.6	2	0	0
32	32.1	3	0	0
	32.2	3	0	1
	32.3	0	0	0
	32.4	3	0	1
33	33.1	0	3	1
	33.2	1	0	1
	33.3	0	2	1
	33.4	3	0	1
	33.5	4	0	1
34	34.1	2	0	0
	34.2	1	0	0
	34.4	3	0	0
35	35.1	5	0	1
	35.2	4	0	1
	35.3	2	0	0
	35.4	2	0	0
	35.5	1	0	0
36	36.1	0	2	2
	36.2	6	0	1
	36.3	4	0	0
	36.4	2	0	2
37	37.1	12	0	0
	37.2	1	0	0
	37.3	1	0	0

Table B.1 (continued) : Number of doors, windows and showcases on the buildings

	37.4	2	0	0
	37.5	1	0	0
	37.6	-	-	-
	37.7	-	-	-
38	38.1	4	0	0
	38.2	0	0	1
	38.3	2	0	1
	38.4	2	0	0
	38.5	2	0	0
39	39.1	4	0	0
	39.2	3	2	1
	39.3	8	0	0
	39.4	1	0	0
	36.5	0	4	1
	39.6	4	0	1
	39.7	2	0	1
40	40.1	6	0	0
	40.2	6	0	1
	40.3	3	0	0
	40.4	4	0	0
41	41.1	4	0	0
	41.2	2	0	1
	41.3	2	0	1
	41.4	1	0	0
	41.5	1	0	0
	41.6	1	0	0
	41.7	1	0	0
	41.8	1	0	0
42	42.1	1	5	5
	42.2	2	0	0
	42.3	4	0	0
	42.4	0	2	1
43	43.1	3	0	0
	43.2	2	0	2
	43.3	0	3	0
	43.4	2	0	2
	43.5	3	0	1
	43.6	6	0	1
	43.7	-	-	-
44	44.1	4	0	0
	44.2	6	0	0
	44.3	2	0	0
	44.4	3	0	0
	44.5	1	0	0
	44.6	1	5	5
45	45.1	2	0	0
	45.2	4	0	0
	45.3	0	2	1
	45.4	3	0	0

Table B.1 (continued) : Number of doors, windows and showcases on the buildings

	45.5	2	0	2
	45.6	0	3	0
	45.7	2	0	2
	45.8	3	0	1
46	46.1	6	0	1
	46.2	1	0	0
	46.3	1	0	0
	46.4	1	0	0
	46.5	4	0	0
	46.6	6	0	0
	46.7	2	0	0
	46.8	3	0	0

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- **Tiryaki, İ. D. & Kubat, A. S.** (2023). Başkent olma sürecinde çeper kuşak alanlarının okunması: Ankara örneği. In *IV. Kentsel Morfoloji Sempozyumu Bildiriler Kitabı* (pp. 220-233). IV. Urban Morphology Symposium, Konya.