

THE IMPROVEMENT OF PUBLIC SPACE THROUGH THE PERFORMANCE
OF STREET FURNITURE: CASE OF “PIAZA” IN TIRANA

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EDA XHOXHA

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Approval sheet of the Thesis

This is to certify that we have read this thesis entitled “The improvement of public space through the performance of street furniture: Case of ‘Piaza’ in Tirana” and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

Assoc.Prof.Dr. Edmond Manahasa
Head of Department
Date: July, 11, 2023

Examining Committee Members:

Dr. Egin Zeka	(Architecture)	_____
Prof. Dr. Sokol Dervishi	(Architecture)	_____
Dr. Fabio Naselli	(Architecture)	_____

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Name Surname: Eda Xhoxha

Signature: _____

ABSTRACT

THE IMPROVEMENT OF PUBLIC SPACE THROUGH THE PERFORMANCE OF STREET FURNITURE: CASE OF ‘PIAZA’ IN TIRANA

Xhoxha, Eda

M.Sc., Department of Architecture

Supervisor: Dr. Egin Zeka

This study aims to examine how urban furniture affects citizen's daily lives and whether there is a need for a new approach of their design in order to create an aesthetic and functional city for future citizens. First, we will look at the role of these outdoor elements on a larger scale in cities. Based on different studies this research will define first what is street furniture, what is the role and function of it in the city. Then we will define a structure on how to project a successful street furniture in the city. All of these studies will be helpful to narrow its focus to the city of Tirana in a specific zone to be used as an example to help us understand the impact that these current pieces of furniture have on the behavior of the citizens for the moment. Through these analyses, we will determine whether or not a prior study was used to inform the furniture design and location within the city. If so, has the quality of life for the populace increased and has the city undergone urban development? This research will be supported by a variety of approaches, including successful case studies, observations and surveys. Based on the findings, new recommendations for improving outdoor areas by developing a new method for designing street furniture will be made.

Keywords: *Urban space, street furniture, behavior, performance, interaction.*

ABSTRAKT

PERMIRESIMI I HAPESIRES PUBLIKE PERMES PERFORMANCES SE ELEMENTEVE URBANE : RASTI ‘PIAZA’ NE TIRANE

Xhoxha, Eda

Master Shkencor, Departamenti I Arkitektures

Udhëheqësi: Dr. Egin Zeka

Ky studim synon të analizojë se si elementet urbane të rrugës ndikojnë tek qytetarët; jetën e përditshme dhe nëse ka nevojë për një qasje të re të dizenjimit dhe organizimit të tyre për të krijuar një qytet estetik dhe funksional për qytetarët e ardhshëm. Së pari, ne do të shikojmë rolin e këtyre elementëve të jashtëm në një shkallë më të madhe urbane. Në bazë të studimeve të ndryshme ky hulumtim do të përcaktojë fillimisht se çfarë është mobilimi i rrugës, cili është roli dhe funksioni i tij në qytet. Më pas do të përcaktojmë një strukturë se si të projektojmë një element urban të suksesshëm në rrugët e qytetit. I gjithë ky studim do të jetë i dobishëm për të fokusuar në qytetin e Tiranës në një zonë specifike e cila do të shërbejë si shembull për të na ndihmuar të kuptojmë ndikimin që këto elemente aktuale kanë në sjelljen e qytetarëve. Nëpërmjet këtyre analizave, ne do të përcaktojmë nëse është përdorur apo jo një studim paraprak për të informuar dizajnin e mobiljeve dhe vendndodhjen brenda qytetit. Nëse po, a është rritur cilësia e jetës për popullsinë dhe a ka pësuar qyteti zhvillim urban? Ky hulumtim do të mbështetet nga një sërë qasjesh, duke përfshirë studime të suksesshme të rasteve, vëzhgime, eksperimente, dhe anketa. Bazuar në gjetjet, do të bëhen rekomandime të reja për përmirësimin e zonave të jashtme duke zhvilluar një metodë të re për dizajnimin e mobiljeve të rrugës.

Fjalët kyçe: Hapësirë urbane, elementë urbane, performancë, interaktivitet.

This master thesis is dedicated to my wonderful parents. Your undying love, unending support, and encouragement have fueled my academic successes. You have been my pillars of strength over the years, guiding me with your knowledge and motivating me to aim for the heavens. You have made several sacrifices in order to present me with the greatest opportunity and education possible. Your faith in my talents has given me the courage to pursue my goals and conquer any obstacles that may arise. Your unshakable trust and consistent presence have been the cornerstone of my success. Thank you very much for everything!

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CHAPTER 1

INTRODUCTION

1.1 Problem Statement

Life in the city is growing more rhythmic and frantic. Everyone has a daily regimen that they must adhere to. However, in such a huge community with such diverse lives, a common place brings them all together. This links them every day by becoming a part of their routine. Since everyone has a different job, every day a huge group of individuals needs to wait at a common station to ride the bus to work. Every individual who has a pet is required to take it out and walk it in various public locations. Older individuals who go out to relax and warm themselves in the sun by sitting in rest places. Children who need to run away and play in the park are also invited. And, while everyone has an individual life, they also share a collective life with one another through the shared spaces that a location provides. These communities are built up of several components, such as ourselves and street furniture. The function of street furniture plays a significant role in the quality of urban space. Urban spaces are more convivial, inclusive, safe, and supportive of communities when the furniture is well-designed.

Street furniture serves as a link between these locations and the people that visit them. They play an important role in the city as a guide who orients you and handles regular requests from locals. “Street furniture refers to objects and facilities located in urban public spaces that provide various services and functions to the public. It is one of the essential elements of the urban environment that contributes to humans and their activities.” (Wan, 2008). And we're not just talking about elements to sit on here, but a much bigger community of elements that surround us. For example, signs with the names of the streets in which you can orient yourself where you are; bollards that serve

for the safety of citizens to separate roads for cars and pedestrians; garbage cans that organize the city's waste to keep it as clean as possible; road traffic signs to have a car circulation system; lights to illuminate the city's streets at night; games that serve to entertaining children and not only; public toilets to meet the vital needs of citizens; bus stations as a reference point to gather; or as well as different facilities with art to beautify the city, as well as many other elements. All of these factors work together to make the city easier to utilize while also increasing its efficiency. Each of them has a certain purpose, but some of them also act as ornamental elements to enhance the beauty of the city. This has an immediate impact on how people behave and increases their sensitivity to the city by encouraging them to take better care of it. Additionally, why not by making it possible for other users, like visitors, to participate in a city's culture and for appealing environs to be created.

Street furniture projects must undergo a number of analyses and research in many social, cultural, historical, and economic elements, much like any other urban project. Since they are closely tied to consumers, as I indicated earlier, performance improves more when the proper analyses are performed. We frequently come across public areas that are not at all functioning because they have not been properly researched, converting them and the components that comprise them into an underutilized and even destructive place or frequently, the people who utilize these areas on a daily basis find them to be barriers by having an immediate effect on their mental state and conduct. Early morning anyone do not want to have to cross the road at intervals of every two meters because of a bench, a basket, or even a pillar. Due to these ongoing challenges, he has no way of communicating with the city, which not only affects the user but also the city itself, or the people who travel to a city; the latter must provide public services while also making itself as appealing to visitors as feasible. Of course, this is possible through public facilities and its components as well as historical or contemporary structures.

In this research, we'll demonstrate the impact street furniture has and the delicate relationships it has with people's everyday lives. We shall examine the causes of these elements' negative effects through a variety of research if the form, position, design, frequency, context, stability, function, etc. are the consequence of a missing or flawed study. How impoverished would the city and every other shared public space

become if some items did not exist at all? Or, if these components are overused everywhere, regardless of the situation, how big of a barrier would they have become, having serious repercussions for both the city and its residents. Exists a procedure that implements them as intended, and if yes, what standards are used?

1.2 Thesis Objective

We can manage to raise people's sensitivity to the city and their interactivity by using the influence that street furniture can have on the city. The broken windows hypothesis of criminal justice, which was initially put out by the late criminologist James Q. Wilson in 1982, contends that seemingly little incidents of social and physical disorder in metropolitan areas can contribute to a climate of lawlessness that fosters more serious crimes. Understanding the goal of this study is made easier by using this philosophy. As soon as you are able to solve tiny issues, you can solve larger ones. In this instance, street furniture represents a small portion of a much bigger group, such as the public area that is utilized by a very large population. You can achieve this by using the appropriate street furniture in the appropriate manner and where it is required to create more attractive and useful public spaces that users can use for more than just their own purposes. Since these spaces belong to everyone, I can also encourage them to reflect and be more careful to maintain them. In addition to the physical components, we must also research the social variables, in this case, ordinary human behaviour, in order to achieve this. They will assist us in building a better communication link not just between citizens and the city, but also between them. The latter continues to be one of the largest issues since everyone is heading toward a more individualistic lifestyle and communal life is all but inexistent. Imagine a city where the public space is not utilized, and as a result, it is not maintained, resulting in a visually unappealing and unhealthy aspect. The city would become utterly inert as a result of the residents' growing disinterest. Due to the lack of a shared environment that may draw them together, this would also result in chilly ties between individuals. But are we really seeking this? If no one was concerned about the area, would this city be built up? The evolution of a people and the nation they live in may be seen in how sensitively they interact with the community around them. lives.

Additionally, a neglected city creates a dirty atmosphere that immediately harms people's health. This is quite worrisome and disturbing. When we begin to look around and take a brief vacation from our own interests, all these repercussions may vanish. Everyone will naturally start to have a better emotional state, will be more open to socializing, and as a result, more open to cooperate to maintain this common public space for the good of all, if we look at a well-ordered public space where everything has its place, everything manages to meet common needs, everything manages to offer security and also manages to offer and entertainment

1.3 Scope of work

In order to grasp the context in which we are referring to this issue, this research will first gather the information on typical public places and their constituent parts before digging into the definitions, classifications, and forms of street furniture. An examination of the effects of street furniture on the urban level as well as the interaction between them, public space, and people will be provided to go along with all of this information. The whole focus will be narrowed down to a study zone in Tirana, where it will be identified the present circumstances and difficulties and what are the solutions that can be provided to improve them using surveys, observations, and information on the current situation. You must begin your investigation by comprehending that street furniture, like every other aspect of public space, has an effect on the environment and if the best procedure is used to take into account various elements. If such a factor is there, have behavioral changes been noticed in these settings, as well as an increase in people's interaction with one another and the environment? In order to develop a new procedure and fresh options that will enhance the interaction between people and their surroundings as well as between people, this investigation will be based in the city of Tirana and in a few carefully chosen districts. These options will be provided through new principles that can be followed to organize for the street furniture in the chosen locations, as well as educated estimates about potential responses from the public and the effects their use in the city will have.

1.4 Organization of the thesis

This thesis is divided in 5 chapters as it is shown in table 1.

Chapter 1: Problem Statement, Thesis Objectives, and Scope of Work

This chapter introduces the problem that will be addressed in this thesis, it will state the objectives that will be achieved, and outlines the scope of work and as well as the methodology that it had been used.

Chapter 2: Literature Review

In this chapter, there will be provide a comprehensive review of the relevant literature on this topic. There will be defined key terms, discuss different categories or types of street furniture, explore basic criteria for designing urban spaces with street furniture, and discuss organizational aspects related to street furniture. Also several successful case studies which has been analyzed to extract some key references of designing street furniture.

Chapter 3: Data Collection and Analyses

This chapter it includes details about the questionnaires there have been used, analysis methods based on the literature review, site analysis techniques, and site observation procedures.

Chapter 4: Extraction of Principles and Implementation

In this chapter, there will be present the principles that are based on all analysis and literature and data that have been prepared. These principles serve as a guide for designing urban spaces with street furniture. And also there will be present as an example of implementation of these principles on the specific site that have been chosen in Tirana to demonstrate how these ones can be implemented in practice.

Chapter 5: Conclusion and Recommendations

The final chapter summarizes the main findings of the thesis, restates the objectives, and presents the conclusions. Additionally, there will be may provide recommendations for further research or suggest additional principles or studies that could enhance the performance of street furniture.

This organization provides a logical flow of information and allows readers to understand the problem, explore relevant literature, grasp the methodology and data

analysis process, and ultimately draw conclusions and recommendations based on this research.

Table 1. Thesis Organization



1.5 Methodology

In methodology for this master thesis as it is shown in table 2 it is been used a variety of research techniques to examine the role of street furniture and its evaluation in nowadays. These techniques include analysis on street furniture behavior with the users and the urban spaces, surveys, site analyses, site visits, and case studies that are related with street furniture design in different location.

Case Studies: Case studies will provide the chance to look at particular examples of effective or creative street furniture initiatives in other cities that may also be utilized in the location that it has been chosen for this thesis. It will analyze these case studies to find best practices, design principles, and research-relevant insights that

may be used. Case studies will enable to investigate the different aspects that affect whether street furniture initiatives are successful or unsuccessful and will offer important insights for future design and execution.

There have been prepared surveys to collect quantitative and qualitative information from the local population, residents, and tourists in Tirana. By using this technique, it helped to discover what they think about the city's street furniture as well as their tastes and experiences with it. The answers to the surveys can offer insightful information about the usefulness, satisfaction, and prospective changes required for Tirana's street furniture.

Site Analysis: By doing a site analysis of Piazza in Tirana, it will assess the current street furniture and its performance in a particular urban environment. The layout, positioning, materials, functioning, and aesthetic appeal of these street furniture will be examined as part of this analysis. This will help this research to get a greater grasp of the street furniture's influence on the urban spaces and the experiences of its users by critically evaluating the advantages and disadvantages of this specific piece of street furniture.

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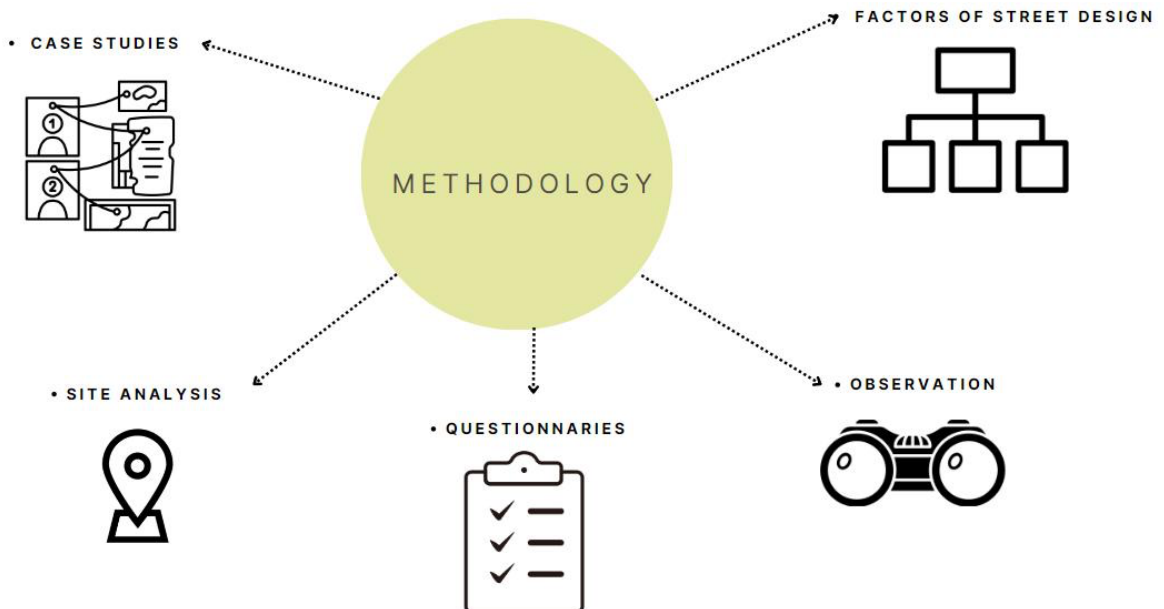


Figure 1. Schematic organization of methodology

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Before we start to design and create a concept in an urban scale, there are a lot of analyses and processes that should be carefully taken in consideration, to fulfill all the necessities of a big range of group. This design is made of different elements that are connected to each other in different ways. These elements can be greenery, circulation, public spaces and also street furniture that directly are used by the people. Street furniture are an important element for the city, because it helps the citizens to be more close to the city and also how to experience it and enjoy what surrounds them. But to understand better this element we have to understand first what is a street furniture and how we can distinguish it in environment.

The word “urban furniture” was developed in Europe in the 1960s. The term is defined differently, as private or public furnishings in public spaces that provide certain services and perform various public functions (Grabiec,2022) ,Yang (2005) recognizing that the English term can be misleading and understood as fixtures present only on the street, developed a definition of street furniture according to the five elements analyzed in Lynch’s (Lynch, 1964) study. He included the following: (a) roads—lines along which we move, such as paths, streets, crosswalks, and railroads; (b) edges—lines that are barriers, linear elements such as rivers, railroad embankments, and walls; (c) areas—medium-to-large sections of the city, e.g.,: neighborhoods and parks; (d) nodal points—intersections, places where spaces in the city intersect; and (e) landmarks, and he considered these to be urban furniture. All of these variables are determined by man and how he employs them in his everyday life. The daily dynamics of the city necessitate a heightened sensitivity of man, from man to city. These features linking roadways, sidewalks, parks, or other shared places require a system that can differentiate them while still connecting them. As a result, street furniture is an important component in forming this type of interaction between man and his surroundings.

Bao, et.al (2006) resented an alternative interpretation of the concept of urban furniture, combining the concept of indoor environment (interior design) and outdoor environment (urban landscaping). When people move from an indoor environment to an outdoor environment, their basic needs remain the same. Accordingly, furniture such as a sofa, telephone, or clock, for example, in urban public spaces becomes a bench, phone booth, and clock tower.

Human needs are the same whether they are at home or away from home. Every human activity that is repeated on a regular basis is a behavior that does not vary regardless of the surroundings. As a result, this comparison of Bao demonstrates that everything designed has in principle man and his importance. It is a study of man, and the parts of his external world must adapt to him in such a manner that they are more tangible and serve as a convenience rather than an obstacle. Each furniture item should be a product that adapts to the motions of the user, and then if it possible the other way round

The starting point for the history of public spaces and urban furniture was the period of the Industrial Revolution, considered the beginning of modern urban planning. The advent of motor vehicles at the end of the 19th century led to a change in the organization of traffic in cities; gas lamps, used as street lighting, were supplanted by street lamps, the light railroad forced the construction of bridges and stations, and the advent of newspapers and posters imposed the need for the construction of advertising poles. An expression of the evolution in the way we think about urban space is London's Regent Street, built in 1811. It is an excellent example of a functional and representative street, thought out from the beginning as the city's main street expanding into a square from time to time, equipped with lampposts, benches, monuments, and all the street furniture a big-city street needs (Grabiec,2022).

Another definition refers street furniture to objects and equipment installed in urban public places that serve the public with a variety of services and functions. It is an important component of the urban environment that supports humans and their activities.” (Wan, 2008) According to this source, street furniture is an important component of urban planning since it connects outdoor areas with residents and their activities in a given context. Giving some simple instances, such as sitting elements utilized for resting, observation, eating, or reading, etc. These are some of the most

basic activities that a person may undertake on a daily basis, however there are more sophisticated activities such as athletics, interpreting street shows, and performing civil obligations. We may argue that street furniture provides the city with the possibility and usefulness that diverse users require. For this reason, its design and location have a great impact on the city, making it more usable while also raising inhabitants' sensitivity to the nation in which they live.

Urban furniture has evolved and continues to evolve along with urban planning, but it was the 20th century that made it clear that urban furniture objects could not only be useful, but could also be works of art and symbols of the city (Grabiec,2022). Supporting this argumentation we add the definition taken from “A Study on Urban Furniture: Nicosia Old City.” where it says that ”Urban furniture can be defined as aesthetics and comfort elements that reflect the identity of a city and enable the urban space to become livable. Urban furniture is an important element of the city in order to improve the quality of urban life, to create a comfortable and reliable environment and to meet the needs of the users in the best way (Bolkaner,2019). Street furniture is also a decorative feature that enhances the environment in which it is placed beside its function. This contributes to a more attractive and comfortable atmosphere for inhabitants and the city, which reflects the city's character in some way. So, in addition to the purpose indicated in the first description, this feature has a visual relevance to enhance the outdoor environment for residents but also as a vital point, particularly for tourists, to show and be a part of the culture that a nation bears.

Urban furniture is often referred to as fixed service equipment and structures for open space functions, where the user is uncertain. Urban furniture, together with the concept of the city, consists of items intended to meet the growing and increasing needs of users as a result of a specific process (Bingöl, 2017).

2.2 Categorization of street furniture

Everyone immediately thinks about benches when we discuss street furniture, but there is a larger category of them with various functions and responsibilities in a certain location. We can see how varied this piece is and how it may be categorized based on the descriptions of street furniture that were previously provided. Urban furniture may serve a variety of purposes, including relaxation, recreation, human navigation, illumination, waste management, protection, sanitation, security, and temporary shelter.

2.2.1 Uncategorized street furniture

Every element that is found on the outdoor environment that is not livable and has a specific function, is a street furniture (MikoEngineering, 2020). Below in the figure 2 we can see a list with all types of street furniture and an example with photo:



























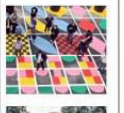




Street Name Signs	Seating	Bollards	Trash bin	Post Boxes	Telephone booths	Street lamp	Traffic lights/signs	Restroom facilities
	 	 	 	 	 	 	 	 
Advertisement	Public Art	Bus Stop	Water fountains	Kiosks	Bicycle Parking	Playground	Plant Pot	Urban Railing
 	 				 	 		 

Figure 2. All types of street furniture (MikoEngineering, 2020)

Uncategorized street furniture encompasses the diverse range of objects and structures found in public spaces that may not have a distinct grouping or classification.

2.2.2 Categorized street furnitures

Another way of categorization of street furniture is also based on their purpose. The purpose of urban furniture, which might include recreation, relaxation, human navigation, illumination, waste management, protection, cleanliness, security, and temporary shelter, as well as other particular functions, is split into categories. (Comopa, 2022). Table 2 show this categorization based on the functions of every furniture

Table 2. Categories of street furniture based on their function (Comopa,2022)

Function	Street Furniture Description
Resting	Elements that provide a place of rest, relaxation or contemplation in a certain public area. All types of benches, chairs, benches and seats such as picnic tables, gazebos and loungers.
Gaming, entertainment and fun	Elements that provide an entertainment service to their users such as benches with a table that have an integrated game board to play checkers and chess. It also includes playgrounds.
Lighting	Elements that provide an open space at night. They provide a greater sense of safety to pedestrians and help to emphasize certain paths or areas of a space. For example, a specific path in a park or an entrance to a particular sector will be delimited with luminous bollards.
Human navigation	Elements that load-bearing signage elements that allow a person to locate in a certain public space such as directional, restrictive, informative signs, guide maps. For example, a directional sign with arrows indicating important destinations such as restrooms or tourist sites.
Waste management	All types of garbage containers are available, in which their capacity, shape, fixing, use and type of waste they receive are adapted to the space they serve, small or large, tilting or fixed, with lid or without lid, for dog waste, organic and inorganic waste.
Temporary shelter or refuge	These are the bus stops that offer shade and protection from the rain and in some cases from the cold and wind. Includes benches, rechargers and lighting.
Complementary urban furniture	Urban advertising and information furniture, drinking fountains, parasols or umbrellas, flower pots, tree grates, railings, delimiters, bicycle racks or bicycle parking lots, confinement of cycle paths (cycle paths), telephone booths, parking meters, magazine and newspaper kiosks, drinking fountains, sculptures, busts, statues and planters

2.3 Criteria of designing street furniture

We should analyze social, economic, and historical issues before making design decisions for street furniture in the same way that we do for urban plans. They are essential, particularly when it comes to people. Through them, citizens share a shared environment, which may increase people's sensitivity to their local environment. As Firdevs Gken mentioned "If street furniture is properly integrated in the design of a public space, it creates an identity and develops a sense of place around it ..." it shows the importance of design thinking based on analysis to create an identity in environment. In order for the furniture to effectively serve its purpose, it should be selected and positioned based on an analysis of the site's present and anticipated usage patterns. The arrangement of various street furniture items may create obstructions for people moving through cities, which makes for a situation that is not especially pleasant for anyone. However, it is crucial to offer as many unique characteristics as possible to sit down in another public area where people must sit and look about. In this case, the occurrence of this element is a result of a missed opportunity for a thorough inspection. These urban elements must, nevertheless, have a lifespan. Since they cannot be changed frequently, they must also be as stable as possible. The choice of material is therefore a very important factor.

There are a number of qualities or criteria that need to be considered or affected while creating street furniture. These elements are essential for ensuring that the street furniture is practical, appealing, and appropriate for the surroundings.

2.3.1 Functionality

When creating street furniture, functionality is an essential factor since it establishes its use and contribution to the city. Street furniture loses significance and is unable to have an impact when it does not serve a useful purpose in urban settings. The most crucial aspect that determines whether street furniture is feasible is that it must take human ergonomics into account. Forms should be chosen for a design taking into account their function and purpose. Unusual street furniture that lacks this feature might be problematic for the neighborhood where it is placed (Heathcote, 2022). This element is not just an addition to urban spaces for a better visual impact but also it has

its role as everything else. Street furniture is rarely used just for adornment in the public realm. It has a variety of significant values. For example, street furniture is the finest method for giving customers a sense of "place" in city, town, and village centers, especially in places where stores that the shopping area will resemble any other site are national chains and there is a chance (Hong, 2007).

2.3.2 Form and appearance

Creating street furniture must take appearance into account as well, especially when creating benches. The overall aesthetics of the street may be greatly influenced by a well-designed bench that melds seamlessly with its surroundings. When a bench blends in perfectly with the property, it gives a sense of continuity and ownership, almost as if it were an addition to it (Hong, 2007).

When we start to design, comfort has to be taken in consideration. The level of comfort provided by benches depends on how they will be used. For example, on a shopping street, where people may stop briefly to rest, comfort is less important than it is, say, in a park, where people may spend half a day in seating areas. There may be additional factors to take into account. For instance, broad slats in benches may be less pleasant than small slats, but they may be more acceptable in locations where teens frequently use the bench back rests. In general, all pertinent circumstances of usage should be considered in the selection or design of benches.

By varying the types and heights of seats (steps, benches, seat walls, etc.), the design possibilities for a site may be expanded (Firdevs,2013). Seating components should be 60 cm long for each individual. Bench sitting surfaces should be 42.5 cm high, 35–40 cm wide, and have backrests that reach 50 cm from the seat. The bodies of users are supported by benches with armrests and backrests; for users to have adequate back support, the backrests should be 32.5–37.5 cm tall. The angle should be between 95° and 100° between the sitting surface and the back rest, and the seating surface should slope back at a 10° inclination (Firdevs,2013) .

The depth of a seat wall should be at least 37.5 cm if access is only possible from one side, or 75 cm (90 cm is preferred) if it is possible from both sides. Seat walls should be between 37.5 and 60 cm in height (42.5 cm is recommended).

As an alternative to benches and other seating options in open areas, movable chairs may be highly practical since they are more comfortable than benches, even though they may not always be the best choice. While their prices differ, they are also less expensive: for the price of one bench, about 10 movable seats may be obtained. Additionally, visitors can arrange moveable furniture they come across at a location anyway they choose in order to sit farther apart or closer together, in the sun or in the shade (Firdevs,2013).

The material is yet another important element in the design and appearance of street furniture. The material also affects the form since different materials may have limitations on the shape that the design requires. As a result, their astute decision succeeds in producing the ideal shape. But in terms of aesthetics, you may make it appear attractive or uninviting. It won't function at all and could even be a bit painful if you use a harsh material. As a result, the best designs frequently use strong, uncomplicated geometry, local materials, and natural finishes, generally in black, gray, and earth tones, with brilliant colors as highlights (Firdevs,2013).

The beauty of urban furniture is intertwined also with its color scheme. Color serves as a fundamental tool for architects and urban planners, often functioning as a distinctive feature and symbol of a city. For example, the presence of red is essential for the iconic phone booths in London, while yellow evokes associations with New York taxis. Cities commonly employ color to express their unique identity, and the selection of a color scheme often draws upon historical context and heraldry. Within an urban environment, color plays a role in organizing, educating, and providing warnings. It has the power to evoke emotions, transform the atmosphere of a place, and emphasize its distinctiveness (Firdevs,2013).

Color properties also have an influence on the human mind. Spaces deliberately utilize universally recognized symbolic color codes, where white represents purity, yellow signifies joy, and green promotes relaxation. Colors can also affect a person's mood and physiological state. Vibrant, intense red can evoke excitement, while cool tones of green and light blue tend to have a calming effect.

2.3.3 Frequency

Another element is the placement of urban furniture in a particular space. Every item of urban furniture that is placed in a certain location must have a defined function; otherwise, if it is repeated in areas where it is not necessary, it loses value by becoming a hindrance to movement and the efficient use of the environment. They should carefully analyze their relative positions to one another. As stated by Firdevs (2013) Rather of being arranged in a row, benches are arranged at right angles to one another to create social situations that foster contact. People are cautious to make eye contact with strangers and will turn or sit sideways to avoid it, therefore they should not be seated directly across from one another (unless they are used to play games). Seats are set at an angle of 90 to 120 degrees; the space created allows you to sit alone or with others. There should be enough space adjacent to and in front of benches for individuals in wheelchairs and walkers to utilize them without blocking pedestrians (Firdevs,2013).

To guarantee efficient waste management, particular criteria and regulations are frequently in place when it comes to trash cans. For instance, in city centers, suggestions are frequently made for the quantity and location of trash cans on each block. Typically, 2-4 trash cans per block are seen to be enough. To allow simple access and promote proper disposal, it is advised to place one garbage container at each end of the block, close to the crossing. Additionally, one or two extra trash cans may be positioned in the middle of the block if there are seats or food stands along the street. This thoughtful positioning considers places when individuals are most likely to produce trash, such while they're eating or relaxing.

A typical rule of thumb for trash bin placement is to place them around 30 meters apart. This distance between the trash bin provides for easy access without becoming excessive. However, the frequency of bin receptacles may be increased in particular regions where there is a larger demand or increased waste output, such as busy pedestrian zones or public meeting places

2.3.4 Location

The placement of furnishings should align with their intended functions and be in harmony with the overall patterns and designs of the surrounding hard surfaces. It is important to avoid a cluttered appearance, which can be achieved by consolidating signage on a single post or column rather than scattering them in multiple locations (Firdevs,2013). Group amenities, such as seating areas or telephone booths, should be strategically placed in areas where they are likely to be utilized, such as pedestrian junctions. Additionally, features like bollards should be used sparingly to maintain a clean and unobstructed street scape.

In below there are listed some factors to consider where a street furniture should be locate:

Pedestrian flow: Urban furniture should be positioned in a way that doesn't obstruct the flow of pedestrian traffic. For example, benches should be placed in areas where they won't impede the movement of pedestrians on the sidewalk.

Traffic flow: Urban furniture should also be positioned in a way that doesn't obstruct the flow of vehicle traffic. For example, trash cans should be positioned in areas that won't interfere with the movement of cars on the street.

Safety: The position of urban furniture should take into account the safety of all users, including pedestrians, cyclists, and drivers. For example, streetlights should be positioned in a way that provides adequate lighting for all users, while bike racks should be positioned in areas where they won't pose a hazard to pedestrians or drivers.

Accessibility: Urban furniture should be positioned in a way that is accessible to all users, including people with disabilities. For example, benches should be placed on level ground and at a height that is comfortable for people in wheelchairs.

Aesthetics: The position of urban furniture can also impact the overall aesthetic of a street. For example, planters and other decorative elements should be positioned in a way that enhances the beauty of the street without impeding the movement of pedestrians or vehicles (Yang, 2005) .

2.3.5 Durability

Durability is an important factor to consider when choosing urban furniture. Urban furniture is often subjected to heavy use, harsh weather conditions, and potential vandalism. Therefore, it's crucial to choose materials and designs that are sturdy and long-lasting. Here are some factors to consider when evaluating the durability of urban furniture (Chen, 2019):

Material: The material used to construct urban furniture can impact its durability. Materials such as steel, aluminum, and concrete are sturdy and can withstand heavy use and weather conditions. Wood and plastic can also be durable, but they may require more maintenance and may be more prone to damage over time.

Design: The design of urban furniture can impact its durability. Furniture with simple and sturdy designs, such as straight benches without decorative details, may be more durable than furniture with intricate designs and delicate details.

Maintenance: Regular maintenance is important to ensure the durability of urban furniture. Cleaning and maintenance routines should be established to keep the furniture in good condition, such as power-washing concrete benches or painting metal fixtures to prevent rust.

Vandalism: Urban furniture is vulnerable to vandalism, which can damage its durability. Choosing materials that are resistant to graffiti, and installing security cameras or lighting in areas prone to vandalism can help prevent damage. (Guedes, 2021)

Warranty: Check the warranty provided by the manufacturer to ensure that it covers potential damage or defects. It can be a helpful indicator of the expected lifespan of the furniture.

2.3.6 Cost

Cost is another important factor in choosing urban furniture. There is a defined budget for every city that they should manage to offer the right urban furniture to create an efficient environment. Managing costs in urban furniture can be challenging, but there are several strategies that municipalities and urban planners can use to help control costs:

Conduct a cost-benefit analysis: Before investing in new urban furniture, municipalities should conduct a cost-benefit analysis to evaluate the long-term value and return on investment that the furniture will provide. This analysis can help determine which types of furniture will provide the most benefit to the community while staying within budget constraints.

Standardize furniture design: Standardizing the design of urban furniture can help reduce costs by streamlining production and reducing customization. Standard designs can also be produced in bulk, which can reduce costs and increase efficiency.

Choose durable materials: Choosing durable materials such as steel, aluminum, or concrete can help reduce the cost of maintenance and replacement over time. Although these materials may have a higher upfront cost, they can save money in the long term by reducing maintenance costs and extending the life of the furniture.

Consider multi-functional furniture: Multi-functional furniture that serves multiple purposes, such as benches that also provide storage or have built-in lighting, can provide more value for the cost. (Gupta & Bhatti, 2015)

Partner with community groups: Partnering with community groups or businesses can help reduce the cost of urban furniture by sharing resources or leveraging funding opportunities. For example, a local business may be willing to sponsor the installation of benches in a park in exchange for advertising or other benefits. (Wan, 2008)

2.4 Social, Economic and Cultural factors of designing street furniture

The usage and enjoyment of street furniture that are designed with one culture's values in mind may not be compatible with the requirements and values of other cultures. Public space design may be difficult in multi-cultural cultures since people from different ages, socioeconomic backgrounds, and ethnicities may have unique needs for their chosen activities. It is crucial that complicated design decisions are supported by solid data due to the many demands and expectations individuals have for the public places they use (Sattarzadeh, 2008).

For example, some cultures may prefer seating areas that are covered to provide shade, while others may prefer seating areas with direct sunlight. Designs should also consider the local architectural styles and cultural aesthetics of the community.

People's choices for design styles, patterns, and materials are influenced by cultural variables. Creating street furniture that is aesthetically pleasing and visually appealing can reflect local architectural and aesthetic traditions. For instance, including wooden features into the design of benches or shelters may connect with the cultural identity and provide a sense of comfort and belonging in a town with a rich tradition of detailed woodwork (Chap, 2006).

That's why cultural considerations should be taken into account when designing street furniture to ensure that it is appropriate for the community it serves.

Social factors: Street furniture should be designed to promote social interaction and create a sense of community. Consider the needs and preferences of different age groups, such as children, teenagers, and seniors, and design furniture that accommodates their needs. Seating areas and tables should be placed in locations that encourage socializing and community gathering (Heathcote, 2022).

Economic factors: Cost is an important factor in designing street furniture. Consider the budget available for the project and choose materials and designs that are cost-effective while still meeting the needs of the community. The furniture should also be designed to last for a long time with minimal maintenance and replacement costs.

2.5 The role of urban furniture in increasing social interaction

According to Kohn (2004) '...Urban furniture and elements as devices that are installed in urban space and have public use can enliven the urban space and can be considered as a constructive approach to sustainable urban development, with the goal of improving the quality of urban space and human needs, proper design of urban furniture is important as an effective factor in improving the quality of urban environment. According to the principles that are communicated about them within the community, public places can aid in fostering a feeling of community and mutual trust among users. Most importantly, public spaces offer a ground for sociability, becoming a set-ting for unplanned communications and social interactions both between friends/family members and strangers (Kohn 2004). Outdoor settings need furniture, which might include everything from permanent seats to temporary stools to trash cans. Furniture not only supports certain activities but also enhances the street's visual

environment. Particularly, seating is considered to be a crucial element in the perceived quality of public places, helping to encourage beneficial social use (Hass-Klau et al. 1999).

Having enough street furniture also promotes equality of opportunity, as it provides rest places for the elderly and people with mobility issues. Parents of small children can use it in public spaces and amenities, to keep a watchful eye on their youngsters, making accessibility and use more assured. Carefully placed clusters of benches and seating in public places offer opportunities to be sociable and enjoy the outdoors. This is the value that has become even more precious, as people respond to modern challenges by returning to simpler, more traditional activities. Urban furniture can help create a sense of community by providing spaces for people to come together and socialize. For example, public art installations or murals can attract people to a space, and seating areas can encourage them to stay and interact with each other.

Also they can be designed to provide opportunities for physical activities that can lead to social interaction. For example, ping pong tables, outdoor fitness equipment, or basketball hoops can attract people to a space and create opportunities for physical activity and socializing.

Although it is obvious that furniture has a significant impact on people's experiences, public space design procedures frequently undervalue this. The Project for Public Spaces stated that "seating that is accessible, comfortable, well-maintained, and located in the right places is critical to successful place-making" and Hass-Klau et al. suggested that the placement of seating is a significant factor that can both encourage or discourage social interaction. A wider variety of people will use public areas that accept differences in how they orient themselves to others.

Furniture

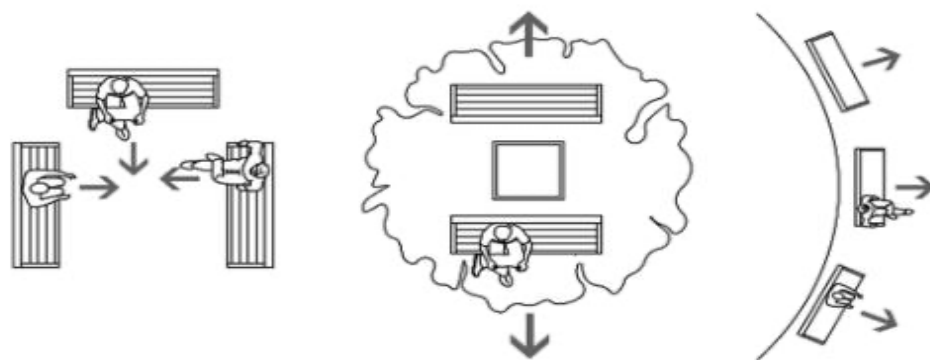


Figure 3. Left: socio-petal seating (inward-facing); right: Socio-fugal seating (outward-facing). (Maryam Lesan, 2021)

placement may promote or inhibit face-to-face interaction. Humphrey Ostmond (1957) invented the words "socio-petal" and "socio-fugal" to refer to situations that are meant to unite or divide individuals as it is seen in figure 3. Socio-petal layouts direct users toward one another and promote in-person interaction. Socio-fugal structures keep individuals apart to prevent face-to-face interactions (Maryam Lesan, 2021). These systems tend to encourage people to use public places. As long as you give different options to people, there are more chances to have a better interactivity between the user and urban space but at the same time with each other.

Also design has a huge impact on human interactivity. Well-designed and aesthetically pleasing urban furniture can attract people to public spaces and create opportunities for social interaction. For example, colorful and comfortable seating areas can make a park or plaza more inviting, and public art installations can spark conversations and social interactions.

2.6 Relation Street Furniture-Urban Space

Street furniture plays a crucial role in shaping the dynamics of urban space, influencing both the aesthetic appeal and functionality of cities. This symbiotic relationship between street furniture and urban space has been widely recognized by urban planners and designers. Street furniture, including benches, lighting fixtures, waste bins, public art installations, and bike racks, not only enhances the visual character of streetscapes but also contributes to the creation of inclusive and accessible public spaces. The concept of "place-making," as advocated by Jan Gehl, emphasizes how well-designed street furniture can encourage pedestrian activity and social interactions, thereby fostering a sense of community engagement (Gehl, 2010). Moreover, the incorporation of sustainable materials and innovative designs in street furniture aligns with the principles of environmentally conscious urban development, promoting sustainable practices that align with the United Nations Sustainable Development Goals (UNSDGs, 2015). As exemplified in the "Broken Windows Theory" by Wilson and Kelling, well-maintained and strategically placed street furniture can contribute to a sense of order and safety in urban environments, discouraging vandalism and crime (Wilson & Kelling, 1982). Therefore, the relationship between street furniture and urban space goes beyond mere functionality,

extending its impact to social, environmental, and cultural dimensions, making it an integral aspect of contemporary urban planning and design

2.7 Case studies: Successful street furniture design

The case studies were carefully chosen based on their excellent design, original concepts, and effective execution. In order to understand their efficacy and pinpoint the crucial elements that led to their success, it is important to evaluate these situations. In order to stimulate creativity and improve the overall quality of the built environment, we hope to comprehend the concepts and techniques that may be used in future design projects by looking at these case studies.

2.7.1 Case Study: Urban Reef installation (Vancouver, Canada)

From Canada Day to Labor Day, the historic 800 block of Robson Street in Vancouver, British Columbia, functions as a temporary pedestrian plaza. This seasonal change along Robson Street is part of the well-liked VIVA Vancouver project of the City of Vancouver, which transforms streets into vibrant pedestrian zones to encourage public spaces (Archineft,2014).

Urban Reef's design in figure 4 incorporates these two concepts while also taking into account the site's unique characteristics to provide a public sculpture and a stage for performances. The program aims to create new connections between individuals and the area through the activities that Urban Reef produces, such as street



Figure 4. Urban Reef Installation, Canada (Archineft,2014)

performances and chance meetings. A design that blends several purposes and makes use of materials to provide a warm and inviting setting is the Urban Reef exhibit in Vancouver, Canada. These points are explained as follows:

Design with Multiple Functions: An element's design might have multiple functions to enhance performance. As a result, the area may be used in a flexible and adaptable manner to accommodate various demands and activities.

The Urban Reef project, which offers numerous purposes in a single building, may serve as an illustration of this idea. For instance, it might act as a place to sit, a meeting spot, and a focal point. The installation creates a dynamic and interesting piece that improves the experience of the urban area by integrating these features.

Material Selection for a Warm and Comfortable Space: The selection of the right materials is essential to establishing a warm and comfortable atmosphere. Different materials can elicit various emotions and add to the element's overall aesthetic appeal and utility. For instance, the materials utilized in the Urban Reef installation may have been carefully chosen to offer comfort, durability, and aesthetic appeal. This can entail utilizing substances recognized for their tactile features and capacity to survive outside environments, such as wood, metal, or composite materials. A place's comfort level and aesthetic appeal can be affected by factors like colour, texture, and finishes, which can be considered while choosing a material.

There have been extracted two key principles in this case study that have been used to the design of this street furniture:

- Create an element with several uses to improve performance.
- Choosing the right materials is essential to designing a warm and comfortable atmosphere.

2.7.2 Case Study: Coffee bench by Beyond Standards Studio (Poland)

Poland-based A joint design and manufacturing business run by interior architect Szymon Nawój and product designer Karolina Tylka is called ‘‘BEYOND’’ standards. With a focus on finding the cohesive concepts in each product, space, and design process, they are committed to researching material, technology, and space interactions (Derringer, 2010).



Figure 5. Coffee Bench from Beyond Standards Studio (Derringer, 2010)

The Coffee Bench, a mobile bench and table in figure 5 (Derringer, 2010), that makes good use of space, was introduced by 100% Design. They created a clever, rotating device that can be readily customized based on your needs after being inspired by the desire to enjoy coffee in the garden without a place for the cup or newspaper. Designing movable furniture that can be utilized either independently or in groups can provide versatility and encourage social interaction. Here is an explanation of this idea:

This entails including elements that may be moved around or adjusted to suit various group sizes or individual preferences.

This coffee bench serves as an example of a modular seating system, which may be made up of moveable or stackable components that can be quickly adjusted to create seating configurations ideal for both socializing in groups and relaxing alone. Due of its adaptability, the furniture may be modified by users to suit their own demands at any given moment.

Multi-Functionality: The interchangeable furniture becomes more attractive and promotes interaction by providing a variety of uses. This may be done by combining numerous features or components that perform diverse functions. The furniture serves several purposes, transforming into a flexible shared area where individuals or groups of people can carry out various activities.

Design should actively encourage human connection by providing possibilities for individuals to interact with one another as it is shown in figure 6. Layout, furniture placement, and feature choices may all help with this.



Figure 6. The use of coffee bench in site, Poland (Derringer, 2010)

Social contact may be promoted by taking into account factors like arranging seating places so that people can face one another or utilizing communal surfaces that promote cooperation and conversation. Additionally, inclusiveness and flexibility in social dynamics may be facilitated by arranging the furniture in a way that makes it simple for anyone to join or leave a group. Additionally, adding interactive components like game features, interactive displays, or shared interactive surfaces can improve human contact and engagement. These characteristics have the power to start discussions, promote group interaction, and foster shared experiences.

The moveable furniture transforms into a fluid and dynamic setting that caters to both individual requirements and group interactions by integrating modular and flexible design, providing numerous purposes, and actively stimulating human contact. It promotes a feeling of community and social connection by encouraging individuals to get together, exchange experiences, and interact with one another in a variety of ways.

In this case study related to my studies there have been extracted two main characteristics that have been implemented in this street furniture design:

- Create a changeable furniture that can be shared in a group or in an individual way.
- Offering more than one function, it increases human interaction.

2.7.3 Case Study: Radius Seating System by Jorge Diego Etienne, (Monterrey, Mexico)

The Radius Seating System, designed by Jorge Diego Etienne from Monterrey, Mexico, in figure 5 (Etienne,2016), is an example of street furniture that takes into account human behavior to create a functional and culturally relevant design. It is interesting to note that this type of street furniture resonates well with the way people in Albania typically sit. Here's an explanation of these points:

Human Behavior-Informed Design:

The Radius Seating System acknowledges the importance of understanding human behavior when designing street furniture. By observing how people naturally interact and use public spaces, the designer can create a more effective and user-centered design.



Figure 7. Radius Seating System, (Etienne,2016)

For example, the seating system may have been designed with considerations for how people tend to sit or gather in public areas. It could take into account common behaviors such as sitting in groups, facing each other for conversation, or seeking individual seating for relaxation. By aligning the design with these observed behaviors, the furniture becomes more intuitive and accommodating to users.

Cultural Relevance in Albania:

The statement suggests that this type of street furniture sits well with the way people in Albania usually sit. This indicates that the design of the Radius Seating System aligns with the cultural preferences and habits of the local community.

Different cultures have varying sitting preferences and social norms. By taking these factors into account, the design of street furniture can reflect the cultural context and create a sense of familiarity and comfort for the users.

In this case study related to my studies there have been extracted two main characteristics that have been implemented in this street furniture design:

- Human behavior is a good reference on how to design an street element.
- In Albania this type of street furniture sit well on how people sit usually.

2.7.4 The many uses of Pop-Up! Street Furniture in Seattle (Washington)

With the help of Pop-Up! Street Furniture, a novel approach to interactivity in the built environment, downtown Seattle was converted into a playground for people of all ages in September. Eight moveable modules as in figure 8 (MacLeod, 2014) , work together to make countless combinations that may either form seating or a play area for a dozen people. A design that invites user engagement via entertainment and combines aspects of destruction as a kind of amusement is demonstrated by the Pop-Up! Street Furniture in Seattle. These points are explained as follows:



Figure 8. Pop-Up Street furniture from LMN studio, Washington (MacLeod, 2014).

The Pop-Up: Promoting User Participation with Entertainment! Through entertainment, street furniture in Seattle seeks to actively engage people in the design process. This may be done by include engaging elements or interactive elements that invite users to join and contribute to the design. (MacLeod, 2014)

To encourage viewers to participate with the work, the street furniture can, for instance, have interactive games, digital displays, or fun components. This can feature responsive motion sensors, interactive touchscreens, or sound effects. The design

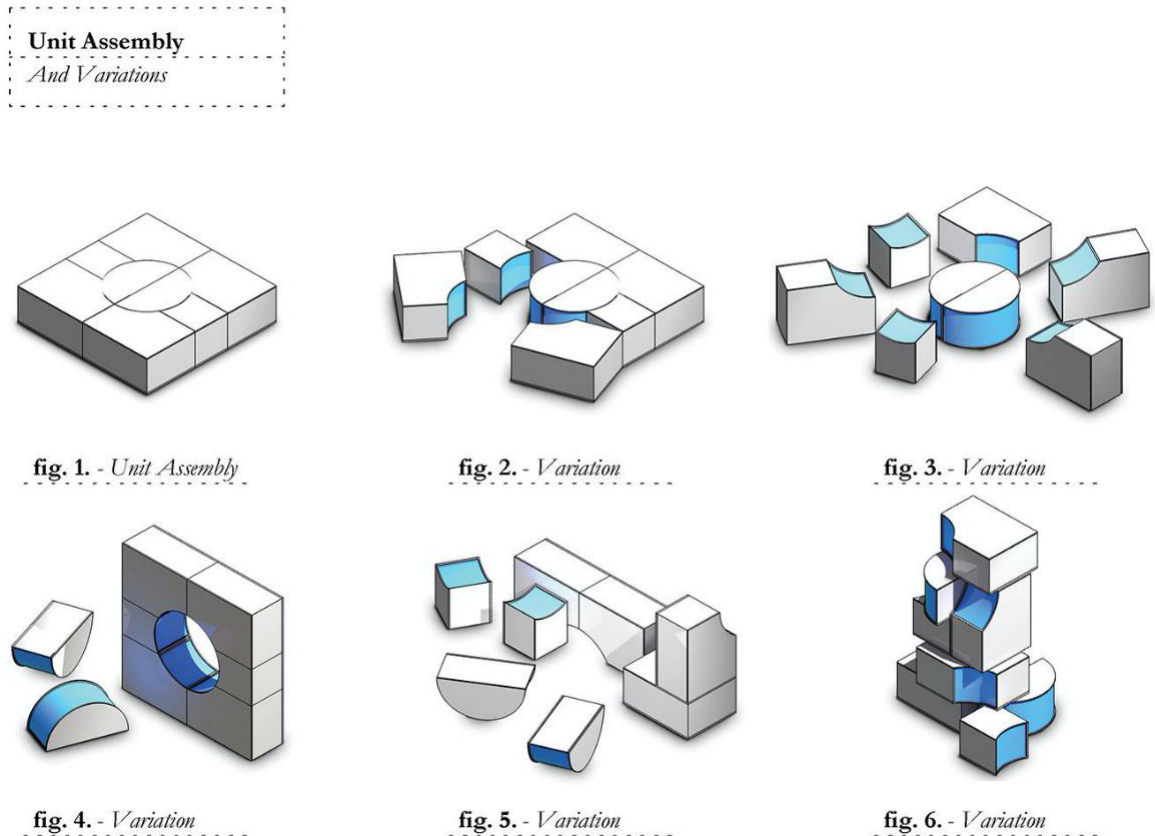


Figure 9. Eight modules of Pop-Up furniture with different variations of use
(MacLeod, 2014)

encourages visitors to participate, investigate, and add to the general ambience of the urban environment by offering an enjoyable experience.

Intriguingly, the case study reveals that, in the context of the Pop-Up Street Furniture, destruction shown in figure 9 might serve as a kind of entertainment for users. It's vital to stress that this does not advocate vandalism or injury, but rather controlled or transitory destruction as a means of participation and amusement.

In this situation, destruction may be seen as an amusing act of tearing apart or rearrangement of the street furniture. Users could be able to control modular or adjustable design parts, for instance, enabling them to creatively disassemble and reassemble the furniture. Users actively contribute in changing the world to their

preferences, making for a dynamic and engaging experience through controlled devastation.

It's crucial to ensure that any form of destruction within the design is safe, controlled, and aligned with local regulations. The primary objective is to offer an entertaining and interactive experience that allows users to actively engage with the street furniture and contribute to the overall design aesthetics. By encouraging user participation through entertainment and incorporating controlled forms of destruction, the Pop-Up! Street Furniture in Seattle creates an environment that fosters engagement, creativity, and a sense of ownership among users. It transforms public spaces into dynamic, interactive, and enjoyable environments that promote social interaction and exploration.

In this case study related to my studies there have been extracted two main principles that have been implemented in this street furniture design:

- Encourage the users to be part of this design through entertainment.
- Destruction of street element is a way of how to entertain the users in public spaces.

2.7.5 The Bit Stop Mathieu Lehanneur's Wi-fi station (Paris, France)

In Paris, this furniture serves as a free high-speed Wi-Fi hotspot. A few streets from the Grand Palace, it was set up last month at the Rond-Point des Champs-Élysées shown in figure 10 (Hirst, 2012). It consists of concrete swivel seats with connected tables for laptops and electrical plugs in their bases. This furniture is placed beneath a lush green ceiling that is held up by a group of wooden legs designed to imitate tree trunks. Easy access to local information, news, and maps is provided through a large multimedia touch screen.



Figure 10. The Bit Stop Wi-fi station, France (Hirst, 2012).

The architecture of BIT STOP takes into account its surroundings and melds in perfectly with the urban setting. It has a modern, minimalist appearance that might go well with Tirana's unique architecture and culture. As demonstrated by BIT STOP, street furniture is adaptable enough to be customized and integrated into a variety of urban environments, making it suitable for conversion even also into a bus stop.

The BIT STOP Wi-Fi station by Mathieu Lehanneur is a perfect example of how street furniture can be created to do several tasks, offering a variety of services and improving the overall urban environment. A tiny and aesthetically pleasing piece

of street furniture called BIT STOP combines sitting, information, shade, Wi-Fi connectivity, and vegetation.

Seating: BIT STOP has seating components to offer pedestrians a relaxing spot to rest as it seen in figure 11. with a variety of sitting options, from benches to built-in seating places, individuals may unwind, mingle, or simply take a break while utilizing the urban space.



Figure 11. Seating component of Bit Stop Wi-fi station, (Hirst, 2012).

Information: This comprises information displays or digital screens as in figure 12 that can show community-relevant information such as maps, timetables for public transit, critical notices, and ads. By giving pedestrians useful information, this feature improves the street furniture's functionality.



Figure 12. Digital screen of Bit Stop with different access (Hirst, 2012)

Shading: Canopies or other overhead structures are used by BIT STOP to offer shade, which shields users from the heat and bad weather. With the aid of this function, users of the street furniture may find shelter and remain cozy while taking in the urban environment.

Wi-Fi Access: As the name implies, BIT STOP provides Wi-Fi access, enabling users to access the internet while they are close to the street furniture. With the help of this function, people may stay connected, work from home, or use internet services when they're out and about.

Greenery: BIT STOP brings a little bit of nature into the city by including green components like vertical gardens or planters in figure 13. By enhancing air quality and fostering a cozier and more welcoming environment, these green elements not only improve the visual appeal but also benefit the environment.



Figure 13. Greenery on top of Bit Stop (Hirst, 2012)

In general, BIT STOP is a great illustration of how street furniture may be created to offer seating, information, shading, Wi-Fi connectivity, and vegetation. It demonstrates how multipurpose street furniture can make public places more interesting, practical, and environmentally responsible.

The architecture of BIT STOP takes into account its surroundings and melds in perfectly with the urban setting. It has a modern, minimalist appearance that might go well with Tirana's unique architecture and culture. As demonstrated by BIT STOP, street furniture is adaptable enough to be customized and integrated into a variety of urban environments, making it suitable for conversion into a bus stop.

In this case study related to my studies I extracted two main principles that have been implemented in this street furniture design:

- A multifunctional street furniture by offering sitting, information, shadow, Wi-Fi and greenery can bring the highest interaction of users.

- Bus station can be an important spot to increase the users sensitivity for the city.

2.7.6 Case Study: Atour Village Public Restroom (QINGDAO, CHINA)

The Atour Village Public lavatory in Qingdao, China, as you see in figure 14 (Shuangyu, 2021) is an intriguing case study that demonstrates how a public lavatory may transcend its fundamental purpose and turn into a distinctive work of public art while still being affordable and made of basic materials.

The use of this material guarantees longevity and resilience to wear and tear in addition to giving items a sleek, modern appearance.

The inside of the restroom is created with a feeling of elegance and inventiveness while yet being practical and user-friendly. The design is thoughtfully crafted to maximize available space and guarantee resource efficiency. The layout has separate cubicles for men and women, each with the facilities they require, including toilets, sinks, and mirrors. The use of inexpensive materials, including ceramic tiles and stainless steel fixtures, keeps the cost of construction manageable without sacrificing the restroom's use or aesthetic appeal.



Figure 14. The Autor Village Public Restroom, China (Shuangyu, 2021).

The Atour Village Public Restroom serves as an example of how public art can enhance the atmosphere and personality of a public area. The façade of the bathroom is covered with simple and striking murals that depict regional customs, traditions, and scenic views. For example in figure 15 you can see the effect of lights during night converting this public restroom in a public art. These creative touches turn the bathroom into a visual attraction that invites visitors to explore and enjoy the artwork.



Figure 15. Atour Public Restroom during night (Shuangyu, 2021).

A successful example of how economical methods can still provide useful and aesthetically pleasing public restrooms is the mix of practical design, affordable materials, and public art. The Atour Village Public Restroom offers a creative and accessible design that improves the urban environment and gives a pleasurable experience for users by employing basic materials and combining aesthetic features.

Overall, this case study emphasizes how crucial it is to take into account both utility and aesthetics when designing public restrooms. It demonstrates how a bathroom can be made into a distinctive and interesting building while still being reasonably priced by using basic materials and careful design principles. Future initiatives looking to combine usability, affordability, and creative expression in public infrastructure could take a cue from the Atour Village Public Restroom.

In this case study related to my studies there have been extracted two main principles that have been implemented in this street furniture design:

- Public restroom with the form of an public art but keeping the function of an normal restroom.
- Simple material and low cost can still bring a good design.

2.7.7 Case Study: Temporary Stores (Potsdam , Germany)

In Potsdam, Germany's Bundesgartenschau Park, there is a kiosk showed in figure 16 (ArchDaily,2009). Ice cream, lemonade, and coffee are being sold as an expansion of an already-existing café. A tiny, standalone garden pavilion that is open on part or all sides is called a kiosk. It was built in Islamic culture using unfinished tree trunks to support a straw or wood roof.



Figure 16. Temporary Stores, Germany (ArchDaily,2009)

Modifying the design of the kiosks with little but significant adjustments was one of the primary tactics used in this case study as it can be seen in figure 17 the detail of wood used in façade. The already-existing kiosks were altered and improved with artistic touches including vibrant facades, catchy signs, and distinctive graphic patterns. These changes turned the kiosks from plain, unremarkable buildings into eye-catching, beautiful focal pieces in the urban landscape.



Figure 17. Detail of wood structure used for the facade, (ArchDaily,2009)

Additionally, the businesses' transient status permitted experimentation and design freedom. The kiosk alterations were simple to put into place and could be updated or adjusted as required, opening up opportunities for continual creativity and innovation in the urban setting.

The case study of Potsdam, Germany's Temporary Stores concludes by emphasizing the significance of changing kiosks with minor adjustments to have a greater aesthetic impact in urban spaces. Vibrant colors, distinctive graphic patterns, and eye-catching signs were added to the kiosks to turn them into eye-catching buildings that improved the appearance of the cityscape as a whole. This case study provides ideas for upcoming initiatives aiming to rejuvenate urban areas and build aesthetically pleasing temporary or long-term retail facilities.

In this case study related to my studies there have been extracted two main principles that have been implemented in this street furniture design:

- Modification of existent street furniture with little detail can still bring a good design.
- Every street furniture should have its own identity and to be built aesthetically pleasing.

CHAPTER 3

DATA COLLECTION AND ANALYSIS

3.1 Analysis of factor of street furniture design.

The interaction and contribution of each aspect to the overall experience and functionality of the urban environment may be regarded as a communion within a communion in the link between landscape design, urban space, and street furniture. In this simple schematic of figure 18, represent each role of urban space, street furniture and landscape design and as well as how they are related. We can see that landscape design and street furniture together represent urban space that can be touched and used by the users. Urban environments' physical and aesthetic qualities are significantly shaped by landscape design. In order to produce a harmonious and aesthetically beautiful environment, it entails the careful planning and placement of manmade and natural components, such as plants, trees, paths, and water features. In addition to improving the aesthetic appeal of urban areas, landscape design also offers practical advantages, such as shade, seating places, and vegetation, that raise the standard of living in cities.

Street furniture is essential for encouraging human contact and improving the operation of urban environments within the larger context of landscape design. The term "street furniture" describes a variety of objects and constructions that are put in strategic locations across an urban setting to meet the demands of pedestrians and offer amenities. This comprises, among other things, benches, seating places, bus shelters, info kiosks, bike racks, trash cans, and lighting fixtures.

By offering inhabitants and tourists comfort, convenience, and accessibility, street furniture acts as a crucial element of urban environment. Resting locations for pedestrians are provided by benches and seating areas, which promote conversation and provide individuals a place to congregate and unwind. Bus shelters offer shelter from the weather and act as meeting places for those who utilize public transit. Way finding aid is provided through information kiosks, which also give vital details about

the city or particular neighborhoods. Bike racks support active living and promote environmentally friendly transportation.

Critical factors in landscape design include the location and style of street furniture. To achieve maximum functionality and usage, street furniture has to be placed carefully. For instance, benches and seating areas have to be positioned near public gathering places, such as squares or sidewalks, or in locations with appealing vistas. Bus shelters have to be constructed in a suitable spot close to bus stops and other transit hubs. To improve safety and visibility during the night time hours, lighting fixtures should be put in strategic locations.

Additionally, street furniture should have a design that complements the aesthetic and personality of the urban environment. It should be visually beautiful and blend in with the surrounding architecture and surroundings. In addition to providing a platform for artistic expression and creativity, street furniture may also add to the aesthetic character of the urban setting. Street furniture may become monuments within the urban landscape by adding distinctive designs, materials, and colors, fostering a feeling of place and identity

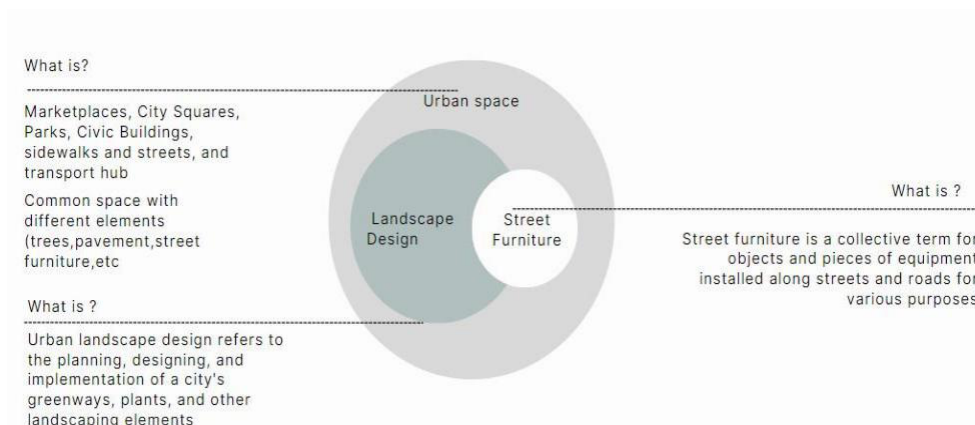


Figure 18. The relation of street furniture with urban space and landscape design, (Eda Xhoxha,2023)

Urban space, street furniture, and users are in a dynamic, reciprocal connection where one influences and reacts to the others. Street furniture acts as the physical infrastructure that supports and enriches the variety of requirements and functions that urban area offers its users. Through their actions and input, people also contribute to the vibrancy and upkeep of the urban environment.

Urban areas are planned to accommodate a range of community requirements and goals. A crucial factor is walkability, which refers to the ease and safety with which people may move about the city thanks to well-planned sidewalks and pedestrian-friendly infrastructure. Another crucial factor is accessibility, which makes sure that people of all abilities can move about cities with ease. Public spaces, such as sitting areas, public art installations, water fountains, and performance venues, offer entertainment and leisure options. Measures including well-lit paths, surveillance systems, and clear signs are used to address safety.

In order to fulfill these demands and serve these purposes, street furniture is essential. Benches offer places for people to sit and chat while walking. Garbage cans keep public areas tidy and hygienic. Public art installations improve the metropolitan environment's visual appeal and cultural identity. The essential requirements of both inhabitants and tourists are met by restroom facilities. Pavements direct and divide automobile and pedestrian traffic. Bollards aid with traffic regulation and pedestrian safety. Directions and details about sites of interest are provided through signs. Advertising frameworks help to finance urban development and local enterprises. Water features provide hydration and aesthetic appeal. Kiosks act as centers of information and offer convenience for a variety of services. Public transit and connection are facilitated by bus stops.

Users interact with the urban environment and the street furniture, either individually or as a group, adding life, vibrancy, and environmental awareness. They use the street furniture to express their wants, inclinations, and actions. On benches, people congregate to converse or take in their surroundings. They keep the area clean by disposing of rubbish in trash cans. Public art installations stimulate feelings and help people feel connected and identified. People use the restrooms for personal hygiene. They go around the sidewalks by paying attention to navigational markers and prompts. Bollards provide them a sense of security and direction as they go. Signs

provide a wealth of knowledge and direction. Water fountains relieve their thirst and enhance the urban environment visually. Access to information and services is made possible through kiosks. Users depend on buses

Users are crucial in that they offer input to the urban environment. Their actions and tastes influence how the area is utilized and viewed. They could interact with public settings in unusual ways, planning occasions or producing spontaneous acts. Their comments help identify areas that may be improved, such adding more amenities or taking care of safety issues. The cleanliness and aesthetic appeal of the environment are enhanced by users' participation in urban space upkeep, such as through reporting problems or taking part in neighborhood cleaning campaigns.

Thus, there is a symbiotic link between urban area, street furniture, and people as you can see also in the figure 19. Street furniture acts as the physical infrastructure that supports the demands of people whose needs are taken into account in the design of urban settings. By engaging in activities and interacting with the street furniture, users in turn breathe life and vibrancy into the urban environment. Their input and participation help to maintain and continually develop the urban environment, maintaining its functioning and vibrancy.

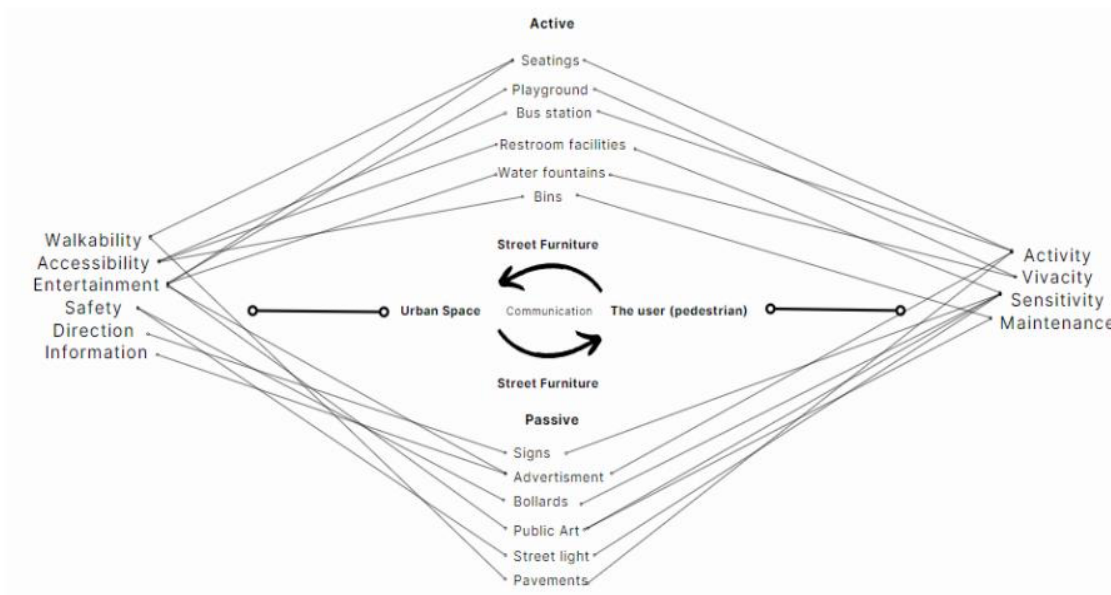


Figure 19. Illustration of relation ‘Urban Space-Street Furniture-the User’
(Eda Xhoxha,2023)

The interaction between urban environment and people may be significantly impacted by entertainment, making it a crucial element to take into account while building street furniture. Thus, there is a symbiotic link between urban area, street furniture, and people. Street furniture acts as the physical infrastructure that supports the demands of people whose needs are taken into account in the design of urban settings. By engaging in activities and interacting with the street furniture, users in turn breathe life and vibrancy into the urban environment. Their input and participation help to maintain and continually develop the urban environment, maintaining its functioning and vibrancy.

By incorporating entertainment features into street furniture, people may experience the urban environment in a more positive and engaging way.

There are several ways to include entertainment components into street furniture. For instance, seating arrangements might be created to promote relaxation and social interaction in addition to comfort. Users can congregate in groups, establishing social bonds and a feeling of community, by including elements like curved or flexible seating configurations.

Structures for advertising can also add to the metropolitan area's entertainment value. Users' attention may be captured with engaging and aesthetically appealing adverts, which liven up the environment and create a dynamic mood. Furthermore, well-placed ads might tell people about nearby events, cultural activities, or impending performances, adding to the metropolitan area's entertainment value.

Another significant component that may boost the entertainment level is playgrounds. Playthings like swings, slides, or climbing frames can be used to encourage active play among children and families. Playgrounds encourage physical activity, good health, and general well-being in addition to providing amusement.

Urban settings benefit from the practical and entertaining qualities of water fountains. Users may congregate and enjoy the sensory experience when there is running water nearby since the sight and sound of it may create a calming and pleasant atmosphere. Additionally, water fountains serve as a meeting spot and an amusement source, especially during the sweltering summer months.

Public art installations enhance the urban environment with aesthetic appeal and cultural importance. They might be interactive installations, murals, or sculptures.

Public art stimulates the senses, prompts cognition, and arouses emotions, adding to the environment's amusement value. In order to explore and interact with the place, visitors are frequently drawn to art pieces that become landmarks and sites of interest.

Street furniture may create a dynamic and multipurpose urban environment that encourages recreation by including components like seats, advertisement structures, playgrounds, drinking fountains, and public art. When these components are thoughtfully positioned and integrated, they enable seamless transitions between diverse activities and improve the overall experience for users, making optimal use of urban space feasible.

The addition of entertainment components to street furniture not only draws visitors but also motivates them to stay longer in the city. Increased social engagement, a sense of belonging, and a more favorable assessment of the surroundings might all result from this longer stay time. Additionally, the entertainment component may boost the local economy by encouraging visitors to explore and spend money at nearby shops and companies.

In conclusion, taking entertainment into consideration while designing street furniture may significantly improve the interaction between urban environment and people as it is represented in table 3. The urban environment may be made more interesting and pleasurable for people by adding features like seats, advertising structures, playgrounds, drinking fountains, and public art. This enhances the entertainment value while also encouraging social engagement, community involvement, and economic vibrancy in metropolitan settings.

Table 3. Relation of urban spaces and the users through street furniture (Eda Xhoxha,2023)

	Activity	Vivacity	Sensitivity	Maintenance
Walkibility	<ul style="list-style-type: none"> • Seating • Pavement 			
Accessibility	<ul style="list-style-type: none"> • Bus Station 		<ul style="list-style-type: none"> • Restroom facility 	<ul style="list-style-type: none"> • Bins
Entertainment	<ul style="list-style-type: none"> • Seating • Advertisement • Playground 	<ul style="list-style-type: none"> • Playground • Waterfountains 	<ul style="list-style-type: none"> • Public art 	<ul style="list-style-type: none"> • Public art
Safety			<ul style="list-style-type: none"> • Streetlight • Bollards 	
Direction			<ul style="list-style-type: none"> • Signs 	
Information	<ul style="list-style-type: none"> • Advertisement 			

Entertainment

Taking in consideration as an important factor when we design street furniture because it create an 100% good impact on the relation between urban space and user

Elements :
seating,advertisement,playground,water fountain,public art can be mixed together to achieve an efficiency in the usage of urban space

3.2 Study Area

3.2.1 Survey Analyze

In this master thesis, it has been conducted a survey to assess the organization and design of street furniture in Tirana. The survey was open to all residents of the city who were interested in participating. There have been received a substantial response, with approximately 150 participants, which provided valuable insights into the current situation of street furniture in Tirana. By analyzing the survey data, it was able to gain a comprehensive understanding of the strengths, weaknesses, and areas for improvement in the existing street furniture system. The findings from the survey have significantly contributed to the overall research and will serve as a foundation for proposing recommendations and interventions to enhance the urban environment in Tirana.

The initial set of questions in the survey aimed to gather general demographic information to provide a better understanding of the participants and aid in the analysis of the main research questions in this master's thesis. Specifically, these questions focused on age, gender, and the residential zone of the participants. Upon analyzing the responses in figure 20, it was observed that the highest participation was from individuals under 18 to 25 years old and those above 60 years old. Notably, the age group of 18-25 constituted the largest percentage, accounting for 74.1% of all participants. Conversely, the age group of 25-60 exhibited less willingness to participate, potentially due to their busy schedules and limited time spent in outdoor environments. This analysis of the demographic data allows for a better understanding of the survey participants and their potential perspectives on street furniture in Tirana. By recognizing the variation in age groups and their corresponding levels of engagement, the subsequent analysis and conclusions drawn from the survey data can be more nuanced and reflective of the diverse population in Tirana.

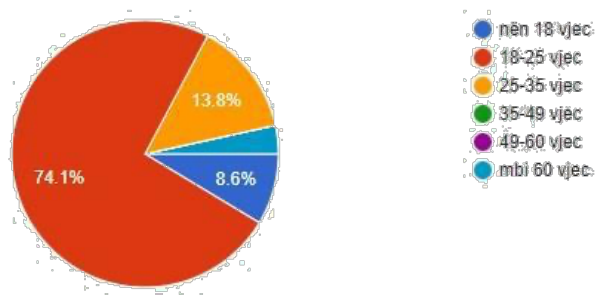


Figure 20. Age of participators of survey

Furthermore, regarding gender distribution, the survey results showed a relatively equal participation rate between males and females, with a slight difference of 5% more male participants in figure 21. This balanced representation of both genders in the survey was crucial in obtaining a comprehensive evaluation of street furniture in Tirana. By considering the perspectives of both males and females, the analysis of the existing street furniture can account for a more diverse range of opinions and preferences. This balanced gender representation adds depth and validity to the findings and ensures that the evaluation takes into account the needs and perspectives of all residents in Tirana.

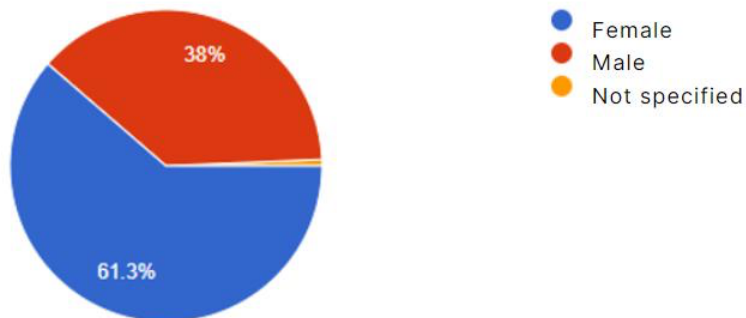


Figure 21. Gender of participants in survey

The distribution of participants based on their residential zones in Tirana provided valuable insights into the evaluation of street furniture across different locations within the city in figure 22. The survey revealed a diverse range of 50

typologies, including participants residing in rural areas as well as those located closer to the city center. This variation in residential zones allowed for a comprehensive evaluation of Tirana as a whole, considering the different urban contexts and their corresponding perspectives on street furniture. The participants from rural areas might provide insights into the specific needs and challenges faced in less urbanized parts of the city, while those residing closer to the city center may offer perspectives influenced by the density and dynamics of urban living. By analyzing the street furniture organization in different locations, a more holistic understanding of Tirana's urban space can be achieved. This information is crucial for evaluating the effectiveness and suitability of street furniture designs across various contexts and tailoring interventions and improvements to meet the specific requirements of each zone.

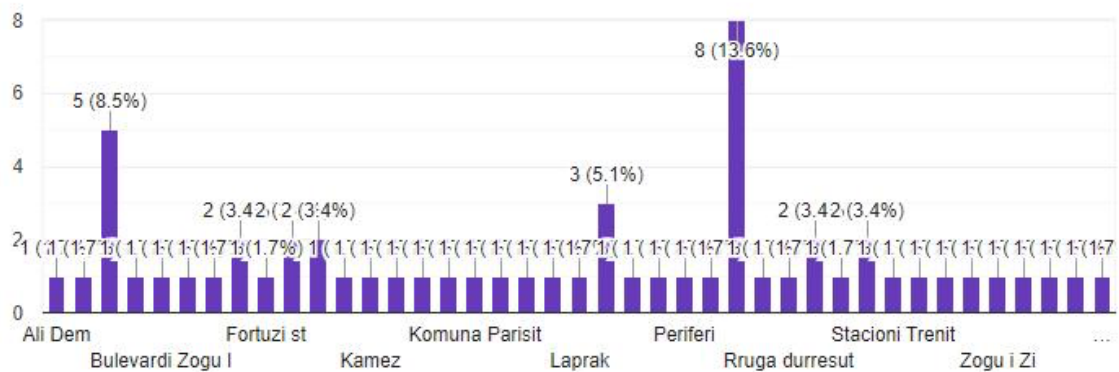


Figure 22. Chart of residential zones of participants

After obtaining the general information about Tirana, the second phase of my research focused on collecting specific data about the extent of street furniture and evaluating it from the perspective of residents in their respective zones. The findings revealed that a significant proportion, approximately 60% of the participants, reported limited access to public spaces and insufficient opportunities to spend quality time in these areas in figure 23. Various reasons were cited for this lack of access and utilization. These reasons included the absence of adequate urban spaces, narrow streets that restricted movement and leisure activities, unattractive street views that discouraged residents from utilizing public spaces, and the absence of elements or amenities that would enhance the usability and attractiveness of urban areas. These findings highlight the importance of addressing these challenges and improving the

availability and quality of street furniture in Tirana. By understanding the residents' perceptions and experiences regarding the extent and quality of street furniture, appropriate interventions and design strategies can be developed to create more inviting, accessible, and functional public spaces that cater to the needs and preferences of the community.

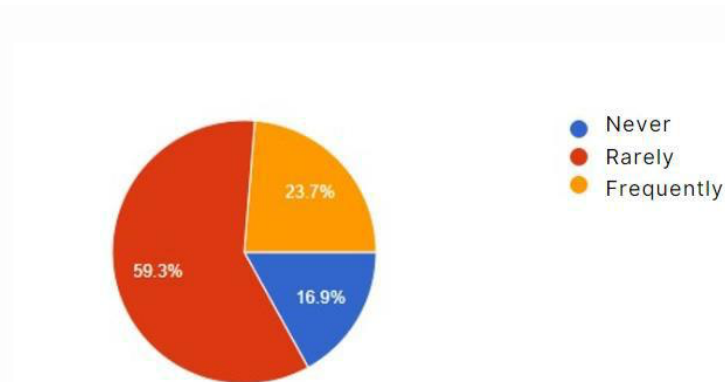


Figure 23. Graphic of Access of urban spaces in Tirana

Another aspect of my questionnaire focused on bus stations, as they are considered a form of street furniture. In almost every residential zone, approximately 84.7% of the participants reported having access to a bus station in figure 24. However, the focus of this inquiry was to understand how people navigate and orient themselves in relation to these bus stations. Typically, bus stations are equipped with small shading structures that serve as stops where people can wait for buses. However, in certain streets, these structures are absent, which can create confusion, particularly for tourists. While residents have become accustomed to the locations of bus stations through their daily routines, I wanted to gauge their opinion on how easily tourists can orient themselves in the absence of such information. Based on the responses received, more than 56.7% of participants in figure 25 believed that it could be somewhat difficult for tourists to find and navigate to bus stations without proper information. This data, combined with my own observations as a citizen of the city, led me to believe that the lack of space, particularly narrow sidewalks, may be a significant factor contributing to the absence of bus station structures in different areas. These findings highlight the importance of considering the needs and experiences of both residents and tourists when planning and designing bus stations and related street furniture. It underscores the significance of providing clear and accessible information for visitors to navigate the city's transportation system effectively. Addressing the

limitations posed by narrow sidewalks and exploring alternative solutions to ensure ease of orientation can contribute to enhancing the overall urban experience and promoting a more visitor-friendly environment.

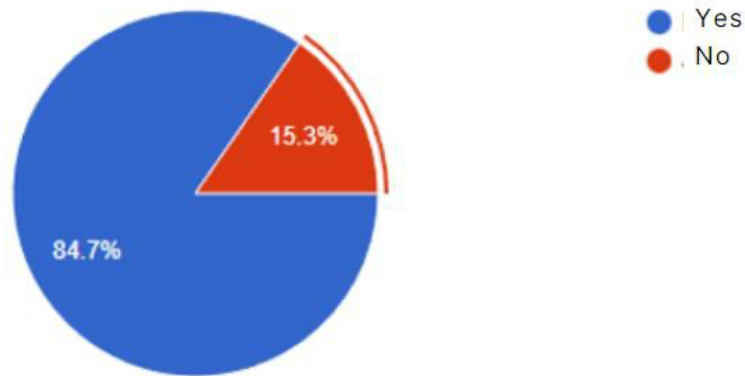


Figure 24. Graphic of bus station access in Tirana

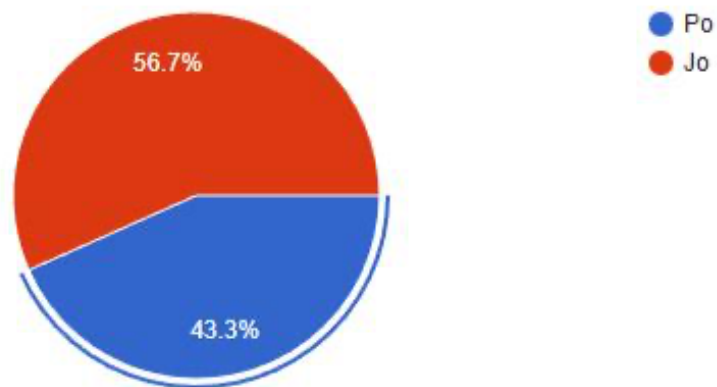


Figure 25. Graphic of easy orientation of bus station for the tourist

Indeed, the willingness of individuals to engage with urban spaces, particularly in bus stations, is an essential aspect to consider for enhancing the overall experience. The question regarding whether people would like to be entertained while waiting for the bus yielded insightful results. With more than 82.3% of participants expressing their interest in having different options for entertainment, it indicates a strong desire for increased interaction with the city during these moments. This significant percentage of agreement emphasizes the potential of offering more activities and

access to various amenities within the urban environment. By providing these options, the city can foster greater engagement and create a more vibrant atmosphere for its residents and visitors. Furthermore, incorporating digital screens at bus stations for entertainment purposes can serve dual benefits. Not only can it contribute to gathering valuable data for city planning and management, but it can also enhance the overall experience for individuals, making their wait more enjoyable. It is crucial to recognize that a happy and satisfied citizen plays a pivotal role in cultivating a healthy and thriving city. By understanding the preferences and desires of the residents, and by actively incorporating elements that promote interaction and entertainment, urban spaces can become more inclusive and engaging for everyone. This, in turn, contributes to the overall well-being and vitality of the city as a whole.

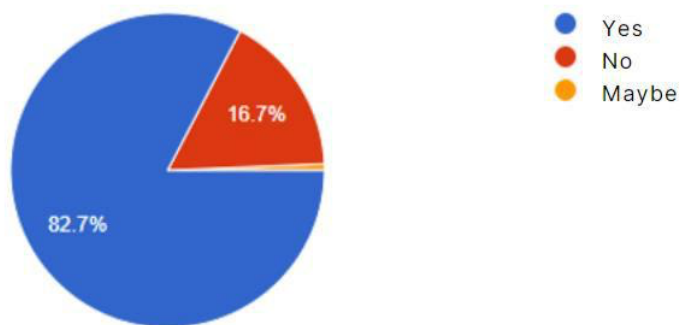


Figure 26. Graphic showing the interest of participators to be engaged in bus station

According to the comments I obtained, around 83.3% of participants in figure 27 recognized the presence of varied street furniture in their zones. However, more than 82% of them in figure 28 reported unhappiness with the amount of street furniture, implying that more should be provided.

Surprisingly, the presence of one or two pieces of street furniture does not appear to imply a well-planned arrangement of street furniture in Tirana's neighborhoods. Rather, these aspects are viewed as additions that are insufficient to meet the demands of the participants. Furthermore, over 89% of participants as you see in figure 29 indicated a desire for more street furniture in their particular zones. However, around 10% disagreed, either because they thought the current furnishings was enough or because they had never utilized such facilities and didn't see the need of having more.

It is critical to evaluate similar research that emphasize the importance of street furniture as a link between urban landscapes and their users. As a result, in order to improve contact and relationships between users and the urban environment, street furniture should be more widely used and conform to particular principles to create a pleasant environment.

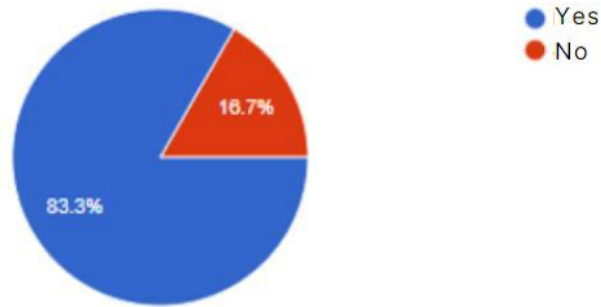


Figure 27. Graphic of the presence of street furniture in Tirana

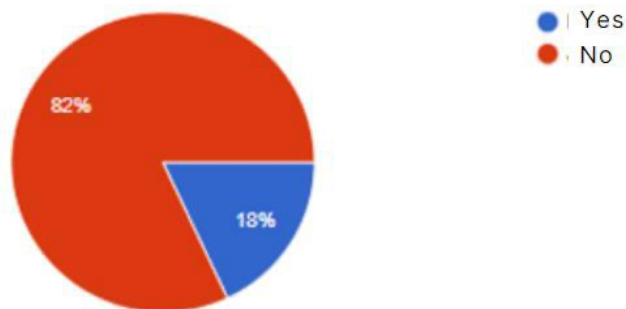


Figure 28. Graphic of the sufficiency of street furniture in Tirana

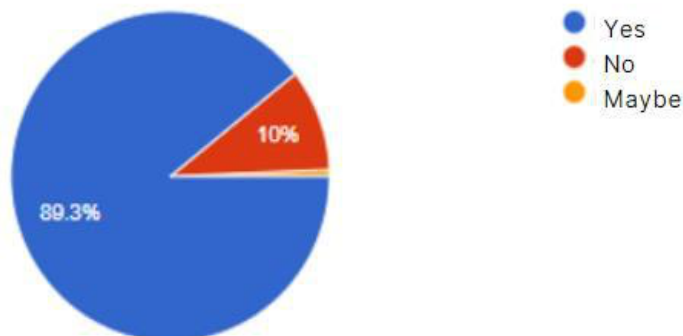


Figure 29. Graphic of the request of adding street furniture in Tirana

While going through the questions, certain direct topics are asked to the users on what they would want to see more present in Tirana's urban places. It was being to construct a list of the most significant street furniture items based on their preferences by allowing participants to select numerous possibilities. According to the data, there were 113 (75.3%) requests for adding sitting components and 105 requests for enhancing the presence of public art, as shown in the figure 30 below

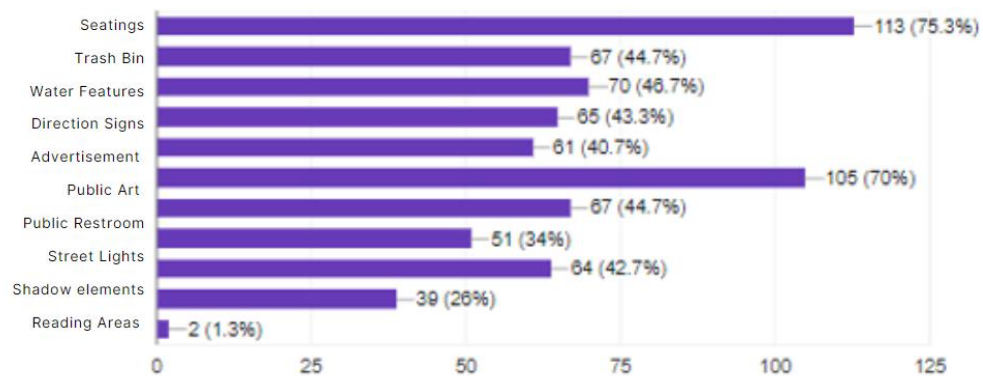


Figure 30. Chart of showing the presence of street elements, that participators want to have it more.

The considerable discrepancy in the amount of requests for these two alternatives vs others demonstrates a lack of communication between users and the urban space. It implies that the city cannot be properly appreciated unless there are many moments for relaxation, observation, and contemplation. The urban environment may be made more welcoming and conducive to a good experience by incorporating seating features that allow people to sit and view their surroundings.

Furthermore, the growing demand for public art emphasizes its value in metropolitan settings. Although it is currently absent, the large number of requests for its addition demonstrates that people or users want a better connection with the city through the introduction of aesthetic aspects.

Furthermore, in this chart there is being see that trash bin and public restrooms got an identical amount of requests, accounting for 44.7% each. In a highly populated city like Tirana, where consumption is high, the demand for more garbage cans becomes critical. Adequate placement of garbage cans around metropolitan areas would help to a cleaner city and enhance waste management. This, in turn, improves

the city's general cleanliness and hygiene, making it a more pleasant environment for inhabitants and tourists.

Similarly, the call for more public amenities exposes a gap in Tirana. As the capital city, there should be more public amenities to meet the demands of the population. The presence of public amenities not only helps inhabitants' quality of life, but it also benefits tourists. Increased access to public amenities ensures that users' requirements are satisfied, promoting increased involvement with urban settings.

Water features garnered 70 requests (46.7%) based on the chart responses. This large number of requests reflects a great desire among participants to include water elements in Tirana's urban settings. Given the hot temperatures in Tirana throughout the summer, the addition of water elements will undoubtedly improve the outdoor experience. Fountains, ponds, and water installations may provide a cool and peaceful atmosphere, providing relief from the heat while also adding visual value to public places. Water features may help to create a more pleasurable and engaging environment, encouraging people to spend more time outside and promoting greater engagement with the city.

And then the order goes with orientation labels (43.3%), shading elements (42.7%), advertisement (40.7%), streetlight (34%). Overall, the range of requested elements demonstrates that there are various aspects missing in the urban spaces of Tirana. Each element holds importance based on its function and can contribute to creating a more engaging and user-friendly environment. Lastly, small bookstores to read books received the least number of requests, with 26%. This may be because individuals prefer reading in different settings, such as parks or closed areas, rather than in dedicated bookstores. However, it's important to note that even though it had fewer requests, it still holds value for a certain segment of the population who appreciate the presence of bookstores for reading and leisure activities.

In this questionnaire, I also collect information on the variables to consider while designing and organizing street furniture in urban areas. Form, material, function, location, and consistency were among the characteristics stated. The following is a breakdown of the replies from participants about the importance they allocated to each criteria:

Function: More than 34.7% of participants in figure 31 ranked function as the most essential consideration when organizing street furniture. This is consistent with

other research and implies that the function of street furniture should be the distinguishing feature. Street furniture can lose its identity and become forgotten in the urban landscape if it has a defined purpose or function.

Form: About 26% of participants ranked form as their second priority. A well-designed shape may improve the aesthetic appeal of street furniture and add to the city's overall visual attractiveness. Aesthetically pleasant designs can also encourage more individuals to use public spaces, promoting involvement and engagement.

Material: It is ranked third by about 16.7% of participants in figure 31. The material used in street furniture has a significant impact on its comfort and inviting aspect. When street furniture is pleasant, it encourages individuals to spend more quality time outside. Because human comfort demands do not change, street furniture must give a degree of comfort equivalent to inside furniture.

Consistency: Participants recognized the necessity of uniformity while organizing street furniture with 14% of replies. The term "consistency" refers to the maintenance of a unified and harmonious visual language among various street furniture pieces within the urban landscape. A more structured and visually pleasing environment may be achieved through consistency.

Location: Finally, with 8% of replies, participants ranked location as the least important criterion. While location is vital in terms of organizing street furniture on-site, having an attractive and practical design is required. Without these factors, the position and uniformity of street furniture are less important since they may not be used efficiently.

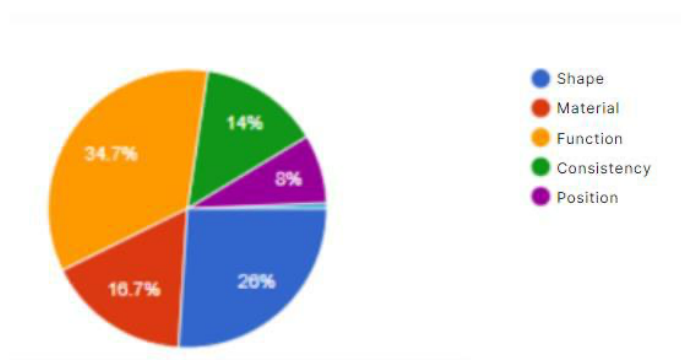


Figure 31. Graphic of showing criterias of designing street furniture

In conclusion, my questionnaire emphasizes the need of taking into account a variety of issues while planning street furniture in metropolitan areas. The importance of providing street furniture with a defined purpose was highlighted as the top priority. Form, substance, consistency, and location are all important factors in building useful, visually pleasant, and welcoming urban spaces. Urban planners and designers may improve the overall quality and usefulness of street furniture by considering these criteria, resulting in improved interactions and experiences for users.

Another set of data was gathered based on the requirements that users place on street furniture in figure 32. I listed accessibility, safety, entertainment, orientation, and information as necessities. The following is an analysis of the participants' replies on the importance they attributed to each need:

Accessibility was recognized as the most essential feature by about 36.2% of participants. This need is connected to the varied spectrum of consumers that use outdoor areas. Urban designers must address the requirements of all users, including those with impairments, the elderly, and children. Designing thoughtful and simple street furniture may promote integration and inclusion among various user groups.

Safety earned 26.2% of replies, suggesting its importance to users. Feeling comfortable in urban environments influences user interactions and engagement. When users sense a safe environment, they are more likely to feel at ease and inclined to use street furniture. Aspects like as aesthetics and material selection can help to create a safer environment.

Entertainment was indicated as an essential requirement by around 22.1% of participants. When people have access to and feel secure utilizing street furniture, the incorporation of features that give entertainment value becomes critical. Users are more likely to spend quality time in the urban area if street furniture is engaging and entertaining, building better relationships between users and the urban landscape.

Information and Orientation: 8.1% of respondents chose information, while 6.7% chose orientation. These demands were expressed less frequently, maybe due to Tirana's cultural setting, where asking for directions or advice is typical behavior. Accessible information and clear direction aids, on the other hand, can still help users, particularly tourists or those who are unfamiliar with the region.

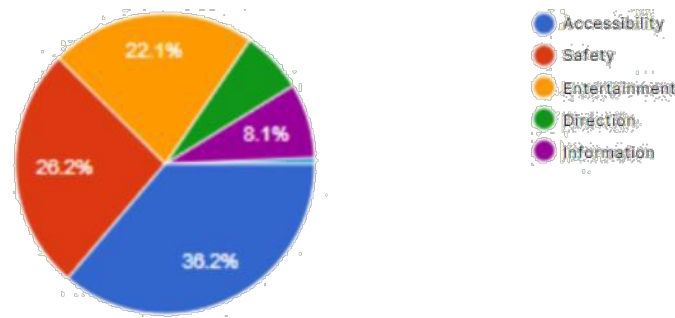


Figure 32. Graphic of showing criteria's of organizing street furniture

In conclusion, my data collection emphasizes the need of taking into account varied demands while building street furniture. Users' top concerns were recognized as accessibility, safety, and amusement. Urban planners may build inclusive, inviting, and engaging outdoor places that generate good interactions and relationships between people and the urban environment by emphasizing these demands. Furthermore, while information and direction were cited less frequently, offering clear and accessible information can still improve the overall user experience.

In my questionnaire, I added questions on how people might react if their demands for street furniture were granted in Tirana. Based on the replies of the participants, the following are the findings:

Will consumers use their local urban places more if their desires are met? Approximately 96% of participators felt that if their demands for street furniture were granted, they would use urban places more frequently, see in figure 33. This high proportion demonstrates the potential influence of street furniture on urban area engagement and use. It implies that satisfying users' desires may considerably improve interaction between users and the urban environment.

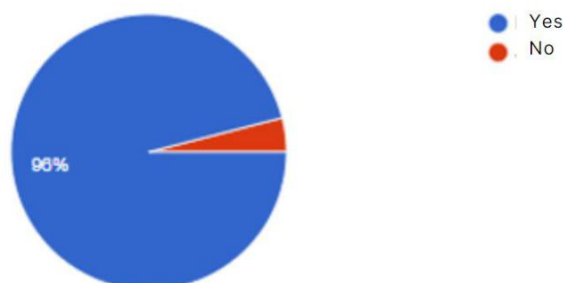


Figure 33. Graphic showing the answers of participators if they will use more urban spaces

Will people be more mindful of urban areas and street furniture when their wishes are met? If their wishes were taken into account, almost 96.7% of participants stated that they would be more attentive and take responsibility for preserving urban areas and street furniture as you see in figure 34. This discovery emphasizes the favorable relationship between offering a high-quality environment with desirable street furniture and users' motivation to care for and preserve these areas. Users are more inclined to be proactive in preserving their surroundings when they have a feeling of ownership and connection to them.

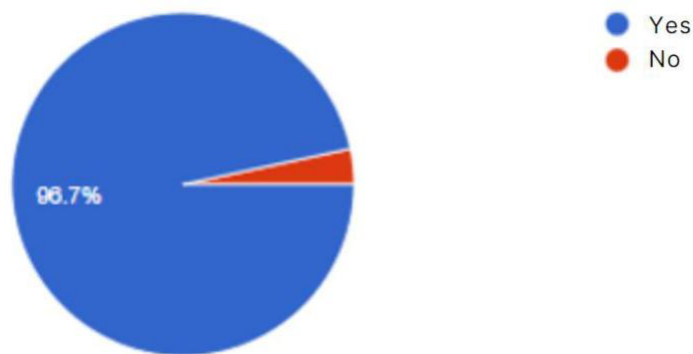


Figure 34. Graphic showing the answers of participators if they will be more sensitive towards urban spaces.

Overall, these results suggest that answering people's desires for street furniture in Tirana might have a good impact. Fulfilling these requirements has the potential to improve users' usage of urban areas, build a deeper feeling of responsibility and sensitivity to the environment, and promote a closer connection between users and the city.

3.3.2 Site Analyses

For my master thesis, in addition to evaluating street furniture through questionnaires administered to the citizens of Tirana, I have decided to conduct an in-depth analysis of a specific site in the city from an architectural perspective. This analysis will focus on evaluating the existing street furniture and its organization. Based on the principles derived from relevant studies and the findings of the site analysis, I aim to propose improvements for this urban space by enhancing the performance of street furniture. The chosen site for my analysis is "Dede Gjo Luli"

shown in figure 35. This street is located in the heart of Tirana. It holds significant recognition and serves as a landmark known as "Let's meet at Piazza," owing to the presence of an old restaurant with the same name, figure 36. The street enjoys excellent accessibility, being a starting point for various bus routes that connect different areas of Tirana. Moreover, it features a diverse range of stores and activities along its facades, making it a dynamic and multidiverse area. Furthermore, "Dede Gjo Luli" Street acts as a crucial link between private spaces and residential areas, connecting them with more public spaces. This characteristic presents immense potential for fostering better interactivity and social engagement within the urban fabric. By studying and analyzing the existing street furniture in this specific context, I aim to identify its strengths and weaknesses, and explore opportunities for improvement. Through the integration of appropriate design principles and strategies, I intend to propose innovative solutions that enhance the functionality, aesthetics, and overall user experience of this urban space. Ultimately, my objective is to demonstrate how the thoughtful design and effective organization of street furniture can contribute to the transformation and revitalization of urban spaces, making them more inviting, inclusive, and vibrant for the residents and visitors of Tirana.



Figure 35. Site Selection in Tirana



Figure 36. Site Location of st. ‘‘Dede Gjo Luli’’

About the building uses in this site in figure 37 there is a mix of both public and private buildings adds to the diversity and potential functionality of the urban space. In this area we have access to’’ the National Historical Museum ‘‘of Tirana , with an entrance from the other side from the center. The museum's presence lends value to the location because of its historical and cultural relevance. Then we also have an Albanian University ‘‘UFO’’ The university building adds dynamism to the landscape. When designing street furniture and urban amenities, we have to keep students and professors in mind. Adjust with the University we also have ‘‘Metropol’’ theatre where different interpretation and shows are made, by making this street way more important.

As we go further the other buildings serve as residential and also those who are faced

directly in the street. Even though these ones have given access to the ground floor for different activities that there will be explained in the other map. In this map figure 37 in green color we have the public buildings as it has been described, while with yellow we have the private building or as we called residential zones.

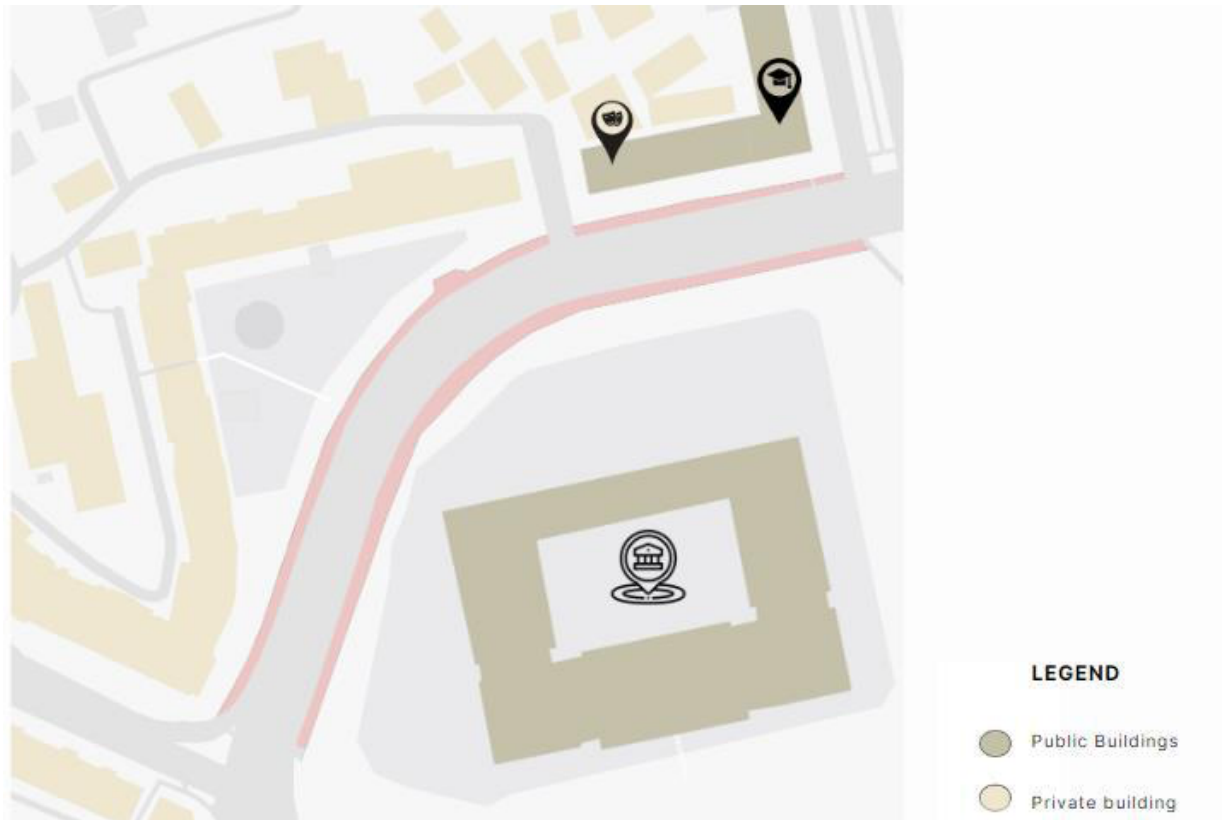


Figure 37. Map of building use

The ground floor of the buildings use in figure 38 in the region is clearly visible on this map, and it is buzzing with all sorts of activities and companies. Because of the variety of these enterprises, consumers may find practically whatever they require inside this metropolitan region. One notable feature is the abundance of cafes that line the street. These cafes not only serve as places to grab a cup of coffee but also provide outdoor environments that have expanded into the urban space. By utilizing the sidewalk and narrowing the street slightly, these cafes have created inviting outdoor seating areas where people can relax, socialize, and enjoy the vibrant atmosphere of

the area. This integration of outdoor seating enhances the activation of the urban space and contributes to a lively and engaging environment.

Food services, with a variety of alternatives accessible, play an important role in this sector. From quick food to fine dining, there is something for every taste and budget. This range of eateries enhances the gastronomic experience of the area, drawing both locals and visitors. The availability of a broad culinary scene encourages visitors to explore and spend time in the city, resulting in a vibrant and dynamic atmosphere.

Additional businesses operate on the ground level of the buildings, in addition to cafés and food services. The area is served by exchange stores, T-Mobile stores, and banks. These facilities respond to special requirements and attract their own customers, adding to the daily routine of urban consumers.

Overall, the map in figure 38 depicts a dynamic mix of companies and services that improve the urban experience. The diversity of alternatives accessible, ranging from cafés and restaurants to critical service providers, guarantees that consumers will be able to locate what they want inside the neighborhood. This variety of activities leads to a dynamic and engaging environment, enticing people to the urban space and incorporating it into their everyday routines.

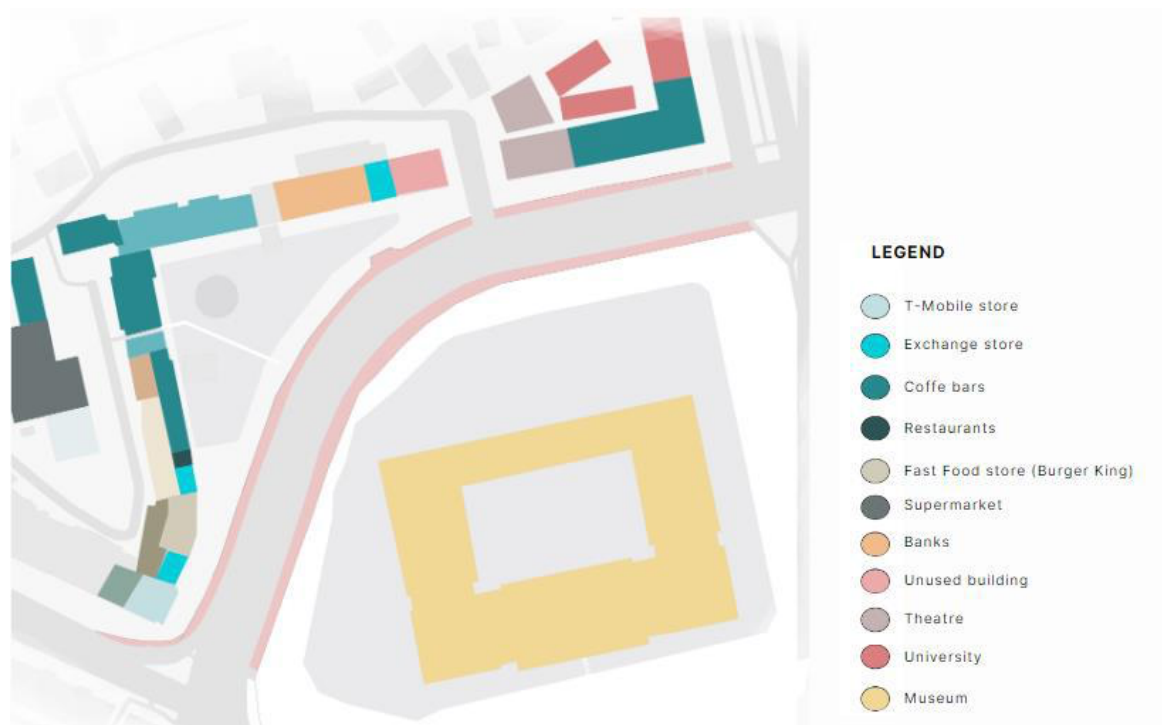


Figure 38. Map of ground floor use
65

The presence of greenery in this site shown in figure 39 is notable and adds to the overall appeal of the urban space. Close to the restaurants and cafes, there are small green landmarks that create a pleasant and inviting atmosphere. These green areas are complemented by the presence of a water fountain, adding a soothing element to the environment. The combination of greenery and water creates a refreshing and tranquil ambiance, making it an appealing spot for people to gather, socialize, and enjoy their surroundings. Along the entire street, there is a well-distributed arrangement of trees. These trees not only provide shade but also contribute to the aesthetic appeal of the area. The natural shade system created by the trees offers respite from the sun and adds a touch of greenery to the urban space. This feature is particularly beneficial during hot summer months, as it allows people to comfortably navigate the street and spend time outdoors without feeling overwhelmed by the heat. The presence of trees also helps to improve air quality and create a more pleasant and inviting environment for pedestrians. Moreover, in front of the street, there is a wild mini forest that surrounds the museum. This mini forest is comprised of various types of greenery, including trees, shrubs, and plants, which further enhances the attractiveness of the street. The lush vegetation adds a natural element to the urban space, creating a sense of tranquility and harmony with nature. This green oasis not only provides visual appeal but also serves as a natural buffer, separating the street from surrounding areas and adding to the overall charm of the site. The combination of urban elements and natural greenery adds depth and character to the site, making it an attractive destination for both locals and visitors.

The circulation map shown in figure 40 contains useful information on how people use this street. It displays the many means of mobility accessible and the careful consideration paid to pedestrian and bike movements. With a broad road, the street allows automobile circulation, enabling smooth vehicular flow and accessibility. It also allows access to public buses, providing a handy mode of transit for individuals traveling through this region. The dedicated bicycle lane on both sides of the road is a notable feature of this roadway. These bike lanes are deliberately built to ensure biker safety while allowing people to stroll freely on the walkways. This fosters alternate means of transportation and creates a cyclist-friendly atmosphere.

The location, which serves as both a sidewalk and an urban park, provides a variety of activities. The yellow color on the map represents pedestrian freedom of movement, stressing the importance of pedestrian-friendly environments. The existence of sidewalks allows visitors to roam around, explore the region, and participate in the numerous activities available.



Figure 39. Greenery map of the site

Furthermore, the orange color shows in figure 40 the official bike circulation, separating pedestrians from bicycles. This helps to avoid struggles and improves safety for all roadway users. The addition of bike lanes displays a commitment to supporting sustainable transportation and encourages people to choose cycling as a means of transportation.

Another noteworthy aspect is the existence of a guide along the sidewalk to aid visually challenged people. This smart innovation gives tactile clues and information, making it easier and more confident for visually impaired people to negotiate the roadway. It displays a dedication to inclusion and accessibility, ensuring that individuals of all abilities may enjoy and use urban space.



Figure 40. Circulation map of the site

The last map, accompanied of table 4 of symbols representing different types of street furniture, provides a visual representation of how street furniture is organized within the site. This map allows for a clear understanding of the placement and distribution of street furniture throughout the urban space. By utilizing symbols to represent various street furniture elements, the map effectively communicates the types of amenities available in the area. Each symbol on the map corresponds to a specific piece of street furniture, such as benches, seating areas, trash bins, public art installations, water features, shading elements, advertisement boards, streetlights, and small bookstores.

Table 4. Symbols of street furniture

	Seating Zone
	Trash bins Zone
	Advertisement Zone
	Small store or "kiosks" zone
	Bike Parking Zone
	Bus Station
	Water feature Zone

The symbols are strategically positioned on the map to indicate the actual locations of these street furniture elements within the site. This provides valuable information on the arrangement and density of street furniture, allowing for an analysis of how well they are distributed and how they contribute to the overall design and functionality of the urban space.

From the map in figure 41 and the observations made, it is apparent that there is a distribution of various street furniture elements along the street. Elements such as advertisement boards, streetlights, trash bins, kiosks, and street signs can be observed. Additionally, there is a bus station located behind the kiosks, providing a convenient transportation option for the area. However, an important observation is the absence of benches along this street. Considering the high density of people in this area, the lack of seating elements is a notable issue. While there are cafes present where people can sit, outdoor seating should not be overlooked as it provides more variety and options for users. The addition of benches would greatly enhance the comfort and convenience of pedestrians and encourage them to spend more time in the urban space.

Another noticeable issue is the absence of bicycle parking facilities shown in figure 41. Although there is a dedicated bicycle road along the street, the lack of sufficient parking spaces for bicycles can be problematic. Currently, only two bicycle parking spots are available, which is not adequate to accommodate the needs of cyclists in the area. The addition of more bicycle parking facilities would encourage cycling as a sustainable mode of transportation and contribute to a more bike-friendly environment.

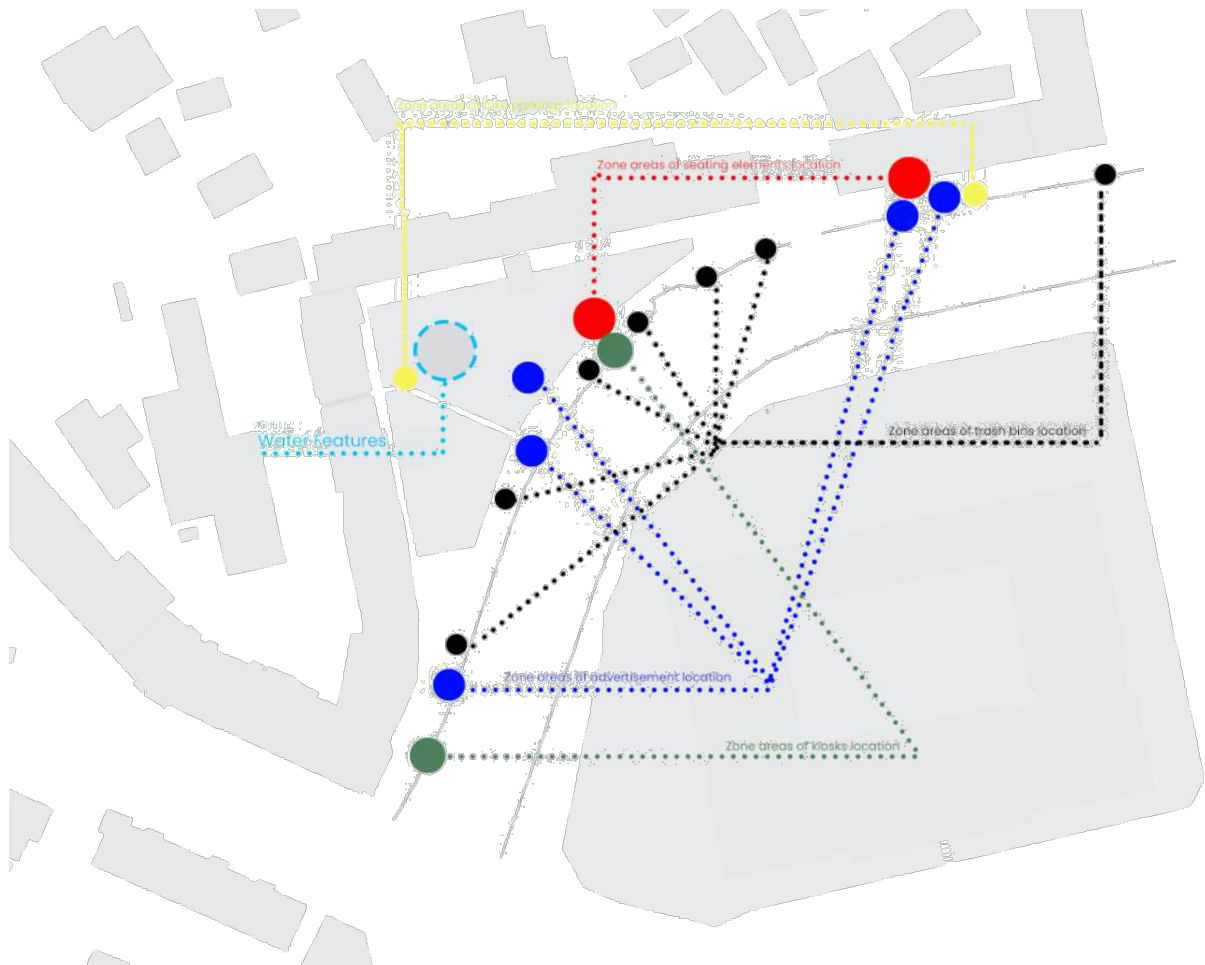


Figure 41. Map of existent Street furniture areas located in the site

These observations highlight the importance of considering the specific needs and preferences of users when organizing street furniture in urban spaces. By addressing these issues and incorporating appropriate street furniture elements, the site can be optimized to better serve the diverse needs of its users and enhance the overall functionality and attractiveness of the urban space.

3.3.3 Site Observation

Based on the information received from the surveys and the examination of street furniture in a specific site that serves as both a sidewalk and an urban space, it can use this case as an example to identify what components operate effectively and what areas want improvement. Consider the following crucial points:

Existing Street Furniture: Assess the existing street furniture on the location. Determine whether components, such as seating places, shade elements, or public art, are functional and adding to the users' experience. These may be used as positive examples to keep and possibly duplicate in other areas.

Elements That Are Missing or Inadequate: Identify the street furniture elements that are missing or insufficient in the site. Prioritize the inclusion of crucial components such as seats, public art, water features, garbage cans, or public amenities based on user preferences. Addressing these demands has the potential to dramatically improve the usefulness and beauty of urban environment.

Functionality: Assess how effectively the present street furniture performs its intended purposes. Consider if the seating is comfortable, whether the shade features give suitable sun protection, and whether the lamps provide adequate lighting. If particular pieces are not performing as expected, look at methods to modify their design or placement.

Accessibility and Safety: Paying close attention to the site's accessibility and safety elements. Examine whether there are ramps or smooth routes for wheelchair users and those with mobility issues. Examine the lighting and visibility to provide a safe atmosphere at all times of day and night.

Aesthetics & Visual Appeal: Think about how street furniture looks and how it adds to the overall aesthetics of the urban landscape. Examine whether the design and materials utilized are aesthetically pleasing and complement the environment. Incorporating components that improve visual beauty may make the user experience more engaging and pleasurable.

User Interaction and Engagement: Pay attention to how people engage with current street furniture and the urban environment. Consider whether the furniture style and location encourage social interaction, gathering, and relaxation. Investigate the

possibility of including interactive or engaging aspects that encourage users to spend more time and actively participate with the environment.

By analyzing and addressing these aspects in the specific site serving as both a sidewalk and an urban space, it can be identify areas for improvement and develop a plan to reorganize the street furniture to create a more functional, attractive, and user-friendly urban space.

As we see in the figure 42 the trash bins in this site present several issues that need to be addressed. Firstly, there is an inconsistency in their design, with different sizes and shapes being used. This lack of uniformity can create confusion for users who may not easily recognize the trash bins or understand their purpose. Additionally, the irregular placement of the trash bins further exacerbates this issue. Furthermore, the condition of the trash bins is a concern. They appear to be vandalized, old, and poorly maintained. This not only detracts from the overall aesthetics of the site but also raises concerns about their functionality and hygiene. Trash bins that are in poor condition may discourage people from properly disposing of their waste, leading to littering and a general deterioration of the environment.

To address these issues, it is important to consider implementing a more consistent and aesthetically pleasing design for the trash bins. They should be positioned strategically and uniformly throughout the site, ensuring easy accessibility for users. Regular maintenance and cleaning of the trash bins should also be prioritized to maintain their functionality and overall appearance.

By improving the design, placement, and maintenance of the trash bins, the site can promote a cleaner and more organized environment. This, in turn, encourages users to responsibly dispose of their waste and contributes to the overall improvement of the urban space.



Figure 42. Photos of trash bin in the site (Eda Xhoxha,2023)

The advertisement elements present in the site appear to be traditional, vandalized and of a large scale shown in figure 43. However, they lack the aesthetic appeal and attractiveness that is typically associated with advertisements. Instead of enhancing the visual appeal of the street, these elements seem to act as obstacles or distractions.

Considering the density of the street and the presence of various businesses and activities, there could be alternative options for advertisements that are more visually

pleasing and engaging. The current advertisements could be redesigned to incorporate more creative and eye-catching visuals or utilize innovative technologies to capture the attention of passersby. By doing so, the advertisements could serve not only as promotional tools but also as elements that contribute to the overall aesthetic and atmosphere of the urban space.



Figure 43. Different advertisement elements on the site (Eda Xhoxha,2023)

Furthermore, advertisements have the potential to serve multiple functions beyond just promoting products or services. They can be designed to provide valuable information or enhance the user experience. For example, interactive advertisements that offer useful information, such as directions, event listings, or public service announcements, could create a more engaging and beneficial experience for pedestrians.

The lack of regular updates and rotation of advertisements in figure 43 and 44 in the site further contributes to the disinterest and diminished effectiveness of these elements. When an advertisement remains unchanged for a prolonged period, it can become repetitive and lose its impact on the audience. People may start to disregard or ignore the advertisement altogether, as they have already seen it numerous times before. To maintain the effectiveness of advertisements, it is important to ensure regular updates and rotations. This can be achieved by implementing a system that 74

periodically refreshes the advertisements with new content, ensuring that viewers are consistently exposed to fresh and engaging visuals. By introducing new advertisements at regular intervals, the site can create a sense of anticipation and curiosity among passersby, encouraging them to pay attention to the advertisements and potentially interact with them.

Overall, there is an opportunity to reimagine the advertisement elements in this site. By embracing more visually appealing designs and exploring additional functions beyond promotion, the advertisements can become more integrated into the urban space and contribute positively to the overall ambiance and user experience.



Figure 44. Advertisement element of ‘Metropol’ theatre. (Eda Xhoxha,2023)

The absence of sufficient bicycle parking elements in the site is a notable issue that needs to be addressed. Currently, there are only two small bike parking spaces available in figure 45, which is inadequate considering the number of cyclists in the area. As a result, cyclists resort to parking their bikes in an unorganized manner, often leaning them against trees or other structures along the street in figure 46.

This lack of designated bicycle parking not only creates an unpleasant visual aesthetic but also poses obstacles for pedestrians trying to navigate the sidewalk. The

presence of bikes scattered in random locations can impede the flow of foot traffic, causing congestion and potential safety hazards.



Figure 45. Location of bicycle parking in the site (Eda Xhoxha,2023)

To address this issue, it is important to introduce additional bicycle parking infrastructure along the street. Installing bike racks or bollards at regular intervals would provide designated spaces for cyclists to securely park their bikes. This would not only promote a more organized and aesthetically pleasing streetscape but also improve the overall accessibility and functionality of the site for both cyclists and pedestrians.

By incorporating more bike parking elements, the site can encourage cycling as a mode of transportation, reduce bike theft, and contribute to a more sustainable and bike-friendly environment.

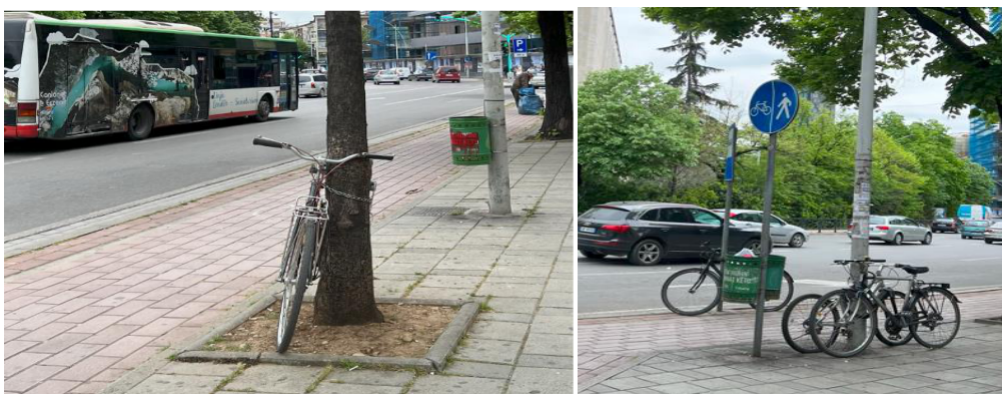


Figure 46. Parked bicycle in random places (Eda Xhoxha,2023)

The presence of kiosks or small shops in figure 47 along the street can add vibrancy and convenience to the urban space. These kiosks serve as points of sale for various items, such as cold drinks, snacks, or other products that cater to the needs of pedestrians and visitors. Their location, particularly one situated behind the bus station and another at the beginning of the street, makes them easily accessible to people passing by.

However, there are certain aspects that need improvement when it comes to the design and aesthetics of these kiosks. The overall appearance of the kiosks seems outdated and lacking in visual appeal. Their design does not align well with the surrounding urban context, and they do not contribute positively to the overall streetscape. To enhance the street furniture aspect of these kiosks, attention should be given to improving their materials, finishes, and overall design to make them more visually pleasing and harmonious with the surrounding environment.

The function of these kiosks, providing quick and convenient access to refreshments or other products, is apparent. However, it is essential to recognize the



Figure 47. Small shops or “Kioska” located in the site (Eda Xhoxha,2023)

importance of design in creating a cohesive and visually appealing urban space. By investing in the aesthetics of these kiosks, they can become more attractive elements that enhance the overall streetscape, creating a more welcoming and enjoyable environment for pedestrians and visitors.

The analysis of the seating elements in the site reveals a significant deficiency in terms of quantity and accessibility. As mentioned earlier, there are only two benches present along the street, which is insufficient considering the high density of people and the need for seating options. This scarcity of seating elements forces individuals to find alternative spaces to sit and rest, shown in figure 48 often resorting to ordinary spaces such as ledges, curbs, or steps. While cafes in the area do offer seating, not everyone may be inclined to utilize them due to various reasons as you see in figure 49, such as cost or the desire to enjoy the outdoor environment without the obligation to consume.



Figure 48. Seating element in outdoor (Eda Xhoxha,2023)

The absence of adequate seating elements diminishes the overall welcoming atmosphere of the street, transforming it into more of a sidewalk rather than a vibrant urban space where people can spend quality time. It is crucial to recognize the importance of providing accessible and inviting seating options to enhance the comfort and usability of the street. By incorporating well-designed benches or other seating arrangements strategically along the site, individuals would have dedicated areas to

rest, socialize, or simply enjoy their surroundings. This would contribute to creating a more inclusive and enjoyable urban space, encouraging people to linger and engage with the street furniture and amenities provided.



Figure 49. People using random places to seat to rest (Eda Xhoxha,2023)

CHAPTER 4

PRINCIPLES AND IMPLEMENTATIONS

4.1 Extracted Principles

Principle 1. Design should be inspired by culture and human behavior of the city

The principle that design should be inspired by the culture and human behavior of the city emphasizes the importance of understanding and incorporating the unique characteristics and needs of a specific urban environment into the design of street furniture. This principle recognizes that cities have their own distinct cultures, traditions, and ways of life, which should be reflected in the design of public spaces and street furniture.

The analysis provided highlights the significance of street furniture as a vital element of the urban environment that contributes to the quality and functionality of public spaces. Street furniture serves as a link between the city and its residents, facilitating daily activities and enhancing the overall experience of urban life. By considering the cultural context and human behavior of the city, designers can create street furniture that is more responsive to the needs and preferences of the local community. The passage also emphasizes the need for thorough research and analysis in the design process. Designers must take into account various social, cultural, historical, and economic factors to ensure that the street furniture aligns with the requirements of the city and its inhabitants. Proper research and analysis can help identify the appropriate form, position, design, function, and material of street furniture, resulting in more effective and well-utilized public spaces.

Additionally, the passage highlights the symbiotic relationship between street furniture, the urban environment, and the people who use them. Street furniture provides the physical infrastructure that supports and enriches the diverse requirements and functions of urban areas. At the same time, users interact with the street furniture, contributing to the vibrancy and maintenance of the urban environment. This

interaction between street furniture and people is crucial for creating a sense of community, promoting social interaction, and enhancing the overall livability of cities.

In conclusion, the principle that design should be inspired by the culture and human behavior of the city recognizes the importance of incorporating the unique characteristics and needs of a specific urban environment into the design of street furniture. By considering the cultural context, conducting thorough research, and understanding the symbiotic relationship between street furniture and users, designers can create more functional, engaging, and inclusive public spaces that reflect and enhance the identity of the city.

Principle 2:” One street furniture should have more than one function.”

This principle is supported by various studies that emphasize the importance of functionality in street furniture, as it determines its usability and contribution to urban spaces.

Functionality plays a crucial role in establishing the usefulness and impact of street furniture in urban settings. When street furniture serves a practical purpose, it becomes relevant and valuable to the community. In contrast, street furniture that lacks a useful function tends to lose significance and may even create issues in the neighborhood where it is placed. Considering human ergonomics is a vital aspect of ensuring that street furniture is feasible and can effectively fulfill its intended purpose. Street furniture should be designed with forms that align with its function and purpose. Unusual or unconventional designs that neglect functionality can create problems and hinder the usability of the furniture. Therefore, it is important to choose designs that take into account the intended function and the needs of the users.

Street furniture is not merely an aesthetic addition to urban spaces but also serves various significant values. For instance, it can contribute to creating a sense of place in city centers, especially in areas dominated by national chain stores where the shopping environment may otherwise lack uniqueness. By providing functional and well-designed street furniture, a sense of place and identity can be fostered. The example of the Coffee Bench illustrates the principle of multi-functionality in street furniture. This mobile bench and table design, created by 100% Design, addresses the need for a place to enjoy coffee in the garden while also providing a surface for cups

and newspapers. This type of design exemplifies how street furniture can be versatile, adaptable, and encourage social interaction.

Research and questionnaires further support the principle that function should be a priority when designing and organizing street furniture. In surveys, participants consistently ranked function as the most essential consideration. This aligns with the notion that the function of street furniture should be the distinguishing feature, as it ensures that the furniture remains relevant and visible within the urban landscape.

In summary, the principle that street furniture should have more than one function is supported by studies highlighting the importance of functionality in street furniture design. Considering human ergonomics, choosing forms that align with function and purpose, and prioritizing multi-functionality contribute to the usability, impact, and identity of street furniture in urban environments.

Principle 3: “Street furniture should be entertaining.”

Street furniture should be entertaining, and related studies emphasize the importance of incorporating entertainment features into urban environments. Entertainment plays a significant role in the interaction between people and the urban environment, creating a symbiotic relationship where street furniture serves as physical infrastructure that supports the needs and activities of individuals. By introducing entertainment elements into street furniture, people can have a more positive and engaging experience in the urban environment. Various strategies can be employed to incorporate entertainment components into street furniture design. For example, seating arrangements can be designed to promote relaxation, social interaction, and comfort, encouraging users to gather in groups and fostering a sense of community.

Advertising structures can also contribute to the entertainment value of the urban area. Engaging and aesthetically appealing advertisements can capture users' attention, enlivening the environment and creating a dynamic atmosphere. Well-placed ads can also inform people about nearby events, cultural activities, or performances, further enhancing the entertainment value of the metropolitan area.

Playgrounds are another important component that can increase the entertainment level of street furniture. Including playthings like swings, slides, and

climbing frames encourages active play among children and families, promoting physical activity, health, and well-being while providing amusement.

Water fountains are practical and entertaining additions to urban settings. The sight and sound of running water can create a calming and pleasant atmosphere, attracting users to gather and enjoy the sensory experience. Water fountains also serve as meeting spots and sources of amusement, particularly during hot summer months.

Public art installations enhance the urban environment by adding aesthetic appeal and cultural significance. Interactive installations, murals, and sculptures stimulate the senses, provoke thoughts, and evoke emotions, contributing to the overall amusement value of the environment. Art pieces often become landmarks and points of interest that visitors are drawn to, encouraging exploration and interaction with the surroundings.

When these entertainment components are thoughtfully positioned and integrated into street furniture, they create a dynamic and multipurpose urban environment that encourages recreation. Seamless transitions between diverse activities become possible, enhancing the overall experience for users and optimizing the use of urban space. The incorporation of entertainment components in street furniture not only attracts visitors but also encourages them to spend more time in the city. Longer stay times lead to increased social engagement, a sense of belonging, and a more favorable assessment of the surroundings. Additionally, the entertainment factor can boost the local economy by motivating visitors to explore and spend money at nearby shops and businesses.

In conclusion, considering entertainment in the design of street furniture significantly improves the interaction between people and the urban environment. Incorporating features like seating, advertising structures, playgrounds, water fountains, and public art enhances the entertainment value, fosters social engagement and community involvement, and contributes to the economic vibrancy of metropolitan settings. The example of Pop-Up! Street Furniture in Seattle demonstrates how entertainment and user engagement can be promoted through interactive design elements, encouraging people to actively participate in the design process.

Principle 4: “The design should be thoughtful to be used in group and individual.”

The design of street furniture should be thoughtful to accommodate both group and individual use. Related studies emphasize the importance of creating social settings that encourage interaction while also providing space for individuals to relax alone. This principle acknowledges the need for flexibility and adaptability in street furniture design to cater to various user preferences and situations.

One example highlighted in the related studies is the arrangement of benches. Rather than being lined up in a row, benches are set at right angles to create social settings that facilitate interaction among users. Placing benches directly across from each other may discourage eye contact, so pairs of seats are arranged at an angle of 90 to 120 degrees. This configuration allows people to sit alone or with others comfortably. Sufficient space is also provided next to and in front of benches to ensure accessibility for individuals using wheelchairs or walkers without obstructing pedestrian flow.

Another example is the coffee bench mentioned in the studies, which serves as a modular seating system. This type of street furniture consists of movable or stackable components that can be easily adjusted to create seating configurations suitable for both group socializing and individual relaxation. The adaptability of the furniture allows users to modify it according to their specific needs at any given moment.

By incorporating thoughtful design elements that cater to both group and individual use, street furniture can enhance social interactions while also providing opportunities for personal relaxation. This approach acknowledges the diverse preferences and needs of users and creates a more inclusive and user-centered urban environment.

Overall, this principle emphasizes the importance of considering the social dynamics and individual preferences when designing street furniture. By providing spaces that accommodate both group interactions and individual relaxation, street furniture can promote social connections, improve user satisfaction, and contribute to a more harmonious and inclusive urban experience.

Principle 5: “Choosing the right material for a better performance.”

The principle of choosing the right material for street furniture is essential to ensure its durability, functionality, comfort, and aesthetic appeal. Related studies emphasize several factors to consider when evaluating the performance of urban furniture materials.

Firstly, durability is a crucial aspect due to the heavy use, exposure to harsh weather conditions, and the potential for vandalism that street furniture often faces. Materials such as steel, aluminum, and concrete are known for their sturdiness and ability to withstand these challenges. Wood and plastic can also be durable options, although they may require more maintenance and could be more susceptible to damage over time.

Secondly, the design of urban furniture plays a role in its durability. Furniture with simple and sturdy designs, devoid of intricate or delicate details, is generally more durable than pieces with complex designs. Straight benches without decorative elements, for example, may have a longer lifespan compared to those with intricate patterns.

Regular maintenance is another factor highlighted in the studies. Establishing cleaning and maintenance routines for street furniture is crucial to ensuring its longevity. This can include power-washing concrete benches, applying protective coatings, or painting metal fixtures to prevent rust and corrosion.

Vandalism is a significant concern for urban furniture, as it can impact its durability and overall performance. Selecting materials that are resistant to graffiti or damage caused by vandalism can help mitigate such issues. Additionally, installing security measures like cameras or proper lighting in vulnerable areas can deter potential acts of vandalism.

Considering the warranty provided by the manufacturer is also important. Checking the warranty coverage can provide insights into the expected lifespan of the furniture and potential assistance in case of damage or defects.

Furthermore, the selection of materials can contribute to creating a warm and comfortable atmosphere in urban spaces. Different materials evoke different emotions and add to the overall aesthetic appeal and utility of street furniture. Factors such as

color, texture, and finishes can be considered while choosing materials to enhance the comfort and visual appeal of the furniture.

In conclusion, the principle of choosing the right material for better performance in street furniture design is crucial. Considering factors such as durability, design, maintenance, vandalism resistance, and warranty can help ensure the longevity, functionality, and aesthetic appeal of urban furniture. By selecting suitable materials, street furniture can provide comfort, withstand external factors, and contribute to creating inviting and enjoyable urban environments.

Principle 6: ‘Modification of street furniture for low cost.’

The principle of modifying street furniture for low cost focuses on finding strategies to control costs while still enhancing the functionality and aesthetic appeal of urban furniture. Related studies emphasize several approaches to achieve this objective.

Conducting a cost-benefit analysis is an essential strategy to evaluate the long-term value and return on investment of urban furniture. By assessing the benefits that different types of furniture can provide to the community and comparing them against the costs, municipalities can make informed decisions about where to allocate their budget. This analysis ensures that the chosen furniture offers the most significant benefits while staying within the available financial constraints.

Modifying existing street furniture is another effective approach highlighted in the studies. By making small but significant adjustments to the design of pre-existing furniture, municipalities can transform them into visually appealing and eye-catching pieces. For example, adding vibrant facades, catchy signs, and distinctive graphic patterns to kiosks can turn them from plain and unremarkable structures into attractive focal points in the urban landscape. These modifications can be implemented at a relatively low cost, providing a cost-effective solution to enhance the overall aesthetic of the cityscape.

Flexibility and experimentation are key aspects of modifying street furniture for low cost. Temporary structures or facilities, such as kiosks, offer opportunities for creativity and innovation. The transient nature of these structures allows for easy adjustments and updates, enabling continuous improvement and adaptation. This 86

approach provides the freedom to experiment with different design elements, making it possible to rejuvenate urban areas and create visually pleasing environments without significant financial investments.

The case study of Potsdam, Germany's Temporary Stores exemplifies the principle by showcasing how minor adjustments to kiosks can have a substantial aesthetic impact. The addition of vibrant colors, distinctive graphic patterns, and eye-catching signs transformed the kiosks into visually appealing buildings that enhanced the overall appearance of the cityscape. This case study serves as an inspiration for future initiatives seeking to revitalize urban areas and create attractive temporary or long-term retail facilities while maintaining a low-cost approach.

In conclusion, the principle of modifying street furniture for low cost emphasizes the importance of cost control while improving the functionality and visual appeal of urban furniture. Strategies such as conducting cost-benefit analyses and making small but significant design adjustments to existing structures can help municipalities optimize their budget while creating inviting and visually appealing urban environments. By being flexible, experimental, and open to creative solutions, cities can achieve cost-effective modifications that have a positive impact on the overall urban landscape.

Principle 7: “Consistency and position of street furniture should be based on statistic of users.”

The principle of consistency and position of street furniture based on user statistics emphasizes the importance of understanding the needs and preferences of the users when designing and placing urban furniture. Related studies highlight the significance of gathering data on user demands and utilizing it to guide decision-making processes.

The studies provide insights into specific issues and deficiencies observed in urban areas. For example, in one case study, participants expressed a desire for more street furniture in their neighborhoods, indicating that the existing furniture was insufficient to meet their needs. This finding emphasizes the importance of considering the demand for street furniture and ensuring that its quantity matches the requirements of the users.

The absence of certain types of street furniture, such as benches and bicycle parking facilities, is highlighted as notable issues in the studies. For instance, in an area with a high density of people, the lack of benches reduces the comfort and convenience of pedestrians, discouraging them from spending more time in the urban space. Similarly, inadequate bicycle parking spaces can pose challenges for cyclists and pedestrians, leading to unorganized parking and potential safety hazards.

Inconsistency in design and irregular placement of street furniture, such as trash bins, is identified as a concern. The lack of uniformity in design can confuse users, while irregular placement hinders accessibility. Additionally, poorly maintained trash bins raise hygiene concerns and detract from the overall aesthetics of the environment. Addressing these issues requires implementing a more consistent design, strategic placement, and regular maintenance of street furniture to ensure user-friendliness and visual harmony.

To effectively address the identified issues, it is crucial to gather data on user preferences and behaviors. Conducting surveys or collecting feedback from users can provide valuable insights into their needs, expectations, and patterns of use. This data can then inform decision-making processes regarding the quantity, design, and placement of street furniture.

In conclusion, the principle of consistency and position of street furniture based on user statistics emphasizes the importance of understanding the needs and preferences of users when designing and placing urban furniture. By collecting data on user demands and considering their feedback, municipalities and urban planners can ensure that the quantity, design, and placement of street furniture align with the requirements of the community. This approach enhances user satisfaction, promotes usability, and contributes to creating vibrant and inviting urban environments.

4.2 Implementation of Principles and Case Studies

By implementing these principles and conducting case study analyses, it will be demonstrate how they can be applied in a practical manner and highlight their effectiveness. This implementation will serve as a guide for others involved in designing urban areas, encouraging them to consider these principles more carefully. To begin, with the reorganization of the street furniture in the selected site to enhance its performance. Based on the principles 1, 4, 6, and 7, there have been added, modified, and organized street furniture in the area shown in figure 50. Starting with seating, which was lacking in the previous setup, it will be added seats in various locations to provide people with more opportunities to rest and enjoy the surroundings. These seating areas will be strategically placed near the water fountain, bus station, and theatre.

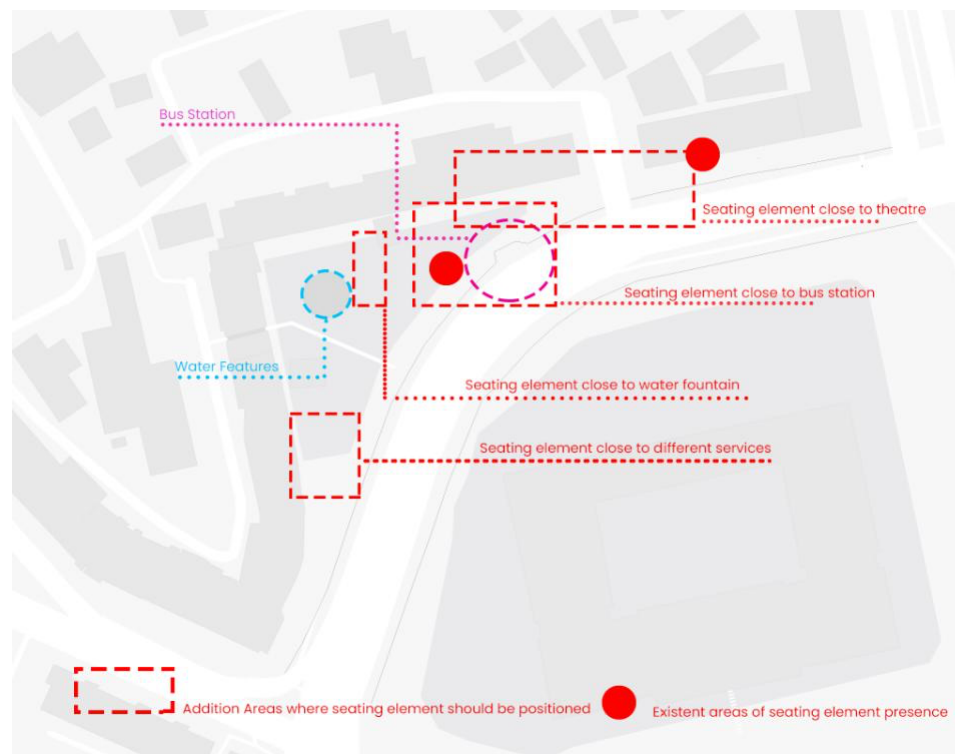


Figure 50. Organization of areas where seating element should be positioned.

Furthermore, it has made modifications to the existing kiosk, taking inspiration from the case studies of Temporary Stores in Potsdam, Germany shown in figure 51 in the map and as well as figure 52. By adding decorative wood elements to the kiosk, it will improve its visual appeal.

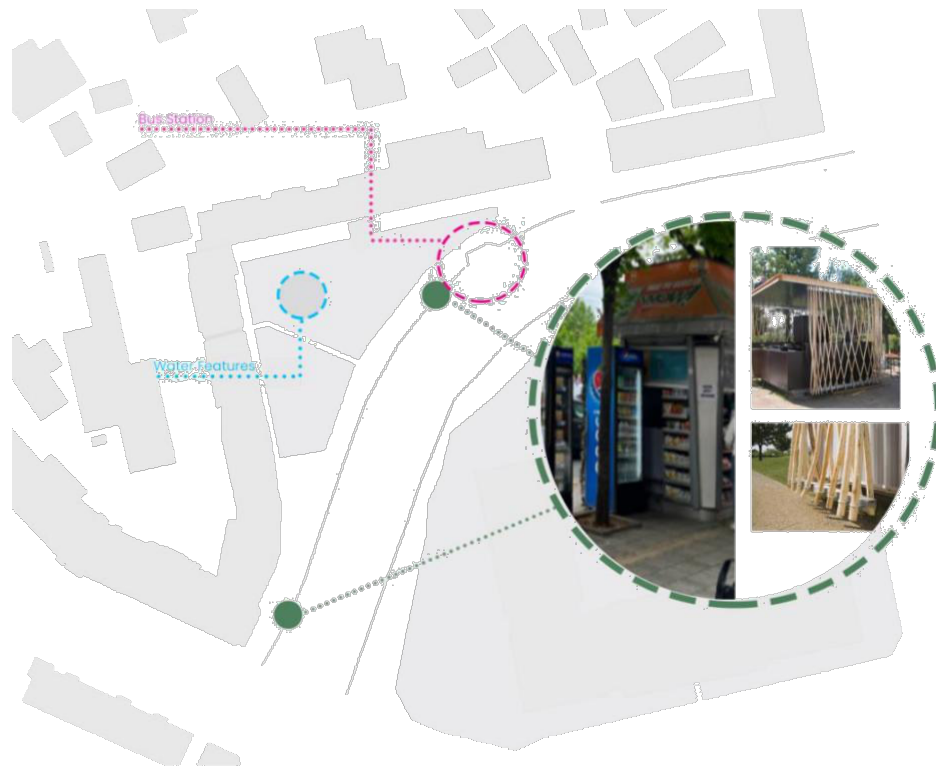


Figure 51. Schematic Map showing the modification of kiosk in existent location



Figure 52. Modification of existent kiosk with wood detail for a low cost and better visibility

In the wider sidewalk area near the T-Mobile store, exchange, and fast-food establishments, it will be introduced a structure similar to The Bit Stop Mathieu Lehanneur's Wi-fi station in figure 53. This structure will provide entertainment, rest areas, and information through advertisements. To ensure clarity and avoid confusion, all trash bins will be uniformly distributed throughout the area, maintaining the same size and form. Additionally, there will be added bike stops in different locations figure 54 to cater to the needs of cyclists and provide them with convenient facilities. This will create more space and enhance the overall organization of the area. By implementing these changes and organizing the street furniture accordingly, the selected site will experience improved functionality and aesthetics. It will become a more inviting and inclusive space that caters to the diverse needs of its users, promoting a sense of community and enhancing their overall experience.

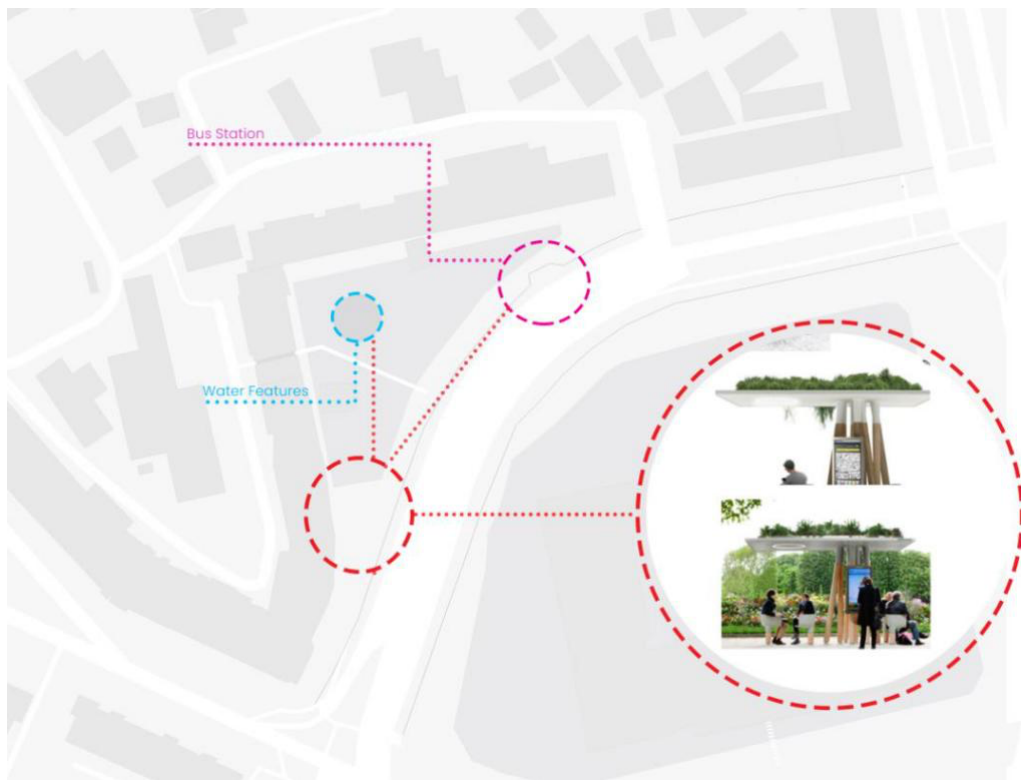


Figure 53. Schematic map of an example where to locate the Bit Stop Mathieu Lehanneur's Wi-fi station in the site.

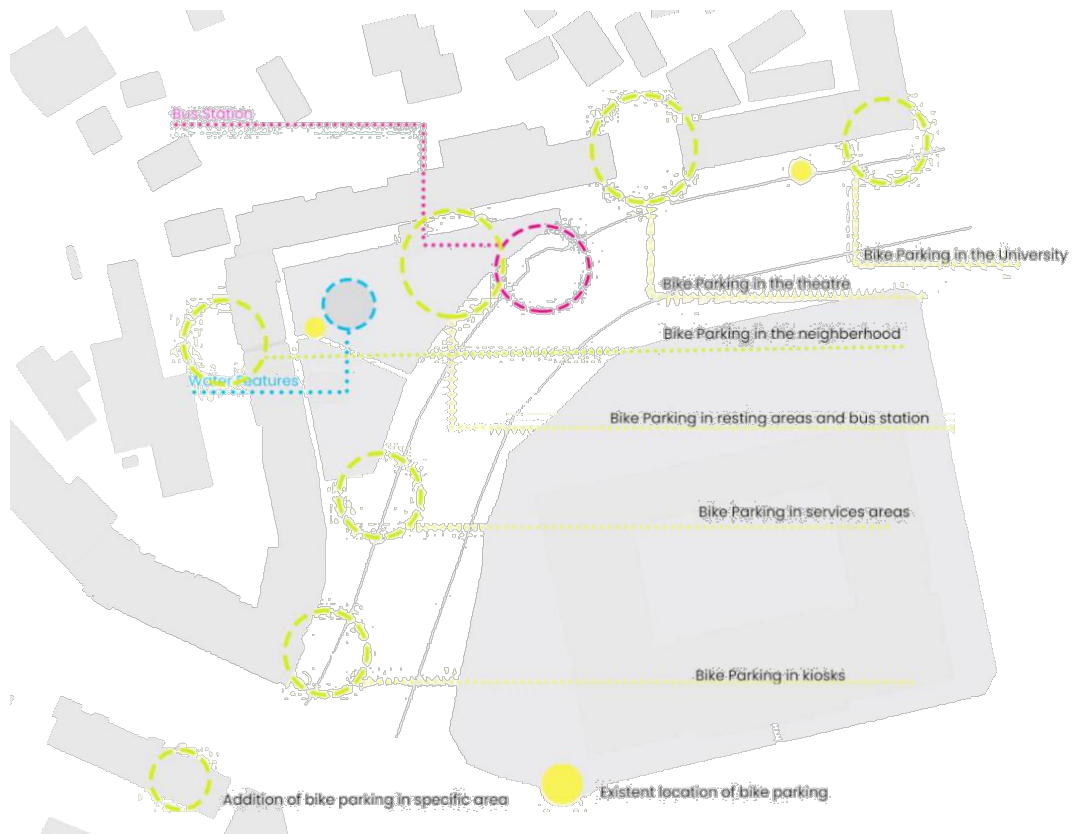


Figure 54. Addition and organization of bike parking in the site

Incorporating the first principle, which emphasizes that street furniture should be inspired by human behavior and culture, it will introduced the Radius Seating System by Jorge Diego Etienne (Monterrey, Mexico) near the bus station of the site in figure 55. This particular element is chosen due to two main reasons. Firstly, there is currently a lack of sufficient waiting spaces at the bus station. By implementing this element, it will provide a comfortable resting place for people, particularly the elderly, who may need to wait for longer periods. The design of the seating system allows individuals to rest their backs without necessarily having to sit down, which can alleviate discomfort and reduce stress. This addition will enhance the overall waiting experience for individuals at the bus station. Secondly, it is a common practice among Albanians to find a wall or a vertical element to lean against while waiting or engaging in conversations. By incorporating the Radius Seating System, which offers a curved and supportive structure, people will have an easily accessible and culturally familiar element to lean on while waiting. This aligns with the principle of designing street furniture that considers local behaviors and cultural preferences. selected site will experience improved functionality and aesthetics. It will become a more inviting and

inclusive space that caters to the diverse needs of its users, promoting a sense of community and enhancing their overall experience.

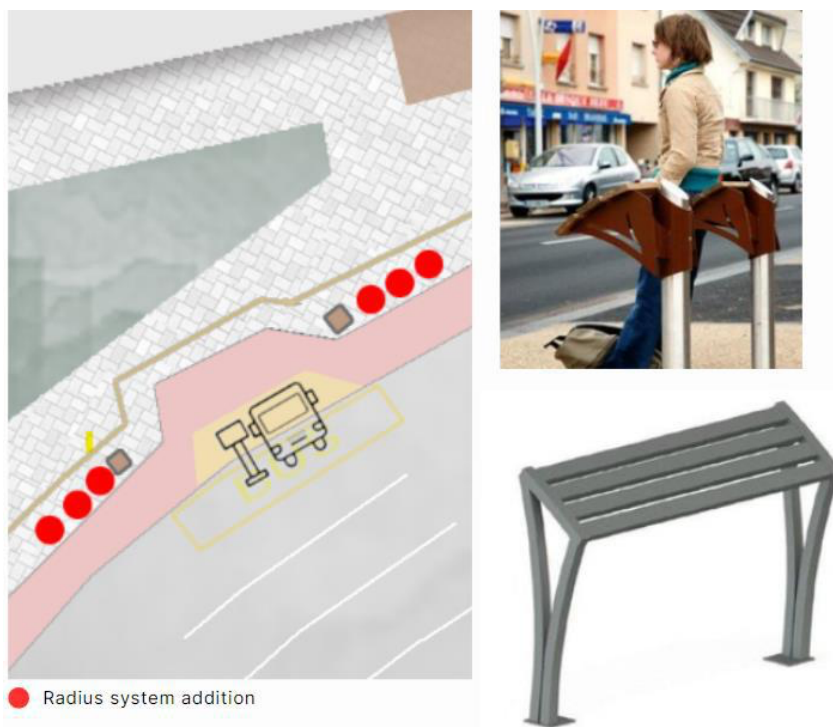


Figure 55. The areas zone where to install radius seating

In line with the sixth principle, which promotes the idea of transforming street furniture into multi-functional elements, it will be proposed to incorporate interactive advertisements in strategic locations throughout the urban area. These advertisements will deviate from traditional ones that can be seen as obstacles, and instead, they will serve as sources of entertainment and information. To make these advertisements more engaging and visually appealing, they will be designed with vibrant colors and creative layouts. The content of these advertisements will go beyond simple promotional messages and incorporate elements that are relevant to the local context. For instance, maps of Tirana can be included to help tourists navigate the city, and interesting historical facts about the area can be showcased to attract their attention. Strategic locations for these interactive advertisements include areas close to the bus station, the theatre, and cafes, as these places tend to have a higher concentration of people. By placing them in these areas, we ensure that a larger number of individuals will have access to the interactive advertisements, increasing their visibility and potential impact. The purpose of these interactive advertisements is to provide both entertainment and useful information to the community and visitors. By making them

visually appealing, informative, and strategically positioned, we can enhance the overall experience of the urban area while simultaneously promoting the city's attractions and history.



Figure 56. Implementation of different seating elements with more than one function.

Implementing the concept of entertaining street furniture, inspired by the third principle, will certainly add vibrancy and engagement to the urban area. Taking inspiration from the Pop-Up Street Furniture case study in Washington, we can adapt the idea by incorporating colorful and modular elements that can be easily assembled and disassembled, shown in figure 56. These street furniture pieces will be distributed along the sidewalk, allowing for interactive and playful experiences. Each element will have a unique shape and color, making them visually appealing and inviting for people of all ages. They can be rearranged and reconfigured, providing flexibility and encouraging creativity in their use. Children can enjoy playing with these modular elements, constructing various structures or using them as platforms for imaginative play. Meanwhile, adults can take advantage of these pieces as seating options to relax, socialize, or enjoy a coffee or a good book. By introducing this entertaining street furniture, we create a dynamic and engaging environment that fosters social

interaction, creativity, and leisure. It adds an element of surprise and delight to the urban area, making it more memorable and enjoyable for both residents and visitors.

Implementing versatile seating elements that cater to different user needs aligns with the principles of adaptability and multi-functionality. The coffee bench mentioned in the case study is an excellent solution that offers more than one function and can be modified based on users' preferences. The coffee bench provides a flexible seating arrangement that can be used individually or in groups. Its design allows for customization, enabling users to modify the arrangement according to their needs. For instance, the bench can be transformed into a larger seating area by sliding or rotating its sections to create a continuous bench or a cluster of seats. This adaptability ensures that the seating accommodates both individual users seeking personal space and groups looking to socialize. Additionally, the coffee bench serves more than just a seating function. Its design incorporates features such as integrated tables or surfaces for placing beverages, books, or other items. This multi-functionality enhances the user experience by providing practical and convenient amenities. People can enjoy a cup of coffee, have a casual meeting, or even work on their laptops, making the bench a versatile and functional addition to the urban area. By implementing these coffee benches inspired by the principles of adaptability and multi-functionality, we provide comfortable seating options that can be easily customized and adapted to various user requirements. The design promotes social interaction, relaxation, and productivity, enhancing the overall experience and usability of the urban space.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusions

In conclusion, this master thesis aimed to explore the role of street furniture in urban spaces and its impact on the quality of life for city users. The study recognized that street furniture serves as a link between people and the shared spaces they interact with on a daily basis. It plays a crucial role in creating convivial, inclusive, safe, and supportive urban environments. The thesis highlighted the diverse functions of street furniture beyond mere seating, encompassing elements such as signs, bollards, garbage cans, lighting, games, public toilets, and art installations. These elements contribute to the functionality and aesthetics of the city while enhancing people's sensitivity and connection to their surroundings. Well-designed street furniture encourages individuals to take better care of their environment and fosters a sense of communal responsibility. The research emphasized the need for comprehensive analyses and research in various social, cultural, historical, and economic aspects when planning street furniture projects. It highlighted the importance of understanding user behavior and the impact of design choices on their experiences. By addressing these factors, street furniture can be utilized effectively to create attractive and functional public spaces that cater to the needs of the community. The study recognized the challenges of balancing the needs and interests of multiple stakeholders involved in urban planning and design. It called for further research to bridge the gap between theoretical concepts and practical implementation, align urban policies with street furniture design principles, and find ways to maximize the benefits of street furniture for users and the environment. The thesis proposed a set of principles for street furniture design, including cultural inspiration, multifunctionality, entertainment value, thoughtful design for both group and individual use, material selection, low-cost modifications, and consistency based on user statistics. These principles serve as a guide for urban designers and planners to create well-designed and user-centric street furniture installations. In conclusion, the research highlighted the significance of street furniture in shaping urban spaces and the lives of city residents. It emphasized the importance

of considering street furniture as an integral part of urban design and the need for ongoing research and evaluation to continually improve the functionality, aesthetics, and user experience of street furniture. By integrating these principles and conducting further studies, cities can create more vibrant, inclusive, and sustainable environments that enhance the overall quality of urban life.

5.2 Recommendations for future research

This study has laid the foundation for a model of street furniture design principles, but further research is necessary to enhance and expand upon this model. Future studies could explore additional principles and their interrelationships, contributing to a more comprehensive understanding of street furniture design. The flexible application of these principles in diverse contexts can guide urban designers in utilizing site-specific data for effective street furniture organization. Although this study focused on a densely populated area with dual functionality as both an urban space and a sidewalk, it had its limitations in examining all the principles. Conducting more case studies in various locations and countries would generate a body of implementation cases that highlight the adaptability of design principles in different situations. Challenges arise when applying principles in real-world settings, necessitating further research to bridge the gap between theoretical concepts and practical conditions. Urban planning and policies often do not align with the concepts of street furniture design, requiring investigation into how urban policies can be structured to maximize the benefits of street furniture for users and the environment, utilizing the proposed model. Additionally, achieving a realistic balance among the interests of various stakeholders remains a challenge. Lastly, urban landscape design, including street furniture design, is an ongoing process that requires continuous study and data collection. This study presents research findings at a specific point in time, but evolving conditions and attitudes constantly introduce new elements to urban landscape design. Long-term inquiries, regular updates, and reviews are crucial for creating the most ideal urban environment and urban living experience.

REFERENCES

Adam.J.McKee. (2018). broken windows theory. Britannica.

Anna M. Grabiec, A. Ł. (2022). Material, Functional, and Aesthetic Solutions for Urban Furniture in Public Spaces. Section Sustainable Engineering and Science.

Bao, S., Wang, H., Sun, M., Huang, G., Yu, Y., Ge, R., & Wang, P. (2006). Urban Furniture System Design. Beijing, China: Chinese Ed.; China Architecture and Building Press.

Chap, t. L. (2006). Public Space Design Guide. In Chapter 5-Furniture (pp. 50,53,58). London.

Chen, K. X. (2019). Durability evaluation of urban furniture materials under outdoor conditions. Construction and Building Materials.

Comopa. (2022). Urban furniture: What it is, types and examples. ComopaRepresentation.

Derringer, J. (2010). Coffee Bench by BEYOND Standards. Design Milk .

Firdevs, G. (July 1st, 2013). Street Furniture and Amenities: Designing the User-Oriented Urban Landscape. Turkey: Intechopen.

Ghorab, P. &. (2015). Evaluation of Street Furniture According to Basic DesignPrinciples. International Journal of Electronics, Mechanical and Mechatronics Engineering, 757-772.

Guedes, M. &. (2021). Urban furniture resilience to vandalism: A review of material selection strategies. International Journal of Environmental Research and Public Health.

Gupta, N., & Bhatti, V. (2015). Importance of Street Furniture in Urban Landscape. Int. J. Latest Trends Eng. Technol.

- Heathcote, E. (2022). How street furniture has shaped our cities. Financial Times .
- Hirst, A. (2012). How the French Get Connected: BIT STOP Mathieu Lehanneur's Wi-Fi station in Paris. TheNewYorkTimes .
- Hong, W. P. (2007). Street Furniture Design: Principles and Implementations . Hong Kong: The Hong Kong Polytechnic University.
- Lynch, K. A. (1964). The Image of the City. Cmbridge, MA, USA: MIT Press.
- MacLeod, F. (2014). Get Playful on the Streets of Seattle with "Pop-Up! Street Furniture" from LMN Architects. ArchDaily.
- Main Bill, H. G. (2010). Complete Guide to the Planning, Selection and Use of Landscape Furniture and Amenities, John Wiley & Sons. Site Furnishings.
- Maryam Lesan, M. G. (2021). Sidewalk design in multi-cultural settings: a study of street furniture layout and design. Research Gate.
- MikoEngineering. (2020). A Comprehensive Guide: Street Furniture. Miko.
- Mine Kuset Bolkaner, S. İ. (1, June 2019). A Study on Urban Furniture: Nicosia Old City. ResearchGate, European Journal of Sustainable Development 8(2).
- Radius Seating System by Jorge Diego Etienne. (2016). Surface.
- Şatır, S. &. (2005). Urban Open Spaces With Examples & The Classification of Urban Furniture.
- Sattarzadeh, D. N. (2008). Urban space, social thought, Environmental Science and Technology. 12 (4), 183-173.
- Shuangyu, H. (2021). Atour Village Public Restroom / GN Architects. ArchDaily.
- Simple-Tech-Kiosk / partnerundpartner-architekten. (2010). ArchDaily.

Ulay, G. Y. (2020). Wood and wood-based materials in urban furniture used in landscape design projects. *Wood Industry and Engineering* , 35-44.

Urban Reef transforms downtown Vancouver. (Aug 23, 2014).
Canadian Architect.

Wan, P.-h. (2008). Street furniture design principles and implementations : case studies of street furniture design in densely populated old urban areas. Hong Kong Polytechnic University -- Dissertations.

Wirdelöv, J. (2020). The trash bin on stage: On the sociomaterial role of street furniture . *Urban Planning* , .

Yang, Z. (2005). *Street Furniture and Urban Aesthetics*. Tianjin University Press: Tianjin, China.

APPENDIX

Survey Questions

1. What is your age group?
 - Under 18 years
 - 18-25 year
 - 25-35 year
 - 35-49 year
 - 49-60 year
 - Above 60 years
2. What is your gender?
 - Female
 - Male
 - Not specified
3. Where do you live?

(Open question)
4. Is there enough access in your area?
 - None
 - Rarely
 - Enough
5. Is there a bus station near the area you live?
 - Yes
 - No
6. If so, do you think it is easy for tourist to identify this station?
 - Yes
 - No

7. While you are waiting for the bus, would you like to be active in something entertaining?
- Yes
 - No
8. Do you have street furniture around such as benches, trash bin etc ?
- Yes
 - No
9. If yes, do you think they are enough?
- Yes
 - No
10. Would you like to have more coherent street furniture?
- Yes
 - No
11. Which of these elements would you like to add or bring in case it is missing in your area?
- Seating elements
 - Trash Bin
 - Water Features
 - Direction Signs
 - Advertisement
 - Public Art
 - Public Restroom
 - Street Lights
 - Shadow Elements
 - Reading Areas
 - Other element
12. If these urban elements will have a design more coherent, which of the following criteria should be given more attention?
- Shape
 - Material
 - Function
 - Consistency
 - Position

13. If these street elements had a more coherent design, which of the following functions should be given more attention?

- Accessibility
- Safety
- Entertainment
- Direction
- Information

14. If the area in which you live offers more efficient urban elements, you will be able to use these public spaces more?

- Yes
- No

15. If yes, would this make you more sensitive to the city and maintain it?

- Yes
- No

16. Thank you !

