

Urban Planning 2

Logical urban solutions to
Birštonas Problems

PORTFOLIO

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PUBLIC REALM

WHAT IS A PUBLIC SPACE?

Public space is one of the pillars of the city, in which people can spend their time or pass by. Based on the two famous books on this subject Carmona (2010) and Madanipour (2003), public spaces can be defined by the author as follows:

“A public space is a space in which there are no restrictions on its users. If it is not possible to barbecue in it, then it is not a public space. A person can sleep, protest, or do any activities that do not infringe on the freedom of others.”



Public Space Typology

Public space typology, as defined by Carmona (2010) is the categorization of different public spaces according to their physical characteristics, purposes, and patterns of use in urban environments. Carmona investigates how various public space typologies impact urban areas' social, cultural, and environmental dimensions.

According to their design, scale, shape, and intended uses, public spaces including parks, squares, waterfronts, and community facilities are categorized according to a system known as public space typology. Every typology has distinct qualities influencing people's experiences and interactions in public spaces.

Riverfronts



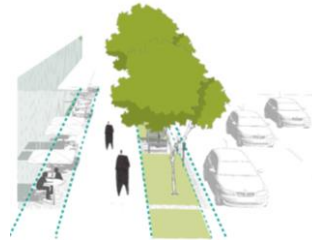
locations by bodies of water where people may stroll, take in the scenery, or engage in water sports. Parks and bike or walking trails by the water are common features of waterfront properties. Carmona (2010)

Parks



Parks are urban green spaces designed for recreation, nature, and sometimes learning about plants. Parks frequently have grass, trees, and kid-friendly playgrounds. In certain parks, there are also picnic spaces, seats, and walking trails. Carmona (2010)

Streets



Streets are where cars go, but some streets have more space for people to walk, sit, or shop. They may have trees, benches, and shops on the sides. Some streets are closed to cars so people can walk safely.

Squares



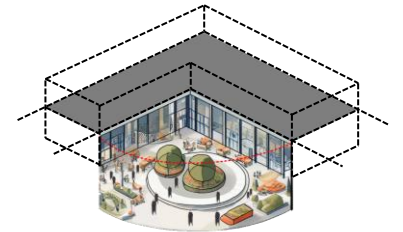
These are public spaces in cities where people congregate for marketplaces, events, or leisure. They occasionally have fountains, seats, and statuary. Here, people might congregate for street entertainment, lunch, or conversation. Carmona (2010)

Transportation Hubs



The areas where people wait, board, and disembark from buses, trains, and airports. They frequently have ticket booths, chairs, and screens with timetables. These hubs are utilized by people as transit hubs. Carmona (2010)

Indoor public spaces



Areas within structures that are open to the public and serve diverse communal purposes. These areas may be intended to facilitate social contact, recreation, cultural activities, or access to services. Carmona (2010)

Public Space System

Public Space System, in "How to Study Public Life"; Gehl and Svarre (2013) define a public space system as an interconnected network of public areas in cities. They emphasize the importance of understanding and studying the relationships between various types of public spaces and their impact on the overall urban lifestyle.

These spaces are for interacting with others, unwinding, taking in the culture, and spending time in nature. They comprise public spaces including parks, squares, streets, waterfronts, and community structures. Here's overview of the public space system as described by some Urban Planners:



Connectivity & Accessibility

A good public space system includes pedestrian walkways, bike lanes, and public transportation routes. This allows people to easily roam throughout the city and meet new people. Carmona, (2010)



Community Involvement

Local residents should be involved in the planning and management of public places. Workshops and community gatherings ensure that the venues are suitable for everyone. Blackshaw, (2010)



Green Infrastructure

Adding trees, plants, and other greenery to public spaces improves air quality and enhances the city's visual attractiveness. Green places also allow people to relax and appreciate nature. Bertram & Rehdanz, (2015)



Diverse Spaces

There should be many diverse public venues for varied purposes. Some are quiet for relaxation, while others are active for socialization. Each room has a unique purpose and is intended for various people. Gehl and Svarre (2013)



Safety and Security

Public areas must be both safe and comfortable. Good lighting, cameras, and obvious borders help to prevent crime and make tourists feel comfortable. Carmona, (2010)



Sustainability

Using eco-friendly materials in public spaces helps to protect the environment. Rain gardens, unique pavements, and renewable energy sources improve the natural environment. Newman, (1999)



HOW CAN WE MAKE AN ACTIVE PUBLIC SPACE?

Based on all the previous theory, before analyzing how to make an active public spaces, must first understand why they are vital in cities. Public areas serve as meeting places for individuals to relax, socialize, and share their experiences. They play an important role in making cities seem lively and welcoming.

To ensure that public spaces function properly, they must be designed in such a manner that people are encouraged to utilize them. This entails carefully designing them to be inviting, simple to find, and enjoyable to hang around in.

ACTIVE PUBLIC SPACE

Human Scale
Design

Greenery and
Nature

Mixed-Use
Functions

Accessible
Connectivity

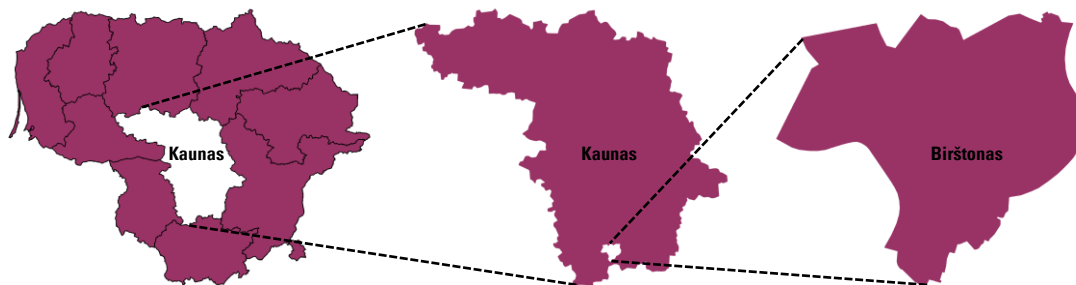
Safety and
Comfort

LOCATION Birštonas

Birštonas is a city located in southern Lithuania on the side of the Nemunas River, immersed in forests and rolling hills. It is about 40 kilometers southwest of Kaunas. One of the most important features that the city of Birštonas is famous for is its picturesque natural landscapes, extended green spaces, and winding rivers, which give the city important value in many respects. It has surrounding forests that provide visitors and indigenous residents with opportunities for long-distance walking and cycling.

Birštonas city is one of the few cities in the world that has a natural mineral source that is believed to have healing properties, which has helped it to create infrastructure around this natural feature, such as traditional sanatoriums, health products and spa facilities where visitors can treat, enjoy and relax at the same time.

Having become famous as a health and wellness destination, the city of Birštonas is attracting tourists from both outside and inside Lithuania to rejuvenate, gain positive energy, relieve stress, undergo medical treatments, experience the effect of balneotherapy, and enjoy the tranquil atmosphere of the area. Visitors may enjoy a variety of cultural sights and activities in Birštonas, despite its tiny size. These include galleries, museums, festivals, and cultural events that highlight the history, culture, and creative pursuits of the community. Throughout the year, the town offers chances for leisure and outdoor activity. Apart from hiking and cycling, the riverbanks and surrounding scenery provide boating, fishing, and picnicking opportunities for tourists.

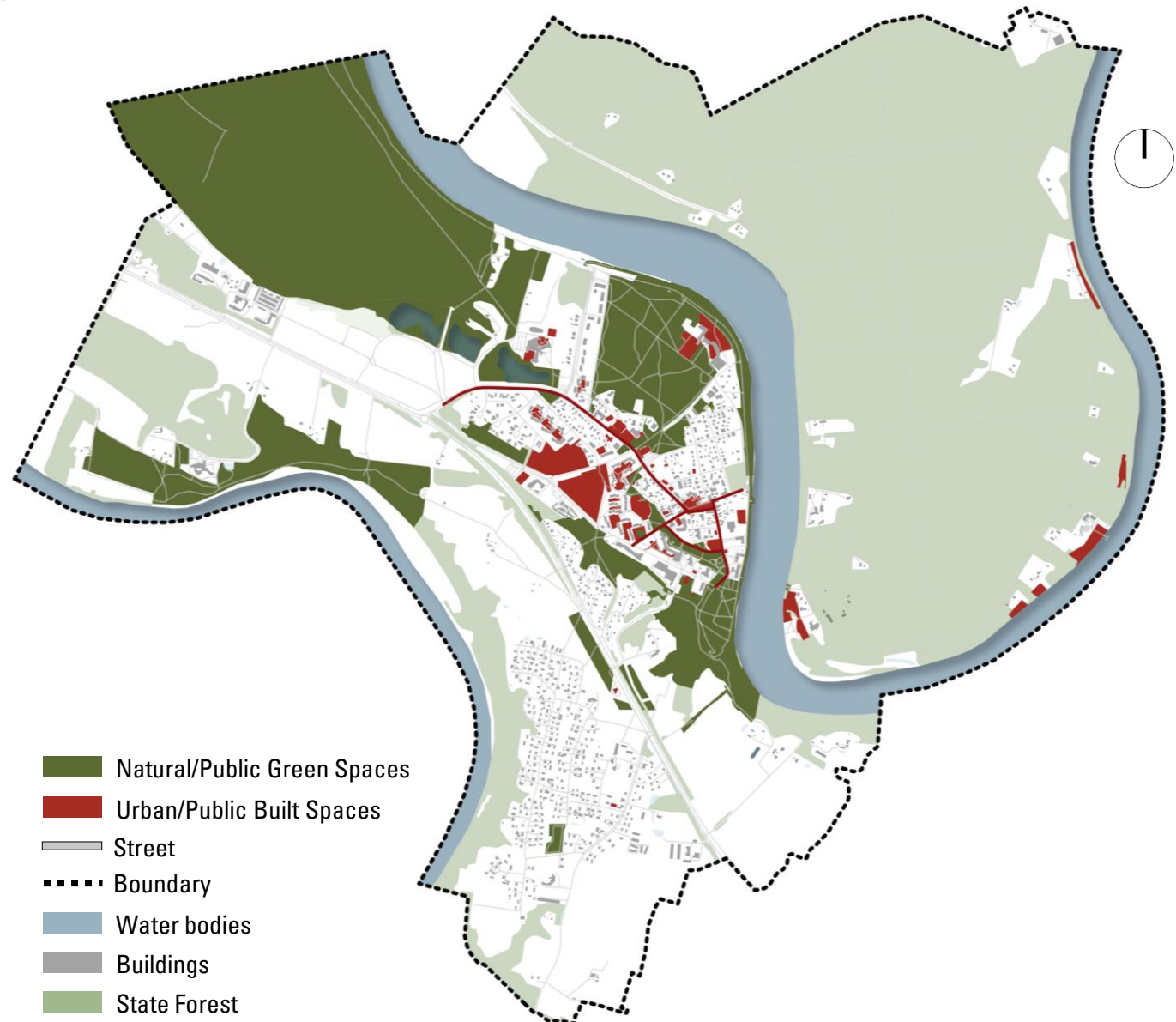


PUBLIC SPACE TYPOLOGY In Birštonas

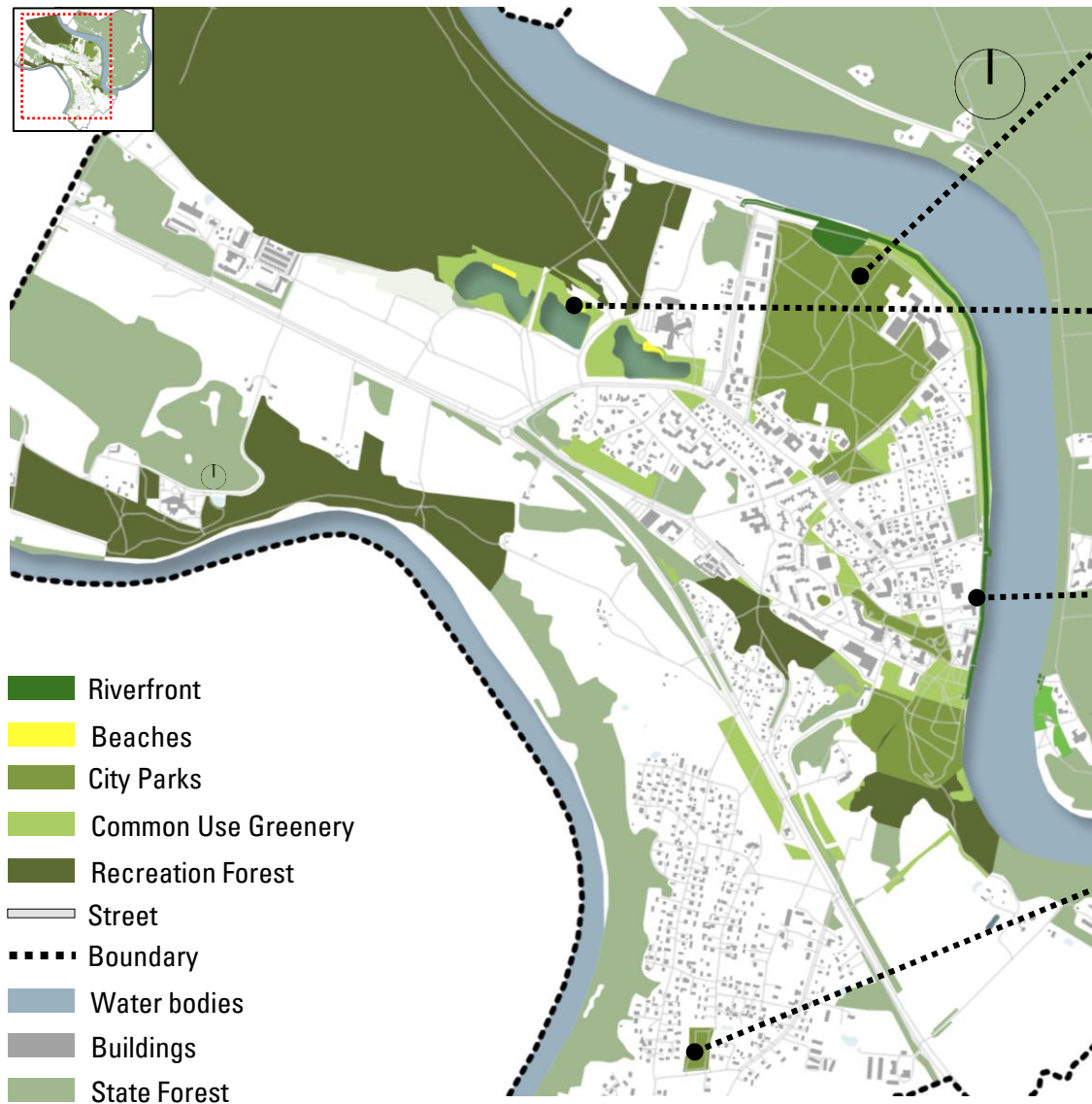
Based on Carmona (2010) public spaces are frequently separated into two major groups based on where they originate from and what they are like:

Natural/Public Green Space: These are natural-themed public places such as parks, gardens, woods, and waterfront locations. People create or preserve these areas so that others can participate in activities such as playing, resting, and being near nature. They also benefit the environment by providing shelter for animals and clean air.

Urban/Public Built Spaces: People create public spaces such as plazas, squares, streets with plenty to see (streetscapes), linear, and areas where only people may walk (pedestrian zones). People plan these places so that various activities and events may take place in cities. They are utilized to host meetings, cultural events, and community activities, giving individuals a sense of belonging.



Natural/Public Green Spaces



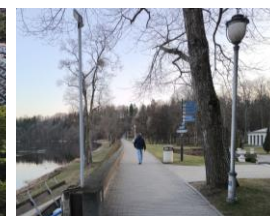
BIRŠTONAS CENTRAL PARK



BIRŠTONAS BEACHES



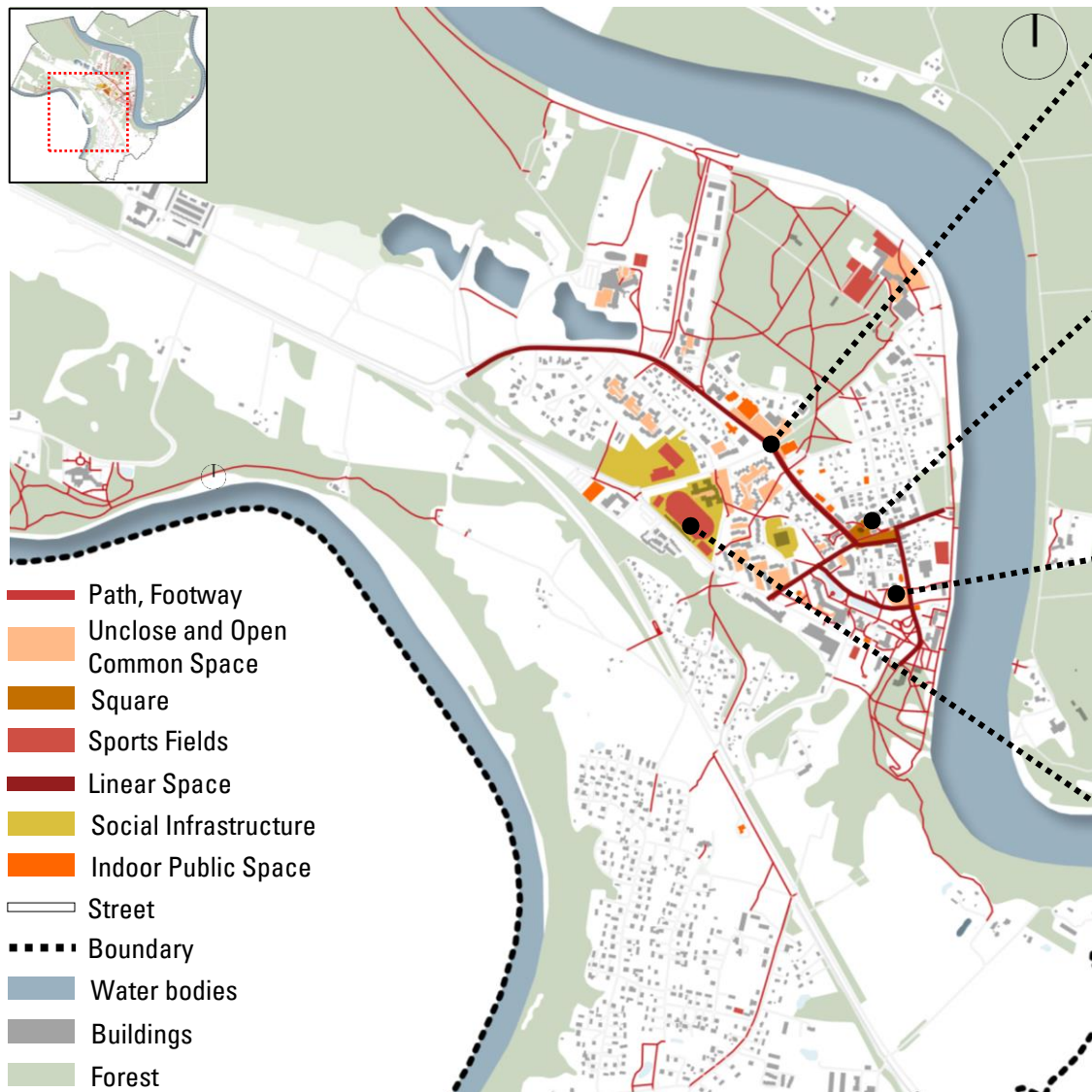
NEMUNAS RIVERFRONT



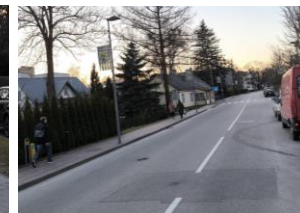
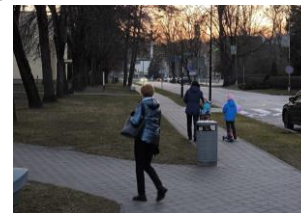
BIRŠTONO VIENKIEMIO PARK



Urban/Public Built Spaces



Linear



JONO BASANAČIAUS SQUARE



SEMI-PUBLIC SPACES



BIRŠTONAS SPORT CENTER STADIUMS



TYPES OF ACTIVITIES

What is Sociotope?

Sociotope analysis is an analysis that determines the social value and meanings of a space. This analysis can be used to understand the usage of space. Hence, it can be used to evaluate public space and determine if it is used frequently or holds any value in the public system.

A way to use Sociotope analysis is to conduct an empirical analysis of the physical setting of a space and its users and activities. As mentioned by Jan Gehl, there are 3 types of activities which are necessary activities, optional activities, and social activities. Spaces need to be designed bearing in mind these 3 types of activities and need to allow these activities to happen. Activities are the core of life in space. Thus, a space that prompts more activities, is a space that is used frequently.



Recreation near the water

Children games, plying

Walking the dog

Walking

Picnic

Resting, sitting

Bathing, swimming

Riding a bike

Games, sports

Fishing

Observing the panorama

Relaxation in nature

Taking a photo

Shopping



TYPES OF USERS



Children and teenagers make frequent use of public areas such as parks, playgrounds, and leisure centers. In addition, they can depend on community facilities and public transportation for a range of activities and after-school programs.



Parks, recreation centers, and fitness centers are popular destinations for adults in their peak working and parenting years. For commuting, recreation, and social interactions, they could also rely on community centers and public transit.



Youth use public places like parks, centers, recreation, and sports facilities regularly. In addition, they use community facilities and public transportation for social events, educational programs, and leisure activities.



Elderly people frequently like to spend their free time socializing in public areas like parks, community gardens, and senior centers. To commute and get to necessary services and amenities, they might also take public transportation.



Tourists are adventure seekers, they don't only come for the spas but also for all the wonderful visitable objects and its public spaces that the city offers.



Tourist



Adult



Youth



Teenager



Senior



Preschooler and schooler



Family



Wheelchair



Visitable object

Visitable objects can have a strong connection with public spaces because they are often located within them or serve as destinations for visitors to those places. Hence, it acts as a transition for tourists to adventure through the public spaces while visiting objects. In addition, hotels and spas are built around those public spaces and visitable objects network. Hence, it allows the tourists to adventure freely from their accommodation as all the interesting areas are one stone away from them.



Public Space Possibilities

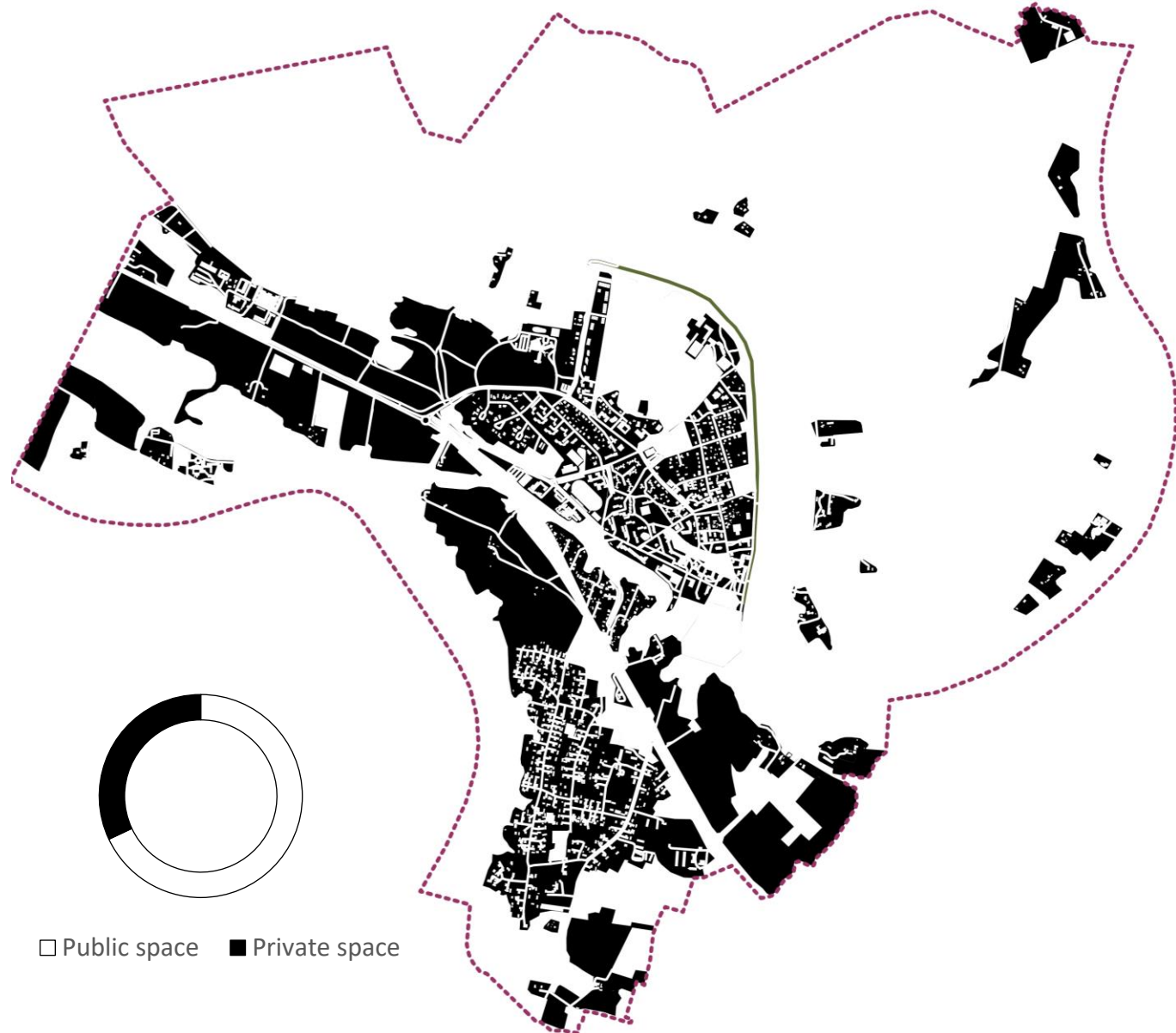
Public spaces are part of the city network that allows users to flow through the chain of spaces to promote social interactions. However, as there is sprawl in the development, the settlement in the south of the city doesn't benefit much from the public spaces found in the center of the city. Hence, creating a connection from the southern settlement to the city center and defining some spaces for public use could improve the public system of the city. Moreover, the city is known for its tourist attractions and there are a lot of visitable objects. Therefore, a network, there is a potential to develop a network that will connect the city as well as its public spaces and visitable objects.



Nolli Map Of Birštonas

The Nolli map of Birštonas, inspired by Giambattista Nolli's old map, shows the city's layout well. It helps us see where public and private areas are in the city, making it useful for studying cities. We can see where streets, parks, and buildings are located, giving us an idea of how the city is set up and how people move around.

Looking at the Nolli map, we see that Birštonas is made up of about 62% public spaces and 38% private spaces. Public places like parks and streets are important for the city's life and how people interact. Private spaces, like homes and businesses, shape how the city works economically and where people live. The map helps us understand how Birštonas is organized and why having both public and private spaces is important for a community's well-being and how people connect with each other.



SWOT ANALYSIS



STRENGTH

- Birštonas has many natural green areas and parks designated for outdoor activities and entertainment.
- Pedestrian-friendly streets and squares are well maintained, promoting social interaction and community engagement.
- It has a lot of diverse spaces(park, riverfront, square, beaches, etc.) and visitable objects which are closed by.
- Around the public spaces in the city center, they are a lot of spa which help increase the tourist traffic.



WEAKNESS

- Inadequate facilities for persons with disabilities hinder inclusion and equal access.
- Some of the activity spaces are only seasonal (summer only).
- The main road divides the lower part of the city, hence preventing some accessibility for the public to the centre of the city.
- As the city is surrounded by state forests, there are limitations to development.



OPPORTUNITIES

- A lot of common-use green areas could be developed.
- Spaces can integrate better furniture and infrastructure while considering also disabled persons.
- The lower part of the city's public system is undeveloped therefore there are possibilities to integrate it with the public space system of the central part of the city.



THREAT

- Public space's main threat is the weather, it affect the activity that occurs in the public space.
- Tourists might take over the city as most buildings/spaces are built for them. City oriented towards one niche.
- Lost in a type of user. (handicapped)

Manifesto



HYPOTHESIS

Using the **PRINCIPLES OF THE WALKABLE CITY** for underused spaces can improve the **Connectivity of the public space system**

What are the **Principles of the walkable city**?

Jeff Speck (2012) does more than just outline a set of principles, he presents a compelling argument for what he refers to as a "general theory of walkability." This theory is based on the idea that when certain conditions exist in the built environment, people are more likely to walk.

Speck (2012) identifies several key criteria that play critical roles in promoting walkability, each adding to the overall appeal and practicality of walking as a mode of transportation and recreation.

Through his analysis and advocacy, Speck (2012) delves into the complex interplay of urban design, infrastructure, and human behavior, shedding light on how cities can be reimagined and reconfigured to promote pedestrian-friendly environments.

WALKABLE CITY PRINCIPLES

Put Cars in Their Place

Speck advocates prioritizing pedestrians over cars in urban planning. This includes strategies like lowering traffic speeds, establishing pedestrian-friendly zones, and improving public transportation options and bike lanes.

Mix the Uses

Walkable cities often have a variety of land uses, such as residential, commercial, and recreational spaces. This combination enables people to conduct everyday duties and activities in walking distance of their houses.

Protect the Pedestrian

Creating safe walking settings is critical for promoting walking. This includes actions like upgrading sidewalk infrastructure, improving pedestrian crossings, and lowering the frequency of risky traffic circumstances.

Welcome Bikes

Making cities bike-friendly complements walkability by providing another sustainable mode of transportation. This includes building bike lanes, installing bike racks, and promoting cycling as a viable transportation option.

Shape the Spaces

The design of public areas has a significant impact on walkability. Speck highlights the need to build appealing, well-designed streets, plazas, and parks that encourage people to stroll and spend time outside.

Human-Scale Design

Design streets and buildings on a human size to encourage contact and engagement. Buildings should have active ground-floor usage, and streets should be built for pedestrians rather than automotive traffic.

Quality Public Spaces

Create high-quality public areas that attract people and promote community interaction. Parks, plazas, and other public amenities encourage recreation, relaxation, and socialization, improving neighborhood walkability.

Illustration of walkable city principles according to Jeff Speak (2012). Author

HYPOTHESIS

Using the principles of the walkable city for **UNDERUSED SPACES** can improve the Connectivity of the public space system

What is **Underused Space**?

According to Carmona, (2010), underused spaces in cities are locations that are not being utilized to their full potential. These sites frequently lack activity, utility, or a defined purpose, resulting in inefficient land use and a sense of being overlooked in the metropolis. These spaces can take various forms:

- **Vacant lands:** Unoccupied parcels of land.
- **Neglected parks:** Green spaces that lack adequate facilities, maintenance, or events to attract and entertain visitors.
- **Unused infrastructure:** This includes abandoned industrial sites, train yards, and other assets.
- **Streets with low pedestrian activity:** Roads or sidewalks with few people walking since there isn't much going on or there aren't enough things to keep them entertained.

Recognizing and dealing with underutilized places is critical in municipal planning. It contributes to making the most of urban places, improving people's lives, and promoting sustainable growth. Finding new uses for existing structures, refurbishing areas, organizing events or activities to bring them to life, and including the community in the decision-making process are all ways to improve these spaces.

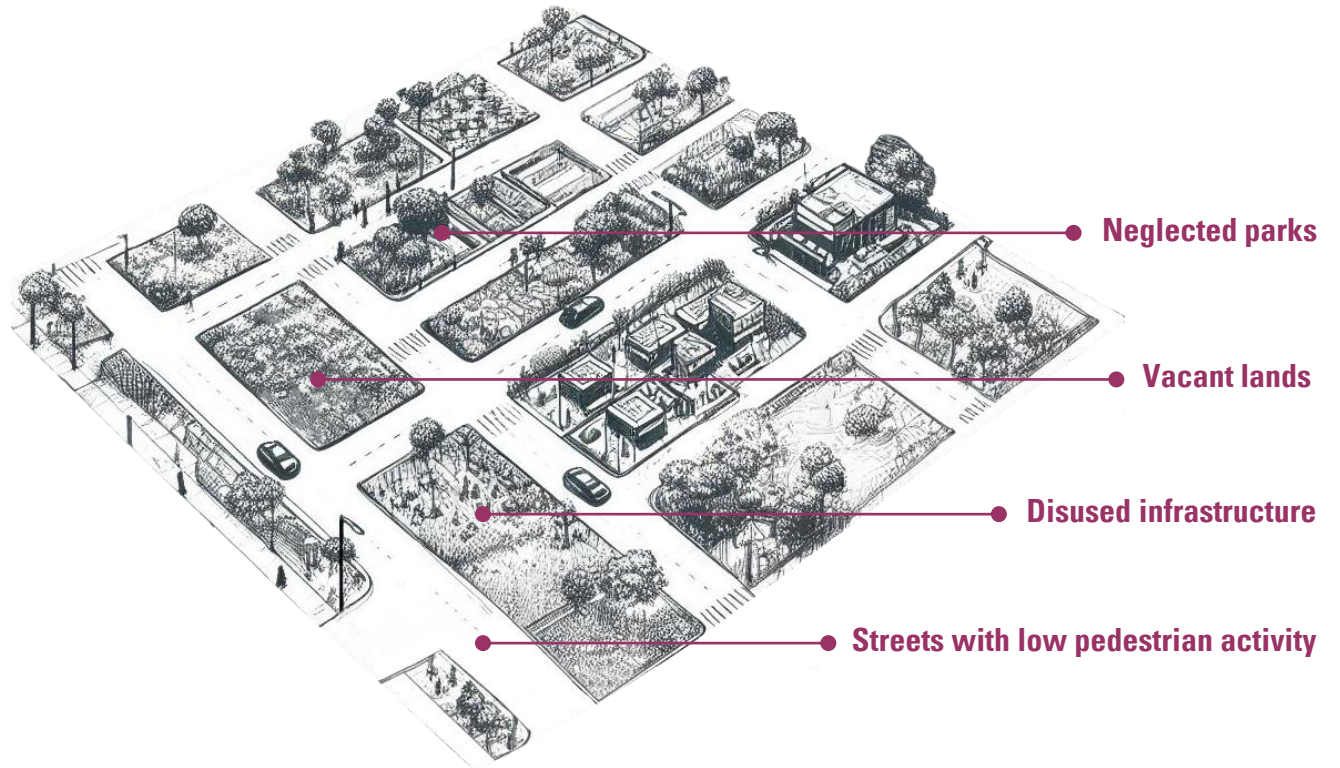


Illustration of Underused Spaces according to Carmona, (2010). Author

HYPOTHESIS

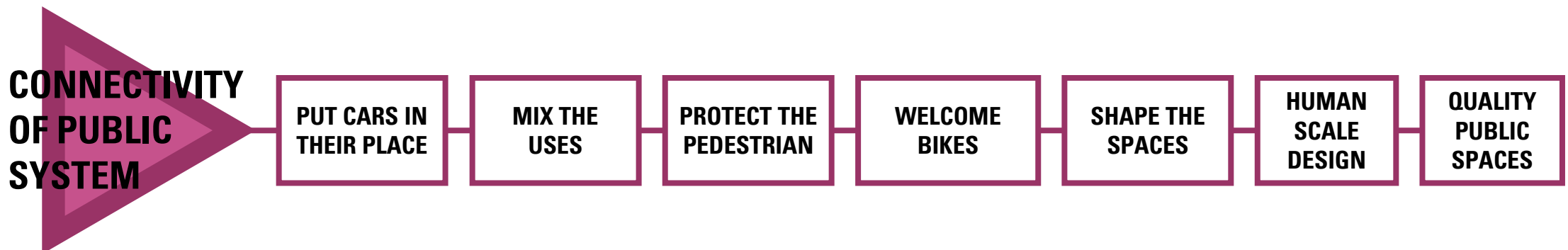
Using the principles of the walkable city for underused spaces can improve the **CONNECTIVITY OF THE PUBLIC SPACE SYSTEM**

What is the **Connectivity of public system**

Based on the theory of Jeff Speak, (2012) the connectivity of a public space system refers to the seamless integration and accessibility of various public spaces within a city or community. It encompasses both physical and functional linkages that facilitate movement, interaction, and engagement among different areas and amenities. Physically, connectivity involves well-designed pedestrian pathways, streetscapes, and green corridors that connect parks, plazas, squares, and other public spaces, allowing people to navigate easily and comfortably between them.

Functionally, connectivity ensures that these spaces are integrated into the urban fabric in a way that encourages social interaction, recreation, and community engagement. Achieving connectivity in public space systems requires thoughtful urban planning, design interventions, and policies that prioritize pedestrian-friendly environments, active transportation, and the creation of vibrant, interconnected public realms. By enhancing connectivity, cities can promote healthier lifestyles, foster social cohesion, and create more livable and sustainable communities for residents and visitors alike.

How?



UNDERUSED SPACES IN BIRŠTONAS

Following an examination of the city through the lens of the Sociotope theory, it becomes evident where underused spaces lie within the urban landscape. These findings unveil promising opportunities for development and enhancement within the city.

In this map, undeveloped connections and new connections were identified, to develop them and to have good connections between the public spaces in the city, and there is also mentioned new development in the riverfront on the undeveloped side of the city.

Map Legend

- Underused Spaces
- Square
- Sports Fields
- Beaches
- Riverfront
- City Parks
- Recreation Forest
- Common Use
- Greenery
- Forest
- Unclose and Open Common Space
- Bike lane
- Undeveloped Connections
- New Connections
- New Riverfront Development
- Path, Footway
- Street
- Boundary
- Water bodies
- Buildings



STRATEGY ANALYSIS

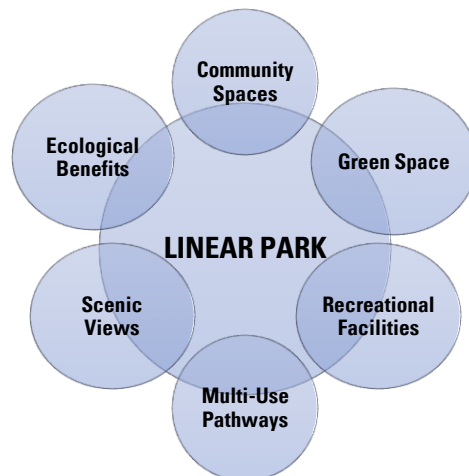
LINEAR PARK

NATURE'S LINEAR PARKS ARE LONG AND NARROW. THEY COME IN A VARIETY OF FORMS AND OFFER A WIDE RANGE OF SERVICES.

Many run along natural landscape features or boundaries, such as rivers, lakes, and coastal areas. Other linear parks stretch through the city, along street corridors or obsolete infrastructure (New York's High Line).

Linear parks can provide ecological, recreational, and transportation benefits. Within urban settings. They are commonly associated with connections, movement, and people.

Victoria St Linear Park (Auckland, New Zealand)

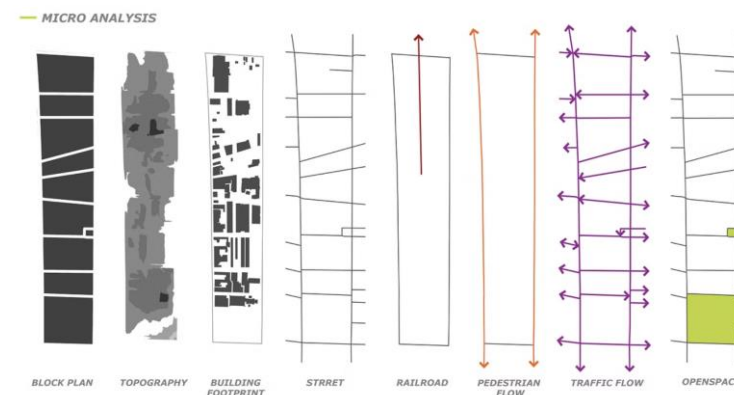


UNDERUSED STREET SPACE

The street space is where social interaction starts, however, with a lack of function and physical setting, it becomes dull and is regarded as a deserted space. Hence, redefining the street to promote social interaction and other activities is crucial for the development of the public space system and social interaction.

The idea of the block pattern is to divide and diversify the spaces to create more functions along the street. The street then acts as a space connecting towards those functions. In addition, the idea brings life to the underused space and adapts it to new functions. The block pattern also divides the define the typology of the streets.

Block Pattern and Underutilized Space (Charleston, USA)

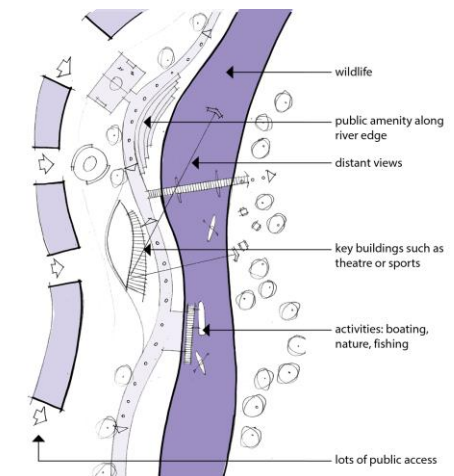


RIVERFRONT

The land or area next to a river, often developed for recreational activities, parks, and public spaces.

According to Prominski et al., (2012) The region along a river's bank or edge is referred to as a riverside. Parks, promenades, and occasionally business or residential structures constructed close to the water's edge. Riverfront locations are frequently used for recreational pursuits including bicycling, strolling, picnics, and boating. riverfronts are prized for their visual qualities and can enhance a city or town's general appeal and vibrancy.

Brno Riverfront (Brno, Czech Republic)



VICTORIA ST LINEAR PARK (Auckland, New Zealand)

Victoria St Linear Park (Auckland, New Zealand), shown below, can be used as a model linear park with several functional needs that meet its urban environment as a city street bound by buildings on both sides.

It's worth noting that the Victoria St Linear Park differs greatly from streets in locations like Birštonas, with more larger spaces (approximately 27-28 meters versus 15-20 meters in Birštonas).

Indicative Space Allocation

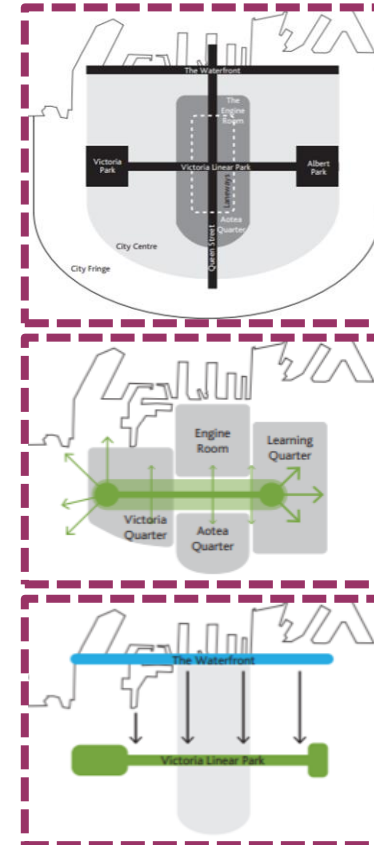
Existing



Proposed



Main strategy



STRUCTURING ELEMENT

It's worth noting that the Victoria St Linear Park differs greatly from streets in locations like Birštonas, with more larger spaces (approximately 27-28 meters versus 15-20 meters in Birštonas).

IMPROVE ACCESS TO GREEN PUBLIC SPACE IN THE HEART OF THE CITY CENTR

It's worth noting that the Victoria St Linear Park differs greatly from streets in locations like Birštonas, with more larger spaces (approximately 27-28 meters versus 15-20 meters in Birštonas).

COUNTERBALANCE

It's worth noting that the Victoria St Linear Park differs greatly from streets in locations like Birštonas, with more larger spaces (approximately 27-28 meters versus 15-20 meters in Birštonas).

DESIGN STRATEGIES

Legend:

- Underutilized Area
- Vacant Area
- Park

Potential Area

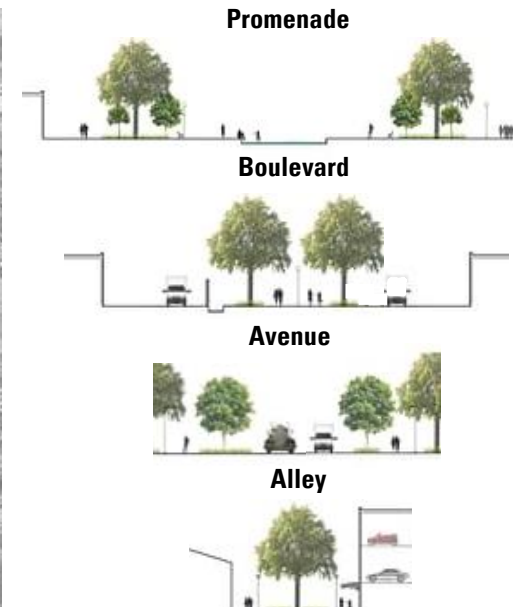
Connecting Space

Possible Pedestrian Walk

Access Site

Water

Mix-used Buildings



Boulevards, lanes, avenues, and promenades are all essential components of urban landscapes, each performing a certain role and adding to the vibrancy and functionality of cities. Boulevards add grandeur and aesthetics while accommodating automobile traffic; lanes give intimate pathways between buildings; avenues function as important thoroughfares; and promenades provide leisurely spaces for pedestrians to enjoy. Understanding the qualities and roles of these urban elements is critical for good city planning and design, which ensures that public places are accessible, pleasurable, and meet the different requirements of both inhabitants and visitors. Cities that incorporate and preserve these qualities within their urban surroundings can produce more livable, sustainable, and aesthetically beautiful communities for future generations.

Brno Riverfront (Brno, Czech Republic)

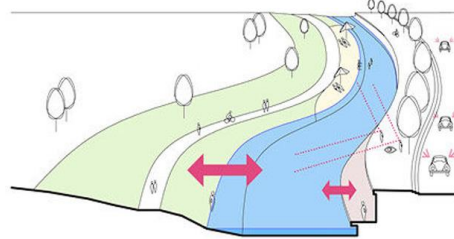
The project focuses on leveraging the Svatka River as an asset, aiming to revitalize the surrounding area and potentially transform it into a multifaceted hub encompassing economic, cultural, social, ecological, and recreational aspects. The city intends to transform neighboring regions into a sustainable urban environment by realizing the potential of the river and using it as a distinctive feature. The idea of creating a river park as a new kind of urban green space was inspired by the need for open areas to reduce flooding difficulties that emerge as the city grows and becomes more urbanized.

The initiative seeks to strengthen the bond between the city and the river by encouraging interaction and integration between urban and natural areas. To maintain continuity along and across the river, this entails creating methods for both active and passive exploitation of the river and its banks. The project also describes two different bank typologies: the right bank, which is a greener area dominated by a river park and offers large open spaces at both the city and municipal levels and the left bank, which is an urban shoreline with promenades.



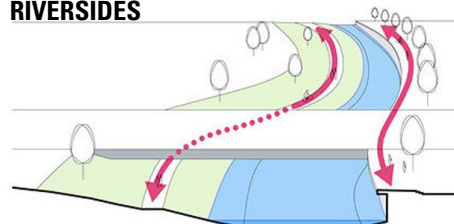
Main strategy

DIRECT CONNECTION TO THE WATER



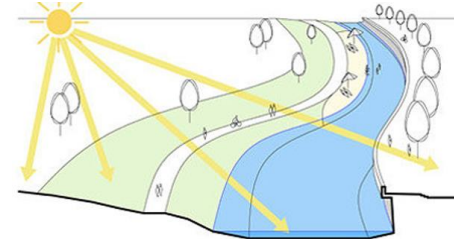
Either direct or visual contact with the water level is provided alongside both riversides in the whole area.

CONTINUOUS ACCESSIBILITY OF BOTH RIVERSIDES



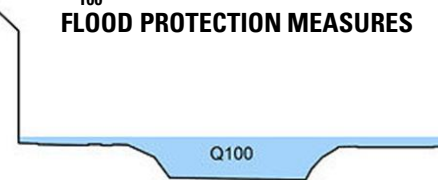
The whole area is continuously accessible on both sides of the river the left riverside being at the same level as the city streets.

THE RIGHT RIVERSIDE SUNLIT

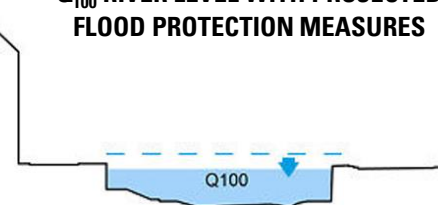


The widening of the right riverside provides sunlight, creating new recreational zones.

Q₁₀₀ RIVER LEVEL WITHOUT ANY FLOOD PROTECTION MEASURES



Q₁₀₀ RIVER LEVEL WITH PROJECTED FLOOD PROTECTION MEASURES



Increase of the water flow

Widening of the riverbed and extension of the bridges allows the water to spread wide during the flood, while the embankment becomes part of the city structure at the same time. The increase in the water flow will cause a decrease in the river level Q.. so it won't be necessary to construct any mobile flood protection measures.

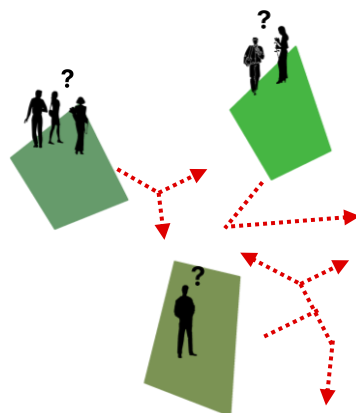
RIVERFRONT AXO



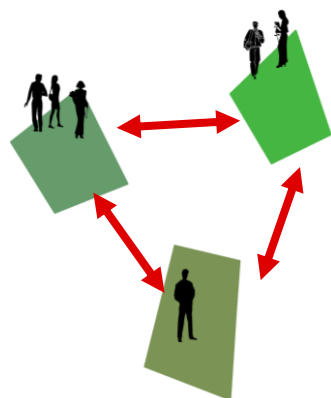
STRATEGY DEVELOPMENT

Connectivity of Public Space System

Main strategy



Missing links in the pedestrian network between greenery and parks.



Clear the pedestrian network with street trees and other functions.

Map Legend

- Boulevard
- Linear Park
- Promenade
- Avenue
- Alley
- Underused Spaces
- Square
- Sports Fields
- Beaches
- Riverfront
- City Parks
- Recreation Forest
- Common Use Greenery
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- Water bodies
- Buildings

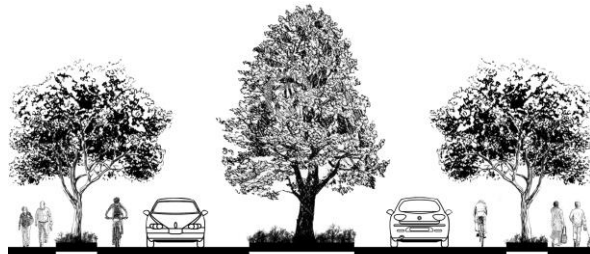


STRATEGY DEVELOPMENT

Types Of Green Corridor Connectivity of Public Space System

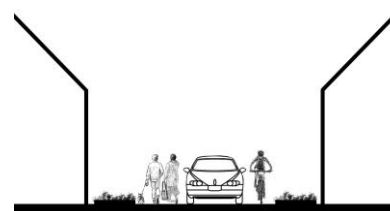
The connectivity in the subject of public space is very important as it is part of the public space system and leads people to the space. According to the walkable city concept, connectivity is the core of creating a walkable network. To ensure walkability, through the public spaces in Birštonas, the strategy was to define the main pedestrian connections throughout the open public spaces to develop the human corridor towards those spaces as mentioned by T.Turner.

Boulevard



A boulevard is a wide and tree-lined street or thoroughfare, often featuring landscaped medians or central reservations, designed to accommodate vehicular traffic and provide aesthetic appeal.

Alley



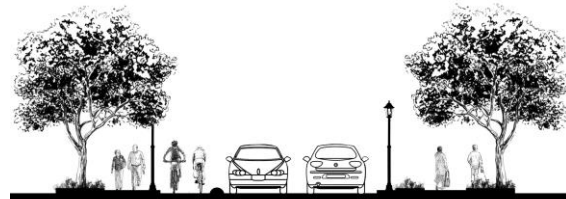
An alley is a narrow, usually pedestrian-only thoroughfare or passageway between buildings, often found in urban areas. Unlike larger streets, alleys are primarily used for access to the rear of buildings, service entrances, or as shortcuts between streets.

Riverfront



the riverfront space was developed on the south as there was no actual access for the residents to go there. A promenade was developed near the riverfront taking into consideration the terraces of the river and its flooded area.

Avenue



An avenue is a broad, tree-lined street, often featuring multiple lanes of traffic and sidewalks. Avenues are typically major thoroughfares within urban areas, connecting different neighborhoods or serving as grand entrances to parks, landmarks, or important buildings.

Promenade



A promenade is a pedestrian walkway or path, often located along a waterfront, park, or urban boulevard. Promenades are designed for strolls, recreational activities, and socializing, and may feature amenities such as benches, landscaping, and views of scenic surroundings.

Linear park



The linear space around the city center was redeveloped to adapt to the new needs of residents. The functions of ground floor was commercialized, and a terrace was placed in front of them to attract people and make them stay. A linear park was created to allow activity to happen and as well as a new bike lane for a better transition.

STRATEGY DEVELOPMENT

Underused Spaces Development

As researched previously, Birštonas has some underused spaces that have the potential to be developed further which will improve their functionality. Thus, will increase its usability. The new typologies implemented in Birštonas are Urban Farm, Sponge Park, Square, and Community Garden.

Sponge Park was strategically located to act as a retention pond as well being a wetland to absorb emperies from nature and will as well provide ecological services to society. The urban farm it is located near the garden village to improve the social integration of residents and also as part of the education of the society. The urban farm also includes a marketplace.



Sponge Park

What is **Sponge Park**

By taking advantage of natural and engineered features, Sponge Parks absorb, store, and filter rainwater, alleviating flooding and improving water quality.

A Sponge Park is a green infrastructure used in metropolitan settings to control stormwater runoff, improve ecological resilience, and offer recreational activities. Sponge Parks, modeled after the idea of sponge cities, use naturally occurring and artificially created features to collect, hold, and filter rainfall, lowering the risk of flooding and enhancing the quality of the surrounding water.



Rain Gardens: are landscaped spaces planted with native flora to gather and absorb rainwater, improving groundwater recharge and lowering stormwater runoff.



Permeable Pavement: Surfaces like pervious concrete, porous asphalt, or permeable pavers that allow rainwater to soak into the ground, minimizing surface runoff and replenishing groundwater.



Retention Ponds: Artificial ponds or basins used to temporarily hold stormwater runoff, allowing sediments to settle and pollutants to be filtered out before the water is gradually released or infiltrated into the ground.



Native vegetation: refers to the planting of native trees, shrubs, grasses, and flowers to absorb and filter stormwater, provide habitat for wildlife, and increase biodiversity.



Recreational amenities: include walking routes, lounging areas, playgrounds, sports courts, and event spaces where people can relax, socialize, and assemble.

Qunli Stormwater Wetland Park (**Harbin, China**)

The park includes a former marsh that was isolated from its water sources when the district expanded in the early twenty-first century. The park is intended to mitigate storm-related floods and serves multiple ecosystem services, including water retention and filtration, aquifer recharge, and wildlife habitat.

Turenscape designed this project, which is scheduled to be finished in 2022. The goal was to turn a brownfield into a sponge portion to mitigate and prevent urban flooding caused by accelerated climate change. The new park has four significant lakes.

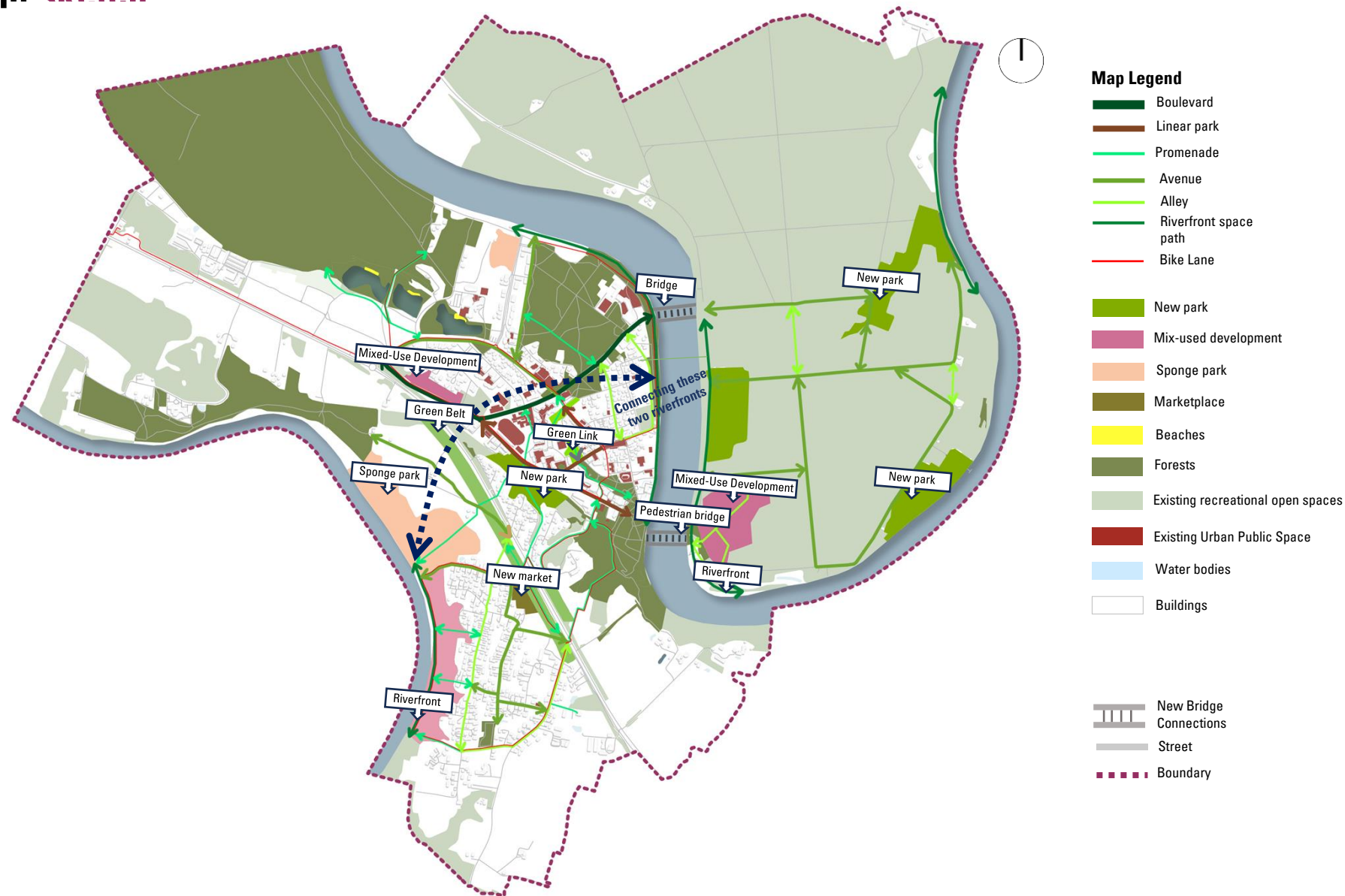
These lakes were formed using cut-and-fill processes and are peppered with mounded islets.

In Birštonas, a sponge park could be a measure for retention to slow down rainwater going towards the river. In addition, it could revitalize the space and include new functions and as well as allow recreational amenities and allow people to engage.



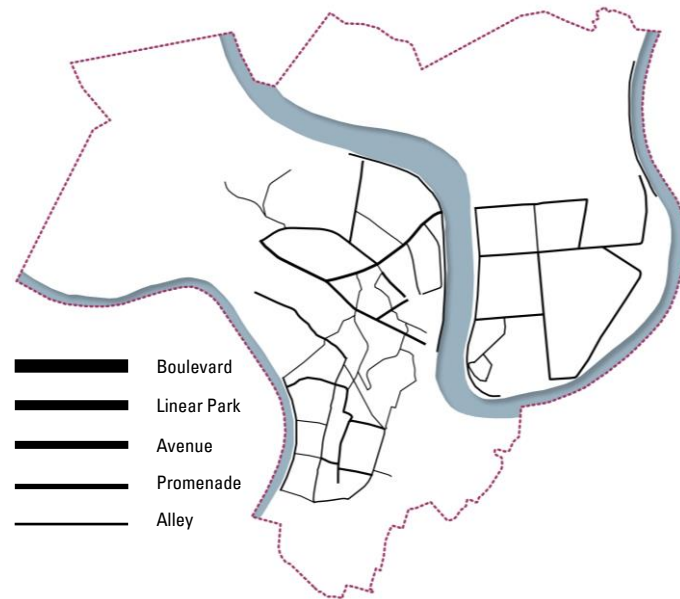
Masterplan development sketch

To develop the public space system, a connection was made between the 3 districts that are divided by the large edges (highway and river). The aim was to create a linear connection between the 2 riverfronts. Moreover, underused spaces were converted to adapt to new functions such as sponge parks, new market, new parks and mix used development. These new functions were strategically distributed along the whole of Birštonas City so that the public could access them easily from the city. Ultimately it unifies the public space system.

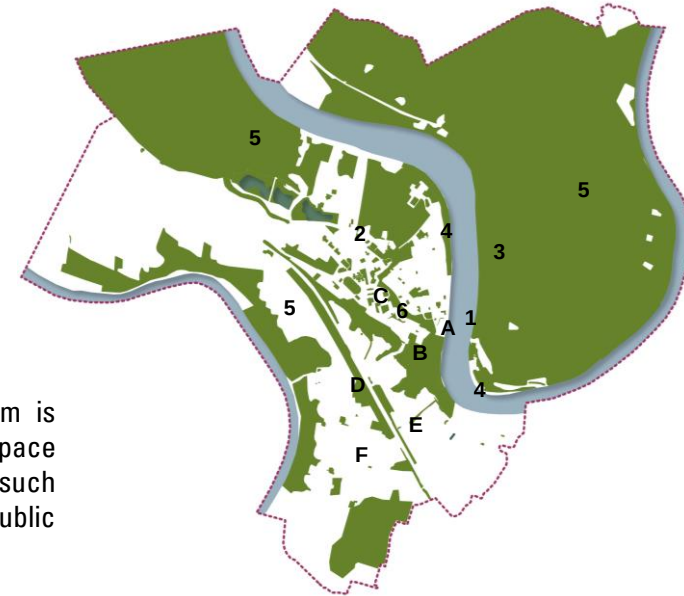


Public Space Value

Street space

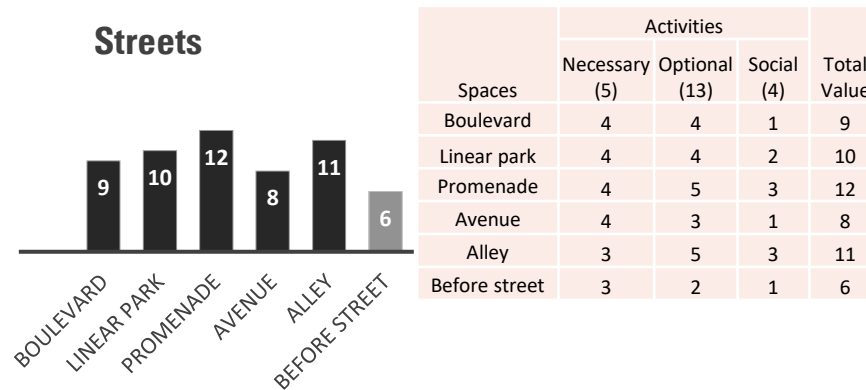


Open Space

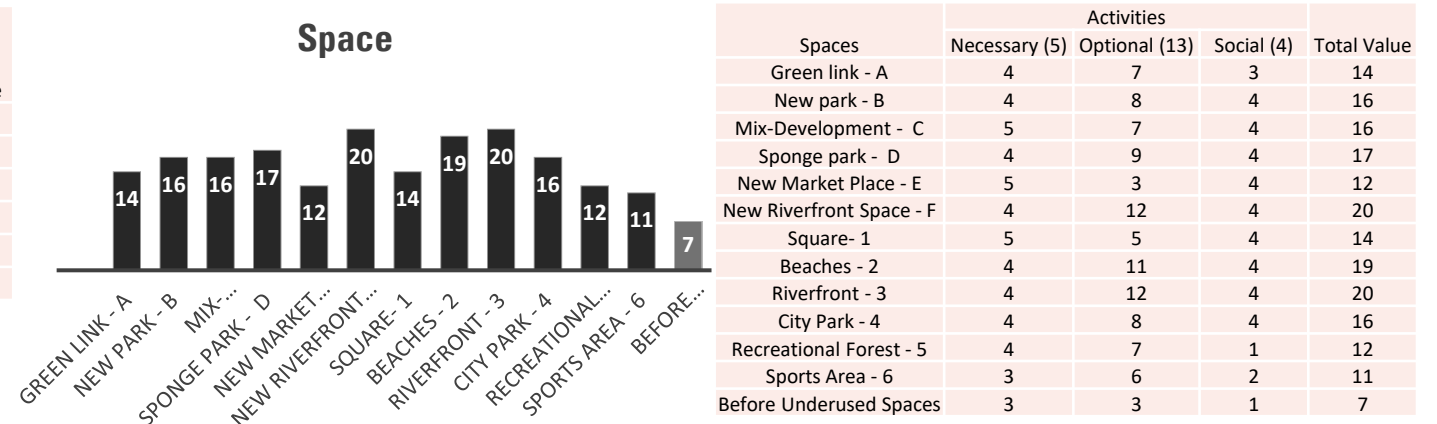


To determine if the public space system is working, It is important to understand its space value based on the activities it allows. In such a way, it is possible to determine if the public space is performing properly.

Streets

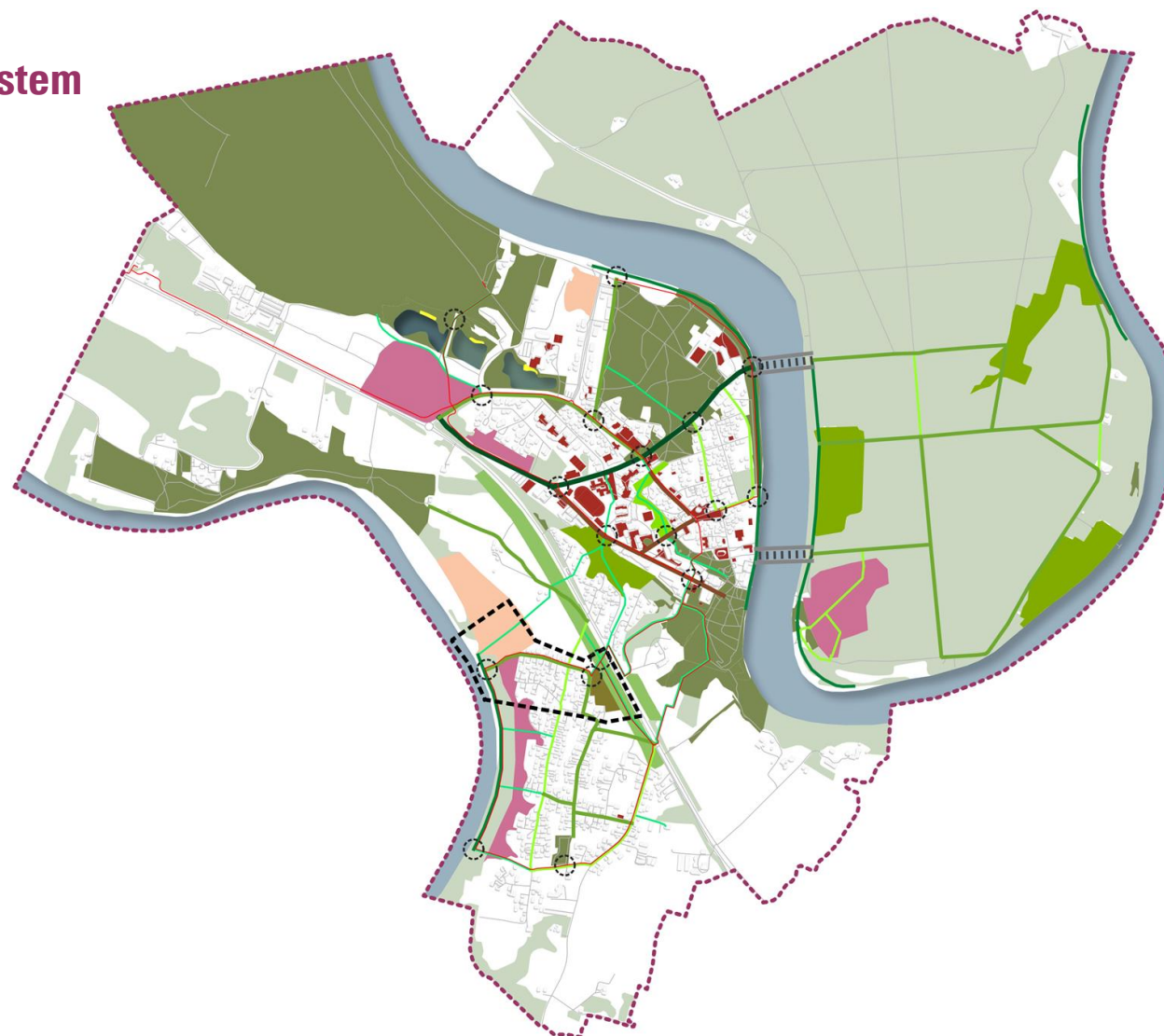


Space



Special Plan

Public Space System Development



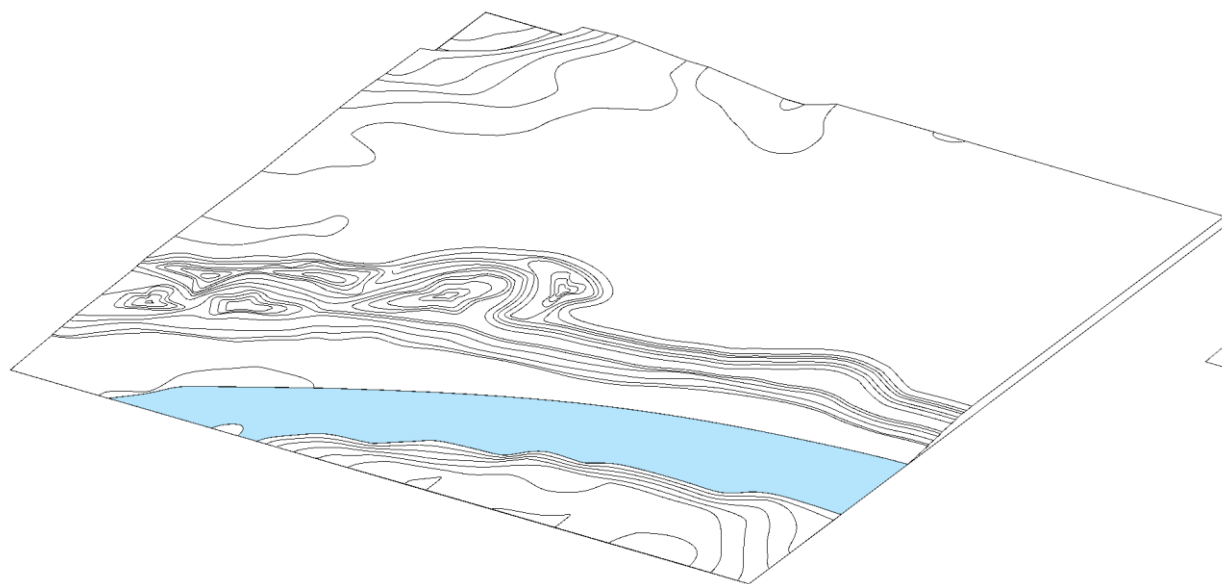
Map Legend

- Boulevard
- Linear park
- Promenade
- Avenue
- Alley
- Riverfront space path
- Bike Lane
- New park
- Mix-used development
- Sponge park
- Marketplace
- Beaches
- Forests
- Existing recreational open spaces
- Existing Urban Public Space
- Water bodies
- Buildings
- Nodes
- New Bridge Connections
- Street
- Boundary

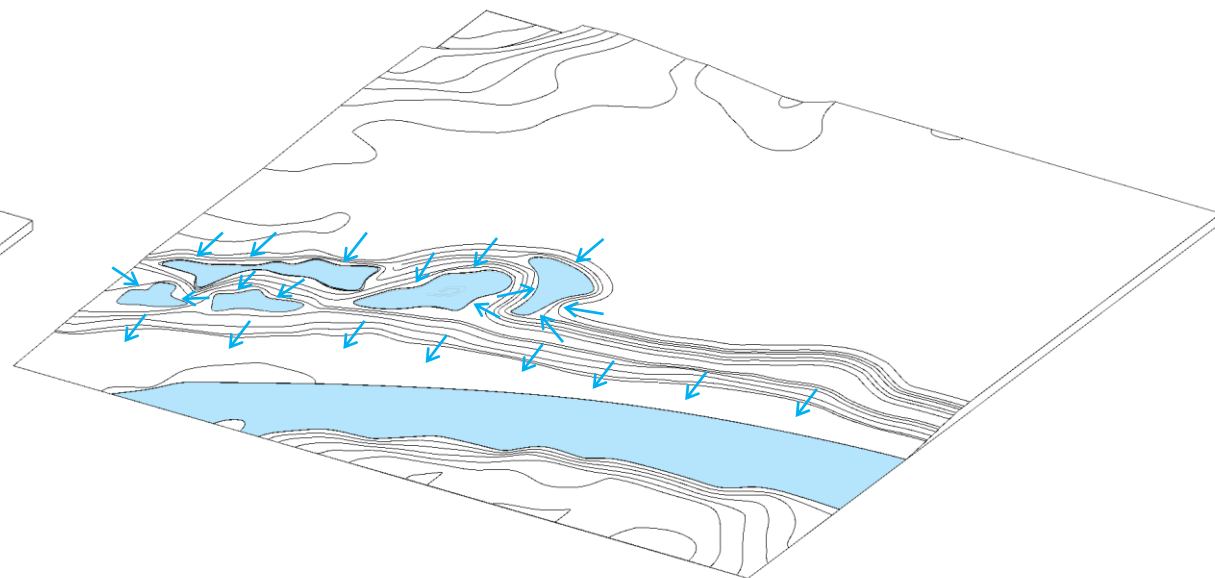
Selected Area **Analysis**

The selected area was analyzed based on the watershed strategy. The aim was to utilize the topography as much as possible in order to create a stabilization area near the riverfront in order to reduce stormwater and flood. Moreover, the idea was not only for the purpose of ecology but also to bring people towards the river and to create a recreational space.

Topography



Water flow



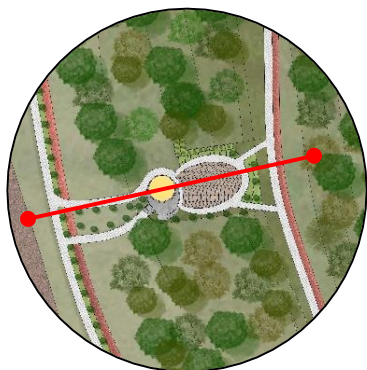
Masterplan Zoom in

The proposed masterplan consists of a sponge park, new mix-used developments, a linear promenade along the river, and an open amphitheater facing the panoramic view of the river. This linear promenade was made according to the theory mentioned by Kevin Lynch that there should be a parallel road along the river edge as the river is a common space for the public and they should be able to enjoy its view to the maximum. Moreover, the streets were redefined to promote social interaction to happen more frequently and to join those new spaces to create a public space network.

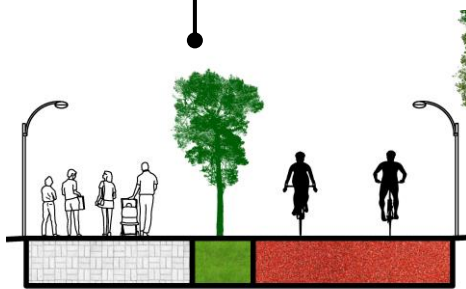
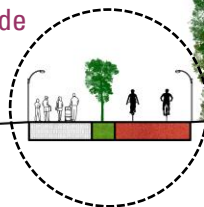




Section Riverfront



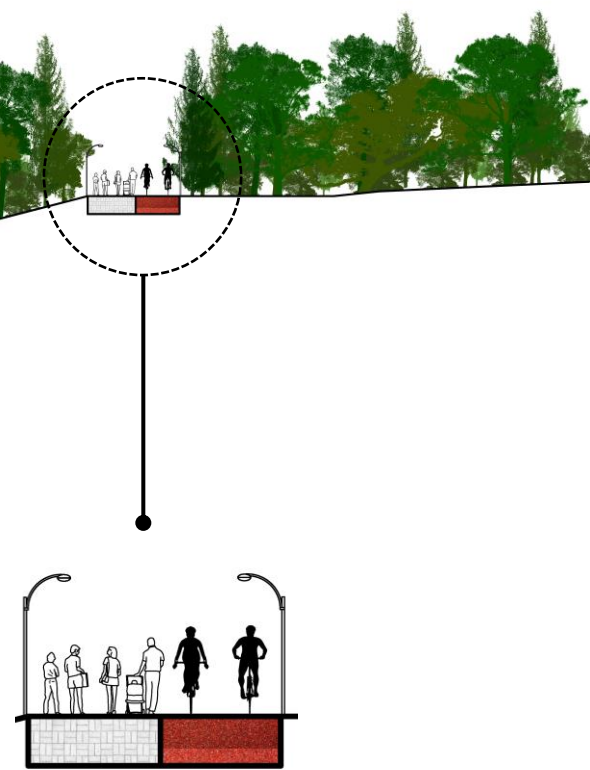
Promenade



Pedestrian

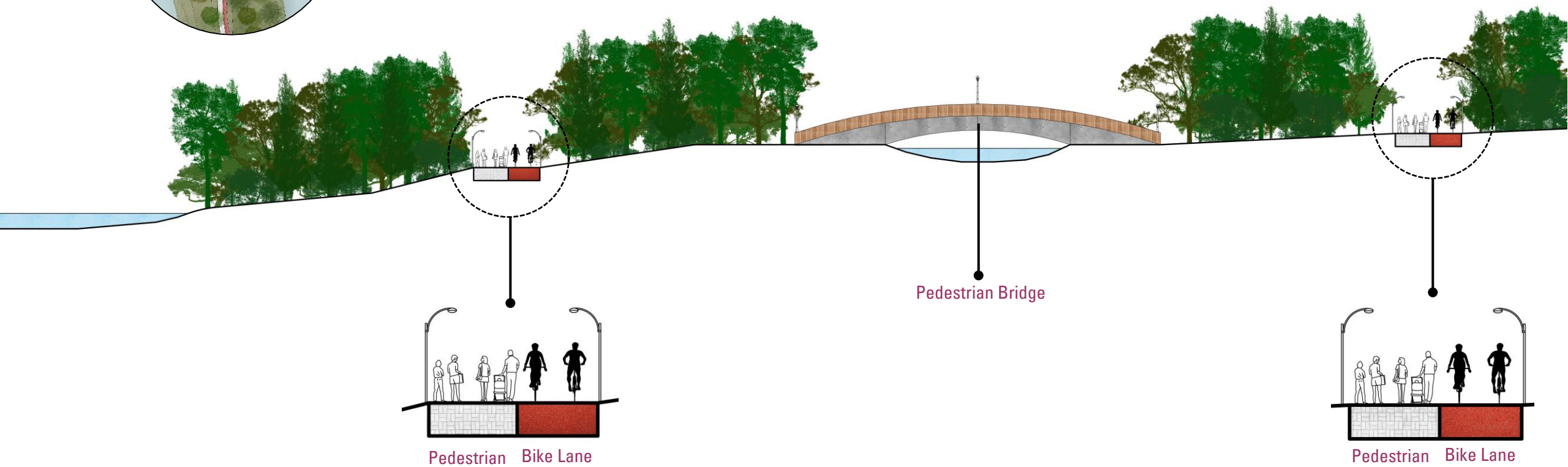
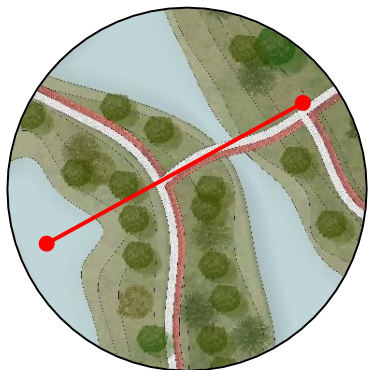
Bike Lane

Amphitheatre



Pedestrian Bike Lane

Section Sponge Park



Section Street



Proposed **New mix-used building**



Proposed New mix-used building



The Market



Sponge Park



Riverfront/Amphitheatre



Conclusions

The sponge park and the riverfront add vibrancy and revitalize the selected territory which previously lacked public space.

The new developments such as residential, market, and commercial brought life to the territory which was like a sleeping district consisting of only residential functions.

The redefined street allows better space for pedestrians as well as promotes the usage of bikes. In addition, it allows social interaction to happen more frequently.

As well as creating new spaces this design also connects and improves the public space system of the territory.

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