A POST-PANDEMIC REASSESSMENT OF THE NEW URBANISM PRINCIPLES

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ABSTRACT

A POST-PANDEMIC REASSESSMENT OF THE NEW URBANISM PRINCIPLES

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To live and take shelter, creating a physical environment for human beings first started with carving and then continued with the learning of constructing and building. These constructed physical environments expanded over time according to the needs and ultimately became cities. Several factors affect the physical forms of the cities. Some of these factors are directly related to human decisions, while others are independent of people. In history, cities and urban space design have continuously changed and transformed under the impacts of these factors. The literature of urban design includes several theoretical approaches debating the factors to be considered in urban design and how the changes in cities should be accordingly. Some urban design approaches have been transformed into a movement and embarked on by many people. The New Urbanism (NU) movement, which started in the United States in the 1980s, is one of these critical movements with a vision for cities future by proposing and promoting specific rules and approaches. Pandemics are factors that affect and causes changes in cities and the lifestyle of societies. There have been many pandemics throughout history. Cities, the living spaces where people interact intensively, are very suitable for diseases to spread. Hence, under the pandemic conditions, how people have to behave, and how cities should be designed

are emerging research questions. This research aims to re-evaluate the design principles and strategies of the New Urbanism movement after the COVID-19 pandemic. First, it reveals the most mentioned topics related to post COVID-19 and urban design by using the systematic review method. Later, it seeks to understand which concepts of NU are compatible and incompatible with the revealed topics of the post-pandemic period. Finally, it discusses and re-evaluates the critical concepts of the NU movement that should be reconsidered in in the design of current and future cities for the post-COVID-19.

Keywords: New Urbanism, COVID-19, Post-Pandemic City, Urban Design

ÖZ

YENİ ŞEHİRCİLİK HAREKETİ İLKELERİNİN PANDEMİ SONRASI YENİDEN DEĞERLENDİRİLMESİ

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İnsanoğlunun yaşamak ve barınmak için kendisine fiziksel bir çevre yaratması önce oyma eylemi ile başlamış, daha sonra kurma ve inşa etmenin öğrenilmesiyle devam etmiştir. Oluşturulan bu fiziksel çevreler ihtiyaçlar doğrultusunda zaman içinde genişleyerek kentlere dönüşmüşlerdir. Kentlerin fiziksel formlarını etkileyen birçok faktör vardır. Tarihte kentler ve kentsel mekan tasarımı bu faktörlerin etkisiyle sürekli olarak değişime uğramıştır. Kentsel tasarım yazınında, kentlerin tasarımda dikkate alınması gereken faktörleri ve bu faktörlere bağlı olarak kentlerdeki değişimlerin nasıl olması gerektiğini tartışan çeşitli teorik yaklaşımlar bulunmaktadır. Bazı kentsel tasarım yaklaşımları birçok kişi tarafından benimsenerek bir akıma dönüşmüştür. 1980lerde ABD'de başlayan Yeni Şehircilik hareketi, belirli kurallar ve yaklaşımlar önererek ve teşvik ederek şehirlerin geleceği için bir vizyona sahip bu önemli hareketlerden biridir. Kentleri ve toplumların yaşam tarzlarını etkileyen ve değişikliklere neden olan faktörlerden biri de pandemilerdir. Tarih boyunca birçok pandemi yaşanmıştır. İnsanların yoğun bir şekilde etkileşimde bulunduğu yaşam alanları olan şehirler, hastalıkların yayılması için oldukça elverişlidir. Dolayısıyla, bu tür pandemi koşullarında insanların nasıl hareket etmesi gerektiği ve şehirlerin nasıl tasarlanması gerektiği önemli bir araştırma sorularıdır.

Yeni Şehircilik ve pandemiler arasında bir ilişki kuran bu araştırma, COVID-19 pandemisi sonrası Yeni Şehircilik hareketinin tasarım ilkelerini ve stratejilerini yeniden değerlendirmeyi amaçlamaktadır. Öncelikle, sistematik yazın araştırması yöntemini kullanarak COVID-19 sonrası ve kentsel tasarım ile ilgili en çok bahsedilen konuları/kavramları ortaya çıkarmayı amaçlamaktadır. Daha sonra, COVID-19 sonrası dönemde mevcut ve gelecekteki şehirlerin tasarımında yeniden ele alınması gereken Yeni Şehircilik hareketinin kritik kavramlarını tartışarak yeniden değerlendirmektedir.

Anahtar Kelimeler: Yeni Şehircilik, COVID-19, Pandemi Sonrası Kent, Kentsel Tasarım

To the love of my life & my dear family

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The COVID-19 pandemic period has been very compelling for the world. We started to adapt to a new order as our routines started to change. This period, in which I tried to conduct my thesis research and working life simultaneously, has been also difficult for me.

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LIST OF ABBREVIATIONS

ABBREVIATIONS

CIAM: International Congresses of Modern Architecture

CNU: Congress for the New Urbanism

NU: New Urbanism

TOD: Transit Oriented Development

TND: Traditional Neighborhood Development

PP: Pedestrian Pocket

DPZ: Duany Plater-Zyberk CoDesign

WHO: World Health Organization

COVID-19: Coronavirus Disease 2019

CHAPTER 1

INTRODUCTION

1.1. Context

Throughout its existence, humanity and its living space, the physical environment is under a constant change. Our daily life and activities are directly associated with our physical environment, our streets, our neighborhoods, hence our cities. As this change in cities continues, different ideas, trends, movements, approaches regarding this change and the cities emerge.

There are many external factors affecting our physical environment and our relation with it. Some of these factors are natural while some are artificial. Factors like natural disasters, earthquakes, pandemics, fire disasters, wars directly affect our cities and the physical environment. Similar to how an individual's lifestyle, habits and quality of life is affected when there is a personal health problem, cities are affected likewise. A diseased individual's mobility significantly decreases and has a difficulty of getting out of bed. In the same way, in a city with an epidemic, the total mobility in the city decreases, people start going out less from their homes.

This study examines New Urbanism, one of the noteworthy urban design movements in relation to pandemics, specifically COVID-19. Rather than solely studying on New Urbanism, this thesis seeks to address the question of how this movement should evolve or change after the pandemics. The research investigates that which conclusions can be drawn from the COVID-19 pandemic regarding the city and the physical space, and what are the effects of these results on New Urbanism's urban design strategies and principles. Leading to this discussion, this research studies the origins of New Urbanism and pandemics through a literature review. To this end, this research conducts a literature review on the origins of the New Urbanism and

pandemics. It explores the concepts and principles of New Urbanism, past pandemics and their impacts on the cities. After conducting a systemic review on the post-pandemic journal articles, it reveals the most mentioned concepts of urban design that are mentioned related to the post-pandemic.

After the COVID-19 pandemic, which concepts related to urban design and cities gained importance, what changes can happen in the New Urbanism movement and which interpretations can be made about the concepts of the movement related to the mentioned issues in the pandemic, are a variety of questions that are discussed in the study.

1.2. Aim of the Study

This research aims to investigate whether the concepts and principles put forth by the New Urbanism movement are compatible with the urban design concepts that gained importance in the COVID-19 pandemic. It also aims to answer the two important questions that are:

- which concepts of the New Urbanism movement contradict with the issues that came to the agenda after the pandemic; and,
- which approaches of the movement may require a change after the pandemic.

The main objectives of this research are:

- to examine an important movement in urban design such as New Urbanism;
- to explore how the previous pandemics affected the cities in history;
- to investigate which researches have been conducted in the literature about the post COVID-19 cities and urban design;
- to evaluate the approach of New Urbanism related to the post-pandemic notions.

These objectives are also influential factors in determining the New Urbanism and its evolving nature in relation to COVID-19 as the subject of this thesis.

1.3. Research Questions

For the purpose of the study mentioned in the previous title, the research tries to answer the questions: '*Are the principles of the New Urbanism movement compatible with the urban design concepts that gained importance after the COVID-19 pandemic?*' and '*Which concepts of the New Urbanism movement contradict with the issues that came to the agenda after the COVID-19 pandemic?*', which can be identified as the main research questions of the thesis. Within the framework of this main research question, the answers to the other sub questions are explored such as: '*Can/should the approach of the New Urbanism movement change in line with the urban design concepts that came to the fore during & after the COVID-19 pandemic?*'.

In order to answer these questions, the topics of New Urbanism, COVID-19, pandemics and cities should be investigated. For that purpose, in the second chapter of the thesis, the sub-questions that are investigated are as follows: '*What is the New Urbanism movement*?', '*What is the purpose of the movement and when/why did it started*?', '*What are the principles/concepts of the movement?*', '*What are the criticisms related to the movement?*'.

In the third chapter, the research aims to investigate the other sub-questions as: '*What is a pandemic*?', '*What is the relationship between pandemics and cities*?', '*How did pandemics affected the cities in history*?', '*Which concepts related to the cities came into prominence after pandemics*?'.

Going into more detail and regarding a more specific subject, the fourth chapter investigates the question, '*Which concepts have been studied the most in the literature, regarding the COVID-19 pandemic and the city?*', with a systematic review method.

1.4. Methodology

To try to investigate the research questions and achieve the purpose of the thesis, two different methods were applied in the study. First of all, an extensive literature review was made in order to understand the origin, aims and methods of the New Urbanism movement. Gathered information from many different sources in the literature was explained. In the same way, the brief history of pandemics and the relation between pandemics and cities throughout history, and COVID-19 as a pandemic including its impacts on the city was investigated through literature review.

The second method applied in the study is the systematic review method. Within the scope of this method, a search in literature containing the keywords: "*COVID-19*", "*Urban Design*", "*Post-Pandemic*" and related publications was specified according to their relevancies. In the next phase, the most relevant publications were selected and these selected studies were reviewed in detail. All of the investigated concepts related to the post-pandemic city and urban design in these studies were listed and the most discussed topics were determined. After this collection and classification of the data, the most mentioned concepts were reviewed and finally, interpretation and discussion were made on the subject accordingly.

1.5. Structure of the Thesis

The thesis consists of five chapters. Chapter 1 (Introduction) introduces the general context and scope of the research, explains the research problem, clarifies the aims and objectives of the study, and the research questions and methodology.

Chapter 2 explains the roots of the New Urbanism movement. Reviewing the literature on urban design explains when the movement started, how it emerged, what the reason of its foundation was, what the purpose of the movement is, what the principles and concepts of the movement are, and the criticisms regarding the movement are. This chapter mainly compiles the works in the literature related to

New Urbanism in a systematic order. Rather than only exploring its theoretical background, it also investigates the applications of the movement, and criticisms against it.

Chapter 3 first studies the notion of the pandemic with its brief history. It discusses the historical background of the pandemics and the relation of the pandemics and cities based on the gathered information from the literature review. In addition, it investigates the COVID-19 pandemic and discusses explicitly the concepts that came into prominence regarding the city and the physical space during & post-pandemic period.

Chapter 4 aims to reveal the most mentioned topics in the literature related to cities and urban design about the post-COVID-19 through the systemic review. Accordingly, it explains the search conducted in Google Scholar with the keywords specified and the search findings that revealed the publications related to the subject. The chapter describes the publications that were procured, how they examined them and the listed concepts mentioned in each publication. After this list, the most discussed concepts were specified mathematically and after, these determined concepts were reviewed in more detail.

Chapter 5 summarizes the research findings based on the systematic review on COVID-19 and urban design and all the other gathered information from the literature review and discussions. Also, it re-evaluates the principles of New Urbanism related to the concepts that gained importance after the COVID-19 period, including the researcher's interpretations on the subject. To put a finer point, it discusses how COVID-19 could affect New Urbanism and the relation between New Urbanism and COVID-19.

CHAPTER 2

NEW URBANISM

Collins Dictionary defines New Urbanism as "*an international movement concerned with tackling the problems associated with urban sprawl and car dependency*".[1] While this definition is correct and can be considered as a good summary of the movement, in detail it remains superficial regarding the foundation and objectives of the movement.

There are substantial number of studies about New Urbanism in the literature. The movement, which became evident in the United States of America in the late 1980's, has been examined in a sheer number of researches from different perspectives up to the present, including both positive and negative criticisms. Falling into repetition is not an objective of this thesis, since the movement has been researched many times considering different concepts, but the aim is rather to re-evaluate the movement according to its suitability in today's post-pandemic world conditions.

At the present time, in the world of 2021, there are opinions concerning New Urbanism that, the movement is outdated and lost its meaning since it has been nearly thirty years since its introduction (Garde, 2020). However, re-evaluating the movement today, after the current global events (meaning COVID-19 pandemic), may be necessary and is one of the objectives of this study. Nevertheless, before this reevaluation of the movement, it is essential to understand the origins, roots of the movement. Therefore, to begin with, it is crucial to analyze the history of the movement to be able to understand when, why and how the movement started and what are the purposes and principles of it by using various sources in the literature.

[1] New Urbanism. (n.d.). Retrieved August 2, 2021, from (Source: web 1) https://www.collinsdictionary.com/dictionary/english/new-urbanism

2.1. The Origin

In many sources described as an anti-sprawl movement, New Urbanism was founded in the United States in the early 1980's. Even though it is described as an anti-sprawl movement, the aims of the movement are not only related to anti-sprawl. Environmental conscience, sustainability, use of public and different modes of transportation, walkability, diversity in the typology of buildings rather than a monotony, mixed-use compact neighborhood design for mixed users are also areas of interest for New Urbanism.

Just before the birth of New Urbanism, neighborhood design projects in the US were mainly away from the center of the city with low density, "use-segregated" (Garde, 2020) and therefore excessively automobile dependent, giving rise to the notion urban sprawl (Squires, 2002). This approach which can also be titled as suburbanization, set the scene for New Urbanism's birth. New Urbanists evaluated these implementations as separators of the community in terms of economical class and identity, also lacking public spaces for the social needs of the community.

Peter Calthorpe, one of the founders of the New Urbanism movement, stated that "Sprawl can happen anywhere at any density. The key attribute is that it isolates people. It segregates people into economic enclaves, land use enclaves, separates them from nature. It does not allow the cross-fertilization, the interaction that makes cities great places and that make society thrive." in a TED Talk event he participated as a speaker (TED, 2017, 1:33).

Nevertheless, these suburban projects at that time were named as the "American Dream" as a result of the marketing strategies. In this regard, Peter Calthorpe defines New Urbanism as "the foundation of a new direction for both the American Dream and American Metropolis" (Calthorpe, 1993), and according to some views, New Urbanism is a reconceptualization of the "American Dream" (Shibley, 1998).

According to the New Urbanists, suburbanization separated the community from each other with its lacking of public spaces, low density and introverted style of

residential typology (Jarvis, 2009). With its low-density suburbs outside the city containing monotype buildings, suburbanization reduces the cosmopolitan social interactions that happen in the center of the city. Additionally, asunder planning of residential and commercial areas in the city caused an increase in the number and use of automobiles leading to environmental problems like air pollution. Suburbs were defined as new ghettos in which only one class (mostly the medium or higher income classes) of the society dwells in. With this isolated structure segregating people socially and also leading to environmental issues, the suburban life was not livable and far from being regarded as the American Dream for the New Urbanists.

Figure 2.1. An example of the low-density urban sprawl. (Source: web 2)

As a result, one of the goals of New Urbanism became the reconceptualization of the American Dream, awakening from the previous false dream called the suburbanization. However, this goal does not only include physical space related changes regarding the urban design and architecture, but also includes the objective of creating a more social and interactive community rather than the previous isolated one, and constituting this through urban design codes. These codes also include a sensitive approach regarding the environment and nature.

For that purpose, New Urbanism is an urban design movement which is people oriented and aims to create a livable, walkable, sustainable and social environment. One of the focuses of the movement is to design a safe and friendly environment for the people to interact and socialize between each other, therefore well designed, accessible public spaces and mixed-use typology is indispensable in the New Urbanist approach in order to satisfy both spatial and social needs of the residents.

Although the movement contains the word "new" in its name, it aims to revive the traditional neighborhood design with its human scale physical spaces and other properties mentioned before, rather than a newly proposal. The movement supports a return to the human oriented livable neighborhoods in the traditional urban fabric during the pre-automobile period (Gindroz, 2002). Therefore, the movement carries the effort of reshaping the urban fabric and neighborhoods with a traditional and nostalgic approach.

Even though the movement has new proposals in terms of land-use, planning and urban design, these proposals are not from scratch and completely new. Rather the roots of the movement carry references from many different urban design ideas like Ebenezer Howard's *Garden City*, North American *City Beautiful Movement* and from many people like Jane Jacobs, Lewis Mumford (Bookout, 1992). Although it carries references to the past, the movement is not a complete return to the old. A fortiori it is a new movement aiming to increase the relationships of the lonely modern world people in a more social and compact environment where living, working, social activities can happen at close distances (mostly walking distance) within the same area in a holistically planned environment.

The proposals of the movement for a neighborhood such as walkable, accessible streets that increase social interactions and livability, a living environment with mixed-uses and high density, are very unlikely that did not get references from Jane Jacobs and her "*The Death and Life of Great American Cities"* published at 1961. For Jacobs, our physical environment effects our social interactions and according to her, what makes a good city is its lively, social neighborhoods in which streets are

very important where frequent use of sidewalks by pedestrians and active street life should happen for more social interactions, liveliness and a better quality of life (Jacobs, 1961), which is very parallel to the New Urbanist approach. Thus, New Urbanism aims to well-design the physical environment for a more socially interacted community.

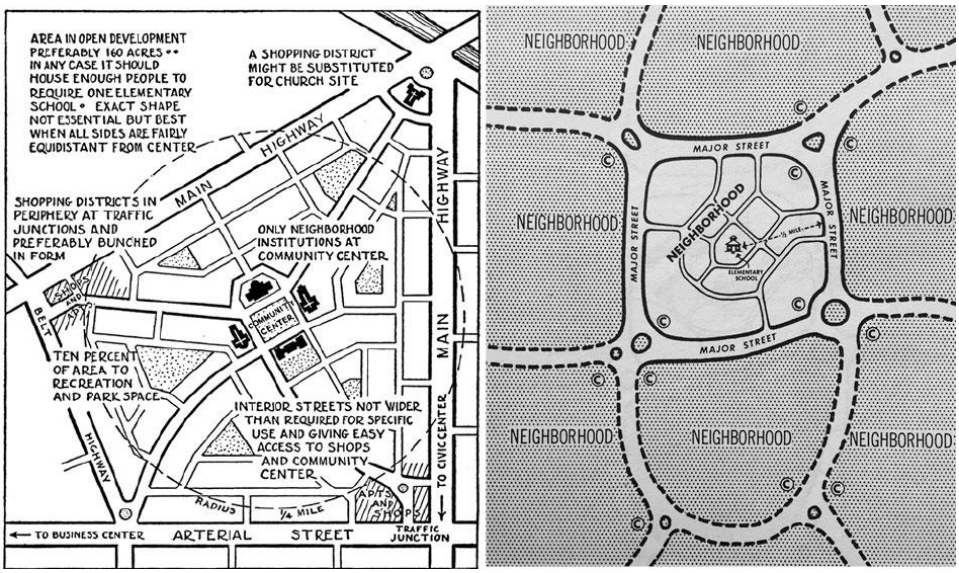

Figure 2.2. Clarence Perry's diagram of a neighborhood unit, church at the center. (Source: web 3)

Another inspiration source for the movement was Clarence Perry and his concept of the neighborhood unit (Johnson, 2002). Perry has produced his neighborhood unit against a number of spatial and social problems that have deteriorated the condition of the neighborhoods after the industrial revolution, such as the increase in demand for automobiles and abandoning of the pedestrian-oriented traditional neighborhood unit approach (Meenakshi, 2011). The idea of regulating the social and neighbor relations with the design of the physical space has come to light with Perry's approach. Perry also advocated in his approach that different functions and daily needs such as shops and schools in the neighborhood should be within walking distance (Johnson, 2002).

Among Jane Jacobs and others, Lewis Mumford and Camilo Sitte are also one of the names that in a way influenced the New Urbanism movement. In his book, *The City in History*, Mumford criticizes suburbanization, which according to him, eliminates the concept of walking with its car dependency, creates a standardized physical environment with monotype buildings and prevents a cosmopolite mixed-income social environment (Mumford, 1961). Mumford defines cities as the most valuable collective discovery after languages that enables cultural interactions and states that they lost their meaning with suburbanization. To Mumford's way of thinking, improving the life quality of citizens' is only possible with preservation, regeneration and revitalization of the traditional neighborhoods in the city. With these thoughts, he contributed to the theoretical background of New Urbanism in the areas like walkability, sustainability, pedestrian and transit-oriented development, new modes of transportation, traditional neighborhood formations with mixed use and diversity, compact, human scale architecture with mixed income users, public space design consisting of squares, parks and green belts and quality of life improvements (Besel and Andreescu, 2013).

Previous urban design approaches like *Garden City* and *The City Beautiful* movements also have influence on the theoretical background of New Urbanism. The City Beautiful movement, as its name suggests, is based on beautification of the city. As a solution to urban decay, the movement proposes beautifying the city with small interventions and aims to create a more suitable city for socializing with better life quality (Talen, 2014).

At the beginning of the 19th century, Howard's Garden City was aiming to unite the city and the countryside in order to improve the living conditions of the working class in a self-contained city with housing, education, work, agriculture and recreation are together (Grant, 2006). With the compact and self-contained cities, controlled growth and expansion of the cities in an orderly manner was aimed, rather than an out of control spread.

Along with the ones mentioned, many other names and movements inspired New Urbanism. Examples like Christopher Alexander, Rob and Léon Krier, Kevin Lynch, and the Chicago School had all inspired New Urbanism in different ways. Stating that the ancient cities were carrying the traces of life, according to Christopher Alexander the modern cities had failed in this regard with not being human oriented and with their artificiality (Alexander, 1977). Krier brothers' opinions that the solution of urban planning problems can be found in the traditional city organization (Peponis, 1989), Kevin Lynch's explanation of physical spaces' contribution to the satisfaction and theories about imageability, sense of place and place identity for a good city (Lynch, 1960, 1981), the studies of Chicago School regarding urbanism and social life of the residents in the built environment, weak social bonding of the people in the modern world in an intense pace of life focused on working and competition instead of cooperation (Bairner, 2015), can also be considered among the inspirations for New Urbanism. In brief, in order to avoid the isolated and expansionist approaches of suburbanization and urban sprawl and to create, design a suitable model for the future urban developments, New Urbanism was inspired by all of the works and their pros and cons mentioned above (Calthorpe, 1994).

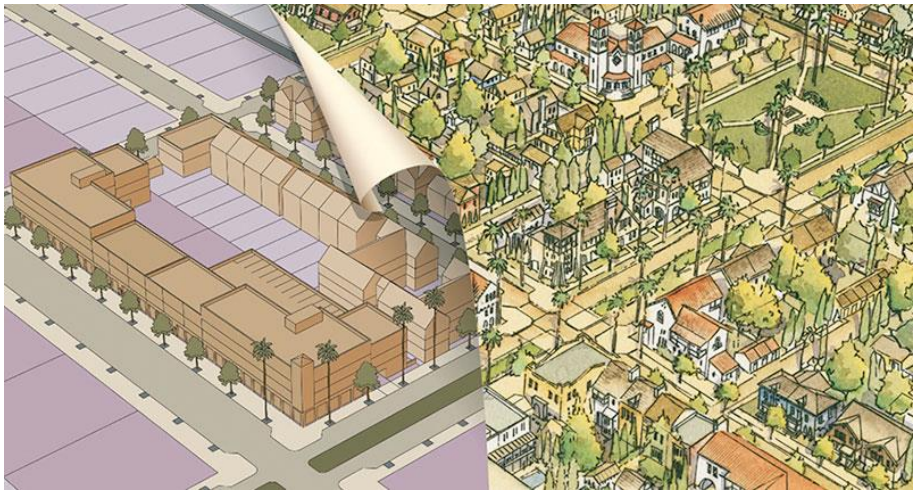

Figure 2.3. An image showing the urban fabric that New Urbanism aims to create. (Source: web 4)

New Urbanism benefited from many ideas as mentioned while creating its theoretical infrastructure. However, the event that clearly defines the framework and reveals the main purpose of the movement is the organization of the Congresses for the New Urbanism (CNU). CNU's are the congresses of the movement and can be identified as an umbrella organization that include prominent professionals in the fields of architecture, urban design, planning, engineering and many other professionals from different fields (Haas, 2018).

Making a reference to CIAM (International Congresses of Modern Architecture), the congresses established by the foremost names of modern architecture including Le Corbusier (Shibley, 1998), New Urbanists established their own congress, CNU (The Congress for the New Urbanism), where they announced their manifesto and constituted a charter (Ellis, 2002). Rather than a leader-based movement, the New Urbanism movement was consisted of members from different fields and professions, mostly from the architecture, urban design, urban planning disciplines however aiming for a multi-disciplinary approach. The names like Andres Duany, Elizabeth Plater-Zyberk, Judy Corbett, Peter Calthorpe, Dan Solomon, Stefanos Polyzoides, Elizabeth Moule are among the organizing group of the congresses. The Charter accepted by the multi-disciplinary members of the organization in the congress, defines the vision, aims and principles of the movement.

The first congress was held in Alexandria, Virginia in October 1993 with 170 participants (Ellin, 1996). The aim of the first congress was to restore the city centers which became urban ruined areas, to reorganize the suburbs that are sprawling outside the city and to protect the natural and historical built environment (Poticha, 1999). Later, more congresses were held for further developments in the design principles on a different subject in each congress. Until 2021, 29 different congresses were held on different topics with thousands of participants and the 30th congress is scheduled to be held between March 23-26, 2022 in Oklahoma City (Congress for the New Urbanism, n.d.).

The congresses held from 1993 to 2021 are as follows (Congress for the New Urbanism, n.d.):

- CNU I (1993, Alexandria); First of the congresses. Concepts like neighborhood, district and corridor were discussed.
- CNU II (1994, Los Angeles); Discussions took place regarding the street, building block and building scales.
- CNU III (1995, San Francisco); Issues related to regional planning were discussed. The Charter of the New Urbanism were announced containing three different scales.
- CNU IV (1996, Charleston); The Charter of the New Urbanism was accepted by the members.
- CNU V (1997, Toronto); First congress organized outside the United States, also with participants from 18 different countries.
- CNU VI (1998, Denver); The topics of environmental and urban infill were discussed.
- CNU VII (1999, Milwaukee); Besides the physical conditions, approaches regarding the economic and social status of cities and reinforcing them were discussed.
- CNU VIII (2000, Portland); The Congress with the most participants until that date. The topics related to the implementation of New Urbanism and Smart Growth movements and their relation to politics were discussed.
- CNU IX (2001, New York City); Issues regarding the regional and neighborhood scale, also the design approach and form-based design codes were discussed.
- CNU X (2002, Miami); Evaluation of the past 10 years were made. Issues regarding walkability and “post-war suburbia” were discussed.
- CNU XI (2003, Washington); Washington boulevards, corridors and public transport were studied. A presentation was made regarding the public health

by Dr. Richard Jackson with the name “Public Health and New Urbanism: Curing a Syndemic”.

- CNU XII (2004, Chicago); A new record of participants in a Congress was achieved. Different approaches and movements like the City Beautiful movement, the Traditional City, the Modernist City, the Sustainable City were discussed.
- CNU XIII (2005, Pasadena); Issues regarding the polycentric city, sprawl, automobile dependency, modes of transportation and form-based principles in urban design were discussed.
- CNU XIV (2006, Providence); The first Congress benefited from the new technological opportunities that enabled the use of online tools for the Congress. Implementations, environmental issues, preservation, infrastructure topics were discussed with the new tools.
- CNU XV (2007, Philadelphia); In the 15th Congress of the movement the topics of sustainability, the relation between ecology and New Urbanism were discussed.
- CNU XVI (2008, Austin); Issues regarding climate change, walkability, mixed use neighborhoods in the developing cities were discussed.
- CNU 17 (2009, Denver); With the attendance of the Denver Mayor, “the E trio”, energy, economy and environment were discussed in terms of their relationship with the city and urban planning.
- CNU 18 (2010, Atlanta); The topics like community design, healthy city and social neighborhoods, walkability, energy efficiency were discussed.
- CNU 19 (2011, Madison); Issues regarding the agriculture and local growth, local economy, local food production and their relation with urbanism were discussed.
- CNU 20 (2012, West Palm Beach); In the 20th Congress, the new opportunities, problems and potentials of the movement were discussed due to the reasons such as the global warming, the global economic crisis and the natural disasters took place in the United States like the hurricanes.

- CNU 21 (2013, Salt Lake City); Creating a social, interactive community with the help of urban design and concepts like place identity were discussed including the economical, physical aspects again.
- CNU 22 (2014, Buffalo); One of the popularized concepts of the period, resiliency, were discussed in the Congress with the theme name "The Resilient Community".
- CNU 23 (2015, Dallas); Transportation was the main discussion topic in the Congress. The necessity of a transition from a car dependent community, to a human scale, walkable community with bicycle in the forefront were discussed.
- CNU 24 (2016, Detroit); Post-industrial age that is defined as the information age, the change it will bring to the cities and its effects on the city were discussed.
- CNU 25 (2017, Seattle); The previous implementations and the future of the movement were discussed. The concepts like density, greenery zones and heritage were also discussion topics therebeside.
- CNU 26 (2018, Savannah); Issues like preservation in a historical environment, climate change and human-oriented design were discussed.
- CNU 27 (2019, Louisville); The Congress took place in Louisville with many historical quarters and neighborhoods that were built with the principles of the New Urbanism movement. Therefore, in the Congress previous implementations were also evaluated virtually.
- CNU 28 (2020, Online); Held online due to COVID-19. The effects of the global health crisis to the New Urbanism movement were discussed.
- CNU 29 (2021, Online); Held online due to COVID-19. The notion of design and its power to create social communities and physical spaces were discussed. Information about the movement were given by online meetings.
- CNU 30 (2022, Oklahoma City); Will be held between March 23-26, 2022. The future of Oklahoma City and the improvements that can be made in terms

of walkability and resiliency will be discussed including the preservation of the historical quarters of the city.

The first three Congresses of the movement were held in order to determine the principles of the movement and draw the general framework. In the fourth congress held in 1996, "*The Charter of the New Urbanism*" was accepted and announced in order to demonstrate the main purposes and transform the theoretical background of the movement into principles (Fulton, 1996).

As stated in the Charter, the Congress evaluates the issues like uncontrolled urban sprawl, decreased investments in city centers, destruction of built heritage, agricultural lands and wildlife, environmental pollution, increased discrimination based on ethnicity and income level are all interrelated and are obstacle to communal togetherness (Leccese & McCormick, 2000). Accepting the fact that the solutions regarding the physical environment only will not be sufficient, however it is stated that without well-designed physical, healthy environments, a community in interaction with each other and also economic vitality is difficult to sustain.

2.2. Principles

"*The Charter of the New Urbanism*" was accepted and declared in 1996 by the New Urbanists and the main purpose of the document was not to remain only in theory but also to serve as a basis for the project implementations, to guide the public policies and future developments regarding the city, city planning and urban design. For these purposes, 27 principles were identified, indicating the aims and ideals of the movement (Leccese & McCormick, 1996). According to Ellis, these principles are applicable in both urban and rural areas, designed separately according to their scales with a holistic approach (Ellis, 2002) and for Moule, they are adopted by the majority of the New Urbanists (Moule, 1999). The principles of the Charter, which are studied in three different categories according to their scales are as follows:

- "*The Region: Metropolis, City and Town*"
- "*The Neighborhood, The District and The Corridor*"
- "*The Block, The Street and The Building*"

2.2.1. The Region: Metropolis, City and Town

The regional scale is the first and uppermost scale in the principles of New Urbanism. In brief, before going into details, these principles state that the urban design approach of New Urbanism should also be applied on the regional scale before going into any subscales. At the regional scale, the metropolitan area as a whole should be designed with similar principles for the neighborhood and other subscales.

According to these principles, first of all the natural, cultural, architectural heritage and values of the region must be understood for a successful regional plan, in any region. Then the region needs to be planned correctly in terms of preservation of green spaces and water resources, sustainability, transportation investments and finally the controlled management of growth. In order to meet these conditions in a regional plan, the involvement of the local community is necessary since those who know the region best are those who live in the region. Still, according to Yaro, the local community should first be informed regarding the natural and cultural heritage in the region, only then a common vision for the future of the region could be established (Yaro, 1999).

Land use and transportation networks, equitable planning for housing and residential areas, social equity, green areas and urban growth boundaries, balance in the quality of education for the urban and rural, can be considered among the most important issues for regional planning. New Urbanism aims to synthesize all these strategies and create a comprehensive regional design guide with the principles in the Charter.

These issues regarding the regional scale are applied to the region in two different ways according to New Urbanism. One is the approach of a pedestrian oriented urbanization including public spaces and social diversity in neighborhoods, and

implementation of this for the regional scale as well. The second one is the design of the whole region holistically, with the same design codes or similar urban design approaches. Hence, the region should be planned like a neighborhood, considering the public spaces, pedestrian circulation systems, with the inclusion of diversity and hierarchy issues with precise boundaries (Özdemir, 2005).

In substance, defining the boundaries for the urban growth, regulating the transportation system of the region in a pedestrian oriented manner with the support of mass transportation alternatives, including open public spaces in a network, uniting the public and private properties with a compact manner including residential, commercial and cultural units, ensuring the diversity in the community and the sufficiency of housing with balanced working areas are the purposes of the Charter regarding the regional scale (Katz et al., 1994).

For the New Urbanists, cities and towns in a region need a comprehensive metropolitan strategy to be livable and sustainable in the future. In every city/town there should be residential and working area alternatives for all the income groups in the society. By this means, the necessity of going to work at a long distance for the individuals in the community is eliminated. Furthermore, every city/town should have its own characteristic, own spirit, in terms of its physical space, local architecture or other aspects but also should be in harmony with its surrounding environment.

As mentioned above, 9 principles related to the regional scale were accepted and stated in the Charter under the title of *"The Region: Metropolis, City and Town"*, which are as follows:

1. *"Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges."*

2. *"The metropolitan region is a fundamental economic unit of the contemporary world. Governmental cooperation, public policy, physical planning, and economic strategies must reflect this new reality."*
3. *"The metropolis has a necessary and fragile relationship to its agrarian hinterland and natural landscapes. The relationship is environmental, economic, and cultural. Farmland and nature are as important to the metropolis as the garden is to the house."*
4. *"Development patterns should not blur or eradicate the edges of the metropolis. Infill development within existing urban areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas. Metropolitan regions should develop strategies to encourage such infill development over peripheral expansion."*
5. *"Where appropriate, new development contiguous to urban boundaries should be organized as neighborhoods and districts, and be integrated with the existing urban pattern. Noncontiguous development should be organized as towns and villages with their own urban edges, and planned for a jobs/housing balance, not as bedroom suburbs."*
6. *"The development and redevelopment of towns and cities should respect historical patterns, precedents, and boundaries."*
7. *"Cities and towns should bring into proximity a broad spectrum of public and private uses to support a regional economy that benefits people of all incomes. Affordable housing should be distributed throughout the region to match job opportunities and to avoid concentrations of poverty."*
8. *"The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence upon the automobile."*
9. *"Revenues and resources can be shared more cooperatively among the municipalities and centers within regions to avoid destructive competition*

for tax base and to promote rational coordination of transportation, recreation, public services, housing, and community institutions."

2.2.2. The Neighborhood, The District and The Corridor

The neighborhood is the second scale of the New Urbanism principles stated in the Charter. For New Urbanists, neighborhoods are the primary units for urban developments (Dutton, 2000), according to them the neighborhood, district and corridor are the main determinant elements for the New Urbanism movement.

Districts are defined as urbanized settlements including balanced units with different functions for human activities, neighborhoods are similar to districts but mainly focuses on one function and finally the corridor is the connector and separator of the districts and neighborhoods (Katz et al., 1994).

As the primary unit of urban developments, the neighborhoods must be both part of the whole in the regional scale and at the same time carry its own characteristics (Dutton, 2000). Population and density may vary from neighborhood to neighborhood, however, there should be a balance in residential, commercial, public and green areas in each neighborhood. Housing, working, shopping, recreation and other functional areas should be planned in a balanced way. Also, the neighborhood including this variety of activities for the community should have a center, a well-designed transportation and road system connecting these functions giving priority to public spaces since it is assumed that public spaces and iconic buildings represent the identity of the community (Katz et al., 1994). Additively, the transportation and street system are vital in New Urbanism, since walkable, connective and human scale neighborhoods are one of the most important features of the movement. Just like the regional scale, every neighborhood must have boundaries in addition to their centers. And in these centers, there can be a public space such as a square or a park, green space as the center is the most important intersection in the transportation system.

For a neighborhood, the optimum distance from the center to the boundaries is defined as 400 meters. This 400-meter radius means a 5–10-minute walking distance for the most individuals. By this way, an individual can access to his/her daily needs by walking within 5-10 minutes. These needs can vary from working places to schools, from sanctuaries to parks and shops.

Figure 2.4. 5-Minute walking circles in a neighborhood by DPZ CoDesign. (Source: web 5)

As in the regional scale, 9 principles regarding the neighborhood scale were determined and stated in the Charter, under the title *"The Neighborhood, The District and The Corridor"*, which are as follows:

10. *"The neighborhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution."*
11. *"Neighborhoods should be compact, pedestrian friendly, and mixed-use. Districts generally emphasize a special single use, and should follow the principles of neighborhood design when possible. Corridors are regional connectors of neighborhoods and districts; they range from boulevards and rail lines to rivers and parkways."*

12. *"Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips, and conserve energy."*
13. *"Within neighborhoods, a broad range of housing types and price levels can bring people of diverse ages, races, and incomes into daily interaction, strengthening the personal and civic bonds essential to an authentic community."*
14. *"Transit corridors, when properly planned and coordinated, can help organize metropolitan structure and revitalize urban centers. In contrast, highway corridors should not displace investment from existing centers."*
15. *"Appropriate building densities and land uses should be within walking distance of transit stops, permitting public transit to become a viable alternative to the automobile."*
16. *"Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them."*
17. *"The economic health and harmonious evolution of neighborhoods, districts, and corridors can be improved through graphic urban design codes that serve as predictable guides for change."*
18. *"A range of parks, from tot-lots and village greens to ballfields and community gardens, should be distributed within neighborhoods. Conservation areas and open lands should be used to define and connect different neighborhoods and districts."*

2.2.3. The Block, The Street and The Building

As the subscale of the New Urbanism movement, the blocks, the streets and the buildings are used in a well-designed way to form the neighborhoods (Katz et al., 1994). At this scale, as well as the pedestrians, the automobiles and parking lots should also be well considered since the streets must be the places for public gathering, socializing serving as common spaces and transition areas rather than a separator wall consisting of cars (Katz et al., 1994). While designing a street, walkability should be one of the main issues without forgetting that a single street is part of a bigger street network in the neighborhood. Also, the streets should be designed as public spaces with their pedestrian supporting design (Dutton, 2000).

Designing walkable, safe, lively streets for the community to walk and socialize are one of the purposes of New Urbanism. Instead of parking lots in front of the front facades of the buildings facing the street, there should be sidewalks. With this way the facades facing the sidewalks, the streets became safer and more interesting for the community.

The buildings and blocks should be designed with parking lots in the middle of the block or underground. With this way, the continuity in the public space is ensured and the street is not divided by car parking lots. The ground floor levels should serve for pedestrians, rather than the cars (Katz, 1994). Building facades should be designed in harmony according to the local architectural characteristics of the region. Monumental buildings should be designed in a way to express the social identity of the local community.

In the title *"The Block, The Street and The Building"* of the Charter, once again 9 principles were stated, this time for the building scale, which is the subscale of the others and with these principles added, the total 27 principles of the Charter were formed. The 9 principles for the building scale are as follows:

19. *"A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use."*

20. *"Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style."*
21. *"The revitalization of urban places depends on safety and security. The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility and openness."*
22. *"In the contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space."*
23. *"Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities."*
24. *"Architecture and landscape design should grow from local climate, topography, history, and building practice."*
25. *"Civic buildings and public gathering places require important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city."*
26. *"All buildings should provide their inhabitants with a clear sense of location, weather and time. Natural methods of heating and cooling can be more resource-efficient than mechanical systems."*
27. *"Preservation and renewal of historic buildings, districts, and landscapes affirm the continuity and evolution of urban society."*

2.3. Implementations

Although New Urbanism has a strong and assertive theoretical approach, the movement can actually be considered as a practice-oriented movement (Katz, 1994). It is a movement that has developed certain strategies related to the design of the physical space and applied these in practice in many different projects. Dating back to the 1980's, there are many implementations and projects inspired by New

Urbanism, designed according to the principles and concepts of the movement. For this reason, it would be more accurate to go through and analyze the implementations of the movement in order to comprehend the theoretical approach and concepts of New Urbanism.

In this context, ten case study were selected among the most important New Urbanism projects designed by the leading New Urbanists. Four projects by DPZ, Seaside, Kentlands, Windsor and Heulebrug; three projects by Calthorpe Associates, Rio Vista, Laguna West and South Brentwood Village; a project by Elizabeth Moule and Stefanos Polyzoides, Playa Vista; a project by Daniel Solomon and Kathryn Clarke, Communications Hill and a project by Leon Krier, Poundbury were selected. Eight of these projects were implemented in America while two of them were in Europe which was another reason for the selection.

2.3.1. Seaside, Florida

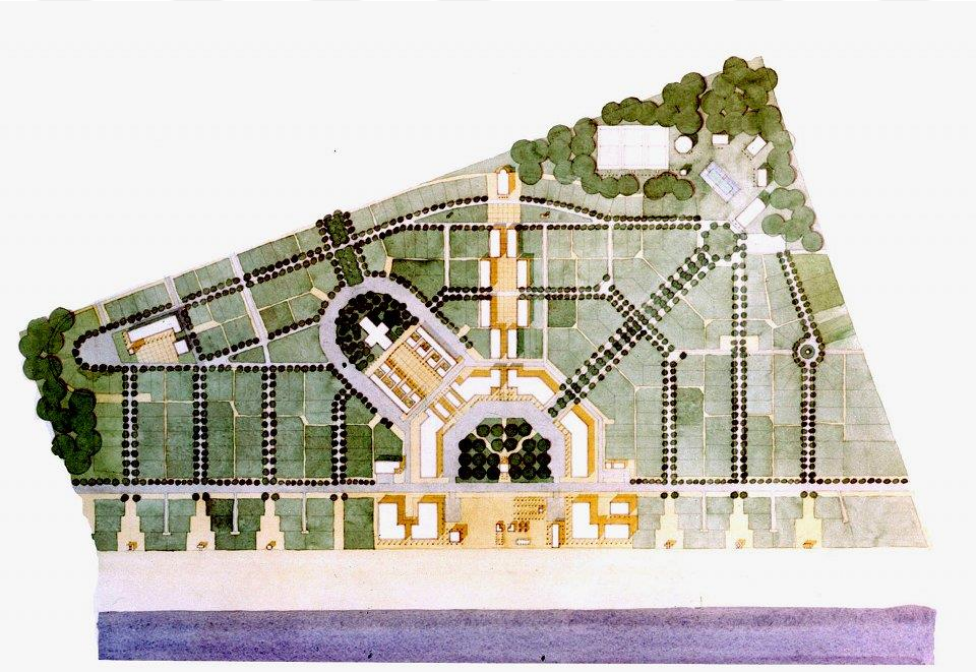

Figure 2.5. Site plan proposal for the Seaside Town by DPZ CoDesign. (Source: web 6)

One of the first and most important examples of the New Urbanism movement is the Seaside settlement in Florida designed by Duany and Plater-Zyberk in 1981. Leon Krier, one of the inspirers of New Urbanism also contributed to the project as a consultant. Seaside is considered as one of the first examples that comes to mind regarding New Urbanism. Filming of "*The Truman Show*", a famous Hollywood movie nominated for the Academy Awards in 1999, also played a part in this reputation of Seaside, however, this also gave rise to different criticisms.

The design of the project created an alternative to the American suburban settlements, brought a new perspective and introduced the planning concepts of New Urbanism (Krieger & Lennertz, 1991). On the northern Gulf Coast of Walton County Florida, the project was implemented on an area of 324 hectares approximately, for a population of two thousand people. One of the purposes of the project was to create a sense of community, prioritizing public spaces rather than the private, against the alienation and isolation in the classical American suburbs. In this context, firstly the public spaces were defined in the design process. Thereafter, in order to make the public spaces more defined, "*form-based codes*", again introduced by Duany and Plater-Zyberk, regarding the private properties were used (Katz, 1994).

In order to encourage the social interactions and create a pedestrian oriented model, the "5-minute walking distance" principle was applied, also with a purpose to reduce the automobile dependency. The fact that daily, public and commercial activities were within walking distances, allowed the entire community to access to the coast and enjoy the view. Regarding the street as a public space, different street sections were designed with a hierarchical order, and in the north-south axis, the streets were planned in the direction of the sea.

To provide mixed uses, the design consists of 650 residential units including apartments and hotel rooms, also other functions and public uses like offices, shops, a school, a town hall, an amphitheater, a post office, a tennis club and others. In order to ensure diversity, different architects took part in the design process of the buildings also with the participation of the local community. Although the residences

were initially designed with keeping the cost low, the success of the design caused an increase in the land prices later on (Katz, 1994). One of the most important aspects of the design process of Seaside is the inclusion of local community, local administrators and other consultants to the design process as well as the architects and designers. Although there was this participation from the community and different actors, the design of the building types was predetermined by the designers according to the form-based codes (Katz et al., 1994). This approach, only using these certain codes for the design had led to criticisms and was seen as a limitation for the creativity in design (Scheer, 2010).

In terms of its location in the region, the Seaside settlement is located on the northern gulf coast of Florida, in between the ocean coast and a highway, where also private residences, apartments and retail units are widespread in the adjacent neighborhoods (Katz et al., 1994). Diversity was tried to be achieved in the neighborhood with the zoning decisions, mixed-use approach and specified architectural, landscape regulations. The coastal area located by the sea includes both public and private uses. In terms of architectural order, the residences were designed in order to reflect and carry the characteristics of the local region. Victorian, Neo-Classical, Post-Modern and Deconstructivist orders can be distinguished in the neighborhood (Krieger & Lennertz, 1991). In this respect, providing diversity, also in terms of architecture, by hosting different architectural orders was attempted besides the public and private spaces. The circulation and transportation network in the neighborhood can be regarded as walkable and connective with its spatial approach consisting of public squares, and evokes the movements like Garden City and City Beautiful (Katz et al., 1994).

As a design and planning decision, positioning daily activities within walking distances from the residences has been implemented at Seaside. DPZ CoDesign aimed to apply the compact layout of the 5-minute walking neighborhood principle to Seaside. 5-minute neighborhood corresponds to approximately 400 meters on foot by walking and another purpose of this principle is to strengthen the social interactions in the community with this feature (Krieger & Lennertz, 1991).

Considering the fact that all the daily needs can be met within this 5-minute walking distance, the town can be evaluated as a pedestrian friendly location, which at the same time could be one of the other purposes of the project. Through this approach the dependency on automobiles decreases and the possibility of social encounters of the townspeople increases according to Katz (Katz et al., 1994).

Regarding the street network of the neighborhood, an axial relationship has been established between private buildings and public spaces throughout the settlement. This axial approach of the settlement enables easier direction finding and orientation for the townspeople (Katz et al., 1994). Rather than a classical orthogonal grid system, the grid system is arranged with a radial and concentric approach.

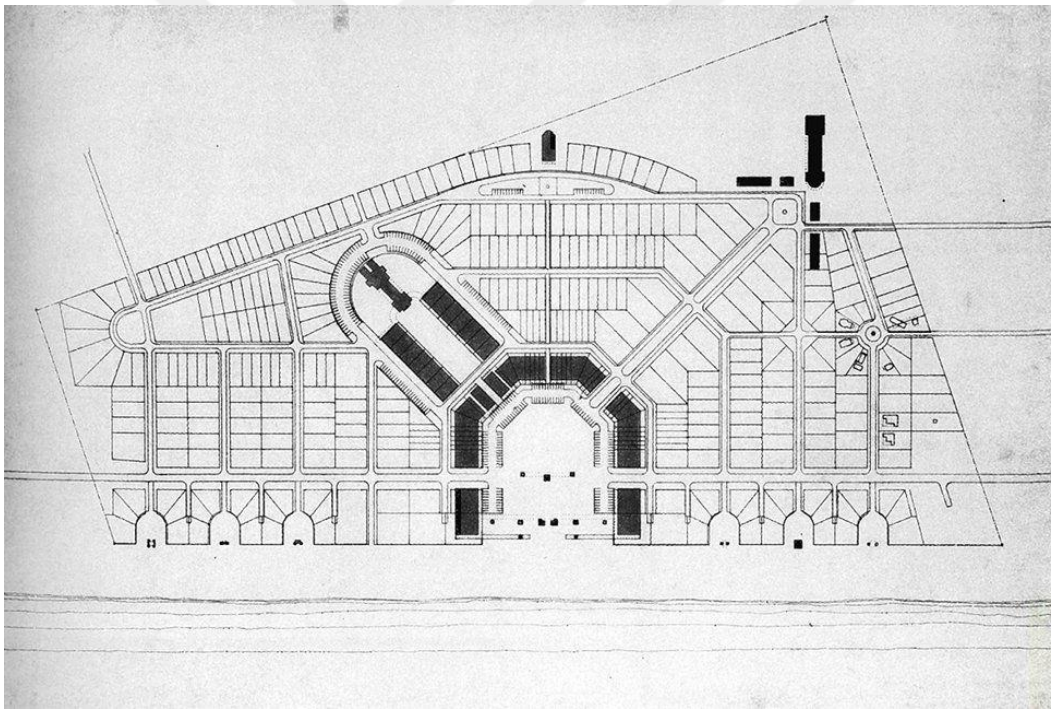

Figure 2.6. The street network, building blocks and subdivisions of Seaside. (Source: web 7)

Besides the axial relationship in the street network, it was aimed to create a hierarchy of streets within the street network with the differentiation of street widths. The main streets are wider than the secondary streets and each street section is different from the others. At Seaside, particular importance has been given to the streets. Each street

has been designed as a particular public space according to their location in the settlement and the functions they contain (Mohney & Easterling, 1991).

In addition, the streets were positioned to create a corridor on the north-south axis, leading the residents towards the coast and the buildings were placed accordingly, in order to obtain a vista, seascape for the houses. Alongside the coast, the town center is also of great importance and the streets lead to the center as well as the shore, and at the center, there are public and commercial functions (Katz et al., 1994).

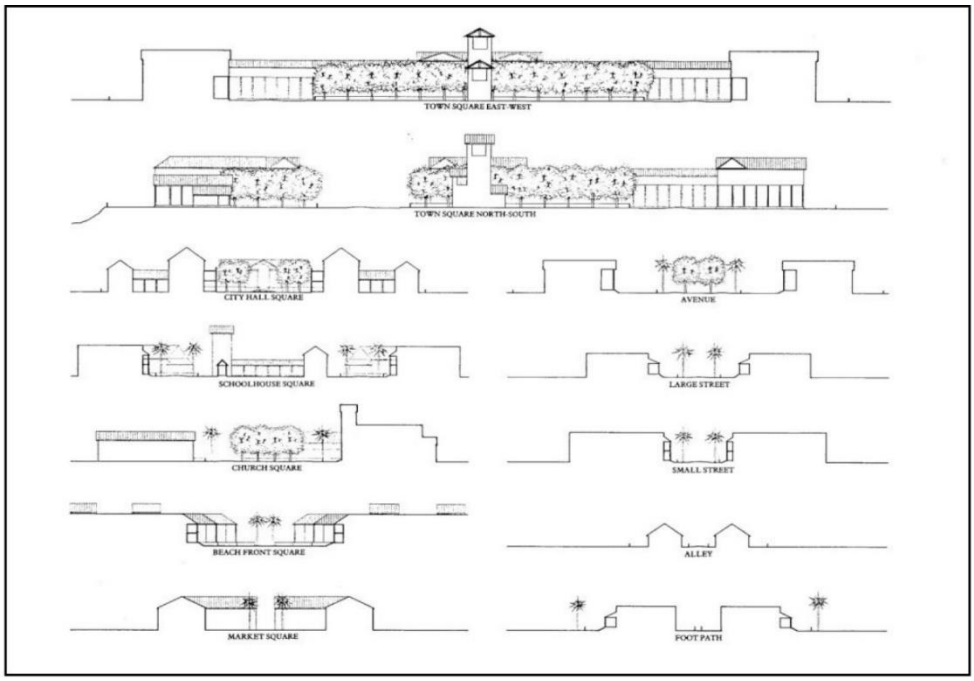

Figure 2.7. Sections of the different hierarchical streets. (Source: web 8)

At Seaside, public and commercial spaces within walking distances are the places of social interactions. For instance, the post office is located at the center of the settlement. By walking from any location in the settlement, it is possible to reach to a commercial activity. Additively, commercial units were on the ground floor of the buildings and residences on the upper floors (Krieger & Lennertz, 1991).

Diversity was aimed to be achieved in both the typology and use of the buildings, also in housing prices. However, the neighborhood which was designed as an inexpensive coastal resort town in order to be suitable also for the people from low

economic classes later turned into a settlement that appeals only to the high-income groups with the increase in the housing prices. From the beginning of the construction period of the project, an increase in the prices of the residential lots has been observed and has attracted the attention of different investors. On the contrary, in the same period, the prices in the neighboring settlements close to Seaside remained stable or decreased.

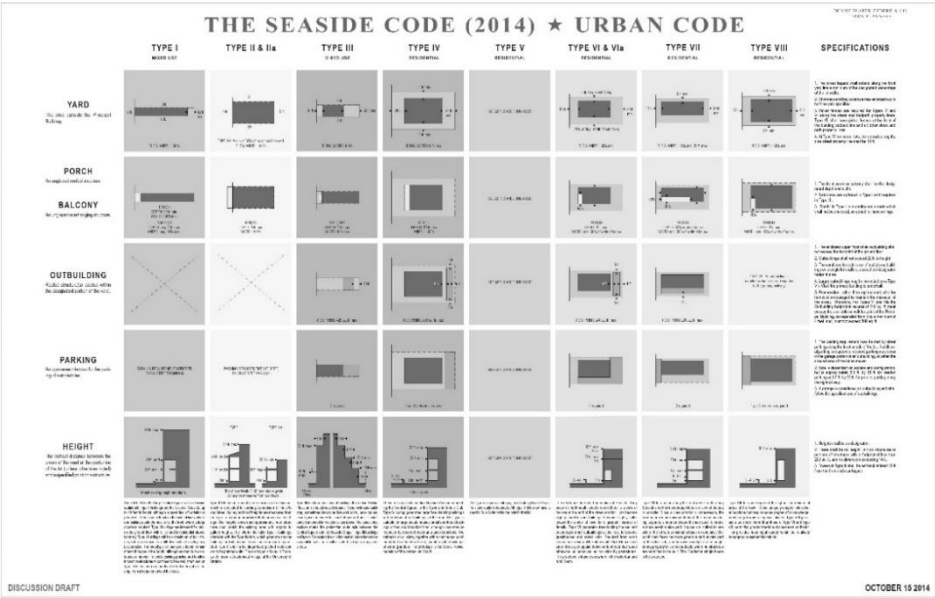

Figure 2.8. The Seaside Code by Duany and Zyberk. (Source: web 8)

With its transformation into a project that appeals to the high economic class, it cannot be claimed that the concept of diversity has been achieved economically with the Seaside project. However, considering the physical space, it can be claimed that the project has created a diversity in terms of architecture and landscape. Each building is unique in the neighborhood and this has brought an architectural diversity of various styles. In order to provide this diversity in the housing typology, each building was designed by different professionals. It can be argued that the design codes determined by Duany and Zyberk limit the design and impose a rigidity, a noticeable diversity has been achieved within the settlement at the end of the project (Katz et al., 1994).

Although the concept of diversity is an important concept that was aimed to be achieved at Seaside, the concept of integrity is likewise significant. In order to ensure integrity in terms of planning and urban design, a special regulation, codes and rules have been defined for the project and settlement. Street widths, parcel sizes, housing typology (even including balcony, porch and yard), building heights, landscape and design decisions were determined by these codes. Since the streets and open public spaces are of great importance in the project, alignments of the buildings were designed particularly to define the street and open public spaces (Katz et al., 1994). The code-based approach applied by Duany and Plater-Zyberk at Seaside, later turned into a guide and formed the basis for the *Traditional Neighborhood Design* method that the duo used in some of their later projects.

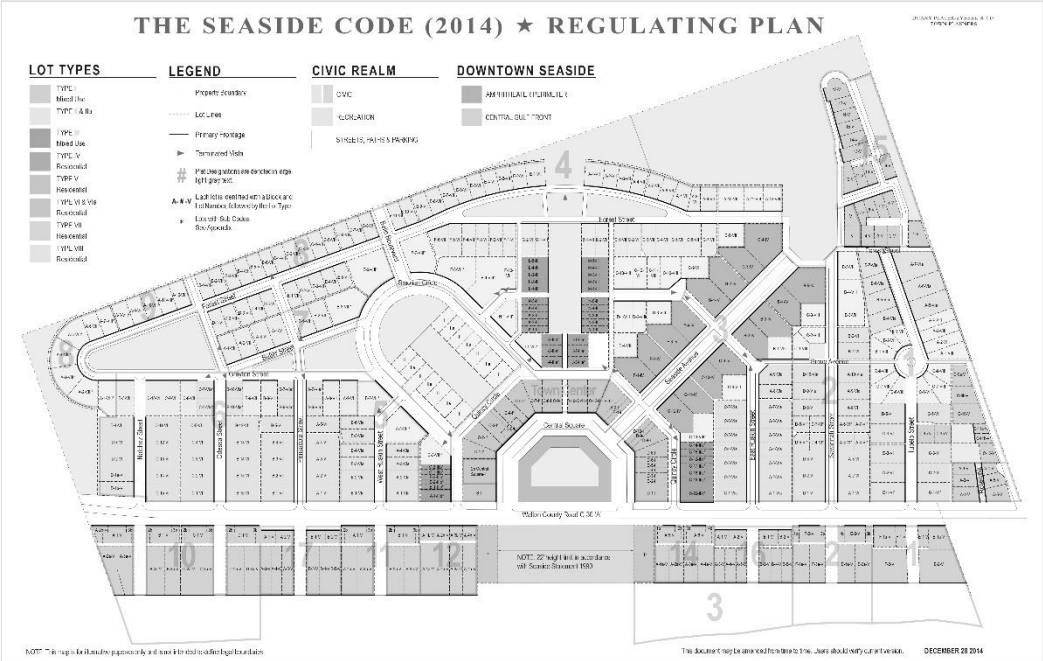

Figure 2.9. Regulating plan of the neighborhood. Each parcel is defined with a code. (Source: web 8)

As mentioned previously, a particular importance was given to public spaces and streets in the Seaside project. Besides the open areas, at the building scale, the town consists of an amphitheater, a town hall, schoolgrounds, a tennis club and a post-office as the main public spaces. Not only the open public spaces like squares and

parks, but also the boulevards, promenades, streets and beach with sand dunes were designed to be convenient for social interactions. Priority was given to the public spaces in the design, and later private properties were gradually placed around the public spaces. The project also includes a walking trail named after Leon Krier, who served as a consultant for the project, and also a building named Krier House, designed by Leon Krier himself (Katz et al., 1994).

2.3.2. Kentlands, Maryland

Figure 2.10. Site plan of Kentlands. Commercial area on the North. (Source: web 9)

Kentlands neighborhood was built in Gaithersburg, Maryland in 1988. The project, again designed by Duany and Plater-Zyberk after the Seaside project is considered as one of the leading examples of New Urbanism. It is a project with the traditional neighborhood design approach similar to Seaside, however, it is also regarded as the first application of traditional neighborhood design development in a settlement that

is inhabited both in summer and winter (Katz et al., 1994). Kentlands is located in the outskirts of the city, on the main road which led to the extra-urban growth in the region, where several disconnected residential neighborhoods and shopping malls are located. In addition to the traditional neighborhood design approach, another purpose of the project was to create a settlement that could become the commercial center of the region.

The project was implemented in the city of Gaithersburg, which is located in the north-west of Washington D.C. Kentlands is located in a region previously functioned as a farmstead. Restoration of the several buildings were proposed and later used with different functions which is considered as an important feature for Kentlands in order to form an integrity with its surroundings in the region (Katz et al., 1994).

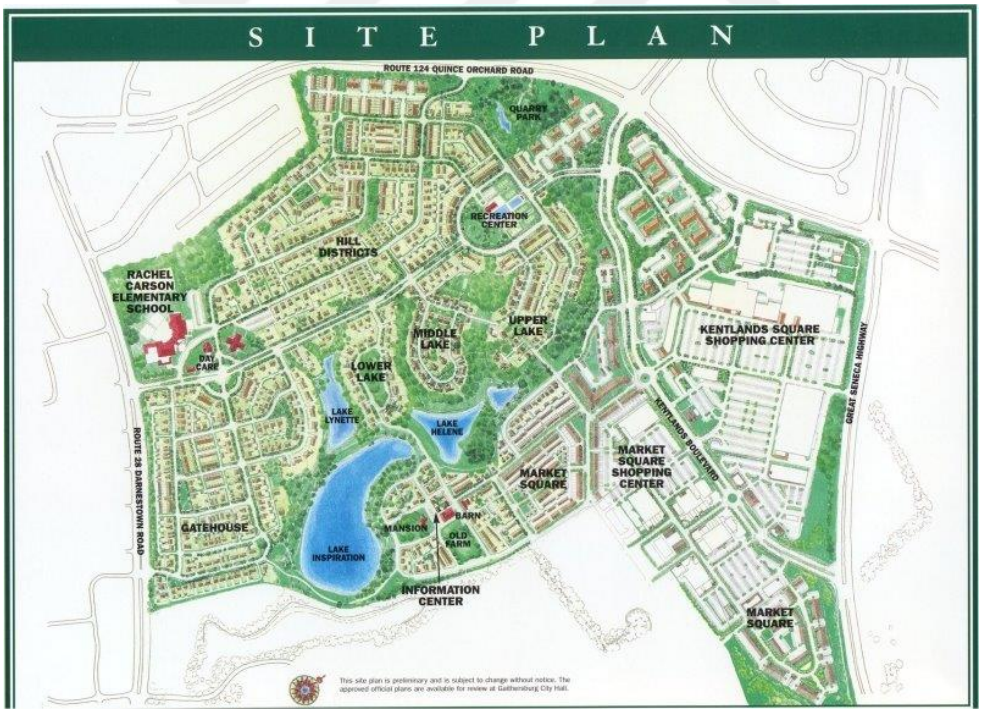

Figure 2.11. Districts of Kentlands. (Source: web 10)

With the goal of becoming a commercial center in the region, a shopping center and a commercial area was designed on the northwest area of the town which is in-between the two main arteries. In the project, which is approximately 3-4 times larger than Seaside, an approach similar to Seaside was applied and diversity was tried to be achieved. In this direction, the town consists of different districts with different characteristics. Kentlands has six different neighborhood units, each consisting of residential, commercial, office, public and cultural uses.

Daily activities being located in the walking distances was again a concern in Kentlands similar to Seaside. However, since the project area is larger in Kentlands, integration with public transportation was also considered. The location of the commercial area in the town was planned between the two main arteries in order to integrate with the other neighborhoods in the region. Although it was originally thought of as a shopping district for the immediate environment, it has been expanded regionally on an upper scale.

Diversity was provided in the land use, residential typology, prices and density as well. In addition to the detached single-family houses, building blocks consisting of row houses were also designed (Dutton, 2000). Different types and sizes of housing units were planned for different varieties of age and income levels. Among the different neighborhood units of the project, there is also a neighborhood where old farm structures are preserved and re-functioned. A 19th century building and some old trees have been preserved and new buildings was formed around them.

Figure 2.12. 5-minute walking diameter covered solely by the commercial district in Kentlands. (Source: web 11)

The project, in which different neighborhood units come together, the shopping district which was designed for commercial purposes, is morphologically separated from other neighborhoods with its extensive lot coverage and large floor spaced shopping buildings. Such an extent that it can even be argued that the shopping district in Kentlands differs from the principles of New Urbanism with its large square meter shopping centers and open parking lots. As can be observed from the Figure 2.12., almost the entire 5-minute walking diameter, which is a New Urbanism principle, is covered solely by this commercial district area and open car parks.

Defining the streets and public spaces was aimed in Kentlands, similar to Seaside. In Kentlands, the main public open spaces consist of several artificial lakes, green belts and various public squares. An elementary school is also located in the town. The center neighborhood of the settlement was designed with high density (Dutton, 2000). With a pedestrian priority approach, diversity was an important notion regarding the pathways and streets in the settlement. Not only enabling the services

for the residences, but also to create spatially defined streets enabling social interactions was an important feature.

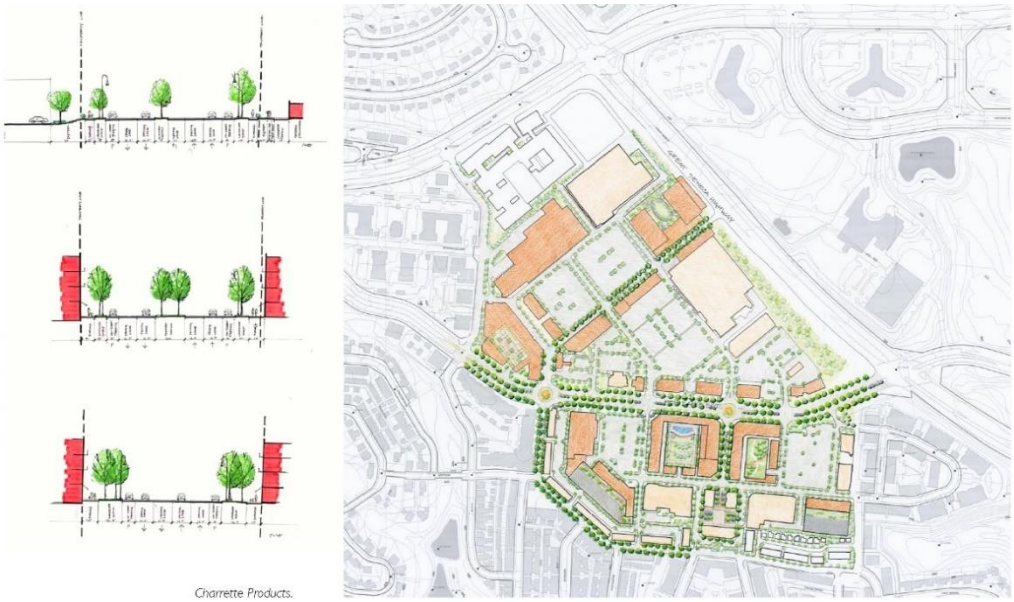

Figure 2.13. Infill project on the commercial district of Kentlands designed in the workshop. (Source: web 11)

Although Kentlands carries many of the features of New Urbanism, it contains implementations that contradict with the principles of New Urbanism at some points. It can be argued that the vast majority of these contradictions are related to the commercial district of the project. Considering it is a large-scale project including different types of districts, these neighborhoods can be evaluated as in harmony with the principles of New Urbanism which are pedestrian-oriented, respecting and protecting local architecture and values, focusing public spaces and streets. However, it can be observed that the commercial district differs from the other neighborhoods and contains a different approach in order to achieve one of the purposes of the project, which is to make Kentlands the commercial center in the region. The commercial district has been a subject of different discussions over the years and different studies have been made about it. For instance, at the workshop held in 2008, a new design attempt was made for the district with the method of infill

architecture, which can be argued that is more compatible with the principles of New Urbanism (Figure 2.13).

2.3.3. Windsor, Florida

"*New Urbanism has not evolved so much since Windsor, it has evolved towards Windsor*." (Andres Duany).[2]

Figure 2.14. Windsor nolli plan. (Source: web 12)

The Windsor settlement is located in Indian River County, Florida and was built in 1989. The center of the settlement is a neighborhood unit designed with references to the urban tradition of the Caribbean (Katz et al., 1994). In the periphery, golf

[2] The statement allegedly expressed by Duany is featured on the homepage of the Windsor settlement official website. Retrieved August 2, 2021, from (Source: web 13)

courses and polo fields surround the settlement. Instead of a widely spaced dwellings and residential units located in many similar settlements around a golf course, a design was made to create a more compact village. Inspired by the Caribbean housing typology, the residences in the settlement have mostly courtyards or side yards surrounded by garden walls (Krieger & Lennertz, 1991). The residential units are mostly located close to the road in the plot. At the center of the plan, there is an area designed for the functions of commercial and social activities including a park. In this area, three-storey buildings with mixed-uses, a small hotel, shops, apartments and other services are located (Katz et al., 1994).

Windsor settlement is located 13 kilometers north of Vero Beach on Florida's Atlantic coast, between the Atlantic Ocean and Indian River. The base area of the settlement is approximately 169 hectares. The aim of the project was to design the settlement as a holiday town with respect to nature (Katz et al., 1994).

The traditional neighborhood structure and form-based design codes that Duany and Plater-Zyberk have been using since the Seaside project were again applied in Windsor. Design codes were determined in the project regarding the architectural design including a series of designs and typologies regarding the plans, facades, windows and porches of the buildings. Local architectural styles in the region were studied and influenced the typologies of the buildings. Traditional roof construction techniques of the region were specifically analyzed regarding the cladding and glazing (Katz et al., 1994).

Figure 2.15. Aerial view of the Windsor settlement. (Source: web 13)

The concept of diversity and the pedestrian-oriented approach, which can be regarded as important ideas of New Urbanism, was implemented in Windsor. In the center of the settlement, mixed uses were located such as shops, apartments, recreational areas as well as golf courses in the periphery of the neighborhood (Katz et al., 1994). However, in terms of social diversity, it can be argued that the idea of designing different types of buildings in Seaside so that citizens from different economic classes can afford a house is also valid for Windsor. With its golf courses and architectural typology which is relatively expensive, it can be stated that it is a settlement for the wealthy and upper economic classes.

While there are mostly large plots and separate houses with extensive gardens in similar settlement types that mostly suits for the higher income class, the parcels were planned as smaller in Windsor since it was desired to increase social interactions with houses close to each other and to apply a different approach from other luxury neighborhoods. With this approach, another goal was to provide diversity in the housing typology and prices in addition. The dwellings were designed in small parcels with courtyards and gardens, closer to each other in a compact way. Building blocks and building types vary among themselves within the determined codes of DPZ. Some dwellings have courtyards and different types of

gardens. All residences have a garage and access to the garages is not provided by the main road, but by the path created in the middle of the block (Katz et al., 1994). Apart from the single-family houses, as a different building typology, there are also cottage houses with smaller square meters and apartments in the center area in the project.

Defined public spaces and streets within a hierarchy is an important aspect of New Urbanism and in Windsor, the design was made accordingly. Different street widths were planned with different landscape designs and with different types of trees. As well as the open public spaces, open private spaces were defined in the project for the residential types with courtyards and gardens. The residential units and their private gardens, which were designed compactly were planned for the development of the neighborly relations, enabling the increase of the opportunity to meet with neighbors and the occurrence of social interactions. In the center of the neighborhood, there are functions like shops, post office, restaurant, cafe, offices, hotel and apartments (Krieger & Lennertz, 1991). These functions were planned in the center so that they can be reached by walking from anywhere in the neighborhood and it also acts like the center of daily public life of the community.

Similar to Seaside, certain design codes and regulations were specified at Windsor and accordingly, public buildings were mostly constructed in the classical architectural style. In addition, the typologies of the houses were in accordance with these codes and regulations. According to the regulation, it was obligatory for the houses to reflect the local architectural features of the region, and the garden walls must not cross the property line in order to define the streets (Krieger & Lennertz, 1991).

2.3.4. South Brentwood Village, California

Figure 2.16. Plan of the South Brentwood Village (Calthorpe, 1993).

South Brentwood Village is a project by Calthorpe Associates led by Peter Calthorpe, another prominent New Urbanist besides Duany and Plater-Zyberk. It was built in 1991 in Brentwood, California. It is a settlement designed in order to provide affordable housing opportunities. A mixed-use approach was applied in the settlement, including the functions such as light industry, office and manufacturing which is approximately the 30% of the settlement. There are many parks with different scales in the project since green areas and afforestation had a great importance in the settlement for the designers. Residences usually have garages in the front facade facing the main road. The primary goal of the architectural design regarding the residences was to provide housing alternatives with fair prices in the region (Calthorpe, 1993). In this respect, South Brentwood Village has a different style from the surrounding settlements and can be described as a more compact and

intimate settlement with residences close to each other. Apart from the price policy, another aim of the project was to ensure that the townspeople living in the settlement have a sense of community (Katz et al., 1994).

The neighborhood is spread over an area of nearly 567 ha., which was planned as a continuation of the existing small town of Brentwood which is located in the north (Katz et al., 1994). Located within walking distance of the center of Brentwood Town, the project site was previously a farm town and over time became one of the important growth areas in the San Francisco Bay (Calthorpe, 1993). Residential architecture in the project bears traces of America's traditional bungalow typology. Bungalow-style housing was a Californian tradition in the areas like Oakland during the early 1900s (Katz et al., 1994). The project area is adjacent to 3 different vehicle roads, one of which is the highway. However, access into the town is provided from the other secondary roads, not the highway. The connection to the highway is limited by the canal, and public transport connections are also provided by the secondary roads. There is also an old railway route in the project area which was planned to be a part of the transportation network by re-functioning in the future (Katz et al., 1994).

Daily activities located within a walking distance in the neighborhood is an important aspect of the project like many other New Urbanist projects. In the same way, it is also a mixed-use neighborhood with different functions besides solely residences. Compared to other New Urbanist projects, more emphasis was placed on parks, green spaces and road afforestation, and the entire interconnected road system was also defined by rows of trees. Near the green area at the center of the settlement there are different functions such as sales, services, a childcare center and a church (Katz et al., 1994). These activities in the settlement center are within walking distance for the whole neighborhood.

Connectivity is another important aspect for New Urbanism and the street network in South Brentwood Village was designed to be interconnected. Although there are cul-de-sacs in the street network, they are also designed to be connected to other streets rather than dead ends (Katz et al., 1994). Although there is a main green area

in the center of the settlement, there are many small parks throughout the neighborhood in order to be more accessible.

There are approximately 500 residences in the project, and the dwellings differ in terms of typology. However, all of the residences are in a detached order. Similar to Seaside, Florida, in the project, certain design guidelines were determined for the streets, buildings and other design issues by Calthorpe Associates. These guidelines were taken into account in the street sections and in the architectural typology, for example in the front elevation porches facing the streets (Calthorpe, 1993).

The main public space of the neighborhood which is located at the center containing mixed uses, was also designed as a gathering place where the community comes together for the communal activities. Most of the building blocks in the settlement have buildings located towards the street, which also have garages facing the street and receiving service from the same road (Katz et al., 1994). Street sections vary in order to break the monotony and create diversity, as well as to add an identity to the neighborhood. Streets are differentiated from each other as pathways, office buildings streets, secondary residential streets and main residential streets and form a hierarchy. Each has a different section, width and landscape design (Calthorpe, 1993) By positioning the residences close to the streets, the activity in the front gardens was increased, in order to ensure the safety of the residents and increase social interactions (Katz et al., 1994). There are also streets in the settlement that cannot be accessed by vehicles and only used by pedestrians. With the cul-de-sac system that is connected to each other, it is ensured that the pedestrian movement in the settlement continues without interruption.

2.3.5. Rio Vista West, California

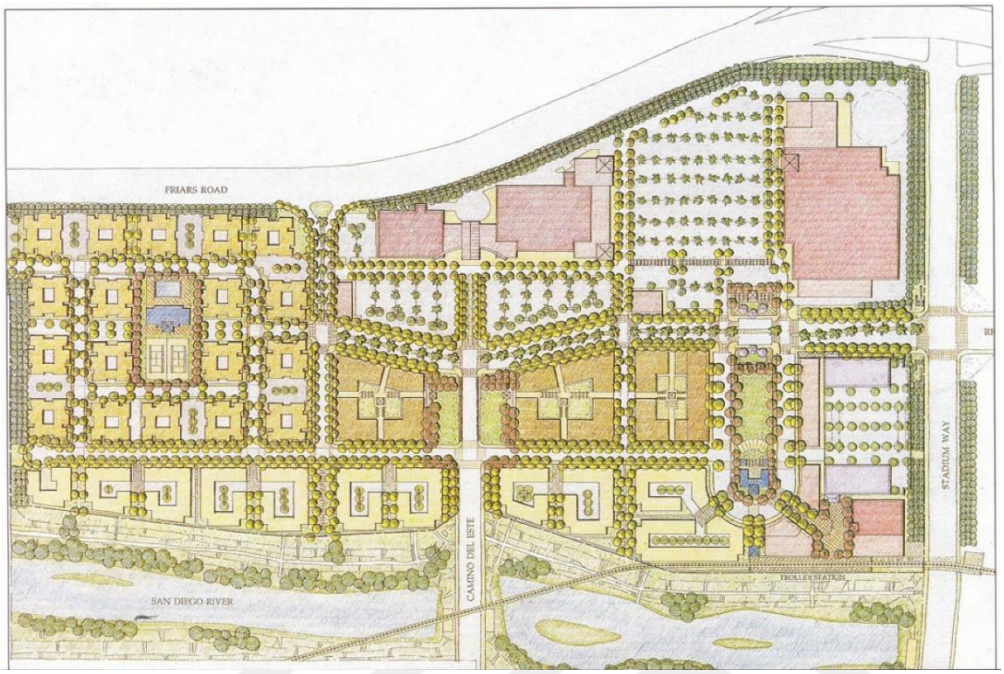

Figure 2.17. Site Plan of Rio Vista West (Calthorpe, 1993).

The project Rio Vista West was planned in 1992 in San Diego, California by Calthorpe Associates. The area before the project was suffering from automobile-oriented growth problems. San Diego was one of the first locations that adopted the Transit Oriented Development design guidelines. Therefore, the plan on the area of 30 ha., was going to be one of the first applications of the TOD. The aim of the project was to transform the area into a pedestrian-oriented, mixed-use settlement consisting of 1700 households.

The project site was located close to downtown San Diego, near the San Diego River. A trolley station and a railroad system were in the area, connecting the site with the other parts of the city, including the city center (Calthorpe, 1993). Around the project area, there were also suburban settlements with single-use and highways. The architectural typology was determined with reference to the climate and vernacular buildings of San Diego, and the designs of Irving Gill were taken as examples.

According to these references, the architectural elements such as tiled roofs, arcades and pergolas were included in the typology (Calthorpe, 1993).

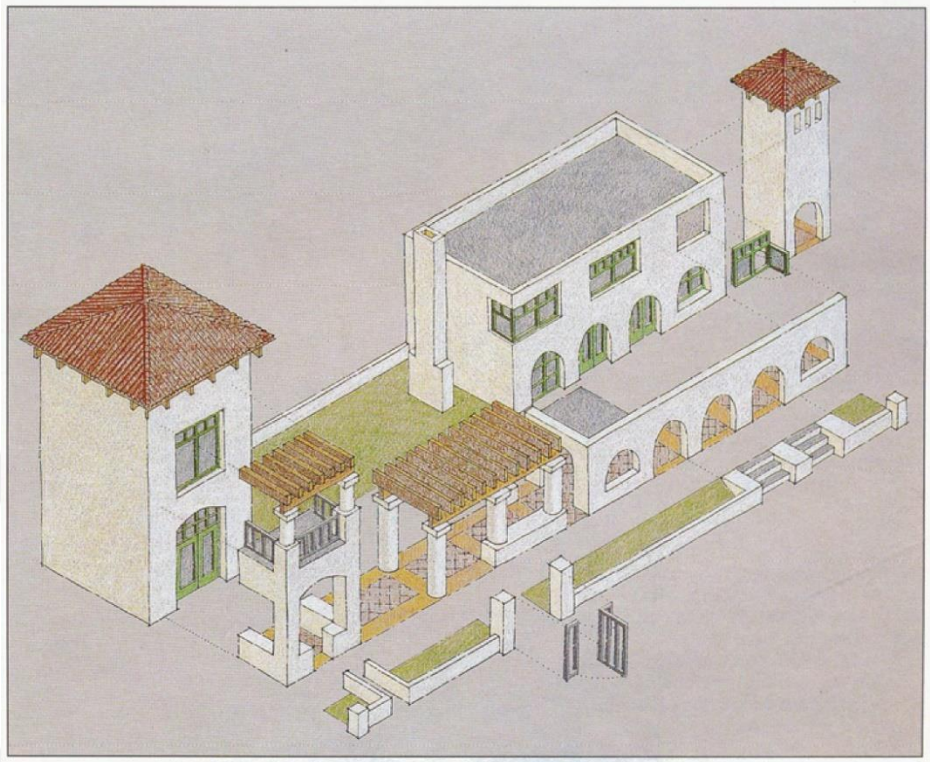

Figure 2.18. Vernacular San Diego architectural elements with reference to Irving Gill (Calthorpe, 1993).

Another goal of the project was to fulfill 4 different functions. Which were the residential function including different architectural typologies, different commercial functions, different public spaces including squares and parks, and finally a central area with a mixed-use function near the previous trolley station (Calthorpe, 1993).

The core of the project, which is within walking distance, was designed as a mixed-use area containing a cinema, several shops and restaurants at the ground floor, residences and offices at the upper floors. Since there is also an old trolley station in this part of the settlement, the commercial area also serves public transportation users. Therefore, this area is the most commercially active and lively area of the project (Katz et al., 1994). Additionally, close to this mixed-use center, there is also the largest park of the settlement.

The grid system was used in the interconnected street network in which the roads were generally narrow and with 3 lanes. Car lanes and pedestrian walkways were also placed on this grid. hop entrances and parking lots were determined with a human-scale design approach. Due to the location of the site by the river, a walking trail was designed near the river also for pedestrians.

Low-square-meter rental houses and higher-square-meter family dwellings were planned according to different densities, in order to create diversity among the residences in terms of both price and use. As mentioned before, the climate of the region and traditional architectural elements inspired the types of buildings and the design guidelines of the project (Calthorpe, 1993).

2.3.6. Laguna West, Sacramento

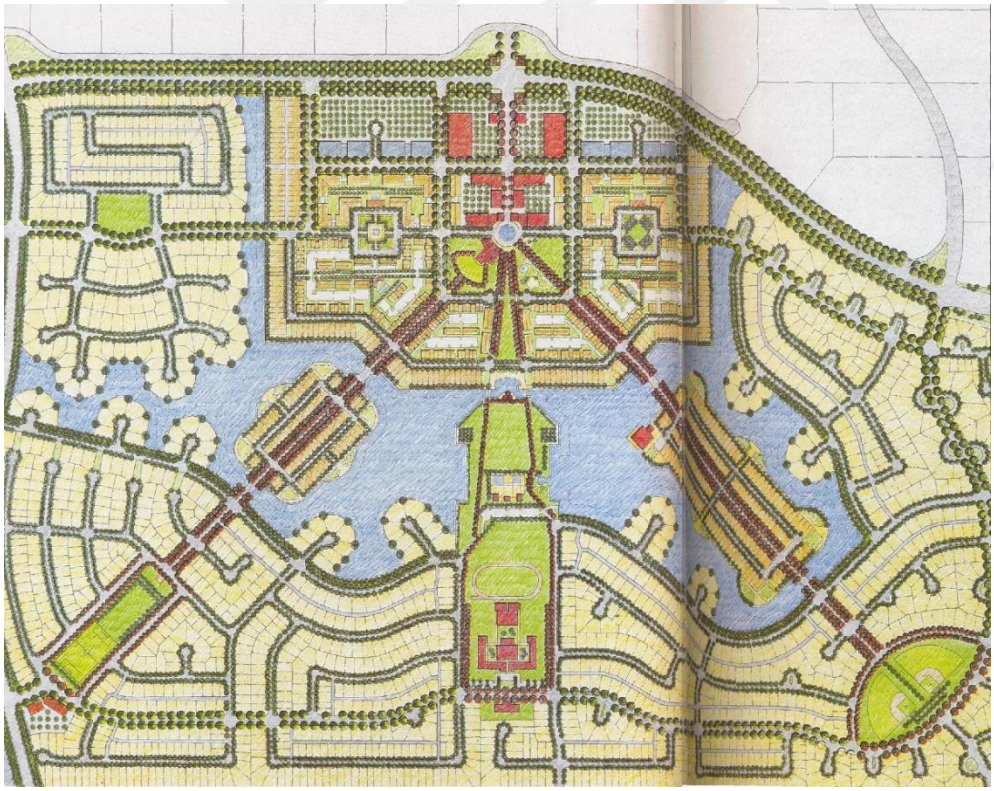

Figure 2.19. Site Plan of Laguna West (Calthorpe, 1993).

Laguna West is a project designed by Calthorpe Associates on an approximately 423-hectares area outside of Sacramento (Calthorpe, 1993). The project was aiming to create a classic American neighborhood using neotraditional planning and design principles. To form a focus point within the neighborhood, a lake was planned also to serve as a central location for the neighboring settlements at the same time. The settlement includes housing, office, school, commercial, civic uses within walking distance of each other and planned to be public transport friendly also. Approximately 3370 residential units, a lake of 7 hectares, parks, a kindergarten, a primary school, a church, commercial units, offices and industrial uses were planned in the project. 2170 of the residential units were designed as single-family houses while the rest, 1200 of them, were multi-family units (Calthorpe, 1993). With its general concept, the project took references and was influenced from old Sacramento neighborhoods such as East Sacramento and Land Park. Primarily, the lake, streets and the central area with the social center were planned, and then the road and infrastructure systems were developed. Calthorpe was asked to work on a comprehensive guideline for the neighborhood considering the Transit Oriented Development approach (Calthorpe, 1993).

The plan scheme consisted of a central mixed-use area surrounded by a lake on three sides and connected to other plots around it by radial boulevards. While grid street plan is common and curvilinear, dead-end streets are not used in the neo-traditional planning approach, Laguna West has these street types and differs from the neo-traditional approach regarding this aspect. Much as there is an orthogonal grid in the mixed-use central town center, there are also curvilinear and dead-end streets in the south of the neighborhood. Many alternative connections providing different options were planned in order not to restrict the circulation in the neighborhood (Calthorpe, 1993). It was argued that the project provides a more effective automobile circulation, and at the same time does not contradict with the pedestrian-oriented approach. From within the settlement, a total of seven different connections were planned to the main arterial road in the north. An interesting point in the project is

that the streets continuing towards the lake were planned to connect to the cul-de-sacs on the lake.

Creating a sense of community with a public space-oriented approach was one of the important goals of the project. Most locations within the project area, nearly half of the lake, parks, seaside promenade, jogging tracks, footbridges and lake-side areas are accessible to all residents. It was stated that the street layouts and sections in the project were designed for automobiles also as well as pedestrians (Calthorpe, 1993). From this point of view, it can be stated that there is a different approach in Laguna West, compared to other New Urbanism projects. At the end of the project, all streets were expected to be covered with more than 15,000 trees, and many decisions were taken to maintain the lake and prevent possible pollution. When all these features are considered, it can be evaluated as a very large-scale project where there is a great source of income for the project developers.

One of the most important principles in the residential design was avoiding big garages near the houses and the recessed use of garages in order not to be visible when viewed from the street side. An image of a street elevation consisting entirely of garages was not desired. These principles were defined by guidelines and restrictions were stated regarding this matter. Elements such as porches and canopies were to be used in the front facades instead of garages according to the guidelines (Calthorpe, 1993). Instead of seeing a wall consisting of garage doors, at some locations the garages in the neighboring houses faced each other and were planned perpendicular to the street.

2.3.7. Playa Vista, California

Figure 2.20. Playa Vista first phase site plan. (Source: web 14)

The Playa Vista project was designed in 1989 by a team consisting of New Urbanists, Elizabeth Moule and Stefanos Polyzoides with contributions from Andres Duany and Elizabeth Plater-Zyberk. It was considered as a major infill project planned to be realized on an area of approximately 404 hectares which was a previous airstrip in Westside of Los Angeles (Corbett & Corbett, 2000). It is a project that includes open public spaces, parks, a central space containing different uses and a street system in a high-density neighborhood. The plan also aimed to establish a low-emission public transportation system within the neighborhood and to connect it with the region. Santa Barbara was an inspiration for the project regarding a pedestrian oriented, mixed-use settlement approach. The project which was planned at the first stage, was expanded in the following years and many additional buildings were built around the project site within the scope of these newer projects. Regarding the later stages, even one of the architects of the first phase of the project Stefanos Polyzoides claimed that *"The buildings in Playa Vista are too big, too loud, too town-unfriendly. We wanted Beverly Hills, Santa Monica, Pasadena. We've been completely betrayed. They're not doing this magnificent site to its ultimate potential."* (Vincent & Groves, 2003).

In the first phase of the project, against the sprawl in Southern California where there were maximum of 12 residential units per 1 acre, the site was planned as a dense residential area with 24 housing units per 1 acre, which is more reminiscent of old European neighborhoods. The streets were narrow in the settlement with a pedestrian and public transportation-oriented approach. There were no buildings higher than 4 floors and different architectural styles were applied in order to ensure diversity, including the art-deco and Spanish styles (Vincent & Groves, 2003).

The neighborhood, which was built on an old airfield was therefore located on a completely flat and linear area. This area was divided into 6 different neighborhoods and 3 different districts with grid planning which are the marina, the office campus and the town center (DPZ CoDesign, n.d.). In the project, it was aimed to form a mixed-use center in the middle of the neighborhood, large-scale commercial buildings in the east and residences with courtyards in order to create a lively neighborhood.

One of the most important features of the project was the great importance it attached to the concept of sustainability considering the zeitgeist in the period. Planning's made for the protection of flora and fauna, recycling of greywater, providing an electric public transportation system with buried magnetic cables in the streets, encouraging bicycles and pedestrians can be considered ahead of their time regarding the concept of sustainability (DPZ CoDesign, n.d.).

2.3.8. Communications Hill, California

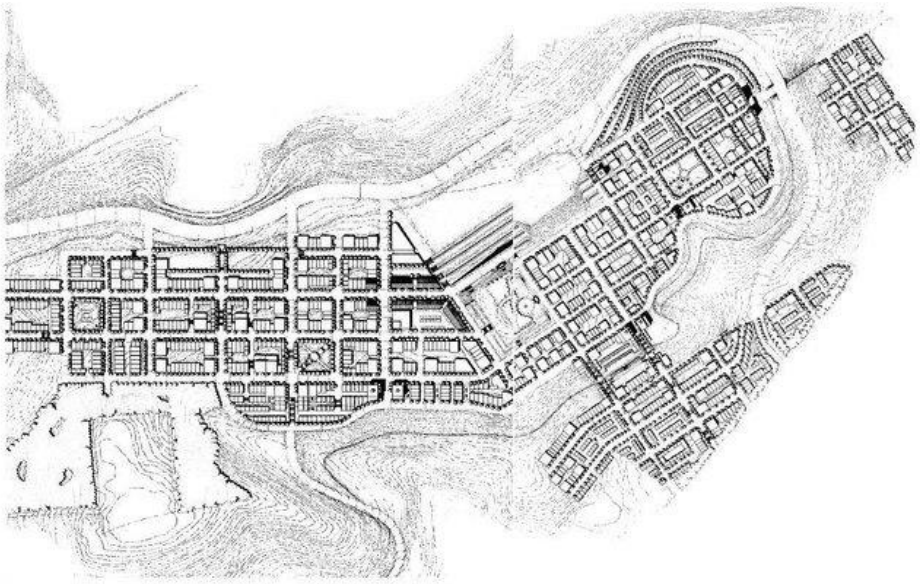

Figure 2.21. First Plan of Communications Hill. (Source: web 15)

The Communications Hill settlement was built in 1991 in San Jose, California. It was designed by a consultant team led by Daniel Solomon and Kathryn Clarke (Katz et al., 1994). An orthogonal grid scheme was applied in the plans with compact, well-defined building blocks and streets. Grid plan scheme was selected to provide higher densities and to create a more compact layout. In addition, the terrain was sloping in terms of topography and in the design, it was desired to create view and vista points by using the slope. After the topographical surveying in the region, the grid plan type that was previously applied in sloping terrains such as San Francisco and Seattle was preferred. The project area is approximately 202 hectares and its height from the sea is up to 122 meters. It is located in an area of low-density urban sprawl within San Jose (Katz et al., 1994). After the first implementation of the project, many years later it was expanded and new blocks were built by another company following the same grid approach. The first application and the expansion of the project can be seen in Figure 2.21 and Figure 2.22.

Figure 2.22. Later stages of Communications Hill. (Source: web 16)

The street network of the settlement was created by applying the grid plan purposely instead of another plan scheme that is more applicable for sloping terrains as in the region. Influenced by the attractiveness of cities such as San Francisco, designers preferred the grid plan scheme mostly because of its functional advantages. Another reason of the selection was the convenience of the grid plan scheme regarding the creation of walkable streets that increase social interactions. The streets formed a network system that allowed the local traffic to disperse (Katz et al., 1994). One of the biggest advantages of the grid system was transportation. Bicycle lanes, sidewalks and walking trails were integrated with the street network and also connected with the public transportation. Steps and ramps were used in the places where the slope increases.

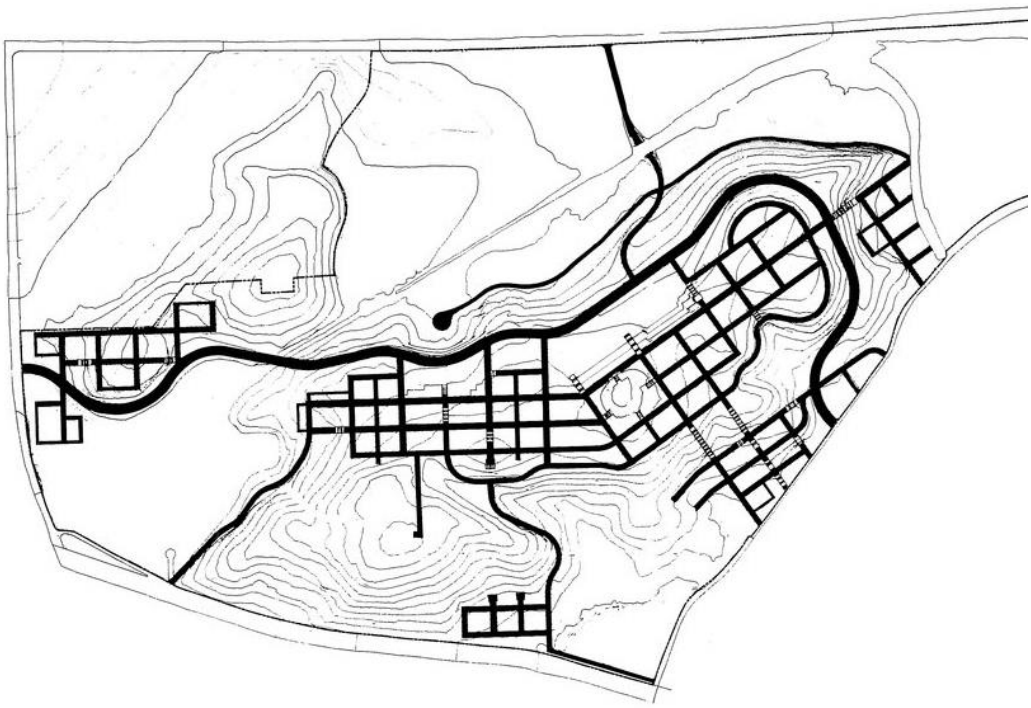

Figure 2.23. Street network, grid on terrain. (Source: web 15)

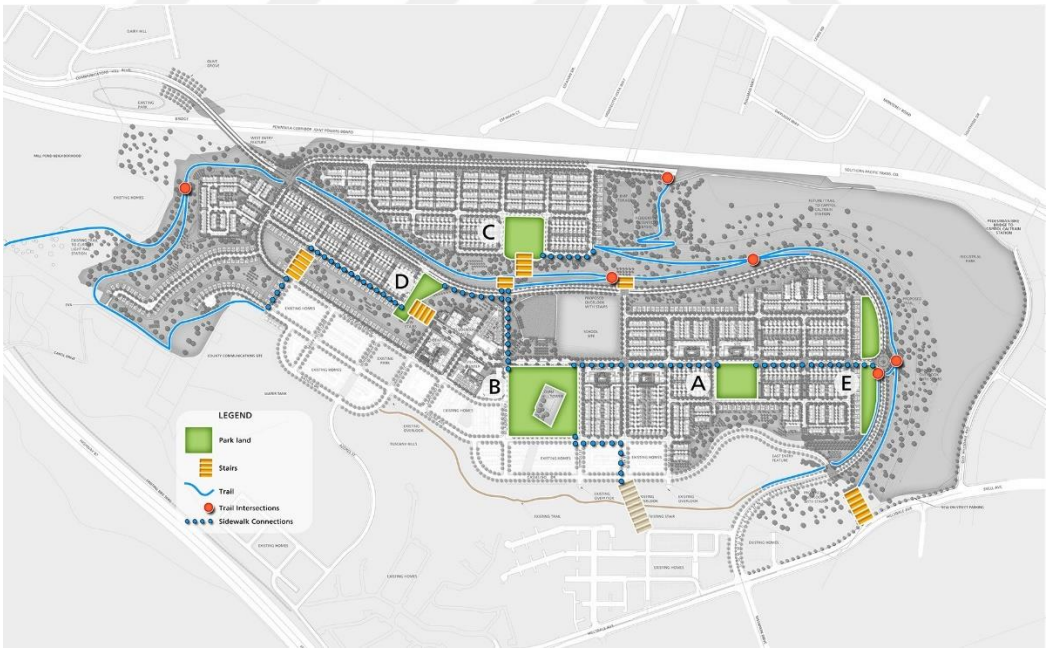

Figure 2.24. Pedestrian trail and parks. (Source: web 16)

There are 4000 residential units in the settlement with a density of approximately 50 units per hectare. The highest density in the plan is 80 units/ha (Katz et al., 1994). There are different architectural typologies among these 4000 units, and also each building block contains different types of dwellings. In this way, it was aimed to provide diversity in housing types, prices and uses, similar to other New Urbanist projects. Apartment buildings constitute the highest density of housing units in the project (Katz et al., 1994). Besides the residential blocks, again, as in other New Urbanism projects, it was aimed to create a public space at the center of the neighborhood, surrounded with mixed-use functions. Likewise, public, corporate and commercial activities were planned within walking distance.

Parks are the main public spaces in Communications Hill. Besides parks, playgrounds and grass hills are other open public spaces. The walking trails in the neighborhood are connected to these parks and green areas. Apart from these, all commercial activities, small shops and other functions are located in the center of the settlement. Ensuring integrity was a purpose of the project with the planning of the street grid, stairs, pedestrian trails, public spaces, building blocks, building typologies as a whole also to make the streets walkable and encourage people to this activity (Katz et al., 1994).

Figure 2.25. Aerial view, building block. (Source: web 16)

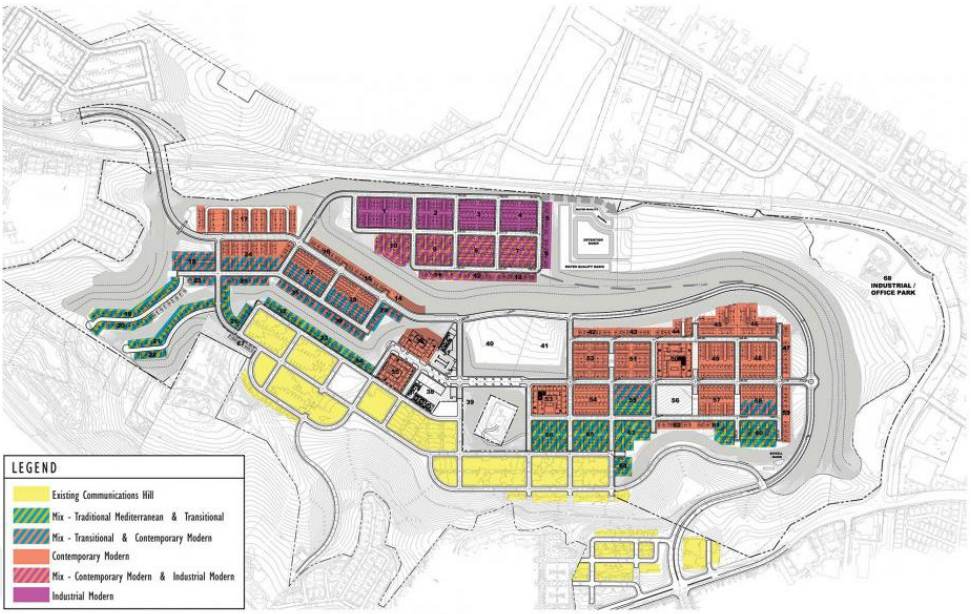

Figure 2.26. Blocks with different residential typologies. (Source: web 16)

2.3.9. Poundbury, England

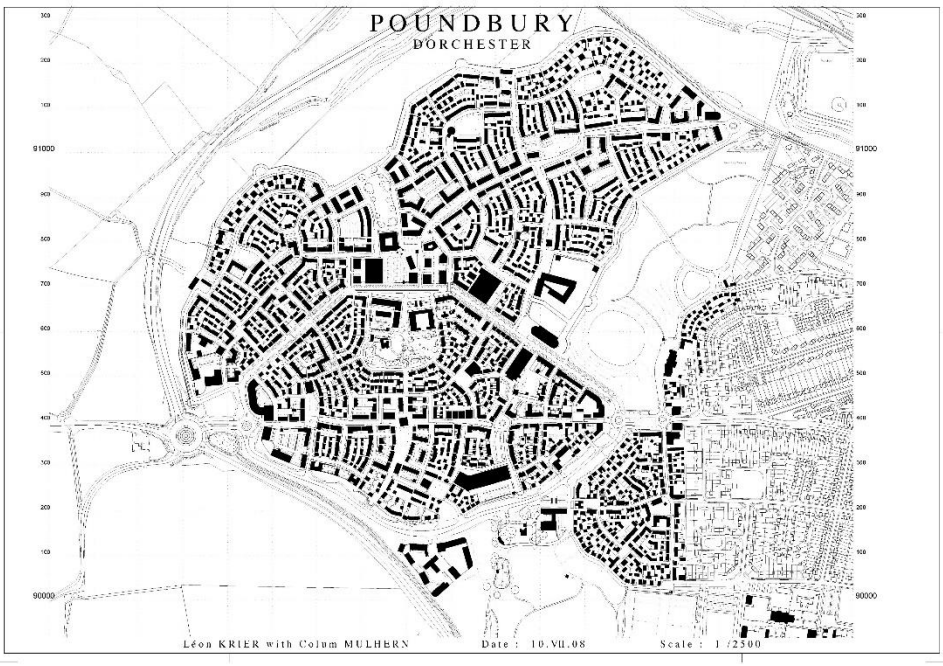

Figure 2.27. Poundbury Nolli Plan. (Source: web 17)

Poundbury is considered as one of the first examples of New Urbanism in Europe. In 1987, the local planning authority designated a region under the responsibility of the Duke of Cornwall as an urban expansion area. The Duke of Cornwall was also the Prince of Wales who was someone on the subject and has even written a book about urban and rural planning called *"A Vision of Britain"*. Charles, The Prince of Wales appointed the architect and urban planner Leon Krier in charge of the project, who was also referred as the *"intellectual godfather"* of the New Urbanism movement in America since he contributed to the CNU from nearly day one as a mentor and consultant (Salingaros, 2001). The region that was specified as the expansion area was located in the south-central part of England, adjacent to the west of Dorchester. The total project area was approximately 162 hectares (Hardy, 2006). Krier's task was to plan this extension area of the city, while taking the traditional architectural style of Dorset and the urban design principles in The Prince's book into account. Poundbury was planned to be a well-designed settlement with certain design codes, integrating the concepts of New Urbanism and The Prince's principles.

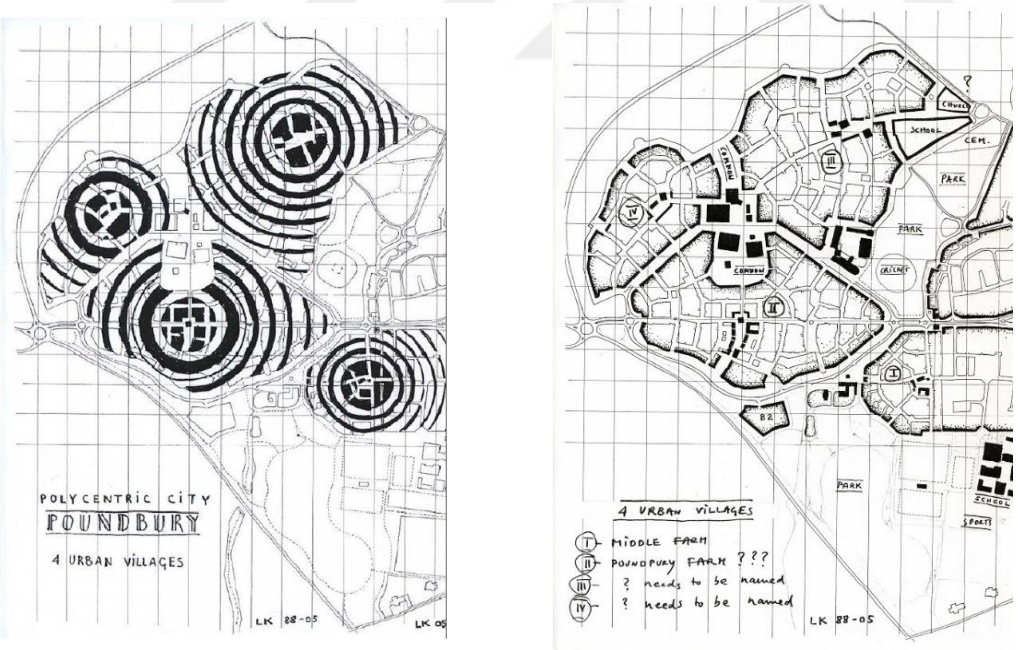

Figure 2.28. Krier's drawings of the 4 villages. (Source: web 18)

In accordance with Krier’s planning, Poundbury was divided into four different villages. About 100 hectares of the area was reserved for mixed-use buildings and 60 hectares were allocated to green areas and landscaping. Each of these urban villages has secondary centers at their centers, and a main town center of the settlement was defined in between these villages. Each of these villages containing different living spaces but at the same time ensuring integrity was an important aspect of the project. The town was designed for 5800 people and each divided region was to be constructed in different periods (Hardy, 2006). Regarding the design decisions, great importance was given to the traditional urban fabric and building typology and additionally issues such as, walkability, mixed-use, high density and reduction of automobile use were prioritized.

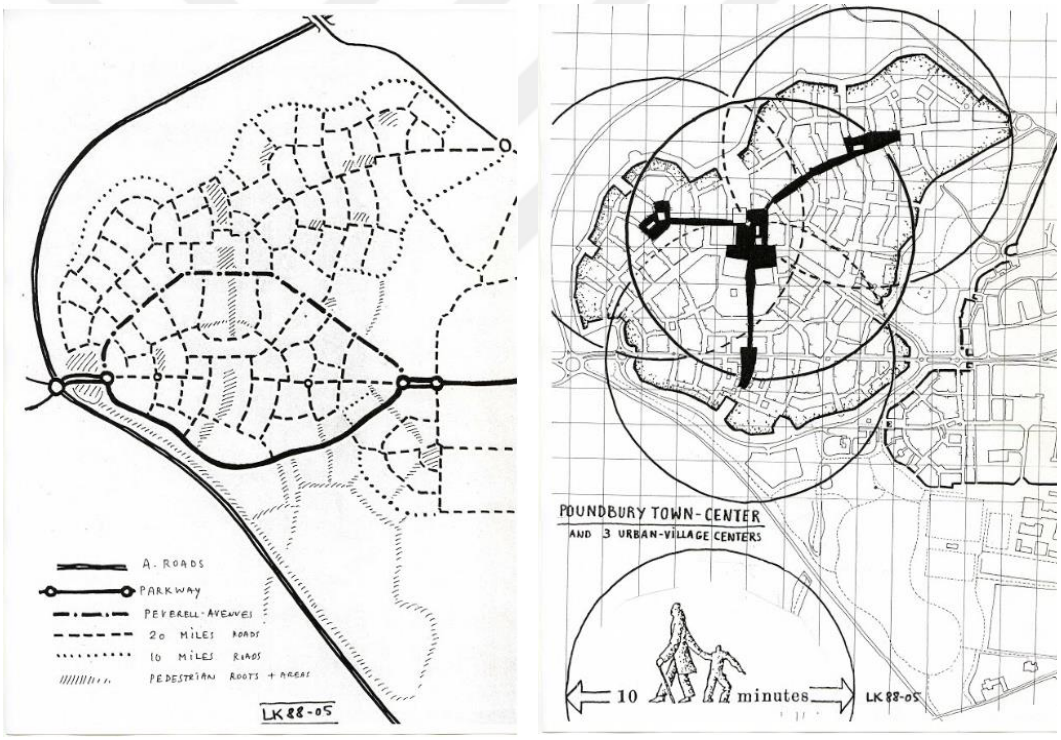

Figure 2.29. Street network, walking radius inside the regions. (Source: web 18)

Methodically, every part of the project was tied to rules and regulations including the architectural details inspired from the local examples. Many different architects applying these principles took part in Krier's planning of the project. The project was

not only about creating a physical space, but also creating a community. In terms of architectural style, different typologies were designed, generally inspired by local and European types, from country houses to classical houses (Hardy, 2006). The aim of this diversity was to create a multi-layered neighborhood and to ensure that each region has its own identity and character within the whole.

Figure 2.30. The street image of Poundbury. (Source: web 19)

2.3.10. Heulebrug, Belgium

Figure 2.31. Building blocks of Heulebrug with inner alleys. (Source: web 20)

Along with Poundbury, Heulebrug settlement is also considered as one of the first examples of New Urbanism in Europe. It was designed and jointly undertaken by DPZ and Leon Krier in 1998. The project area covers an area of approximately 26 hectares. The project was awarded as *"Best New Garden City"* by A Vision of Europe (DPZ CoDesign, n.d.). It was designed to be a continuation of the traditional neighborhoods in the region rather than a new project from scratch. The fact that being able to walk the entire project site in 10 minutes seemed to be a very convenient situation in terms of applying the principles of Traditional Neighborhood Design to the project. In line with these principles, it was possible to plan a public transportation friendly and pedestrian-oriented design with a specific center and boundaries, including different uses (DPZ CoDesign, n.d.).

Figure 2.32. Site Plan of Heulebrug. (Source: web 20)

The project is thoroughly based on the concepts of New Urbanism and includes more than 600 types of housing, including social housing units, for different economic groups. The masterplan of the project was finalized in 1998 and the construction began in 2003 (DPZ CoDesign, n.d.). As in a typical New Urbanist neighborhood, a main public square was planned in the center of the project area containing different functions. This central public space was located at the intersection of the four main axes of the street network within the project, dividing the project area into four regions, almost like a crossroad. These 4 regions also contain smaller public spaces. The main public space is like the heart of the neighborhood and therefore contains elements such as a monumental tower. While the main square in the center comprises of mostly hard ground and has commercial and mixed functions, the secondary squares are mostly green areas with recreational functions (DPZ CoDesign, n.d.). These secondary green squares and the main square in the center are located within walking distances from any point of the neighborhood.

Approximately 30% of the residential types in the project consist of social housing due to the necessity. The housing typology was inspired from the traditional architecture of the region, that is to say the continuation of the existing urban fabric was aimed (DPZ CoDesign, n.d.). Within the scope of the mixed use in the project, different functions such as commercial units, cafes, restaurants, offices, public buildings and green areas were also planned.

DPZ worked on a design guideline and determined codes for the project, as frequently did before in their previous works (DPZ CoDesign, n.d.). Many criteria were determined regarding urban design and architecture, including public spaces, streets, building facades, plot types etc. The placement of the buildings within the parcel was planned in order to define the streets and public spaces better, and another purpose was to hide the garages and parking lots. It can also be stated that one of the most important concepts emphasized in these guides and regulations was the concept of sustainability. According to this, many architectural details, from the materials used in the buildings to the slope of the roof, from the window joineries to the insulation elements were regulated in terms of both the sustainability of the buildings and their compatibility with the local architecture (DPZ CoDesign, n.d.).

Figure 2.33. The local architectural order and one of the secondary public green squares in the neighborhood. Even though it is a defined green area, it is disputable that it can be regarded as a well-designed recreational area. (Source: web 20)

2.4. Concepts

The 27 principles regarding 3 different scales, stated in the Charter of the New Urbanism, reveals the manner of approach and main objectives of the New Urbanism movement. In the Charter, many different concepts related to the city, urban planning and urban design are mentioned. These concepts regarding the city, urban planning, urban design, architecture and also the social life of the community are indispensable for New Urbanism movement and must be provided in a New Urbanist settlement. These concepts, which were the mostly emphasized in the analyzed implementations, which were studied in different sources in the literature, which are the ones mostly mentioned in the Charter and which could be referred as New Urbanism's best-known notions are as follows:

- *"Transit Oriented Development"*
- *"Pedestrian Pocket"*
- *"Traditional Neighborhood Design"*
- *"Walkability"*
- *"Connectivity"*
- *"Mixed Use and Diversity"*
- *"Mixed Housing"*
- *"Increased Density"*
- *"Smart Transportation"*
- *"Sustainability"*
- *"Social Interaction"*
- *"Quality Architecture and Urban Design"*
- *"Quality of Life"*

2.4.1. Traditional Neighborhood Development

The concept of Traditional Neighborhood Development (TND) was inspired by historical neighborhoods against the automobile-oriented residential fabrics. It was started to be discussed in the 1980s and played a role in the emergence of the New Urbanism movement (Steuteville & Langdon, 2009). TNDs was advocating slower traffic, walkable streets, and the revitalization of the traditional neighborhood fabric in the modern settlements. Duany, Plater-Zyberk and Calthorpe, important names of New Urbanism defended this model and regarded the cities of the 1920s as the good urban design model. Instead of monotype land uses, TND aimed to design settlements with small plots, where different uses such as shops, houses and workplaces were combined, as in the neighborhood fabric of the cities of 1920s before the World War II (Steuteville, 2019).

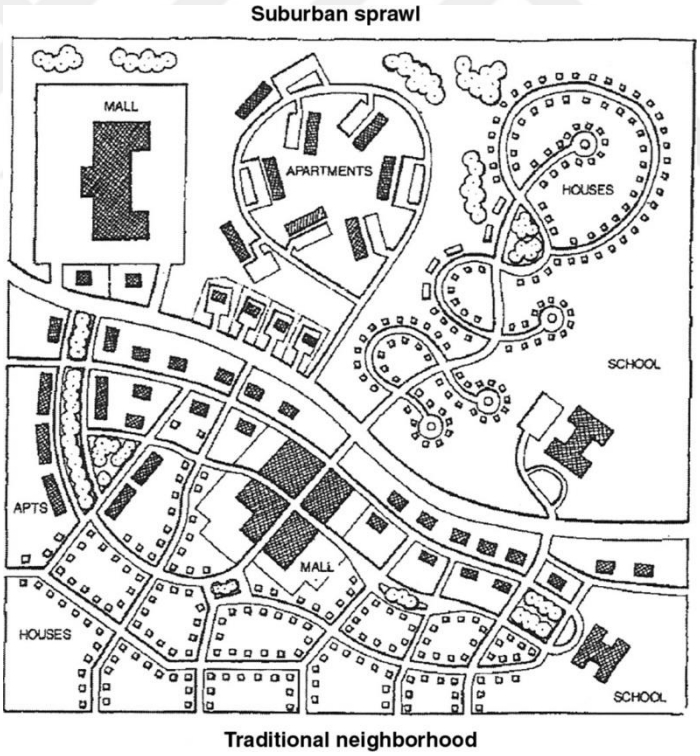

Figure 2.34. Traditional neighborhood development below, versus suburban sprawl on top. (Source web: 21)

The primary element of planning is the neighborhood unit, according to the design principles of TNDs. The size of a neighborhood is determined by focusing on its center and walking distances are given priority according to the center. Diversity is another key element for the concept, in terms of both the physical space, functions, social classes and age groups. Placing the buildings on the parcels in a way that would make the street and public spaces more defined is another focus of the TND with also the intention of planning the street network to provide alternative routes within the settlement. In addition, public buildings should be located in privileged areas (Ellin, 1996).

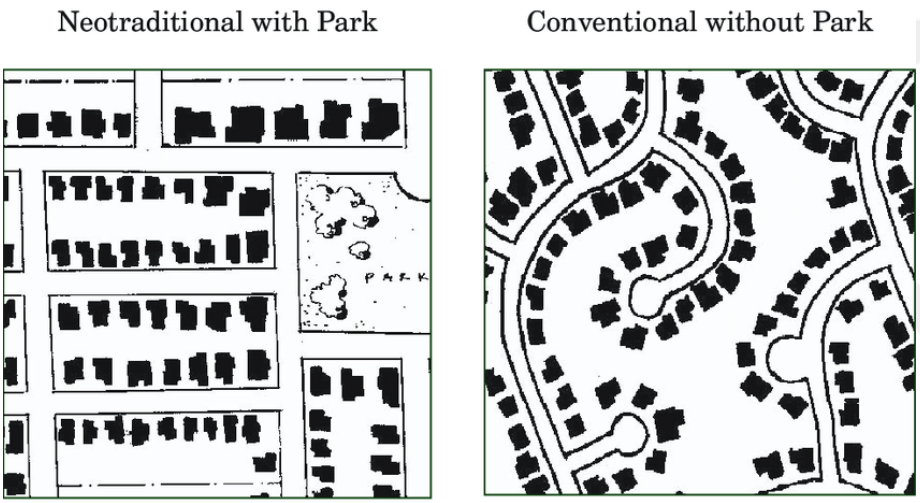

Figure 2.35. Grid approach in the sttreet network versus cul-de-sacs, small building plots versus bigger plots, neotraditional versus conventional. (Source: web 22)

As examined in the implementations of New Urbanism, the movement advocates that the community should live in a healthy, prosperous and at the same time in an enjoyable environment, which is directly related to the design of the physical spaces. The aim of the movement is to provide these conditions and to design physical spaces where the community can continue their daily lives without being dependent to automobiles, and perform their living, working, shopping and other activities in this well-designed environment. At this point, the traditional neighborhood design concept which was introduced by Duany and Plater-Zyberk and which was examined

in the previous subheading, is one of the tools of New Urbanism (Katz, 1994). This model, containing all the New Urbanism concepts, proposes a compact model for the neighborhood, where every function is accessible in 5 minute walking time, decreasing the use of automobile, increasing the daily encounters and social interactions.

According to some views, New Urbanism is considered as a neo-traditionalist movement (Krieger & Lennertz, 1991), as the movement supports that the modern neighborhoods or settlements should be designed like the traditional ones regarding their both urban and social fabric. The urban fabric of the historical settlements was providing more interaction for the users with their hierarchical public spaces, diversity and hierarchical structure. However, even the movement is referred as neo-traditionalist, the aim of it is applying similar principles and form-based codes to the newly designed settlements considering today's circumstances instead of copying and repeating the same exact system implemented years ago.

New Urbanists claim that neighborhoods or towns should have clear and recognizable boundaries, edges and a center similar to traditional neighborhood structures. At the center of a town, there should be a well-designed public space like a square or a park including monumental structures reflecting the identity of the society. Public realm and public spaces were vital in the historical towns such that the whole structure of the towns was built around them.

Coinciding with the other concepts, the historical towns were also containing different uses, providing diversity, all within walking distances. The town center was the place with the highest density in town and the density was decreasing from center to peripheries. For New Urbanism, there should be a similar zoning system in the new towns, density gradually decreasing from urban to rural. This approach is named as "transect planning" by the foremost New Urbanists (Duany & Talen, 2002). Another outcome of this concept is community planning. Different urban fabric, different streets, different uses from the center to the periphery and edges of a town results into diversity and therefore different lifestyles in the community.

2.4.2. Transit Oriented Development

One of the approaches that emerged with the New Urbanism movement is the concept of Transit Oriented Development (TOD). Propounded by Peter Calthorpe, one of the founders of CNU, in 1982, TOD aimed to link the transportation system and land use, and was later adopted by many different urban designers with the foundation of New Urbanism (Steuteville, 2009). Over the next years, several projects were designed with the principles of TOD, connecting transportation to mixed-use walkable centers. The practices of TOD constitute examples of a regional-scale planning on the design of the new neighborhoods and towns also reorganization of the existing urban fabric (Calthorpe, 1993).

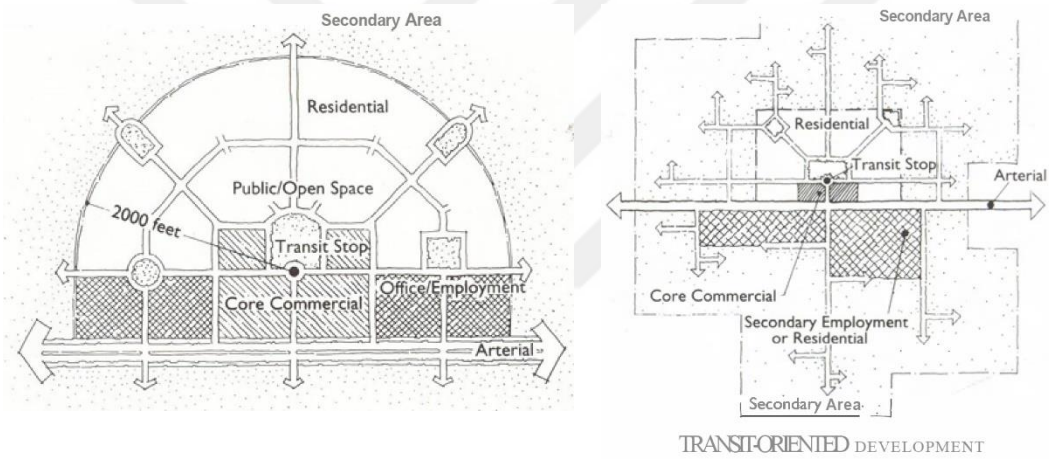

Figure 2.36. Diagrams of TOD (Calthorpe, 1993).

TOD is a concept of a mixed-use neighborhood planned within a 10 minutes of walking distance from a public transport stop and central commercial area. The development's integration of residential, retail, office, outdoor and public uses in a walkable and transportation-oriented environment, makes it easy for the residents and workers to travel by public transport, bicycle, foot or car. Among the characteristics of TODs, prioritizing pedestrian movement and encouraging walking while considering and organizing different modes of public transportation comes to the forefront. It is typically linked to rail transport – but bus rapid transit can also

provide a framework for the concept. TOD prioritizes public transport and functions related to public transportation such as the train station are pivotal, such that neighborhoods should be designed with high density within a 10-minute walking radius of these transportation functions. Among different public transport alternatives, trams, light rail, buses and other environmentally friendly public transport units are encouraged (Steuteville, 2009). Apart from the automobile, street networks and circulation systems should be designed while considering the other alternatives such as bicycles, motorcycles and roller skates. In addition, the concept advocates that there should be focal centers that include different uses such as offices, residences, commercial and public spaces within neighborhoods.

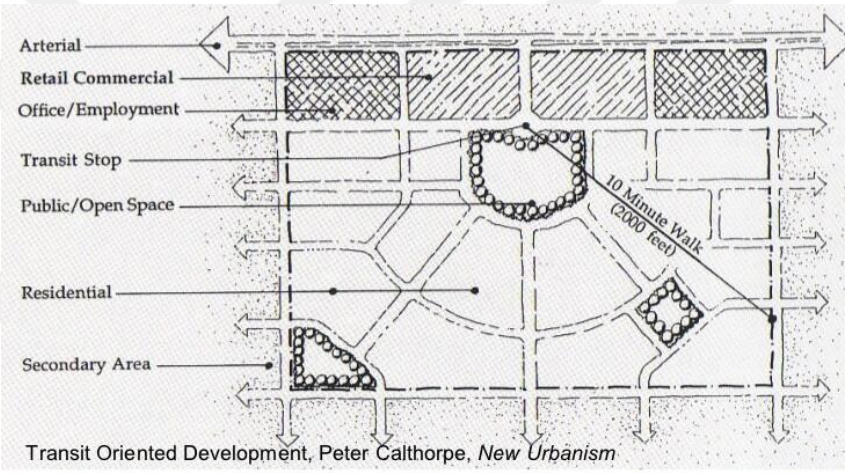

Figure 2.37. Neighborhood concept of TOD (Calthorpe, 1993).

There are different principles of TOD for different scales and by their location along the main public transport network. For example, Urban TODs are located directly on the main transportation line, which is mostly heavy rail stops. Urban TODs should be planned with high densities with commercial, residential and business functions. On the other hand, Neighborhood TODs are located on a local or feeder transport station which is 10 minutes from the mainline transit stop by public transport. They are planned to be medium-density settlements with functions such as housing, retail and services (Calthorpe, 1993).

2.4.3. Pedestrian Pocket

The notion of Pedestrian Pocket (PP) is one of the neo traditional urbanism practices and is an approach first put forward by Peter Calthorpe. Calthorpe has developed PP to develop new typologies for suburban urban areas, to create pedestrian oriented communities (Calthorpe, 1993). PP was defined as a suburban project that brings together the existing suburban settlements with public transportation networks and concentrated pockets around the light rail stations. Medium-high density settlements with different uses are planned in the immediate vicinity of these stations. In order to strengthen public transportation, conserve open areas and create a more compact urban form, the concept aims to create walkable and multi-functional settlements. With the approach of the PP, it was aimed to create a regional network covering suburban, inner-city and undeveloped areas. The size of the PP was determined by a walking distance of 400 meters. Although it has a grid plan, it was based on the Radburn model. Vehicle roads with cul-de-sacs which were separated from the pedestrian paths connecting to the center. As distinct from TND, PP have a more regional purpose and more dependent on transit transportation. Again, unlike TND, it does not have a guideline regarding different housing types, prices and aesthetic diversity (Ellin, 1996). The Pedestrian Pocket approach was first used by Peter Calthorpe in the design of Laguna West in 1989.

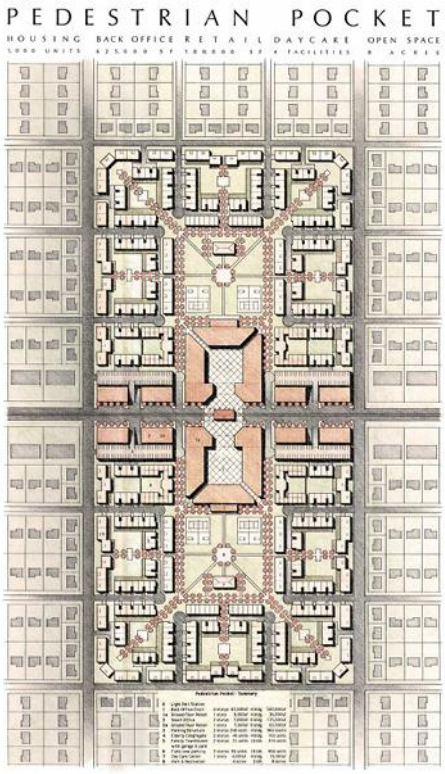

Figure 2.38. Calthorpe's Pedestrian Pocket (Calthorpe, 1993).

2.4.4. Walkability

Walkability is one of the most important and commonly known concepts of New Urbanism. According to the movement a neighborhood or a settlement should be walkable for pedestrians to create a more social, lively, safe, healthy community and neighborhood, at the same time with less environmental pollutions caused by the automobiles (Steuteville, 2019). According to Talen, walkability *"is the extent to which the built environment supports pedestrian activity – shopping, visiting, strolling, etc."* (Talen, 2014).

In order for a neighborhood to be evaluated as walkable, there are certain criteria according to New Urbanism. First of all, for a resident, the walking distance between the house and other functions in the neighborhood like offices, parks, shops and others should be between 5 to 10 minutes and each function should be accessible within this walking radius (Steuteville, 2019). Secondly, the streets should be

designed for pedestrians with a human oriented approach. For instance, the number of parking lots for cars in the streets should be reduced in order not to interrupt the walking pedestrians, there should be wide sidewalks for the pedestrians that are not divided by car parking lots. Garages should be located underground or in the middle of the block and garage entrances should be in the rear service roads and not from the front elevation of the buildings facing the sideway and the street (Steuteville & Langdon,2009). The slow flow of vehicle traffic should be provided in the street, if possible, the streets should belong entirely to pedestrians where cars cannot access or access to a limited extent. The front facades of the buildings should be close to the streets away from privacy and designed accordingly.

2.4.5. Connectivity

Figure 2.39. Different street networks and connectivity levels. (Source: web 23)

Connectivity is a concept of New Urbanism related to the other concepts of the movement like walkability and public transportation. The movement suggests that the street network of a city or a neighborhood should be interconnected, well-designed and geometrically efficient (Steuteville, 2019). The network should be formed with hierarchical streets, avenues, boulevards, and passages with different characteristics.

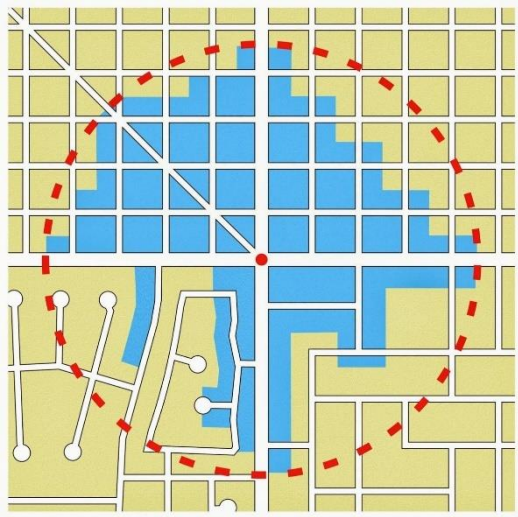

Figure 2.40. Gridal scheme vs. cul-de-sacs. Four different street networks with four different accesibility levels. (Source: web 24)

The street network including the junctions and crossroads all should be designed to reduce the traffic and also give importance to pedestrians with providing easy accesses. Streets should not serve as a network just for connecting vehicles, but also, they should be designed to connect people. While providing this connection for pedestrians, there should be well designed public spaces between the streets so that the pedestrians could enjoy walking. In a way, the street network should promote walking and the use of public transport. A neighborhood form consisting of grids with many road intersections without dead-end streets and cul-de-sacs like in the Radburn scheme was determined to ensure connectivity (Steuteville, 2019).

2.4.6. Public Transportation

New Urbanism has an approach against the automobile-oriented neighborhoods and urban fabric and the movement aims to revive the pedestrian-oriented traditional neighborhood texture, since TND is an important aspect of the movement (Steuteville, 2019). Regarding this matter, public transportation is an important element and alternative which New Urbanism advocates against the automobile-oriented system. The movement has efforts to integrate different modes of public

transportation systems into neighborhoods such as the concept of Transit Oriented Development (TOD) (Steuteville, 2019). Different modes of public transportation and walkability are regarded as solutions for the transportation problems and traffic congestion in a city. Since New Urbanism advocates transportation methods in a town which are environmentally friendly. In addition to the environmental reasons, efficiency and connectivity are important keywords in transportation for New Urbanism. Cities should have a transportation network which is geometrically efficient with a hierarchical street network consisting of different alternatives (Steuteville, 2019). This network should include different types of vehicles for public transportation such as trains, trams buses etc. However besides these, also a priority must be given to environmentally friendly daily transportation methods such as walking and biking. The entire street system and transportation infrastructure should be walkable and bikeable with streets including wide sidewalks and bike lanes with defined borders. The transportation planning at the upper scale and street sections including the sidewalks and traffic lanes should be designed accordingly.

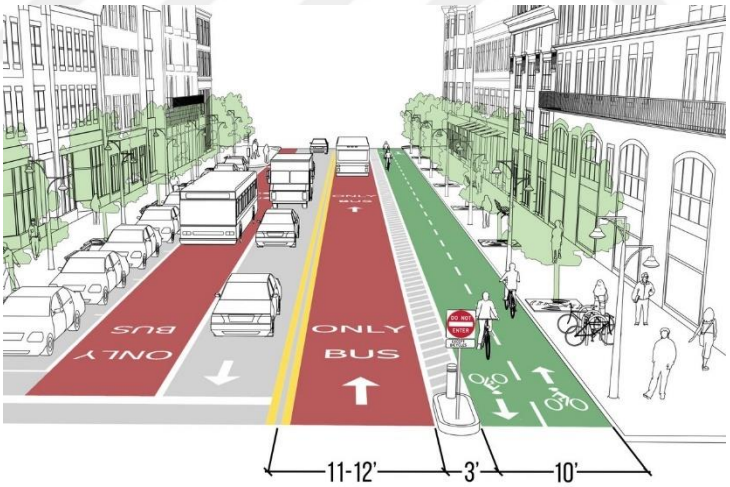

Figure 2.41. An example of a street section with different modes of transportation. (Source: web 25)

2.4.7. Mixed Use and Diversity

One of the issues that New Urbanism criticizes is land use plans that are segregated according to their uses and carry only one function as in the suburbs. Reciprocally to this New Urbanism purposes to build neighborhoods with mixed-use, containing different functions such as housing, commercial, civic and other much the same as in the traditional neighborhood fabric (Dutton, 2000).

In most New Urbanism projects, a focal point is defined in the center of the neighborhood and many mixed-use functions are located at this point. not only in the main center but throughout the neighborhood different functions are distributed. One of the purposes of this approach is to make the neighborhood livelier, to make different functions more accessible and closer and thereby reduce the dependency on cars (Dutton, 2000).

The concept of diversity along with mixed use is also important for New Urbanism. Apart from creating a diversity in the physical space, building types and land use, the movement also aims to create diversity in the community. For this reason, different types of housing units with different prices, for different economic classes and different age groups, were designed in most of the New Urbanism projects (Steuteville, 2019).

Mixed use and diversity are important concepts for New Urbanism, since it is a movement against the single-functional residential buildings in American suburbs and is seen as an anti-sprawl movement. According to the movement, the fact that there was only one use in the American suburbs led people living there to travel from home to work every day and it evolved into an automobile focused model. In addition, neighborhoods consisting of only residential units which were similar in terms of architecture led to a monotony. This monotony was not just in the architecture or the physical space. There was a monotony in the suburban community as well since the community was consisting of only one economic class.

Against the suburban neighborhoods with only residential uses, New Urbanism suggests neighborhoods with mixed-use and not only neighborhoods, blocks and buildings could be designed with mixed-uses. Rather than just housing, there should also be offices, shops, sanctuaries and other functions in a neighborhood. At the building scale, even the apartments should have other uses than housing like offices. This mixed-use approach provides a diversity in architecture and breaks the monotony according to New Urbanists. In this compact model, people do not have to travel long distances between home and work, the neighborhood already has its working places. However, a diversity in architecture is not the only goal of this approach. Unlike the suburban communities from a single economic class, New Urbanism also aims a diversity in the community (Krieger & Lennertz, 1991). The community in a neighborhood should include people from all income classes, cultures etc.

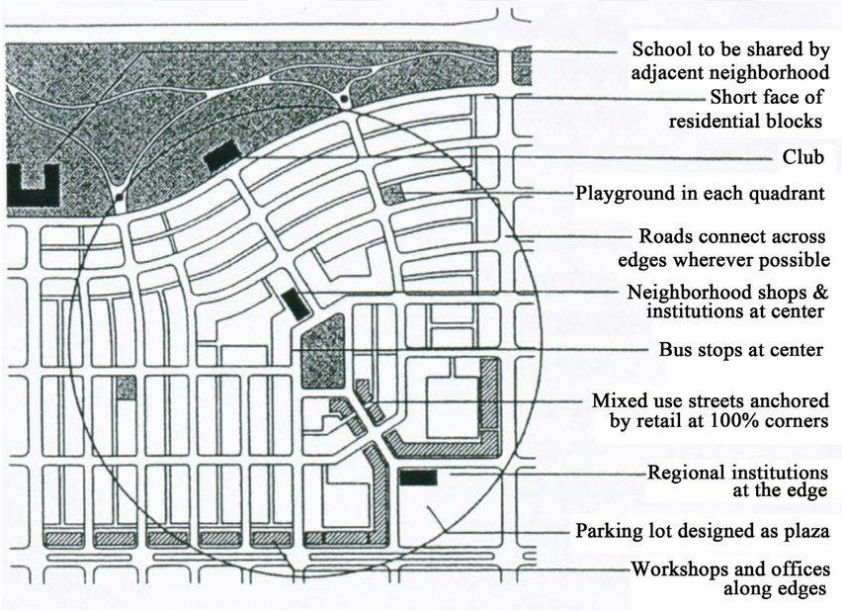

Figure 2.42. An example of New Urbanism's TND including the concepts of the movement. (Source: web 26)

2.4.8. Mixed Housing

Although mixed housing looks similar to the previous concept, mixed use and diversity, it is more about the residential units in the neighborhood. Mixed housing in a neighborhood means a neighborhood with different houses in terms of architecture and in terms of affordability. In order to create a community from different economic classes, there should be affordable houses for each class. Thus, for New Urbanism, there should be different typologies of residential units in a neighborhood which will also bring diversity in terms of architecture. There should be apartments with different plan schemes and with different square meters for different types and numbers of users (Dutton, 2000).

A neighborhood being livable, lively, pleasant and social is one of the most important aspects for New Urbanism. In order to ensure this, there should be a good quality in architecture and urban design. The neighborhood should be well designed aesthetically to create a sense of belonging and sense of place in the community and this needs to be done with reference to the past, preserving the local values. The pavements of the streets, the public spaces, the architecture, the green areas and parks, the monuments should all be aesthetically pleasing for the community and should be designed for human scale. Mixed housing is a part of this approach. It is desired to break the monotony with different types of buildings and to generate places with different identity and characteristics within the neighborhood itself (Steuteville, 2019).

2.4.9. Increased Density

Residential units of the American suburbs with low density, located on wide and large plots with high square footage were not efficient in terms of transportation and many other factors. The use of automobiles became necessary with the increased distances. Therefore, the transportation and infrastructure costs, consequently environmental pollution due to fossil fuels increased (Dutton, 2000).

The increased density concept of New Urbanism rather suggests towns and neighborhoods with mixed use and high density for the efficient use of resources and so that every function in the town should be accessible in a short period of time by walking or other transportation methods. This concept of high density with mixed use also makes towns socially active and open to different interactions for those who live in (Steuteville, 2019).

2.4.10. Sustainability

Although the notion, sustainability, first appeared in the United Nations report commonly named as *"The Brundtland Report"* (Brundtland, 1987) in 1987, especially in the last 15 years it has gained more importance due to the issues such as global warming, the climate crisis and other environmental problems. Along the same line, in architecture and urban design disciplines the concept of sustainability began to come to the fore. With the depletion of natural resources; issues such as renewable energy sources, resilience, use of materials, recycling and planning for the future began to be discussed more frequently. In a similar manner, New Urbanism can be defined as a movement that is sensitive to the environmental issues and thus sustainability is an important concept of the movement. The fact that the movement encourages walking against driving automobiles is directly related to the damage caused to the environment by automobiles. New Urbanism aims to design sustainable settlements respecting the nature; where fossil fuels are used less, where with new technologies more sustainable methods are used in building construction techniques, where local values, resources, materials and local production are given importance and where energy resources are used efficiently (Steuteville, 2019).

2.4.11. Sense of Community

In addition to designing the physical space through urban planning, urban design and architecture, one of the other goals of New Urbanism is community design. It is

important for New Urbanism to design lively settlements where social interactions are high for those who live in it and where individuals can enjoy living in and being a part of it. Therefore, establishing a sense and identity of community is another important concept for New Urbanism. For this reason, a human-oriented and human-scale design approach is dominant in the movement (Steuteville, 2019). After all, every design is for the people and designing places where the community can enjoy and have a high quality of life is a part of this. Cities should be worth living, and worth visiting also with its well-designed public spaces open to social interactions. The word *flâneur*, meaning a person who is wandering in the city streets, getting lost and exploring, is in great harmony with this approach of New Urbanism. The settlements that New Urbanism aims to design can be considered as suitable for *flâneurs*.

2.5. Critiques

Despite the increasing popularity of New Urbanism, there has been several criticisms regarding the principles and practices of the movement. For the most part, the movement is criticized for ignoring the social and economic aspects regarding the city. According to this approach, in a globalizing world with a global economy, with developing technologies and new construction techniques, it is unreasonable to try to establish the traditional cities of the past (Ellis, 2002, p. 268).

The notion of privacy is another subject for criticism. The movements approach that is prioritizing the public spaces and encouraging social interactions in the community, may not be suitable for the residents seeking privacy, since the notion of "urban space" has changed (Ellis, 2002). The social interactions that New Urbanism tries to provide can happen in alternative environments together with the technology and digital media tools. People who socialize in the digital environment may rather seek privacy in the physical environment. Or there may be individuals who do not want to share their garden or garages with their neighbors, rather seeking privacy in their private courtyards or personal spaces (Briney, 2019). After all, not

all the community have to have the same type of behavior and opinions. Likewise, the neighborhood design with high density is also another issue considering individuals that do not prefer to live in a crowded environment. This approach of the movement, neglecting the social conditions of the community and rather seeing the community as identical, on top of that developing strategies over this generalization has been a subject of criticism for New Urbanism (Oktay, 2017). Sudjic even claimed that the approach of the movement rather fits into a "Mediterranean fishing village social organization" than the modern world (Sudjic & Sayer, 1992, pp. 282-284). Also Safdie states that New Urbanism does not take the existing circumstances of the modern world into account (Safdie & Kohn, 1997, p.89).

Although it is claimed that the movement has a traditional approach, according to some views, New Urbanist settlements are artificial, far from traditional American neighborhoods and rather resemble a movie set. Seaside is the most criticized example in this regard, since it literally has already functioned as a movie set. Just like in the movie *The Truman Show*, there are opinions alleging that there is an artificial community model in Seaside, where only wealthy and white people who can afford it live. Therefore, rather than creating a diversity, there is a similarity in the community in terms of economic classes. At this point Scully even claims that the movement can be named as "*New Suburbanism*" (Scully, 1994, p. 221).

Figure 2.43. A frame from 'The Truman Show' movie, which was filmed in Seaside. (Source: web 27)

2.6. Similar Related Approaches

Over time, many different movements and approaches regarding the city and urban design has come forward. Some of these influenced and inspired New Urbanism, and some were influenced by New Urbanism. In the previous titles, *Garden City* and *The City Beautiful* were mentioned as some of the theories affected New Urbanism. Also, emerging in recent years, there are movements and concepts influenced by New Urbanism such as *Compact City*, *Sustainable City*, *Urban Village*, *Smart Growth* and *15-Minute City*. All of these approaches share common features with New Urbanism. However, New Urbanism can be defined as an umbrella movement for these other concepts.

At the end of the 20th century, along with New Urbanism, the Smart Growth movement started to gain importance. Compared to New Urbanism, the Smart Growth movement emphasizes approaches and proposals regarding the regional scale. The growing Smart Growth debates in the mid-1990s led to studies regarding the city centers, growth corridors and conservation areas at the regional scale. Smart Growth focuses on urban planning and urban transportation and advocates a compact, walkable, transit oriented, bicycle-friendly, mixed-use and anti-sprawl development for the cities. As a consequence, New Urbanism has begun to be identified as a valuable tool for Smart Growth.

While Smart Growth also supports high density, mixed use of land and walkable neighborhood units, New Urbanism is stated to be the most appropriate method for Smart Growth to achieve its objectives. In the same way with New Urbanism, Smart Growth is against car dependency and urban sprawl, promoting mixed-use, compact and walkable urban environments in the development of cities. Instead of designing and creating single-functional new settlements in the peripheries of the city, Smart Growth rather adopts the approach of renovation in the existing settlements (Talen, 2003).

Although it is attributed to Jane Jacobs, Compact City is a concept that was first mentioned in 1973, which is also called city of short distances, very similar to the approach of New Urbanism that purposes to make every function accessible within a 5–10-minute walk in a neighborhood (Dantzig & Saaty, 1973). The notion of efficiency can be described as the most important issue for the Compact City concept. Solely the concept of high-density in the neighborhoods is not sufficient for Compact City, the neighborhood units must be designed efficiently in terms of their street network, infrastructure and building typology. Along the same line with New Urbanism, the concept purposes to design high-density, mixed-use neighborhood units with an efficient public transport system and a street infrastructure that encourages walking and cycling.

In parallel with the New Urbanism and Smart Growth movements that emerged in the United States, the concept of urban Village also purposes to design medium-high density, mixed-use, pedestrian and public transport-oriented settlements including several public spaces. The concept emerged in Britain in the late 1980s and similar to New Urbanism, it advocates the alternatives of walking, cycling and the use of public transport against automobile dependency and it is also against the notion of urban sprawl. The concept of Urban Village can be considered as a reflection of the New Urbanism movement in Europe, considering all its features and approach.

CHAPTER 3

PANDEMICS AND CITIES

3.1. Definition of a Pandemic

Throughout the history of humanity, people have created living spaces for themselves and these living spaces have undergone changes over time. It all started with the act of carving, then this evolved into the act of building. Later, with the new methods of building learned over time, new types of settlements were constituted. Eventually cities were established and the change in the physical environment of humanity has always continued to this day and will continue to do so. There are many different reasons that affect this change in our environment. Some of these are done with the initiative of humanity while in others humanity has no effect. These changes are also taking place in cities, the physical environments where the majority of people live today and the reasons of it can be classified as natural and artifical, or man-made. Among the natural causes, factors such as natural disasters, diseases and pandemics can be counted. For the purpose of this study, among these factors, pandemics and their relations with the city will be examined.

Collins Dictionary defines pandemic as "*an occurrence of a disease that affects many people over a very wide area*".[3] It can be stated that cities are included to this wide area mentioned in this definition. Therefore and already, pandemics and epidemics have affected cities and humanity in different ways throughout history. It is necessary to mention the previous pandemics and how they affected humanity and cities in the past, dating back to before common era until today's COVID-19 pandemic since COVID-19 is not the first pandemic that took place in the world. In the past, there have been other pandemics that have affected the world, caused the

[3] Pandemic. (n.d.). Retrieved August 2, 2021 from (Source: web 28) https://www.collinsdictionary.com/dictionary/english/pandemic

death of millions of people, and left their marks on the cities and on the fields like health and economy. For this reason, pandemics that have taken place from the past to the present and their consequences regarding the city and other areas will be investigated as a part of the study.

Men and women, are not solitary beings, they do not live alone, at least the vast majority. Rather they are always in an interaction with each other. Cities are the physical spaces where these interactions and relationships take place. Therefore, cities can be considered as places where infectious diseases can easily spread in the community. An individual who gets sick carries the disease, infects the others and in the next stage, the disease spreads in the city. The characteristics and density of the physical space where these interactions take place, the degree of mobility of people, the frequency of interactions, affect the rate of spread in the city. Thus, there are both spatial and social aspects regarding the spread of diseases (Tekeli, 2020).

The spread of the viruses cannot be prevented with physical obstacles, they are constantly being carried by the movements of people and animals. If this constant spread of diseases continues and a significant number of people in the community gets sick, the situation turns into an epidemic.

Epidemic and pandemic are different notions. Epidemic is "*an outbreak of a disease in a certain geographical area*". However, pandemic is "*an outbreak of a disease that has spread across several countries or continents*".[4] A pandemic is the worst-case scenario for an epidemic disease and occurs when the epidemic spreads beyond the borders of countries (Eltarabily & Elgheznawy, 2020). Among the deadliest pandemics in history, one of the first to appear is the plague of Athens emerged in 430 BC. Since then, many other pandemics have occurred in different parts of the world leading to many consequences on different fields.

At the present time, the concepts of isolation, quarantine, lockdown and closure of public spaces as a precaution of controlling the spread of the disease are the first

[4] Retrieved August 2, 2021 from (Source: web 29)
https://www.medicinenet.com/difference_between_an_epidemic_and_a_pandemic/article.htm

procedures applied in cities regarding a pandemic, if the disease is transmitted from person to person. In the lockdown period, public spaces turn into empty spaces, however new typologies may emerge as the concept of public health affects the designs after the pandemic.

Urban design and the urban form are among the subjects affected by pandemics. For instance, as a result of the black death pandemic that emerged in Europe in the 1350s, it was revealed that larger public spaces should be designed in terms of decreasing the feeling of isolation and integrating with nature in European civilizations (Mahoney & Nardo, 2016). As a result of some pandemics, based on the fact that the diseases spread in crowds, the idea of expanding cities and decentralization came to the fore.

The mixing of drinking water and wastewater in the Thames River was specified as the reason of the cholera epidemic that emerged in London in the 1850s (Hays, 2005). As a result of this epidemic, in the field of urban design, water infrastructure, the concepts of indoor ventilation, penetration of the daylight to interiors and the waste management on the streets have gained great importance. Another important change that took place in the city as a result of the epidemic was the construction of the Victorian Embankment along the River Thames and the implementation of a sewer system separating clean and waste water.

Similar to the outbreak in London, the mixing of sewage water into the Schuylkill River and water sources was specified as the reason of the cholera epidemic that broke out in Philadelphia in 1908. As a result of this, all residences and workplaces on the riverside were moved to another part of the city and the area was re-organized as a recreation area and a park which is named as the Fairmount Park (Wilder-Smith & Freedman, 2020).

In the 19th century, population density in cities began to increase, high-rise residential buildings, railways, and public spaces were implemented in many different cities. The Spanish Flu pandemic, which emerged at the end of this period, resulted into the death of approximately 50 million people worldwide. As a result of

this pandemic, urban growth slowed for a short period of time and public life was restricted to prevent the spread of the disease. As an example, walking has become widespread instead of using the public transportation, and a significant part of the population stayed at home during the pandemic (Crosby, 2003). Considering these, it can be interpreted that the results of the Spanish Flu pandemic in terms of urban life and cities are similar to the COVID-19 pandemic.

The COVID-19 pandemic also went down in history as one of the rapidly spreading pandemics in the world. It has revealed new challenges for the area of urban design in terms of designing and creating more healthy urban models. As it was seen in history, there is an interrelationship between pandemics and cities. Each pandemic has left different traces on both the people and the city. Which lessons should be taken from the COVID-19 pandemic and how it will change the city is an important issue that needs to be investigated for the future of cities, however before that, the historical context of the pandemics should be well examined.

3.2. Historical Context

For thousands of years, cities have hosted many epidemics and diseases since their first establishment. Through this long period of time, although it can be claimed that these epidemics gave rise to several changes in cities, the definition of the city still maintains its validity which is *"a permanent and densely settled place with boundaries that are administratively defined and the accomplishment of a population whose members work primarily on non-agricultural tasks."* (Caves, 2005, p. 66). Nowadays, considering the agricultural functions that are tried to be integrated within the city, whether this definition also maintains its validity or not is a matter of another discussion.

Throughout history, many different theories and concepts related to a healthy and ideal city with optimum conditions for living have been put forward. From *"Republic"* of Plato to the concept *"Città Ideale"* of Renaissance, from Thomas

More's *"Utopia"* to Tommaso Campanella's *"Civitas Solis"* and Francis Bacon's *"New Atlantis"*, the effort to form the ideal city has always continued (Plato, 1943; Fresnillo, 1996; More, 1949; Campanella, 1981; Bacon, 1992). There are opinions that pandemics also contributed to this search for the ideal city, in terms of a better quality of life, integrating health and well-being into the city (Mir, 2020).

The Black Death is shown as one of the first pandemics in history in many sources, however, the first documented epidemic is the Antonine Plague, which took place between 165-180 AD (Sicker, 2000). After the Antonine Plague, the Justinian Plague which occurred between 541-549 AD (Mordechai et al., 2019) and the Black Death Plague which was considered as one of the largest pandemics in history emerged between 1347-1351 (Gottfried, 1983; Ziegler, 1998). The measures taken against the pandemics in the medieval Europe are similar to the precautions for the current COVID-19 pandemic like quarantine and self-isolation (Mir, 2020).

There are views that the first example of the quarantine precautions was seen in the city of Ragusa, which was controlled by the Venetians in 1377 (Sehdev, 2002). In order to prevent the spread of the epidemic in the city of Ragusa, the *trentino* law was implemented; which specifies that the ships arrived from different cities to the city port should be kept in isolation for 30 days. This isolation started to be implemented in different port cities as well. In the later process, the 30-day of isolation was increased to 40 days, and 40, which means *quaranta* in Italian, later evolved into the word *quarantine* (Sehdev, 2002).

As with quarantine, self-isolation was one of the precautions applied against pandemics in the medieval Europe. However, self-isolation was a measure that only the upper and wealthy class could take at the time. Still, this reduced the social interactions within the community and slowed the spread of the pandemic (Boccacio, 1972). When it was understood that the disease could be transmitted to every part of the society during the pandemic period whether rich, noble or not; and the spread of the disease could not be prevented by physical obstacles and structures such as castles and churches; it became evident that new building types should be designed

in order to fight with diseases. As a result, medical facilities began to be constructed (Cantor, 2001).

3.3. Modern City and Pandemics

The pandemics also had several effects on modern cities after the industrial revolution at the end of the 18th century and the beginning of the 19th century (Mir, 2020). Issues such as urban planning and management, public administration, functionality were among the subjects in the debates after pandemics. Therefore the administrators had to develop new approaches for the city regarding the future after pandemics. Specifically, the topics like; the supply of fresh water to the city, the need for affordable housing with suitable sanitary conditions, the prevention of the formation of slum areas, the reorganization of public spaces in the city by considering the appropriate health conditions, and the reconstruction of an organized urban street network have come to the fore.

The *Haussmannization* in Paris between 1853 and 1870 is a significant example regarding the effects of pandemics and public health issues on the cities (Moncan, 2002). Before the Haussmann plans, the center of Paris had a complex and narrow street network with a high population density. The city, where several slums were located, was in a very suitable condition for the spread of disease, considering also the hygienic conditions (Moncan, 2002). In line with the Haussmann's plan, the city center underwent a significant change. Slum areas were demolished, new administrative buildings, wide and flat roads were constructed in these areas. The street network in the city was mostly rebuilt with wide boulevards and parks in order to achieve a more modern and healthier city (Kirkland, 2013). Reorganization of the city infrastructure and the construction of the sewer system was one of the important aspects of these reconstructions regarding public health (Gandy, 1999). The establishment of a sewer system with underground tunnels is still a method used today in terms of infrastructure.

During the *Haussmannization* process in Paris, the major epidemics in Europe were cholera and tuberculosis. For this reason, it was an important issue to improve the hygienic condition of the city in the plans of Hausmann. However, it has been expressed by different views that the idea behind the Haussmann plan and demolitions were not only related to public health, but also social and economic reasons were effective in this regard (Maneglier, 1990; Cardoni, 2004; Jordan, 2004) One of the purposes of the Haussmann plans was to improve the living conditions of the poor citizens living in the slums in the city center (Cardoni, 2004). However, as a result of the implementations, the poor class who used to live in the were "thrown out" of the center to the outskirts of the city and by this way, the bourgeoisie class "took over" the city center (Maneglier, 1990; Jordan, 2004). There are also opinions that there are political reasons behind the Haussmann demolitions, claiming that wide boulevards were built in the new plan in order to prevent the riots in the city more easily, since during the previous riots, narrow streets provided a suitable ground for the protesters escape (Maneglier, 1990).

Similar to Paris, epidemics in London had also various effects on the city. London was struggling with the cholera epidemic with sewage water mixing into the Thames River from the industrial buildings on the riverside. In order to prevent this situation and to improve the sewage system, the embarkment in the north of the Thames was reorganized and various applications were made (Dobraszczyk, 2014). Today, the same location is used as an important traffic route in the city including many green and recreational areas.

Besides these examples, the emergence of new housing typologies after the Spanish Flu pandemic in the early 1900s, can be considered as another example of the effect of pandemics on cities and architecture. Concepts such as ventilation, clean air circulation and sunlight penetration gained importance in residential design and some implementations were applied accordingly (Mamelund, 2017). After the evaluation of these past examples of the modern city and pandemics, it can be argued that the COVID-19 pandemic could also cause some effects on the city in the following years.

3.4. COVID-19 and the City

After all the epidemics experienced in the last thousand years, at the end of 2019, the world encountered with a new virus defined as “SARS-CoV-2” (Gorbalenya et al., 2020). A mutation, a subtype of a virus from the coronavirus family that made people sick. The virus created a worldwide pandemic called the “COVID-19 Pandemic” in a short period of time.

In the first three months, the disease was detected in 114 different countries and affected approximately 120,000 people. Consequently, The World Health Organization (WHO) officially declared the disease as a pandemic on March 11 of 2020. Symptoms of the disease, caused by a new type of coronavirus, included high fever, cough, difficulty in breathing, loss of taste and smell and it has been determined that it can cause pneumonia and death also proven to be transmitted by oral droplets. Until the date of March 3, 2020, the death rate worldwide was calculated as 3.4%, and on August 1, 2021, it was determined that there were approximately 198 million infected, 179 million recovered and 4 million deceased people in the world until that date[5].

The humanity was in an advanced state in terms of development level as a civilization when it encountered SARS-CoV-2. Most of the population were living in dense cities with high level of social interactions and mobility. Therefore, there was a suitable physical and social environment for the spread of the virus.

The world has faced many global pandemics or national epidemics, which have created changes in people, cities, lifestyles and urban life. From the Plague of Athens before common era which caused significant changes in the laws of the city, to Spanish Flu which caused the death of more than 50 million people and shown as the reason for the end of the World War I and to the Black Death of the Medieval

[5] Retrieved August 2, 2021 from (Source: web 30)
https://covid19.who.int/

Ages which brought great changes to the social classes of the European society (Thompson, 2020).

Many examples can be given regarding the changes in cities caused by the pandemics. As a result of the Plague of Athens, Greek civilization was weakened and later collapsed. Many years later, after the establishment of the Roman Empire, one of the first implementations of the Empire was improving the sanitation and hygiene conditions in the city by constructing canals and public baths. In the 19th century, the cholera epidemic was emerged and it was determined that it was transmitted through contaminated water in cities which has led to the establishment of modern sewage systems and the improvement of infrastructures. During the period of industrialization, against the respiratory diseases in the over populated slums in Europe, the residential units were reorganized considering the aspects of light and air. In other words, as the history shows, cities have reacted to pandemics.

In every pandemic, the concepts of safe and healthy cities have come to the fore again and again. By this means pandemics triggered the improvement of sewerage systems, water treatment plants, indoor sanitary installations, hospital structures and in other applications regarding public health and the city. Still, the COVID-19 pandemic has shown that the world is still vulnerable to airborne diseases, including both urban and rural environments. In addition, at the time when COVID-19 was first seen in the world, the world was in a globalized condition where urban regions were expanded, the separation between countries, urban and rural was decreased with the more frequent use of transportation vehicles such as automobiles, railways, and airways (Tekeli, 2020).

The difference of COVID-19 disease from the other epidemics in the past is that the majority of the infected individuals could continue their lives in the community and go out in public without being diagnosed. This situation has necessitated a different approach from the past pandemics in terms of restraining the pandemic. In the previous quarantine implementations in past epidemics, individuals diagnosed as sick were isolated from the rest of the society. However, in the COVID-19 pandemic,

apart from the diagnosed ones, there were many undiagnosed individuals still in the society, showing that the quarantine approach in previous pandemics will not be sufficient in terms of preventing the spread. As a result of this circumstance, in order to decelerate the spread of the disease, isolation and lockdowns for the whole society have been implemented by many different countries. Consequently, this decision directly affected the social life, human psychology, economy and many other aspects in cities.

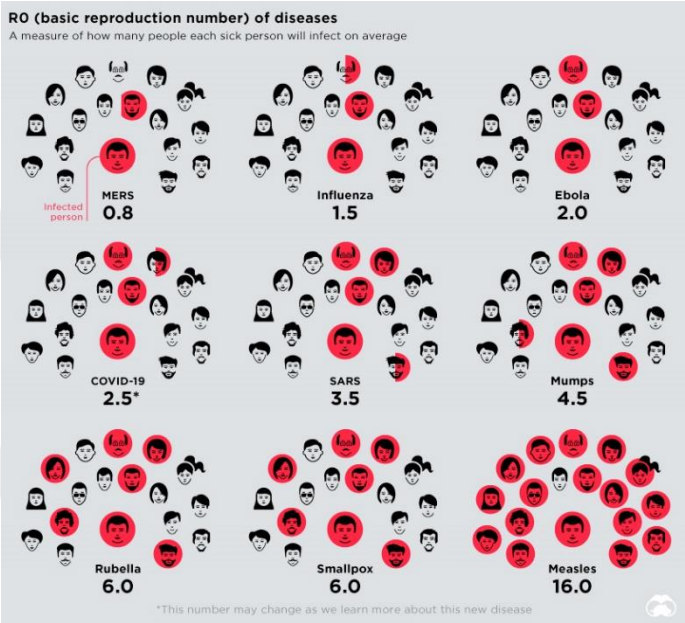

Figure 3.1. Different epidemic diseases according to their contagiousness levels. (Source: web 31)

During the COVID-19 pandemic, to reduce the spread of the disease, most governments across the world have announced two important spatial measures. The first one was the call to stay at home except for urgent needs and to carry out daily activities in the immediate vicinity of the house. The second measure was the concept of social distance. It has been declared that a social distance of at least one and a half meters should be maintained between the people in public spaces. As a result of these measures, in the period when the pandemic was spreading rapidly, sports games, concerts, religious activities, other social gatherings and events stopped around the world for a certain time (Jabareen & Eizenberg, 2021). Although these measures

were loosened with the decrease in the rate of spread of the virus in the later stages and a period called the new normal was started, the modern world was experiencing the shock of encountering such a global pandemic. These two primary measures implemented have reshaped many human activities such as avoiding one-to-one contact in the society, reducing the use of public transport, and switching to working from home (Jabareen & Eizenberg, 2021).

Figure 3.2. A public green space regulated in accordance with the social distance rule during the pandemic period. (Source: web 32)

The compulsory socio-spatial practices applied during the COVID-19 pandemic have raised new questions about our current cities and on the future of cities. In this context, the spatial planning concepts about the cities that were on the agenda before the COVID-19 period also needs to be discussed again. New Urbanism is one of these concepts (Grant, 2020; Moore & Trudeau, 2020). Regarding the post-pandemic period, new questions should also be asked about New Urbanism which promotes social interactions within the city and advocates the concepts of high density and compactness in urban environments. Therefore, in the context of the current pandemic, asking questions about the existing urban form regarding its flexibility, functioning, typology and ability to adapt to a crisis is necessary for the emergence of the new socio-spatial approaches for safer urban forms (Jabareen & Eizenberg, 2021).

The question of how the coronavirus pandemic will affect the city and the society in the years to come is one of the much-debated issues of the pandemic. How cities can be designed to be defensible against infectious diseases and how can dense cities become at the same time healthy in terms of public health are the other questions that need to be discussed in terms of the futures of cities (Bereitschaft & Scheller, 2020). However, before discussing the new urban models and typologies regarding the post-pandemic period, it is necessary to understand which topics about the city were most discussed related to the pandemic period. It would be more accurate to speculate on the physical space design after the specification and analysis of these most mentioned topics.

CHAPTER 4

POST-COVID-19 AND NEW URBANISM

The COVID-19 pandemic, which was emerged in 2019 and at the present moment affected the world for over one and a half year at least for now, has mandatorily caused many changes in people's lives, and as a result, how cities will cope with the pandemic has become a subject of discussion. The future of cities and the future lives of people have begun to be questioned. In these discussions, many new concepts related to the city and urban design have been put forward and several older notions came back to the fore. In order to make speculations on the urban space and its formulation after the coronavirus pandemic, it would be more appropriate to first identify the most discussed concepts related to the cities after the pandemic.

The aim of the chapter is to re-evaluate the spatial approach, conceptual framework and applied concepts of the New Urbanism movement related to the most discussed topics after the pandemic. Before this re-evaluation, the systematic review method will be applied in order to determine the most mentioned concepts for the post-pandemic period.

4.1. Systematic Review

The systematic review method was selected to compile and analyze the studies in the literature related to the city and urban design during and after the COVID-19 pandemic period. The main question tried to be answered by this method is: "*What are the most discussed topics in the literature regarding cities and urban design in the post-pandemic period, after COVID-19?*".

For this purpose, on June 1, 2021, articles containing the keywords: "*COVID-19*", "*Urban Design*", "*Post-Pandemic*", were searched in *Google Scholar*. The word

"*Post-Pandemic*" was specifically included since the main aim and question of the research is related to the period after COVID-19. In the initial search, 512 results were revealed related to these keywords. However, after the selection of "*Since 2020*" as the time interval, the number of results decreased to 483. This selection regarding the time frame was made since COVID-19 was emerged in late 2019 and early 2020 in the world.

These 483 articles were sorted according to their relevance including patents and citations. For a detailed analysis, 50 most relevant articles were selected among these 483 articles, which is approximately the 10% of the total results. Although the initial search was made in *Google Scholar*, it led the author to other databases since these 50 articles were also published in sources such as *ResearchGate*, *ScienceDirect* and *Academia*. After a detailed review, 10 of these 50 articles were eliminated for being irrelevant to the research topic and question. The remaining 40 articles were reviewed at length. Among these 40 publications, the most mentioned concepts regarding the post-pandemic period and urban design were identified and also listed in *Table 4.1*.

Table 4.1. The publications listed as a result of the systematic review and the topics discussed in each study.

#	Author	Title of the Study	Research Topics
1	Askarizad et al. (2021)	"*The influence of COVID-19 on the societal mobility of urban spaces*"	• Urban Mobility • Societal Mobility • Social Interactions • Public Space
2	Barak et al. (2021)	"*Urban attributes and the spread of COVID-19: The effects of density, compliance and socio-political factors in Israel*"	• Urban Density • Urban Politics • Urban Resilience • Urban Sprawl • Neo-Malthusianism

3	Barbarossa (2020)	"*The Post Pandemic City: Challenges and Opportunities for a Non-Motorized Urban Environment. An Overview of Italian Cases*"	• Urban Mobility • Urban Sustainability • Pedestrian Infrastructure
4	Batty (2020)	"*The Coronavirus crisis: What will the post-pandemic city look like*?"	• Modes of Transportation • Public Transport • Decentralization • Urban Sprawl • Car Usage/Travel • Walkability
5	Bereitschaft & Scheller (2020)	"*How Might the COVID-19 Pandemic Affect 21st Century Urban Design, Planning, and Development?*"	• Urban Resilience • Healthy City • Urban Density • Green Space • Public Transport • Biophilic Design • Pedestrian Infrastructure • Modes of Transportation • Remote Work
6	Boubekeur et al. (2021)	"*Smart Cities enabling effective response in battling COVID-19 pandemic*"	• Smart City • Smart Technology Services
7	Capolongo et al. (2020)	"*COVID-19 and Cities: from Urban Health strategies to the pandemic challenge. A Decalogue of Public Health opportunities*"	• Public Health • Smart and Sustainable Mobility • New Building Typologies • Accessibility

8	Cellucci & Di Sivo (2021)	"*Post-pandemic Public Space. The Challenges for the Promotion of Well-Being and Public Health in the Post-covid City*"	• Public Space • Sustainable City • Healthy City
9	Devine-Wright et al. (2020)	"*'Re-placed'- Reconsidering relationships with place and lessons from a pandemic*"	• Place Attachment • Public Space • Right to the City • Home-Making • Emplacement • Displacement
10	Eltarabiliy & Elgheznawy (2020)	"*Post-Pandemic Cities -The Impact of COVID-19 on Cities and Urban Design*"	• Urban Density • Public Spaces • Public Transport • Green Space • Smart City • Street Design • Building Design
11	Fatmi (2020)	"*COVID–19 Impact on Urban Mobility*"	• Urban Mobility
12	Garofalo (2020)	"*How can architecture make communities and urban environments more resilient to disease?*"	• Biophilic Design • Public Space • Urban Density • Smart Building • Ventilation Systems
13	Guzman et al. (2021)	"*COVID-19, activity and mobility patterns in Bogot´a. Are we ready for a '15-minute city'?*"	• 15-Minute City • Urban Mobility • Activity Patterns • Urban Transportation • Land-Use Planning
14	Hassankhani et al. (2021)	"*Smart City and Crisis Management: Lessons for the COVID-19 Pandemic*"	• Smart City • Urban Resilience

15	Iturriaga (2020)	"*Learning from COVID-19: the role of architecture in the experience of urban landscapes*"	• Landscape Architecture • Architecture • Streetscape • Urban Landscape
16	Jay et al. (2021)	"*Effects of the COVID-19 Pandemic on Park Use in U.S. Cities*"	• Public Space • Green Space
17	Kakderi et al. (2021)	"*Next City: Learning from Cities during COVID-19 to Tackle Climate Change*"	• Smart City • Climate Change • Sustainable Infrastructure • Sustainable City
18	Kephart et al. (2021)	"*The impact of population mobility on COVID-19 incidence and socioeconomic disparities at the sub-city level in 314 Latin American cities*"	• Urban Mobility • Population Mobility
19	Koca & Tutal (2021)	"*The possibilities of the new public space through changing dynamics during the COVID-19*"	• Public Space • Virtual Public Space • Private Space
20	Libardoni (2021)	"*Intergenerational urban dynamics: territoriality and Covid-19*"	• Urban Sociability • Public Space • Green Space • Tactical Urbanism
21	Liu & Wang (2021)	"*Research on the evolution of urban design from the perspective of public health under the background of the COVID-19*"	• Healthy City • Public Health • Urban Epidemic Prevention

22	Martinez & Short (2021)	"*The Pandemic City: Urban Issues in the Time of COVID-19*"	• Public Space • Urban Transportation • Urban Connectivity • Urban Economy
23	Mawani (2020)	"*Vulnerability and public space governance in the post-covid city*"	• Public Space • Public Space Governance • Public Health Policy • Urban Vulnerability
24	Mir (2020)	"*Post-pandemic city: Historical context for new urban design*"	• Decentralization • Urbanism v.3.0. • Smart City • Green City • Population Density • Urban Transportation
25	Mishra & Haque (2021)	"*COVID-19 and urban vulnerability in India*"	• Self-Sufficient City • Urban Vulnerability • Population Density • Water Treatment
26	Moreno et al. (2021)	"*Introducing the '15-Minute City': Sustainability, Resilience and Place Identity in Future Post-Pandemic Cities*"	• 15-Minute City • Smart City • Walkability • Place Identity • Sustainability • Resilience
27	Mujahed (2021)	"*Urban-Resilience-Relation-between-COVID-19-and-Urban-Environment-in-Amman-City*"	• Public Transport • Green Space • Urban Resilience • Population Density

28	Nahiduzzaman (2021)	"*COVID-19 and Change Dynamics in the Transformational Cities*"	• Climate Change • Urban Mobility • Population Density • Semi Public Space • Public Space
29	Newman (2020)	"*COVID, cities and climate: Historical Precedents and Potential Transitions for the New Economy*"	• Climate Change • Sustainability • Energy Infrastructure • Electromobility • Smart City • Biophilic Design
30	Nieuwenhuijsen (2020)	"*Post-COVID-19 cities: New urban models to make cities healthier*"	• Public Space • Urban Transportation • 15-Minute City • Compact City • Car-Free City • Superblocks
31	Özcü & Sayan (2020)	"*The effect of COVID-19 pandemic on urban life: evaluations on the public space*"	• Public Space • Green Space • Urban Transportation
32	Rice (2020)	"*After Covid-19: urban design as spatial medicine*"	• Healthy City • Green Infrastructure • Green Space • Sustainability • Urban Agriculture • Greenification

33	Pisano (2020)	"*Strategies for Post-COVID Cities: An Insight to Paris En Commun and Milano 2020*"	• Decentralization • Public Transport • Polycentrism • 15-Minute City • Urban Mobility • Population Density
34	Salama (2020)	"*Coronavirus questions that will not go away: interrogating urban and socio-spatial implications of COVID-19 measures*"	• Place Attachment • Urban Density • Urban Transportation • Connectivity
35	Sepe (2021)	"*COVID-19 pandemic and public spaces: improving quality and flexibility for healthier places*"	• Public Space • Sustainability • Flexibility • Resilience
36	Sharifi (2021)	"*The COVID-19 Pandemic: Lessons for Urban Resilience*"	• Urban Resilience • Smart City • Urban Transportation • Adaptability
37	Sharifi & Khavarian-Garmsir (2020)	"*The COVID-19 pandemic: Impacts on cities and major lessons for urban planning, design, and management*"	• Environmental Quality • Urban Transportation • Air Quality • Water Quality
38	Tunçay & Eşbah (2020)	"*Healthy cities and pandemic: Thoughts about COVID-19 pandemic*"	• Healthy City • Sustainability • Urban Open Space
39	Yang et al. (2021)	"*Urban design attributes and resilience: COVID-19 evidence from New York City*"	• Resilience • Urban Density • Urban Mobility • Decentralization • Urban Inequality

40	Yüksel & Hepcan (2021)	"*Pandemic – Sustainable City Goals*"	• Sustainable City • Green Space • Green Infrastructure

4.2. Collected Data & Most Mentioned Concepts

After the detailed review and listing of the concepts mentioned in each article, a frequency analysis was then performed among these mentioned issues in order to identify the most commonly discussed topics in these studies. In order to achieve more accurate results, concepts that were only mentioned one time in all of the 40 articles were not included to the analysis. Only the concepts that were mentioned at least two times were included.

Figure 4.1. Word cloud obtained with NVivo according to the frequency of the most mentioned concepts in the selected articles.

As a result of the initial frequency analysis, a percentage distribution shown in *Figure 4.2.* was obtained and the most mentioned topics in these 40 publications, regarding urban design in the post COVID-19 period were identified. According to the results, the most mentioned topics are respectively: "*Public Space*", "*Urban Mobility*", "*Urban Transportation*", "*Smart City*", "*Green Space*", "*Urban Density*",

"*Healthy City*", "*Population Density*", "*Public Transport*", "*Sustainability*", "*Urban Resilience*", "*Decentralization*", "*15-Minute City*", "*Climate Change*", "*Sustainable City*", "*Resilience*" and "*Urban Sustainability*".

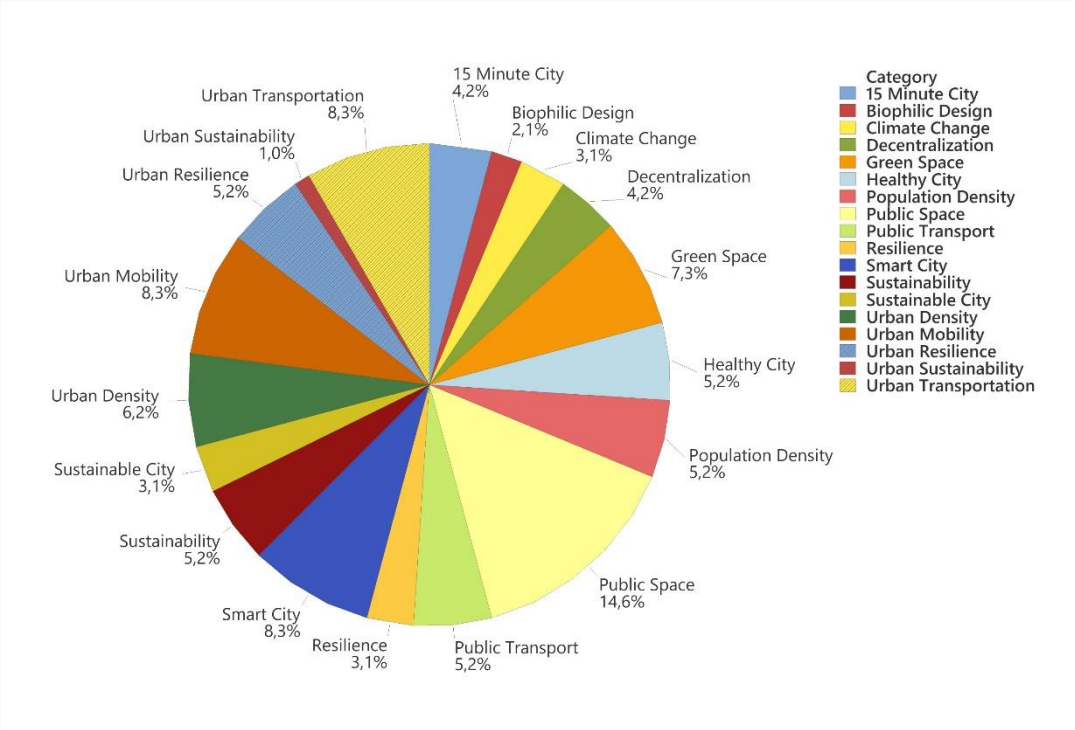

Figure 4.2. Percentage distribution of the most mentioned concepts obtained with Minitab as a result of the initial analysis.

It was observed that some of the concepts that were identified according to the results of the first analysis overlapped with each other as in the examples of: "*Urban Density*" and "*Population Density*", "*Sustainability*" and "*Sustainable City*", "*Urban Transportation*" and "*Public Transport*", "*Urban Resilience*" and "*Resilience*". Therefore, in order to obtain a more accurate result, a necessity for a second analysis, in which these overlapping concepts are considered under the same title, became evident.

In the second analysis, the overlapping concepts were evaluated in the same title. For instance, the concepts "*Urban Sustainability*" and "*Sustainable City*" were both considered as "*Sustainability*". The same rule was applied to the other overlapping

concepts. As a result of this second analysis, a percentage distribution as in *Figure 4.3.* was obtained. As a consequence, the most mentioned issues related to COVID-19 and post-pandemic urban design were identified as "*Public Space*", "*Transportation*", "*Mobility*", "*Density*", "*Sustainability*", "*Resilience*", "*Healthy City*", "*Smart City*", "*Biophilic Design*", "*15-Minute City*", "*Green Space*" and "*Decentralization*" with respect to their percentages. In the next stage of the research, how these identified concepts were mentioned in the studies will be clarified and their relation with New Urbanism will be discussed.

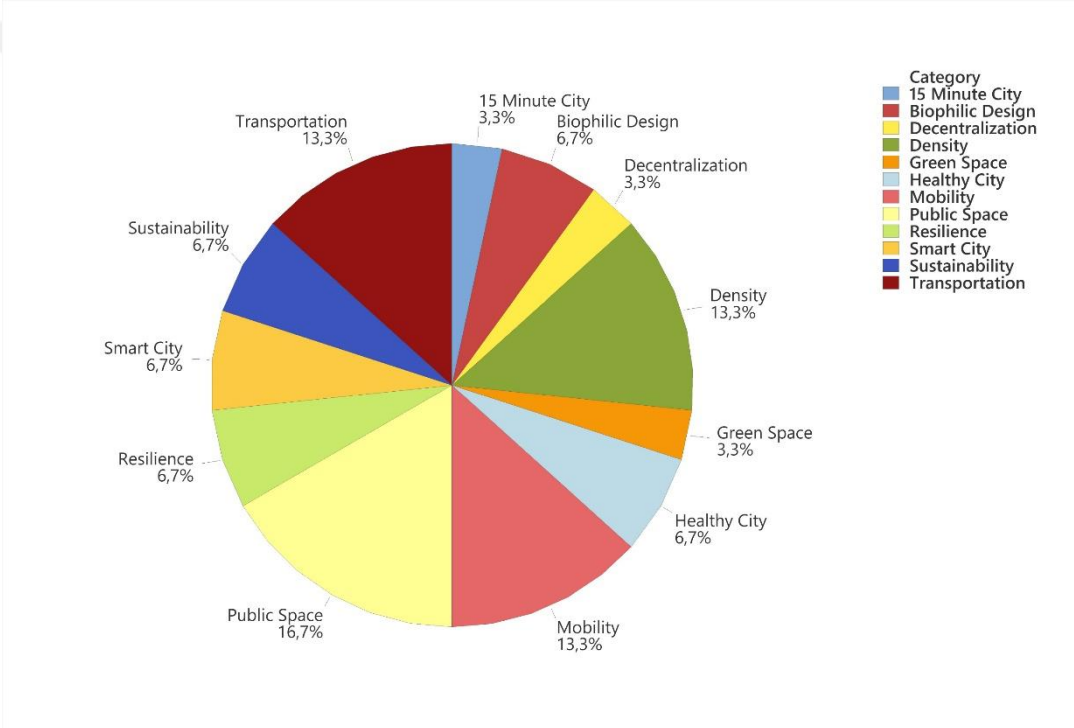

Figure 4.3. Percentage distribution of the most mentioned concepts obtained with Minitab as a result of the second analysis.

4.2.1. Public Space

Among the 40 articles related to COVID-19 and urban design in the post-pandemic period, the most mentioned topic was public space with a percentage of 16,7%. This result can be considered as expected since public spaces are the places where social interactions between people happen the most, resulting the disease to spread, according to the data of the WHO. Which is why practices such as lockdowns were implemented in many countries reducing the use of public spaces to prevent the spread of the disease during the COVID-19 period.

There are many opinions stating that the concept of public space after the pandemic should be reinterpreted together with the issue of public health (Askarizad, 2021; Bereitschaft & Scheller, 2020; Cellucci & Di Sivo, 2021; Jay et al., 2020; Koca & Tutal, 2020; Sepe, 2021). However, public space is a very extensive concept and includes different urban spaces which are open and closed such as streets, open squares, parks and other public facilities. In this respect, although they are gathered under the same title, the discussions on each of these concepts should be examined singularly.

After the first outbreak of the pandemic, as a first precaution, the number of users in public spaces were tried to be managed. In order to ensure social distance, defined areas and boundaries were created in public spaces regarding the movement of the users. For the indoor spaces, ventilation systems were reconstituted (Sharifi & Khavarian-Garmsir, 2020). All of these were the implementations made in the first place during the ongoing pandemic. As the spread of the virus continued in the later period, the period of lockdowns began.

Sepe (2021) claims that, during the pandemic period, after the restrictions on public spaces, the private spaces transformed into public and the flexibility of a public space is the most important aspect regarding the future of public spaces. Supporting this view, there is a statement in the Charter of Public Space, *"the good use of public spaces is closely linked to their mutability and adaptability in relation to the*

changing needs of citizens, environmental disasters and pandemic emergencies." (Garau et al., 2015). In addition to this, there are also views that after the restrictions on the public spaces, the socialization in these spaces has moved to the residential units and the way of socialization has changed (Koca & Tutal, 2020). Moreover, it has been stated that the phenomenon of the physical public space has changed and a new notion of virtual public spaces have emerged (Koca & Tutal, 2020).

In the lockdown period, the use of public spaces, except for compulsory situations, seriously decreased and discussions have emerged about how to design the public space in accordance with crowd management and social distancing rules (Cellucci & Di Sivo, 2021). In the meantime, while there are studies showing that the use of public spaces may decrease after the pandemic, on the contrary, some other researches show that there has been no significant difference in this regard since the beginning of the pandemic, and it has even been used more after the lockdowns (Askarizad, 2021).

However, even in the period when the pandemic was ongoing and there was no vaccine and treatment yet, the public space continued to host many social actions just like the Ferguson events and protests in Minneapolis, after the murder of the American citizen George Floyd (Mawani, 2020). Even with the restrictions, lockdowns and despite a pandemic, the social function of the public space has not changed.

In the long run, with the discovery of a vaccine for the treatment of the disease and to prevent the spread, the world has entered to a new period called as the new normal (Salama, 2020). The lockdowns were ended and the use of public space has started drastically to increase compared to the period of the lockdowns (Askarizad, 2021). However, although the discovery of the vaccine severely reduced the spread of the disease, the pandemic was not completely over. For this reason, there have been many discussions about the future of public spaces in terms of the physical space and the social aspects. These discussions were mainly about providing a more controlled and distanced physical environment for the interactions and socialization in the

public space (Cellucci & Di Sivo, 2021). Designing more defined and flexible spaces, providing appropriate walking areas that encourage walking can also be considered as another topic of discussion in the literature regarding public spaces in the post-pandemic period (Sepe, 2021). As an interaction space, the open public spaces were preferred rather than the indoor spaces since they were more reliable regarding the contagion of the disease (Sharifi & Khavarian-Garmsir, 2020).

Green Space

Green space, is one of the topics investigated within the context of public space related to the post-coronavirus period (Yüksel & Hepcan, 2021). There are views that the importance of public open green spaces has become evident during the pandemic period and regarding the integration of these green spaces into buildings with implementations such as floor and vertical gardens (Bereitschaft & Scheller, 2020). Similarly, there are researches showing that the use of parks has increased during the pandemic period (Jay et al., 2020).

Street

One of the important concepts discussed under the title of public space is the street. Concepts such as open streets, slow streets and other pedestrian-oriented approaches came to the fore in the researches about the street. The development of pedestrian infrastructure, the concept of walkability, the arrangement of the sidewalks, the street sections and the integration of bicycles into the street are other topics discussed in relation to the street (Barbarossa 2020).

It should not be forgotten that the concept of public space is very extensive. Different types of public spaces such as streets, parks and town squares are subject to different evaluations. In line with all this, it can be stated that the coronavirus pandemic raised many questions regarding the design and management of public spaces.

Public spaces are also of great importance for the New Urbanism movement. The public spaces are considered as social interaction areas for the society in compliance with the concepts of the movement. Keeping the street and public space lively is one

of the aims of New Urbanism. It is possible to summarize the spatial approach of the movement as polycentrically located mixed-use central public squares and residences shaped around them, after the analysis of the implementations in Chapter 2. New typologies of physical social space of New Urbanism may occur due to the emergence of new virtual socialization concepts with the pandemic and concerns against the use of public space. For example, with block-based public spaces instead of central open public spaces, each building block can meet its social needs in its immediate surroundings.

4.2.2. Transportation

Transportation was one of the most important issues for the cities in the pandemic period according to the selected studies. Especially, public transportation vehicles were specified as one of the locations where the disease spread the most. For this reason, planning of the transportation for a city and hygiene of public transportation vehicles were one of the most important factors in preventing the spread of the disease (Bereitschaft & Scheller, 2020). Yet still, the spread of the disease in public transportation vehicles has led people to other transportation alternatives (Batty, 2020; Sharifi & Khavarian-Garmsir, 2020). During this period, the use of public transportation decreased significantly, and those who had the opportunity, preferred walking, biking and the use of automobiles (Batty, 2020).

In terms of transportation, not only public transportation vehicles, but also alternative transportation methods are discussed (Batty, 2020). For example, strengthening the pedestrian infrastructure and making improvements on the bike lanes are some of the discussed topics (Martinez & Short, 2021). In addition, the creation of a hierarchy in the transportation system is also discussed (Pisano, 2020). Next to the one of the most mentioned topic, which is the sanitation of the public transportation vehicles at the point of preventing the spread of the virus, concepts such as street calming and road-dieting are also mentioned (Bereitschaft & Scheller, 2020).

The pedestrian-oriented approach of the New Urbanism movement, which also advocates alternative transportation models, is very suitable for the post-pandemic period and can form an important base regarding further discussions on the topic. Yet the questions such as "*How public transport alternatives should be designed and planned in accordance with the pandemic rules*?", "*How to plan and design the transportation network of a city in a way that encourages walking and cycling?*", *"How to plan and design the lifestyle of people to reduce public and private transport demands?"* and *"How to design or reconfigure urban spaces according to this new lifestyle which requires less mobility by public and private mobility?"* are among the questions that seek answers for the post-pandemic period.

4.2.3. Mobility

Mobility was one of the most mentioned concepts in the selected publications regarding the post-pandemic period in cities with a percentage of 13,3%. During the pandemic period, travel restrictions were imposed and individuals' out-of-home travel activities were decreased in order to prevent the spread of the disease (Yang et al., 2021). To a large extent, the primary reason of out-of-home travels were work-related travels and compulsory routine shopping activities. Regarding these compulsory travelers, controlling and regulating the human mobility was of great importance in the pandemic period and it seems that it will not lose its importance in the near future (Newman, 2020).

There are studies claiming that the mobility of the society underwent a change during the pandemic (Pal et al., 2021). Some of these researches reveals that urban mobility of the society was decreased in terms of using public spaces (Aloi et al., 2020). However, even though there are studies that claim that COVID-19 might have a negative impact on the societal mobility and interactions within the public spaces, some researches show that there is no significant difference between the use of public spaces before and after the pandemic (Askarizad, 2021). Also as a matter of fact,

after the end of the lockdown process, people have shown a strong desire for social interactions (Askarizad, 2021).

In addition, nature-friendly alternatives for mobility came to the fore, such as walking and cycling (Bereitschaft & Scheller, 2020). New Urbanism's pedestrian-oriented approach that encourages walking and other eco-friendly alternatives of mobility, the concept of connectivity is in harmony with the issues discussed after the pandemic regarding mobility.

4.2.4. Density

Even though the notion of density can be seen as a major catalyst regarding the spread of viruses, there are also studies that claim the opposite. Barak (2021) states that rather than density, social dispositions and politics have more effect on the spread of the virus. According to Lim (2021), between density and the spread of the COVID-19, there is no correlation, rather there is a complicated relation depending on different factors such as connectivity. As an opposite approach, according to some researches dense cities were affected by the pandemics more than the rural and suburban communities and high population density is a risk regarding the pandemic which makes the notion of de-densification more popular (Bereitschaft & Scheller, 2020).

Density is an important notion for New Urbanism also however since there are double-edged research results regarding the effect of high density on the spread of the viruses, it can not be claimed that New Urbanism projects with high density are risky environments regarding the pandemic period without considering other factors as Barak also claims that *"While density is key to urbanity, analyzing density alone does not disclose the full dynamics of COVID-19 infections in cities. As our findings indicate, density's effect on rates of infection is contingent on socio-political attributes."*.

4.2.5. Sustainability

It has been understood that the concept of sustainability, which was one of the main topics of conversation related to the cities before COVID-19, is still one of the most discussed issues in the post-pandemic studies. Although the world's biggest agenda item seems to be the pandemic at the moment, it is being discussed that the next substantial issue will be the climate change and other environmental issues (Rice, 2020). For this reason, the concept of sustainability has gained even more importance during the pandemic period. In addition, during the pandemic period, the decrease in air pollution seen in lockdowns and the clarification of people's need for green spaces emphasize the importance of the concept of sustainability (Bereitschaft & Scheller, 2020). In addition, the issue of climate change, which is seen as one of the most important problems that awaits the world after COVID-19, has increased the importance of the concept of sustainability (Newman, 2020). Therefore, regarding the planning and decisions to be made after the pandemic, not only the COVID-19 period, but also the near and distant future should be taken into account.

Sustainability is also one of the concepts that New Urbanism attaches importance to. Neighborhoods with more public green spaces, a pedestrian infrastructure with walkable/bikeable streets and self-sufficient building design with the new technologies are among the concepts adopted by New Urbanism. Hence, sustainability, which is one of the most mentioned topics after the pandemic, does not contradict with the approach of New Urbanism.

4.2.6. Resilience

Along the lines of sustainability, the notion of resilience came to the fore as a result of the environmental concerns before COVID-19 and likewise sustainability, it is still one of the concepts that is argued regarding the post-pandemic period. As a matter of fact, COVID-19 pandemic could be considered as a good test in terms of questioning how resilient the modern cities are (Yang et al., 2021). However,

resilience, like the other notions mentioned, cannot be reduced to only urban design and physical space of cities. In order for a city to be resilient, it is necessary to take the economic, social and other factors into account. Nevertheless, without including these, the concept of smart city, reforming of public transport and urban transportation, the availability of sufficient well-designed public/green spaces can be specified as the issues mentioned related to resilience during the pandemic period (Newman, 2020). The importance given to public and green spaces by the New Urbanism movement and its approach that encourages different modes of public transportation do not contain major contradictions with the notion of resilience.

4.2.7. Healthy City

With the spread of the pandemic, new challenges and problems have arisen for the modern cities and traditional design approaches. During the pandemic, the concept of healthy city came into prominence, and the approaches related to the adaptation of public health practices to the city has gain more importance. The notion of healthy city is indeed a concept about the future of cities, which cares about public health and the environmental issues, and can be described as a guide for the future developments, plan-making and decisions regarding these (Liu & Wang, 2021). Urban design and urban planning focused on the subject of public health is also crucial for the healthy city concept. Respecting the environment, planning a healthy infrastructure for the city with ecological sensitivities, is one of the arguments of the concept related to the future developments for the city (Tunçay & Eşbah, 2020).

Healthy city model emphasizes that all of the issues from the design of physical space to urban design, from urban planning to urban management and social life of a city should be based on public health and planned accordingly. Appertaining to the future of cities, taking measures to prevent the spread of the possible future epidemics and considering the issue of public health in the development of cities is essential for the healthy city concept. In fact, the notion of healthy city, overlaps with the concepts of sustainability and resilience and does not conflict with the approaches of New

Urbanism, which also aims to design sustainable, human-oriented neighborhoods. New Urbanism's approach that emphasizes walkability against automobile dependency in neighborhoods is compatible with the notion of healthy city in terms of environmental and public health.

4.2.8. Smart City

On the subject of slowing the spread of the disease during the pandemic with the integration of technology into health applications, the importance of smart technologies and the smart city notion has become evident (Sharifi, 2021). For many countries, tracking sick individuals from their smartphones according to their locations, using smart technologies in terms of logistics, public transportation, daily shopping and other health services provided great benefits in the pandemic period (Sharifi, 2021). Considering these, the concept of smart city has come to the fore for the future of cities.

The importance of cities having a smart infrastructure accommodately to the smart city model is emphasized, regarding crisis management and reaction against pandemics or other problems that may occur in the future. In the way that digitalization shows its effect in every field, the disseminating use of it in urban design, planning and building technologies is one of the issues highlighted by the concept of smart city. In terms of the physical space and urban design, the utilization of smart technologies in public space, building design and the arrangement of public transportation system, is also substantial for smart city concept in the same way.

The traditional urban fabric and urban life that new urbanism desires to revive includes a sociability based on real interactions on the street and in public spaces. However, the notion of socialization and interactions have also begun to change at the present time with the new technologies (Koca & Tutal, 2021). Associated with the digitalization and smart technologies, socialization has started to take place in virtual environments increasingly compared to the past (Koca & Tutal, 2021). As

also the pandemic has shown, the use of smart technologies in the fields such as building design, transportation and infrastructure can provide great benefits. At this juncture, it can be argued that the use of these technologies in the neighborhoods that New Urbanism aims to create, which are environmentally friendly, walkable and include different types of public transport, could be beneficial for the movement considering these issues.

4.2.9. Biophilic Design

The concept of biophilic design is one of the topics that was discussed and has gained importance during the COVID-19 pandemic period, in which the society's need for green spaces and nature has become apparent (Bereitschaft & Scheller, 2020). Along the lines of the notions like sustainability, resilience and healthy city, biophilic design is a concept with similar purposes. For a healthy environment and a livable society in the future, biophilic design cares about the health-related and environmental factors, protection of natural resources, controlled energy consumption, waste management and reduction of environmental pollution. To that end, regarding the building and physical space design, the use of natural materials, natural ventilation, natural lighting is precedence for the concept. Designing with respect to the natural conditions and the local context of any region while considering the nature can also be considered as one of the purposes of the biophilic design concept. Biophilic design also has many other benefits as well such as providing habitat for flora and fauna, reducing energy consumption, and removing pollution from the air and water (Bereitschaft & Scheller, 2020).

4.2.10. 15-Minute City

The concept of 15-Minute City, which was put forward by Carlos Moreno in 2016, came to the fore again during the pandemic period and gained even more importance. 15-Minute City emphasizes that in a city, working, living, entertainment, health,

education and commercial activities should be accessible within 15 minutes by walking or by bicycle (Nieuwenhuijsen, 2020). The concept is not only related to the pandemic period, but also to the climate crisis, which is the next problem that awaits the world after the pandemic. Regarding these issues, the necessity of changing the lifestyle of the community and within the scope of more livable cities in the future, 15-Minute City is one of the much-debated concepts in the post-pandemic period (Pisano, 2020).

The New Urbanism movement can be seen as one of the ancestors of the 15-Minute City concept that emerged in the recent past and has become even more substantial today. As New Urbanism, since its foundation in the 1980s, is a movement that focuses on the design of neighborhoods which includes walkable/bikeable streets including nature-friendly transportation alternatives and in which different functions can be reached within 5-10 minutes by walking. It can be argued that the emergence of a similar movement which adopts similar principles to New Urbanism during the pandemic period, reveals the importance of the New Urbanism movement. At this point, it can be stated that the concept of 15-Minute City, which is one of the topics discussed after the pandemic, does not contradict with New Urbanism and can be considered as a movement with similar arguments and approach.

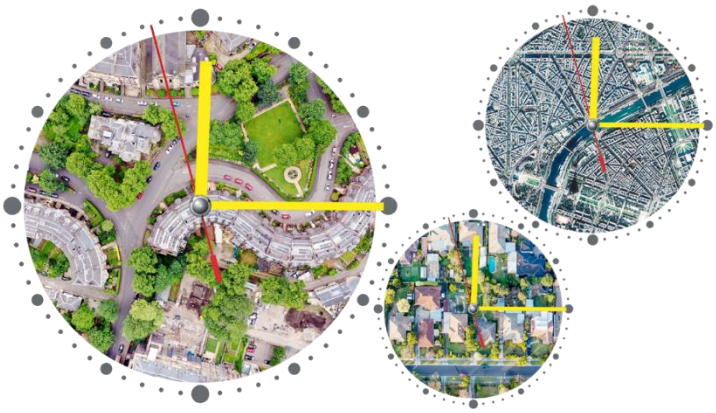

Figure 4.4. Different urban fabrics and different 15-Minute travel distances. (Source: web 33)

4.2.11. Decentralization

The spread of the disease in crowded environments during the pandemic has led people to stay away from the crowds. In addition, it can be argued that the demand for the low-density environments in the peripheries of the city as living spaces has increased with the widespread use of the working from home system. In the light of all these factors, the concept of decentralization has started to come to the fore again in the pandemic. In addition, according to Batty (2020), similarly there may be a change in transportation modes as a result of the pandemic, and personal car use may be preferred more rather than crowded public transport alternatives. As a result, the distance traveled by automobiles may increase.

To prevent the spread of the pandemic, urban services' decentralization can be applied to make cities more resilient for public health emergencies according to Das (2021), also stating that "*Decentralized systems are more economical from users' point of view: they eliminate reliance on the central system, offer an incentive for resource recovery, and be designed and adjusted according to users' requirements.*"

4.3. Re-Evaluating the Design Approach of New Urbanism

Some of the principles and concepts adopted by the New Urbanism movement are theoretically compatible with the concepts discussed after the pandemic. Considering this, it can be argued that the New Urbanism movement has the potential to form a basis for the new spatial formulations and typologies that may emerge after the pandemic. At this stage, where new typologies of an urban fabric for the post-pandemic future should be formulated concretely, New Urbanism can be considered as a good starting point in this regard. In specific, its pedestrian-oriented approach, which encourages walking and also advocates different transportation alternatives, is in great harmony with the issues discussed related to the post-pandemic period. However, there are some spatial aspects related to the design approach of New Urbanism that can be expected to change after the pandemic.

Public space is one of the most popular concepts after the pandemic and is of great importance for the New Urbanism movement also. Streets, public squares and well-defined physical environments are crucial elements for New Urbanism, which is influenced by traditional neighborhood designs. Nevertheless, after the socialization practices started to change in the pandemic period related with the public space, it can be speculated that the spatial approach of New Urbanism should change. The fact that public spaces are the leading urban element in terms of virus contamination, may lead to new physical space typologies for New Urbanism.

As in the implementations examined in the second chapter of the thesis, the settlements of New Urbanism mostly have a grid plan, a main square with mixed uses in the neighborhood center, secondary squares evenly planned in the neighborhood fabric and the residential blocks settling around these public spaces. Building blocks usually consist of small plots. Unlike the schemes like Radburn, building blocks and parcel sizes are planned to be smaller in order to ensure the road network is interconnected, without any dead-end streets and cul-de-sacs. In this plan setup where the main public space is at the center, high intensity in this area is inevitable. Instead, planning the open public spaces homogeneously in each building block will spread the density and is a more accurate approach in terms of pandemic conditions. This requires the implementation of a new building block and subdivision type, in which an open semipublic space is located in the center of the block within the private properties as shown in the Figure 4.6 and 4.8.

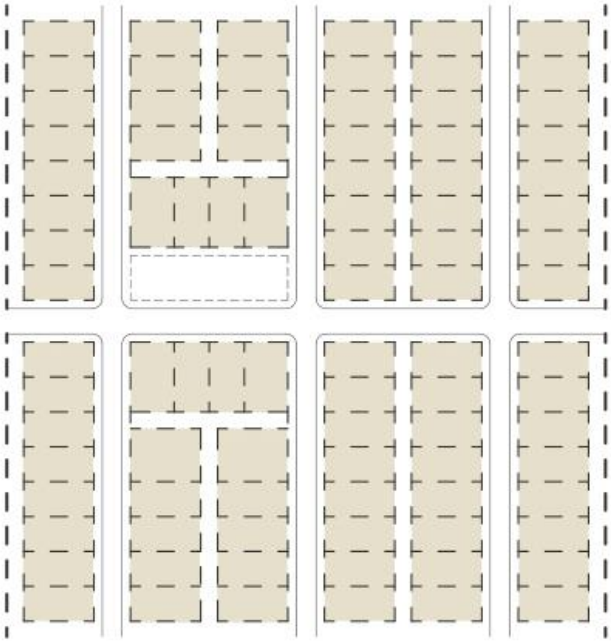

Figure 4.5. A building block scheme from a project of DPZ with alleys, small plots, and with a central public space (Duany Plater-Zyberk & CO., 2003).

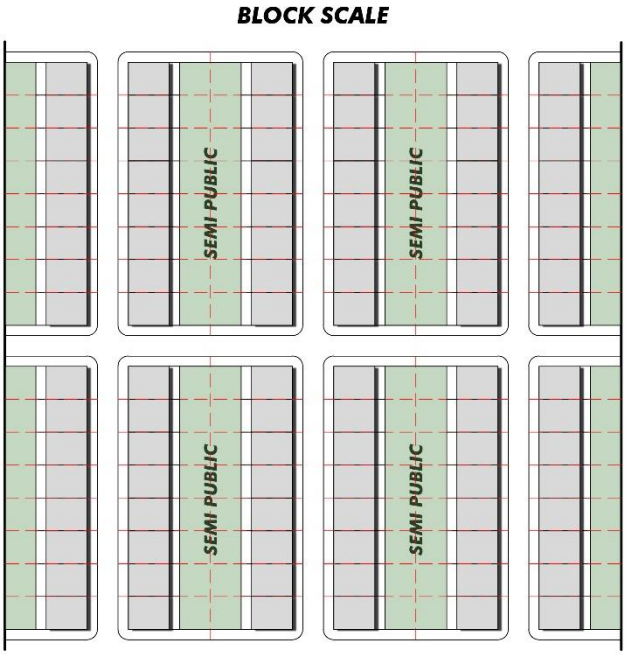

Figure 4.6. Proposed building block scheme for the post-pandemic with a semipublic area in the center as a joint property.

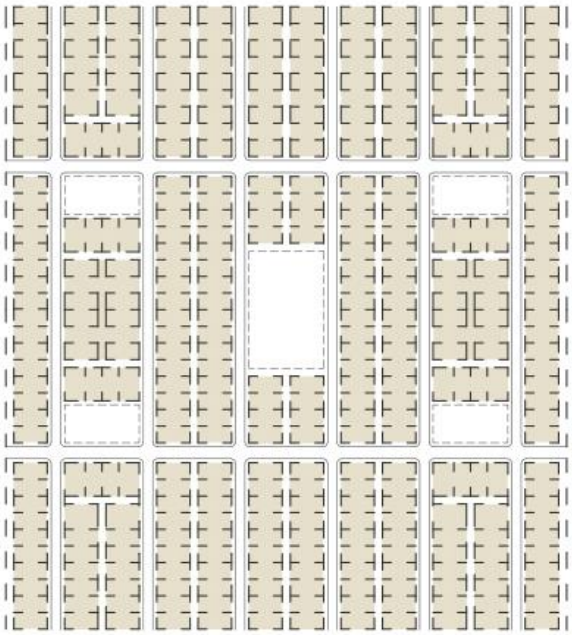

Figure 4.7. Neighborhood scale block organization. An approach with main and secondary central public spaces. (Duany Plater-Zyberk & CO., 2003).

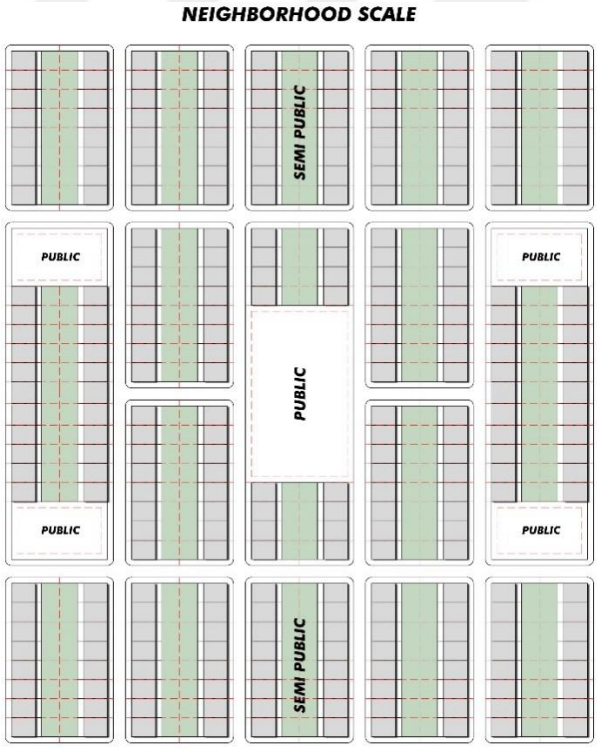

Figure 4.8. Proposed scheme for the neighborhood scale. More options of public and semipublic spaces regarding the post-pandemic, while preserving the main public spaces.

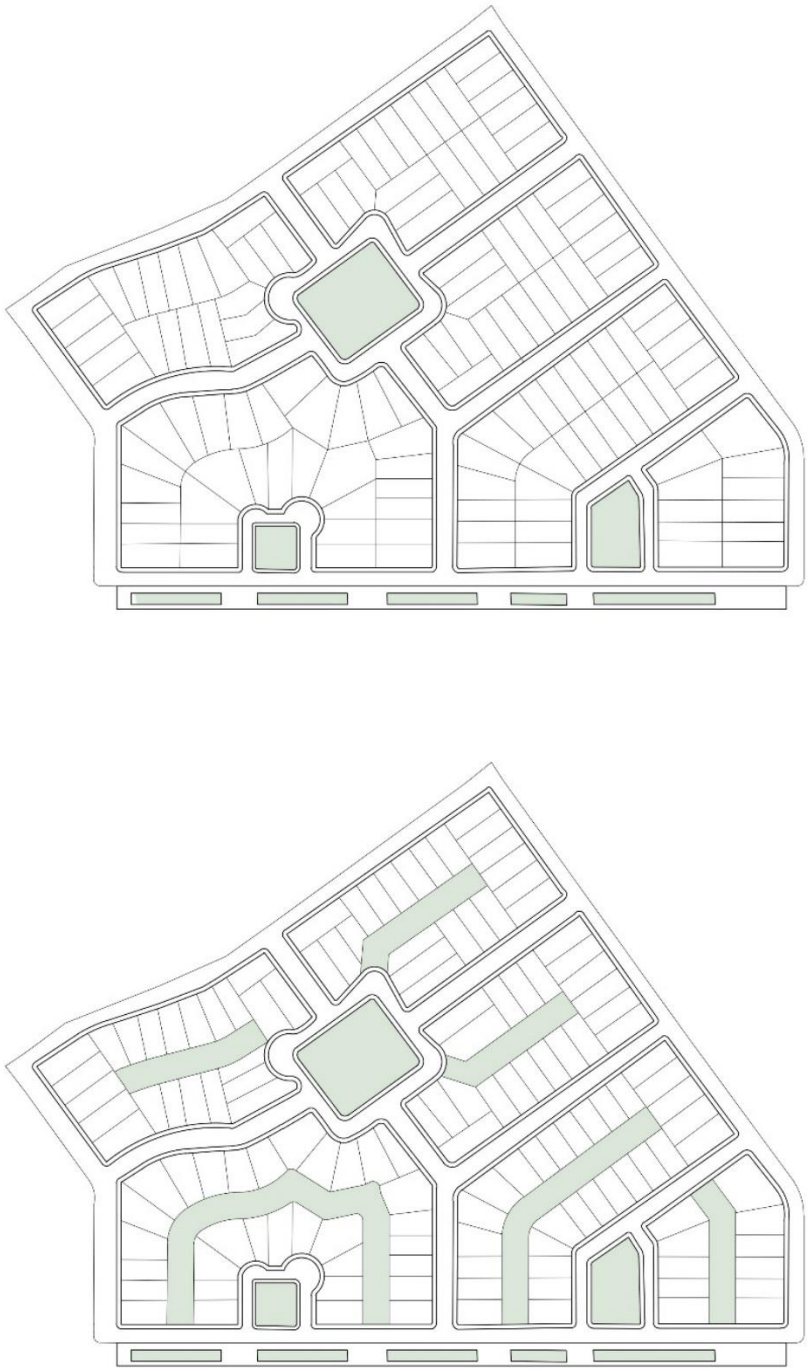

Figure 4.9. Above: Partial scheme of building blocks from South Brentwood Village with central public spaces. Below: Speculation of semi-public spaces within the building blocks, increasing the level of publicness while preserving the main public spaces.

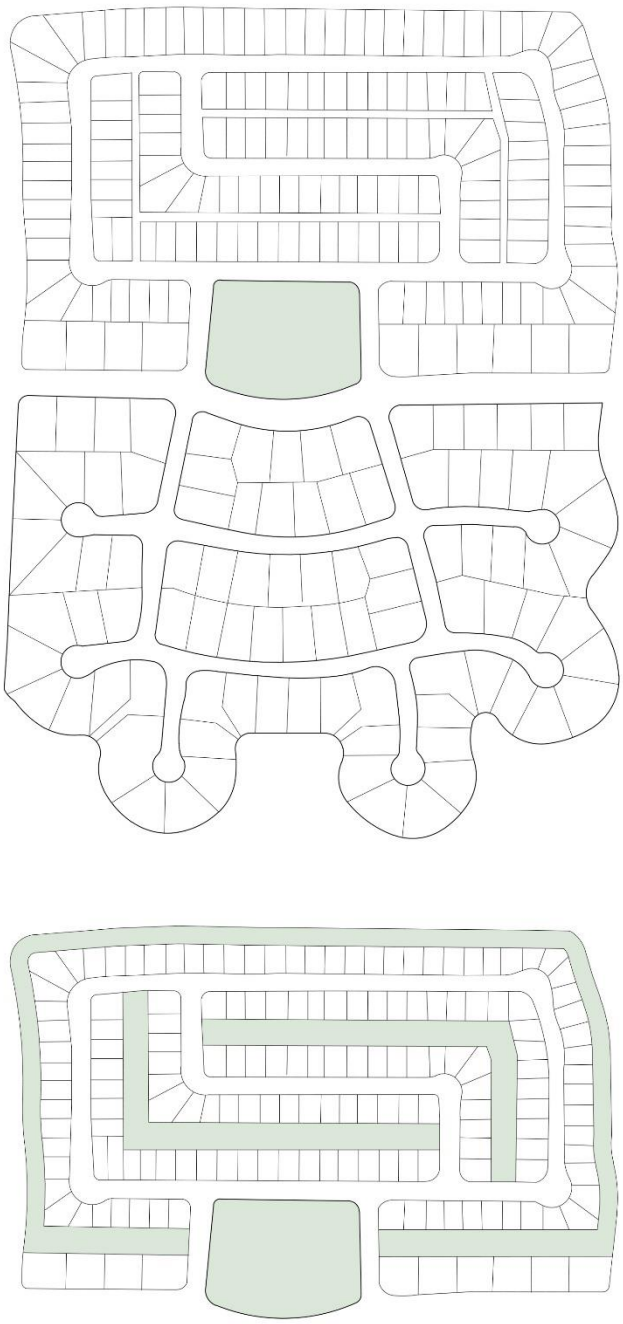

Figure 4.10. Above: Partial scheme of building blocks in Laguna West. A central public space, a grid approach with inner alleys on the north and a radial approach similar to Radburn with cul-de-sacs in the south. Below: Jointly owned common spaces in the center of the blocks with smaller plots.

CHAPTER 5

CONCLUSION

New Urbanism is an urban design movement that presents a vision for the future of cities and has various concepts, rules and methods for achieving this vision. Such movements, which have an opinion and vision about the future of the city and its planning, are valuable. However, these visions are generally planned while considering the optimum and ideal conditions of the world. Considering how pandemics affect the human life and cities, there is a necessity of a reassessment for these movements after pandemics, which is one of the purposes of this study regarding New Urbanism.

There are many pandemics in the history of humanity, and these pandemics have affected both the people and their environments, cities. Most of these pandemics triggered some changes in both the people and cities. These changes are in general, social and behavioral for the people and physical for the cities (Tekeli, 2020). Considering all these, the relationship between the city and the pandemics is a subject that needs to be studied in terms of the future of cities and how they should be planned. COVID-19 is the biggest pandemic happened in recent years and has affected the whole world. Which lessons and conclusions should be drawn after this pandemic, for the humanity and its living spaces, cities, is also a question that needs to be investigated in the same way.

Within the scope of the thesis, the New Urbanism movement was reviewed in detail at the first stage. Later, the approach, aims, concepts, principles, practices and criticisms of the movement about the city were examined. Thereinafter, pandemics that affected the world history and cities were investigated including the consequences of these pandemics and the changes it caused in cities and societies. In the same way, the COVID-19 pandemic and its consequences were studied. Subsequently, the most mentioned and debated concepts in the literature, related to

urban design in the post COVID-19 period were specified and examined with the use of the systematic review method. In the succeeding phase, it is aimed to discuss these concepts which were determined by the systematic review method, related to the New Urbanism movement and its principles. In consequence of this discussion, it is purposed to speculate on the design approach of New Urbanism and propose new typologies related to the pandemic.

5.1. Discussion

In line with the understanding of the traditional neighborhood structure, the New Urbanism movement promotes walkable, accessible, socially interactive neighborhoods with mixed-use and high-density, and without car dependency. The concepts and implementations of the movement are examined with a literature review in the second chapter of the thesis. In a period when new urban forms and typologies for the post-pandemic period are discussed, questioning and speculating how the design approach of the New Urbanism movement will be affected after the pandemics is the purpose of the study. In order to make this speculation and re-evaluate New Urbanism, it is necessary to determine which concepts come to the fore during the pandemic period.

The notions that have gained importance in the post-pandemic period regarding the city and urban design were classified with the systematic review method in the fourth chapter and the most mentioned concepts related to the post-pandemic period were determined from 40 different publications acquired from the search in *Google Scholar* with the keywords *"COVID-19"*, *"Post-Pandemic"* and *"Urban Design"*. According to the gathered data, while some of the principles of New Urbanism are in great harmony with the post-pandemic concepts of the city, some principles are conflicting, and therefore at some points, there is a necessity of a change in the design approach of the movement.

After a detailed review, it was determined that the most mentioned topics in the selected 40 publications were: *"Public Space"*, *"Transportation"*, *"Mobility"*,

"Density", *"Sustainability"*, *"Resilience"*, *"Healthy City"*, *"Smart City"*, *"Biophilic Design"*, *"15-Minute City"* and *"Decentralization"*, according to their frequency of mention.

The subject of public space, which was specified as the most mentioned topic in the selected publications, is also one of the most substantial issues for New Urbanism. During the pandemic period, the issue of public space was mostly discussed regarding the concepts such as health and safety, movement, density, mobility, movement and flexibility. In addition, it has been stated that green spaces have gained importance as public spaces, during the pandemic. The revealing of the importance of public spaces and the fact that they are the most mentioned issue during the pandemic period is significant for New Urbanism and is compatible with the movements approach, since public spaces are also crucial for New Urbanism. However, the change in the notion of sociability during the pandemic period and the strengthening of the concept of virtual sociability, led to a change in the understanding of physical public space. With the physical public space posing a risk for the pandemic, it appeared that New Urbanism needed a change regarding the spatial design and organization of public spaces and a design proposal was put forward in this regard.

In this new proposal, new semi-public spaces are defined in order to create new publicness within the building block, instead of the New Urbanism approach that gives importance to central public spaces in neighborhoods. In this way, it is aimed to distribute the publicity more homogeneously with a safer approach in terms of the pandemic.

Although the New Urbanism movement emerged in the 1980s, as a result of this research, it can be interpreted that many of the principles advocated by the movement are still valid in today's pandemic conditions. For instance, with the concept of the 15-Minute City, different modes of environmentally friendly transportation and concepts such as sustainability coming to the fore during the pandemic period, it can be argued that New Urbanism can actually form a base in terms of post-pandemic future urban design.

At this point, this study reveals the concepts that came to the fore the most during the pandemic period, discusses which ones are compatible and contradictory with the New Urbanism principles while trying to form a spatial base with a design speculation on the public space-oriented approach of New Urbanism. This study can form a base for the future studies and further design speculations can be done regarding the spatiality of the New Urbanism movement related to the revealed concepts that came to the agenda during the pandemic period in different studies. In addition, whether these revealed concepts in this study are taken into account by professionals, firms and academics in urban design practices in Turkey could be a future study. Likewise, the views of the prominent names of New Urbanism, on the physical spaces and spatiality of the pandemic period are also important for future studies.

5.2. Limitations and Further Research Suggestions

In the search made using *Google Scholar* containing the keywords *"COVID-19"*, *"Urban Design"* and *"Post-Pandemic"* as a part of the systematic review, a total number of 483 results were revealed. For a detailed analysis, in the next phase, 10% of the results were selected according to their relevancies identified by *Google Scholar*. Eventually, 40 publications were identified for a detailed analysis. Within the scope of the study, these 40 publications were examined in detail and the mentioned topics in each of them were listed. However it can be stated that, for a more detailed research instead of examining 40 publications out of 483, the number of studies examined in detail can be increased. With the increase in this number, it can be expected that the final result could change. In addition, databases other than *Google Scholar* can also be included to the search and thus more results can be obtained.

Additively, after the listing of the most mentioned topics in the specified articles, discussing the relation of the results with New Urbanism principles and concepts can be considered as an interpretation section and can be evaluated as subjective. Different evaluations and interpretations can be made in different studies regarding the subject.

This study was carried out at a time when the COVID-19 pandemic was ongoing, and data collection methods such as field research could not be done because of the health risks. Therefore, only literature review and systematic review methods were applied as a research method and interpretations were made according to their results. In order for future studies to be more in-depth, the New Urbanism movement and the concepts that came to the agenda after the pandemic can be investigated through a case of a city or a neighborhood where field researches can be conducted. In addition, further researches can be made by examining only specific concepts of the pandemic period, for instance, public space and density. Later the selected concepts can be investigated more with field studies, and comparisons can be made according to the data collected before and after the pandemic.

This study aims to form a base and create a general framework by speculating the spatial design approach of New Urbanism related to the concepts that came to the agenda during the pandemic period. In addition, the specification of which concepts were discussed more in the literature also forms a basis for further studies. Each of the concepts specified in this research and their relations with New Urbanism can separately be a subject for further research studies.

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