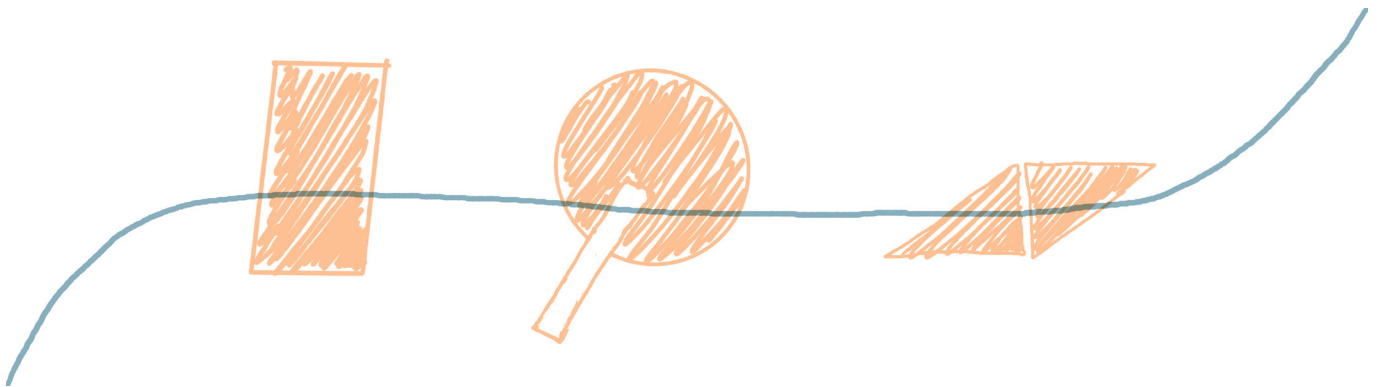


"WHERE THERE IS WATER, THERE IS LIFE"*

HOW A RIVER REGENERATION CAN ACTIVATE URBAN LIFE IN SOFIA, BULGARIA



Subject

Master's Thesis

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ABSTRACT

The main topic of this thesis is the role of urban rivers in Sofia and their impact on the city, citizens and quality of life. It deals with infrastructure and traffic, public spaces in Sofia and their absence, natural resources negligence and their regeneration – all in the name of citizens' wellbeing and a livable city. Case studies of waterways varying in size are brought together and compared, extracting common design aspects and similarities, which allow for a typology and strategies to be created. The project situation is along a stretch of the Vladayska river in the capital of Bulgaria. Special attention is given to one key area and is then followed by applying the same strategies on both sides creating a continuous public zone and urban riverscape.

Key words:

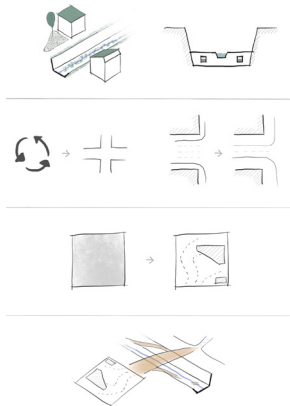
river, bridge, connection, regeneration, riverscape

MANIFESTO FOR URBAN RIVERS

A river is force.
Rivers are undeniable.
Cities were formed around them.

Roads are secondary.
They are man-made, built alongside rivers and according to the needs.
They can be changed.

Let's learn from the past - from the zenith and from the mistakes.



Let's bring the river back to live: river regeneration needs water management, overflows, rainwater, sewage system.

Let's have the city back to us: to free pedestrian space, reduce traffic, improve junctions' functionality.

Let's find potential situations: to develop plots, buildings, structures according the needs, to create different functions.

Let us across and closer to the river: to connect, to integrate it into the urban grain.

fig. 1: Conceptual diagram of strategies
(by author)

“WHERE THERE IS WATER, THERE IS LIFE”

~ Neil deGrasse Tyson

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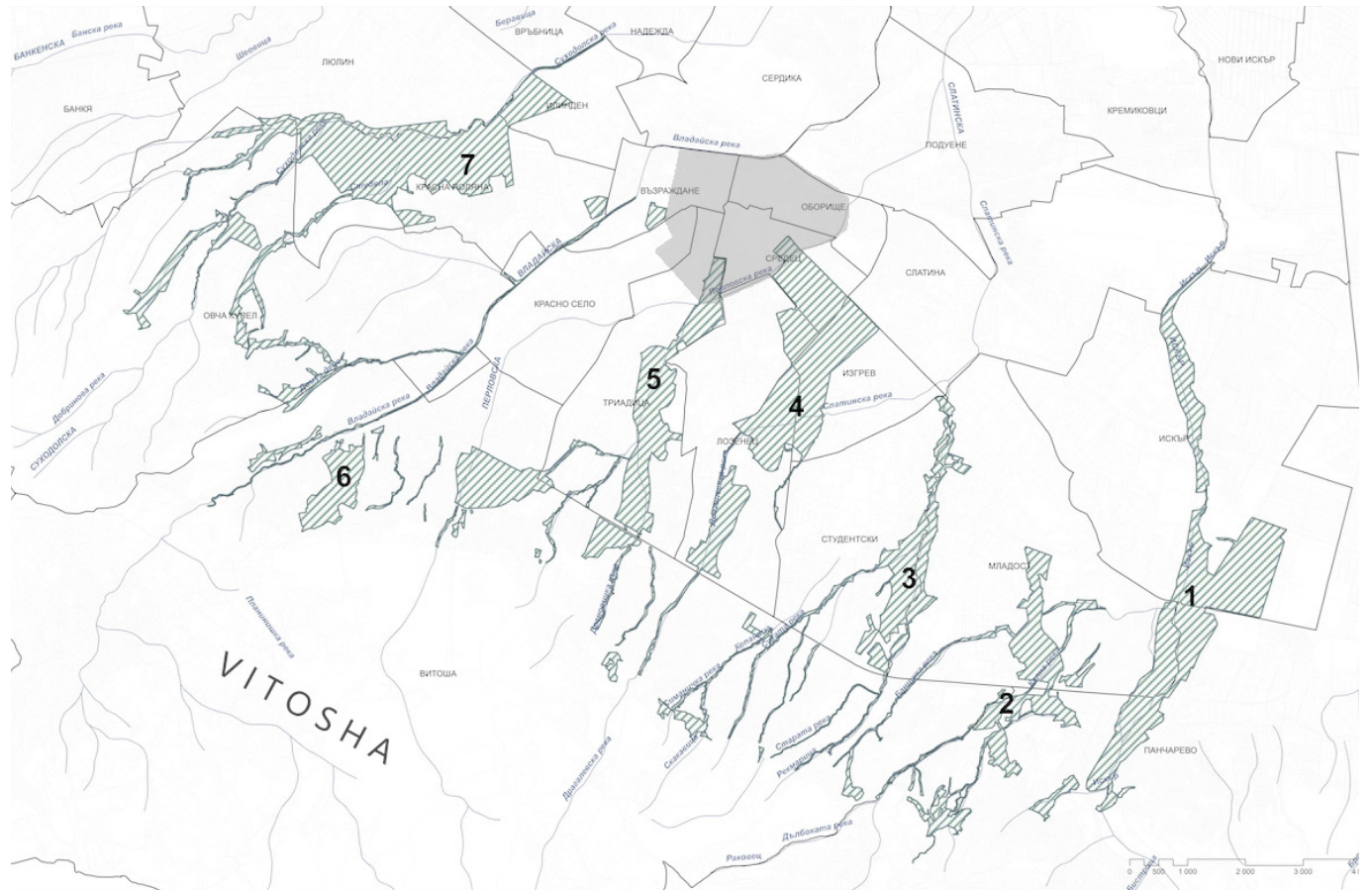
CHAPTER 1

THE CITY OF 7 RIVERS

-
- 1.1. Location and history
 - 1.2. Diagnosis
 - 1.3. Urban conflict: the voice of Sofians

Sofia, the capital of Bulgaria, is located north of Vitosha mountain. 7 rivers spring from there and go down its slopes towards the city - which explains the formation of green corridors connecting Vitosha with the Sofia field. As they follow the flow of rivers, these corridors are also the shortest connection between nature and the centre of the city (in grey). However, the northern side remains neglected. This invisible but tangible separation line is marked by the Vladyška river (number 6).

fig. 2: Green corridors in Sofia



1.1.

LOCATION AND HISTORY

Called “the Bulgarian Venice” in 1879 by Czech historian Konstantin Jireček, there was an ongoing plan to connect most of Sofia’s rivers with Danube on the north. Later, in the 20th century, following governmental changes and the invasion of new political parties together with automobiles, Sofia has gone through a process of covering the riverbeds, building roads above and mixing their stream with the sewage system, turning them into “concrete corridors”.

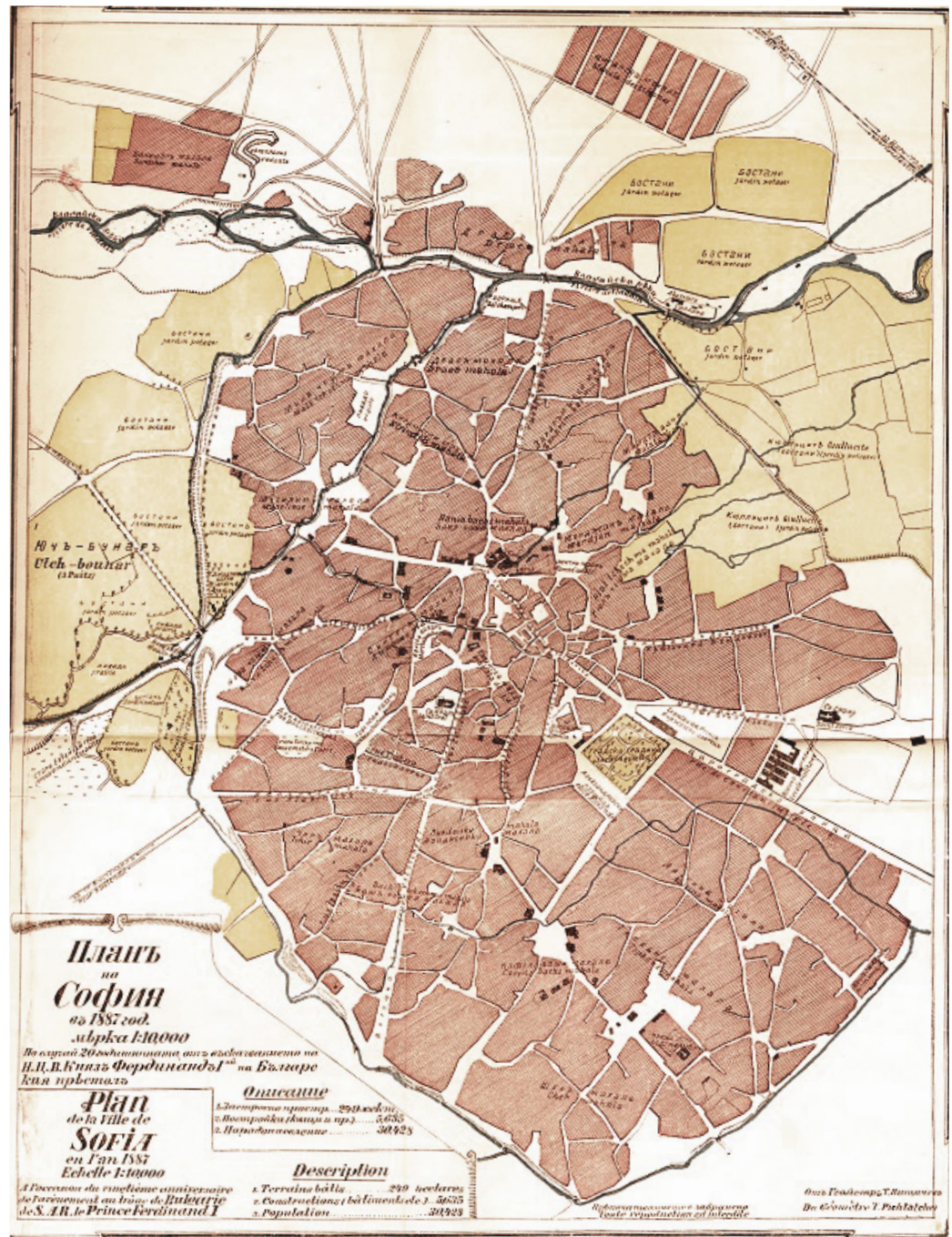


fig. 3: Plan of Sofia with the Vladavtsa river's dominance, 1887

Lions' Bridge above the Vladayska river: it used to be a key point in Sofia. And in terms of location it still is - but it has lost its historical memory and value for the citizens. Under the bridge was where people would celebrate and perform traditional folklore dances. Later it was the gate to the capital, where temporary triumphal arches would be built, welcoming the army, the king and queen after their wedding or other prominent persons. The first trams also made their way over the bridge, connecting the central bus/train station with the city centre.

The story behind today's name of the bridge is even more notable: before the Liberation of Bulgaria in 1878, four booksellers were caught "propagating" Bulgarian books and sentenced to death. The gate of the city was where they had to be demonstratively murdered. 4 bronze lions without tongues were placed on pedestals in memory of the booksellers and their brave acts that helped keeping the national spirit alive.



fig. 4: Panoramic view above Lions' Bridge towards the city, c. 1910



fig. 5: Lions' Bridge and Vladaia river after its canalization



fig. 6: Lively activity on Lions' Bridge alongside the iconic tram



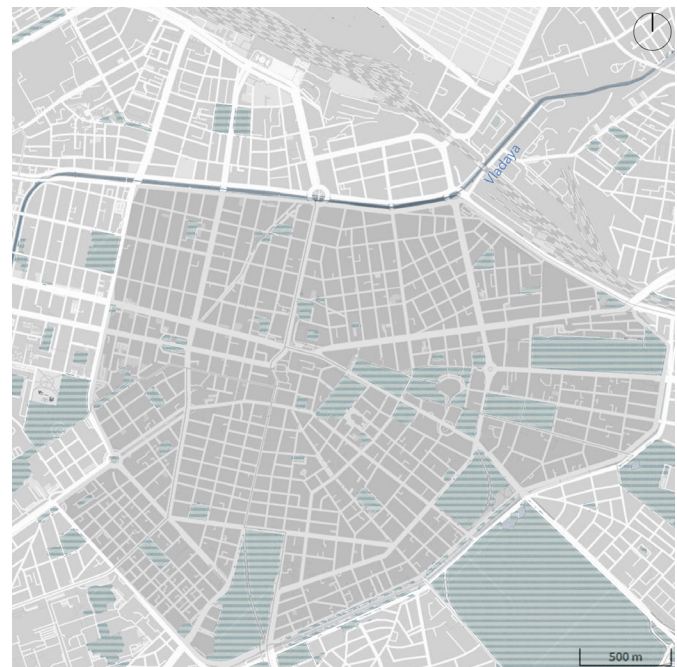
fig. 7, 8: Temporary arches in act of celebration at Lions' Bridge; left - welcoming the king and the queen after their wedding

1.2. DIAGNOSIS

Currently, many of Sofia's rivers are running underground, freeing space above with the priority being given to roads or buildings. The Vladayska river has the widest riverbed and is mostly uncovered, therefore, with a greater potential for revitalization. Unfortunately, it is now mixed with wastewater and people refer to it as a "canal" instead of a lively urban and natural feature.

The river appears as a boundary in several dimensions. Firstly, it separates Sofia's wide-center zone from the periphery, being an intangible/invisible border line. Secondly, it acts as a physical barrier to pedestrian movement due to the inconvenient and disrupted connection across the two sides. Complemented by the negligence and bad reputation it got over time, this large chunk of urban area (the riverbed) can be referred to as a "non-place - a space that lacks meaning for the inhabitants of the city" (Forgaci 2021, 53).

fig. 9: Map of Sofia, indicating Vladayska river and relation to city centre (tinted)



Located at the center of the reviewed river stretch, Lions' Bridge is a massive nodal point in Sofia's infrastructure. Being such a key spot for the city (spatially and culturally), it is another reason for choosing this exact part of the river for the thesis project. At the same time, it is neglected on many levels. Inspecting it closely allows to identify symptoms of the present condition in the entire area:

- A deficit of green areas: urban planting, parks, gardens, zones for socializing and activities;
- Lack of pedestrian connections & cycle routes: attention is given to cars in a central part of the city causing heavy traffic;
- No interaction with the city: unique historical facades are falling apart, creating unpleasant environment for citizens' experience;
- Negligence of the Vladayska river: mixed with wastewater and running as a canal through the capital, instead of turning this resource into an advantage.

Because of the problematic status the river and Lions' Bridge have on their own, their meeting point creates further complexity. So these symptoms can be regarded as "symptoms that signal the loss of synergy between rivers and cities" (Forgaci 2021, 46).

In order to bring back that synergy, we could first change the our perception of the riverbed. As Lynch puts it: "An edge may be more than simply a dominant barrier, if some visual or motion penetration is allowed through it. [...] It then becomes a seam rather than a barrier, a line of exchange along which two areas are sewn together" (Lynch 1960, 100). And what these areas are matters as well. Turning a landmark into a roundabout or letting our heritage decay signals that we lack appreciation of those before us, of what they did or made to stay. Realizing the value of our inherited materiality and that the more time goes by, the more valuable it becomes, we would probably make some efforts to preserve and acknowledge it. Doing so diminishes the chances of erasing our national and place identity.

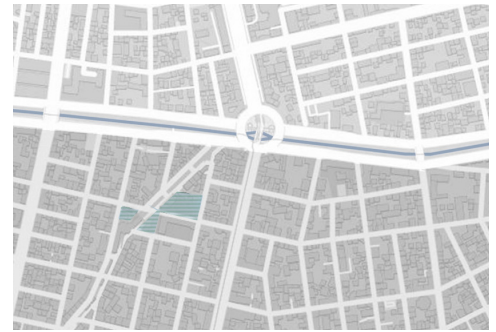


fig. 10: Sofia's urban issues - captured

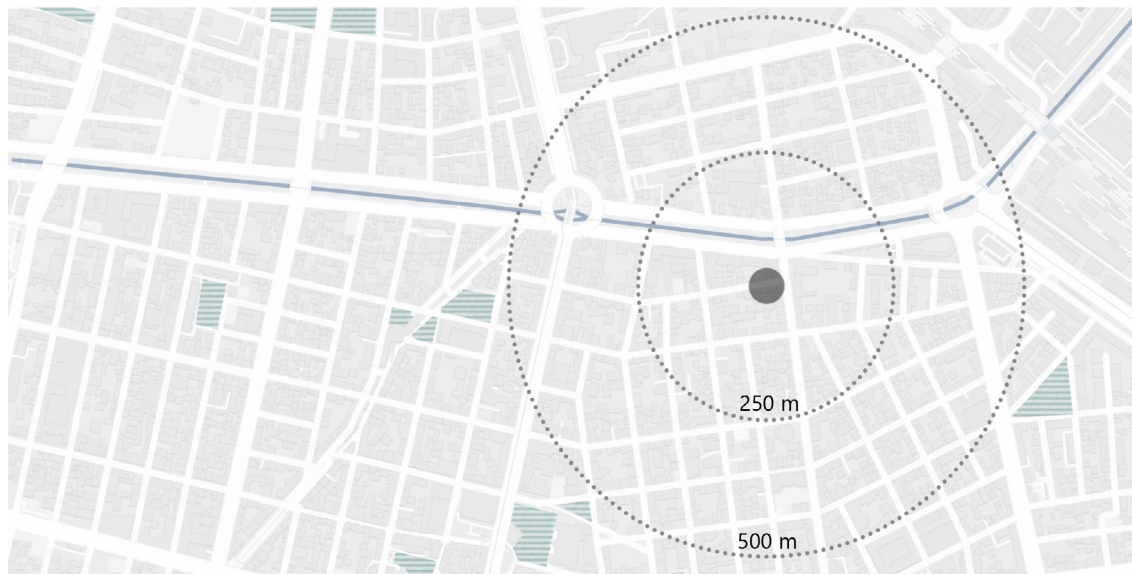


fig. 11: Lack of green areas in the wide centre and around the river. A radius bigger than 500m with no park or garden indicates unpleasant urban life and compromises well-being of citizens

We know from colour and contrast theory that how something looks like is dictated by what it is next to. In that sense, the context must be analysed and taken into consideration. The proportion of green areas against the entire urban area is less than 5%. As shown above, there is no green space in a radius of more than 500 m. This is highly insufficient for a dense urban environment downtown. Being such, it is not possible for large park zones to emerge within it. And not necessary - instead, potential empty or unreasonably used spots could be turned into planted space. This would increase the overall quantity of green area.

However, simply creating green spots or making room for open public space might help but is not enough for a strong urban environment. The riverbed of the Vladayska river is a wide uncovered space and is part of the wide public domain, yet it is not accessible, nor attractive. It becomes a question of what the area lacks, rather than of what it has. Answering that brings the entire situation to a next level: addressing the deficiencies could change the paradigm of Sofia's rivers. Their transformation to an active participant in the urban life has the potential to resolve a

fundamental problem not only in their vicinity, but for the entire image of Sofia. "A city's collection of opportunities of all kinds, and the fluidity with which these opportunities and choices can be used, is an asset - not a detriment - for encouraging city-neighborhood stability" (Jacobs 1992, 139).

To achieve such fluidity, it is crucial to acknowledge that a city is not only its downtown area. Especially in an old and historically rich place like Sofia. Expanding the focus beyond its centre would not only ease off traffic and congestion there - increasing the scope of public activity will activate those surrounding districts, both socially and economically. Instead of margins, they could become as successfully urbanized and lively as a lot of the current "interior". This effect however is not a **result** of a centre's movement elsewhere - it is the **cause** (Jacobs 1992, 247). So in order to produce such effect, a set of circumstances must be created first, which would naturally draw people: liveliness and variety attracts more liveliness.

An observation of the statistics on the right results in undeniable

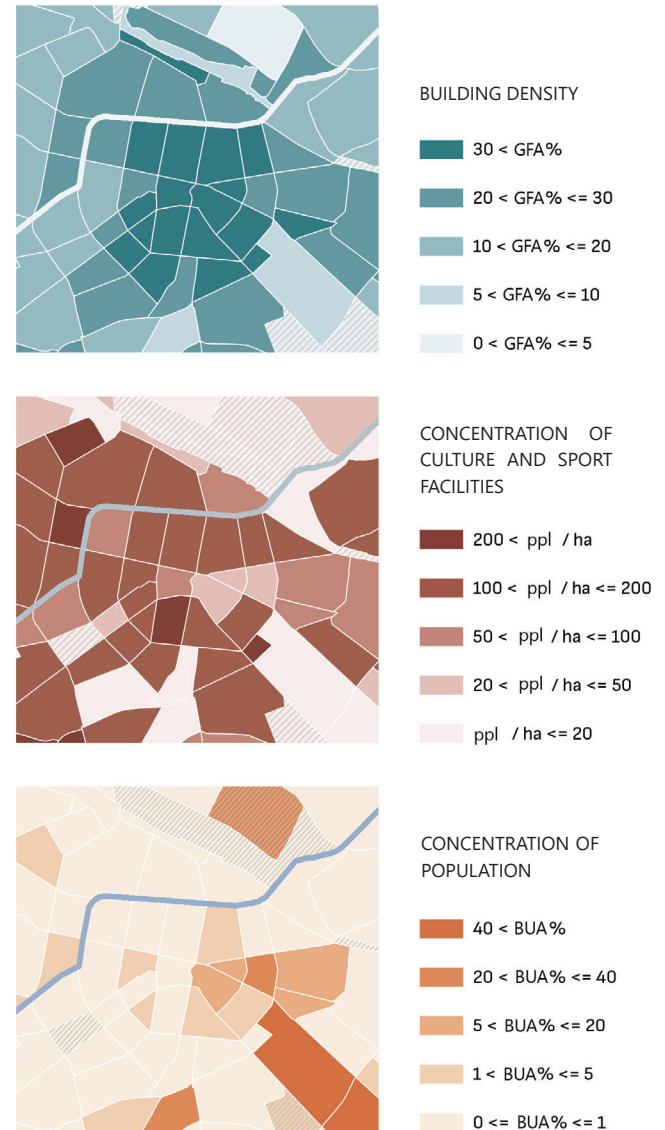
conclusions about the need for change there. We can see that the percent of building density on one side of the “border” (river/boulevard) is the highest - more than 30%, and on the other side is the second highest, between 20-30%. At the same time, the area has more than 200 residents per hectare! The combination of the two is demanding enough for measures to be taken.

In Jacobs’s view, dense concentration of people are one of the necessary conditions for flourishing city diversity (1992, 223). But they are not isolated and such diversity is only achieved when the density is present in combination with other aspects. Because what happens when we look at the previous measurement on fig. 12 about the lack of green areas and leisure public spaces? Or at the third statistics map on fig. 12 about the concentration of culture and sport facilities with less than 1% in proximity to the river? Overlaying these realities does not seem to create a thriving environment and prosperous population, although diversity might be available. In order for it to flourish and be sustainable, we need other conditions too. Mix of uses here comes essential.

In that sense, focusing solely on traffic and infrastructure improvement would not be enough for the revival of the project area. “Cities have much more intricate economic and social concerns than automobile traffic” (Jacobs 1992, 7). This is why, the transformation of the river contains in itself a mighty impact. Flowing in its longitude through all these areas, it could be a space of “social-ecological integration par excellence - that is, spaces where the interaction between the urban systems (carrying the “social-”) and the river system (carrying the “-ecological”) is (potentially) the most intense” (Forgaci 2021, 47). Additionally, there is a common tradition in mainland Europe and especially in Bulgaria for houses to have attached gardens. However, the densification in Sofia has led to lack of private gardens and green spaces. To compensate for that, many Sofians own villas or visit relatives in the countryside where they can retreat and change the scenery to more expansive environments. A convenient and desirable option will be a compact landscape in the city’s realm,

providing a daily escape from the bustle, complemented by the therapeutic abilities of a natural water flow.

fig. 12: Analyses & statistics for Sofia by neighbourhoods about major urban factors

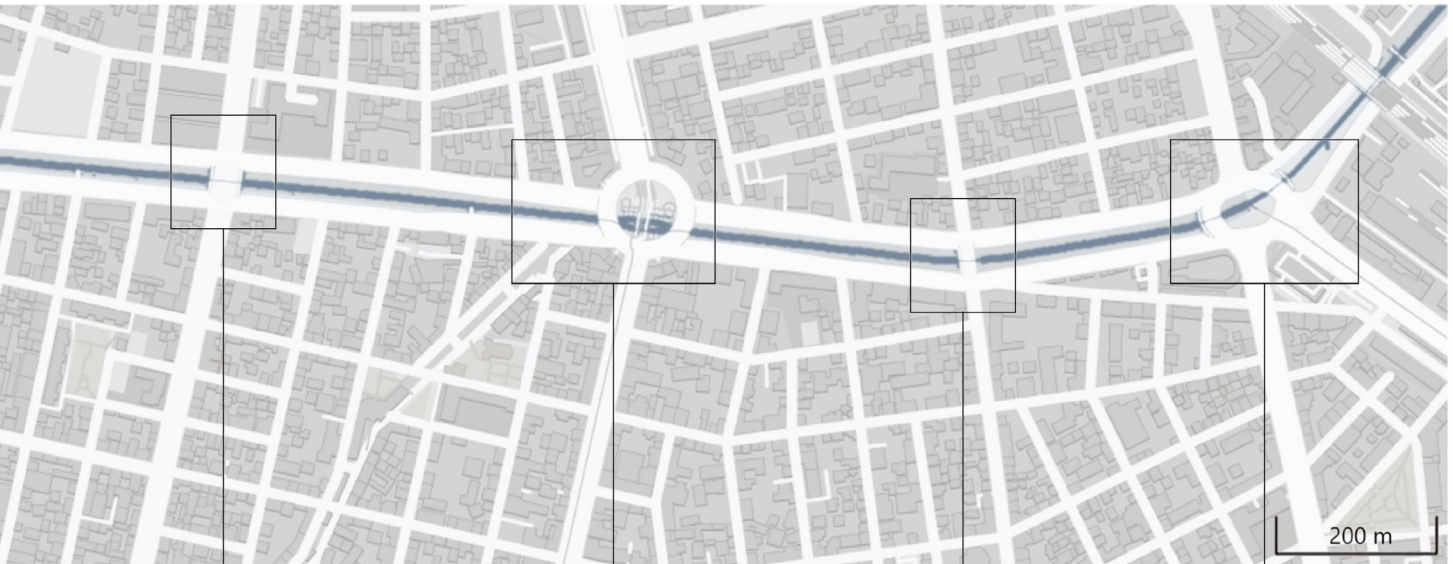
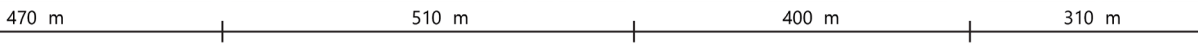


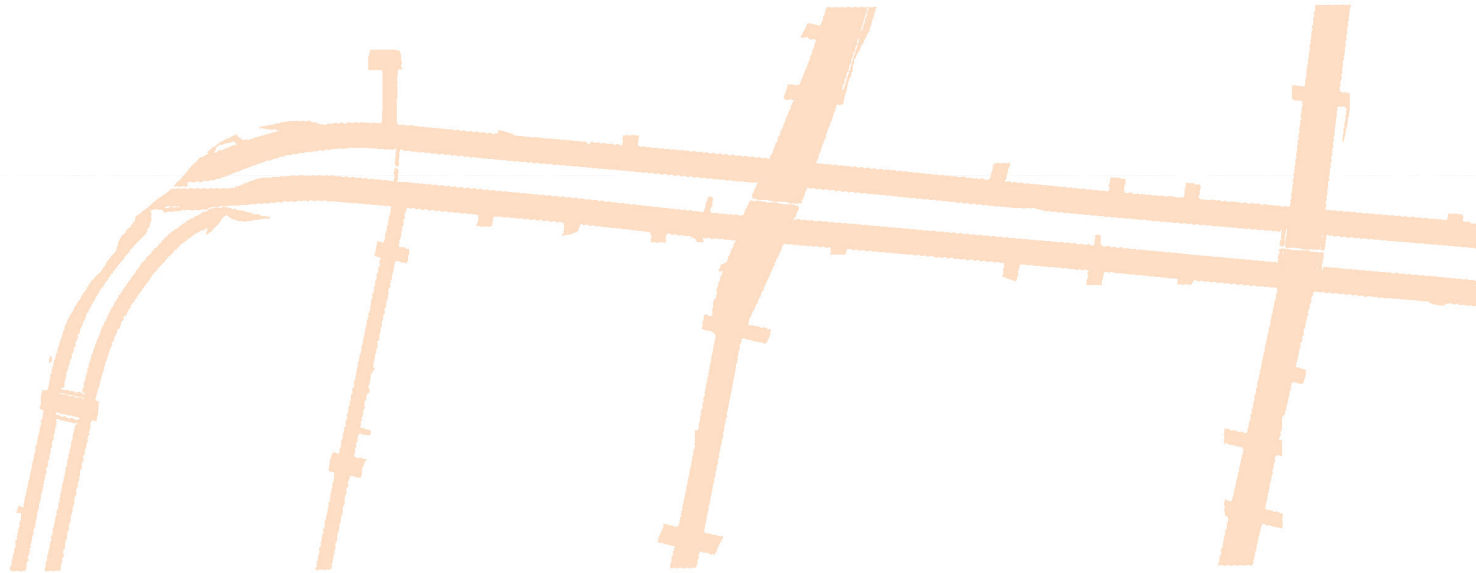
The lack of mixed-use environment (also) requires from residents in the area to travel farther away to fulfil their needs. Dispersed uses and lack of facilities lead to car dependency and limited physical activity. These are main reasons for the current situation of Slivnitsa boulevard (fig. 13). It stretches along both sides of the Vladayska river. There is only 1 footbridge for a length of 2 km. All other crossing links are mainly for vehicles. Car dominance causes heavy traffic, leaving no space for pedestrian circulation and free movement. People avoid walking and cycling on the boulevard because of its unpleasant user experience, noise and pollution. It feels “naked” without dense greenery - which could improve the air quality and act as a noise barrier.

There is no denial in the fact that the boulevard serves many transport needs - not only for private vehicles but public transport, deliveries, emergencies, etc. Here arises the question of accommodating intricate land use without destroying the related coordination of services and transportation. But it is possible and the collection of examples in *Chapter 2* proves it and shows how it was achieved in various locations and in even more difficult circumstances. Luckily, the riverbed here appears as a great opportunity of providing additional space and the river, in addition, as a conductor of this opportunity to improve the street network.



fig. 13: Segments of Slivnitsa boulevard: junctions, crossing, pedestrians versus automobiles





“Streets and their sidewalks, the main public places of a city, are its most vital organs. Think of a city and what comes to mind? Its streets. If a city’s streets look interesting, the city looks interesting; if they look dull, the city looks dull” (Jacobs 1992, 29).



fig. 14: Street network: Types and frequency of crossing links. Mixed and pedestrian bridges distribution. Primary and secondary streets. Junctions.

1.3.

URBAN CONFLICT: THE VOICE OF SOFIANS

“The more infrastructure you do, the traffic will become even worse”, shares the mayor of Bogota (The Human Scale, 2012). And when those in charge are aware of the real situation in our environment, we know we are on the path of implementing proper changes. Unfortunately, this is not the case in Sofia. The timeline on fig. 15 illustrates the metamorphosis of Lions’ Bridge according to the values of different periods in time.

It looks like Sofians have had enough and they are taking actions towards creating the place they would like to live in, or at least participating in the process. Lefebvre has said it back in 1968 in his concept of “The Right to the City”: it is a citizens’ right to participate in making the city. At present, their voice is spreading among society and those holding the responsibility does not seem to hear - yet. Being asked what it takes to become a good architect, Erskine gives a response, which in my opinion could also be applied for the profession of politicians: “to be a good architect you have to love people, because architecture is an

applied art and deals with the frameworks for people’s lives (Sim 2019, xiii). There is a noticeable gap in the collaboration between politics and urbanists in the present reality in Bulgaria. If the former would only listen to what the citizens - in the face of both practitioners and residents - propose and aim for, it could be a small step towards the era of participatory design.

Gehl paraphrases the famous aphorism by Churchill that “we shape our buildings; thereafter they shape us” to “first we shape the cities - then they shape us” (Gehl, 2010). And between buildings is where we become citizens. A thriving urban environment will result in thriving communities. It cannot happen the other way around. This is why a much more democratic approach to the development of such environment is needed. The timeline leaves the question of the future open - what will come next?

fig. 15: Timeline of Lions’ Bridge embodiments



Artifacts from the past reveal very pleasant urban environment - we can learn from it and adapt it to the present setting.

Giving the central space to vehicles, pedestrians are "relocated" to side footbridges.

Since 2014: the "zenith" of automobiles. People are secondary. They get the leftovers of what is designed for cars.

The need for urban space: in the last 2 years active people from Sofia have been organizing an annual 3-day festival in the riverbed of the Vladayska river (below Lions' bridge), aiming to get the attention of the municipality and media, to bring awareness to other citizens and to show what it could be to have access to the riverbed and use it for leisure, recreation, art and connection to nature.





fig. 16: Perspective view above the river in context

Here is the challenge: with a proper management of sewage system and overflows control, how can the zone around Vladayska river be regenerated in order to become a public recreational space with a pedestrian-oriented infrastructure?

To improve the quality of the entire area in and around the river, an eco-friendly urban corridor could be created. It is proven that a watercourse along with greenery has numerous positive effects: improving air circulation, regulating temperature, supporting natural diversity and, nonetheless, highly increasing the standard of life in a big city. Obtaining such “axis of urban development with a strong spatial identity and economic attractiveness”, Sofia could also benefit from the reactivation of a natural river flow and abandoned urban areas or structures nearby. (Forgaci 2021, 53).

Over and above that, the notional questions of identity and attractiveness arise. It is important to distinguish a location from a place. For a location to be a place and thus be meaningful part of everyday life, it has to possess a certain kind of identity (Norberg-Schulz 1980). The place should be unique to all other places. This uniqueness should not emerge only from its current

characteristics, but from the historical value it contains in itself. In that latter regard, Lions’ Bridge and some of its neighbouring sites already hold a lot of quality. So the aspiration of the thesis project is to bring their present-day state to similar level of uniqueness.

In addition, the development must be in favor of the bodily experience and human interaction. People desire socialization and public spaces for interaction and how attractive and welcoming those are determines their success and contribution to a healthy urbanization. The relationship between citizens and a place in their city is formed over time, of course. The intervention in the area should be concerned with the responsibility of creating a locality, rather than simply a park, also because it is linked to such significant features of Sofia’s culture. Highlighting them through the presence of the Vladayska river while simultaneously making the river itself a key player could create a route of appreciation of those, thanks to the linear continuity that the river provides. It does not sound as an easy task, but even a small step in that direction could be a big leap towards a better Sofia.

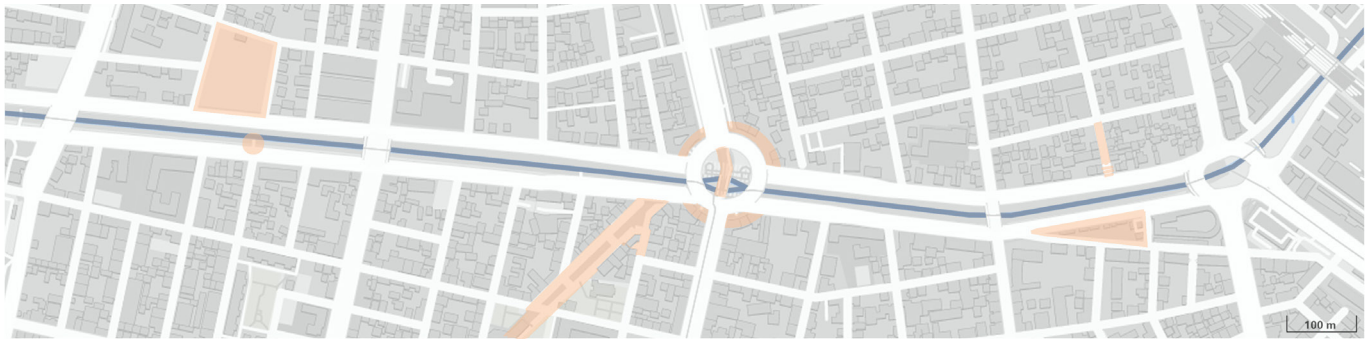


fig. 17: The Vladayska river span through potential urban situations

A river is force. Rivers are undeniable. Cities were formed around them. Roads are secondary. They are man-made, built alongside rivers and according to the needs. They can be changed.

CHAPTER 2

FROM LEFTOVERS TO URBAN REGENERATION

2.1. Precedents and trends

2.2. Similarities create typology

River regeneration within the urban fabric of a capital city is a huge challenge per se. I began this research in order to familiarize myself with the most common and successful techniques to do it. Then it led to the discovery of more and more examples of urban waterway restoration - most of them happening in recent years or not even completed yet. Noticed among all this is a tendency towards increased attention to natural resources, connection to nature, recreational spaces within the city, and well-being. However, the most striking aspect that the majority of case studies share turned out to be the process and the need of **undoing the damage from the past**. The following collection of precedents showcases surprising transformations worldwide and extracts similarities (or differences) in order to apply the most optimal solution to the Vladayska river and its immediate surroundings.

fig. 18: Cheonggyecheon stream, Seoul, South Korea - before, through, and after



2.1.

PRECEDENTS AND TRENDS

Before all, it is important to distinguish the types of flowing bodies of water. The main subjects of interest in this study will be rivers, canals, and streams - and more specifically, those situated in an urban environment. But what is the difference?

Firstly, let's look at the natural, linear streaming features that provide a **channel** "for drainage of water from higher elevations to a standing body of water at lower elevations" (typically a lake or an ocean) or "directly into the groundwater table" (King Jr., s.d.). Then, these can differ in size and volume: "we tend to reserve the term **river** for the largest of these flowing bodies of water while creek is used for the smallest and **stream** often applies to waterways that are in between" (The Forest Preserve District of Will County, 2021). In any given settlement their function is often modified by people in order to fulfill their needs such as irrigation, transportation, water supply, or hydroelectric power generation. This leads to the formation of the second most common type - **waterways**. "A waterway, by contrast, is defined as a body of

water that is navigable by boat" and it can be natural, natural but modified by humans, or human-made (King Jr., s.d.). For instance, respectively: natural rivers, canalized rivers, and artificial waterways - **canals**.

Urban waterways can have crucial impact on climate, especially with the global warming factor we are facing. The natural heat exchange that occurs between the cool air above the water surface and the warmer air above hard-land surfaces results in a continuous airflow. Such ambient wind benefits the human comfort and enhances the microclimate in the area (Bosselmann 2008, 239). This is another reason why city rivers play an important role beyond recreation and water transportation.

The vast research on the topic resulted in a collection of examples of urban renewal with river/canal regeneration at the core. All are extremely curious and at times surprising because of what comes with the unveiling of this natural resource and integrating



fig. 19: Difference between a canal (left) and a channel (right)

it into the urban grain. The main purpose of this is to gather, explore, and extract the aspects that made them successful. A library of designs and processes provides a solid ground for the transformation being projected in and around the Vladayska river in Sofia. Every solution is different and varies depending on its situation and context. Thus, the project proposal in this thesis grows and develops according to its own needs, inspired by the following precedents and aiming to improve the quality of urban life.

Some of the case studies show much more complicated interventions because of the reverse processes like excavating work or carbon footprint from demolition. In that sense, the situation of the Vladayska river is simpler because it is exposed. Also, some of the examples support the proposal in terms of design, features, and programme; whereas others act more as an evidence of the possible change, the positive modification in an established city, and the desired evolution in our urban

environment. Thus, 2 types of key takeaways emerge: a graphic (influencing the design) and a non-graphic one (supporting the strategic approach).

A. Cheonggyecheon stream, Seoul, South Korea

The most relevant and obvious precedent is the one also shown on the introduction page of this chapter. South Korea, Seoul: a stream surrounded by slums in the early years of the 20th century, followed by the time of Japanese occupation. Being highly polluted, in the late 1950s it was covered with concrete, and in the 1970s - topped with a 16-meter-high elevated highway as a symbol of Korea's modernity and recent industrialization. In 2003, a decision was made to rehabilitate the river. After demolishing the highway and months of excavation work, the river was restored and is flowing above the surface again.

The urban regeneration in Seoul, a result of Cheonggyecheon stream restoration, had a major impact on the revitalization of the city's downtown area. The project did not only improve the appearance of the city but also brought a number of economic and environmental benefits. For example, the restoration of the stream has helped to reduce pollution and improve water quality, while the new parks and recreational areas provide a much-needed escape from the busy city life. Furthermore, the project helped to attract new businesses and investment to the area, leading to a significant boost in the local economy. Overall, the restoration of the Cheonggyecheon stream has a profound impact on the city of Seoul and serves as an excellent case study of the immense, multilayered transformation and positive effects that urban regeneration can have on a community. Moreover, the entire situation is proportionally very similar to the one in Sofia, which will be further delved into in the next chapters.

As it can be seen on the following page, the section from fig. 21 changes along the different sectors of the river, introducing nature and various public spaces. Thus, the **key takeaway** is the **similarity** to the Vladayska river: proportions of the urban section, movement, the possible positive transformation.



fig. 20: Cheonggyecheon, top to bottom: early 20th century, during 1990s, 2005

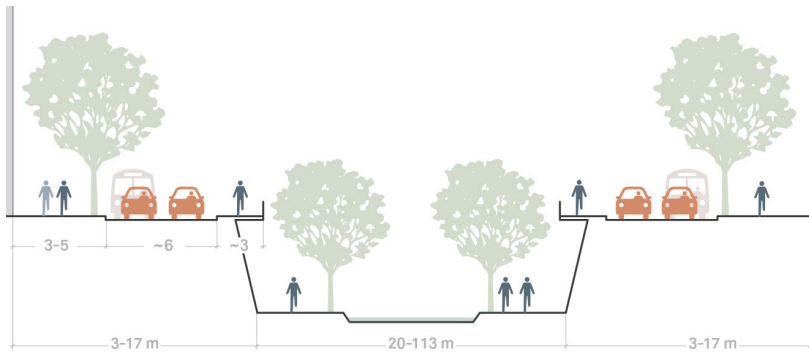


fig. 21: Section after the intervention: highly similar situation to Slivnitsa boulevard and the river: height, width, proportions

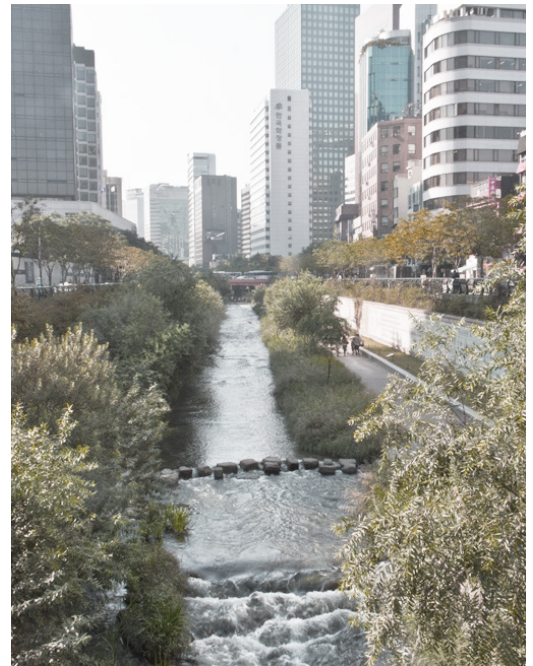


fig. 22: Urban levels: a park in the riverbed



fig. 23: Variety of features in the riverbed, access, isolation from road on street level



fig. 24: Riverbed, riverwalk

B. Catharijnesingel, Utrecht, the Netherlands

It is being viewed as a correction of a historic mistake. After parts of the canal encircling Utrecht's old town were covered in concrete in the 1970s to accommodate a 12-lane motorway, its 900-year-old moat has been restored. A rich history sprawling in 40 years of opposition and active support resulted in the municipality choosing "water and greenery over a highway for cars" (Boffey, 2020).

It is an asymmetric solution in section - half natural, half man-made. Since it is a canal, it is big enough to be navigatable by boat and the Vladayska river is much narrower in comparison. Thus, there is an absence of a habitable riverbed here. That is why the **key takeaways** will be oriented towards the **slopes**: covered in greenery, people are sitting, using them for leisure, with little to no special landscaping. It is present mainly for access and proximity to the water with its direction and shape following that of the river: creating pathways alongside boats' course with cross-shortcuts for links with the nearby streets (fig. 26).



fig. 25: Catharijnesingel before and after; top: circa 1960, middle: 2010, bottom: 2020, the opening day of the restored canal ring

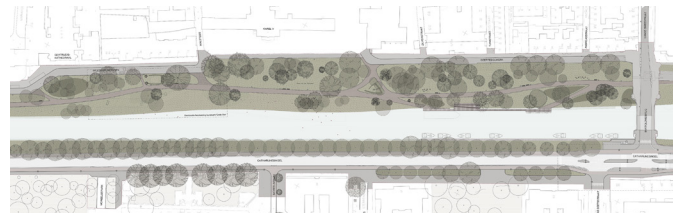


fig. 26: Catharijnesingel in plan - landscaped areas

C. Lost Canals in the Hague, the Netherlands

Uncovering the network of 17th-century canals: reopened and refilled to demonstrate how their restoration could help revive the city's centre. "Developed in collaboration with local neighbourhood organisations, MVRDV's vision imagines the city's historic canals, which once ran through its centre, restored as waterways for swimming, canoeing, pleasure boats, and a koi carp habitat. The aim of the project is to show how the waterway's revival could regenerate parts of the city and in turn boost its economy, biodiversity and traffic and water management" (Crook, 2019).

This is important for restoring the natural habitat by bringing variety of flora and fauna species into the city. In that sense, the canals also act as biological corridors.

Similar to case study B., this example contributes to the idea of how one positive change can become a tendency, e.g. an entire urban renewal strategy. Being in the same country, sites have an analogous framework, policies, cultural habits, etc. Yet, each situation is unique, therefore, the design solution would be different too. What is common is the initial preset, the groundwork and then the final social impact. And that is a **key takeaway**: the **approach** to a **repeating urban issue**.

In addition, the Netherlands is a great example about the street order (Jan Gehl stresses on this too). From the fastest/largest moving objects on the road, through a barrier of parked vehicles, bikes or trees, to the pedestrians - who are always separated from traffic, road accidents or noise.



fig. 27: The Hague before and after; top: covered canal, bottom: visual by MVRDV with the renovation proposal

D. Gjanica River, Fier, Albania

"In the 19th century, hundreds of artisans and shoppers would crowd around the Gjanica River in Fier, Albania on market day. Today, the river is nearly invisible, covered in some parts by overgrown greenery and at others obscured by tall buildings illegally constructed too close to the riverbank. A plan from Italian firm MAU Architecture reimagines Fier's waterfront as the central element of their scheme for a new city center. Their project involves reopening connections between the urban core and the river through bike paths, pedestrian bridges, amphitheaters, and integrated mixed-use buildings" (Comberg, 2018).

In this proposal, the bridges and facilities generate new public spaces that let people enjoy the specific qualities of the river and the atmosphere they create altogether. This design acts as a huge driver for the thesis' project development, because it demonstrates the great potential held by a body of water in the city! The river is the core of this intervention and this exact area is brought to life as a consequence of its presence. It is achieved through contemporary methods/thinking, with a proper understanding of what public life needs nowadays.

A **key takeaway** here is how the **river** is being **highlighted** by the **multilayered** programme structured around it: increases the available space with nature's input on every layer, takes advantage of the slopes, inserts mix of uses, and makes the human/pedestrian experience primary.



fig. 28: Gjanica River before and after; top: current situation, bottom: architects' vision

E. Minhang Riverfront Regeneration, Shanghai, China

Minhang Riverfront Regeneration by SPARK: The area was previously neglected and consisted of old industrial warehouses and paths. It has been transformed into a mix of commercial, technology and institutional uses centered around an urban park. The design features a 750 meter recreational environment that enhances pedestrian connections and promotes a more sustainable living environment. The riverfront includes walking, jogging and bicycle tracks, as well as three pedestrian bridges that link the residential, education and business communities. The landscape was designed with four distinct zones that enhance views and accessibility to the river, featuring lawns, cafés, a sports park and event plaza. The bespoke wayfinding and furniture strategy contributes to the storytelling and accessibility of the transformed environment (Architonic, 2021).

This precedent is similar to the preceding one (D.) in terms of intervention and setting. As it is approximately flat, dense urban zone here, the focus falls more on the bridges, shapes, connection across the river and how a cohesive scheme in accord with the surroundings and the details can be articulated.

Pedestrian bridges and their varying widths generate irregularity and special circumstances: placas/squares along the river. This is where a bridge becomes more than a cross-connection tool or a path from one point to another - it provides an **experience**, which is the **key takeaway**. Additionally, the example illustrates how bridges can be **integrated** into the urban grain and become public spaces, an essential part of the pedestrian flow and circulation.

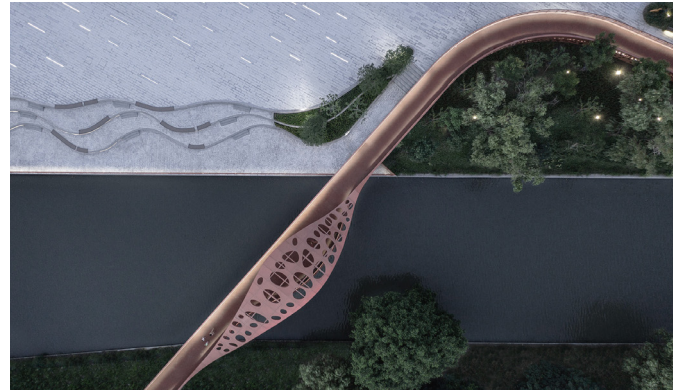


fig. 29: Minhang Riverfront Regeneration.
Visualizations by SPARK

F. Lineal Gran Canal Park, Mexico, Mexico

With the passage of time, historic canals in Mexico “were transformed into roads, drains, and some others have completely disappeared. For this reason, in 2019 Mexico City proposed the reinvention of abandoned infrastructure spaces, which resulted in the gradual decomposition of the urban and social fabric. This strategy encouraged the creation of public spaces that would stimulate the quality of life of the inhabitants by filling the “gaps” of human activity.” (Grand Canal Linear Park, 2020).

This case is extremely interesting because its infrastructure reminds of Slivnitsa boulevard, with the exception that water is now absent and the middle has been incorporated into the whole to become a park.

Although this intervention is purely on the territory of the canal without extending beyond, there are multiple access points linking the park with all nearby streets. They are not made in the manner of the shortest way to get in the middle, but their geometrical design fits into the whole and simultaneously creates it. In that sense, a pattern is applied and generously spread, which makes the access predictable and, what is more, by accessing or leaving the park, a person is still part of it. The **key takeaway** is how the **means of connection** are turned into a **vital feature** of the park. The flow of visitors is distributed evenly, instead of being centered in the middle. Incorporating such strategy into the Vladayska river’s riverbed can turn the entire experiential outlook of Sofians!

fig. 30: Lineal Gran Canal Park, before and after



G. Parque Madrid Río, Madrid, Spain

“In the 1970s, the Manzanares River was limited by the M-30 highway: the communities ended up isolated, tourism was almost non-existent, and congestion was constant all the time. The birth of Madrid Río gave the city an opportunity to reclaim its land” (Rosenfield, 2015).

Being one of the largest linear city parks, many urban design aspects are demonstrated here. Numerous **takeaways** are available, but a **key** one is the **combination** of natural landscape with the existing urban environment, resulting in an **immersive promenade experience**.



fig. 31, 32: The park from above: programme, connections across the river, relation to streets on both sides, landscaping



H. Chicago Riverwalk, Chicago, USA

On the river banks is where the first settlers of Chicago planted their roots in the early 1800s. Since then, the city changed in numerous ways with one of the most fascinating transformations of its river: the Chicago Riverwalk Project. It was completed in 3 phases and entirely opened to public in 2016.

“Operating as a scenic and convenient pedestrian route between the western reaches of the Loop and the Lake Michigan waterfront, the riverwalk is a radical new way to encounter Chicago - one that seems bound to spur future development and ultimately reshape overall patterns of life in the city” (Volner, 2017).

Creating new urban environment below street level, near the water, this case study showcases the power such intervention can have on people’s behaviour and wellbeing. Firstly, providing space for them to exist uninterrupted and with less noise is enough to be drawn into. Secondly, the fact that these urban features are packed with people shows the necessity of such in megapolises and capital cities. Furthermore, the close contact with running water in the urban realms is a rare treasure and proven to be vital.

The **key takeaway** here is without a doubt the **riverwalk** integration into the city. Consisting of various features (such as seatings, balconies above the water, activities, etc.), the choice of materials must be taken into consideration because of a possible overflow and also in order to not be monotonous. A riverwalk is more than a recreational, meeting or leisure space. It could be a pleasant route with proximity to nature, to water where the pace is slower.



fig. 33: Chicago river, top: first settlement around it in 1832, middle and bottom: the riverwalk of Chicago, after its completion in 2016

I. The canals of London, England

London is a city where parks and gardens are abundant and canals are a charming part of the city. Walking along the towpaths and riverwalks allows people to feel part of the city and be surrounded by greenery and water. The ability to experience the peacefulness and energy of these oases is crucial for a city of that scale.

While living in London and Canterbury (both in England), the canals were my favorite place to relax, connect with nature, stroll, be in silence, or be accompanied by the sound of a stream. The linear continuity these paths contain gives a unique experience of movement and changing of surrounding.

In many ways the setting of an urban canal is similar to a riverbed. Thus, transforming riverbed's walls into a pleasant environment with **reference to natural channels** or urbanized canals surrounded by greenery is one approach to an urban river regeneration (and a **key takeaway** here).

It is important to note another consequence of such activity in a metropolis: "property values have risen thanks to canal-centred regeneration at King's Cross, where Granary Square has become the heart of a new quarter" (White, 2019). It is questionable whether this is a pro or a con. The difference lies in the fact that the London area mentioned above is already a well-developed one with the public canal addition adding great value to it. At the same time, the stretch of the Vladayska river is part of a neglected neighbourhood with lack of basic facilities, services and green areas. In this context, it can only bring positive change, making the first step of a slow process, a consequence of which could be development of the entire area.



fig. 34: London canals, top & middle: Granary Square, King's Cross; bottom: Regent's Canal

fig. 36: Similarities create typology:
key takeaways graphic representation
(by author)

2.2. SIMILARITIES CREATE TYPOLOGY

The extraction and drawing process helped immensely to understand the various situations and the response by architects and urban designers to a given urban problem. Punter talks about the value of precedent in tackling major design problems: “it is extremely useful to examine good and bad examples especially if they are recent; [...] one can even abstract scale, density or functional relationships in searching for examples which can [...] illuminate the task at hand (Hayward and McGlynn 1993, 15).

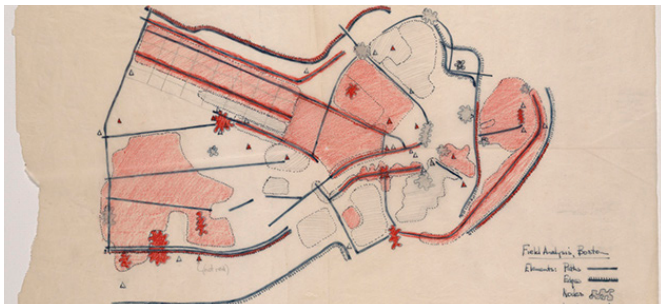
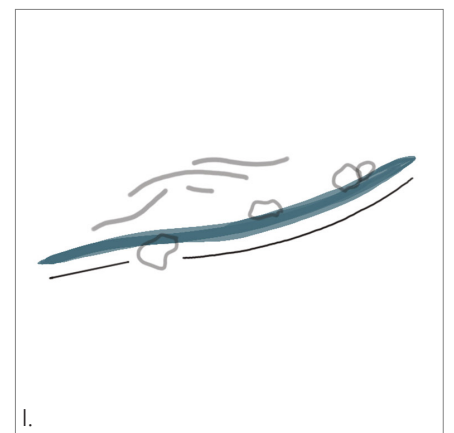
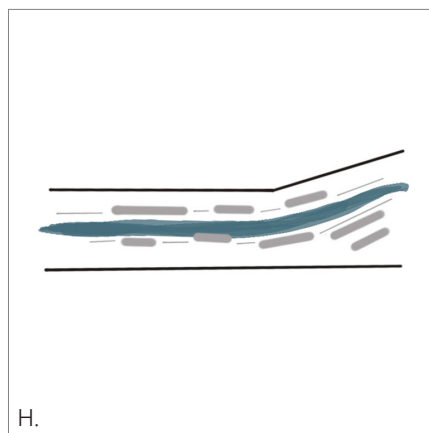
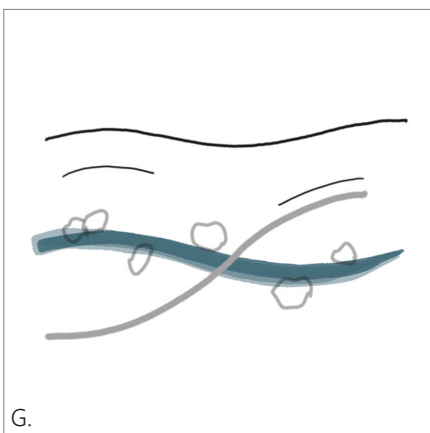
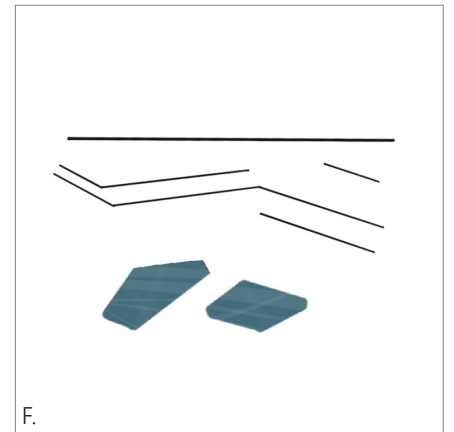
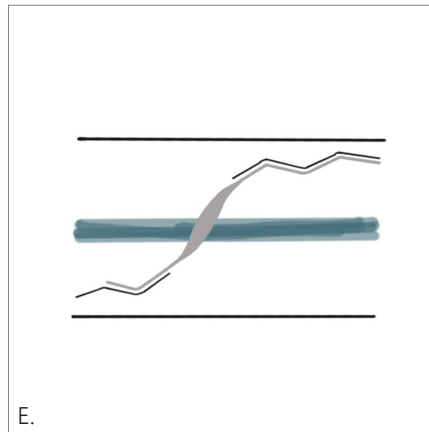
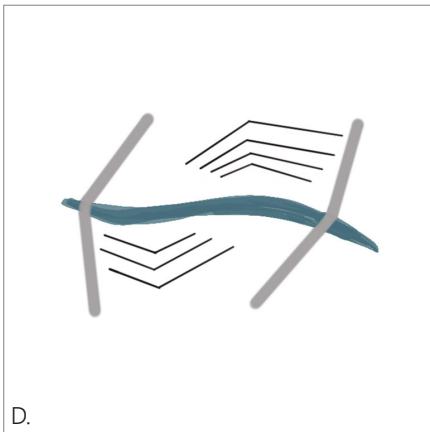
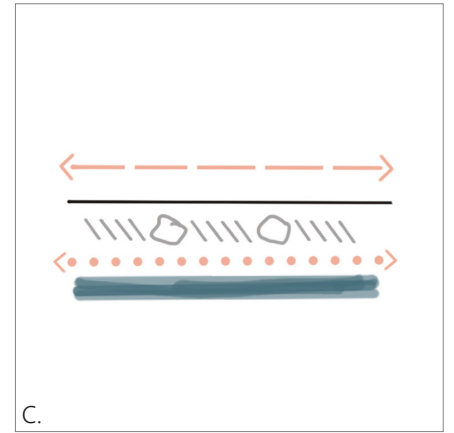
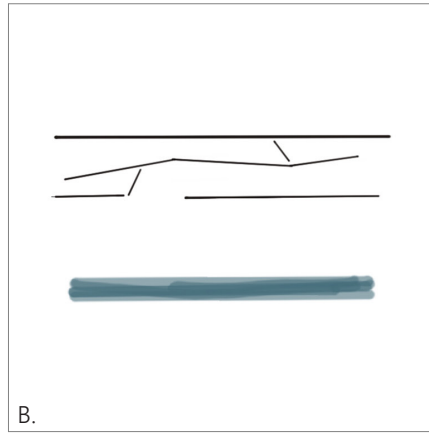
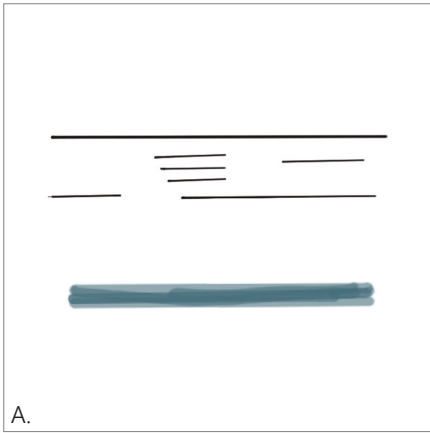


fig. 35: Sketch of systematic recordings by Kevin Lynch: Perceptions of Boston

As mentioned earlier, two types of takeaways emerge. The non-graphic ones serve in establishing the process of urban renewal with a river regeneration at the core, which will appear in *Chapter 4* as the “strategy”. On the contrary, the graphic takeaways are those key formation aspects of each case study which I call “diagrammable”. In other words, what makes them unique and represents the programme in its essence. Such defragmentation becomes a new evaluation tool, because now we can see the similarities and differences in each (fig. 36).

On one hand, cases with urban setting similar to the Vladyaska river suggest what could be the possible approach and outcome, what is the current tendency for this layout. On the other hand, we can follow the spatial logic of each and extract what made it successful or how it created a pattern for its own territory. Such comparison generates a typology that could be applied elsewhere (in this case - in Sofia). It will later be used in the “riverwalk integration” in *Chapter 4*.



CHAPTER 3

RIVER-SENSITIVE URBAN DESIGN

-
- 3.1. Undoing the damage
 - 3.2. Theoretical approach to urban renewal
 - 3.3. Linear continuity meets cross connection

// **W**ater-sensitive urban design is a land planning and engineering design approach which integrates the urban water cycle, including stormwater, groundwater, and wastewater management and water supply, into urban design to minimize environmental degradation and improve aesthetic and recreational appeal" (Wikipedia, s.d.). Paraphrasing this into "**river**-sensitive urban design" will be in favor of this study, in order to reduce the scope of research, theory, and design matter. Focusing solely on flowing bodies of water in the city, rather than the natural water cycle itself, will allow targeting a more specific area: contemporary urban design with the key presence of a river.

3.1.

UNDOING THE DAMAGE

This subchapter looks at methodologies or history behind some urban and river restorations. That includes: uncovering rivers and canals brought underground or covered by a structure; demolishing freeways, highways, and other infrastructure features built during peak times of the automobile revolution and transport innovation; as well as urban areas where people, pedestrians, and their experience were neglected. As Pencheon (2017) puts it: “never in human history have people moved their bodies around the world so much without moving their bodies”.

The process of re- or un-doing something is always preceded by another action, which is now producing a re-action based on the feedback of reality. Thus, it is important to take a step back into what has led to the degeneration of our urban environment on the first place. A huge influence on understanding this matter had Peter Hall's “Cities and Civilization” (1999) and Jane Jacobs with her written work and activism. While the former helped to build a solid comprehension about formation of cities from antiquity

to the present day and how freeway towns emerged, the latter has had a big impact on my vision about what a democratic approach to urban design is. Her viewpoint and thinking are somehow simple and human, yet they unveil crucial aspects of our urban environment, where it fails and how we can improve it.

Jacobs claims that highway construction and large masterplan developments followed by elimination of pedestrian activity are causing the “death” of our cities (1992). Her work is much based in opposition to Robert Moses, who reshaped and built cities while “looking from above” (Urbanized, 2011). Here are the two perspectives: the planner's, dealing with infrastructure matters in plan from 30,000 feet, versus the citizen's, who is on the actual street. We now have available the feedback from those actions and it is obvious that trying to eliminate traffic by providing more space for cars in cities increases the need for their use, which in turn decreases the intensity of street users. It is rightfully to ask “how can you know what to try with traffic until you know how

the city itself works, and what else it needs to do with its streets?" (Jacobs 1992, 7).

The pursuit of optimizing mobility in isolation, detached from the intricate and interconnected network of other urban systems, would not lead to much better results. More than that, it works against healthy communities, as pointed out by Krieger and Saunders (2009, 124). They also make a note about the shift in the engineering world from "adding lanes" towards "traffic management technology", because factors like livability, sustainability, economic and cultural growth "are the real goals of infrastructure optimization" (2009, 125). In the diagnosis of the area of interest in Sofia, these and their interdependence were already noted and will be addressed later in the development of the project.

For that reason, the thesis is concerned not merely with river regeneration by itself but its combination with and effect on its immediate context and beyond. They are part of a system and they coexist: the boulevard and the river. How can the automobile dominance in the area get retired, so the river stretch becomes a case of "landscape urbanism" incorporating "ecology, landscape architecture, and infrastructure into the discourse of urbanism" (Krieger and Saunders 2009, 128)?

After a comparison of major water cities (such as London, Paris, Milan, Los Angeles), Bosselmann notices a tendency of interest towards reclaiming and re-creating riverfront landscapes:

A better understanding of natural systems that existed and that were altered can inform the design of new cultural landscapes, landscapes that can be designated as commons for a large metropolitan area. Such commons would improve the urban ecology of city regions and their social conditions. (2008, 108)

With all these examples from American urban history and its authors, it is worth mentioning the coast of the Willamette river in Oregon. In the 1970s (more than 50 years ago!), Portland became the first major city to remove an existing highway after toring down Harbor Drive and replacing it with a public park that has served as an anchor for new development - the Tom McCall Waterfront Park. Removing freeways -> restoring cities.

fig. 38: Portland before and after, top: Harbor Drive freeway, bottom: Tom McCall Waterfront Park



3.2.

THEORETICAL APPROACH TO URBAN RENEWAL

Vast research among theories, reports, studies, academic writings, statistics, and projects gathers various aspects of urban planning and renewal. Some of them are vital principles proven over time or experience. Others are contemporary methods of urban design bringing back the basic, simple but absolutely crucial need for healthy and walkable spaces in any urban environment. Furthermore, the psychological impact of the designs around us is being explored together with the intangible: “vitality, livability, and sense of place”.

There are numerous reports and technical information about river regenerations, especially in the last few years. At the same time, there are even more books, theories and essays written on healthy urban design. However, throughout my investigation, it was hard to come upon solid examples of both of them together. Hence, **merging theories of healthy placemaking in our cities, renovations in particular, with urban river regeneration is the main research goal of the thesis.**

Following the manner of the previous subchapter, it is relevant to mention my biggest inspiration to date about urban design, whose work I have referred to and built upon in all my dissertations and writings: Jan Gehl.

He is known for his investigation of public life, stemming from observing Italy’s famous piazzas. On one hand, Rome was the first megapolis with population exceeding one million (Hall 1999), which could be a great source of golden rules. Besides that, Italian cities “had not yet been reorganized by rational planners or invaded by cars” (Matan & Newman 2016, 15), therefore, we can consider they have preserved their vitality. Doing this exploration together with his wife, who is a behavioural psychologist, key principles were established which he continues to apply worldwide in his practice nowadays. A close look at people’s behaviour through their psychological lens was essential. Getting among people on the street and observing, listening to them, understanding the DNA of a neighbourhood is a democratic

approach to planning that is becoming widely used.

When downtown parts of Copenhagen, began to get jammed, instead of following the trend of increasing roadbeds or setting up expressways (as the “master-builder” Moses did through Manhattan), the city took a step in the opposite direction, led by Gehl. After applying the same strategy of observing the urban life in the area (in his hometown), automobiles were banned from the market streets - the Strøget was turned into a pedestrian-priority street in 1992 (fig.39). Although there were pessimistic opinions about this approach, surprisingly, the area was getting full of people and joy. Gehl says: “I was trying to make visible to everyone how people react to city forms, so we can start talking about the interaction between form and life” (Montgomery 2013, 154).

A project for *World Class Streets* in New York relied on the analyses done by Gehl Architects, where rather than counting vehicles, pedestrian experience was measured (NYC DoT, 2008). The results showed that 90% of the street in the investigated zone was allocated for cars versus 10% for people; yet 90% of the people using the space were pedestrians (The Human Scale, 2012). The math does not look right. Moreover,

it turned out there was no place to sit along Broadway and that Times Square had no square (The Human Scale, 2012). Some of the metamorphosis in New York afterwards include: closing avenues along major squares, weekends of pedestrianized roadways, bike lane networks, new ways of movement in the city, car-free routes and providing seating where needed (fig. 40). This gave citizens a taste of what it feels like to live in a place designed for them - and their behaviour is the feedback that planners and architects need to tackle urban issues properly.

Consequently, an additional dimension emerges in the practice of architects and urban designers where they have to tackle the balance between mobility requirements and other societal needs, while also exploring innovative approaches to integrate city form and transportation systems - either by revitalizing traditional methods (by looking back) or introducing novel ones (by observing and examining). By forming connections between historical and progressive systems, we are prone to foster variety across all urban design scales.

As we have seen, measuring the physical, the visible, such as vehicles versus pedestrians on a street, is easily done but it is only one part of the equation. To measure their implication on

fig. 39: The Strøget in Copenhagen before and after being pedestrianized in 1992



fig. 40: Broadway in New York before and after PlaNYC intervention in 2009



psychological, cultural, environmental and social conditions is what could make the real difference in our urban realities. Bosselmann suggests some parameters that could make this task understandable and achievable and most of all that could “quantify the dimensions” of those qualities (2008, 141). He points out 3 main aspects: **vitality** (“mixture of activities, density and public life”), **livability** (“safety, well-managed traffic, ease of walking, centrality and presence of nature”), and **sense of place** (“sense of belonging and sense of time”). Albeit being ephemeral concepts, examining them in a given context could provide us with valuable insights into these often overlooked aspects of our lives, which can ultimately yield the greatest impact. And in order to do that, the only necessary element is the human experiencing this set of circumstances. This is why engaging with communities, neighbourhood inhabitants and occasional users is key. It is important that the present and future urban developers would not underestimate the wisdom people carry about the places they inhabit, together with the civic pride that comes with it. Collaborative planning and placemaking is the major topic in *20/20 Visions* by RIBA, where Campion (after tried and tested approach) highlights the importance of early-stage shared working that supports the right development for a specific place (2018). And the relationship with that specific physical setting is what identity depends on.

In regard to the vitality and livability, in my opinion, the former comes as a consequence from the latter. How can you have a thriving public life without a space for people to socialize; or various outdoor activities without facilities and nature; or strollers and commuters without safe and pleasurable streets?

Let's start from the streets as this is where most of people's activity takes place in cities. We already looked at some of the many examples where vehicle roadway is replaced by pedestrian space. What does the street need, and the sidewalks in particular, to foster **livability**? Walkability and active travel are pedestrianism's

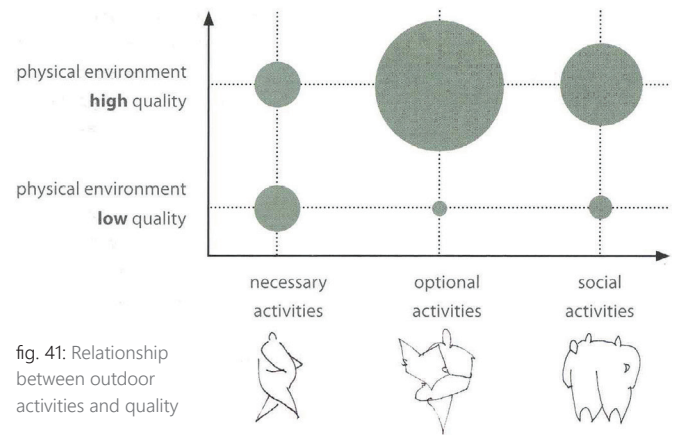


fig. 41: Relationship between outdoor activities and quality

substantial factors, “as walkability is the keystone of healthy placemaking” (London, 2020). For a walkable community to exist, there are 3 fundamental components, indicated by London (2020):

1. a compact, mixed use urban structure;
2. daily needs within walking distance;
3. integrated green space.

What is more important is that these are interdependent and only when they coexist such effective urban setting could be achieved. On top of that, for **vitality** characteristics to be reinforced, fig. 41 depicts a sequential connection: when in high-quality physical environment, optional activities increase, which boosts the social activities generated as a result.

Overlaying the above 3 aspects on Slivnitsa boulevard, what immediately comes to mind is: 1. the lost human scale and, thus, compactness; 2. the unfulfilled neighbourhood needs by the poor usage of plots; 3. the lack of natural areas - or their unrealized potential. Nonetheless, what makes that situation unique is that Slivnitsa boulevard is not just a street. It is a very wide street along a river. And this is where its potential and biggest challenge lie. Bringing these together hold the prospects of creating a **novel type of urban structure** which combines the street and

its features with the riverbed and its natural substance. Having said that, the theories of urban design need to be adjusted to this specific set of circumstances and modified, enhanced.

For example, the needful mixture of uses in the area mentioned earlier, if achieved, would not be limited to buildings and streets. It directly produces a mixture of users for such integrated river park in the neighbourhood. "The park thus possesses an intricate sequence of uses and users" (Jacobs, 1992, 96). In return, green/blue spaces, recreational areas, and play zones that could be accommodated enhance the physical and mental well-being, together with the **sense of belonging** - not only to a place, but to a community. And this is one of the greatest assets of a place of this kind:

Successful street neighborhoods, in short, are not discrete units. They are physical, social and economic continuities, small scale to be sure. (Jacobs 1992, 121)

Districts have to help bring the resources of a city down to where they are needed by street neighborhoods, and they have to help translate the experiences of real life, in street neighborhoods, into policies and purposes of their city as a whole. And they have to help maintain an area that is usable, in a civilized way, not only for its own residents but for other users, workers, customers, visitors - from the city as a whole (Jacobs 1992, 122).

The "mixed use urban structure" from point 1. appears in several dimensions. Another can be the shared use, and specifically that of the road. The "20's Plenty!" concept has proven that lowering vehicle speed to 20 mph not only decreases risk of accidents but has a humanising effect on streets and cities (London 2020, 142). After turning London's Exhibition Road into a shared space (fig. 42), it was noticed that "motorists take more personal responsibility for their own actions and drive more attentively, making more eye contact with pedestrians"; "you see people promenading down the street... it's marvellous" (Massey, 2012).



fig. 42: Shared street, Exhibition road, London - before and after

Of course, this is brought as a general manner of dealing with a street and on Slivnitsa boulevard it may be more appropriate to be applied on crossings, connection to large open public spaces or links to the riverbed. This way vehicle services would not be much interrupted and pedestrians will have the priority of using the entire road width where needed.

On account of this, it appears critical to bring back the human dimension and to do so we need to scale things down. This would mean shorter distances and activation of ground level. Gehl (2010, 75) defines the threshold "where city and building meet" as "edges". He differentiates soft (shops, openings, transparency, goods on display) and hard edges (plain walls, long monotonous facades). Undoubtedly, soft edges do bring vitality to the street: "if the edge fails, then the space never becomes lively" summarizes Christopher Alexander (1977). Edges' role is not only to entertain and attract walkers but also to make them

stay or provide a good opportunity for that. Such placements offer a good view, pleasant microclimate, exposure or shelter, a cover behind one's back, a break or meeting point. Called the "edge effect" (Gehl 2010, 137), the number of chances for it to arise can determine a city's favorable design (fig. 43). And it does not only happen on the edges being the building' facades: this phenomenon can be seen on any kind of urban feature around that provides a level of comfort and experience of the city at eye level - columns, bollards, exterior facade details or niches. On squares, for instance, when it is enclosed from even 1 side or it is characterized by an element like a fountain, this becomes a point of contact .

With this proximity among people comes probably the most vital consequence of all. Mentioned in every urban theorist's work I refer to is that the presence of people attracts other people. Especially Gehl (2010) stresses on this as his observations are highly based on human gatherings - he claims that people are the city's best attraction. An old Icelandic poem has said it a millennium ago: "man is man's greatest joy" (Larrington 1996). Jacobs also supports this: "people's love of watching activity and other people is constantly evident in cities everywhere" (1992, 37). Yet it is not only the constant movement on foot, but also the "happenings" of life, the presence of people and chances for contact. And at a local level, occasional interactions can strengthen the public identity of each individual. That points to the need of special places in cities where liveliness and vitality

can happen with less motion. "If there is a chance to sit down, others will join" (Bosselmann 2008, 154). If paths and streets are linear movement sections, plazas and squares are the experience spaces. They signal staying, whereas the streets signal to move (Gehl 2010, 38). This view can be enlarged to a measurement tool for the quality of a city: many pedestrians could mean insufficient transit or long distances; while if we see many people who are not walking, then most probably they felt invited to stay - and that can be a guarantee for a high urban quality.

To sum up the general requirements for attractive seating, besides those defining the edges, and the lack of noise and pollution, Gehl (1990) underlines: "if the place offers **special attractions** such as water, trees, flowers, fine space, good architecture and art works, the individual wants a good view to the life and people at the site". Taking into consideration the existence and potentiality of these natural features in the riverbed, together with Lions' Bridge, seating must be prevalent in and around the Vladavska river to take the most of its setting and to be appreciated. "When local climate, placement, protection, and view join forces," continues Gehl, "the seating place provides the best of all worlds" (2010).

To test that further, an experiment collecting the impressions of people shows what they pay attention to, what they are drawn by when placed in certain setting (fig.). Ultimately, it can tell us what to strive for when creating such spaces in cities. At the same time, fig.44 shows similar experiment but in a park, among

fig. 43: Edges in the city - people's choice



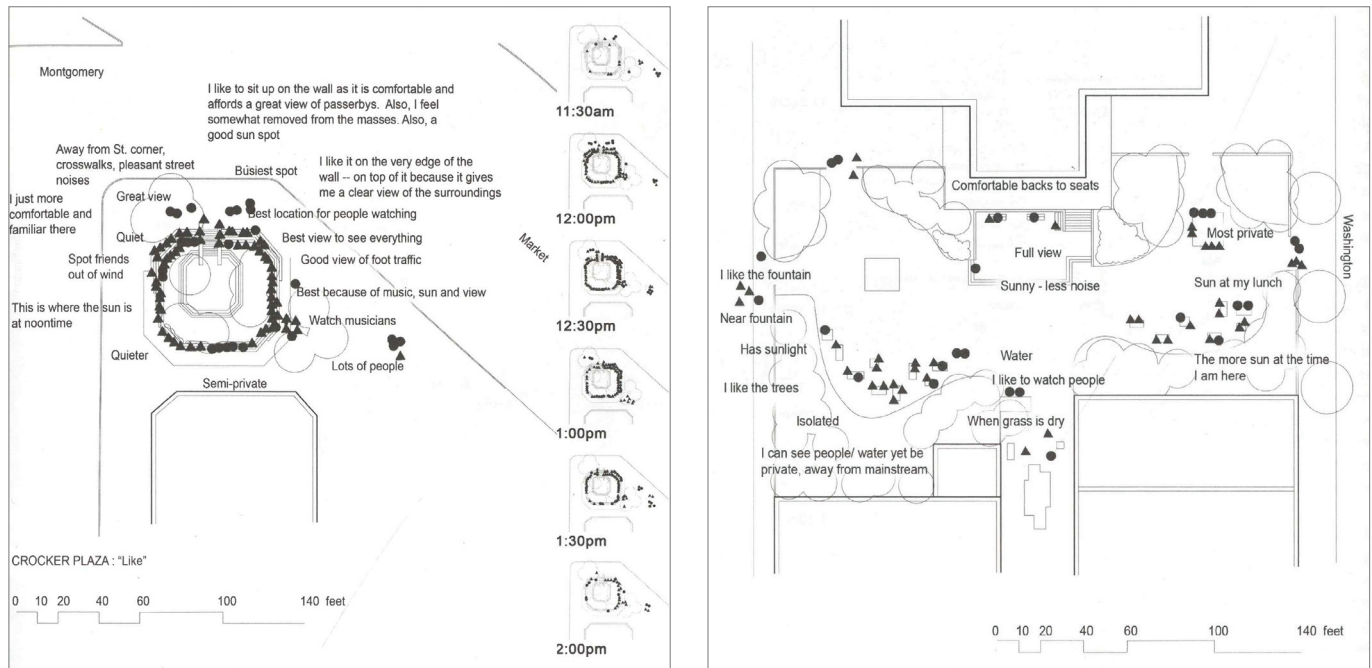


fig. 44: Pros and cons of a plaza and of a park: urban experiment, graphic recordings

nature. Merging both outcomes is a promising way of making sure experiential and sensory demands of citizens would be met in the creation of natural spaces within the city, in other words, bringing the plaza to the riverscape.

Acknowledging such small-scale, sensory, but ultimately vital psychological effect on people, we could amend our surrounding to meet this criteria. In the case of this thesis project, a solution will be to “translate” these into the integration of the river and the riverbed into the urban grain for achieving such impact. If we look at the riverbed as a street, its bordering walls as the active edges, the stream flow in the middle as a recreational experience, and so on, then in its entirety it can be referred to as a riverwalk in the city. It creates a new dimension of city street, a new understanding of what a street could be. However, instead of creating contrast between them or duplicating the street character on the river level, they could complement each other:

They can belong to the world of the street and, on their other side, to the world of the park, and be charming in their double life. They should be calculated, not as rims shutting off a park (that would be terrible) but as spots of intense and magnetic border activity. (Jacobs 1992, 266)

Such river regeneration, followed by implementation of all principles and takeaways mentioned so far, is a potent source for the revival of the area. By positively affecting the residents’ behaviour and their sense of a place, this could even become a model for Sofia’s rivers or a riverscape network linking them.

3.3.

LINEAR CONTINUITY MEETS CROSS CONNECTION

This subchapter explores the application of all mentioned so far in the specific case of the project. That includes: ways and methods of bringing together linear free-flowing route in the city with means of crossing, reaching, observing and appreciating the area; movement and circulation around rivers; access and proximity.

As highlighted earlier, Slivnitsa falls in the group of boulevards and they “are known for their strong linear character [...] with evenly spaced trees” (Bosselmann 2008, 165). But nowadays it does not serve the same purpose it was designed for. Today, Slivnitsa boulevard does not provide ceremonial routes or impressive vistas; nor does it carry over carriage rides, slowly and demonstratively, for leisure. What is left on the joint stretch with the Vladayska river is a sporadic presence of trees with wide, linear road that can be seen from end-to-end at a glance. For a pedestrian’s point of view, this is known as the “tiring length perspective”: endless road “with no promise of interesting

experiences along the way” (Gehl 2010, 127). Slivnitsa boulevard is well-known because it connects other major roads and neighbourhoods (at least technically) and encompasses part of the city centre with key elements from Sofia’s culture located on it. In reality however, it lacks “the visual distinction or importance merited by the functional truth” (Jacobs 1992, 386). In such situations, users are presented with conflicting and perplexing information. The presence of vibrant activities and high land utilization suggests significance, while the absence of any visual focal point or esteemed object implies insignificance.

fig. 45: Straight monotonous view and hard edges at Slivnitsa boulevard in Sofia



To break these patterns, the route can be “cut” into fragments, which are more easily grasped, both psychologically and physically. This will not only visually affect the perception of what will come next on the route, but it can create exciting moments along the way. Currently, the prevailing connection across the river and the two sides of the Boulevard is for high-speed traffic. A different type of urban structure needs to occur on street level and not on the existing bridges which already have a function. Rather, that would be an intersection between moving activities and stationary activities. Such key point would invite to stop, stay, sit or appreciate, while at the same time it would be a means of connection to places used and reached by people on foot. Namely, sidewalks, parks, squares and public buildings. Jacobs summarizes it well: “use them to intensify and knit together the [street] fabric’s complexity and multiple use. They should not be used to island off different uses from each other, or to island off subdistrict neighborhoods (1992, 129). As mentioned in the previous subchapter, a park could extend its use beyond via transitional elements that connect it with surrounding streets and localities. At the Vladavska river, such linkage is possible in 2 main trajectories. The first one - running parallel to the watercourse as an extensive sideways promenade - can transition from street level (interrupted by bridges crossings) to riverbed level (uninterrupted under bridges). All in between “ramped” paths would create fluidity and propose slow walking. The other trajectory - transversal to the river - acting as a division to the

fig. 46: Breaking linearity with multiple crossings and squares, Triple Bridge, Ljubljana



long linear routes and at the same time a connector of each side above the water. Both of these bonding functions would happen on street and on river level, with the lower one being much smaller. Trees can also contribute to that process as they provide better environmental conditions, define urban spaces and can put accents on important ones. Moreover, their linear order can underscore a continuity, or vice versa, their random distribution can divide areas.

Being linear is a key strength of the route because it has the ability to connect and offers a range of opportunities. The lower level right next to the river is uninterrupted and car-free as opposed to travelling the same length on street level. Thus, it can be used not only for strolling in a natural setting, but as a shortcut to other parts of the city, away from the street, (with different climate, noise pollution). Such green cycle and foot itineraries are highly appreciated in cities nowadays creating “special environments to periodically escape everyday pressures” (Krieger and Saunders 2009, 128). “The invaluable exercise is a healthy bi-product of the interesting experience” (London 2020, 158). Furthermore, a rather new urban practice makes its way in shaping our cities with “green/blue spaces weaving through the urban structure” available within a 10-minute walking distance from residences. (London 2020, 46) This principle is present in The High Line in New York. Besides that, it provides walking routes elevated from street level, thus, safer, among flora and less noise. Reactivating this abandoned railway gave a possibility for experiencing the city in a new way, opened up new viewpoints, and activated buildings touched by or only seen from the route. The lower position of the Vladavska river can be addressed as an exciting opportunity rather than a disadvantage. The riverbed itself can provide more isolation and most importantly a river stream, whereas crossing bridges and transversal connectors above can have the function of elevated plazas: providing views, being social and wide open, seen from a far, contributing to the visual connection and vibrancy of the area.

CHAPTER 4

(RE)CREATING RIVERSCAPE

- 4.1. Along the river: strategic approach
- 4.2. Strategy 0: River regeneration
- 4.3. Strategy 1: A city for people
- 4.4. Strategy 2: Developing potential situations
- 4.5. Strategy 3: Connection - access and crossing
- 4.6. Riverwalk integration
- 4.7. The human scale
- 4.8. Materiality and vision

To determine the type of intervention that the project would emerge into, the taxonomy created by Busquets (2007) comes in useful. He differentiates 10 types of general urbanistic approaches. Based on the diagnosis of the Vladayska river, Slivnitsa boulevard, Lions' Bridge and the wider contextual situation, as well as taking into account the referred theory and projects, it seems to be a combination of two. These are: **5. Piecemeal Aggregations** ("general city issues; [...] confronts varying briefs in which integration between infrastructure and city, public and communal spaces, architecture and services becomes the fundamental concept") and **7. Recycled Territories** ("intervention based on the dynamic qualities of its territory and the intrinsic logic of its natural environment; this results in the restructuring of large tracts of land [...] that participate in a broader ecological system") (Busquets 2007). Such categorisation does not limit the scope of development, but rather shapes it, proposing a direction and instruments.

4.1.

ALONG THE RIVER: STRATEGIC APPROACH

The following strategies are a direct result from the sequence in which case studies, theories and their application were presented in the previous chapter.

In order to create pleasant conditions for urban life around the Vladayska river, regenerating it to its natural mountain watercourse is first and foremost. This is a necessary requirement evident in the waterway restoration examples. There are technologies and defined methods already proven in similar situation - thus, the thesis is not focused on it. Being preliminary for the case-specific actions, it is numbered with 0. After that, 1, 2 and 3 apply all the gathered knowledge, theoretical approaches and key takeaways to for the specific character of the thesis project.

In fact, the strategies appeared after the development of the project in order to summarize the processes. Introducing them beforehand, as concepts, helps for its comprehension.

0 RIVER REGENERATION

The most fundamental process that includes: water management for a natural stream; sewage separation; overflow and rainwater control via sustainable drainage systems (SUDS).

1 A CITY FOR PEOPLE

Giving the city back to people: freeing pedestrian space, reducing traffic, improving junctions' functionality.

2 DEVELOPING POTENTIAL SITUATIONS

Examining unused or neglected plots, buildings and structures to cultivate them according to the needs of the area, creating various uses along the river.

3 CONNECTION - ACCESS AND CROSSING

Linking the previous two together across the river and creating a riverscape for access to the river, while integrating the whole into the existing network and urban grain.

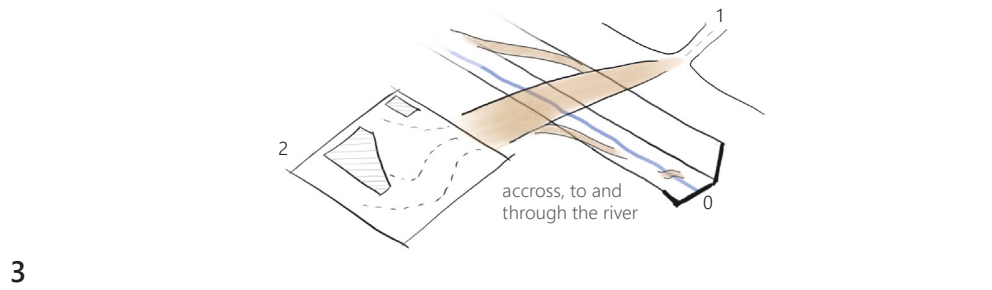
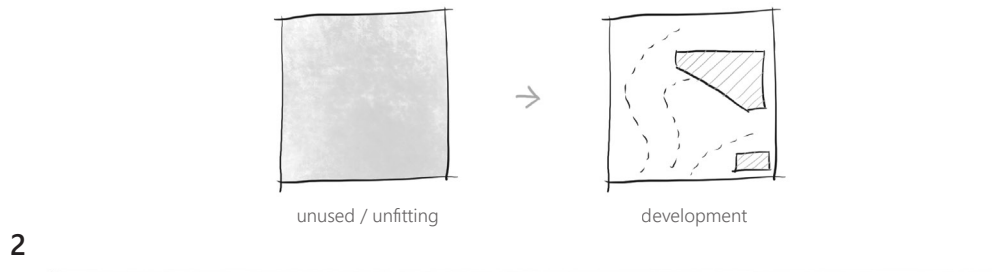
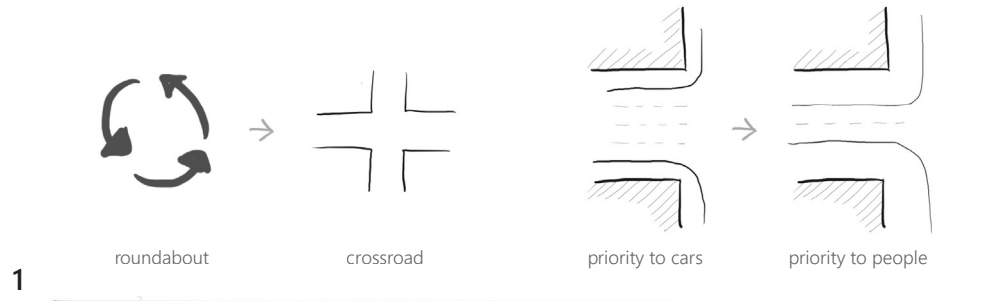
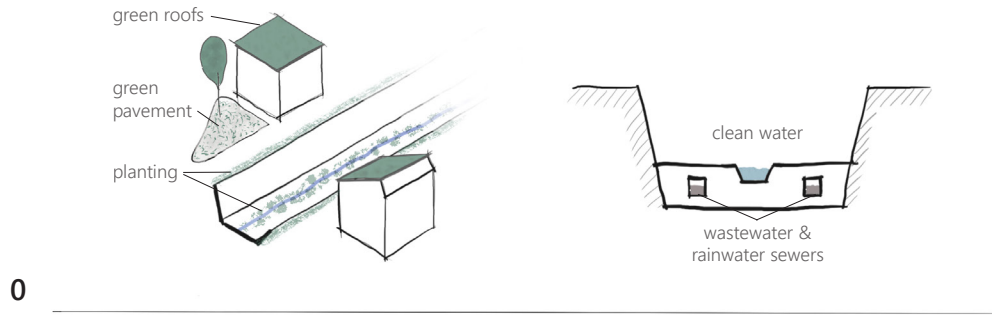


fig. 49: Strategies, conceptual diagram

Instead of applying the same set of strategies on every existing junction, the focus will be on the possibilities for pedestrian crossings that create some site-specific continuation in the urban grain.

This particular stretch is chosen for two reasons. Firstly, it is the most linear and controversial part of the joint between Slivnitsa boulevard and the Vladayska river. Secondly, with its complexity and importance, Lions' Bridge is located in the centre and serves as a base. The development will extend on both sides along the river, distanced equally from the base and reaching the next potent/controversial situation. Thus, 3 sites of interest emerge: west, central, and east, which will be referred to as sites W, C, and E, respectively.

The development of these 3 cases will be followed simultaneously, in order to show how the strategies can be applied in various locations along the Vladayska river. Each has a specific condition of its urban elements, addressed by strategy 1 (infrastructural) and 2 (architectural). Their coupling is what strategy 3 is assigned to, followed by their linear joint. To achieve this, removing road infrastructure is crucial. This will not only increase the pedestrian area, but will uncover the riverbed for access, sunlight and walkability. Step by step, qualities of inviting public environment begin to appear.

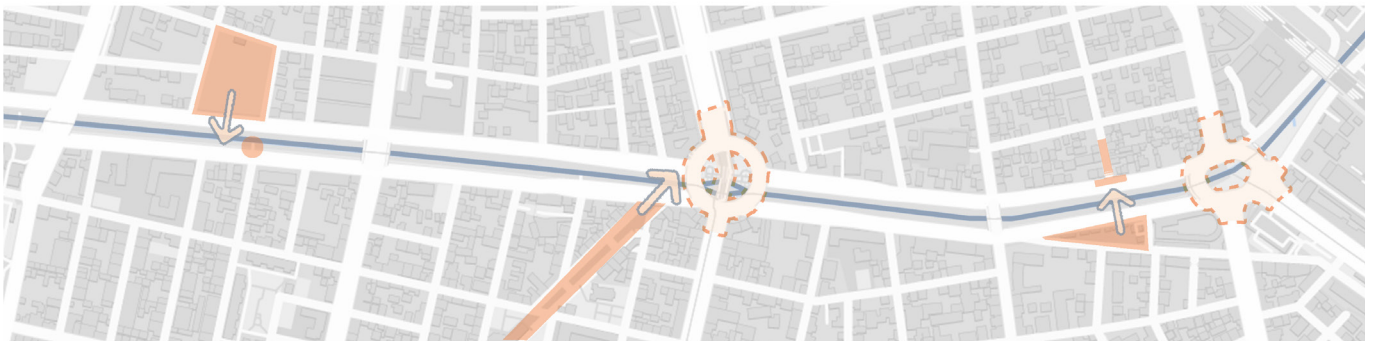
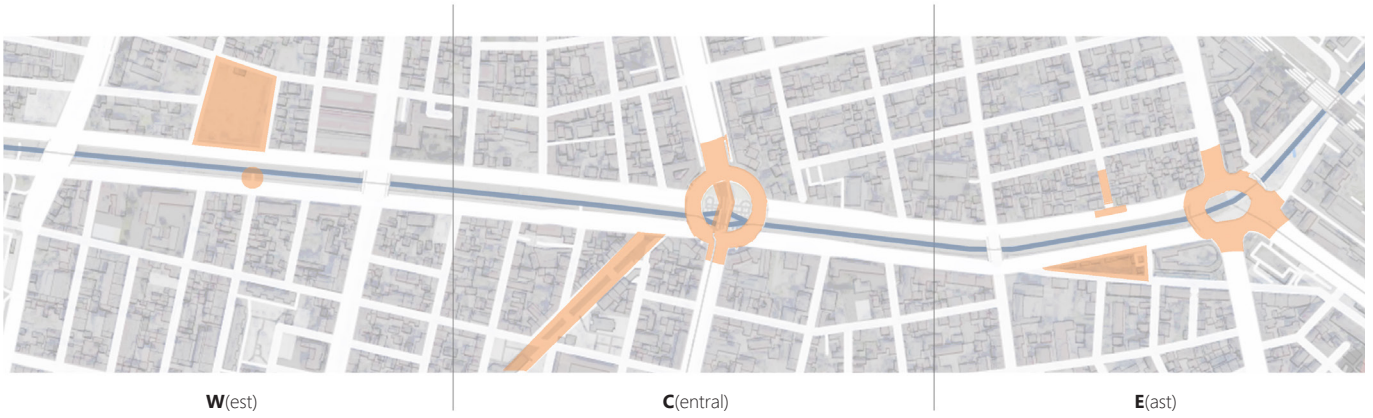
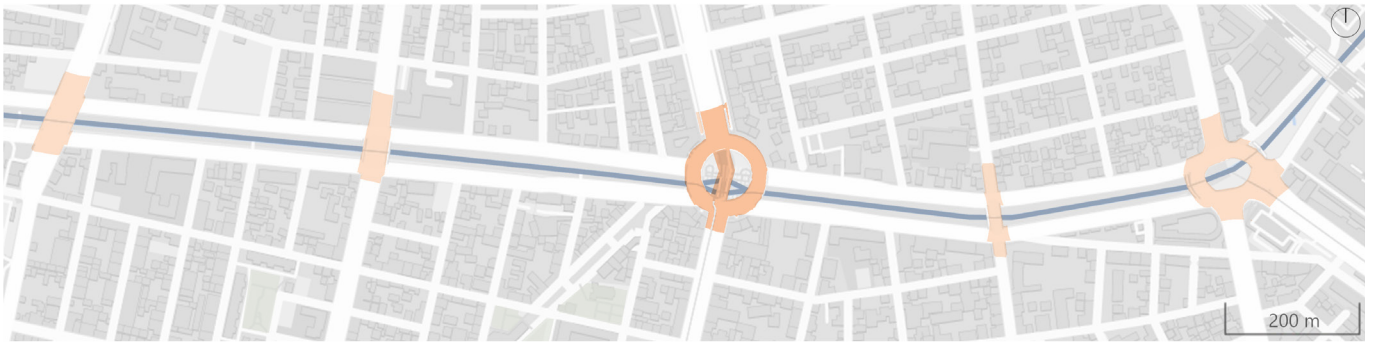
Summed up briefly and in the spirit of Holly Whyte and Jan Gehl: start by improving a small place, and, if the space is successfully used, make it a little bigger, then add other spaces incrementally. It is likely that they will be used. This use in turn will attract new people, who have previously not been in the habit of using public space outdoors. Thus the population of outdoor users will increase exponentially. (Bosselmann 2008, 247)

Starting point of intervention: stretching equally over the river length

Each case is a combination of the elements from strategy 1 & 2, in order to set the scene for strategy 3

Design intentions and direction; removing road infrastructure and uncovering parts of the riverbed for access and walkability

fig. 50: Overview of situation, strategies application



4.2.

STRATEGY 0: RIVER REGENERATION

In order to create pleasant conditions for urban life around the Vladayska river, regenerating it is fundamental. As mentioned earlier, the thesis does not evolve around the technical side of river regeneration, but its consequences. Therefore, we will only “touch” on the topic, looking specifically at the solutions for this river (and how they influence the design), following the project’s intentions and scope.

Based on the general problems identified for the Vladayska river, described in the diagnosis chapter, these are the major actions needed according to Bulgarian specialists in the field, combined with contemporary principles and successful examples worldwide:

- Water management via separating household wastewater and rainwater in underground sewer pipes, so that the stream remains safe, clean and natural (Emin 2022). One of the many examples of such implementation is the leading case study from *Chapter 2*: Cheonggyecheon stream in Seoul. Having the exact same

problem about mixing rainwater and sewage into the current, in the early construction phase separating pipes for them were brought underneath the stream, so that only excessive rainwater would occasionally flow into the stream (Lee 2006). In Sofia that would require such separation to happen before rainwater entering the general sewerage and through a reform in planning regulations of future developments;



fig. 51:
Managing
sewerage
separation
underground

- Overflow control and biodiversity support by creating meanders/pockets for the monotonous, high-speed current of the river and bringing back the natural shaping (The Collective Foundation 2021). Most of the rivers in the capital are in straight riverbeds, which significantly increases the speed of water movement. Such meanders via planting and rocks would not only slow down the flow, but will act as “connectors in migration corridors with high biological value” (Bosselmann 2008, 235). Of course, constructing a new “curved” riverbed is also possible, but the option from fig. can achieve that effect with less cost and amount of excavating interventions.

This will also ensure that the self-dynamic river flow would stay within its limit in normal conditions. Additionally, the flood limit and volume can be expanded by transforming the current walls into stepped/ramped for access while also for functions and planting to support the revival in the river zone (to be developed in subchapter 4.6. *Riverwalk integration*).

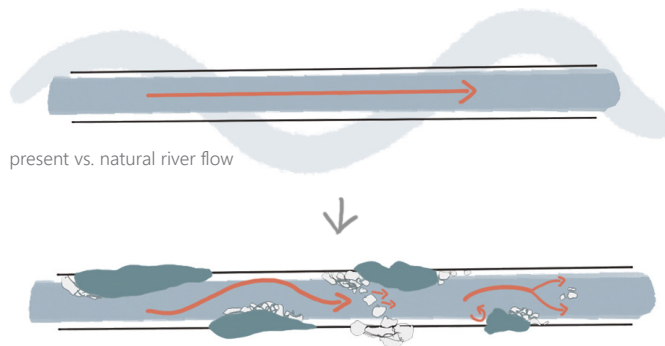


fig. 52: From straight, fast flow movement to slower, natural pace with better flood control, affecting positively biodiversity and people's well-being (by author)



fig. 53: Flood limit can be enhanced by wider riverbed and absorbing surfaces (by author):

- Rainwater control to be complemented by planted areas around and inside the riverbed together with sustainable drainage systems (SUDS) (London 2020, 155). Sofia has a lot of “sealed” soils which does not allot for natural rainwater drainage and absorption into the ground. Besides that, additional ditches parallel to the streets (as is the case in many European cities) are generally absent. Another important factor is building “green roofs” together with green pavements like “sponges” to retain rainwater and ensure its slower drainage. “To be effective, they will have permeable surfaces with trees or other vegetation” (Bosselmann 2008, 238). London suggests that such green/blue routes (and the flora and fauna that comes with them) can be designed as walking routes to adapt into cities: for instance, “play on the way” is a method to incorporate these facilities into routes to school, while “awakening curiosity” and stimulating social and physical aspects. (2020, 155).

In its regeneration the Vladayska river holds the potential to handle urban and nature's challenges in a way that is beneficial for both society and environment. As it is not a local intervention, multiple communities need to be engaged to promote its continuity. “For nature, habitat fragmentation is one of the major impacts from urban development on flora and fauna. Connectivity is crucial in maintaining and nurturing complex ecological systems” (BDP, 16). At the same time, this connectivity provided by the riverbed can be a recreational corridor for citizens and accompany the street level in its duties for the city.

fig. 54: Liu Chuanriver, Taichung City, Taiwan



4.3.

STRATEGY 1: A CITY FOR PEOPLE

The top sketches on fig. 55 and 56 depict the current situation on Slivnitsa boulevard: priority to vehicles with only ~12% of the entire boulevard available to people. The bottom one proposes reducing roadbed width in order to gain space for pedestrian and cycling circulation and activities.

That would mean reducing the number of car lanes from 4 to 2 on each side. **Optionally**, bringing 2 lanes in transit tunnels underground could preserve the direct connection between east and west that the boulevard provides. That would contribute for shorter driving time, while reducing risk and noise on street level from high speeds. On the low-traffic street level, the lane on the side of the existing buildings would be primarily for public transport, deliveries, emergencies, temporary parking etc. The other one will be the “active” one, moving along with the river flow. Bike lanes could be on either side, however, next to the

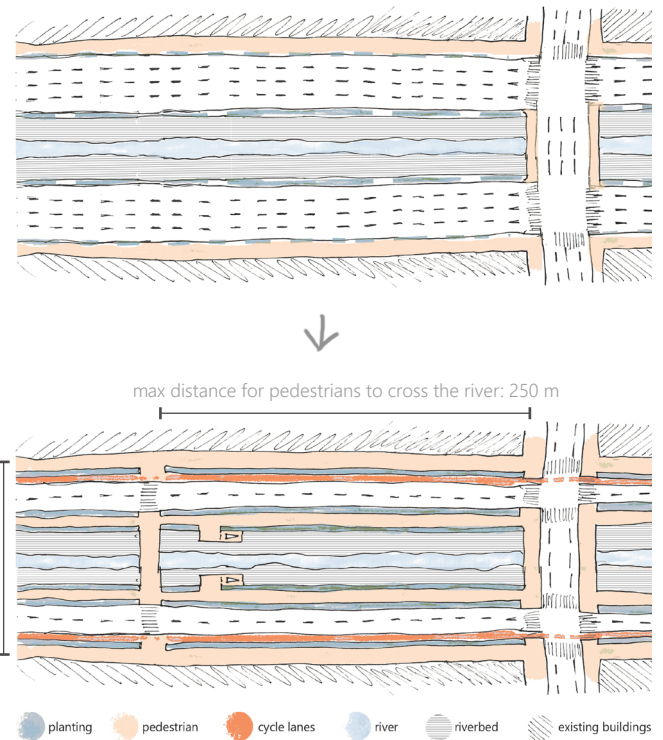


fig. 55: Initial sketch proposals for infrastructural reformations, plan (by author)

riverscape cyclists go benefit from the setting and directly access the riverbed without crossing.

Removing the 2 roundabouts as shown earlier (sites C and E) reintroduces the crossroads. This would ease pedestrian movement across the bridges and on them. Without being overwhelmed by grand infrastructural constructions, people would be getting back the feeling of living in a city for people. Having the advantage of the natural resource within its realms and in such proximity to the street, introducing nature in the area should be a norm. Uncovering the river from redundant masses above is necessary also for the visual connection to its surroundings. Especially on this side of the road, where the landscape and the new river sidewalk on street level would emerge.

The other part of the space gain would be for extending the existing sidewalks. This will give possibility to activate the ground floor of buildings, because now there will be space to accommodate functions. The “active edges” play a huge role on the pedestrianization process of any street or city. From the current 2.5 m wide sidewalk on average and hard, unentertaining facades, extending it to double that size, could accommodate cafe tables, seatings and store displays, along with trees to shade them. Bosselmann stresses on 4 key elements for successful neighbourhood centres: “continuous frontage of stores, convenient sidewalks, tree canopy made of deciduous trees and transit” (2008, 246). In addition, it has been proven that from two sidewalks, people would most often choose the “active”, busy one, considering it interesting and safer (Bosselmann 2008). And this appears more vital when shaping our urban environment, rather than only taking into account the numbers. We measure what you care about.

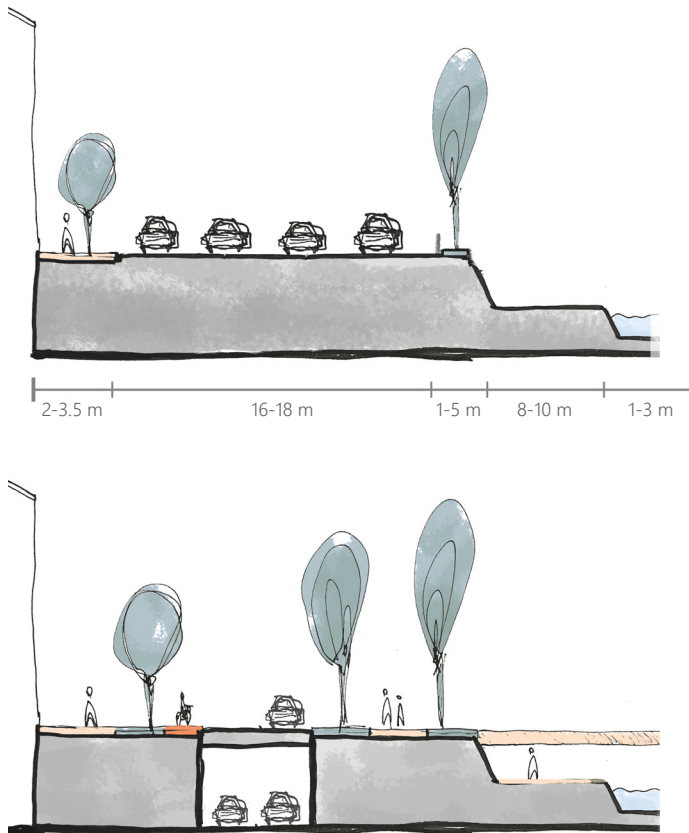


fig. 56: Initial sketch proposals for infrastructural reformations, section (by author)

We can follow how the sidewalks extension in each specific case could free areas for public and green space. Moving beyond that, towards the built-up (or the unbuilt), exciting discoveries begin to show up.

Site W:

Improving connectivity along the river and the neighbourhoods highlights what can be now reached and potentially accessed. An unused plot woven in the street web might be a good reason for developing foot infrastructure around it in order to activate it. A broken part in the riverbed wall creates dangerous and steep gap which people sometimes use to reach the otherwise not accessible land there. The presence of two educational buildings determines the mixed-age groups and occasional users in the area at certain parts of the day and week.

Site C:

On the contrary, instead of unused space, there is not enough available here: unauthorized building and build-ups at the end of the diagonal street. That signals for a high usage of services and demand for facilities, together with large amounts of people. Furthermore, this end after the Women's market touches the busy boulevard - so it is a "dead-end" not leading to anywhere. Removing the irrelevant buildings would unblock the flow of the market's diagonal setting that cuts through the street web. At the same time, removing the roundabout uncovers charming situation of a huge, "encircled" open area among iconic natural and cultural elements.

Site E:

Another roundabout removal for gaining space above and in the riverbed. In turn, that eases the busy situation in the area, which is much preferred in the presence of a hospital. The food kiosks are on a narrow sidewalk with no seating area. Moreover, on the north a residential neighbourhood is growing, but it is partially disconnected by another dead-end (only infrastructurally) which is making the disabled access almost impossible.

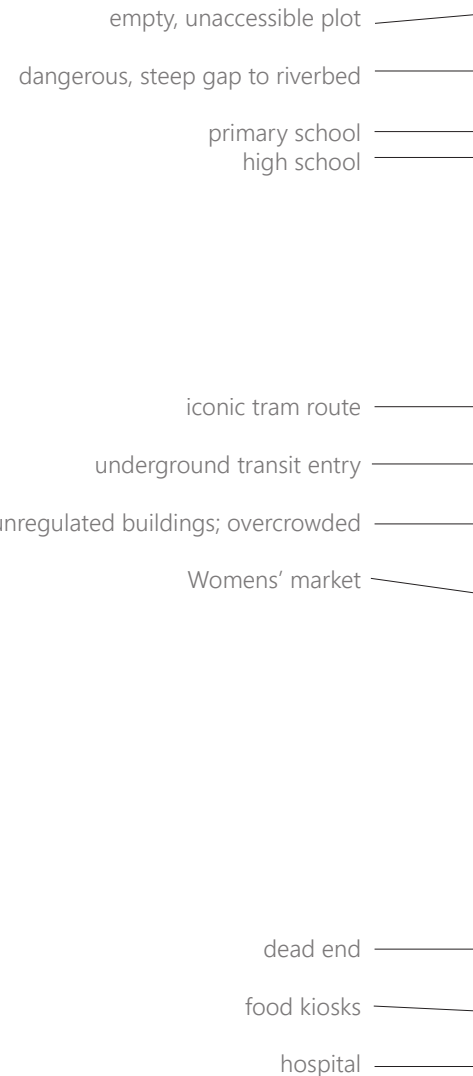
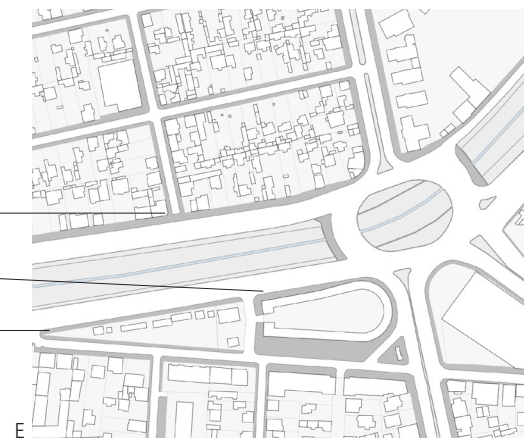
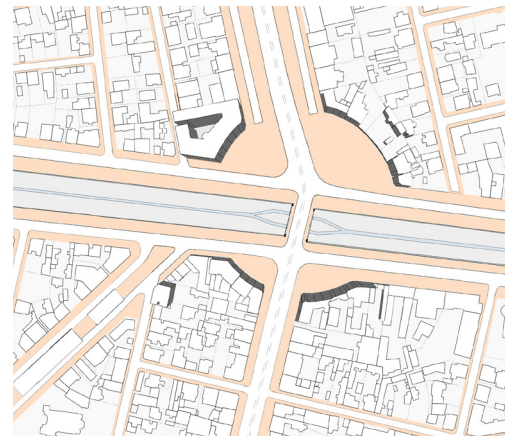
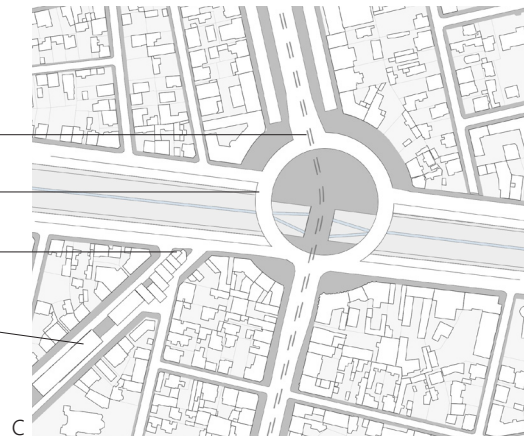
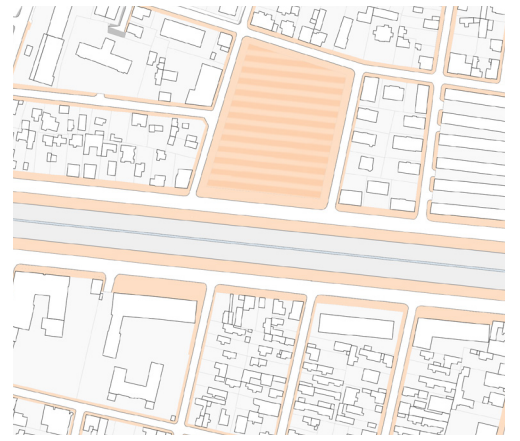
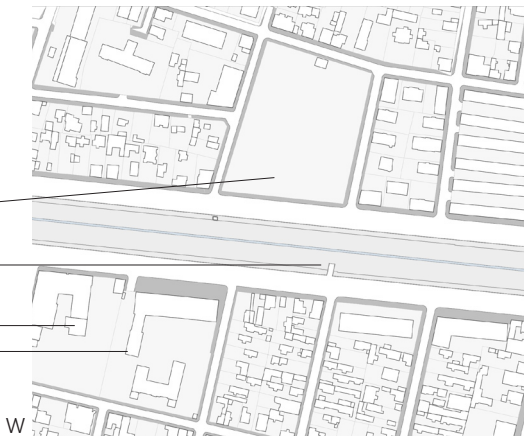


fig. 57: Before and after: urban setting infrastructure



4.4.

STRATEGY 2: DEVELOPING POTENTIAL SITUATIONS

The current problematic spots on each site do not allow for people to move freely and safely, as well as they are not aesthetically pleasant - with no urban furniture or designated square/leisure space. However, they hold a huge potential because they are already established in some way - either by citizens, history of the place, or by necessity.

To connect public spaces to commercial activities, it is prudent to introduce improvements to the public spaces incrementally. Eventually new space will need to be found by using leftover street space or obsolete turning lanes, or by consolidating traffic islands and median spaces. (Bosselmann 2008, 247)



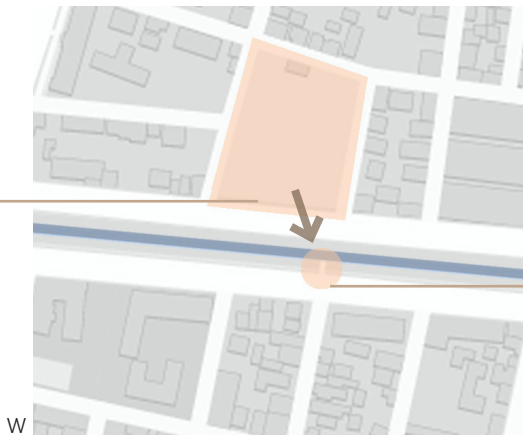
unused plot full of trees and greenery, currently inaccessible



Women's market:
largest open-air market but unappealing



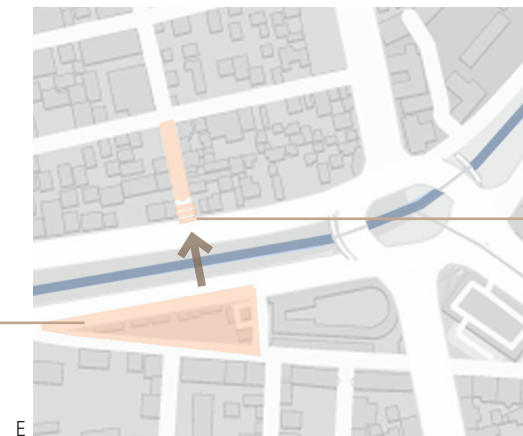
food kiosks, no sitting area,
parking behind



the only "access" to the river



Lions' Bridge: landmarks & iconic tram - most of the space is for cars



access to residential area: change in level, no vehicles



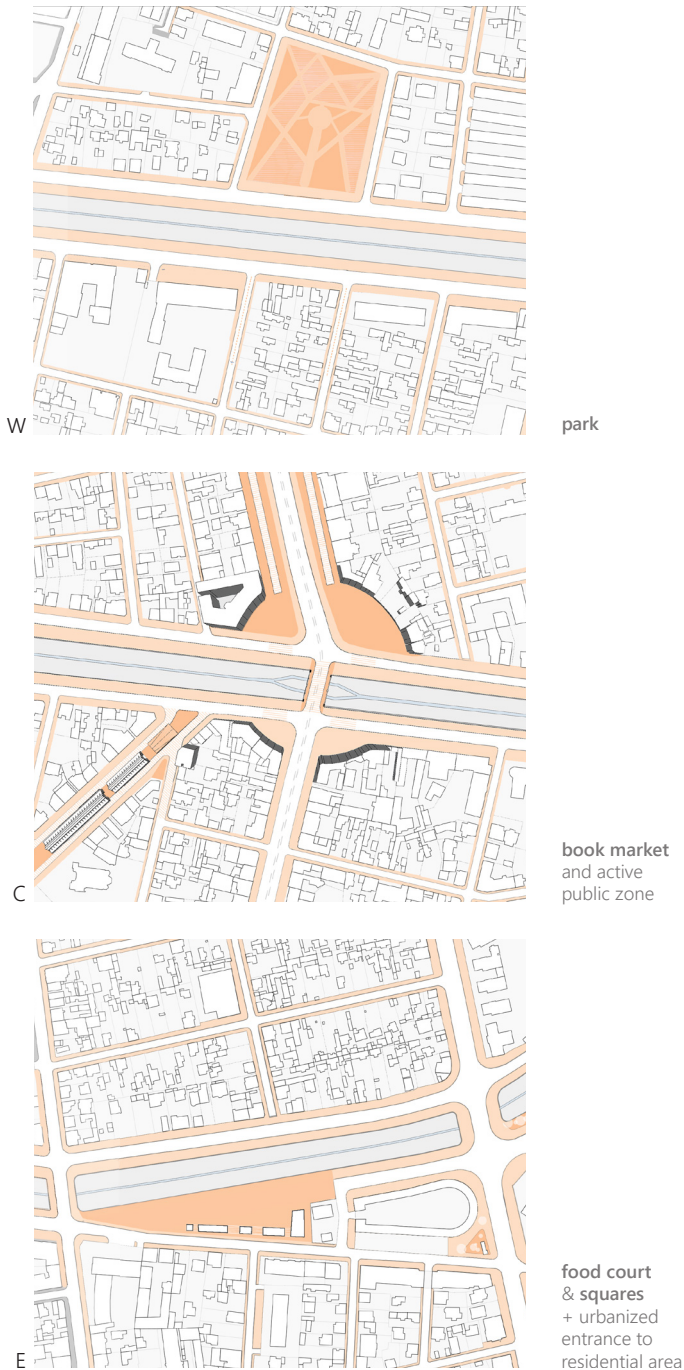
fig. 58: Problems and potential

The idea of a **book market** at site C comes from the history of the area merging with the use of its immediate context. On one hand, there is the Lions' Bridge (a booksellers memorial) and on the other, right behind it stretches the lively Women's market. Replacing the unregulated additional build-ups at the end, it opens up the space, creating a public zone and free movement towards the new square on and around the bridge. The narrow streets on both sides of the market diagonal (together with the crossing zones towards and on the bridge) to become shared streets with pedestrian priority.

Such architectural intervention could create a link not only spatially, but conceptually. Not simply a store selling books, but a second-hand market and vintage books exchange, together with events in that spirit. Reading spaces on an upper floor would provide uninterrupted vistas to the Lions' monuments, the river and the entire (now open) public vibrant area. Design aspects: widening towards the front, overlooking the river; ground floor with glazing and in-between, liminal spaces to allow for light, views and movement through ground level of the building.



fig. 59: Book market as a link between Women's market and Lions' Bridge

**Site W:**

The large, unused, unbuilt plot is now easy and nice to reach (at least on this side of the river, for now). Taking advantage of the soil, greenery, and nature in its perimeter, developing it into a park is the most suitable, and needed, solution. This way, the site can relate with the river's flora and fauna, extending sideways the its linear connectivity. Looking towards the river and opening it on all 4 sides can enhance the visual connection with the riverbed from everywhere in the park and even from behind it, opening it to the neighbourhood.

Site C:

The diagonal setting of Women's market and its street leads towards this "circle", creating together active public zone. This is where the Vladayska river meets the tram line at Lion's Bridge. It is a knot, from where all these could be appreciated and experienced: the very first iconic tram, landmarks such as the Lions' monuments and historical building facades, the flowing water of the river, the cityscape.

Site E:

Because of the hospital, additional space is needed for recreation and recovery support, as well as waiting areas in its vicinity. Additionally, the residential neighbourhood on the north and the improved food court would require larger and eating and seating. To be even more isolated from traffic, it could extend over the entire roadbed, which would provide local/emergency route only while re-routing the vehicle road from the boulevard. Instead of following the river, cars would continue straight, behind the hospital and food court. The food kiosk triangle is now directly connected to the river sidewalk.



fig. 60: Developed potential situations

4.5.

STRATEGY 3: CONNECTION - ACCESS AND CROSSING

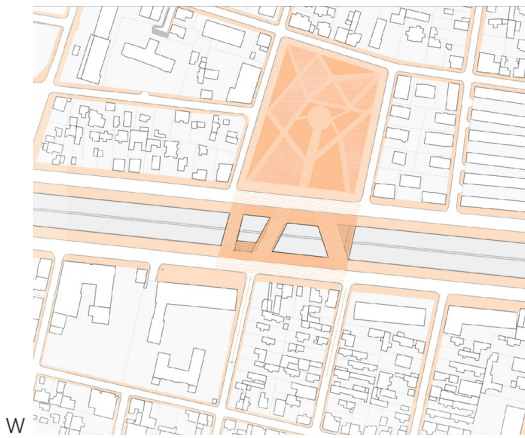
This is the “bonding” of each case: the key aspect that extends the urban situation beyond. Reaching across the river and getting closer to it.

Every bridge is made from the same set of elements which are positioned and oriented specifically, in order to produce a member of the same family, but creating unique environment in its own conditions:

- access to the river through ramps and stairs (as transparent as possible to avoid unsafe spaces in the riverbed);
- look-out spots and platforms: amphitheatrical steps/seats positioned strategically for the best vistas;
- creating continuity with the existing street network by following the established directions and orientations;
- responding to the needs of its area, taking advantage of the context and resources;
- creating multiple options for vibrant and active urban life, all within the same linear green corridor that the river provides.



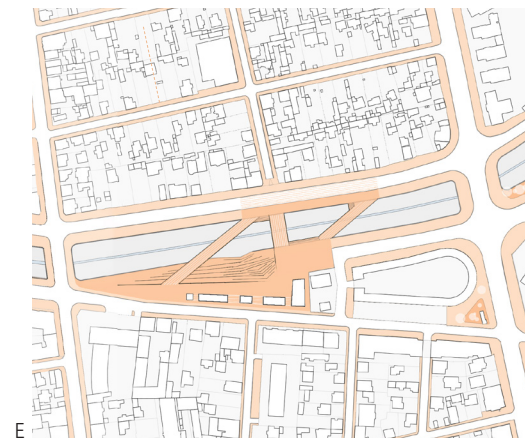
fig. 61: Each situation with strategies applied: integration of the bridges and riverbed in the new layout



**Park extension
above the river,**
reaching schools and
streets on the other
side of the river



**Continuation and
linkage of public
space above the river**



Introducing the
"riverscape" for
access to the river

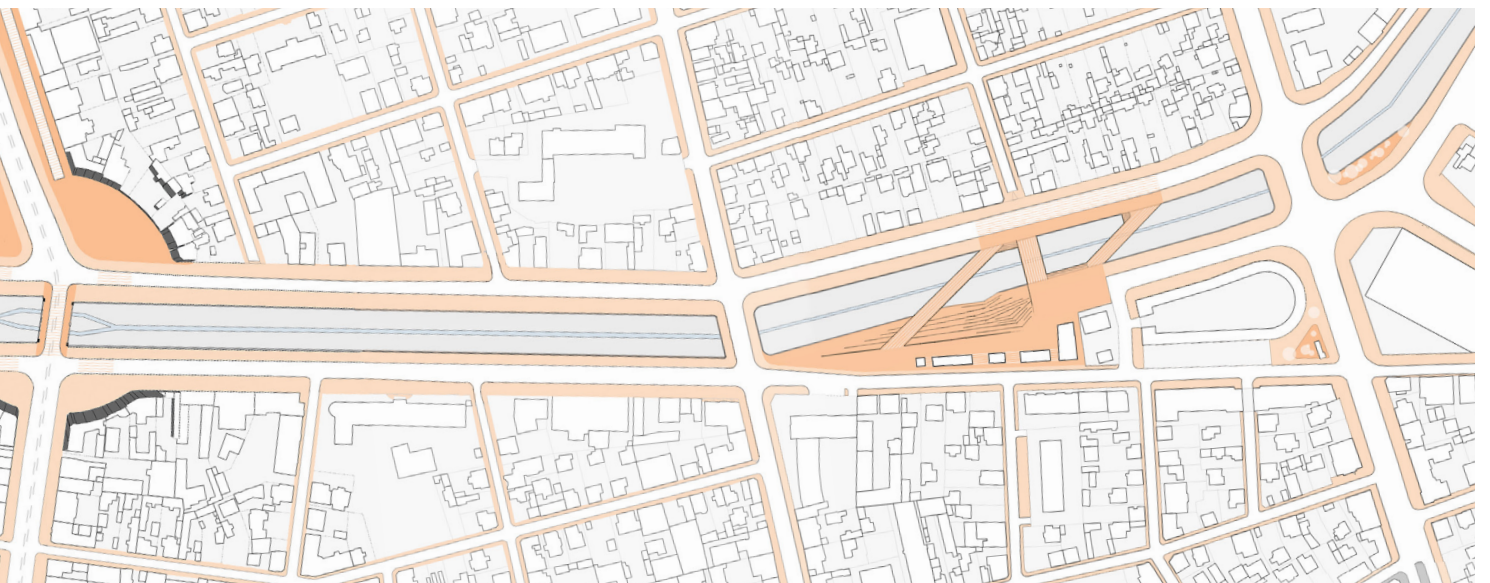
During the continuous, gradual development of the three sites, applying the same strategy and tools, each had its own formal evolution. However, all of them together, laid out on the linearity of the river, highlights their appearance much stronger. They allow for cross-connections to emerge on street level. And what they do is bringing public space to the river, providing views, and making the river crossable while changing the perception of it as an urban barrier.

It was surprising to notice what the shaping formation has turned into - completely unintentionally. In plan it can be seen that they emerge into a square, a circle and a triangle (or 2 triangles). Through the river flow, they create a sort of synergy among them.





fig. 62: Integration of bridges and new layout into the area - all together



4.6. RIVERWALK INTEGRATION

Moving into the riverwalk is where the dots of the project connect. The riverscape is that uniting element that sews together the separate parts into a whole, linear continuity.

The riverscape is essentially what happens when we merge landscape with a river. In the same manner, bringing the city sidewalk next to the river, we get the riverwalk. And even better when that is combined with a natural landscape within the city.

The logic behind the formation of the riverscape lies on the street network and its extension inside the riverbed, rather than creating separation between urban areas. To further complement pedestrian experience on the boulevard, wherever there are opaque facades or hard edges for example, additional space could be provided by the riverscape - either by platforms or gradual slopes towards the riverwalk.

street connections leading to river
(infrastructure)

street level with sidewalks, buildings,
borders (used or opaque area)

continuity of circulation:
access points to riverbed

sidewalk extension:
towards the river

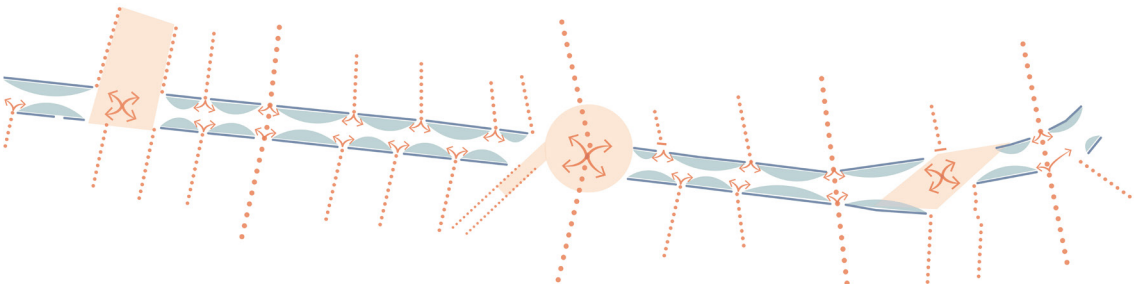
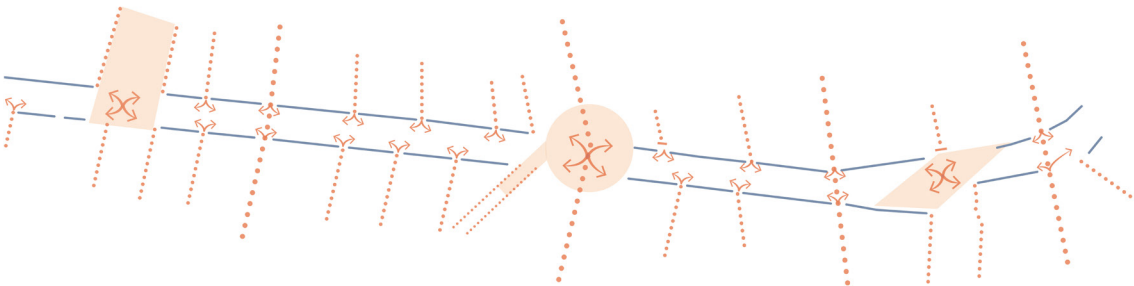
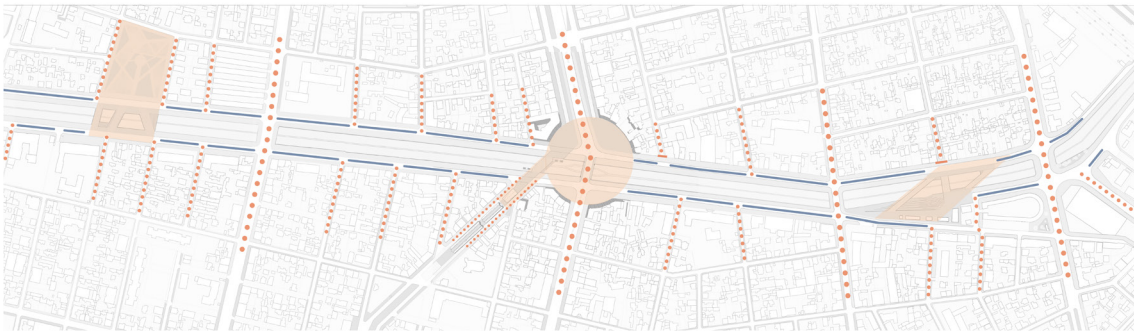
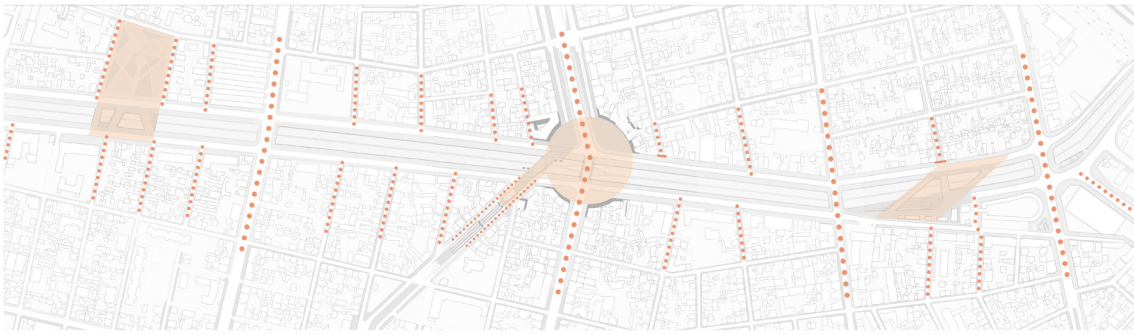


fig. 63: Creation process and programme of the riverscape/riverwalk

Bringing back some of the discoveries from Chapter 2 can further support the riverscape formation. After comparing and examining practices in similar developments, the most common logical principles are summed up and depicted on fig. 64. Although the central element around which the rest is structured is linear here, testing each gave interesting perspectives.

While the fluid, curvy shaping did not fit, the zig-zag and seemed better on the river level, but not on the street level, related to the existing urban network. Keeping the linear orientation on street level and applying various alignments of linear elements in the vertical change of levels gave the most fitting results. That way, access to the riverbed will happen organically, intuitively, as part of the route, rather than sharp and sudden environmental shift.

Providing multiple options for access or movement around the river - and having these options to appear often - is crucial. This gives us a feeling of a different experience, even if it is generally in the same place.

Besides that, following the established urban grain can support the further application of the proposal not only on this stretch, but along the entire river or other rivers in Sofia.

fig. 65: Testing formation principles for the Vladayska river

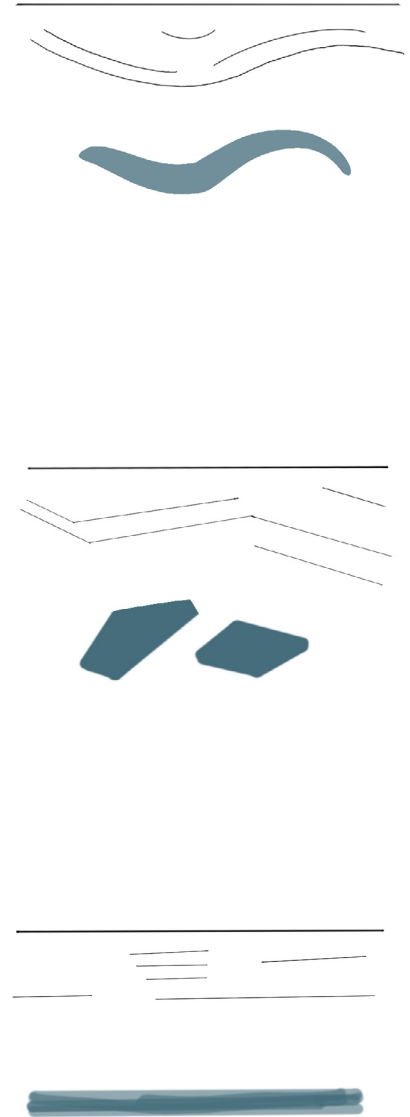
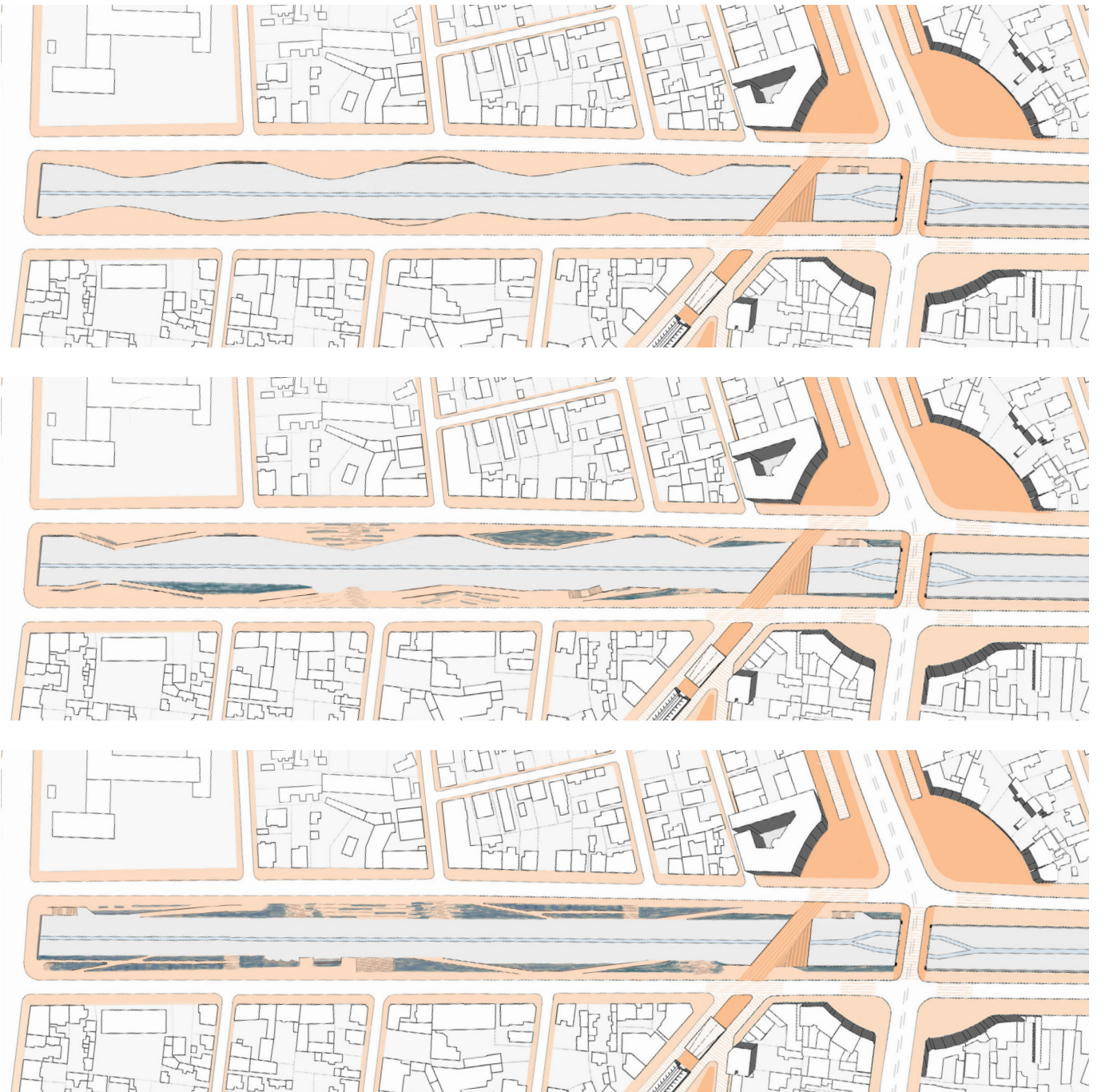


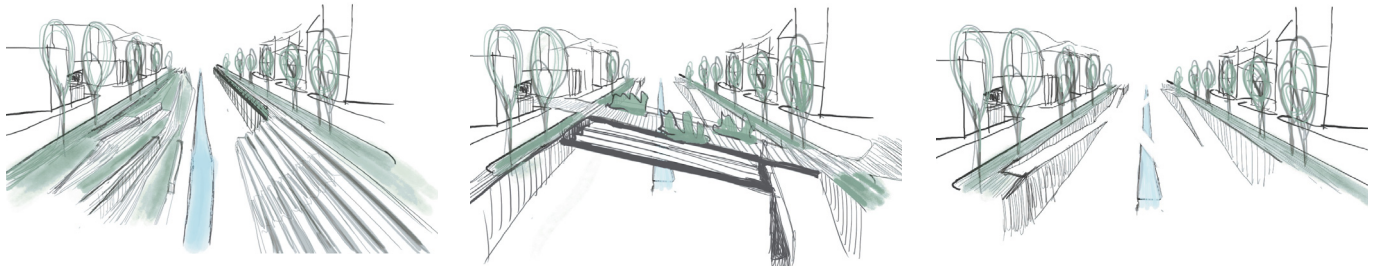
fig. 64: Common principles in shaping around a central element

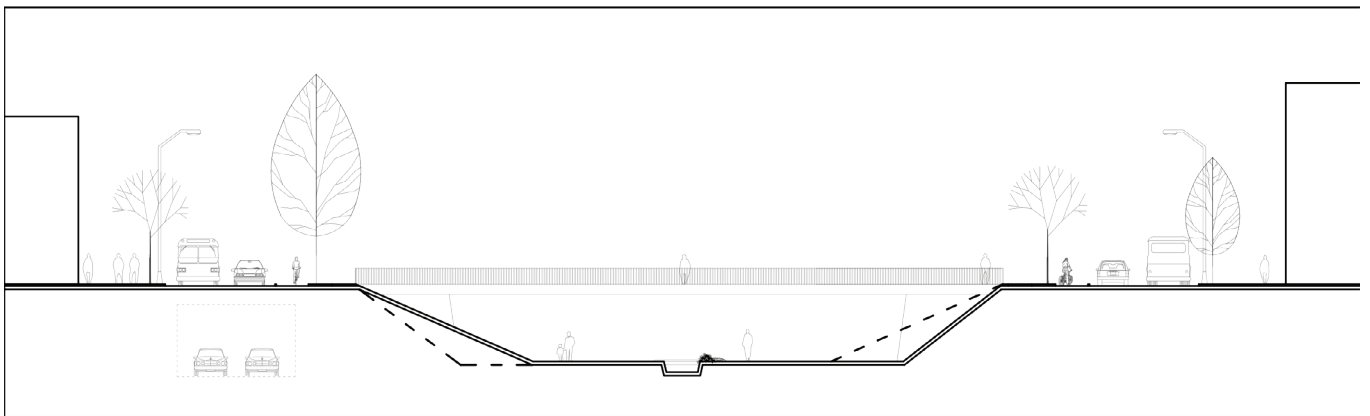
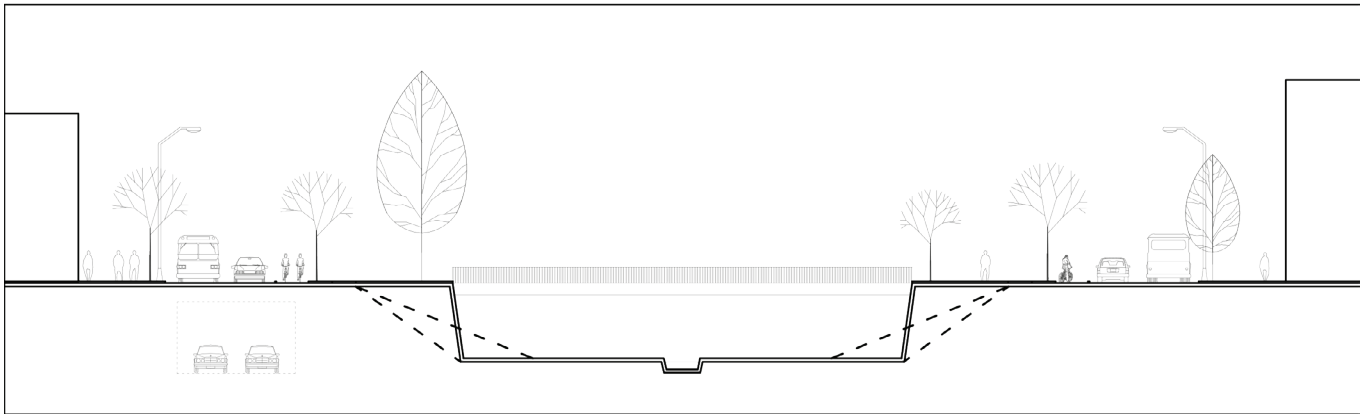
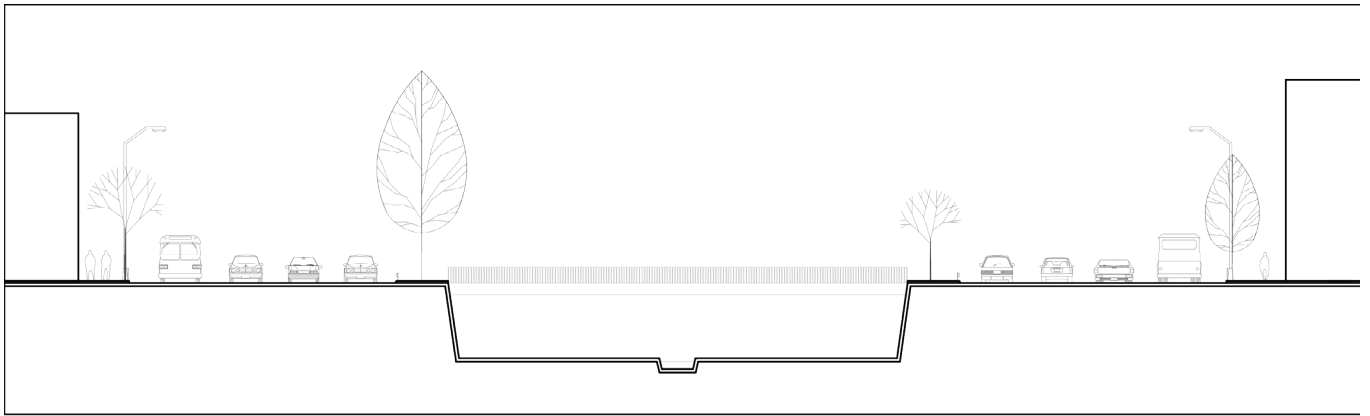


In order to become a consistent linear park providing a riverwalk with slopes and natural features in the city (which is essentially the riverscape), the majority of the riverbed walls are getting affected by the intervention. The bridges act as connectors on street level. The riverscape is what will create the entire riverwalk experience on a second level below - next to the water, along the current - and everywhere in between. The extra sidewalk width gained from reducing the car lanes will be utilized in various ways: platforms or seatings above the river, pedestrian/cycling lanes, slopes and ramps to and from the riverbed, physical activity space (such as climbing wall or skating features), play area, exhibition space, and more.

fig. 67: Riverbed transversal section: before and after. Slopes variations. Proportions and space gain for users/activities.

fig. 66: Initial perspective sketches of the riverbed, various functions and facilities



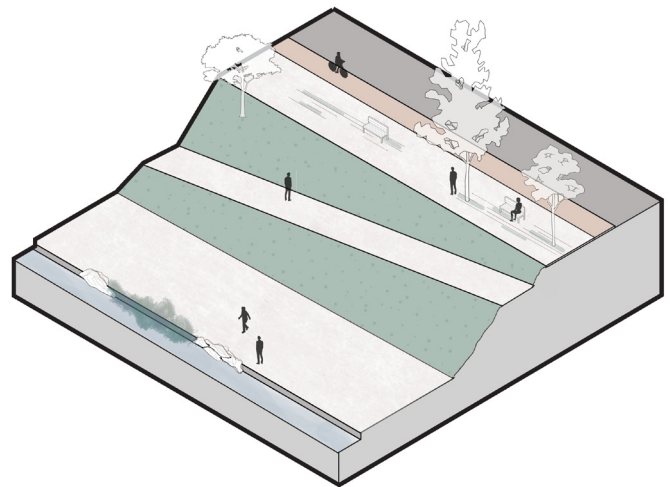


4.7.

THE HUMAN SCALE

Zooming in to the users activities and circulation in the proposal. The urban section diagrams show the 3 major applications of the intervention. Firstly, ramps for gradual and disabled access, together with riverwalk and routes integration. Secondly, more direct access through stairs, but still providing playfulness or seating on the slopes. Thirdly, additional features and extensions such as platforms on street level for views and additional spaces there. As well as facilities promoting physical activities and play. Niches and other formations in the slopes provide variety, leisure and break spots.

The diagrams show the transition from gray to green infrastructure: from hard surfaces and man-made structures on street level, towards the river the context changes to more natural and organic, reaching the meanders and the water.



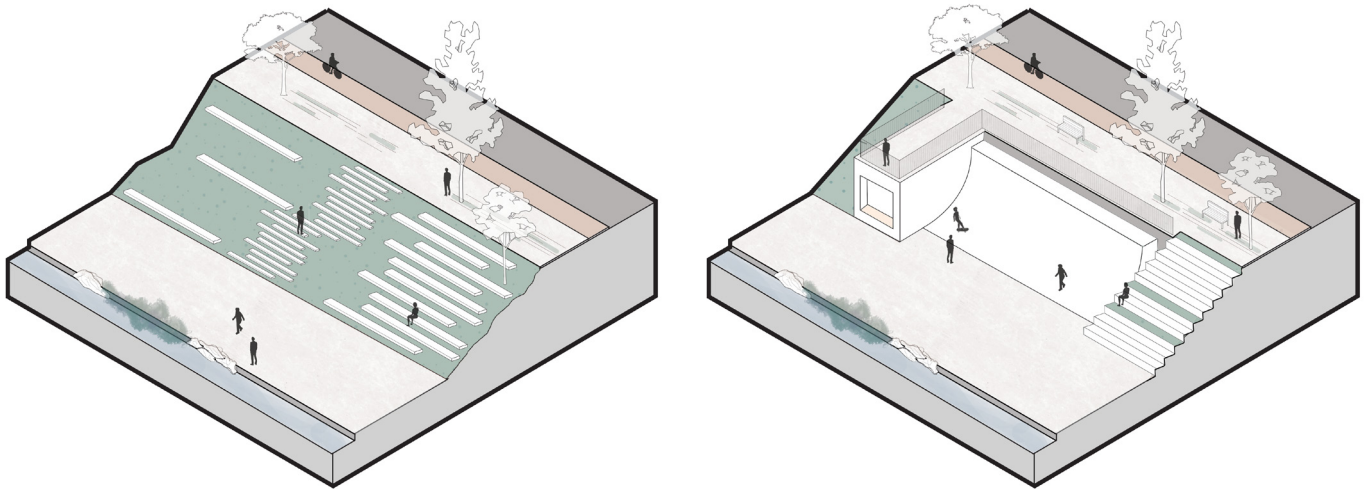


fig. 68: Transition from the gray to green infrastructure: from the street to the river.
Axonometric diagrams

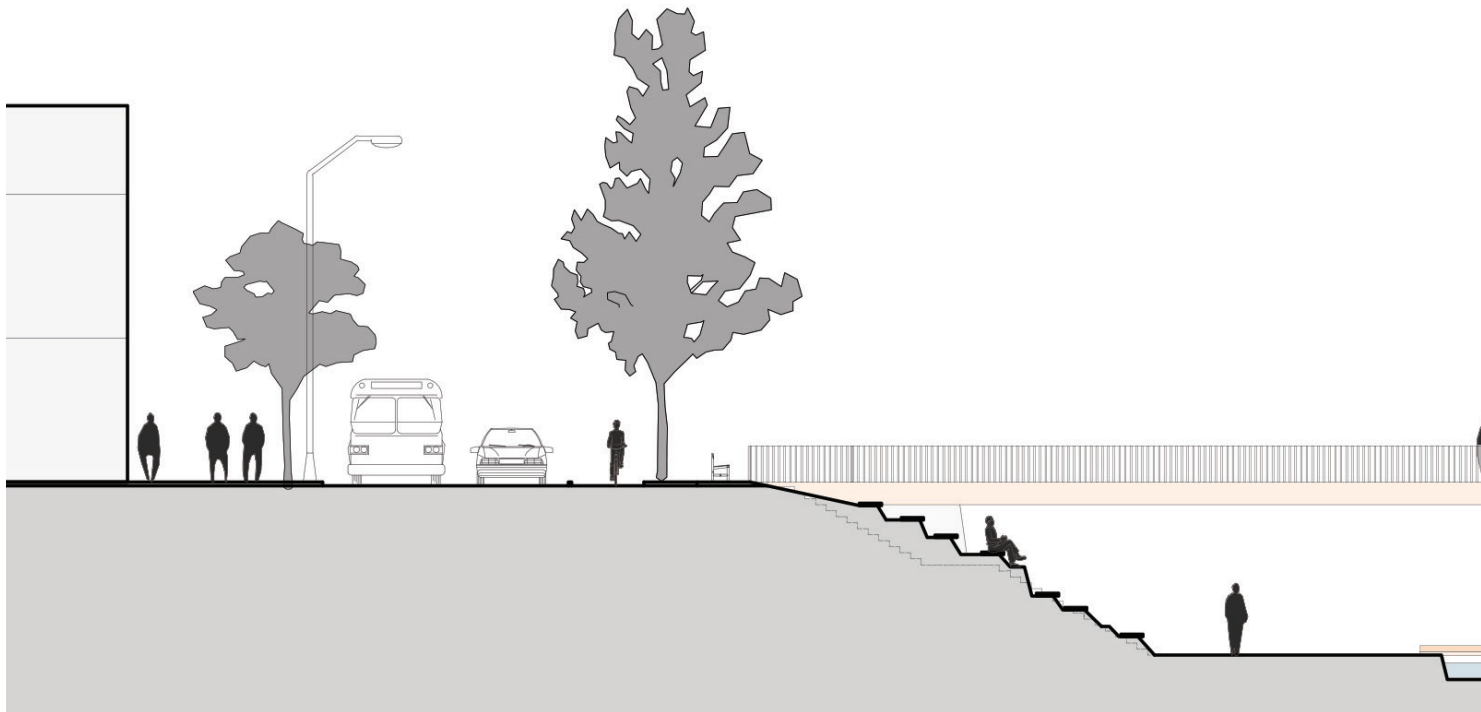
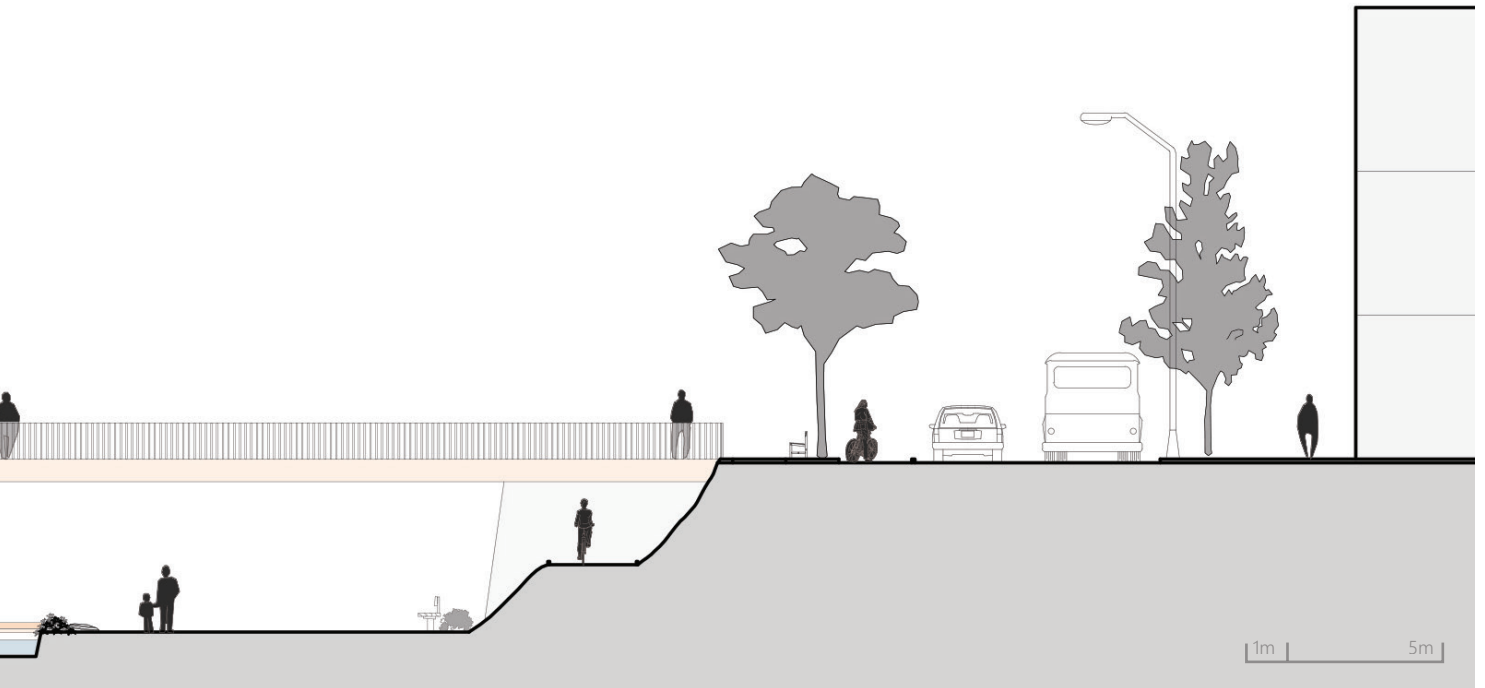
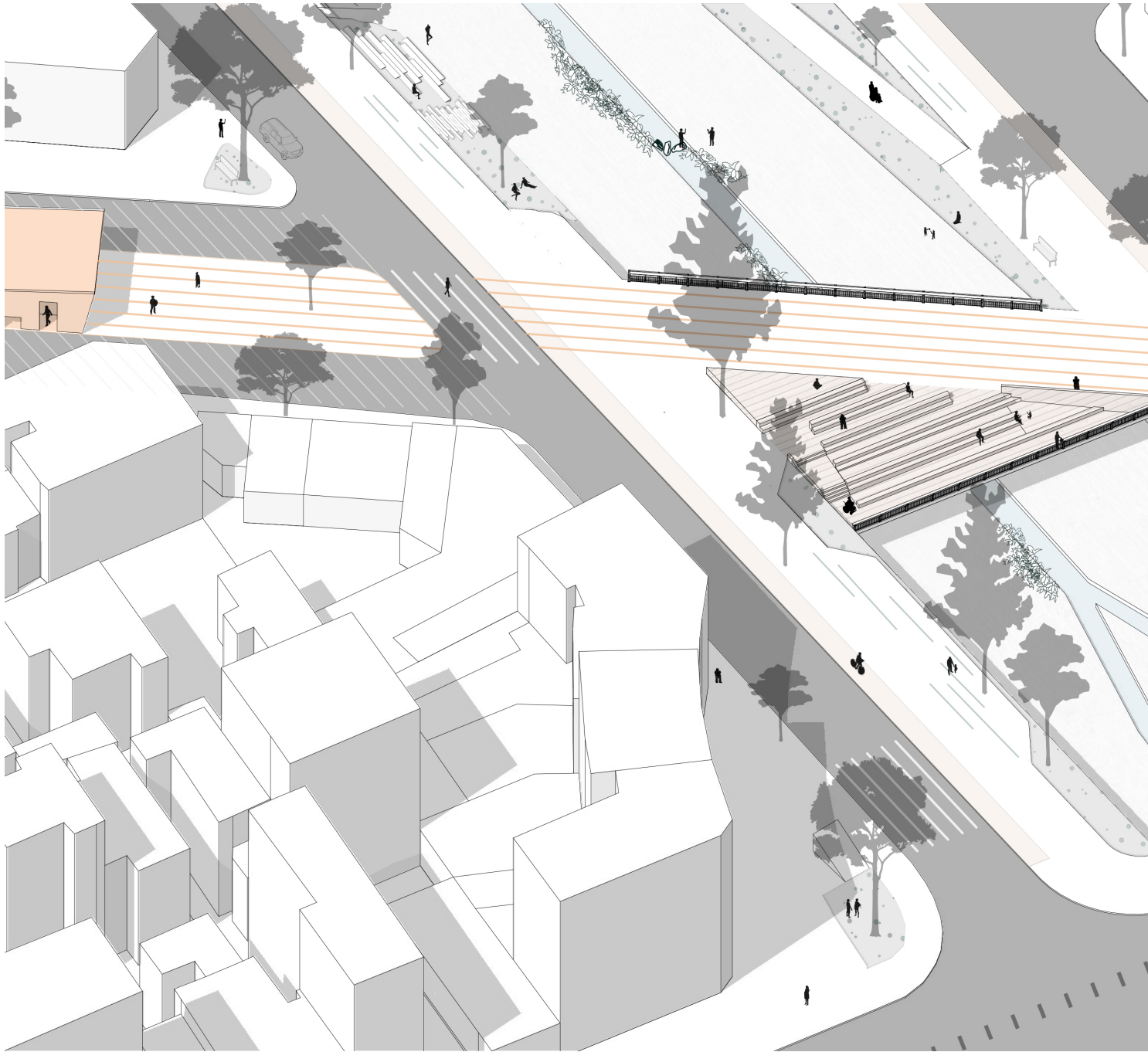


fig. 69: Transversal riverbed section: the intermediate edge . Ramps, steps, seatings, users and their coexistence





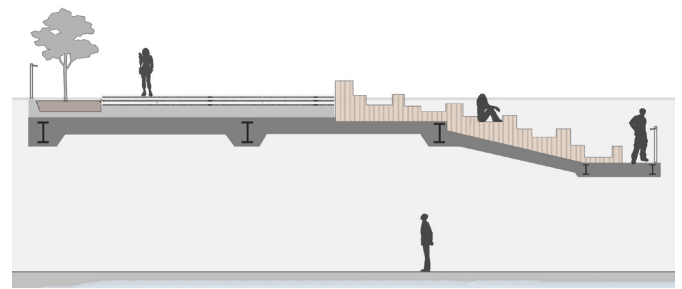
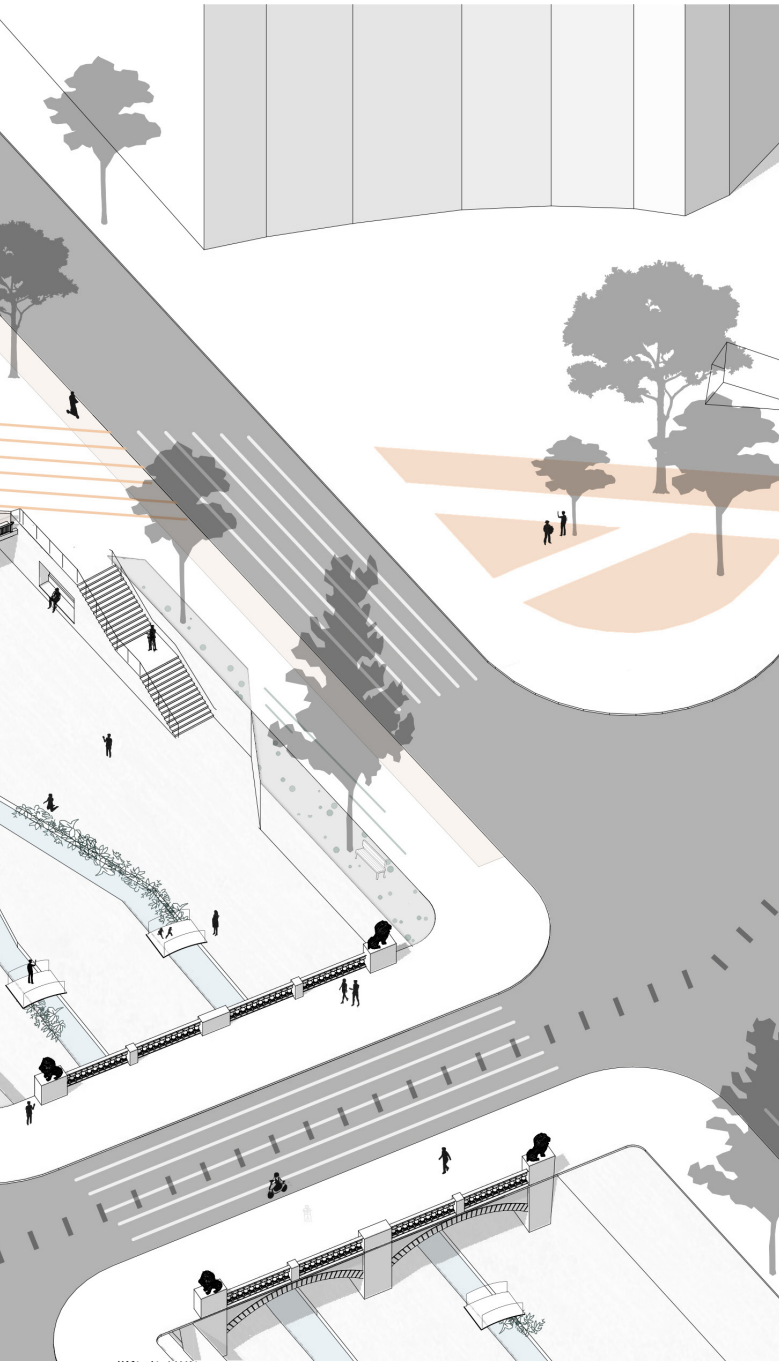


fig. 70: Transversal section through bridge, site C

Extending the public spaces across the river follows the established urban grain in the area. The new bridge on site C combines two of the existing and dominant directions: one complementing Lions' Bridge and creating views to the river and moments of appreciation. At the same time, the other connects two open public zones on both sides of the river, supporting movement across. It is no longer a barrier, but a uniting urban element.

fig. 71: Urban development of site C, axonometric view

4.8. MATERIALITY AND VISION

Being a new intervention on street level, the footbridge uses contemporary materials and technologies: the green pavement and planting help with drainage and rainwater control. Granite paving elements respond nicely to the traditional stones of Lions' Bridge. Wood can be used for furniture and seatings on bridges and street level.

As with every urban river, there is a risk of overflow, thus, it requires a careful consideration of materials. Using primarily stone and iron (lamps, drainage, etc.) in the riverbed would assist in their long-term use and resistance. It is originally made with cobblestones so following the same concept, larger stones can act as seats, meanders and bridges, contributing to the feel of natural presence in the city. To ensure accessibility, different types of surface/paving can be used, indicating change of use in shared spaces or transition to another area.

fig. 72: Materiality, drainage systems and separation of shared space through materials

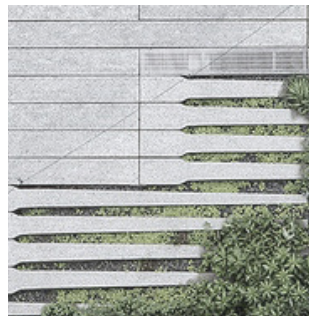




fig. 73: Collage, view from the footbridge on site C towards Lion's Bridge (and best photography viewpoint)

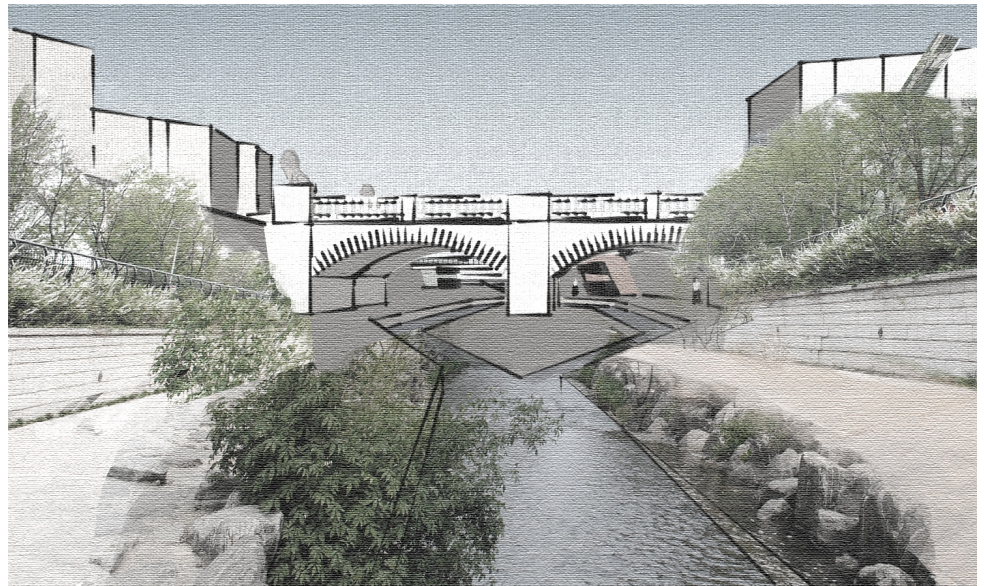


fig. 74: Collage, view from the riverbed towards Lion's Bridge

CHAPTER 5

BACK TO THE FUTURE

-
- 5.1. Before and after
 - 5.2. The change: meaning and impact on citizens
 - 5.3. Personal viewpoint

Bringing the past to the present can be crucial to formation of our cities. Just like with the river flow suggests where its strength is and where it is heading to - we can take such hints from the past when the city was more naturally formed, responding to the basic, but essential human needs.

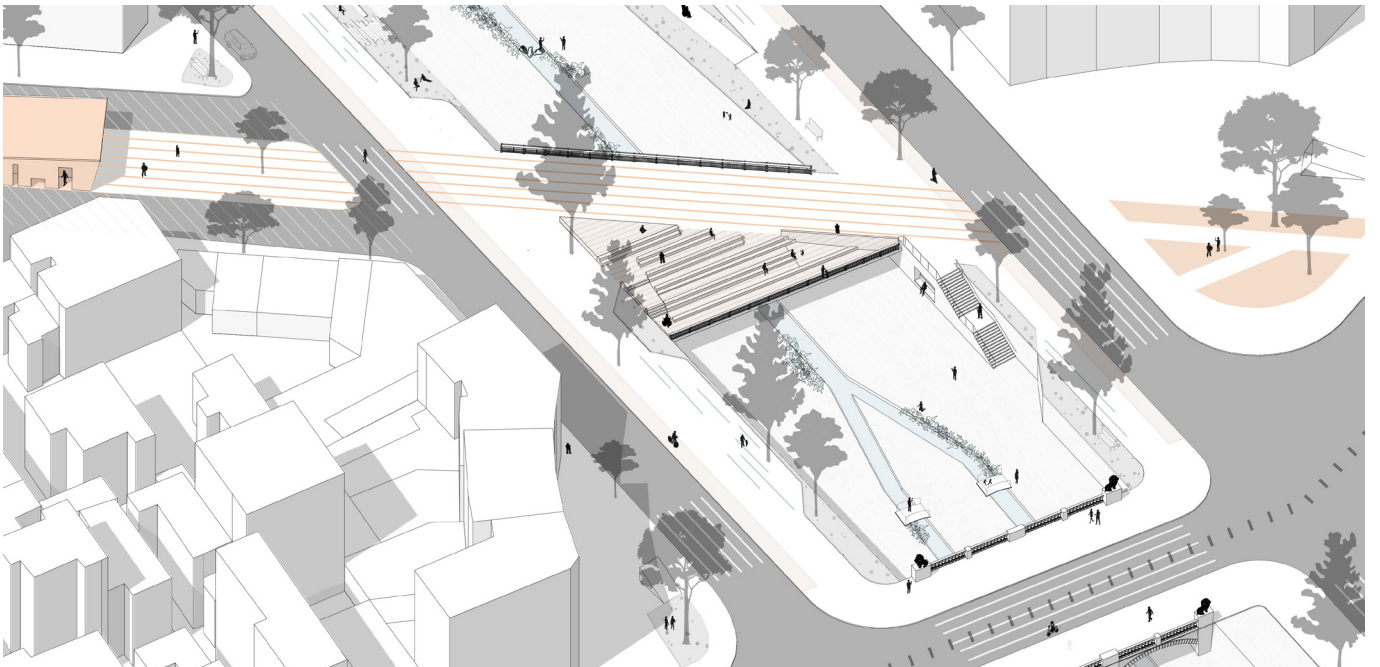
fig. 75: Postcard of the old Lions' Bridge with the first tram line in the capital - a lively city



5.1. BEFORE AND AFTER

Regenerating the Vladayska river could lay the ground for an integrated network of riverscapes, riverwalks and cycle routes along the water bodies in the city. Creating a solution that will fit one single case does not promote the large scale restoration of Sofia's river areas, which is the aim of the thesis. However, moving between all scales is key: from the large urban masterplan to the personal human experience.

fig. 76: Sofia seen from above at Lions' Bridge:
now versus how it could be



5.2.

THE CHANGE: MEANING AND IMPACT ON CITIZENS

Sofia and this particular area around Vladayska river and Lions' Bridge have gone through countless metamorphosis and have seen it all during their rich history. They carry a lot of value because of that, but for the same reason they need care. Then the city will return. From people - for people - to people.

Year by year, more citizens bring up questions and take the lead when the governing bodies are silent. They organize events to initiate change, they repair parts of the city, or (the hardest of all) they have to live with the present and try to adapt. An adequate contemporary urban development is what Sofians require and need the most: a walkable city that is not ruled by cars.

People of Sofia deserve the city their ancestors fought for and created. We can learn from the past and use the current in the best way possible to finally live in a city for people. It is a charming place, if we let it be. Nature has poured all its resources there. Now it is our turn.



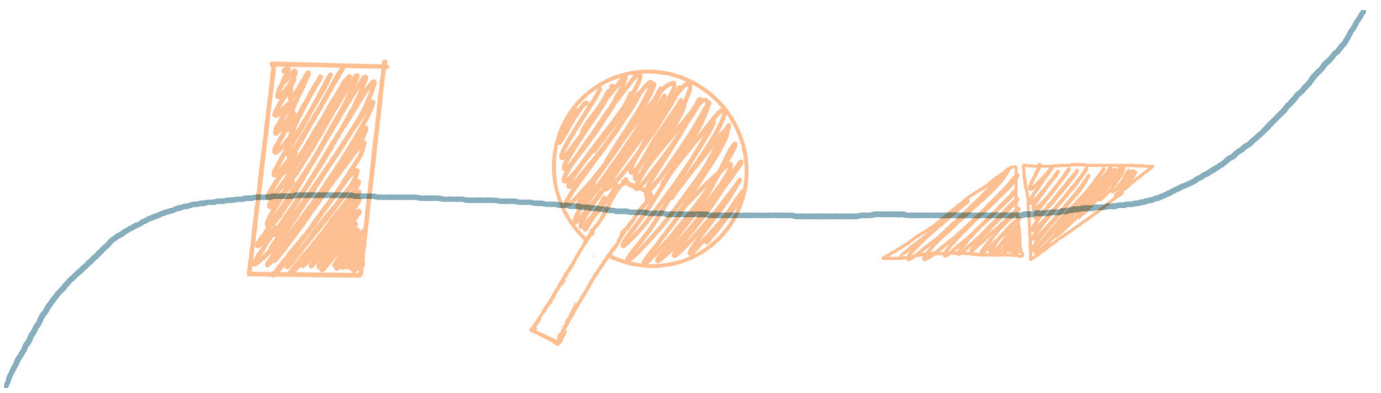
5.3.

PERSONAL VIEWPOINT

Living in Sofia in the past, I have always evaluated the urban conditions through my personal experience and thought of ways to improve them. This process was highly influenced by my travels where I always spend time to examine how big cities function. It is extremely interesting to discover the system that each place has formed over the course of time: seeing how a city breaths and lives through its people is magnificent! When the city allows for it to happen, of course. Then I can compare and apply this critical thinking to other places - in this case in Sofia - in order to diagnose the problems, to be aware of what works better and how. This is also why being in Barcelona, the birthplace of urbanism, is so significant to strengthen this attitude towards high-quality urban life.

The development of the project resulted in the main elements of life emerging: square, circle and triangle. Thus, it can be concluded that where the river is passing through, generates life.

"Where there is water, there is life."
~ Neil deGrasse Tyson



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