A Framework for Transition

Urban Planning Sustainability on Belgrade's Riverfront, Serbia

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FIG. 1.1 Growing up on the rivers, source: photos by author.

Motivation

When I was younger, my parents had a couple of raft houses on the Sava river, across from each other. I spent many summer weekends going between these two. I learned how to drive a boat, how to fish, which mushrooms are safe to be picked, and that swimming across 140 m wide river can be very dangerous and you could end up 1 km downstream from where you wanted to arrive.

My father stopped fishing when there started to be less crayfish in the Sava river. The pollution was even worse after 2014 when extreme floods hit Serbia, but the damage inflicted on urbanized and agricultural areas was devastating. My friends and I joined citizen actions at badly hit locations in Belgrade to build dams with bags of sand. After this event, the government promised changes in the urban environment and more protection for urban areas. Since then, the only thing that was done was the maintenance of the existing flood protection infrastructure.

After the flood, the public-private partnerships started shaping the locations at the riverfront and transforming the identity of Belgrade. I took my discontent to the streets, like many other young professionals, students, architects, and urbanists who recognized that this is not benefiting the citizens. At some point I realized that corruption cannot be the only reason behind that kind of development. This is how my interest in this topic evolved and I realized that the knowledge and resources that are at my disposal in the EMU program would help me understand this issue better and propose a framework that would help overcome these problems.

Abstract

Since the fall of socialism, the production of space in Serbia has been uncoordinated and chaotic, without a clear national policy. Post-socialist countries went through the period of transitioning to free-market and democracy, and this process resulted in hybrid institutional, social, and urban forms. As the global pressures intensify, countries need to employ development mechanisms that will ensure a more sustainable future and slow down the process of global warming. Transitioning to sustainability planning is becoming more urgent, as scientists warn that scenarios for the future in which the business-as-usual approach is carried out bring disastrous consequences to our environment.

Many post-socialist countries, such as Serbia, are caught in a path-dependency ideology, trying to position themselves in a global economic network, thus ignoring the social and environmental issues.

Current development in Belgrade is shaped by market-driven mega projects that are a result of public-private partnerships. There is also a lack of participation in the planning process, which is institutionally allowed. This leads to the development of the most attractive locations which are predominantly located at the riverfront. This kind of ad hoc development does not follow a comprehensive strategy and leads to fatal consequences such as – loss of biodiversity, social stratification, endangered heritage, loss of sense of place and ultimately: unsustainable development of the riverfront.

This thesis provides an overview of the consequences that led to the present state that the country is in regarding urban planning and development. The goal is to examine the implications for transitioning to sustainable urban development, starting

from the actual conditions of the Belgrade riverfront territory and the planning procedure in place. Urban planning is a political process that has certain values embedded in it. Instead of adapting the values to the existing procedure, the values should shape the process.

The current government has a strong agenda which many citizens protest against and this is why the proposed framework for transition is meant to serve as a starting point for moving towards a comprehensive sustainable planning and development process that would provide real results in the actual state of the riverfront.

The framework that is proposed is an altered urban planning process that approaches the riverfront territory holistically, through different scales. This has to be done through a participatory process in which the acceptance of limits, protection of existing qualities and regeneration play an important role. These guiding principles are applied to environmental, social and economic dimension to provide a comprehensive urban planning approach for the sustainable riverfront.

FIG. 1.1 Map of Belgrade , source: drawing by author.

PART 1

Introduction

Belgrade is a city with a long and rich history. It is the capital of Serbia and has been a capital of a number of different states through time. It is the largest city in Serbia and third largest on the Danube river. It lies on the confluence of Sava and Danube which proved to be a favourable location for a number of reasons. It is also positioned on the geographical border between Balkan Peninsula and Central Europe. According to 2017 estimate, there is 1.803.000 inhabitants in Belgrade which makes almost a quarter of entire Serbian population. It is the most visited tourist destination in Serbia, although with far less historic material remains than other European cities. Belgrade faced a lot of physical destruction through history, after which it was rebuilt many times.

FIG. 1.2 Belgrade Waterfront Project in Development and Unmaintained Memorial Park of the Concentration Camp Staro Sajmište, source: photo by author.

"This big city, it seems, has always been like this: torn, scattered, just as if it never existed, it is eternally in the making, expanding and recovering. From one end it sprouts and grows, and from the other it wilts and decays. Always moving and making waves, never standing still and not knowing what is peace and tranquillity."

Ivo Andrić, Nobel Prize winning author

1 – Problem Statement

Current development in Belgrade is shaped by market-driven mega projects that are a result of public-private partnerships. There is also a lack of participation in the planning process, which is institutionally allowed. This leads to the development of the most attractive locations which are predominantly located at the riverfront.

This kind of ad hoc development does not follow a comprehensive strategy and leads to fatal consequences such as – loss of biodiversity, social stratification, endangered heritage, loss of sense of place and ultimately:

unsustainable development of the riverfront.

FIG. 1.3 Belgrade Waterfront Project, visualization. Aleksandar Vučić, First Deputy Prime Minister - 'If we succeed, and we will do our best [to build Belgrade Waterfront], and we will succeed because we have raised the bar so high, I am absolutely certain this will mean the construction industry will recover from the crisis... this means that our country is sure to recover from the crisis.' 17-01-2014, source of the image: https://failedarchitecture.com/belgrade-waterfront/

1

2

FIG. 1.4 Sava riverfront before and after the beginning of construction, source: https://www.belgradewaterfront.com/en/

1.1 – **Market Driven Megaprojects**

The biggest urban transformation of Belgrade since World War II started a few years ago with the change of political scene. What seemed to be one capital investment and one megaproject, soon expanded into an entire city renovation. A number of Serbian public figures argue that Belgrade Waterfront was a test project. However, it became a vision for the entire urban riverfront.

With Serbia being one of the most undeveloped European countries in the inner periphery (Vujošević et al. 2010), the only way a project like this could be developed was with the help of foreign investors. In a remarkably untransparent process, the contract was signed between the Serbian government and an unknown investor from the United Arab Emirates. The project was announced in 2012 and a Spatial Plan was adopted in 2015. Political statements indicated that the "Tower Belgrade will become a new trade-mark of the capital city and Europe." In regular circumstances, it would not be possible to adopt such a proposal in this particular location. According to GUP, the riverfront area on the right bank of the Sava river was planned to be mid-rise commercial development with green areas that would bring people to the river. This once industrial abandoned area was planned to be developed in the function of tourism, catering, or entertainment. However, the plan that proposed 6000 residential units for 14000 residents, with 250 000 m2 of office space and 168 m tall tower was adopted and the GUP was amended.

Belgrade Waterfront was identified as a national priority. The issue of existing urban regulations that did not allow such a development in this area was solved with the adoption of lex specialis (Zeković, Maričić & Vujošević, 2018) which created a legal precondition for the realization of the project. The project is funded by a private foreign investor, but the infrastructure for it is supposed to be funded by Serbia. There were already several problems that lex specialis seemingly solved, but the infrastructure serving this area was not big enough to support such a large number of people and a big development.

Soon, other megaprojects were announced, adopted, and added into the GUP. The strong public-private partnerships allowed the planning process to be shortened and the main goal for Belgrade became creating a "distinctive, attractive, and competitive city" (Aranđelović & Vukmirović, 2020). What this ideology led to is having public-private partnerships controlling the city development without a coherent plan. Adjusting the General Urban Plan only as a regulatory document to support megaprojects when favorable occasions for a PPP arise leads to chaotic development with no time-frame. The problem of this development is that there is no long-term strategy and none of the other important factors for urban development are taken into account. Even the economic factor that seems to be the leading factor in this process is not adequately thought through. This is why these mega projects instead of generating profit are proving to be much more costly than presented by the government and pose a threat to the already depleted Serbian economy.

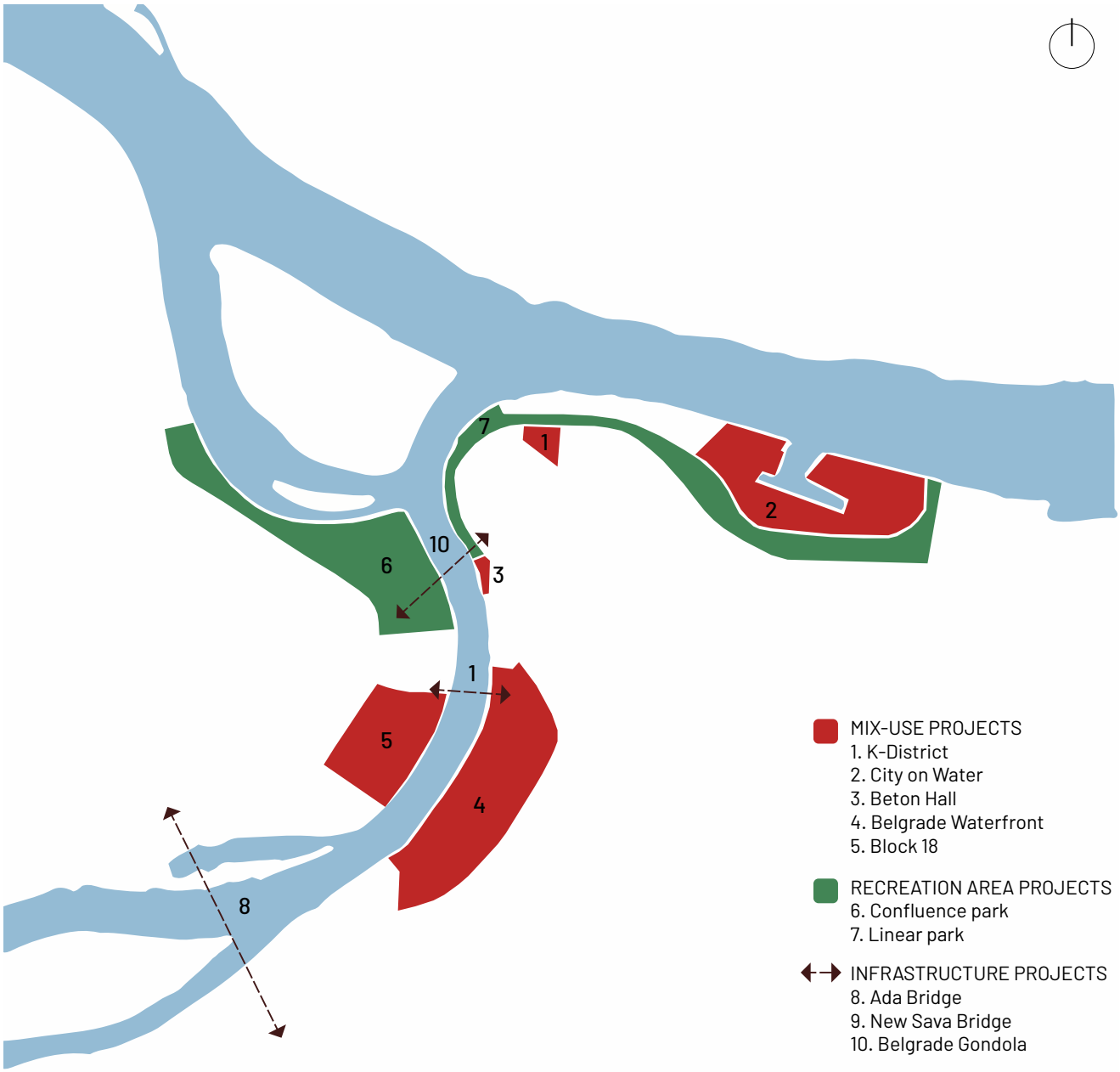


FIG. 1.5 Projects that are planned or currently in construction in the centre of Belgrade, source: adapted by author based on information from: Arandelovic, B & Vukmirovic, M. (2020). Belgrade - The 21st Century Metropolis of Southeast Europe. 10.1007/978-3-030-35070-3.

All of the projects that are planned to be developed in the riverfront in the center of Belgrade exhibit similar aesthetic features and include big interventions. Most of them need supporting infrastructure and services, and due to Belgrade Waterfront, a metro is now planned as well.

1 - K-District

4 - Belgrade Waterfront

5 - Block 18

2 - City on Water

6 - Confluence park

3 - Beton Hall

7 - Linear park

8 - Ada Bridge tram

10 - Belgrade Gondola

9 - New Sava bridge

FIG. 1.6 1 - K-District, source: https://www.skyscrapercity.com/showthread.php?p=164987874; 2 - City on Water, source: http://www.lukabeograd.com/en.html; 3 - Beton Hall, source: https://archello.com/story/14509/attachments/photos-videos/28; 4 - Belgrade Waterfront, source: https://www.khl.com/construction-europe/controversial-belgrade-waterfront-project-revitalised/141219.article; 5 - Block 18, source: https://www.gradnja.rs/konkurs-za-blok-18-ogledalo-novobeogradskog-modernizma/; 6 - Confluence park, source: https://www.blic.rs/vesti/beograd/setaliste-tereni-jarbol-i-gondola-evo-kako-ce-izgledati-renovirani-park-na-uscu/mlm2ehc; 7 - Linear park, source: http://91.222.6.88/vesti/beograd.74.html:718676-Linijski-park-umesto-pruge; 8 - Ada Bridge, source: https://www.novosti.rs/vesti/beograd.74.html:609011-Most-na-Adi-dobija-sine; 9 - New Sava Bridge, source: http://www.politika.co.rs/sr/clanak/382992/Zeleni-savski-most-u-istoriju-beli-vizija-modernog-Beograda; 10 - Belgrade Gondola, source: https://www.gradnja.rs/tag/gondola/

FIG. 1.7 Citizen protests in July 2015 against the development of the Belgrade Waterfront project, source: CSO Ne Da(vi)mo Beograd facebook page

1.2 – **(In)existent Participation**

Belgrade Waterfront project uncovered a lot of problems in the planning system that were there before. During a public argument, quite a lot of objections were submitted. Citizens and experts showed disapproval of the fact that the project did not follow river protection measures, that there was not enough sewage infrastructure to service the planned neighborhood, that such a tall tower would disrupt bird habitats in the river banks area and therefore – damage the ecosystem, the project did not comply with the Action Plan for Climate Change Adaptation of the City of Belgrade, etc. There were many other objections, but in the end all of them were rejected.

At the end of 2015 the contract (joint venture) that the government made with the foreign investor, was finally released into the public.

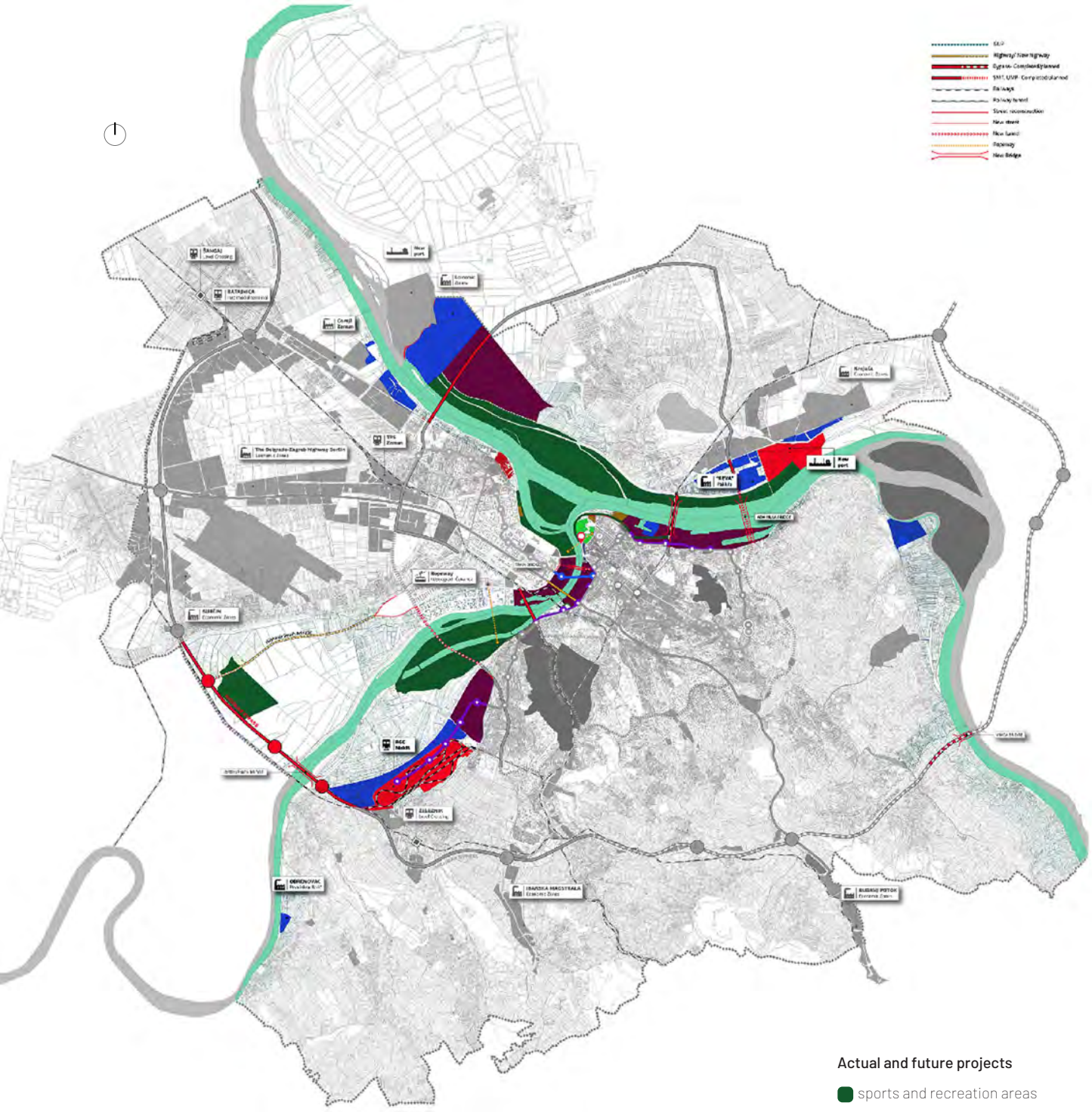
FIG. 1.8 Peaceful citizen protest, source: Ne da(vi)mo Beograd facebook page

The most problematic part of it that was uncovered is that the investor has a possibility to buy the publicly owned land that is rented originally according to the contract. There was a significant number of citizens who were dissatisfied with the fact that they were completely excluded from the planning process. This showed the citizens that the participation in the form of public insight and public debate that is legally required in the process is not enough. The entire process is structured in a way that citizens do not have a lot of power in the planning process and any individual objection, no matter how justified, does not have to be accepted.

Soon after this, the government decided they could not wait anymore to begin with the construction. In one of the streets that fell within the Belgrade Waterfront parameters, residents were required to move to a state-provided alternative housing. Some citizens did not want to move and one night in April 2016, people were ripped out of their houses, and the houses were torn down.

After this event, the peaceful citizen protests started. The private-public partnerships continued, announcing more and more projects around the city. More CSOs organized protests and workshops with their communities, to try to figure out options to have their opinions heard.

Following the formal procedural way does not provide any guarantee that the decisionmakers will actually take into account the civil sector's stand on any given urban space matter. This is why the citizens are still resolving to urban protests that sometimes make officials have to hear them out.



Actual and future projects

- sports and recreation areas
- infrastructure
- mega projects
- big investors
- economic zones
- expansion of pedestrian areas
- Zemun centre development
- three main squares
- Belgrade fortress and Kalemegdan

FIG. 1.9 Riverfront areas - Map of Actual and Future Projects in Belgrade, source: Arandelovic, B., & Vukmirovic, M. (2020). Belgrade: The 21st Century Metropolis of Southeast Europe. Springer. p 305

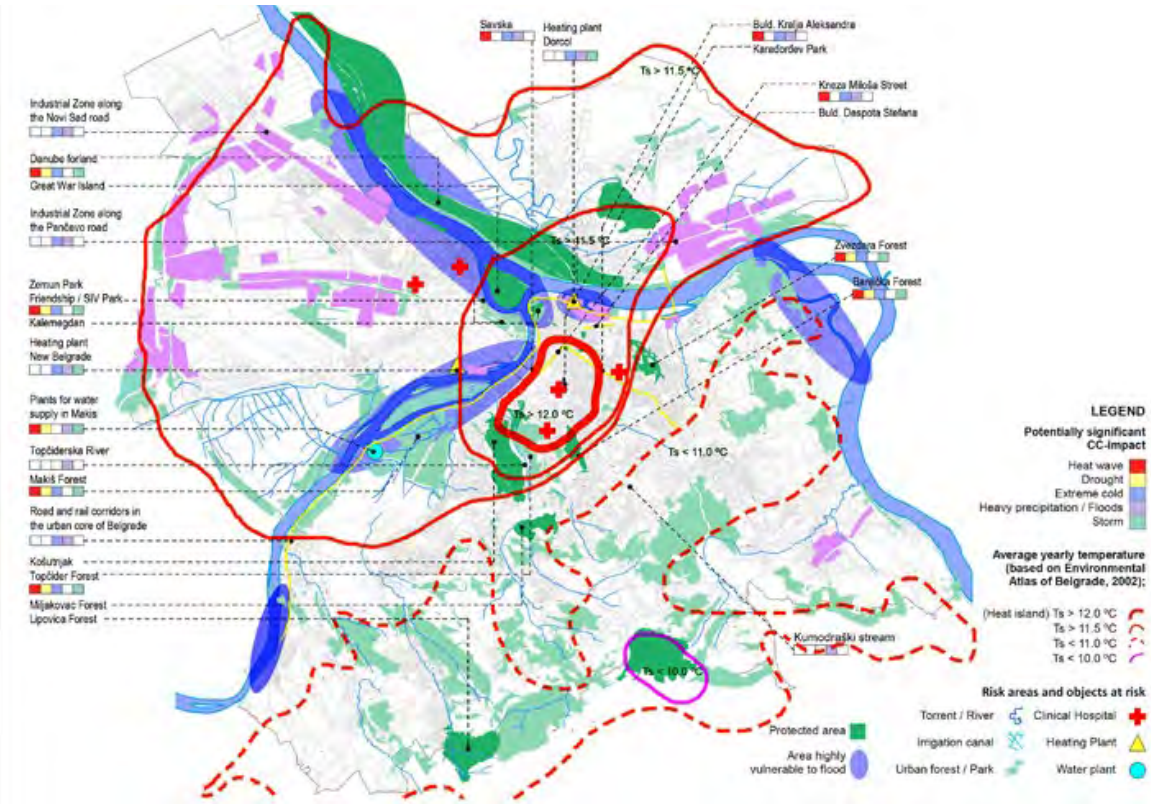


FIG. 1.10 Spatial Distribution of Potential Climate Change Impacts in Area Covered by Belgrade GUP, source: editors Đokić N, Grujić M. (2015). CLIMATE Change Adaptation Action Plan and Vulnerability Assessment. City of Belgrade, Secretariat for Environmental Protection

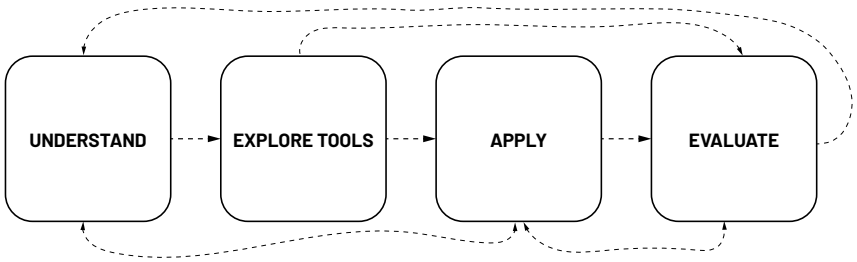
1.3 – **Strategy for the Riverfront**

No particular priority is given in the planning documents for the development of the Belgrade riverfront. It is not recognized in the plans as an integrated area that requires special attention because of significant environmental and historical values. The riverfront areas are treated in the Belgrade plans as attractive economic areas with potential, which can be seen in the amendments of the General Urban Plan.

Most parts of the riverfront area are not maintained and some very central locations remain underdeveloped and in bad condition. There are problems in certain central areas that have not been solved for a very long time. If the current development continues to influence planning and not the other way around, it seems that the only way any attention will be given to neglected areas is if they are recognized as an economic potential. In the long run, this can be devastating for the city (Aranđelović & Vukmirović 2020), and especially in the areas that are more vulnerable and where certain interventions could leave permanent damage.

In addition to cultural and environmental values, this area also exhibits cultural itineraries, symbolic places, and cultural landscapes (Urbanistički zavod Beograda, 2007). The quality of the environment in riverfront areas is affected by a large number of informal buildings, inadequate land use and use of waterways, the unresolved issue of evacuation of sewage water, and other types of waste. These issues need to be approached integrally because they influence each other.

2 – Methodology



The Methodological framework is supposed to guide the research towards the objective and answering research questions. In this part it will be explained just how these four sections are developed and connected.

The proposed methodological approach is divided in four parts:

1) UNDERSTANDING,
2) TOOLS,
3) APPLICATION AND
4) EVALUATION AND DISCUSSION.

Main research questions:

- What are the circumstances that led to this way of planning and development in Belgrade?
- What is the planning process behind this unsustainable development?
- What is the spatial outcome of this planning process?
- What values are embedded in the planning process that produces sustainable development?
- What is the territorial context that these values can be applied to?
- What does the current development on the riverfront look like?
- Who are the stakeholders of the riverfront development?
- How can this process be transformed to enable more sustainable development?
- How can we plan and design for sustainable development for the riverfront?
- Can the urban transformation provoke the transformation of society and institutions?

In the Understanding section, through literature review and mapping, a knowledge base is created that acts as a starting point for exploration of tools. The Understanding part gives an insight into the circumstances that led to the problem of unsustainable development in the riverfront, and also a better understanding of the impacts of current development.

In order to understand how the transition towards urban planning and development sustainability can be made, the conceptual framework is formed through literature review and framing of the approach. The result of this section and the understanding section is used as a database for the proposal concept which is then applied through transcalar strategy and planning process.

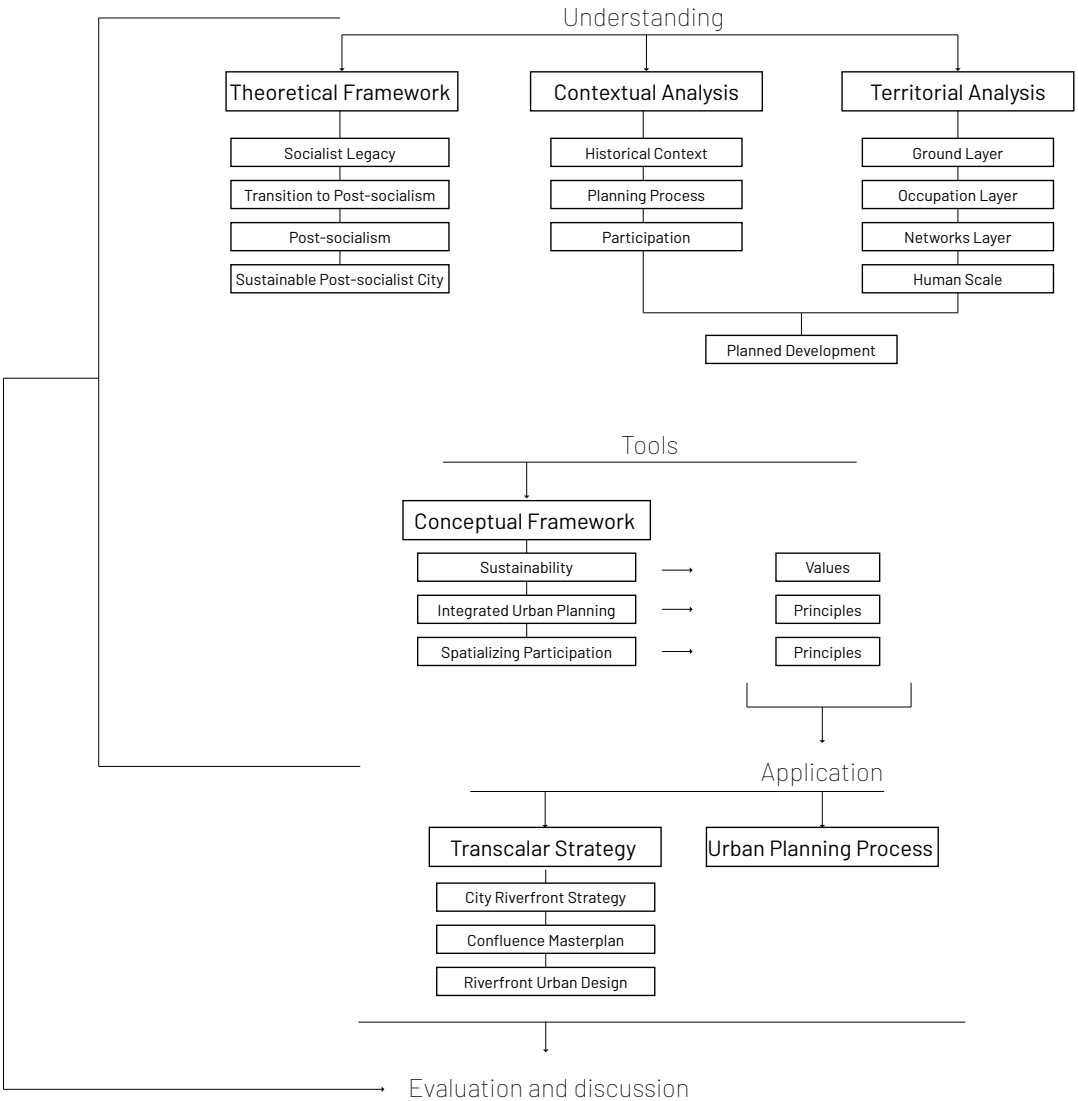
In the evaluation and discussion part the proposal is evaluated and its relevance is discussed.

Objective

Creating a comprehensive planning strategy for Belgrade riverfront with special urban design focus on the current development. Within this strategy, mechanisms of participation will be elaborated and spatialized with accompanying process framework that institutionalizes transition to sustainability.

How ?

What needs to change in the current planning process to achieve the transition towards sustainability?
How can integrated urban planning deliver a procedure that provides urban sustainability?
How can stakeholders with less power and more interest be included and protected in the planning process?
How can participation be spatialized both in planning and development?
How can one intervene with the current development in the riverfront to provide more sustainable spaces that answer to citizens' needs?



Is the objective fullfiled in the final design?
How can these tools be applied in the future?
How can these principles be embedded in the planning process in other locations?

PART 2

A Post-socialist City

"I knew exactly that someday Europe would try to change us. Little by little and we will be the same as them. It's just ... it's going to be difficult."

"Tačno sam znao da će kad-tad Evropa probati da nas menja. Malo po malo i bićemo k'o oni. Samo... teško će to da ide."

Mile vs Transition, iconic Serbian tv series from early 2000s, source: https://www.youtube.com/watch?v=nn6nPEXxwIg

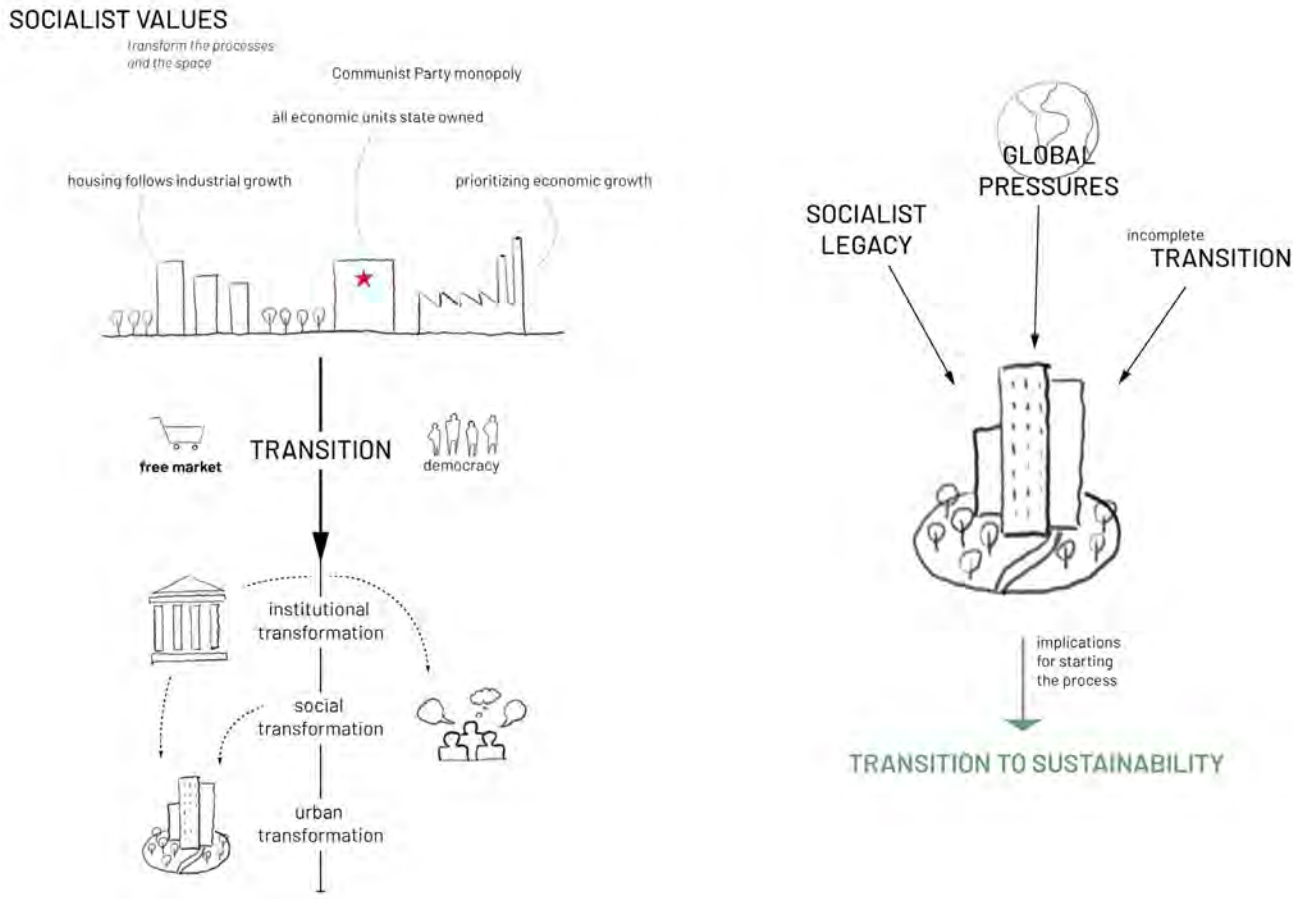


FIG. 3.1 Post-socialist city - diagram explaining the structure of the theretical network, source: developed by author

3 – Theoretical Background

In order to understand the circumstances that led to this way of urban planning and development of the riverfront, the forces that shaped the urban environment need to be analyzed. Belgrade is a post-socialist city, which is an important part of its identity. The term "post-socialist" holds several layers in it, which will be unfolded in this part of the report.

To explain the process of a city becoming post-socialist, a literature review is used. In the first part, it is explained how the socialist period influenced the post-socialist city. It is important to understand how socialism transformed cities to identify the socialist legacy that is still present.

The second part focuses on the phenomenon of transition through which socialist countries went after the revolutions of the 1990s. The transition, in this context, represents the shift to free market and democracy of post-socialist cities within institutional, societal, and urban aspect. Because many of these cities did not fully go through this transition, some scholars argue that they are still under transformation. It is argued that because of static socialist legacy they are unable to go through this process.

In the last part, the current state is explored and how past ideologies, together with present global pressures and trends, influenced the current way of planning and development of post-socialist cities. The case of Ljubljana is analyzed to understand how a post-socialist city managed to go through a comprehensive transition that included not only the shift to free market and democracy but also the transition to sustainability.

3.1 – **The Socialist Legacy**

Understanding the drivers of urban development in a post-socialist city has to start with identifying all of the influencing factors that stem from previous state forms, most importantly socialism. The formation of the cities certainly did not originate in the period of socialism, but the impact that this ideology had on post-socialist cities is very significant and has left a legacy that still influences the urban development.

There is a broad scholar contribution to post-socialist urban studies. Most of the research is either giving a generalized concept of urban transformations that happened in these cities or analyzing particular cases without trying to give a synthesized concept. The focus of this part of the theoretical framework is to give an overview of influencing factors that help determine the process of urban change of any particular post-socialist city and to understand the factors that influence urban development.

The starting point is understanding how the socialist period influenced the city and identifying the state socialism legacy within a post-socialist city.
State socialism follows a theoretical model of certain structural features (Pickvance, 2002):
- An economy in which all units are state-owned;
- Central planning of these units;
- A polity in which the Communist Party has a monopolistic position;
- An integration of party and state structures into an intertwined whole. (Kornai 1992)

In reality, there are diversions from this model and they largely depend on the way a particular country applied socialism and on the pre-socialist legacy.

Even though the first ideas about socialism emerged even in ancient Greek times, the Industrial Revolution and the rise of capitalism brought back these theories that were viewed as an alternative that would provide a more egalitarian society. This is why industrialization played an important role in a socialist state. To explain the relationship between industrialization and urban change, a review of theories of urbanization in the Third World needs to be explained.

What was considered a model to be followed for urbanization by all countries, is derived from Western economic development "modernization theory" (Pickvance, 2002). The condition taken out of this model that is needed for a successful "take-off" is a proportionate relationship between industrialization and urbanization (Reissman, 1964). Scholars introduced the term "overurbanization" to describe Third World countries that diverged from the perfectly proportionate relationship of these two. The cities grew rapidly in these countries, but there was a shortage of employment opportunities (Andrusz, Harloe, Szenelenyi, 2011).

In socialist countries, however, a reversed phenomenon happened. Due to "forced growth", there were high investments in industrial facilities and low levels of consumption. The state goal was to industrialize a country fast, and this led to concentration of investment in manufacturing, particularly heavy industry.

According to Ofer (1967, 1977), what kept the level of urbanization from growing was: 1) restricting expenditure on infrastructure and services per urban resident; 2) keeping down the ratio of non-productive to productive urban, and 3) restricting the number of rural to urban migrants. The ideology in the state socialism was that the priority should be given to industrial growth and that housing investments have to follow it along with infrastructure and services. The state prevented rural residents from relocating to the cities by requiring a registered address of residence. Since the state favored economic growth, this led later to residential social segregation which is a result of under-urbanization. Housing allocation depended mostly on the workplace and better-off groups got better housing (Szelenyi, 1978).

In hindsight, socialism did not manage to achieve a truly democratic form, let alone transform into true classless communism as Marxists described it. Many socialist states could not keep up with the global pressures in the late 20th century. The Third Industrial Revolution led to globalization and democratization of information, energy, logistics, and manufacturing, and centralized static socialist states could not keep up with this (Szelenyi, Szelenyi, 1994).

What the socialist legacy is of a particular state depends on the conditions that led to overthrowing of socialism, but also on the particular way socialism developed in a given country.
A common legacy that impacts most post-socialist cities mostly includes social values that influenced the transition to democracy and free-market:
- Prioritizing economic growth – economic growth "at all costs" is seen as an only precondition for success
- Less investments on infrastructure and services

Other than this, there can be other values inherited from socialism that still impact either the method of planning, the process itself and the urban development. All post-socialist cities have certain similarities, but in order to understand in which aspects the socialist ideology still lingers in urban planning and development, the full process of transitioning to free-market and democracy needs to be understood. Which principles guided the planning and development during socialism, which were discarded during the transition and what is the socialist legacy that still remains?

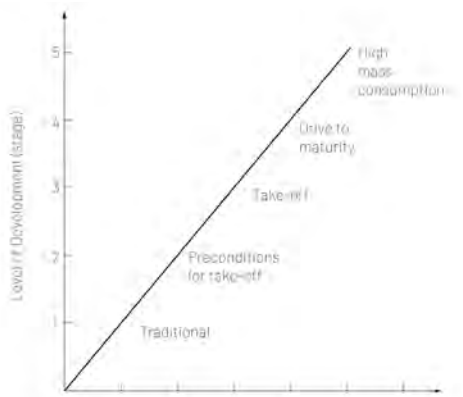


FIG. 3.2 Source: adapted by author based on Rostow, W. W. (2008). The five stages of growth. In M. A. Seligson & P.-S. J. T. (Eds.), Development and under-development: The political economy of global inequality (pp. 173-180). Colorado: Lynne Rienner Publishers.

3.2 – **Transition to Post-socialism**

The states that overthrew socialist ideology had to transition to a free-market economy and democratized society. It is argued by scholars that democratization and marketization are far from complete (Ferenčuhová & Gentile, 2016). They also argue that democracy is already being seriously eroded in Central Europe. This point also questions the success of the transition and if it ever really happened in all post-socialist countries.

Likewise, assuming that all post-socialist countries went through the same transition and that it was equally successful is a misleading conclusion. From the previous part it can already be concluded that not all countries experienced the same form of socialism, and not all post-socialist cities experienced the same urban transformation.

Sýkora and Bouzarovski (2012) theorize a linear transition process that consists of three stages: 1) Institutional transformations; 2) social transformations and 3) urban transformations. In order to achieve urban transformation, the first two stages need to be completed.

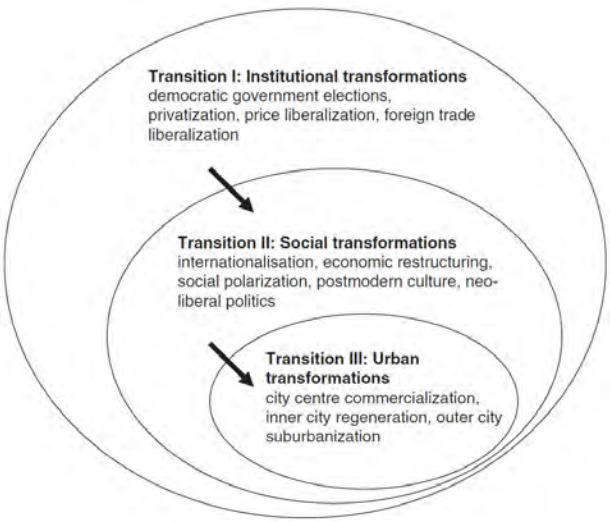


FIG. 3.3 Multiple transformations of a post-socialist city, source: Sýkora, L., & Bouzarovski, S. (2012). Multiple transformations: Conceptualising the post-communist urban transition. Urban Studies, 49(1), 43-60.

They also argue that the transition is still ongoing because institutional reforms have been largely accomplished but the adjustment of urban land-use patterns needs to catch up with new societal conditions. As Ferenčuhová & Gentile put it, "Sýkora and Bouzarovski's (2012) aforementioned multiple transformations model is based on the optimistic assumption that the key political transformations were already in place by the early 1990s and had a clear trajectory, and that this provided the ground for subsequent transformations at other levels, the socio-cultural and the urban."

There is a number of scholars that claim that post-socialist cities are cities that are still under transformation or in transition. What this means, in a way, is that these cities have not yet accomplished a previously known or defined structure. These statements make post-socialist cities seem incomplete and one gets the impression

that these cities are lagging behind and that they need to "catch on" (Ferenčuhová & Gentile, 2016). In the 21st century cities that are dynamic and able to support different functions and social values prove to be more adaptive to global changes. These cities could be labeled as cities that are constantly transforming, which makes this a quality instead of a flaw. Holding a belief that post-socialist cities are still in the process of transition is in this case somewhat wrong because they still have not achieved the primary goal that was set three decades ago – marketization and democratization. This means that they are still heavily influenced by the static socialist legacy, chasing a goal that is slowly proving to be obsolete worldwide.

The main problem in the post-socialist city transition to free-market and democracy is that space and resources are understood as nondepletable resources. Led by a socialist legacy that prioritizes economic growth, many post-socialist states failed to achieve democracy. Instead, they rushed to adopt capitalism which Poznanski (2001) describes as "deviant capitalism" because of the weakened economy in which there is a high incidence of foreign ownership. Privatization and selling of formerly state-owned land led to decreased quality of public spaces and resulted in imported landscapes – foreign investors were given the freedom to design the space according to their business needs due to high financial power. This kind of laissez-faire urbanism does not lead to urban transformation because it is not planned and results in aspatial landscapes that do not have a connection to local landscapes, history, community, and ecosystems (Wheeler,2004).

Instead of pinpointing the institutional, societal, or urban transformations that post-socialist city did not go through, the current state should be analyzed and a locally appropriate strategy for achieving sustainability should be developed and prioritized over post-socialism concept. The post-socialist city does not need to go through the theorized three-stage transition to start planning for sustainability.

3.3 – **Post-socialism**

Even though some aspects of socialism are still present in a post-socialist city, it is unarguable that the urban space is being shaped in a different manner (Hirt, 2013). Since the state no longer has a monopoly over land development, the resources started being distributed according to market principles. This led to certain consequences that are typical for most post-socialist cities today, but the characteristics that are described here mostly refer to Southeast and East-Central Europe.

The clear city edges that were once defined in the socialist city start to disappear in a post-socialist city. Prefabricated residential areas are now surrounded by an urban sprawl of low-density private housing. In most capital post-socialist cities this resulted in a clear distinction of different zones in the city that uncover the historical and ideological layers of space production.

Another characteristic is the change in the scale of development. Large scale projects were characteristic of a socialist state. Residential development followed industrial development and public space was shaped in a manner that represented the state's ideology. Monumental government buildings were paired with lavish public parks and plazas. Community services were also placed in grand architectural pieces that were meant to signify the triumph of public over private interest (Crowley & Reid, 2002). Developing these kinds of projects was no longer financially or logistically sustainable and most of these large public areas and buildings were lost due to the economic crisis that states endured after throwing out socialism. The only large scale projects in post-socialist cities were carried out by foreign investors, which is also a consequence of space privatization.

The decline in manufacturing jobs and the rise in service jobs led to new consequences in space function and creation (Hirt, 2013). Most post-socialist cities went through what Hirt refers to as a "retail revolution". Transitioning to the free-market led to the commercialization of space, and many large scale socialist community or residential buildings were appropriated to house new use – commercial spaces. Areas in the city that were more pedestrian accessible and better connected, usually residential neighborhoods, went through this transformation, while large polluted industrial sites were abandoned. This also resulted in many brownfield areas in a city that were scarcely used, if at all.

The "retail revolution" led to the creation of new neighborhood types and more prominent social segregation. Segregation was present in a socialist city as well, but it intensified with job restructuring that occurred in post-socialism. As many industries closed, a lot of people were left in semi-rural areas and smaller cities without jobs. The commercial services were mostly growing in capital cities, as they were more connected globally, which was important for the globalized economy. Middle class and lower middle class was attracted to the cities because of job opportunities, but unable to afford now privatized housing. Informal settlements grew in the suburbs and on city fringes, which were already present in some socialist states (namely, Yugoslavia), but nearly doubled in size in the post-socialist period. The population of the city grew, but large groups of people are excluded from

commercial spaces due to high prices, these spaces only being accessible by cars or even guarded against marginal groups (Hirt, 2013).

An additional consequence of privatization and free-market is the urban aesthetics. The post-socialist city is much more diverse since the state no longer has a monopoly over urban development. Many of these new developments resemble global trends and this is what makes the post-socialist city unique and different from a socialist one.

Understanding concepts of post-socialist free-market and democracy transition and comparing them to the actual state of institutions, society values, and urban conditions is necessary for determining the starting points for the transition towards sustainability.

A post-socialist city cannot be viewed as a phenomenon in itself and this is why other conditions for developing a strategy for urban sustainability transition are current global trends and pressures, such as climate change.

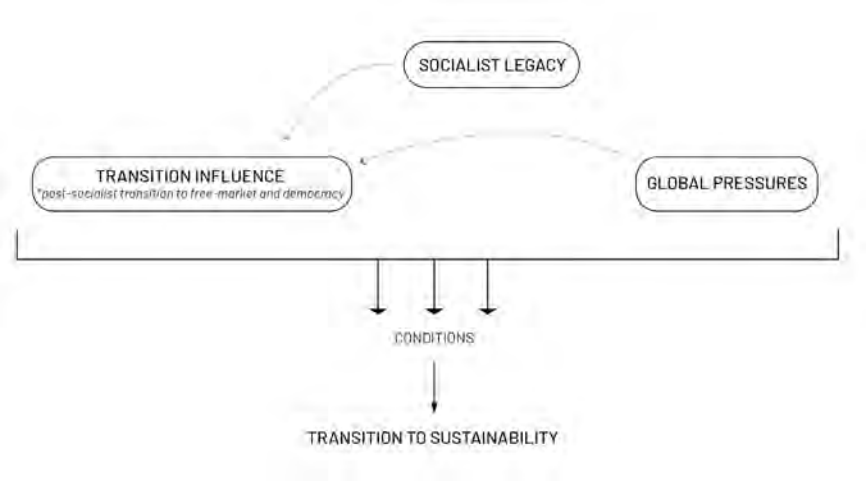


FIG. 3.4 Preconditions for transition towards sustainability in a post-socialist city, source: developed by author

FIG. 3.5 Park Tivoli in Ljubljana, Slovenia, source: http://www.sloveniatimes.com/ljubljana-becomes-greenest-city-in-europe

3.4 – **Sustainable Post-socialist City**

Ljubljana received European Green Capital Award in 2016 as a result of orienting towards sustainable development. However, it has to be noted that Slovenia entered Europeanization process rather early, compared to neighbouring post-socialist countries. The result of this was that Slovenia had a "guided" process of transition which was oriented towards European Union. This also allowed Slovenia to become a member state of EU in 2004 (Sviršić Gotovac & Kerbler, 2019). It can be argued that Ljubljana's transition was from the beginning – a transition towards sustainability. This makes Ljubljana a unique post-socialist city as it has not encountered dual transition to achieve the sustainability goal.

The achievement of this goal is a result of well-planned interdisciplinary approach. In focus of this approach was improvement of citizens' life quality and city's cultural, economic, touristic character and identity. Ljubljana adopted most of above-mentioned principles in planning with special attention given to community involvement. This planning method highlighted residents' needs and shaped communities through planning for their future, while working with other stakeholders on an equal level. This also allowed incorporation of community knowledge which proved to be valuable for various social, economic and environmental benefits.

What differentiates Ljubljana from other post-socialist cities is the efforts that were made early to develop suitable urban approaches that helped initiate, accelerate and navigate sustainability transformations (Wolfram, 2016). Without this aspect, all the favourable pre-conditions would be wasted. After becoming a member state of EU, Ljubljana adopted new spatial documents and regulations that were in line with the sustainability guidelines on which new urban projects had to be based.

FIG. 3.6 In 2003, the City of Ljubljana created a Citizens' Initiatives Service (CIS) allowing citizens to actively participate in decisions that affect their lives, and to quickly resolve their complaints or problems. The Citizens' Initiatives Service promotes direct communication between the mayor, the city administration, public institutions and public enterprises on one side and citizens on the other. Citizens can contact them in person, via telephone, fax, e-mail, regular mail, and a web service., source: https://urbact.eu/bringing-citizens-closer-their-mayor-and-city-services

Unlike Slovenia, many other post-socialist countries only minimally democratized existing planning procedures to involve citizen participation. The planning process is still mostly centralized with only a selected number of actors who make decisions and influence planning. This results in a very limited knowledge base produced by institutions that deal with zoning and tend to focus mostly on the following regulation without taking into account various opinions and needs of different stakeholders.

As it proved in the case of Ljubljana, facilitated the involvement of the community in early stages and throughout the whole process proves to deliver solutions that deal with multiple aspects and are generally more accepted within the community.

Another important finding from the Ljubljana case is that involving citizens in the urban development of public spaces is equally important. Giving citizens the opportunity to implement community-led projects and involving them in planning practice empowers communities even further and builds a sense of place.

4 – Belgrade - Contextual Analysis

In this part the theoretical framework is connected to the specific context of Belgrade. This part gives an insight into spatial impacts of different time periods, as well as ideological and institutional impacts.

Along with that, the current urban planning process is analyzed and the levels of participation related to it.

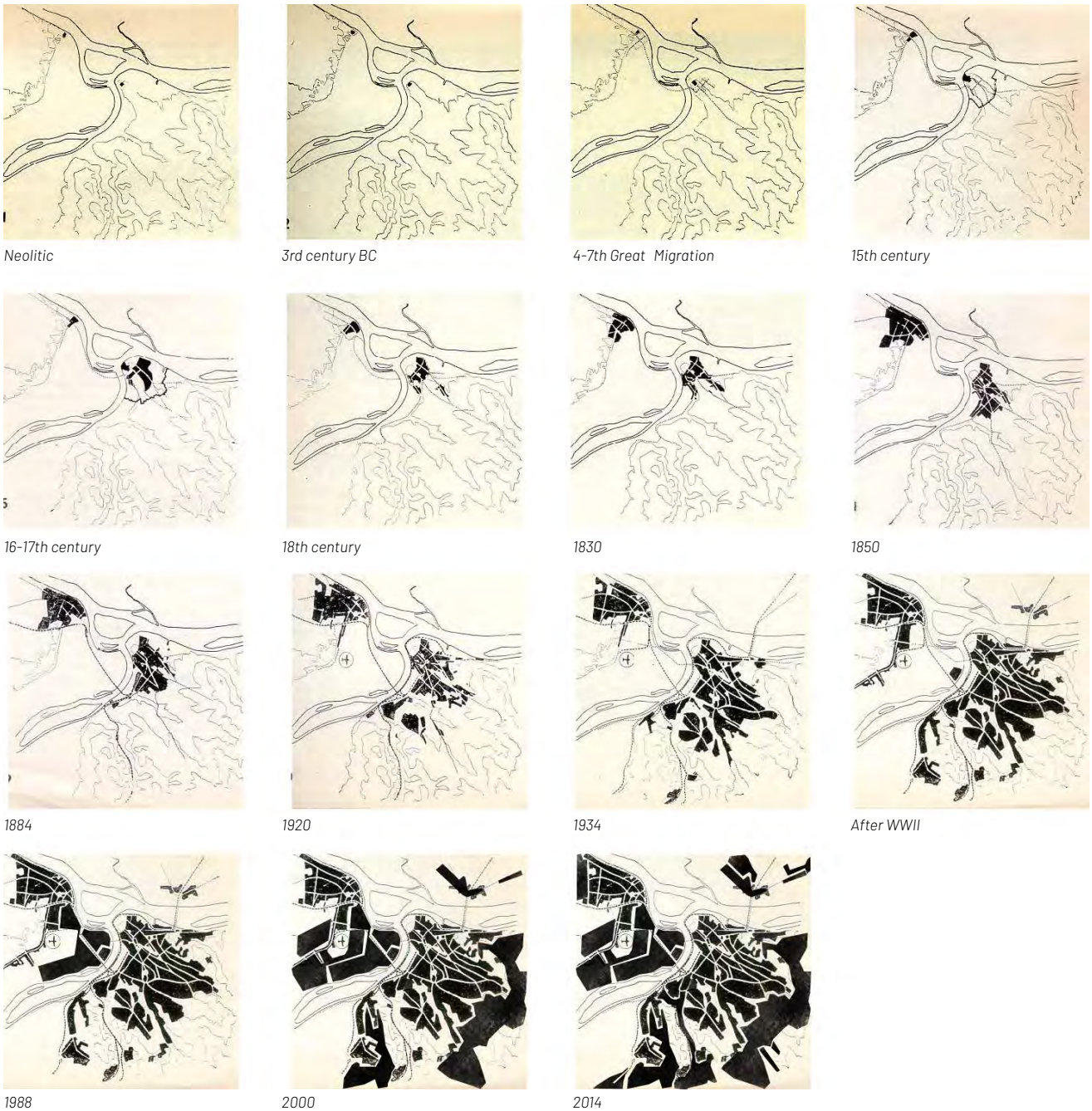


FIG. 4.1 Foundation and territorial development of Belgrade through the centuries, source: updated by author, based on (Jovanovic, D. (1951), "Foundation and Development of Belgrade", Belgrade: IONO of

4.1 – **Historical Context**

The city of Belgrade is one of the oldest settlements in Europe. First recorded settlement in its territory dates back to 500 BC. A Celtic tribe Scordisci built on the foundations of the Thracian and Illyrian settlement and named the city Singidunum, which is the earliest name of the city (Belgrade City Profile). Many years passed before the rule over the city has settled down. The Romans conquered it in 86 AD and built a castrum that forms partly today's Kalemegdan fortress. Romans left a significant mark in the urban fabric of the city which is still recognizable in the city centre's grid street structure.

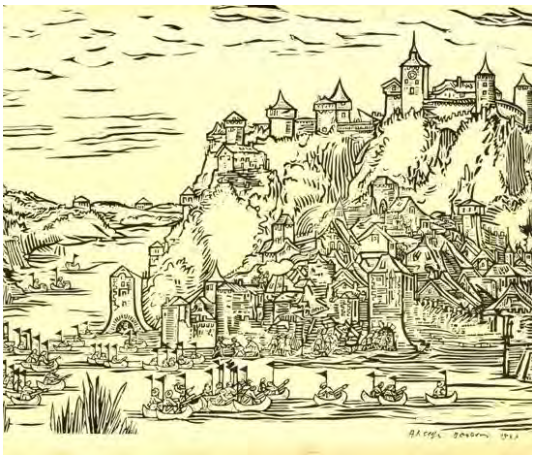
It was not until 6th and 7th century that Slavs settled in this territory. They named the settlement Beligrad (later Beograd), meaning "The White City" and until the 13th century it was a site of rivalry between Byzantine, Bulgarians and Hungarians. The first time it became a capital of Serbian Empire was in 1403. This period did not last for long, as it was conquered by the Ottoman Empire in 1521 which resulted in many residents being killed or displaced. During Ottoman rule the city was built following Islamic principles which resulted in many mosques and "oriental" street network. As Ottoman rule was not steady, the city was partially destroyed several times in Austrian attacks.

When Serbian uprising in 1800s finally led to liberation of Belgrade, steady urban growth began. Belgrade soon became administrative, economic and cultural centre of the country in early 19th century. All Islamic artefacts were removed in order to erase traces of Ottoman rule and give city an opportunity to strengthen its European image. In the coming period, Belgrade was organized according to European principles and Serbian nationhood was characterized in the urban built fabric. First Serbian urban planner Emilijan Josimovic straightened the "oriental" street network in his plan in 1867 and transformed the Kalemegdan fortress into a public park.

Belgrade entered 20th century experiencing steady expansion with neighbourhoods that exhibited similar morphology patterns to European cities during this time. This progress was interrupted by World War I when the city underwent heavy damage. A large portion of population fled the city and in 1918 the Kingdom of Serbs, Croats and Slovenes was born remotely in Corfu, where the Parliament was residing during the war years. This act made Belgrade the capital of a much larger state which was later named Yugoslavia. The city prospered economically and culturally for a few years before World War II.

In 1941 the city was bombed and hundreds of buildings were destroyed including the Royal Palace, a number of churches, hospitals and industrial sites. The biggest loss was the burning of The National Library which contained at the time around 300.000 medieval manuscripts.

In 1945 the city was liberated once again, this time by partisan troops and general Josip Broz Tito, who then formed the Federal Republic of Yugoslavia. Communism largely impacted the development of the city during this period. Urban land and industrial sites were taken into public ownership and the state became the main urban developer. Primary goals became rebuilding the damaged city, providing new housing and restarting the economy. These goals were achieved very fast and urban



1

2

3

4

5

FIG. 4.2 1 - Aleksandar Jeremić Cibe, Belgrade in 1521; 2 - Belgrade by Danckerts,1690; 3 - Belgrade in 1717, Gabriel Bodenehr; 4- photo from 1889 - National Bank of Serbia; 5 - Branko's Bridge, 1960s; source of all images: http://www.staribeograd.com/

1

2

3

FIG. 4.3 Old Postcards from Belgrade: 1 - *The right bank of the Sava and the port, in the early 1900s; 2 - Sava Port 1915; 3 - Zemun 1960; source of all images: http://www.staribeograd.com/*

development continued within communistic principles. New industrial facilities brought in immigrants from all over the state which resulted in population growth that required more housing. The first mega-project was New Belgrade which was supposed to illustrate the modern image of the new capital. It was built following the Ville Radieuse concept and it became the administrative centre of the state. During this period progressive trends in planning and architecture were strengthened resulting in high levels of civic participation.

Just as the state began implementing democratic decentralised political regime and started orienting towards a free market, internal national divisions led to nationalist ideas that resulted in the break-up of the Federal Republic of Yugoslavia. Country was divided by wars and Belgrade was left in isolation due to the sanctions. Economic crisis and decline of municipal powers led to a large number of informal buildings due to deterioration of local planning. Informal construction existed during socialist period as well, only in smaller quantities. However, informal settlements during socialism were associated with marginalized groups, while during 1990s even political elite participated in this process.

During the period of international isolation, the country became a victim of a dictatorship imposed by Slobodan Milošević and his followers. His politics led to another bombing of the entire country in which Belgrade suffered greatly. On 5th October of 2000 he was taken down in a democratic revolution and sanctions were lifted. Unfortunately, the country was economically deprived and the city could not be repaired as quickly as it was after WWII. This led to rapid privatization. Even though the revolution was a democratic one, the new government did not manage to succeed to transform institutions completely. They were minimally democratized with a large amount of social legacy still influencing procedures.

During the period after 2012 democracy started being eroded, and the leading political party manipulated the complicated procedures to achieve fast results. Large portions of land are placed for sale by the government who wants to attract capital foreign investments and develop brownfield areas that are remnants of the socialist period.

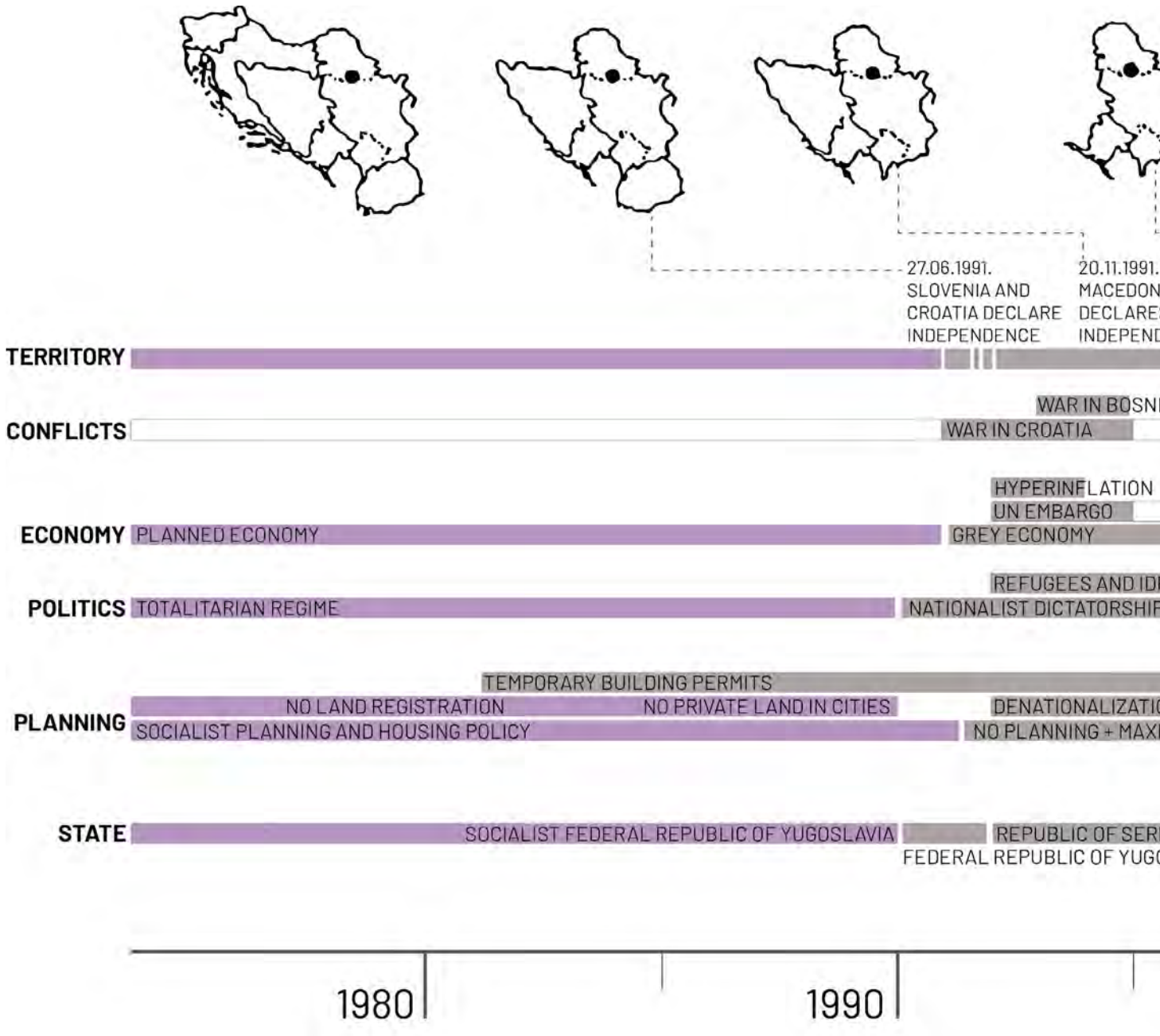


FIG. 4.4 Timeline of multi-layer transformations, source: adapted by author, based on: Diener, R., Meili, M., Topalovic, M., & Inderbitzin, C. M. (2012). Belgrade: A Research on Urban Transformation. Scheidegger und Spiess AG, Verlag. p 81

Four characteristic periods can be distinguished from this period of transitioning from the socialist city to the post-socialist one. These periods left different spatial impacts in the city and influenced the production of space. It is important to understand which processes were behind this development and what kind of ideologies. In this table, an overview of transformations is given, related to the country, not only the city of Belgrade.

Yugoslavia
socialist period

until 1990s

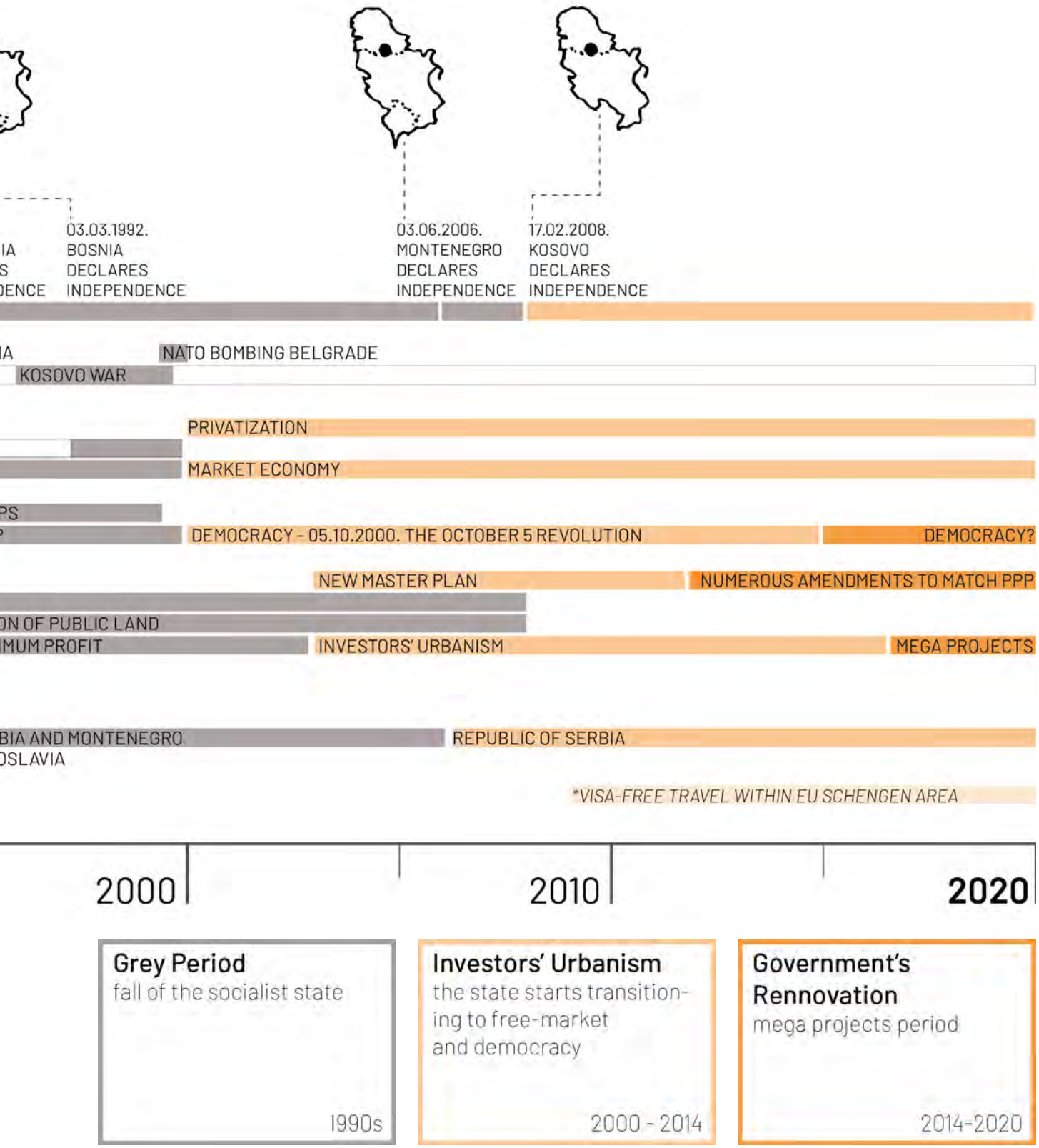

03.03.1992.
BOSNIA
DECLARES
INDEPENDENCE
03.06.2006.
MONTENEGRO
DECLARES
INDEPENDENCE
17.02.2008.
KOSOVO
DECLARES
INDEPENDENCE
NATO BOMBING BELGRADE
KOSOVO WAR
PRIVATIZATION
MARKET ECONOMY
DEMOCRACY - 05.10.2000. THE OCTOBER 5 REVOLUTION
DEMOCRACY?
NEW MASTER PLAN
NUMEROUS AMENDMENTS TO MATCH PPP
INVESTORS' URBANISM
MEGA PROJECTS
REPUBLIC OF SERBIA
*VISA-FREE TRAVEL WITHIN EU SCHENGEN AREA
2000
2010
2020
Grey Period
fall of the socialist state
1990s
Investors' Urbanism
the state starts transitioning to free-market and democracy
2000 - 2014
Government's Rennovation
mega projects period
2014-2020

FIG. 4.5 New Belgrade - Danube riverfront, source: Eterović, I. (1977). Beograd koji volim. Beograd, Serbia: Turistička štampa.

Yugoslavia

Belgrade endured enormous destruction during WWII. Around 40% of built structures were damaged or torn down (Bojović, 2003). Half of industrial sites were destroyed as well, and the starting point was repairing the damage. Socialist state expropriated all industrial property, along with residential property belonging to bourgeoisie. The country managed to advance and already in 1960s intensive industrial and infrastructural development began.

The largest project of this period is New Belgrade which completely transformed the capital city. Belgrade expanded to the left bank of Sava river and became a modern city. During this period the state organized competitions for residential and industrial development, and the jury of academic experts chose the winning designs. This resulted in high quality apartment buildings and public spaces. This period was also marked by large community actions in which young volunteers were called to help with reforestation and construction of community parks.

FIG. 4.6 Kaluđerica - the Biggest Informal Settlement in Belgrade, source: https://www.blic.rs/vesti/beograd/kaludjerica-dobija-groblje-prostirace-se-na-40-doskorasnjih-privatnih-placeva-za/6vzl468dobija-groblje-prostirace-se-na-40-doskorasnjih-privatnih-placeva-za/6vzl468

Grey Period

The fall of socialist Yugoslavia happened due to complex political and economic problems that ended up causing multiple conflicts that devastated all of the states. Serbia entered a period of hyperinflation and due to all the conflicts, UN embargo was placed on the country. The state experienced abrupt international isolation that lasted for more than two decades and resulted in cultural, economic and social decline of Belgrade.

This period was marked by informal settlement sprawl. Intense population increase occured after the fall of the socialist state, not only because of fall of manufacturing, but also because of many internally displaced people. According to Hirt (2009), many members of the political elite participated in the process of illegal construction with no fear of any consequences. However, the consequences are apparent to this day, as the city still struggles with informal settlements that require appropriate infrastructure and legalizing these buildings. Some temporary laws were put in place that would allow owners to legalize their houses, which later resulted in even more informal structures and did not solve the issue.

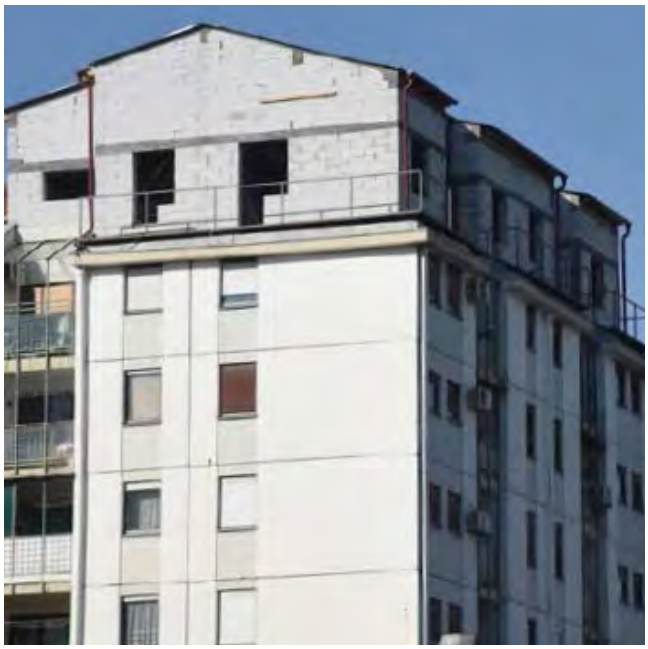


FIG. 4.7 "Mushroom buildings", source: https://www.novosti.rs/vesti/beograd.74.html:708858-Dozvole-za-gradnju-na-krovu

Investors' Urbanism

After another revolution in October of 2000 and a breakup of the previous autocratic lawless regime, Serbia was finally on a way to democratization of the country. UN embargo was lifted and the country could enter a new era, although with a substantially weakened economy due to isolation and malversations of the former political elite.

There was not enough funds to start with renovating the damage cause by NATO bombing in 1999, so prominent government and military buildings were left to decay as a constant reminder of what the country went through and what the former political regime caused.

This period was marked by investors' urbanism, meaning that anyone who was capable of building was given the permit to do so. The government constantly amended the General Urban Plan to fit in all the ad hoc interventions.

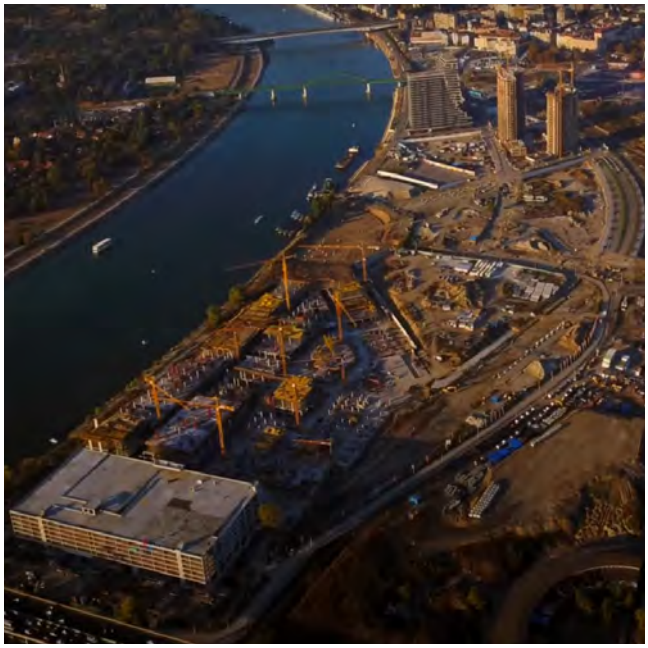


FIG. 4.8 Belgrade Waterfront - construction site, source: https://www.youtube.com/watch?v=WfLR0-H_EHE

Government's Renovation

Once Serbia secured its global position, the new government saw an opportunity to attract investments through rebranding of the capital city. The main goal in the strategy of urban development of Belgrade is to make it an attractive tourist location where transnational companies would want to invest.

This resulted in a form of hybrid planning and development that resembles the socialist period paired with the investors' urbanism. What is characteristic in this period is that the privatization of land is still prioritized, which is characteristic for the post-socialism, but large brownfield areas are being developed almost like in socialism – with strong public-private partnerships that result in mega projects tailored to investors desires instead of catering to city's needs.

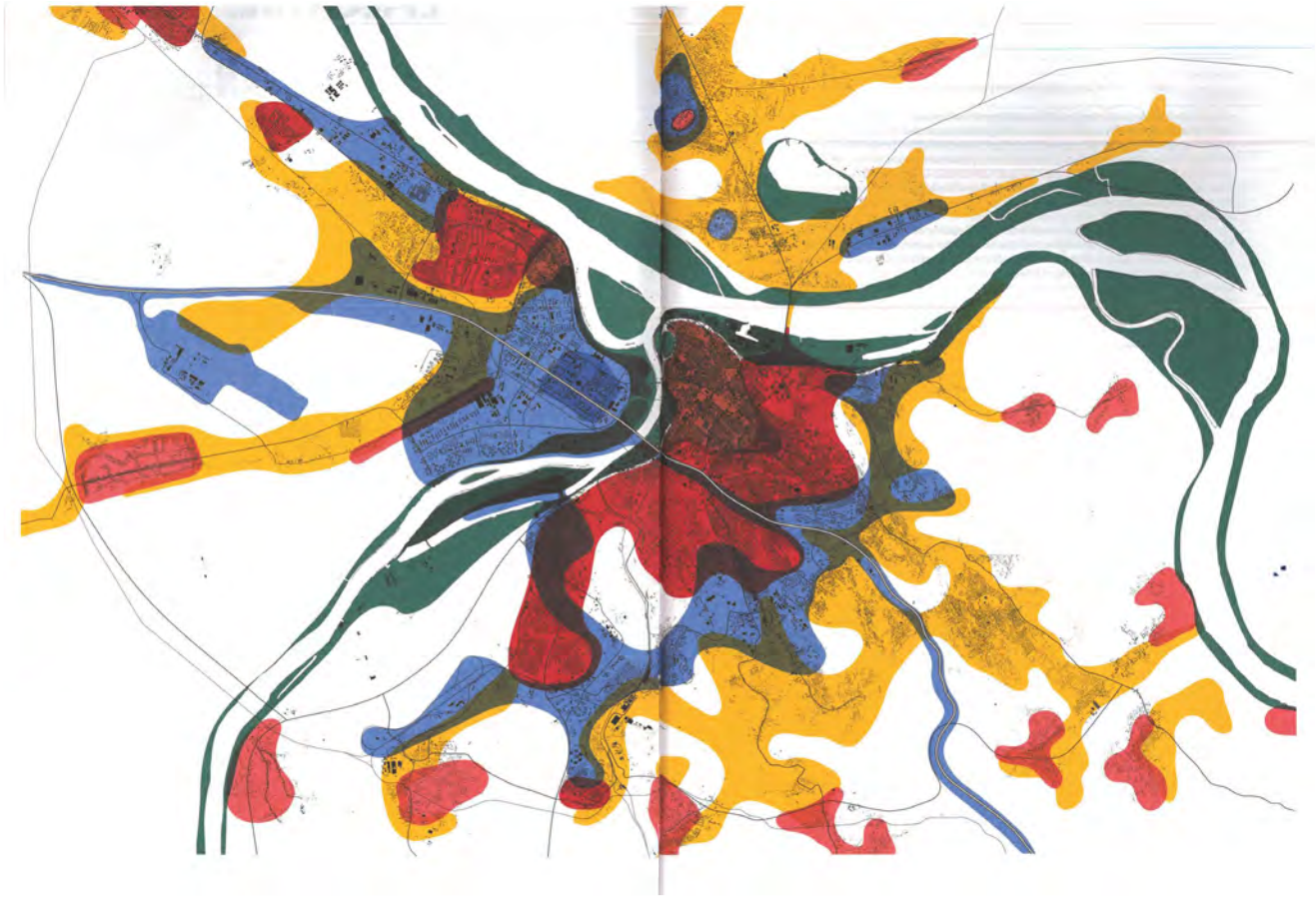


FIG. 4.9 Urban Topography map of Belgrade, source: source: Diener, R., Meili, M., Topalovic, M., & Inderbitzin, C. M. (2012). Belgrade: A Research on Urban Transformation. Scheidegger und Spiess AG, Verlag.p 256-257

Different time periods generated different typologies and in this map it can be seen how the city evolved.

The attached map shows how the city developed radially. On the basis of concentric circles, it is possible to determine which part was formed in which period. Although the map is quite simplified, what is important to point out are three different coasts - Old Belgrade, New Belgrade and Third Belgrade. Since Third Belgrade developed in a mostly unplanned manner it is the most natural, although the informality of the settlements carries a lot of additional issues.

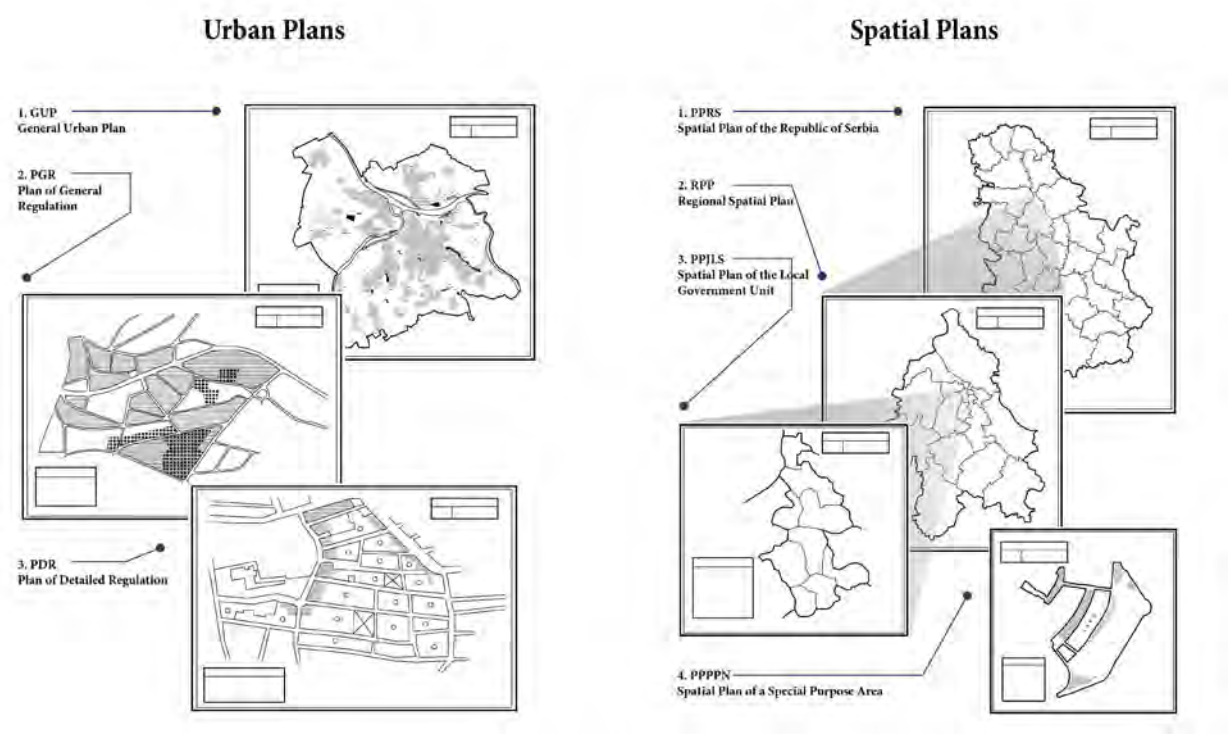


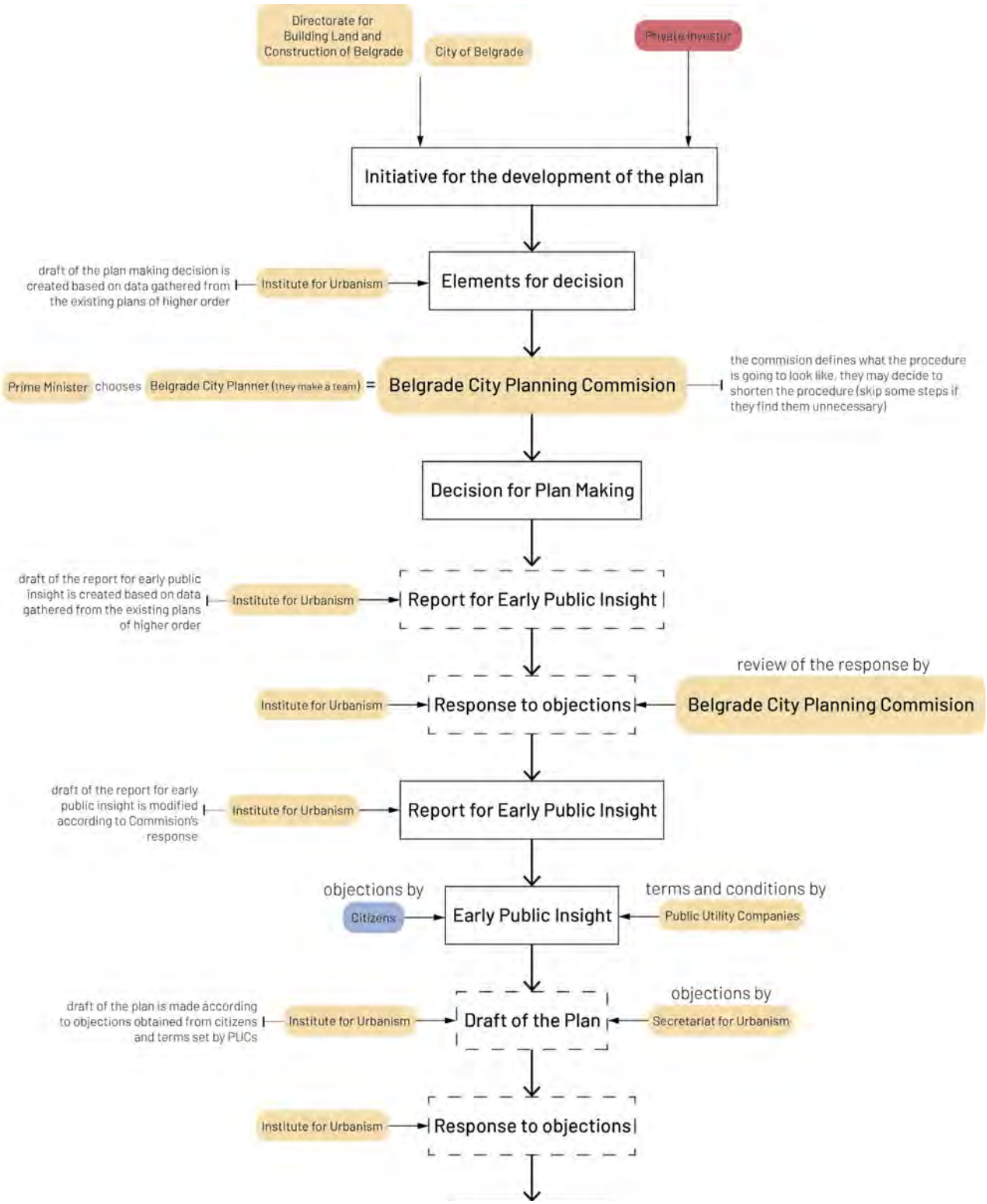
FIG. 4.10 Types of Plans in Serbian Urban Regulation, source: translated by author from https://issuu.com/ministarstvoprostora/docs/prirucnik_

4.2 – **Planning Process**

Planning process in Serbia is still very much linear and led by the planning profession without a lot of interaction with experts from different branches or even stakeholders. The current legal framework of the urban land system does not reflect required political changes (Nedovic-Budic et al., 2012). The planning procedure itself lasts on minimum 2 years, even for plans that are of smaller scale. The process is digitized to some extent, but minimally. This further complicates the matter and prolongs it.

This planning process does not reflect dynamic aspects of the city and cannot keep up with its transformations. This results in plans usually following the development, instead of the other way around. This might be due to the fact that Serbia does not have a national urban policy. Other than that, the planning process is too rigid and too centralized. This is making it easy to be manipulated by public-private partnerships, in shich the public sector has all the power to wield the process according to investors' desires. Having investors included so early in the process (and even starting the process itself in many ocasions) has the public sector work only as an enabler to the market. In cocnlusion, the market is shaping the urban environment.

Instead of putting down long-term goals and reforming the process to fit the needs of sustainable integrated urban planning, amendment after amendment have been put into place to shape the process to the needs of the current development.


Directorate for Building Land and Construction of Belgrade
City of Belgrade
Private investor
Initiative for the development of the plan
draft of the plan making decision is created based on data gathered from the existing plans of higher order
Institute for Urbanism
Elements for decision
Prime Minister
chooses
Belgrade City Planner (they make a team)
=
Belgrade City Planning Commision
the commision defines what the procedure is going to look like, they may decide to shorten the procedure (skip some steps if they find them unnecessary)
Decision for Plan Making
draft of the report for early public insight is created based on data gathered from the existing plans of higher order
Institute for Urbanism
Report for Early Public Insight
review of the response by
Institute for Urbanism
Response to objections
Belgrade City Planning Commision
draft of the report for early public insight is modified according to Commision's response
Institute for Urbanism
Report for Early Public Insight
objections by
Citizens
Early Public Insight
terms and conditions by
Public Utility Companies
draft of the plan is made according to objections obtained from citizens and terms set by PUCs
Institute for Urbanism
Draft of the Plan
objections by
Secretariat for Urbanism
Institute for Urbanism
Response to objections

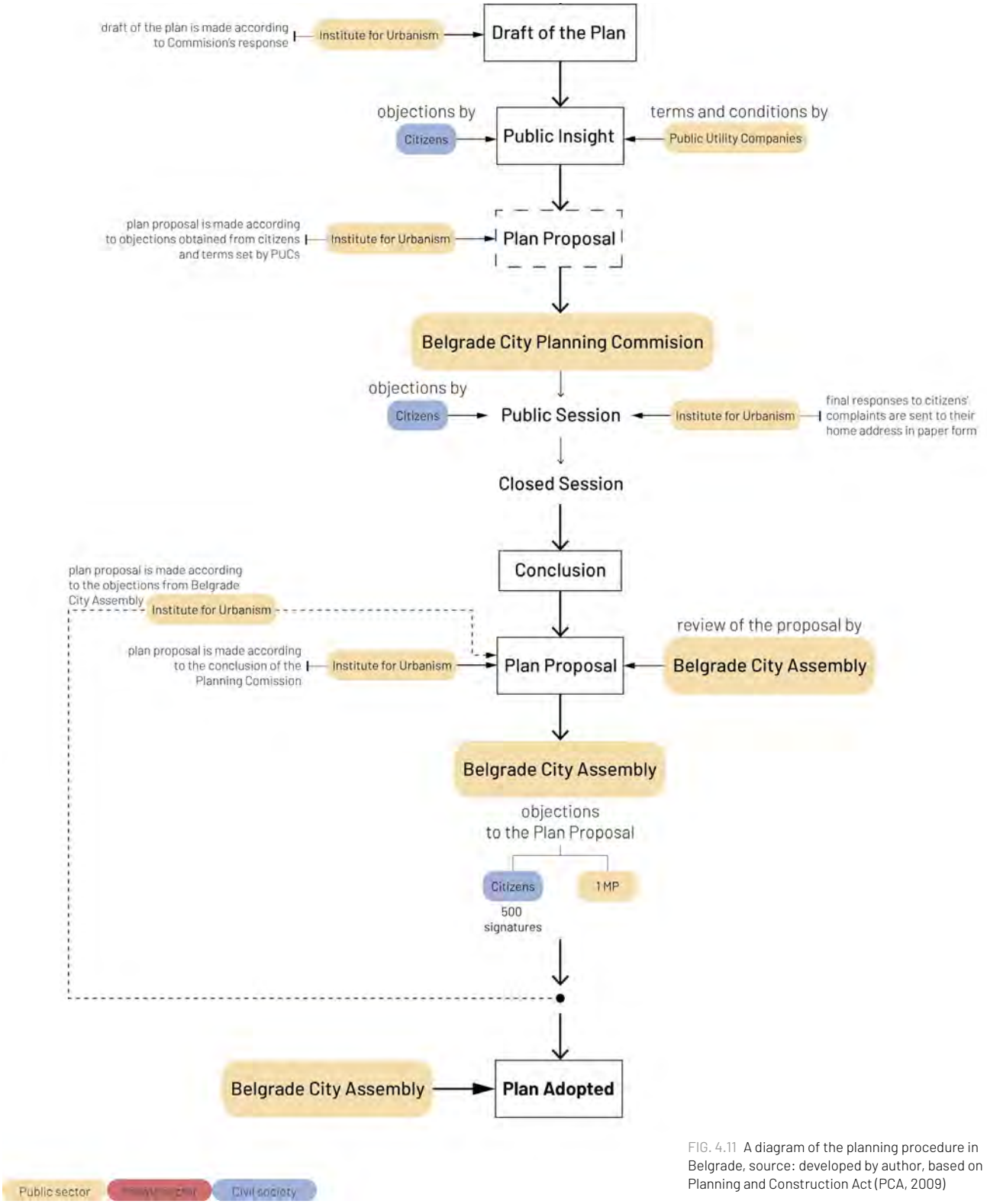


FIG. 4.11 A diagram of the planning procedure in Belgrade, source: developed by author, based on Planning and Construction Act (PCA, 2009)

FIG. 4.12 City Administration building - public insights for plans organized in the basement, source: photos by author

FIG. 4.13 Citizen protest, banners are saying "Whose city?" and "Our city!", source: CSO Ne da(vi)mo Beograd facebook page

FIG. 4.14 City Administration building - public insights for plans organized in the basement, source: photos by author

4.3 – **Participation in the Planning Process**

Participation in urban planning in Serbia is rather low. In this case, it could be concluded that the socialist legacy has some influence on this, but Yugoslavia practiced a more liberal self-management socialism. There was even more participation in Belgrade during the socialist times than there is now. What is the key influencing factor on the level of participation here is the early post-socialist legacy. Isolation of Serbia left social and institutional consequences that are difficult to overcome (Vujošević et al. 2012). Weak instruments for planning and construction regulation and lack of concern for environment protection are just some of them.

Another problem that persists in Serbian planning culture is the annoyance of planners and politicians with citizens' opinions. Majority of them believe that even the minimal formal level of participation that needs to be included in the planning procedure, complicates the process, makes it longer and stifles the creativity of planners. Most planners tend to minimize the amount of public participation and adopt only remarks that do not go against the main goals of the plan (Maričić, Cvetinović & Bolay, 2018).

Because of this, people go to streets to voice their opinions as they are not really provided an opportunity for that in the aspect of urban development.

PART 3

Conditions for Sustainability Planning

"In order for Belgrade to compete with comparable, dynamic European capitals, but also to implement projects supported by European funds, it is necessary to align substantially and formally its development goals with common European trends and goals of urban development, ie to adopt global and regional principles and values. These values are: sustainable and smart development, conservation of resources, healthy lifestyles, sustainable mobility, reduction of greenhouse gas emissions, acceptance and use of new technologies, while respecting diversity and promoting openness, democracy, inclusivity and communication." - Belgrade City Strategy

5 – Conceptual Framework

Sustainable development has become one of the most popular buzz words lately in the field of urbanism. This is mostly due to evident climate changes and growing social inequalities, for which there is scientific proof that are caused by humans (Sample, 2003). Many different scholars have different perceptions of what sustainability is and what aspects it encompasses. In order to propose a framework that will allow transition to sustainable planning and development in Belgrade, the concept of sustainability used in this approach is first defined.

Urban planning is a political process that has certain values embedded in it. Instead of adapting the values to the existing procedure, the values should shape the process. Only then can planning aim for sustainable development.

5.1 – **Sustainability**

Understanding sustainability has to start from understanding the world people live in. Too often sustainability is understood as a concept that pertains only to human world, or the territories that humans populate and that cater to their needs. One of the most well known definitions of sustainability comes from Brundtland Report and it is that sustainable development has to meet 'the needs of the present without compromising the ability of future generations to meet their needs' (WCED,1987, p. 43).

Some other views on sustainable development are given below (Wheeler, 2004, p24-25)

> "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."
> Brundtland Commission (1987)
>
> Sustainable development means "improving the quality of human life while living within the carrying capacity of supporting ecosystems."
> World Conservation Union (1991)
>
> "Sustainability requires at least a constant stock of natural capital, construed as the set of all environmental assets."
> David Pearce (1988)
>
> "Sustainability . . . implies that the overall level of diversity and overall productivity of components and relations in systems are maintained or enhanced."
> Richard Norgaard (1988)
>
> Sustainable development is "any form of positive change which does not erode the ecological, social, or political systems upon which society is dependent."
> William Rees (1988)
>
> Sustainability is "the ability of a system to sustain the livelihood of the people who depend on that system for an indefinite period."

Otto Soemarwoto

"Sustainability equals conservation plus stewardship plus restoration."
Sim Van der Ryn (1994)

"Sustainability is the fundamental root metaphor that can oppose the notion of continued exponential material growth."
Ernest Callenbach (1992)

"Sustainable development seeks . . . to respond to five broad requirements: (1) integration of conservation and development, (2) satisfaction of basic human needs, (3) achievement of equity and social justice, (4) provision of social self-determination and cultural diversity, and (5) maintenance of ecological integrity."

International Union for the Conservation of Nature (1986)

The approach used in this report draws mostly from anti-anthropocentric view on sustainability. As Hough (2002) states: "Attitudes and perceptions of the environment expressed in town planning since the Renaissance, have, with some exceptions, been more concerned with utopian ideals than with natural process as determinants of urban form".

Humans are an inseparable part of the environment they live in, and this is something that needs to be recognized as a paramount fact in order to understand how to achieve sustainability.

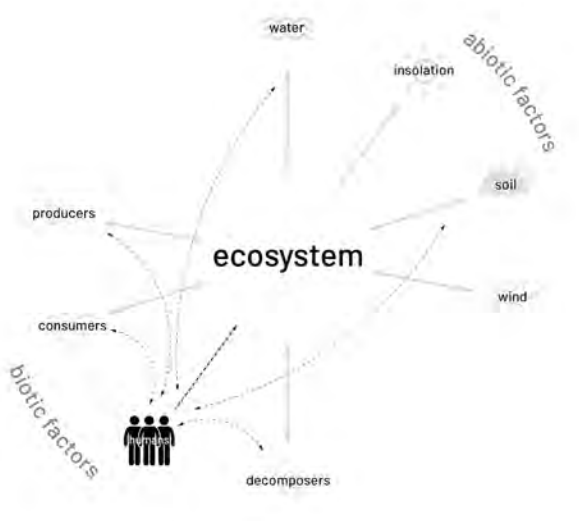


FIG. 5.1 Human influence on ecosystem elements, source: illustrated by author

Even though humans are only a part of a much larger system, the impact they have on it is undeniable. Ecosystems provide essential services for urban areas, and if not kept in balance, could be transformed and the resources they offer – depleted.

This is why employing an environmentally sensitive design could minimize destruction to an ecosystem (Hough, 2002). A step further from this strategy would be to think of how can design contribute to natural processes and improve the qualities of an ecosystem.

An aspect of sustainability that is often overlooked is the acceptance of limits. The human race evolved for centuries without this perception because the population

was much smaller, and to early population the world seemed endless and resources undepletable. The first time this notion was used was in 1972 in a report called "The Limits to Growth" which gives an overview of exponential economic and population growth, with limited resources (Meadows et al. 1972). Although work presented in this report is outdated and not relevant for drawing predictions about actual limits, the further scientific research shows that the certain resources on Earth are finite and can be depleted. Accepting limits is therefore crucial for attaining sustainability.

As already mentioned, humans are a part of nature and their capabilities to alter and build new landscapes should allow people not to draw from nature, but to build human landscapes within it a sustainable way that does not harm the original environment.

Because the human habitat has not been built in this manner so far, it is hard to imagine how this could be achieved. It may seem like the end of urban environments as we know them. But just like nothing changes and evolves all of a sudden in a natural world, this change should not be abrupt. The key to reach the state of the environment that is not human-centred, but Earth – centred is to adopt healthy holistic values that act as a guide towards achieving integrated sustainability.

One of the ideologies that puts the ecosystem in focus of sustainability, instead of human species, is the Deep Ecology Movement. This ideology is usually considered controversial, mostly due to the fact that the world has developed in extensively unsustainable way since the industrial revolution. Another reason for it might be that people do not want to surrender the comfort that is available to humanity in the modern world. However, this comfort and constant negation of the non-human species and their value can result only in increased climate change and greater inequalities, because in a world that is unjust to non-human species lower amounts of resources can only cause greater social injustice.

An important part of this kind of perception that needs to be unfolded is the human position in relation to sustainability. Putting forward the sustainability in its holistic ecological sense does not mean prioritizing ecology over social justice. Just as in nature, wherein untouched ecosystems abiotic and biotic elements function in balance, humans need to find their way of existing in a sustainable way. This requires working on anti-anthropocentric sustainability, from the anthropocentric world view, because this is the reality of the world humans live in.

Approaching the notion of sustainability through three different already adopted dimensions of sustainability (Larsen, 1994) would allow finding the balance that leads to human activities which meet the current needs, maintain them, and ensure the welfare in the future. This kind of thinking pertains to all three dimensions, without prioritizing any of them. This is the only way that ensures actually reaching sustainability.

It is also important to note that sustainability is a goal that is in its fundamental meaning unreachable. What this means is that it is a quality that requires constant work, and it is not a stagnant state, but rather a quality of the dynamics of being.

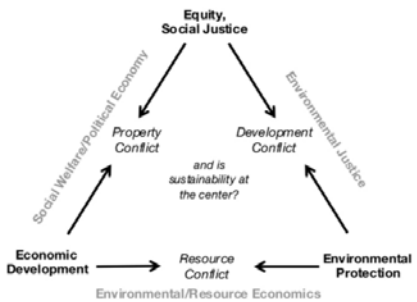


FIG. 5.2 "The Planner's Triangle", source: Campbell, S. D. (2013). Sustainable development and social justice: Conflicting urgencies and the search for common ground in urban and regional planning. Michigan Journal of Sustainability, 1.

5.2 – **Integrated Urban Planning**

A method of planning that needs to be employed is one that translates the values of sustainability into principles that can be employed in practice. Such method is integrated urban planning which approaches the issues holistically, through different aspects, scales and time-frames.

What is crucial for sustainability planning is the time aspect. This kind of planning requires extended timeframes (Wheeler, 2004) that envision thriving of societies and environments far into the future. As Wheeler argues, time horizons need to expand not only into the future but also into the past, to understand how the current problems arose and what led to them.

Typically, planning documents only work on five to twenty-year timeframes, and politicians usually deal with four-year timeframes until the next election. This shows that the current planning system is not adequately equipped for sustainability planning. Planners need to adapt time horizons and put long term goals on the table. Furthermore, understanding how short-term interventions can lead to those long-term goals is very important. Planning should consider how certain land-uses can transform and what are their potentials for the future.

Another aspect that needs to be taken into account is applying a holistic approach to planning. Historically, many different planning specialties have been separated and different regulations have been applied to them. In planning for sustainability, all of these sections need to come together to form integrated planning goals. This applies to different scales as well. Approaching a problem in different scales from different professional perspectives can offer combined comprehensive solutions.

Equally important is focusing on the place and its intrinsic characteristics. Giving priority to locally specific environments and communities not only combats spatial problems of imported landscapes but also ensures increased adaptability of the space in the future.

In planning for sustainability collaboration plays an important role, not only within the planning profession but also with other stakeholders. This helps build a comprehensive review of the problems and needs of the population (Milojević, 2018). To achieve successful collaboration, planners need to change their roles in the planning process. They need to act as facilitators, organizers and educators, and most importantly – negotiators (Wheeler, 2004).

In order to plan with all these aspects, a supportive policy framework needs to be in place to allow planning for sustainability. This presents a precondition for the realization of integrated planning in practice. Unfortunately, there are some theoretical beliefs that integrated planning does not exist in practice. It is especially non-existent in post-socialist countries. However, every step towards applying integrated planning principles in practice proves as useful, as can be seen in Ljubljana, Slovenia (p 36-37).

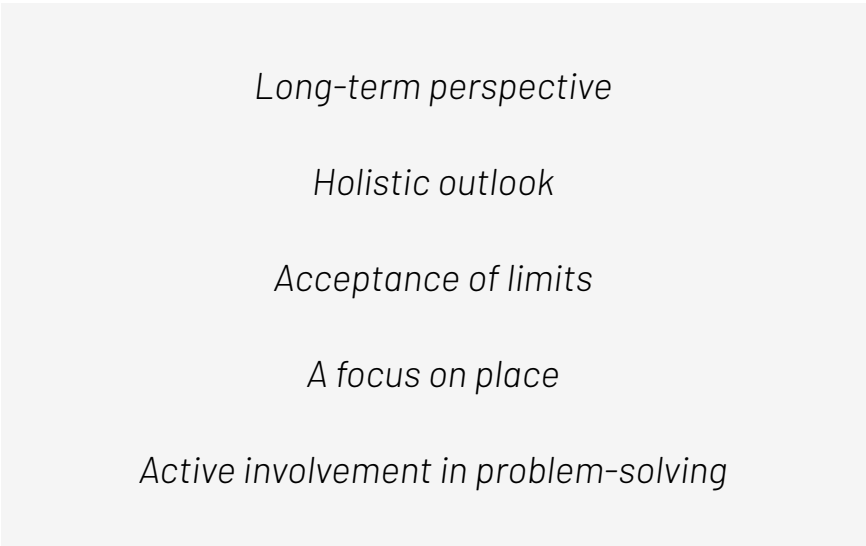


FIG. 5.3 Main principles of integrated planning, source: Wheeler, S. M. (2013). Planning for sustainability: creating livable, equitable and ecological communities. Routledge.

5.3 – **Spatializing Participation**

Facilitated involvement of the community in the early stages and throughout the whole process proves to deliver solutions that deal with multiple aspects and are generally more accepted within the community. Participation in urban planning and development can be understood from two viewpoints according to Stöger (2010): as a means and as a goal. Both of these approaches offer a lot to the planning process. Using various methods for a specific approach can offer a wider knowledge base to be used in planning while empowering citizens to take responsibility for the development of their environment.

Although participation can offer knowledge, planners also have to ensure that citizens are appropriately motivated and informed in the planning process. This can be done by adapting planners' roles, as mentioned in the previous section, and through a collaborative approach with other stakeholders. This process can have a two-fold benefit: 1) education of all stakeholders through the exchange of specific expertise and community knowledge and 2) encouragement of stakeholders with less power and diverse community-building through facilitation of a democratic participation in the planning process. According to Cerar (2015), empowered and active citizens articulate their problems and opinions, and contribute to elaborating solutions and implementing plans. This largely depends on social structure and level of inclusion.

Participation is often understood as means, rather than an end (Nared & Bole, 2020) and decisionmakers resist involving communities in the planning process. This is mostly due to the planning procedures that are already lengthy in post-socialist countries, and the traditional roles of planners who are unprepared to facilitate participation. Another reason for avoiding this is the fact that this process can also require a big amount of time.

The planning procedure would need to transform to involve more participation and this would be possible to achieve without extending the planning process using new

available technologies (Acedo, Mendoza, Painho & Casteleyn, 2017). To achieve this, a collaboration between IT specialists, sociologists, and planners in necessary.

Other than involving citizens and experts in a collaborative planning process, participation can also be included in the process of development. During the socialist era many youth volunteer actions were carried out in the construction of public spaces in New Belgrade. This resulted in a reported stronger sense of belonging among residents of New Belgrade neighborhoods.

Participation in public space development could also help shape social values and deepen people's connection with their surroundings.

Behavioral theorists and psychologists developed different environment-behavior models that deal with different ways people can feel and experience the environment and how it affects their behavior in return. Human behavior depends mostly on the users' perception of space which influences their social interaction within it. The design of urban spaces usually takes into account human social behavior but also shapes it according to what the desired behavior is. The physical features of the built environment that influence behavior can be buildings, streets, landscaping, landforms, and architectural elements (Aghostin-Sangar, 2007). How people behave in a certain space also depends on their sense of belonging to it. Hagerty defines the sense of belonging as "the experience of personal involvement in a system or environment so that the persons feel themselves to be an integral part of that system or environment" (Hagerty, et al., 2002). The environmental aspect is particularly important to the notion of mental of perceived space. The spatiality of sense of belonging is related to familiarity with the environment and the amount of freedom given to an individual to express their identity.

Therefore, establishing a closer connection between users and developers could result in a greater sense of belonging, and collective transformation of social values.

Another way of spatializing participation could be through partially relinquishing control and definition of certain public spaces. By providing the necessary amount of definition to it and leaving the space to be defined by users' behavior, citizens' sense of belonging would be increased, as they would be able to define the function of the space themselves. This process could also be supported by the planning procedure in a way that would institutionalize participation in development.

6 – Belgrade Riferfront Territory

For the purpose of proposing a framework that would provide the transition to sustainable development of Belgrade's riverfront, a territorial analysis is done. The goal of this analysis is to determine the territorial context within values defined in the conceptual framework can be applied to.

Since the previously described problem of market-driven mega projects relates almost exclusively to the areas in the riverfront, the first step is defining this environment. This is done through the analysis of four different layers: the ground layer, the occupation, the networks and the human relationship to the riverfront.

Furthermore, the proposed and actual projects are examined to define the starting point of the proposed urban transformation and potential impacts these projects would have if developed.

FIG. 6.1 Belgrade - satellite image, source: https://services.arcgisonline.com/arcgis/rest/services/World_Imagery/MapServer/3

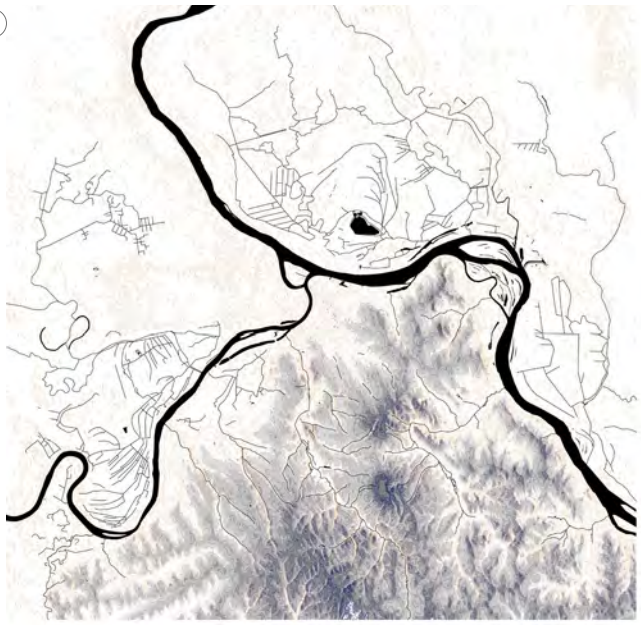


FIG. 6.2 Topography, source: developed by author

FIG. 6.3 Soil types and distribution, source: developed by author

FIG. 6.4 Extreme temperatures and pollution, source: developed by author

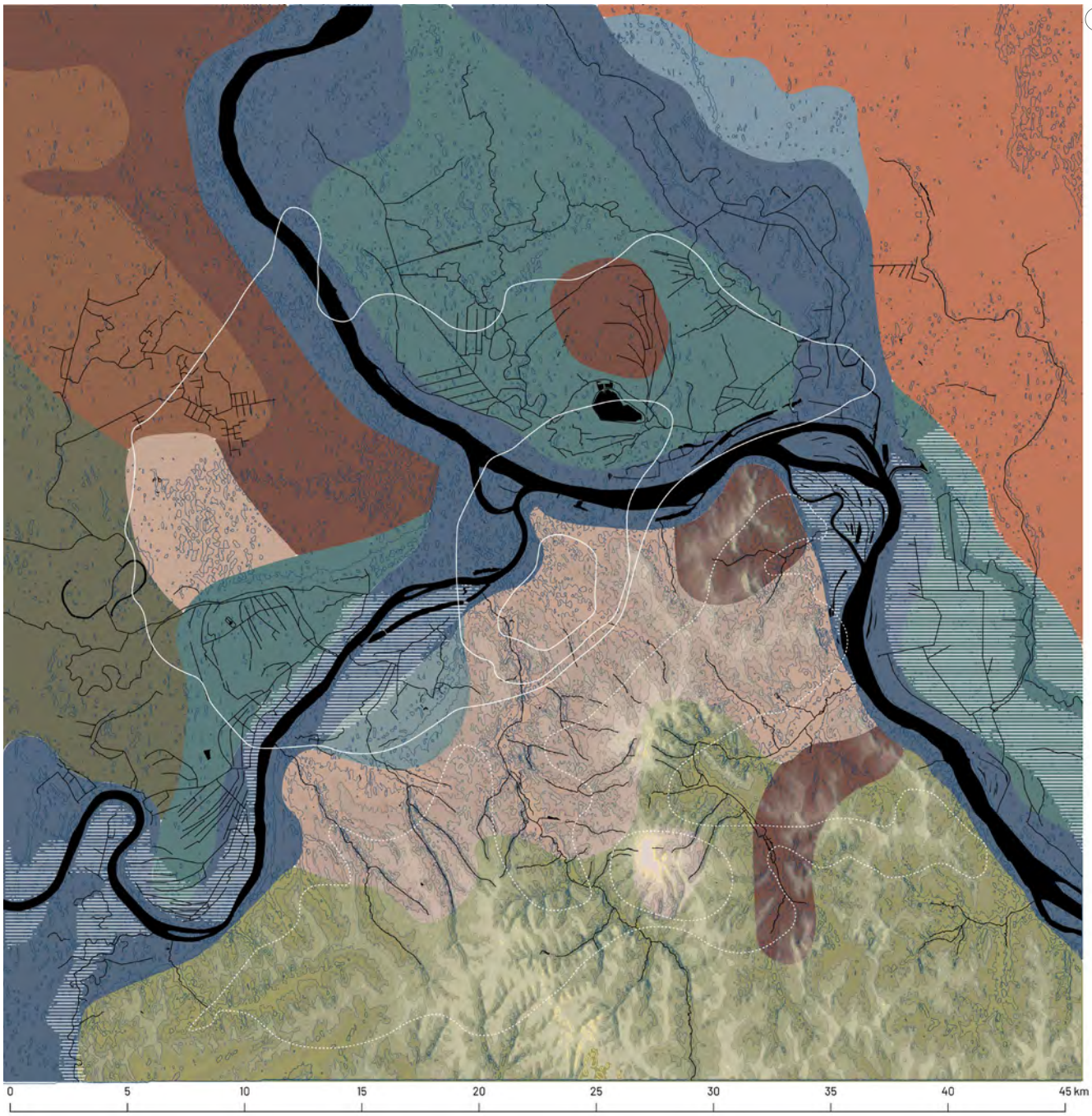


FIG. 6.5 The ground layer - overlapped layers, source: developed by author

6.1 – **The Ground Layer**

Analysis of the ground layer helps determine the riverfront boundary. According to soil types and topography a clear boundary of the riverfront environment can be drawn. These areas are prone to flooding and in certain areas also polluted.

FIG. 6.7 Heritage sites in the riverfront area, source: developed by author

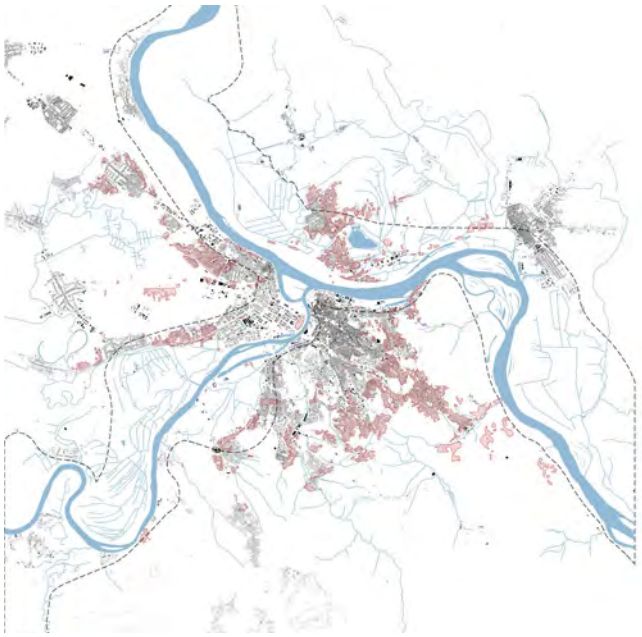


FIG. 6.8 Informal settlements, source: developed by author

FIG. 6.6 Land-use in the riverfront area, source: developed by author

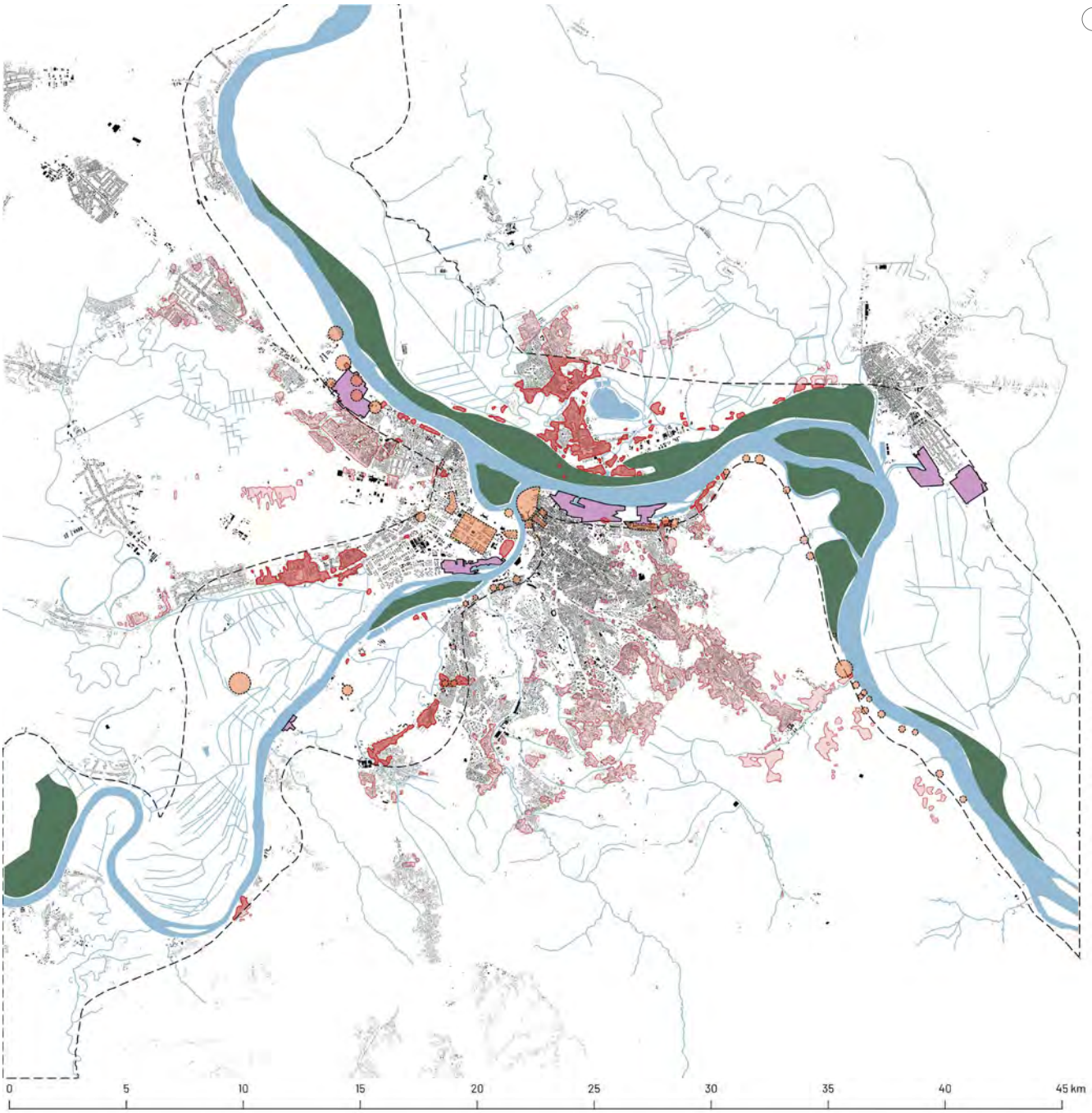


FIG. 6.9 The occupation layer . overlapped layers, source: developed by author

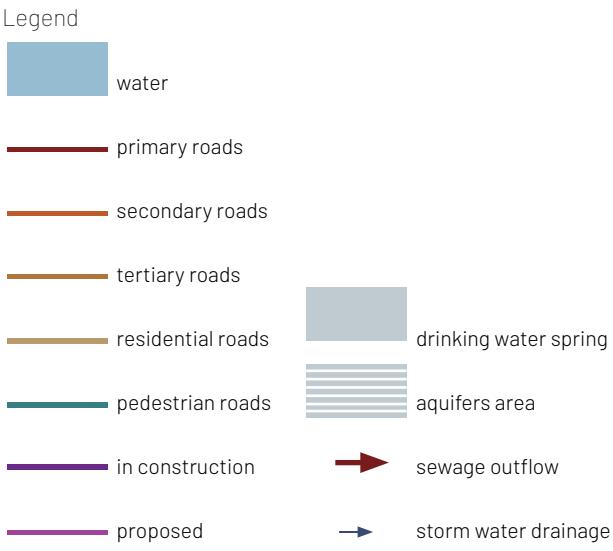
6.2 – **The Occupation Layer**

Analyzing how human influence shaped the territory uncovers areas with potential on the riverfront and some brownfield areas that are incompatible with the riverfront environment. There is also a number of significant heritage sites long the riverfont. In this layer all of the informal settlements are also mapped, and being in the flooding risk zone makes them vulnerable.

FIG. 6.10 Mobility infrastructure, source: developed by author

FIG. 6.12 Sewage and stormwater outlets, source: developed by author

FIG. 6.11 Drinking water springs and aquifers, source: developed by author



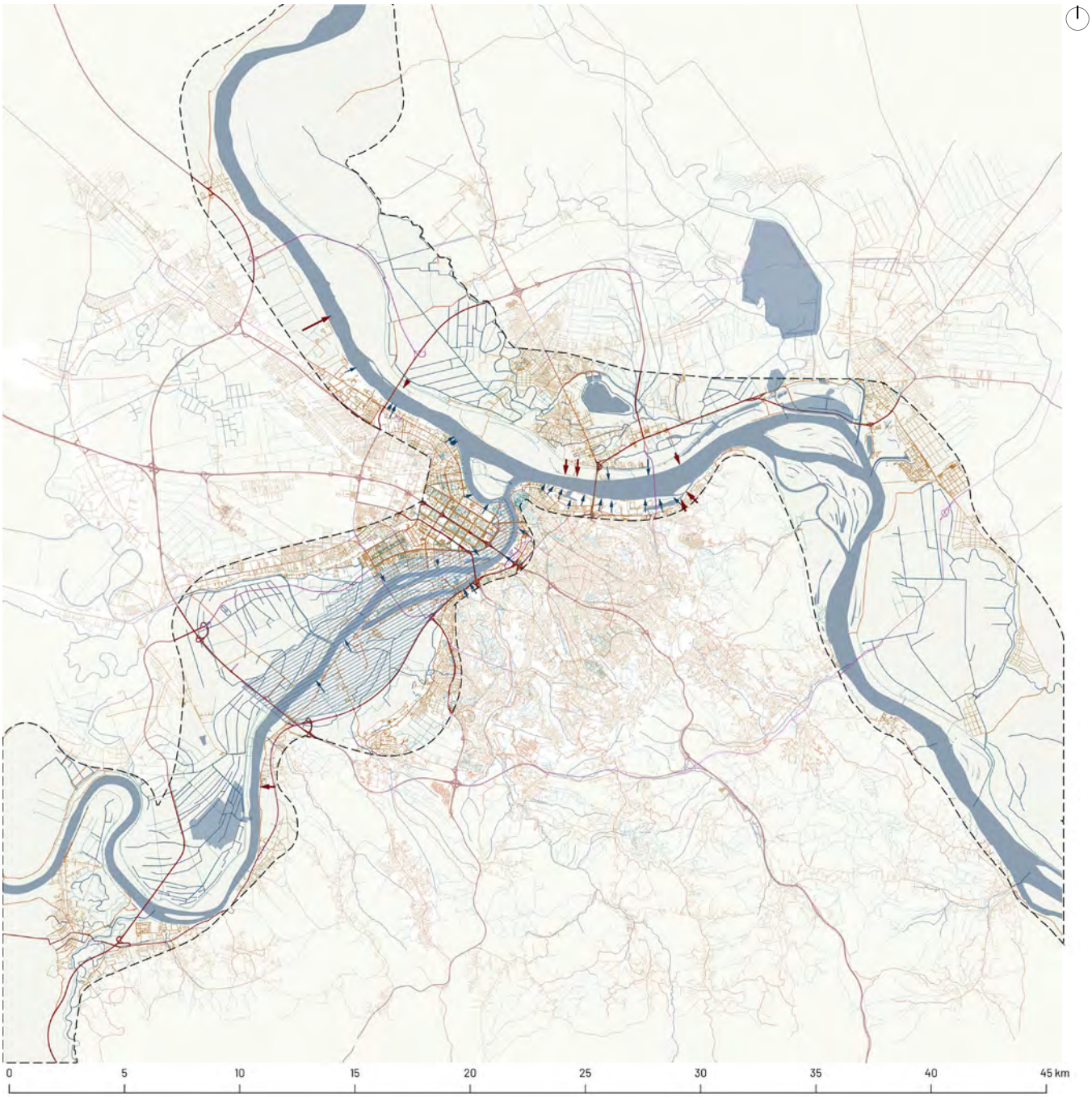


FIG. 6.13 The networks layer . overlapped layers, source: developed by author

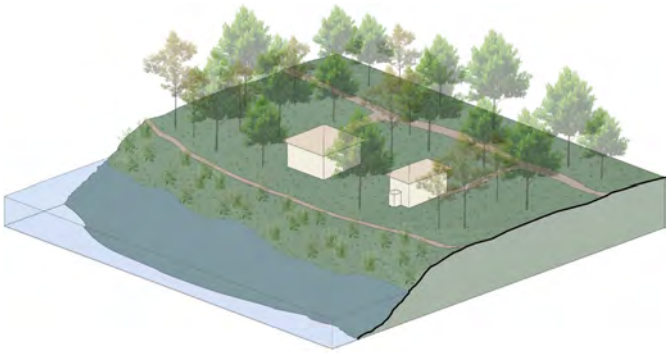
6.3 – **The Networks Layer**

The left an right Sava river banks are well connected, but mobility infrastructure seems to be less developed between the Danube river banks. Moreover, the riverfront is not fully connected with soft mobility networks. There is also a significant problem with sewage outflow which goes directly into the water without any previous filtrations in several locations along the riverfront.

FIG. 6.14 Map of the confluence area - red lines are indicating which areas are inaccessible, source: developed by author

6.4 – **The Human Scale**

Some brownfield areas are completely inaccessible to people, but the issue that is more apparent is the entire northern Danube riverfront that cannot be accessed. Some brownfield areas are closed off and access is restricted, but in natural areas there is no way to approach the riverfront other than by boat, or in some parts, using makeshift dirt roads.



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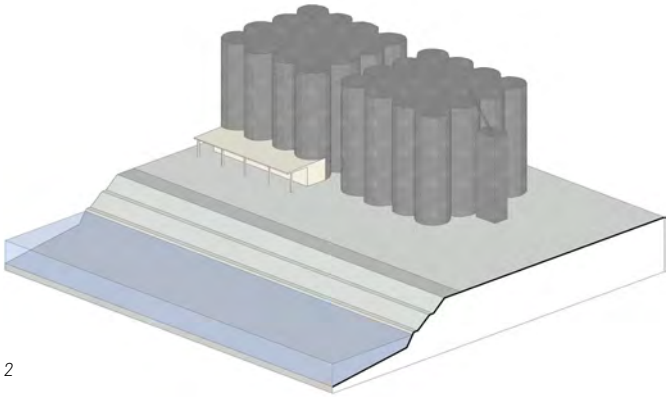

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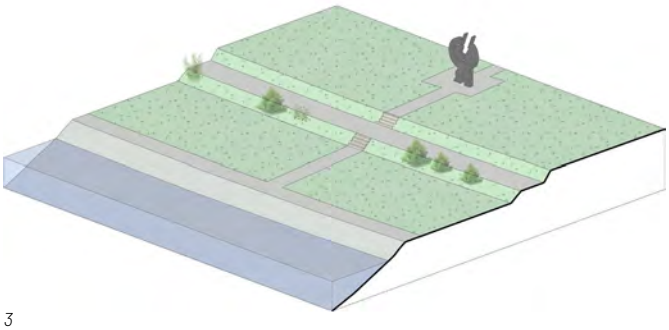

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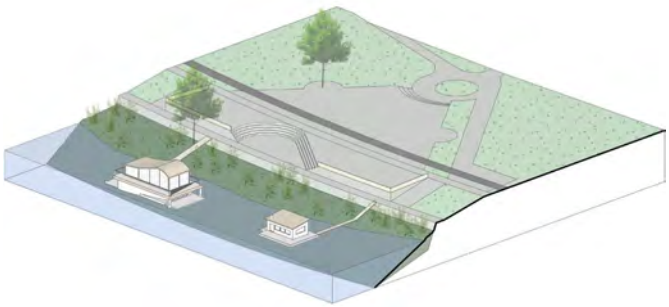


4

FIG. 6.15 1,2,3 and 4 - Axonometric sections of various river edge types, source: developed by author

Inaccessible natural edge

There is no mobility infrastructure that reaches the natural edge. The river is not banked here and there is no flooding protection, but that does not stop people from building illegal houses at these beautiful locations. The roads used to reach these houses are usually dirt roads, and these small informal settlements suffer damage during torrential floods.

Innaccessible industrial edge

The river edge in industrial areas is usually hard, as the river is banked here. These river edges are inaccessible and located in areas with heavy pollution.

There is no pedestrian or bicycle pathway in these locations.

Edge next to a heritage site

These locations are mostly poorly maintained, even though they are equipped with pedestrian pathways and, in some parts, bicycle pathways. There are no water houses in front of this particular heritage site that is shown on the section (The Old Expo Concentration Camp), but in front of other heritage sites there usually is a lot of commercial ones.

Recreational edge

These areas are equipped with pedestrian and cyclist pathways, and river plazas whith drinking water fountains. In several locations (such as the one showed in the section) there are also parking spots and the riverfront is accessible by motor vehicles. However, in these areas there is a lot of water houses. Smaller individual water houses located at the public riverfront recreational areas are mostly illegal. They also prevent maintenance of the river bank which results in accumulation of deposits at the river edge.

Conclusions of the territorial analysis are drawn using the SWOT analysis approach. These conclusions provide an insight into the level of sustainability of the Belgrade riverfront. These findings are observed through the lens of environmental, economic, and social dimensions.

Strengths

Based on the ground layer territorial analysis, it can be concluded that there is soil diversity in the region, with large areas covered in alluvial soil which is good for agricultural practices. The topography of the location indicates that the rivers are mostly kept following their natural course without major alterations.

The north bank of the Danube river exhibits high levels of biodiversity and it is almost completely natural. However, on the south bank of Danube, there is rich heritage all along the coast, originating from different periods. This finding corresponds with the topography context, as the north bank of Danube is lower and the surface of the floodable area is much larger than on the southern bank.

Based on the networks analysis, it can be concluded that there is an adequate connection across the Sava river. Some of these bridges are in poor state, but the infrastructure put in place is suitable in terms of the number of contact points.

The riverfront itself is pedestrian accessible in the center of the city, aside from the Big War Island river edge. There is a pedestrian and cycling network that connects the center along and across the rivers which is surrounded by various recreational and, in some parts, cultural spaces. Although Big War Island is hard to reach, its value lies in providing biodiversity and acting as a sponge during torrential floods which partially helps alleviate the consequences on the coast in the center.

Weaknesses

Even though there is soil diversity in the analyzed region and the alluvial deposits prove to be very fertile for agriculture, pollution remains a big problem. Flooding of the lower plains results in deposits that carry a lot of toxic materials that are transported along the river. The land use analysis shows that these areas are mostly used for agriculture and the plants grown in these areas do not have the capacity to filter this kind of pollution.

Another important weakness of the city center is an observed microclimate which exhibits higher temperatures in this area than in the outskirts. This most possibly may be due to the amount of paved surfaces that cause this occurrence.

There are large industrial sites at the riverfront which are either partially or completely abandoned. The ones which are functioning do not have the sewage issue solved and they keep polluting the river by directly discharging the wastewater without prior filtration.

Informal settlements located at the riverfront have numerous issues. Most of them do not have sewage or drinking water and they are at risk of flooding. These

settlements are usually populated by the vulnerable population that usually lives in extremely unsanitary conditions.

The access to the riverfront in some areas is not provided, and the coast is not connected by a pedestrian network and cycling network in its entirety. Along with that, some river edges are completely inaccessible as the beforementioned industrial areas have restricted access. Another problem with access to the river itself is caused by house rafts. In central areas of the city, these house rafts are mostly restaurants or clubs, but in the outskirts, they are usually individual weekend house rafts that are moored too close together.

Opportunities

These findings prove to be useful for defining opportunities for economic, environmental, and social sustainability improvement. The threats are discussed in the latter part of the report, in the *Planned Development on the Riverfront* section, as they are related to the current state of the planning at the riverfront.

There are a lot of opportunities to improve the environmental aspect of the riverfront. What needs to be addressed is the pollution problem and finding ways to remediate the future alluvial deposits that rivers are bound to bring. Along with that, the higher temperatures issue could be alleviated by increasing the amount of green areas.

Opportunities within the social aspect concern the attainment of equity. There is a possibility to increase accessibility to the riverfront, connectivity across the rivers, and continuity in access along the riverfront. Also, abandoned industrial areas could be adapted to have more public spaces and open access to all. Along with that, sanitary conditions could be provided for the residents of informal settlements and ecologically sustainable ways to ensure flood prevention.

Within the abandoned industrial areas also lies an opportunity to provide more economic spaces for local businesses. The spaces would not have to go through a major renovation and there is a lot of potential to reuse the existing structures, with necessary adaptations to prevent further pollution and ensure social and environmental sustainability. Having commercial activity along the riverfront is also desirable, although in a way that does not restrict the access to the water. This could be attained by removing some of the house rafts and placing them in appropriate places on the coast. They still are an important part of the city's identity, so removing them entirely would be undesirable.

7 – Planned Development on the Riverfront

In this part of the report the actual and proposed development is analyzed. Only large scale projects (mega projects) are included in the riverfront area. Acquiring information about planned and current development was done through media review, as well as through review of some of the planning documents.

The stakeholders analyzed in this part may not be the actual stakeholders. These are the prominent stakeholders that give statements and appear in media, but the investment and legal background behind any of these locations is much more complex than it is presented here. The goal of this overview of stakeholders was to determine patterns and to understand who is in charge of spatial development of the riverfront.

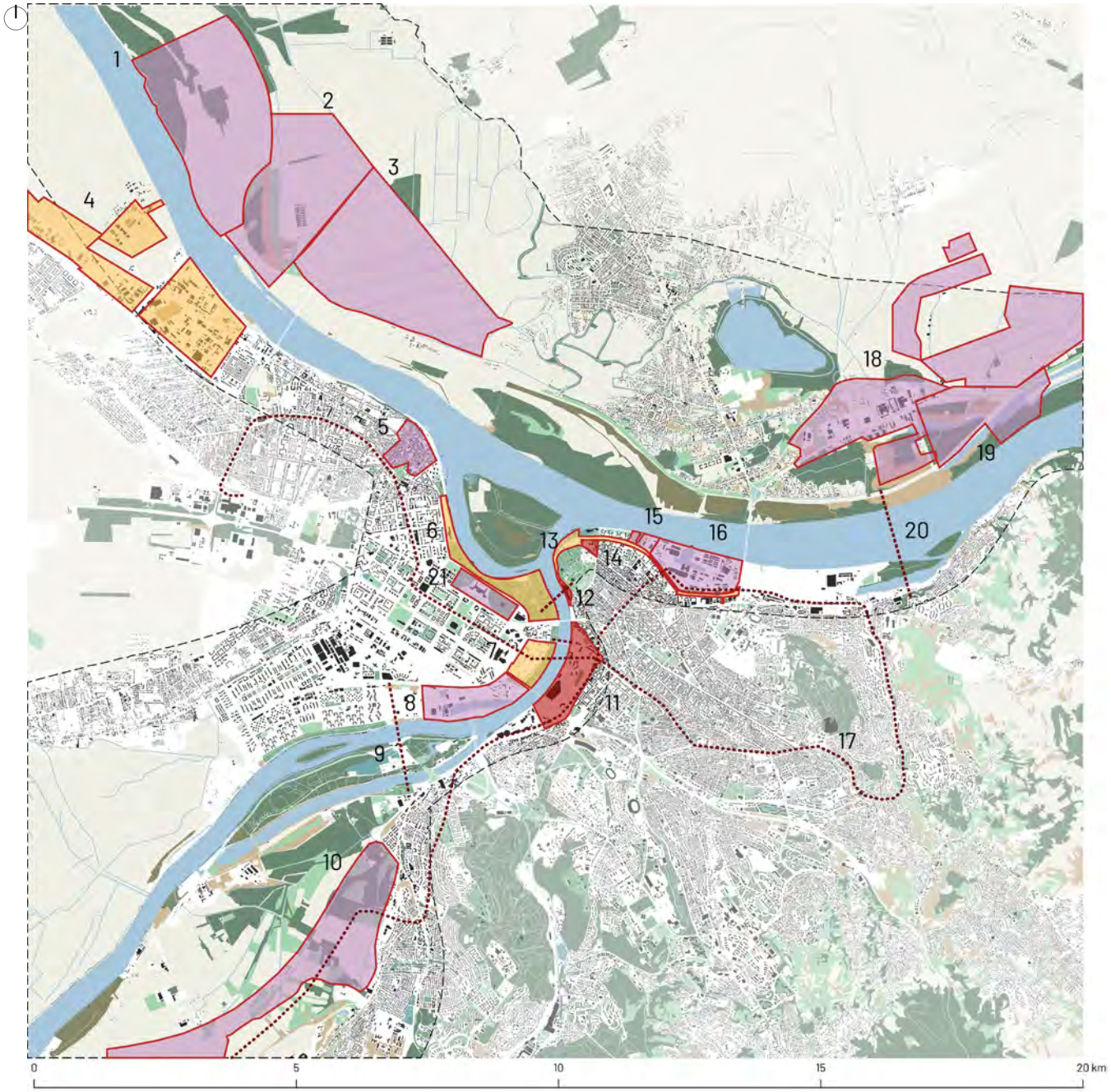


FIG. 7.1 Map of the confluence area - actual and proposed projects, source: developed by author

Legend

proposed
approved
in development

Actual and Proposed Projects

Most of the proposed development is either commercial or residential. According to theoretical background and contextual analysis, this was to be expected.

Government is trying to privatize these large portions of unused land and make them into new self sufficient city centres with mix-use high end housing and services. In most of cases where there are many environmental or social negative impacts, the government officials defend their intentions explaining how positive impacts outweigh the negative ones.

	Name	Type	Positive impacts	Negative impacts	Status
1	**New Port - left bank**	industrial/ transport/ infrastructure	economic growth	significant loss of biodiversity, hard engineering	proposed
2	**Al Dahra Biogas Plant**	industrial/ energy	financial prosperity, renewable resources, circular economy	potential negative ecological impact, foreign investors own local natural resources	proposed
3	**Borča Industrial Park**	tech-hub/ commercial/ housing	economic growth, technological innovation	loss of biodiversity, hard engineering	proposed
4	**Upper Zemun Industrial Economic Zone**	industrial/ commercial	economic growth	pollution	approved
5	**Gardoš**	heritage restoration/ urban regeneration	urban regeneration	endangered cultural heritage	proposed
6	**The Friendship Park and Gondola**	park/ soft mobility	improved public green space, new tourist attraction	endangered cultural heritage	approved
7	**Blok 18 - Belgrade City**	housing/ public spaces/ park/ cultural facilities	urban regeneration	gentrification, hard engineering	approved/proposed
8	**Zepter City**	brownfield urbanization	brownfield urbanization	gentrification, hard engineering	proposed
9	**Pedestrian Bridge**	mobility/ public space	improving connectivity and accessibility - soft mobility	aggresive aesthetic	proposed
10	**Tesla City**	housing/ tech-hub/ commercial	economic growth, technological innovation	loss of biodiversity, expensive infrastructure	proposed
11	**Belgrade Waterfront and Sava Bridge**	housing/ commercial/ public space/ cultural facilities	brownfield urbanization, economic growth, tourist attraction	expensive infrastructure, displaced train station, endangered heritage, gentrification, hard engineering	in construction/proposed
12	**Beton Hala Walkway**	soft mobility	improving connectivity and accessibility - soft mobility	aggresive aesthetic	in construction
13	**Linear Park**	park/ soft mobility	improved public green space, improving connectivity and accessibility - soft mobility		approved
14	**K-District**	housing/ commercial/ public space/ soft mobility	urban regeneration	endangered heritage	in construction
15	**Marina Dorćol**	housing/ commercial	urban regeneration	gentrification, endangered heritage, hard engineering	proposed
16	**City on Water**	housing/ commercial	urban regeneration	gentrification, aggressive aesthetic, hard engineering	proposed
17	**Belgrade Metro**	mobility	improving connectivity and accessibility - public transport	hard engineering, proposed itinerary connects proposed development locations	approved
18	**Ovča II**	commercial/ housing/ cultural facilities/ public services	more social housing, planned growth of the settlement		proposed
19	**New Port - right bank**	industrial/ transport/ infrastructure	economic growth	loss of biodiversity, hard engineering	proposed
20	**Ada Huja Bridge**	mobility	improving connectivity and accessibility - soft mobility		proposed
21	**Belgrade Concert Hall - Block 13**	cultural facilities	new cultural space	endangered heritage	proposed

Most of the projects planned at the riverfront coast are still in the proposed status. Only a few projects located in the city center began to be built, with, as shown in the analysis of the problem, complicated planning procedures that caused numerous changes of the already established master plan, as well as certain laws on planning and construction. The reason that some projects are still waiting for the start of construction in most cases lies in the lack of funds for their construction. A large number of investors seem to be hesitant to start building. This may be due to the complicated political and economic situation in Serbia, since mostly the highest officials of the country sign these construction contracts. A number of investors are showing interest in these locations, in some cases buying them based on what can be read in the Serbian media that report on these projects, and then giving up the construction and selling the land to some new investors.

Most of the proposed development is either commercial or residential. According to theoretical background and contextual analysis, this was to be expected.

Government is trying to privatize these large portions of unused land and make them into new self-sufficient city centres with mix-use high end housing and services. The goal is to modernize the city using foreign investments that would start new businesses and open new job places. The problem with housing developments is that it is affordable only to a select few, because most apartments complexes that are either planned to be built or in the construction process are on the market to be sold. The prices are formed according to the Law on Property Taxes (Službeni List Grada Beograda, 108/2018), and most of the locations where new housing property is planned are located in the first zone where approximate prices per square meter are unaffordable for the majority of people in Belgrade. These kinds of interventions seem rather illogical, since there are many informal settlements and vulnerable groups in Belgrade living in extremely unfavorable conditions.

The dominant aesthetic of the proposed projects does not seem to correlate with the aesthetic and identity of the rest of the city. Belgrade has a rich history and diverse identities embedded into its spatial layout, yet all of the proposed projects are negating this and proposing completely acontextual spatial conditions.

For example, Belgrade Waterfront is popularly referred to as "Serbian Abu Dhabi", due to the origin of the investor and the aesthetic of the project. Most citizen protests are covered in banners that are disagreeing with this aspect, along with the programmatic propositions.

Prevailing positive impacts that are supposed to be brought on by this development are related to economic growth. There is no surprise here, as Serbia is still struggling with an enormous amount of national debt, but the strategy that is adopted by the government also results in numerous negative impacts, some of which would cause irreversible damage. In most of cases where there are many environmental or social negative impacts, the government officials defend their intentions explaining how positive impacts outweigh the negative ones.

FIG. 7.2 16 - Belgrade Port - "City on Water", source: http://www.lukabeograd.com/en/city-on-wather/master-plan/strategy/diversity-of-neighbourhoods.html

FIG. 7.4 3 - "Borča Industrial Park", source: https://www.skyscrapercity.com/threads/%D0%91%D0%9E%D0%A0%D0%A7%D0%90-%D0%98%D0%BD%D0%B4%D1%83%D1%81%D1%82%D1%80%D0%B8%D1%98%D1%81%D0%BA%D0%B8-%D0%BF%D0%B0%D1%80%D0%BA-bor%C4%8Ca-industrial-park.2213384/

FIG. 7.3 7 - Block 18 - "Belgrade City", source: https://www.beograd.rs/images/file/2acba3d576d7824c4370b3fc6e30b7b9_1069895764.pdf

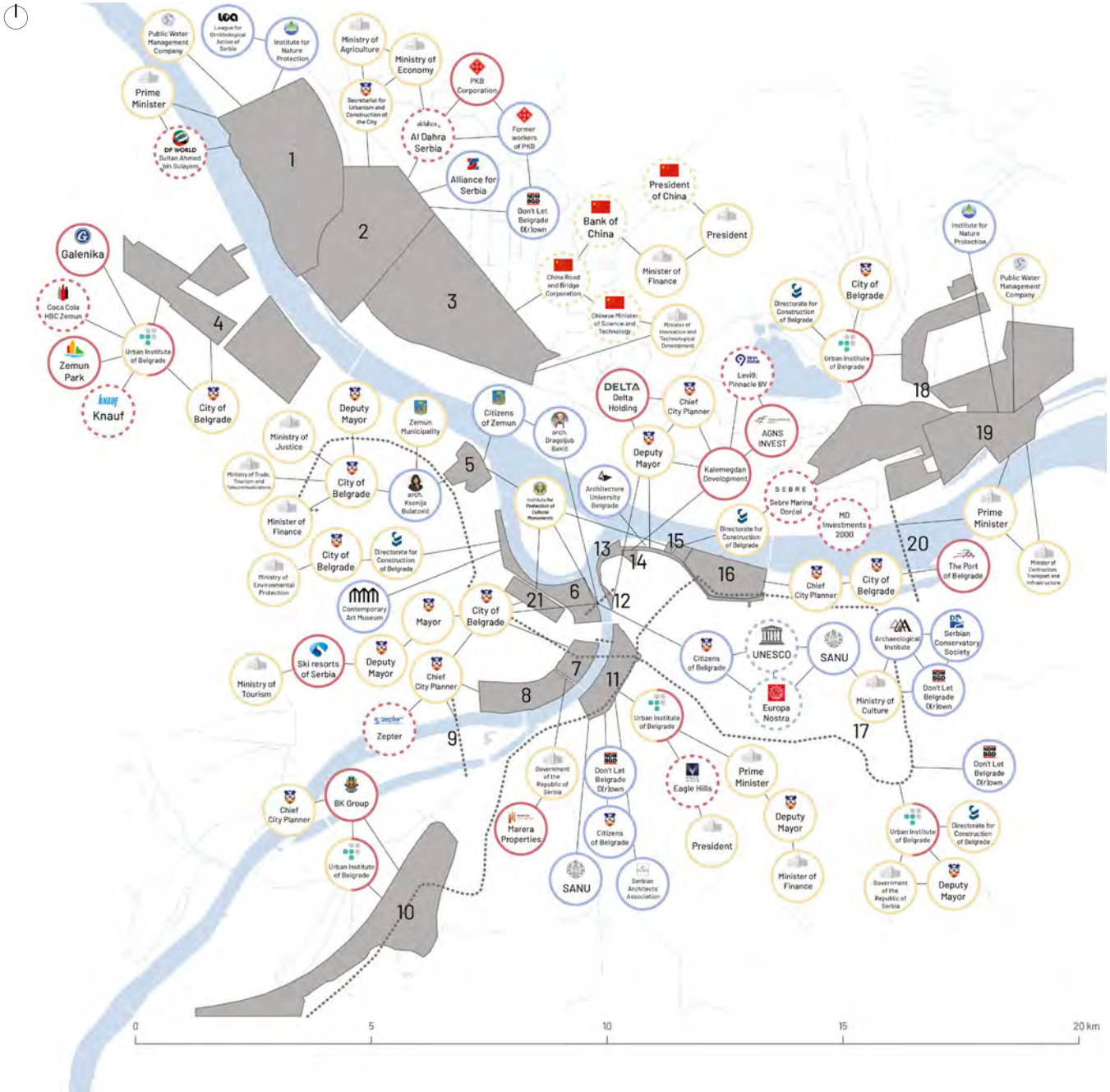


FIG. 7.5 Map of the actual and proposed projects - complexity of stakeholders, source: developed by author

Stakeholder Analysis

The analysis of stakeholders was done through review of news portals. The information that is presented here is also presented through media.

Accuracy of this data is questionable, but this analysis is valuable in terms of determining what kind of stakeholders are present in the riverfront and what kind of partnerships they are forming.

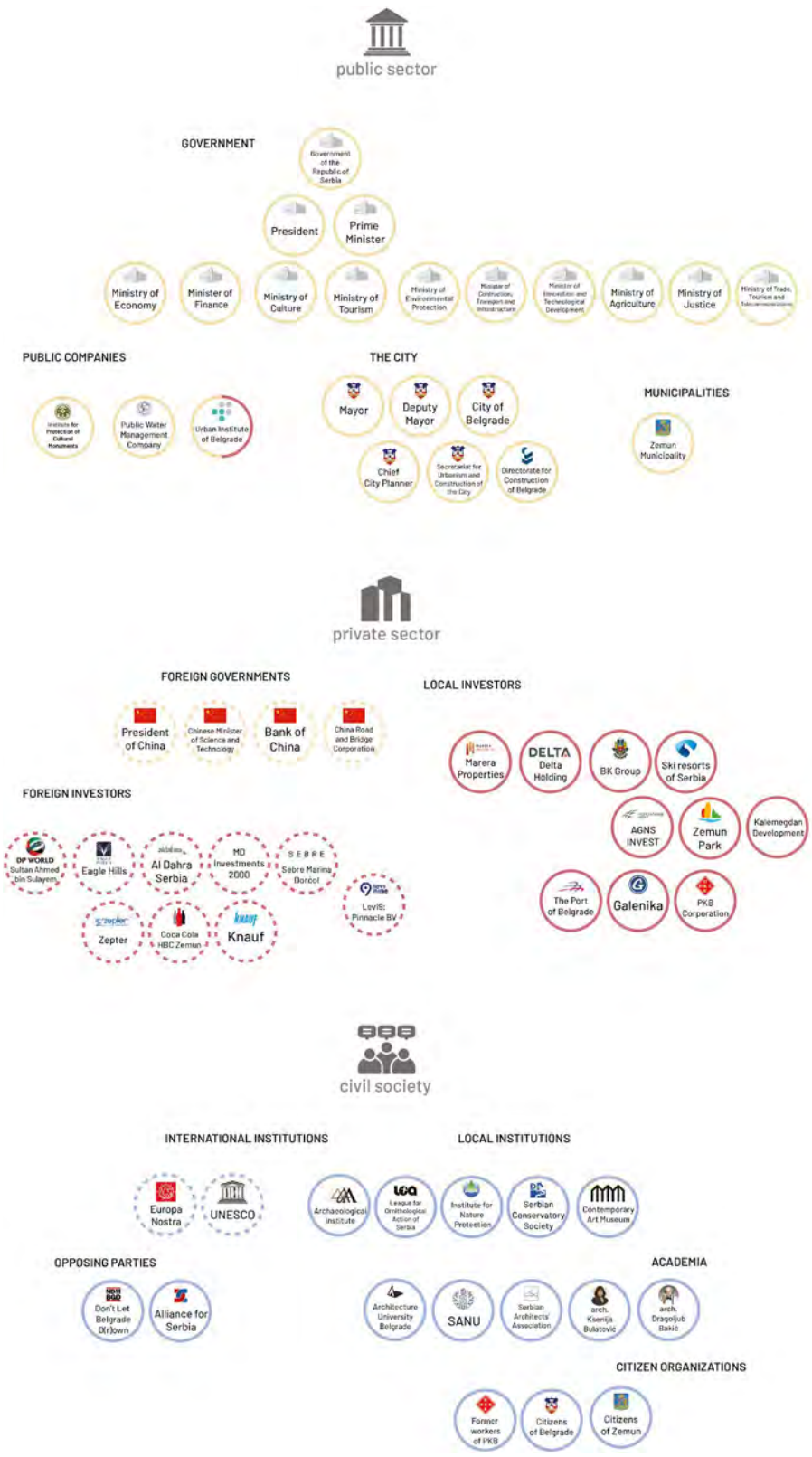


FIG. 7.6 Stakeholder diagram - different sectors, source: developed by author

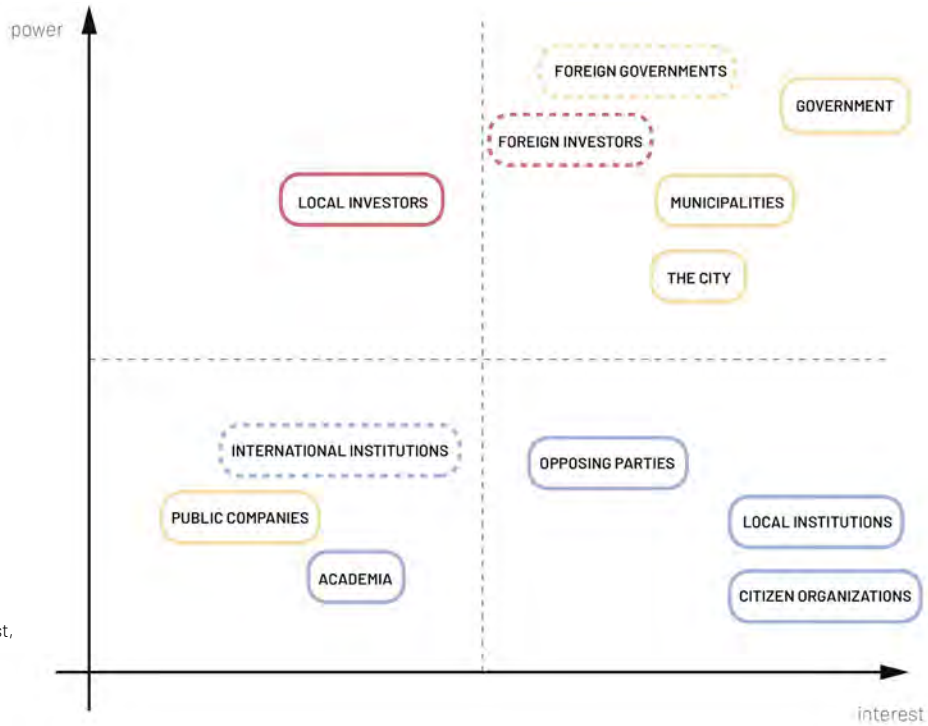


FIG. 7.7 Stakeholder diagram - power-interest, source: developed by author

The analysis of the available data uncovers complicated relationships between various stakeholders. What needs to be taken into account when reading this analysis is the level of corruption that is present in Serbia.

"Significant human rights issues included: allegations of torture by police; the worst forms of restrictions on free expression and the press, including violence and threats of violence against journalists; **numerous acts of government corruption**; and crimes, including violence, targeting lesbian, gay, bisexual, transgender, and intersex (LGBTI) individuals."

(U.S. Department of State, Bureau of Democracy, Human Rights, and Labor, n.d.)

This situation makes it even more difficult to understand who is developing, who is profiting, and what the final result is actually supposed to look like. Based on the analysis of the media reports, several conclusions can be made in spite of these aspects.

Based on the power-interest analysis, stakeholders can be divided into four groups (Grunig and Hunt, 1948):

1 - Keep Satisfied

(high power, low interest)

Normative stakeholders

These are opposing parties, local institutions, and citizen organizations. However, they are treated by government-managed media as the main enemy of Serbia's road to prosperity.

2 - Manage Closely

(high power, high interest)

Enabling stakeholders

The public sector is forming public-private partnerships with foreign governments and foreign investors. Stakeholders in this group are enabling and functional. The public sector has control and authority over the situation, and the private sector is providing resources. Both sectors are receiving outputs.

3 - Monitor (low power, low interest)

Normative stakeholders

Public companies work closely with government officials in enabling the realization of the projects. Certain laws are being changed and case studies are being made to support the proposals.

Experts from local academia and international institutions usually react only on rare occasions. Academia is mostly silenced or ignored by the government officials, and this is why they try including international institutions to help their case.

4 - Keep Informed (low power, high interest)

Diffused stakeholders

Local investors are forming public-private partnerships, but as it was discussed before, their interests seem to be low as they are ready to give up some locations due to various reasons.

PART 4

Proposed Framework for Transitioning to Sustainable Development

This part of the report gives an overview of the proposal aimed at solving the problem of the thesis. The approach is formed using conclusions of the contextual analysis, theoretical framework, and conceptual framework. It is divided into two separate aspects. The first one is related to the urban planning process and the second one is related to the urban planning itself.

The proposed process is based on the principles of the conceptual basis but has been adapted to relate to the current planning process in Serbia. Since the proposal is imagined as a proposal for transition, this process of transitioning must be taken into account. Changing something from the roots is not easy and carries great consequences. Therefore, the proposal for the process transformation is designed so that it could be implemented in the current institutional framework with appropriate changes that would not cause a radical change. Of course, the goal of the framework is not the transition itself but sustainable development, but the first step must happen within what is existing. This process could be complemented in the future by some other steps or more innovative technologies.

The second part of the proposal refers to urban planning itself and what has been proposed is a transcalar strategy. It is important to note that this approach fits into the process, which means that the planning is practiced simultaneously including different scales through a cyclical process. The various scales proposed here and relating directly to the riverfront are the city scale, the confluence scale, and the urban design scale. This approach was also chosen because of the current urban practices in Serbia. These are the scales that are most often worked with, although, as already explained in the analysis, not simultaneously but hierarchically. What is proposed here is to use known scales and plans to obtain a result that is more sustainable.

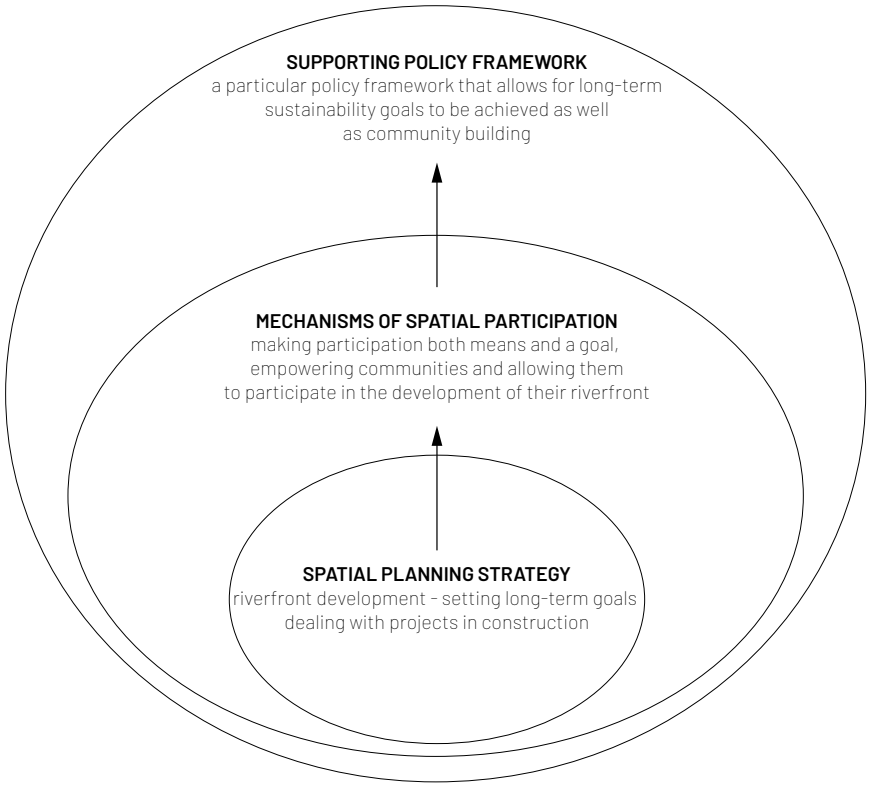


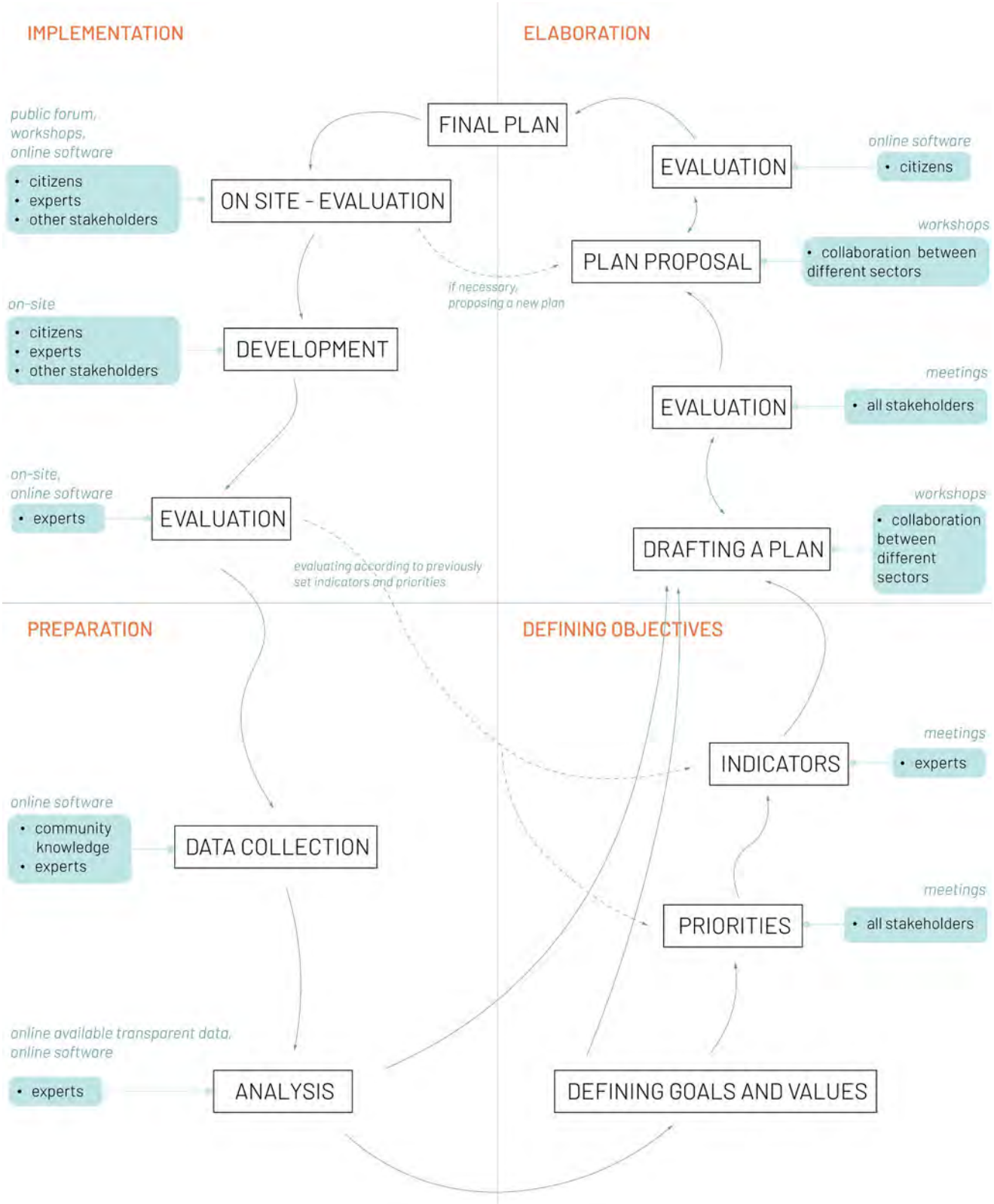
FIG. 7.8 Conceptual framework of the approach, source: developed by author

The Concept

This approach draws from theory of Sýkora and Bouzarovski (2012), but argues that because post-socialist cities' transition cannot be generalized, specific sustainability goals set in urban planning field need to guide the social and institutional transformations.

This approach does not fit the standard transformation process, but it fits the current urban development practice in Belgrade. It would not only give more importance to the community, but it would also possibly help shape the values of planners and politicians that would learn that short-term actions can have long lasting impacts, and this would allow them to start planning for future, which is essentially sustainability.

The hypothesis is that with adequate interventions in urban space, social values and institutional transformation can be started. An integrated planning approach for the Belgrade riverfront is proposed with values that guide the process of planning and development.


IMPLEMENTATION
ELABORATION
PREPARATION
DEFINING OBJECTIVES
FINAL PLAN
ON SITE - EVALUATION
DEVELOPMENT
EVALUATION
EVALUATION
PLAN PROPOSAL
EVALUATION
DRAFTING A PLAN
INDICATORS
PRIORITIES
DEFINING GOALS AND VALUES
ANALYSIS
DATA COLLECTION
public forum, workshops, online software
• citizens
• experts
• other stakeholders
on-site
• citizens
• experts
• other stakeholders
on-site, online software
• experts
online software
• citizens
workshops
• collaboration between different sectors
meetings
• all stakeholders
workshops
• collaboration between different sectors
meetings
• experts
meetings
• all stakeholders
online software
• community knowledge
• experts
online available transparent data, online software
• experts
if necessary, proposing a new plan
evaluating according to previously set indicators and priorities

8 – Proposed Process

The transformation of the planning process is a prerequisite for sustainable development. Trying to implement sustainability values into the existing procedure would result in a socially unjust process, and an outcome of that cannot be inclusive or sustainable.

This process proposal represents the adaptation of an existing process so that existing procedures can be transformed and the planners would not have to deal with an entirely new procedure.

Four important parts of the process become cyclical, to allow the process itself to evolve and the development to be monitored. The most important part for this moment and the first part that would need to be worked on is the Preparation.

Currently, there is little information related to the urban planning indicators that are publicly accessible. The data that is open to everyone is mostly related to the current urban plans, but this does not give a proper insight into parameters that are used to get to that point. In the process of data collection alongside with expert knowledge, building a community knowledge basis is important for understanding how people relate to space. This should be included as an important input for planning.

The second part of the process relates to Defining Objectives. In this part of the planning process, it is important to include all stakeholders and experts. Priorities have to be defined in a collaborative way, to ensure that indicators that are defined later will actually help evaluate the plan that is drafted.

In the Elaboration process participation needs to be maximized. Instead of presenting a finished product to citizens to evaluate, including them in a participatory way in the drafting process would give better results that would not lead to major disapproval. During this part of the process, it is also important to find an adequate way to inform the stakeholders about the different parts of the plan. Information that is often presented to the citizens is not adapted to be read by large masses because it contains a lot of technicalities and in general, a language that is understood by spatial planning professionals, but not by everyone else. Instead of wasting time on explaining what particularities of the proposed plan are, finding a language that is readable by all for presenting would save time and provide more inclusivity.

Finally, the Implementation part of the process could include participation in the development as well. Evaluation of the plan could be organized in on-site visits that would deepen the understanding of the kind of spatiality that is planned. Finding ways to include citizens in the development is also important, as it maximizes the sense of belonging and ensures participating in the space once it is developed.

Instead of making the process longer, participation would be facilitated using technology and internet software that would allow for faster procedures.

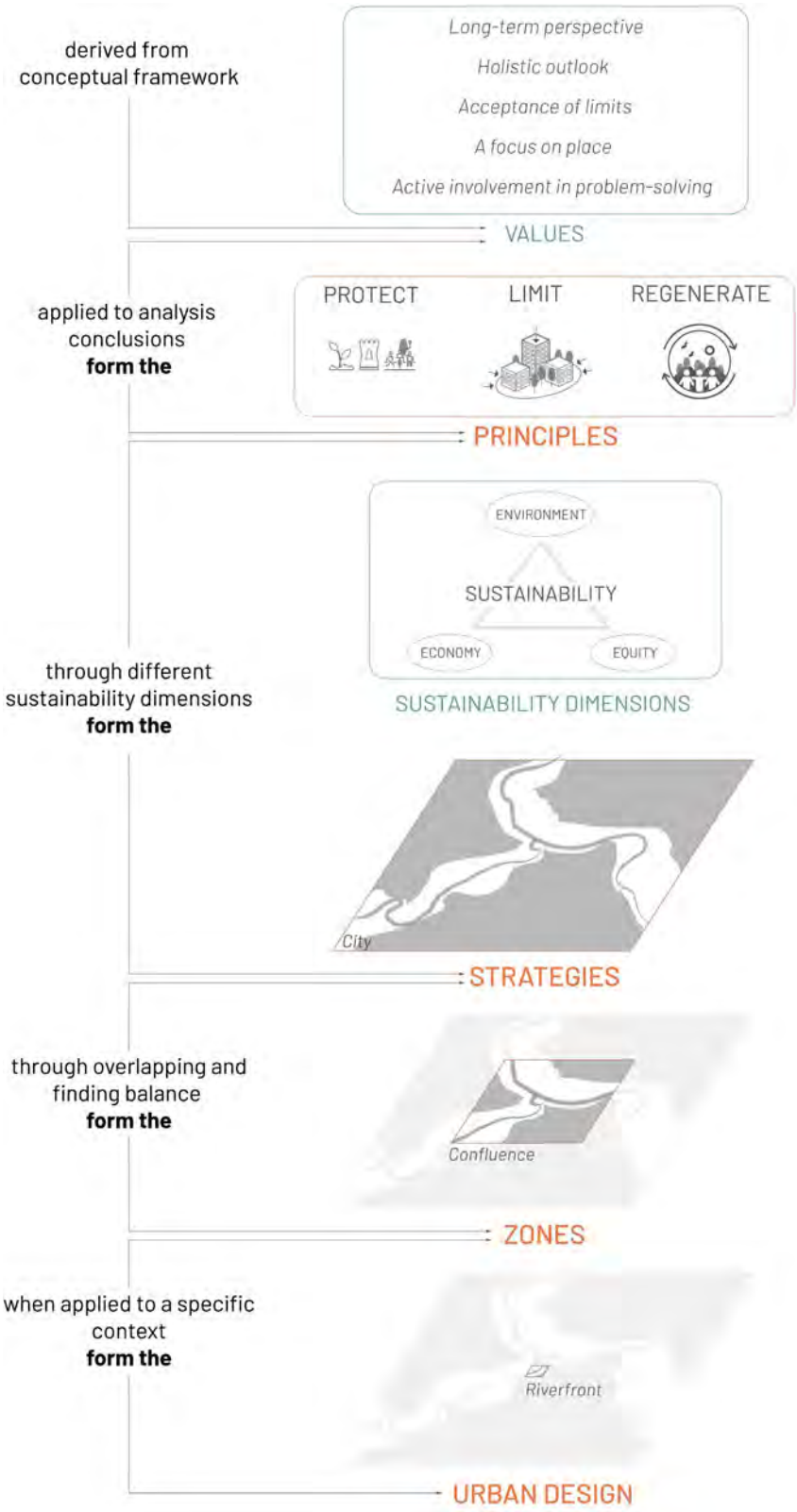


FIG. 8.1 Diagram of the transcalar approach, source: developed by author

9 – Transcalar Strategy

This approach was formed based on the conceptual framework, contextual analysis and territorial analysis. An integrated planning approach that is proposed has embedded values into it that allow for the design process to comprehensively include the notion of sustainability.

As it can be read on the diagram (FIG. 8.1), the values that are derived from the conceptual framework, namely the Integrated Urban Planning Principles (page 61), are applied to the conclusions of the territorial analysis. When applied to the strengths, weaknesses, opportunities and risks of the territory, three main principles are developed.

These principles of Protecting, Limiting and Regenerating are applied to different sustainability dimensions to provide strategies that are devised for the City scale. Overlapping these different dimensions and balancing the strategies, zones are created in the Confluence plan. These zones contain the qualities of economic, environmental and social sustainability.

When these zones are further explored and their properties are applied to a specific context, another scale emerges which is the Urban Design scale.

When this approach is applied through a proposed process, these specific locations that could be developed are embedded in a comprehensive planning strategy which provides a holistic riverfront development.

9.1 – **City Strategy**

The strategy proposed at the city scale consists of three different approaches: environmental, social and economic. These three refer to the values defined in the conceptual framework and connect to the conclusions of the territorial analysis.

The goal of the city scale strategy is to propose a scheme that will ensure cohesion across the city. Instead of proposing a zoning plan on this scale, the strategies provide a guide for defining the spaces at a smaller scale.

The strategy is divided in three sustainability dimensions because at this scale it is important to define what qualities different sustainability approaches have.

The principles of PROTECTING, LIMITING and REGENERATION are applied to sustainability dimensions to create multifield strategies which holistically tackle city territory.

In this part it is shown how these three different principles change through sustainability dimensions and what kind of tactics they imply.

9.1.1 – Environmental Aspect

Protect

Under protecting principle there are two different strategies referring to the riverfront. The first concerns protection of valuable natural riverfront environments. These areas have a high level of biodiversity and are often lawfully under protection. When economic development is prioritized, these areas are neglected and often the protecting law is lifted.

The second strategy concerns areas that provide valuable resources to the city. In this case, the zones from which city draws drinking water are put under protection.

Limit

Under limiting principle only one strategy is employed. In areas where urban structures are too close to the riverfront, or where old city centres are located, renaturalization of riverfront spaces is limited.

Renaturalization interventions in areas where hard engineering is present can be invasive to old centres and socialist residential neighbourhoods.

Regenerate

Regeneration principle in the environmental aspect refers to renaturalization of certain areas. The goal is to establish a continuous ecological pathway along the river in all areas. The scale of intervention depends on the context as well.

Another strategy within this principle is the construction of sewage treatment facilities that would connect to the existing sewage network and reduce pollution of the rivers.

There are large polluted areas along the river banks. What is proposed is planting these areas with phytoremediation plants where possible.

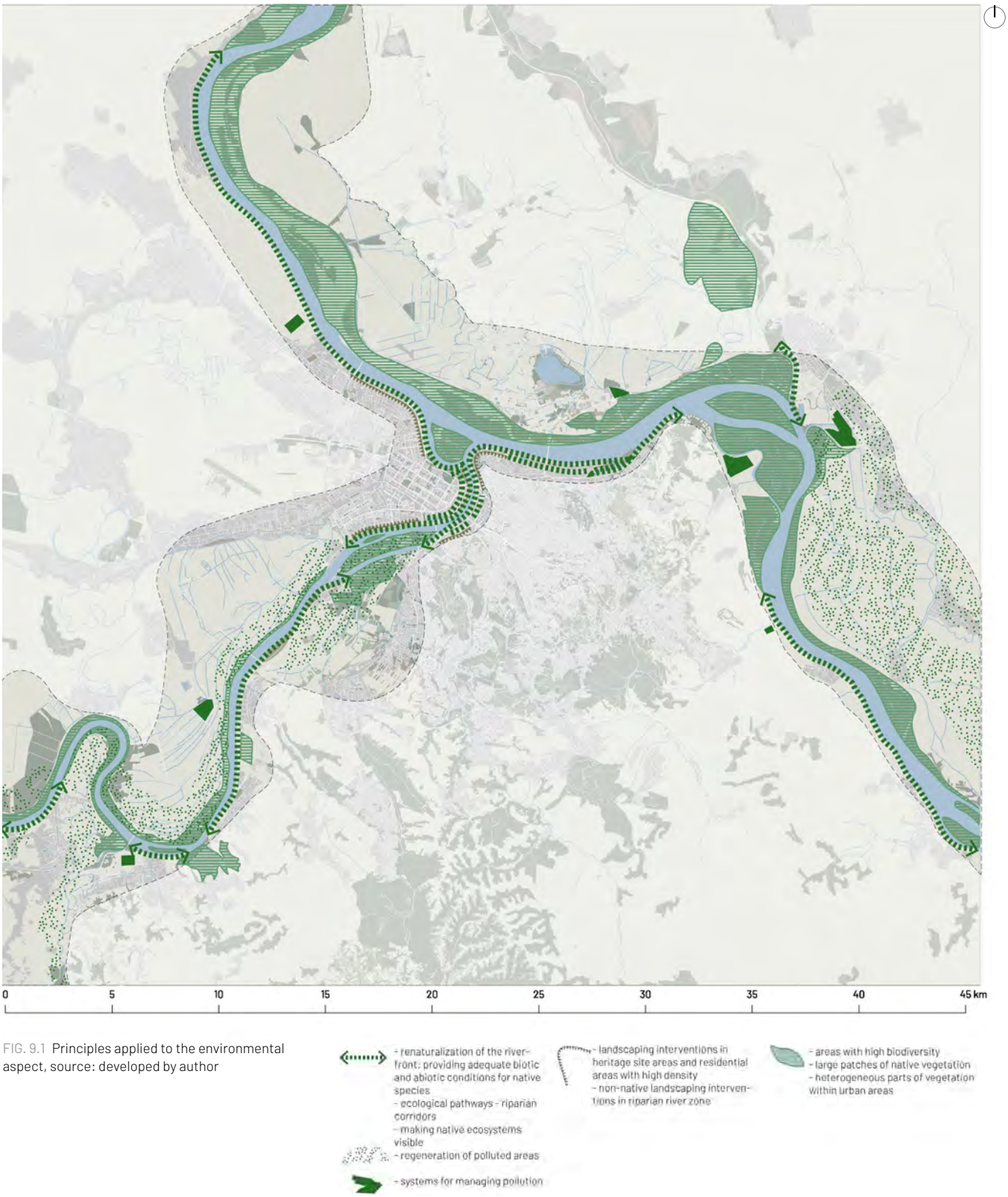


FIG. 9.1 Principles applied to the environmental aspect, source: developed by author

9.1.2 – Social Aspect

Protect

The protecting principle refering to the social aspect addresses two types of spaces. The first type of spaces are valuable social spaces in the riverfront area. These are parks and recreation spaces.

The second type of spaces are heritage sites. Some of the planned projects completely deny the importance of preserving the cultural heritage and threaten its destruction. This is why the protection of these spaces is strenghtened.

Limit

There are certain brownfield areas along the rivers which need to be regenerated. However, development in these areas is limited. The goal is to make the accessible areas which will not intensify social exclusion.

Another important aspect of limiting development in these areas refers to the views of the city. High rise buildings would block the view and connection to the river due to topographic configuration of the city.

Regenerate

Regeneration principle mostly refers to the issue of access. Continuity of access to the river is provided along the entire riverfront, along with soft mobility infrastructure. Access to the river is improved from certain urban centrescontinuity of access to the river.

Within the bronfield areas, public space is developed that connects to the soft mobility network. Access to natural areas is developed in a way that is not harmful to the environment.

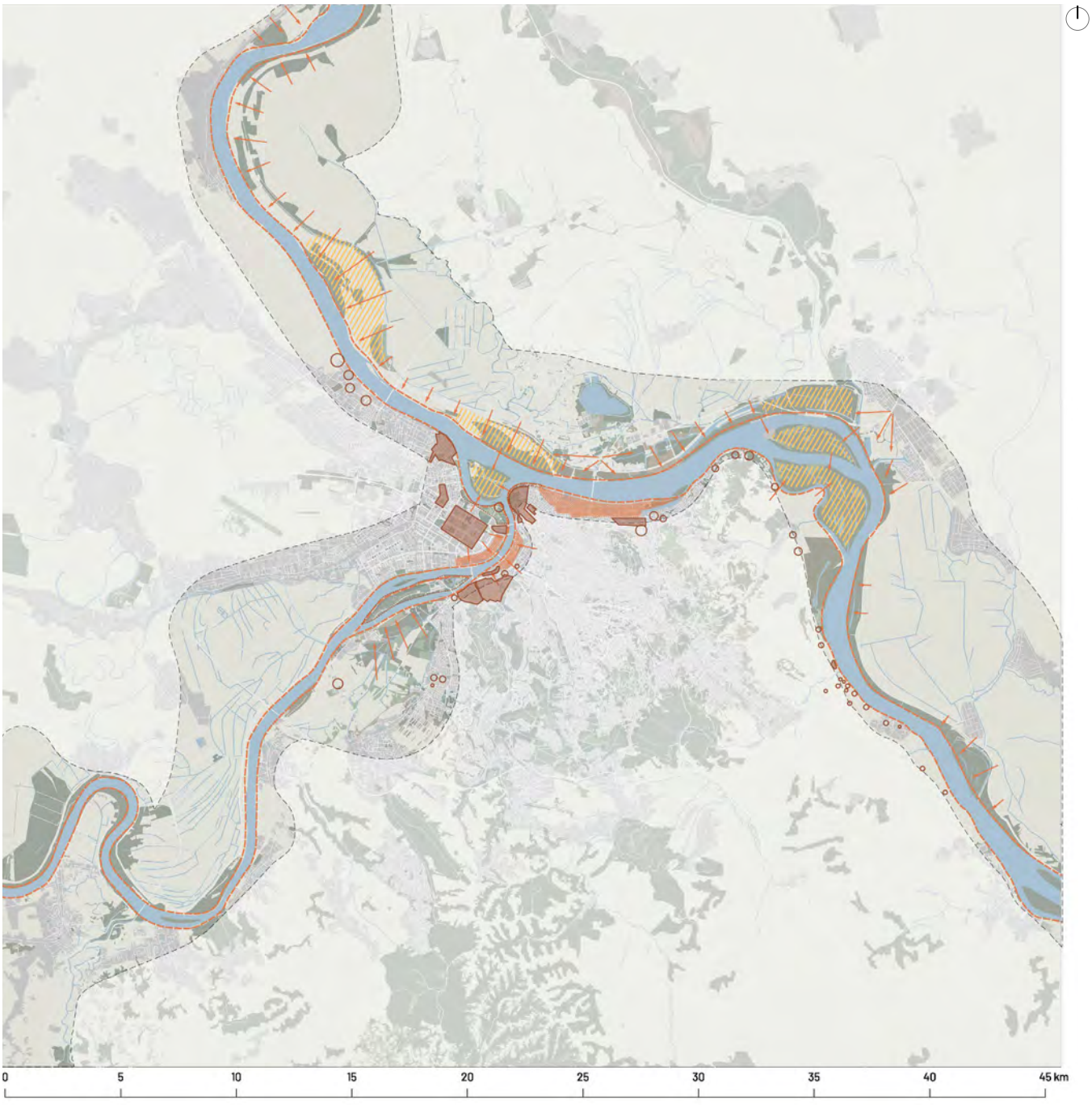


FIG. 9.2 Principles applied to the social aspect, source: developed by author

9.1.3 – Economic Aspect

Protect

An important aspect of Belgrade's identity are "splavovi" or raft-house restaurants. They attract people to the rivers and many tourists come to see the night life on club rafts.

This is why these small businesses are protected, even though some of these areas need to be restructured to allow more access to the river.

Limit

In certain areas where conflicts arise due to natural or social conditions, and previously described strategies that are employed, industrial development is either limited or completely forbidden.

Brownfield areas need to be regenerated and have potential for new types of economic activity, but what needs to be avoided is the generation of new industrial pockets at the riverfront that would worsen the environmental and social conditions.

Regenerate

Brownfield areas are regenerated to adapt for uninvasive industrial activity or multifunctional economic zones that are easily accessible.

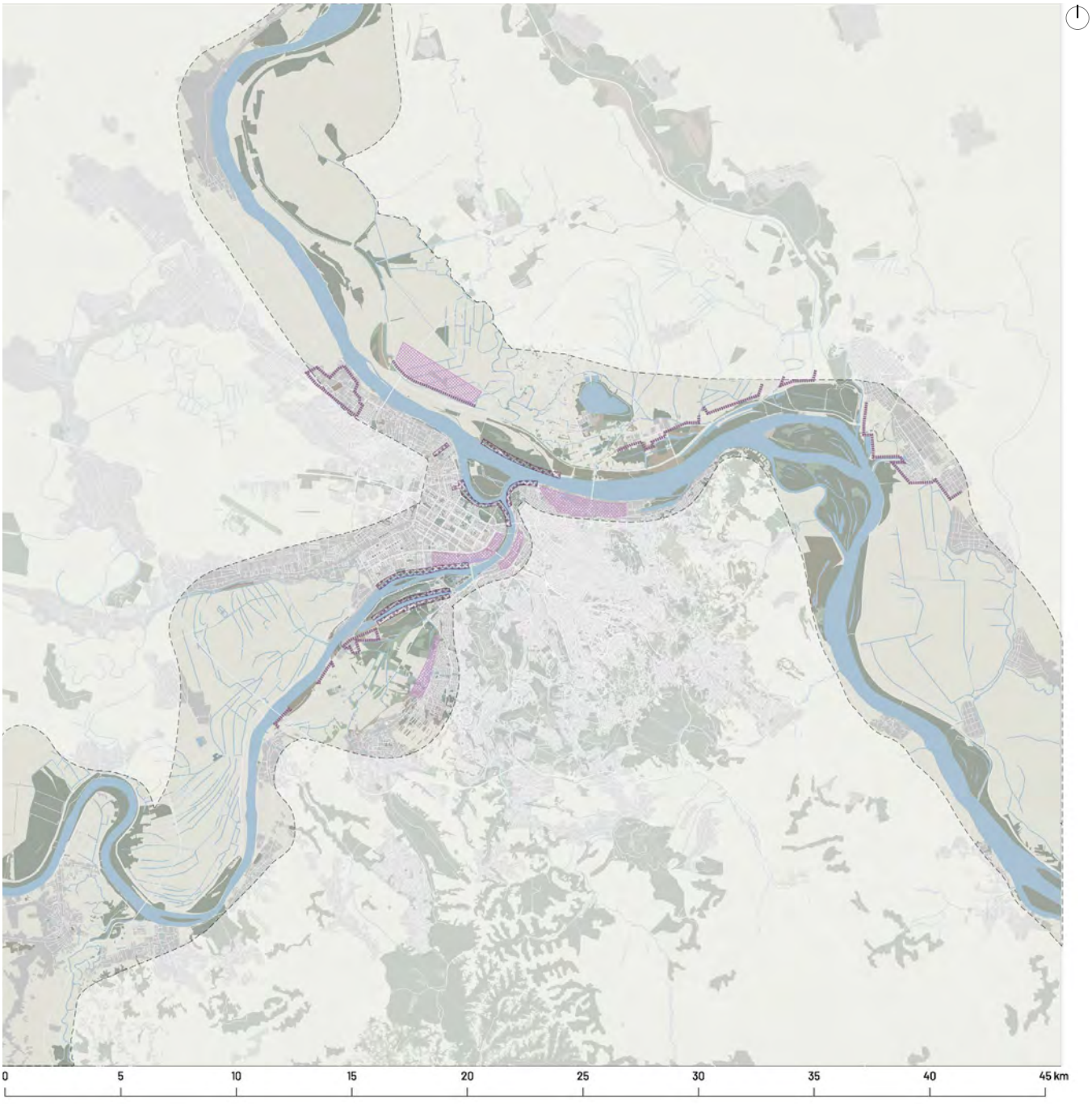


FIG. 9.3 Principles applied to the economic aspect, source: developed by author

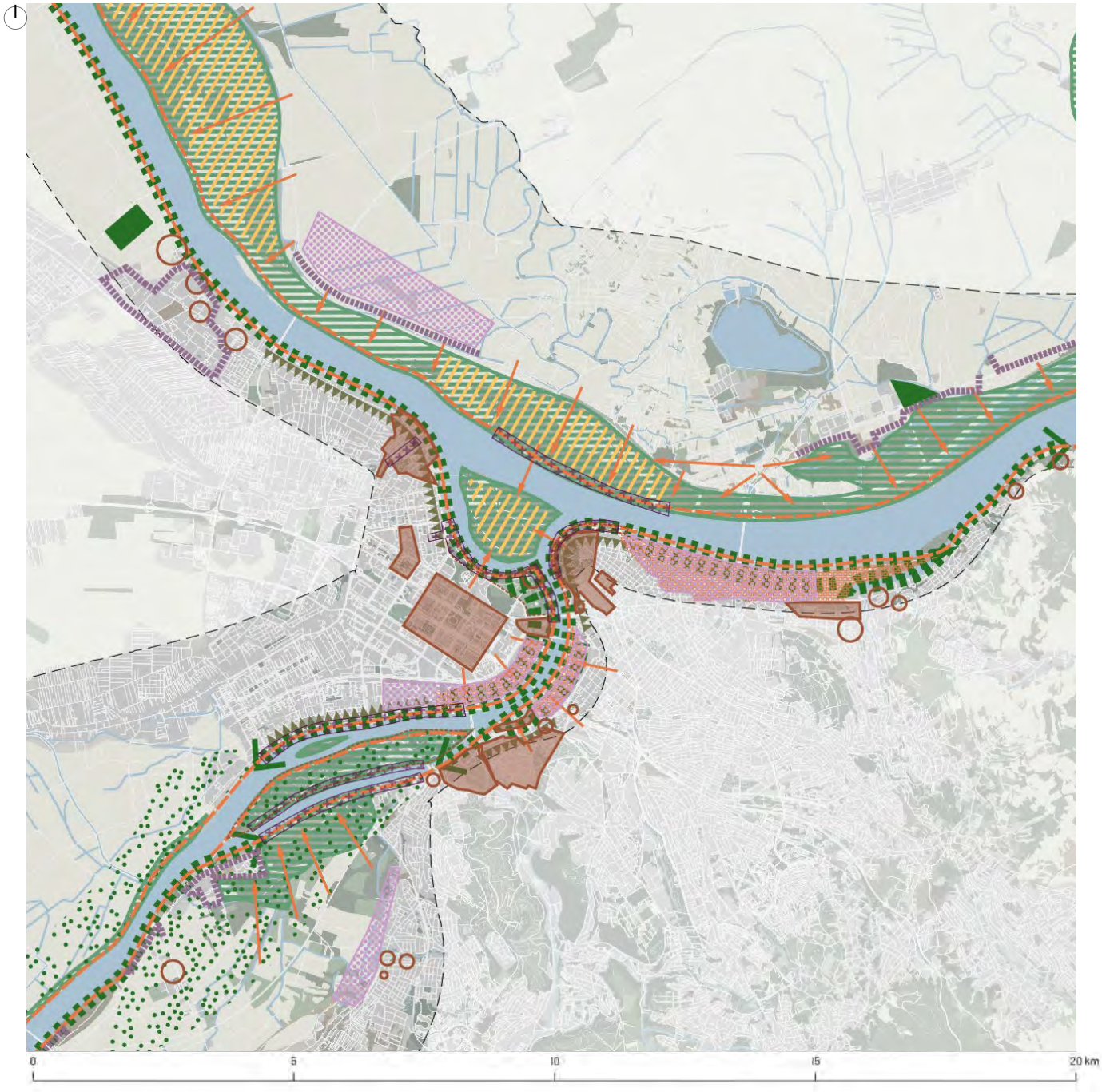


FIG. 9.4 Overlap of environmental, social and economic strategies at the confluence scale, source: developed by author

The overlap of different strategies provides an input for the confluence plan. Since the ultimate goal is not to achieve urban development sustainability in one dimension only, it is necessary to find a balance and compromise between these strategies.

This is done in different ways depending on the particular context. Different locations in the city contain different programs that require a specific approach. A strategy has a certain level of flexibility that allows for these particular contexts to be embedded in it. The strategy tendencies are applied in this sense to the pre-existing space articulation and the program of the specific locations.

Exploring the real opportunities once the strategies are overlapped has to do with finding compromises between beforementioned tactics. Determining which tactics in particular locations are complementary leads to a formation of a new tactic that becomes layered, as it defines a type of intervention that contributes to sustainable development.

However, determining which tactics are conflicting is more important. In these situations, it has to be evaluated what kind of approach would provide a solution that is in long term going to be more sustainable. What this means is that some locations may become predominantly productive areas with little greenery and transitional public spaces, but because of that, other parts of the riverfront need to have more natural areas with social spaces. The goal of the overlapping step is to find a compromise that ensures a holistic riverfront sustainability, rather than of one isolated location.

The next part shows one possible way of reaching this.

9.2 – **Confluence Plan**

At this scale, the vision of the city is defined and how the city could look like in the future when a comprehensive urban planning approach for the riverfront is defined. The riverfront vision is formed based on the analysis of the context and the current city strategy defined for the year 2021. Since the goals of this city strategy have not been met so far, this vision is formed for the year 2050. The proposal does not provide a timeline because the preconditions for sustainable urban planning at this moment do not exist in Belgrade. The objective of the vision is to create a holistic overview of the riverfront development.

Belgrade riverfront becomes an attractive highly natural region of the city where social cohesion is achieved through a range of inclusive spaces and diverse programs.

The riverfront is made highly accessible through a soft mobility network that provides access to the river edge, across the river and maintains connectivity along the river edge. Different public spaces are connected with this network: recreational areas, cultural and educational areas, productive spaces, and heritage landmarks.

Unused industrial spaces are regenerated and they become mix-use areas in which local manufacturing is paired with commercial spaces, cultural and educational services, and residential areas.
The heritage is preserved and accentuated through maintenance and building of accompanying facilities that provide information and new activities related to it. Heritage sites become new landmarks at the riverfront that tells a story of the city of Belgrade.

In the next part, the zones of intervention and their character are defined. These zones contain the principles prescribed in the city scale strategy and show what kind of spaces can be created through balancing the different sustainability aspects. Although this approach is the most similar to a master plan proposal, it holds a level of flexibility in which the targeted zones are the ones where precise interventions would be further elaborated, taking into account the actual spatial state of a particular area.

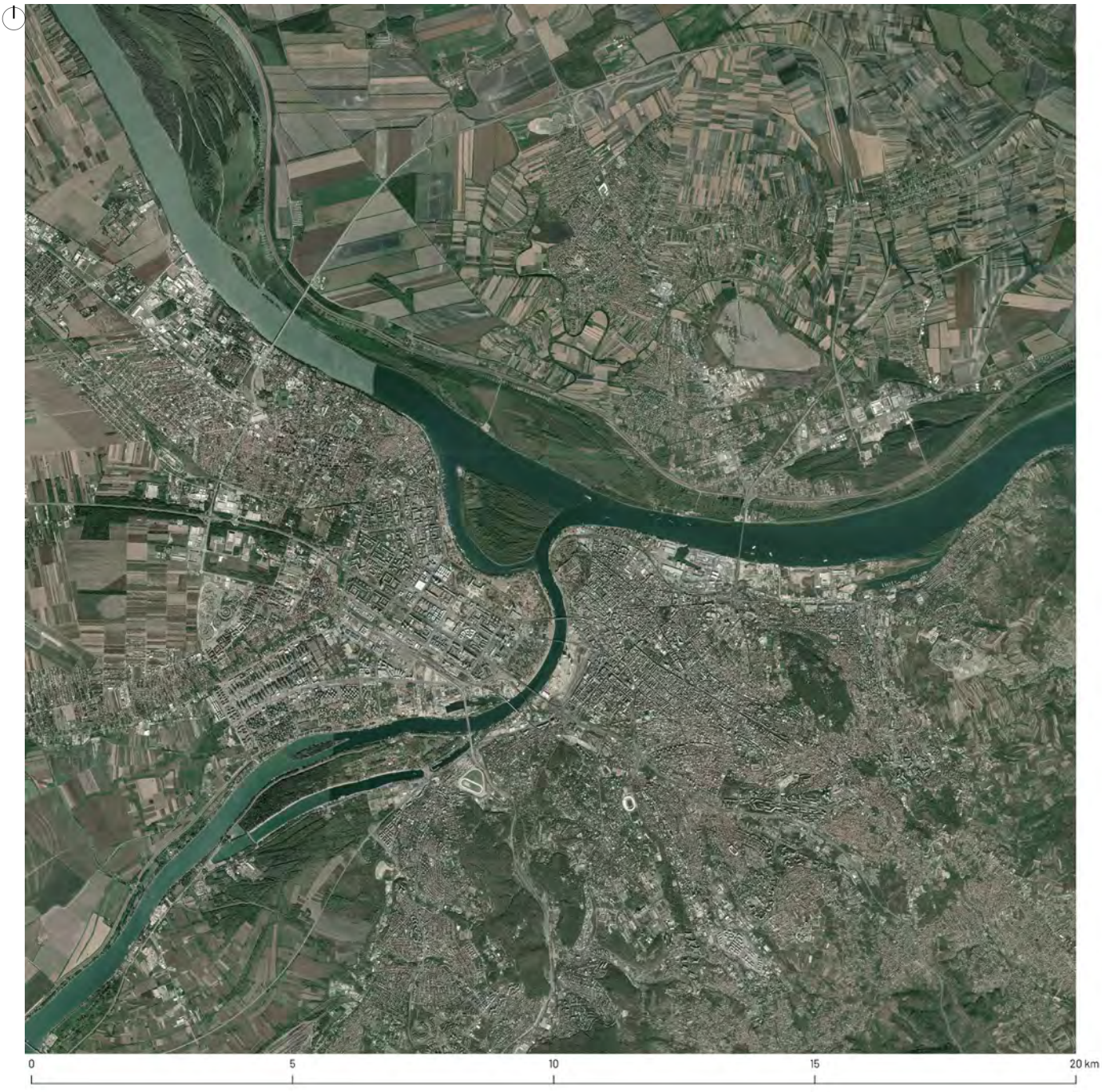


FIG. 9.5 Belgrade - satellite image, source: https://services.arcgisonline.com/arcgis/rest/services/World_Imagery/MapServer/3

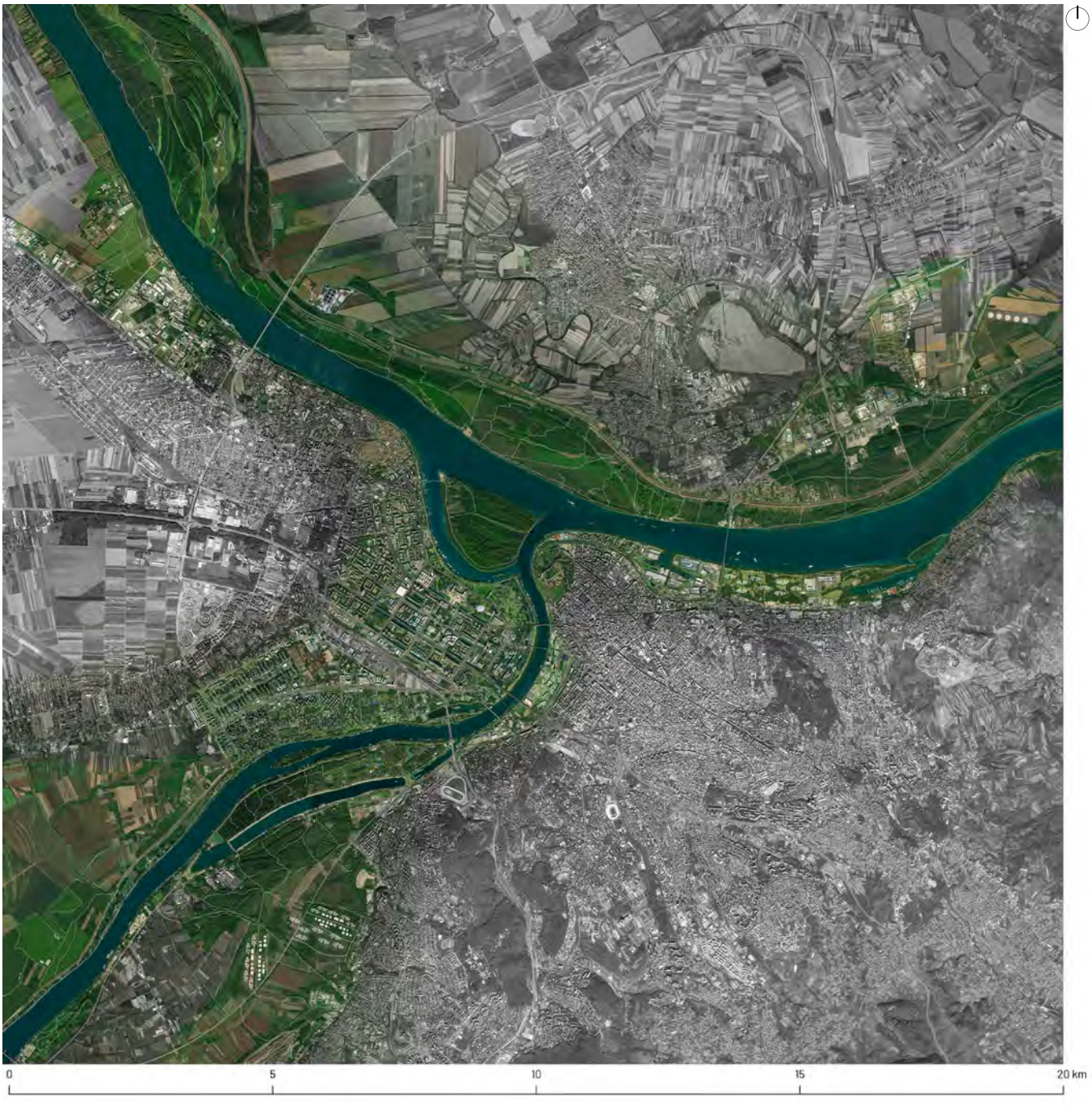


FIG. 9.6 The Confluence Vision of the Belgrade Riverfront, source: developed by author

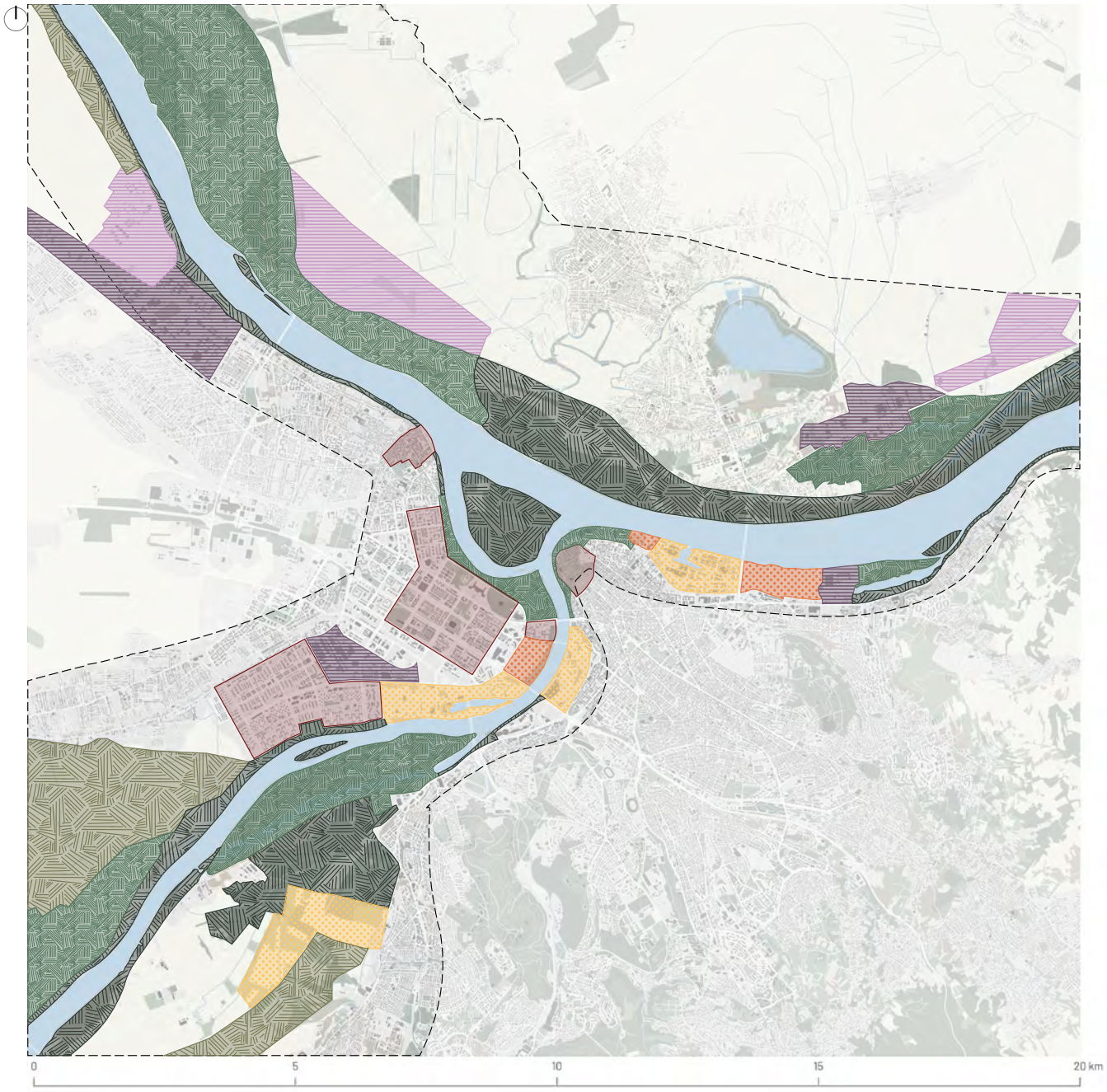


FIG. 9.7 Confluence zoning plan, source: developed by author

This kind of zoning proposal could be easily integrated with the existing Belgrade Master plan. Dealing with existing plans is particularly complex, but having an approach that is recognizable and understandable by the current planning institutions would allow easier transition to sustainable urban planning practice.

However, the zones are defined in a different manner than in a master plan. Instead of just defining the leading program of the zone, different programs are worked out to characterize the identity of the particular area.

Legend:

The Confluence Zones

Natural Zone

This zone exhibits a high level of biodiversity. Social spaces are created through interventions that create minimal impact to the environment. These zones increase city's resilience to flooding and ensure continuity of ecological pathways, therefore creating a city that has a healthy and respectful relation to its natural environment. Areas located at the very edge of the riverfront are meant to be transitional spaces for pedestrians and cyclists.

Eco-Park

Eco-parks connect to the natural zones and they are characterized by different recreational and gathering spaces. They act as natural destination areas along the riverfront that offer various social, cultural and leisure activities. Some of these areas have polluted soil and this is tackled by planting phytoremediation vegetation. Existing parks are restructured to be more environmentally sustainable and to allow better access to the river.

Agro-Park

Agro-parks are areas in the city where agriculture is paired with other activities, such as commercial and educational. The goal of Agro-parks is to provide more food sustainability and allow citizens to participate in urban farming practices. This would help build social capacity and strengthen communities. Open markets provide access to fresh produce in the city, and shortening the distribution process would help make food more accessible.

Heritage Site

The old town areas and socialist heritage sites are protected from large scale interventions and accordingly maintained. Certain areas that contain program that is diminishing the value of heritage are restructured in a way that amplifies heritage value. Small interventions are allowed in areas with socialist legacy that would provide more sustainability and improve public spaces.

Agro-Industrial / Smart City

Two types of industrial zones are defined: 1) Agro-industrial zone and 2) Smart City. The existing industrial zones would need to adapt their business to become more environmentally sustainable. New industrial zones would become Smart cities which are more publicly accessible and offer a mix of smart industries and commercial activities. In the Agro-industrial zone, innovative practices are explored through circular economy concepts.

Social Eco-Neighbourhood

A mix-use zone that consists of residential, commercial, productive and recreation areas. Strong social economy within the zone allows for community empowerment. The areas which are publicly accessible connect these neighbourhoods with the rest of the riverfront. The social capacity is built through connecting cultural and ecological spaces to make the natural process visible, while honouring the city heritage.

Entrepreneurial Eco-Neighbourhood

A mix-use zone that consists of residential, commercial, productive and recreation areas. The zone is structured to be more environmentally sustainable through reasonable investments. The companies that manage their businesses in this zone need to provide affordable services for the residents and employees, as well as a plan for waste management and energy production. These areas connect to the rest of the riverfront through a set of attractive recreational, cultural and commercial spaces.

9.3 – **Urban Design Scale**

In this part of the proposal, potential spatiality of interventions is explored in three different locations: Block 18, Belgrade Port and Čaplja.
These three sites are selected due to their specific characteristics, in order to show how they could transform through the application of different principles defined by the city scale strategy and the confluence zoning plan.

A set of interventions by different actors has already been proposed for these locations, or areas in their vicinity. This part of the report gives an overview of how these locations would develop while following a comprehensive planning strategy for the riverfront and how their identities influence the application of the principles.

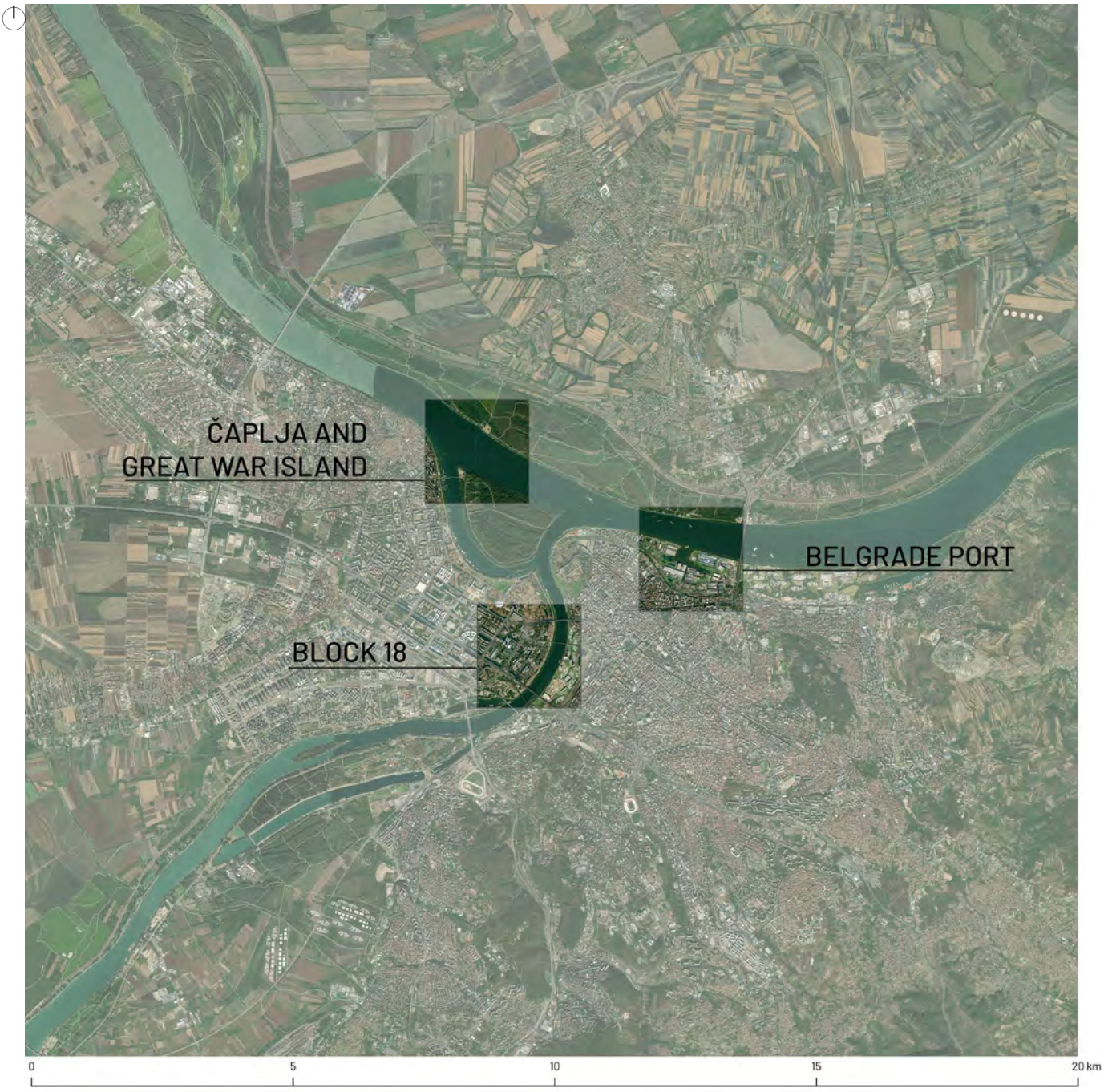


FIG. 9.8 Map of three different zoom-in locations where urban design is proposed, source: developed by author

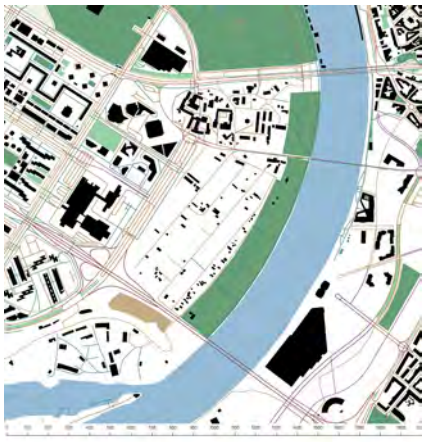


FIG. 9.10 Landuse and infrastructure map of Block 18, source: developed by author

FIG. 9.9 Landuse and infrastructure map of Čaplja and Big War Island, source: developed by author

FIG. 9.11 Landuse and infrastructure map of Belgrade Port, source: developed by author

Characteristics of the chosen locations

Block 18:
An informal settlement close to a heritage site – Old Belgrade Expo. The intervention proposed for this location by leading authorities is influenced by an ongoing project in construction – Belgrade Waterfront. Development of this area is supposed to serve as an accompanying green space for the Belgrade Waterfront, since this project proposed urbanization of the entire right bank of the Sava river and it does not have enough green spaces. The city authorities are searching for an investor who would build 4200 high end apartments, business spaces, hotels, catering facilities and public facilities which would house city government and national government.

Belgrade Port:
A former port which abandoned its original use. Currently, some businesses are using left over structures in the area, but the location is mainly a brownfield site. The riverfront is inaccessible due to restricted access imposed by the Port Authority. It is a socialist heritage site in which the majority of structures are in poor state.
The plan for this area is to restructure it entirely in order to create "City on Water", whose program looks a lot like other mega-projects proposed at the riverfront.
High end residential, business and commercial spaces are planned in this location.
All of the existing structures are planned to be removed, with the exception of the buildings that are under cultural monument protection.

Čaplja and Great War Island:
These areas are highly natural and there are not any interventions planned for this part of the city. They are characterized by a high level of biodiversity and these river edges are inaccessible. Some of the projects proposed to be built higher upstream on the right bank of the Danube river would endanger these ecosystems. The current use of these areas is minimal. The Great War Island has a beach that is made accessible by water pontoon bridge that is put in place in the summer months. In Čaplja at the northern bank of Danube, there are some weekend houses that were built here illegally, and while this is potentially a good location for that kind of use, this should be regulated to prevent the formation of a larger informal settlement.

Legend

- buildings
- primary roads
- secondary roads
- tertiary roads
- residential roads
- pedestrian roads
- in construction
- proposed
- water
- agriculture
- sand/gravel
- forest
- grass
- recreation ground
- park

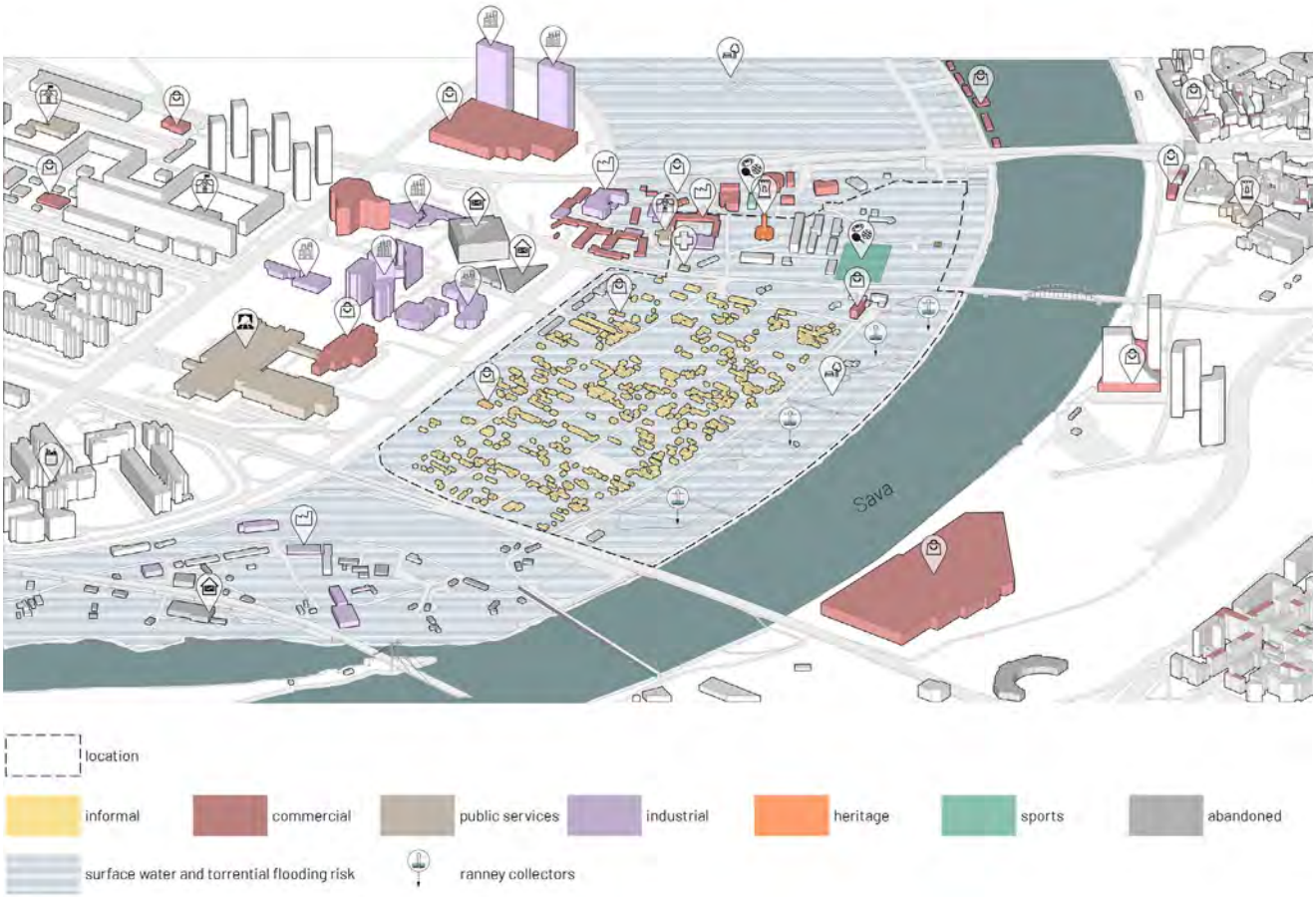


FIG. 9.12 Location analysis - based on previous territorial analysis, source: developed by author

FIG. 9.13 Photo from Block 18, source: http://www.majusoviputopisi.com/2017/06/02/segmenti-iz-beograda-blok-18/

FIG. 9.14 Photo from Block 18, source: http://www.majusoviputopisi.com/2017/06/02/segmenti-iz-beograda-blok-18/

9.3.1 – Block 18 - Social Eco Neighbourhood

The formation of the settlement in the area of Block 18 is closely tied to the Old Expo Center. As it is stated before, New Belgrade used to be a wetland that did not have soil which was appropriate for construction. King Alexander's Bridge was built in 1934 and the construction of the Sava river bank began in 1936. The contruction of The Old Expo Center was very important for Serbia's international relations and economy, and it was finished in 1938 (Ignjatović & Manojlović Pintar, 2008) when the Turkish and German pavilions were constructed. This was the first intervention in New Belgrade, but soon the elite from Belgrade started building weekend houses illegally right next to the Expo Center. The river edge used to be more natural with easier access to the water before WWII, so this became an attractive location for holidays.

During World War II, the Expo Center was occupied by Gestapo which turned it into a concentration camp. Many Jewish, Romani and Serbian families lost their lives here. The camp stopped functioning in 1944 and all of the remaining prisoners were transferred to other camps.

Today, the remaining pavilions and the Central Tower are in poor state. There are five buildings located in front of the Central Tower which were built after the WWII and used as offices for the company that was working on the construction of New Belgrade. They are currently inhabited by vulnerable population that is very unhappy with their living conditions. These buildings are surrounded by various illegally built structures which are used either for small businesses or as residential buildings.

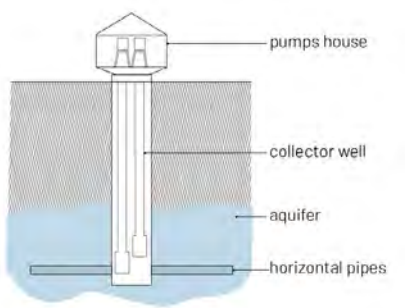


FIG. 9.15 Ranney Collector - Simplified Diagram, source: adapted by author - https://www.ci.st-helens.or.us/dwff/page/what-ranney-collector-well

The houses built spontaneously in Block 18 were legalized after WWII, but the necessary infrastructure did not follow legalization of this neighbourhood. Today these houses are not connected to the sewage network, and the most recently built informal houses do not even have drinking water. What is absurd is that in the riverfront area of Block 18 there are four ranney collectors (FIG. 9.14) that provide drinking water for the rest of the city.

The entire area is in risk of flooding due to surface water accumulation and torrential flooding. The materials used for the informal houses cannot deal with this kind of damage, so the residents usually rebuild after every incident.

The project that is proposed for this area does not deal with residing population and providing for their basic needs. Moreover, it does not provide a solution for the abandoned heritage site which is of great importance for the city history.

FIG. 9.16 Block 18, plan by authorities, source: https://www.kurir.rs/vesti/drustvo/3190279/gradi-se-novi-beograd-siti-drzava-se-seli-na-novi-beograd

General Tactics

Drawing from the city scale strategy, certain tactics are defined as general because their aim is to provide coherence with the rest of the interventions in other riverfront locations.

These tactics are mostly linear and they entail longitudinal and lateral transformations of space. Having in mind the characteristics of the zone defined in the confluence plan, these tactics are applied in order to integrate the location with the rest of the city, both on the left and right bank of the Sava river.

1

Renaturalizing the riparian zone:

The river edge is renaturalized to ensure the continuity of the riparian ecosystem pathway. This is done through deconstruction of hard embankments and planting indigenous vegetation. The riparian zone is currently polluted, and this is why soil decontamination is the first step before plantation of phytoremediation plants that would help the recovery of the ecosystem.

2

Connected pedestrian and bicycle networks along the riverfront:

The aim of this intervention is to provide the continuity of riverfront access throughout the entire city. This would be done through construction of light structures which are not invasive to the riparian ecosystem.

3

Accessibility to the river:

The current spatial layout of the Block 18 is not providing an easy access to the riverfront. Street layout would be altered to allow for easier access.

4

Accessibility across the river:

The current bridges are be adapted to include pedestrian and bike pathways. Along with that, boat stations are put in several locations along both river banks and a public boat service for pedestrians is provided.

FIG. 9.17 Images 1, 2, 3 and 4 - diagrams of general tactics, source: developed by author

Specific Tactics

Another set of tactics draws from the city scale strategy and confluence plan, but is transformed according to the particularities of the site. The program that is proposed in the confluence zoning plan is adapted to the actual state of the location and to the needs of the local population. It is of utmost importance that the local residents have their basic needs met in order to ensure social sustainability of the location.

1

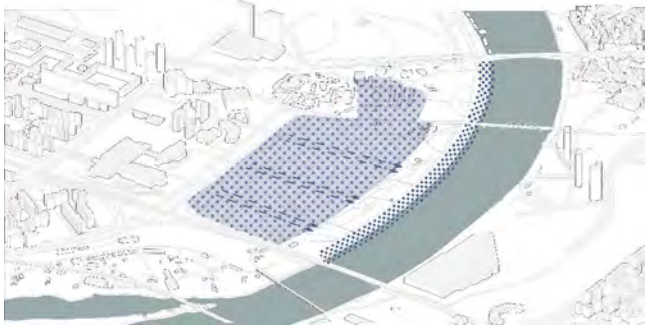
Proposed program:

Based on the spatial layout and the needs of the local residents, new public services are provided in different locations. Two different commercial zones are located along the main pedestrian and motor vehicle roads. They connect to the manufacturing zone and adult training centre. Public facilities are located along the central axis of the neighbourhood, with school and hospital placed internally, and the cultural center at the riverfront. The heritage site is restructured and a new memorial center is built.

2

Drinking water and sewage infrastructure:

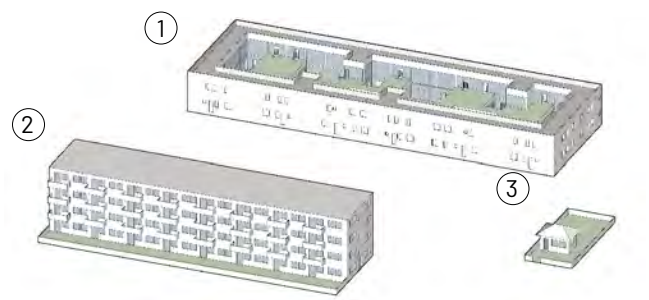
The entire neighbourhood is infrastructurally equipped in order to provide for everyone's basic needs. Drinking water is provided through creating of a network that is connected to the existing ranney collectors.



3

Flooding protection:

This location has problems with surface water accumulation and this problem is alleviated with increasing the area of permeable pavements and renaturalizing the immediate river edge. Increasing the absorbance of the land would help minimize the flooding risk. Furthermore, collecting bioswale canals are put along main roads that access the river which collect the surface runoff, filter it and drain into the riverfront park area.



4

Proposed housing typologies:

Since the structure of the residents in the area is quite diverse, three different social housing tactics are proposed. For residents who are the legal owners of plots and/or houses, state help is provided for house construction. For families living in the Old Expo area, new mid-rise apartment complex with surrounding communal gardens is constructed. These social housing buildings would be made affordable for other socially vulnerable minorities that could be relocated here from other informal settlements in the riverfront. Another type of social housing proposed is a hybrid apartment complex that allows for increasing the density in the area, while maintaining courtyard access through communal atrium gardens.

FIG. 9.18 Images 1, 2, 3 and 4 - diagrams of specific tactics, source: developed by author

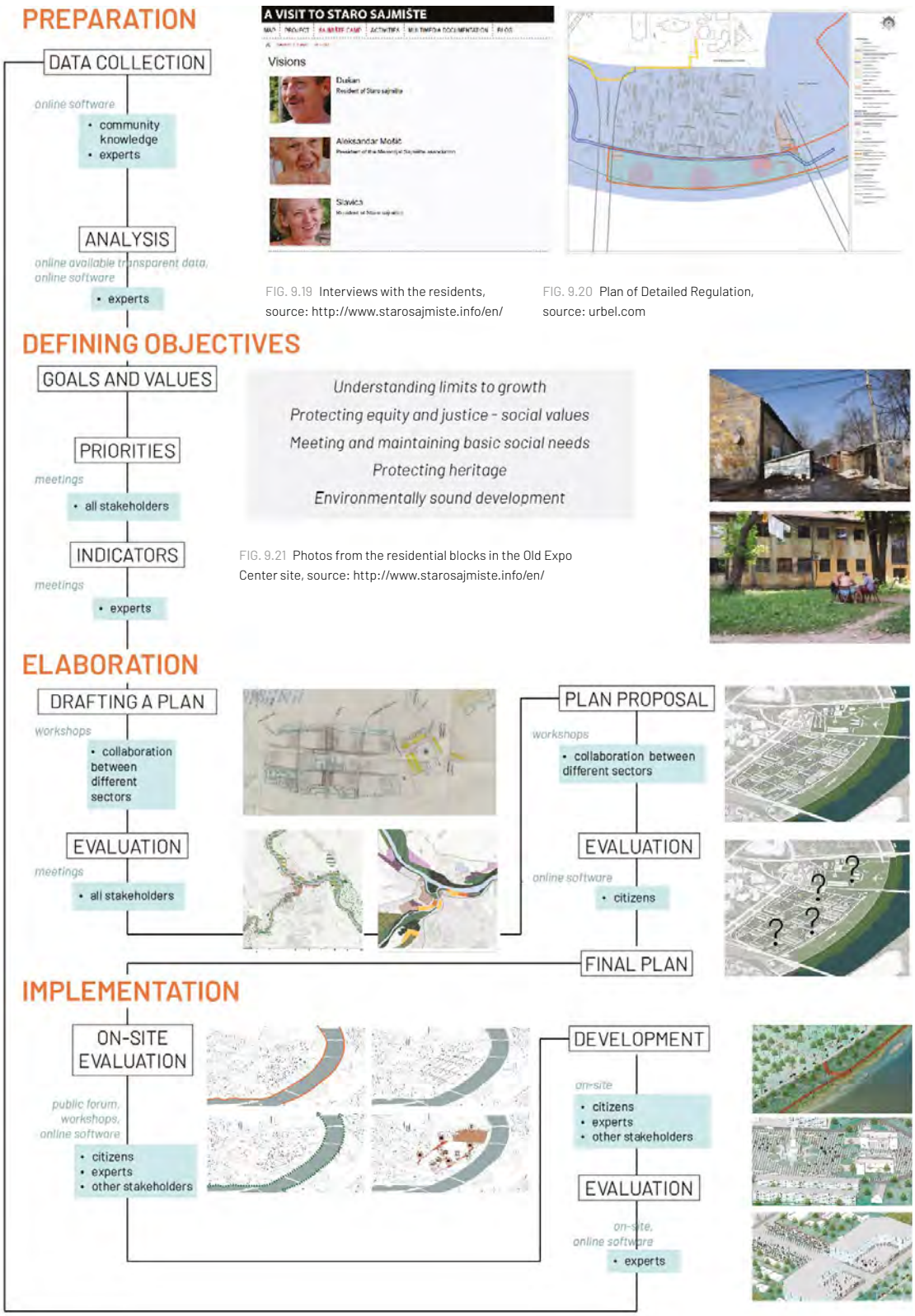


FIG. 9.19 Interviews with the residents, source: http://www.starosajmiste.info/en/

FIG. 9.20 Plan of Detailed Regulation, source: urbel.com

FIG. 9.21 Photos from the residential blocks in the Old Expo Center site, source: http://www.starosajmiste.info/en/

The Process

In practice, this location would be developed through the proposed process. This would allow for a participatory approach and testing the public opinion. Engaging the stakeholders in every phase of the planning process would ensure solutions that would make a lasting impact and that would engage the citizens.

Approaching this location would have to be done through all different scales, and the collaborative process would uncover any issues that have not been tackled.

Exploring the opportunities during workshops for participation in development of public spaces is also very important, because it would increase residents' sense of belonging to the neighbourhood.

Description of the location:

This neighbourhood is located at the riverfront city-centre. It is a mix-use zone that consists of residential, commercial, productive and recreation areas. The zone is structured to be more environmentally sustainable through community participation. Strong social economy within the zone allows for community empowerment. The areas which are publicly accessible connect these neighbourhoods with the rest of the riverfront.

The social capacity is built through connecting cultural and ecological spaces to make the natural process visible, while honouring the city heritage.

Level of intervention:

The riverfront edge is naturally regenerated through planting indigenous vegetation and removing unnecessary hard edges. The river is made more accessible through construction of light structures that provide social and soft mobility spaces.

The canal network in put along the main streets. This helps the storm water regulation and prevents flooding. The canal network also acts as a storm run-off filtration mechanism thorugh a set of bioswales that naturally clean the water before it drains into the river.

The riverfont space is organized as a recreational natural area that connects to cultural and commercial spaces located more inland.

Residential area, which is even further inland consists of low-rise social housing and urban farms. Educational and health acilities are located along main streets in the centre of the neighbourhood, to separate the services intended for the residents from the services located closer to the riverfront that are available for visitors as well. An adult education centre is located close to the manufacturing area, which offers an opportunity for collaboration and practical training.

Commercial buildings are located at the edge of the riverfront recreational area. The development of commercial areas is not allowed in the riparian zone established through natural river edge regeneration, or in the semi-natural wetland area.

Social economy is established through dispersed buildings inland intended for production, commerce or light manufacturing.

Commercial buildings surrounding the Old Expo Center are removed, and a square is created around the Central Tower, which is restored. All of the residential buildings which are in poor state or abandoned are removed, and social housing is provided.

Stakeholders:

- The city, New Belgrade municipality, The Government, Public companies
- Local investors
- Local institutions, citizens - residents and visitors

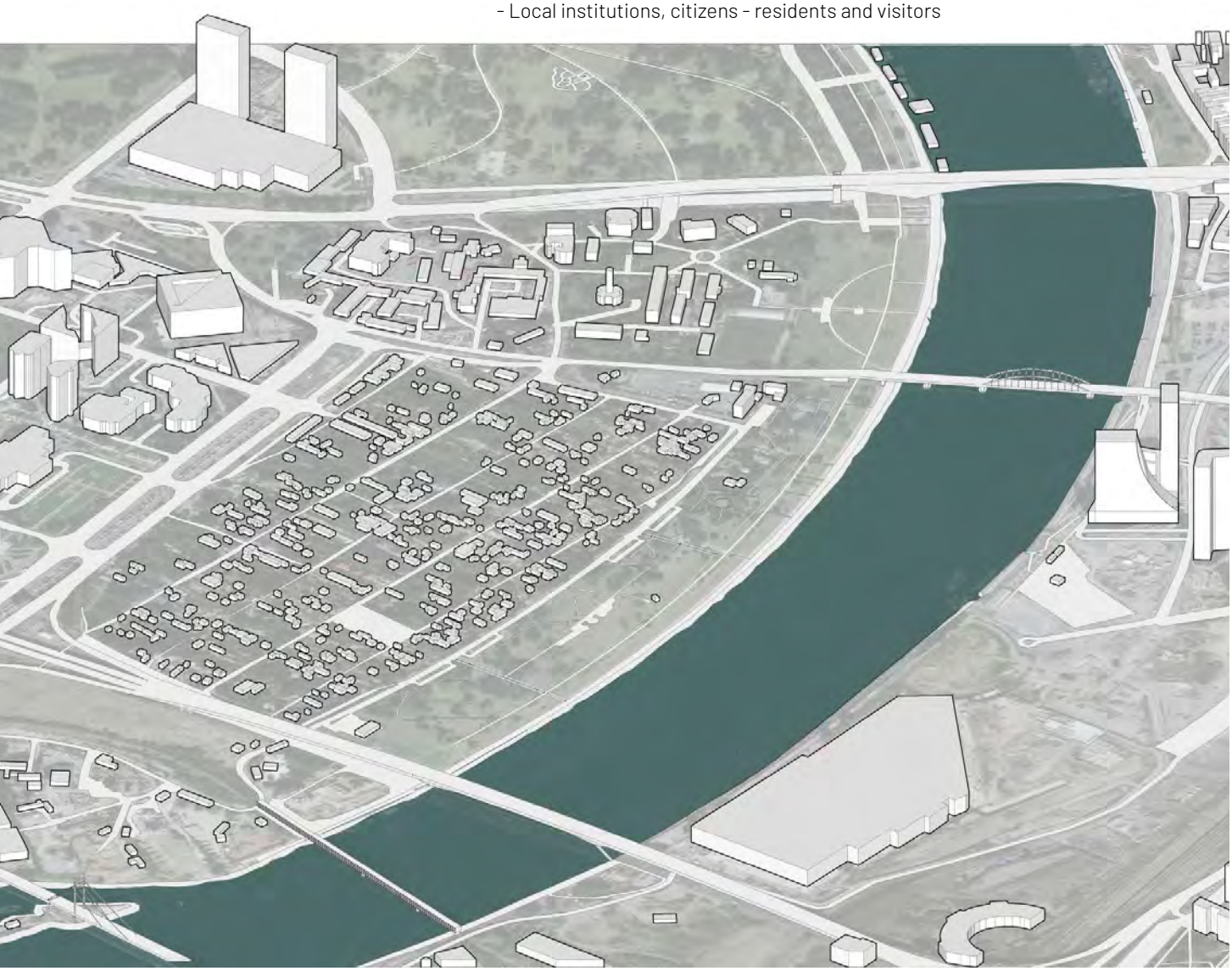


FIG. 9.22 Axonometric visualization of the actual state of Block 18, source: developed by author

FIG. 9.23 Axonometric visualization of the proposed urban design intervention, source: developed by author

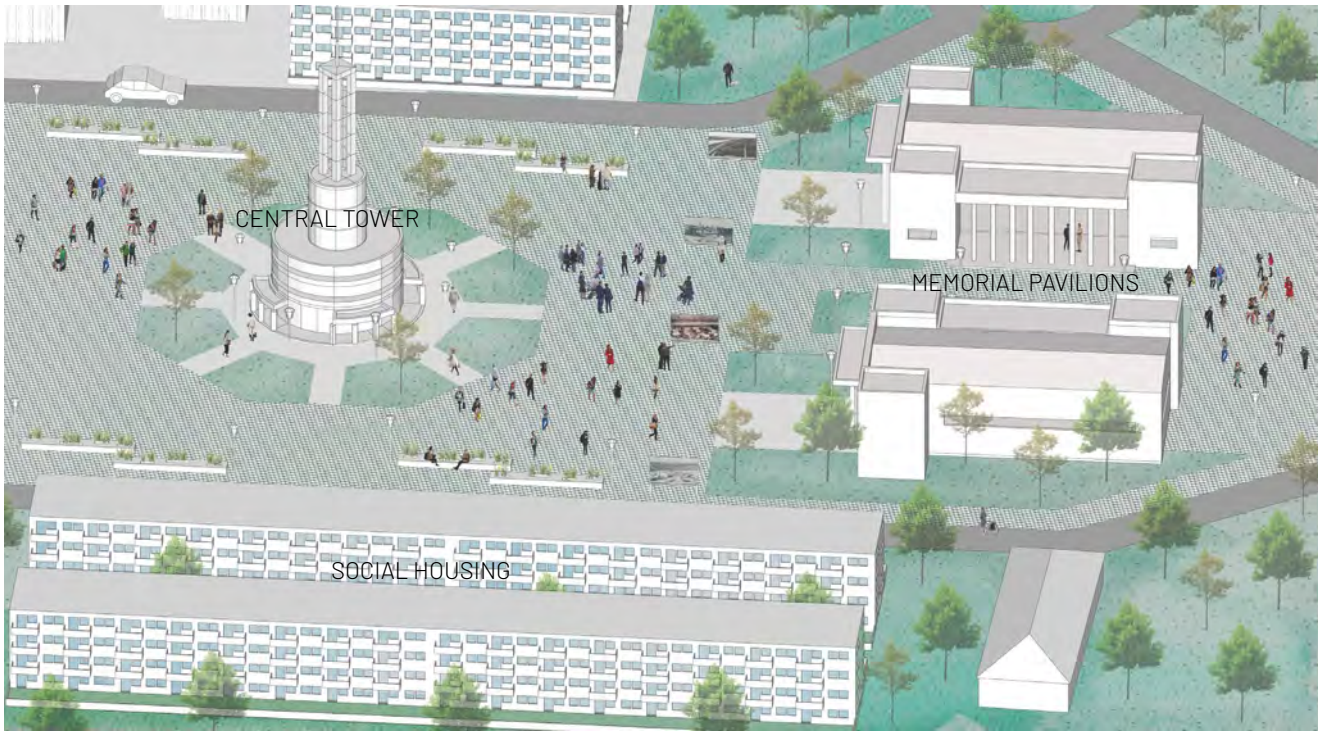


FIG. 9.24 The Old Expo Center and surrounding neighbourhood - visualization of the proposal, source: developed by author

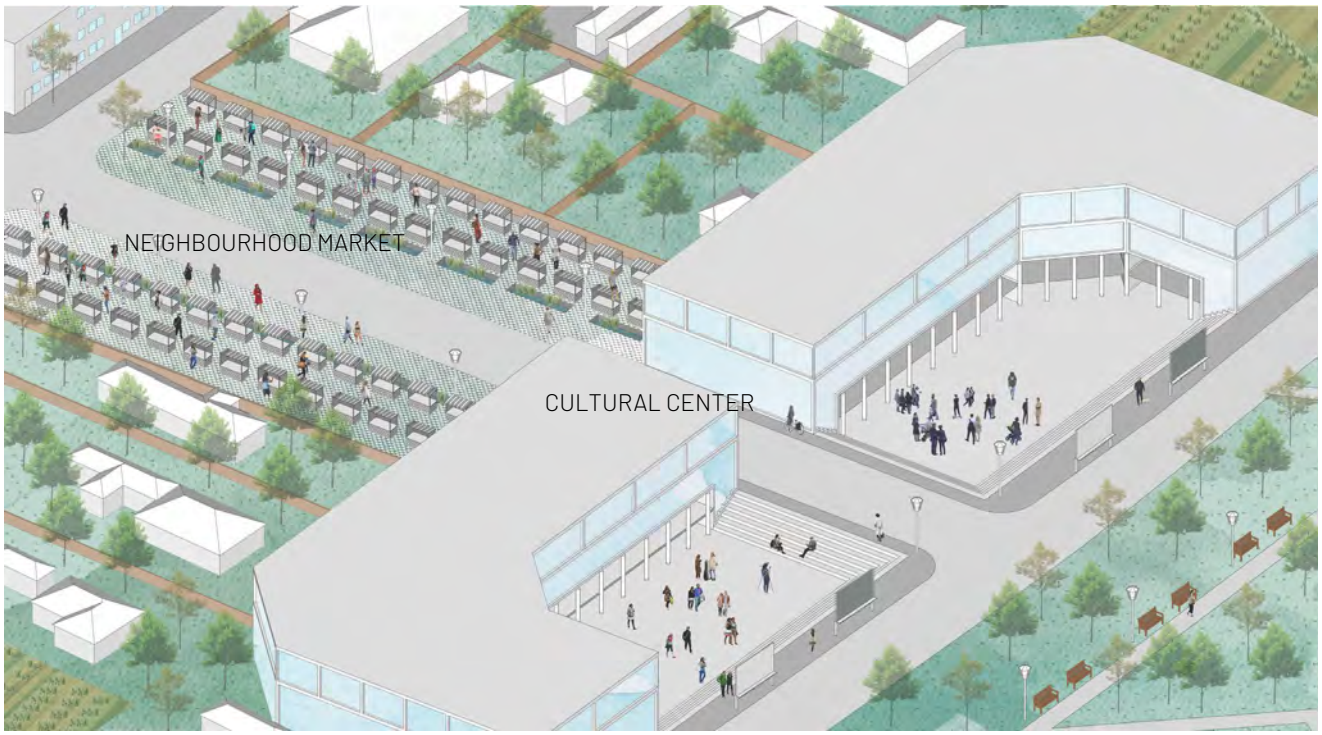


FIG. 9.25 The Cultural Center and the neighbourhood market - visualization of the proposal, source: developed by author

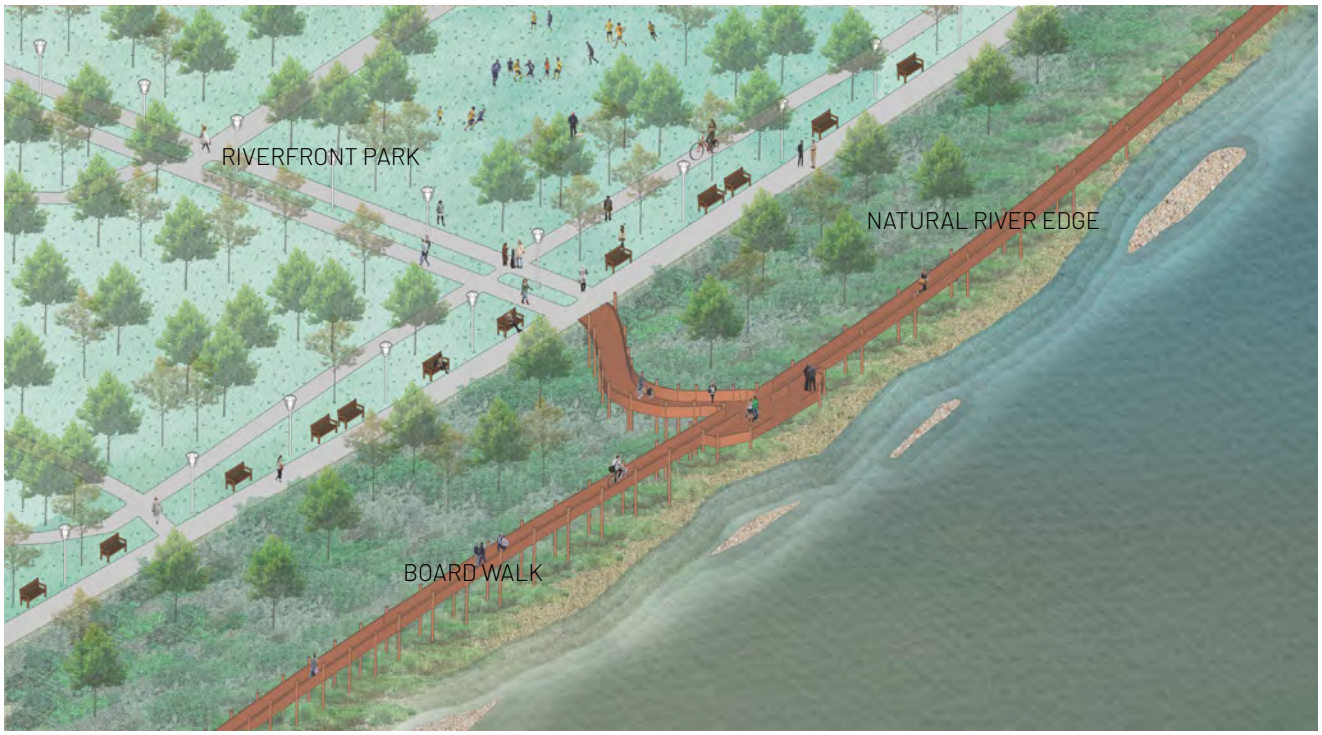


FIG. 9.26 The connection between the riverfront park and the natural river edge - visualization of the proposal, source: developed by author

1 – The Old Expo Center

The area around the Central Tower becomes a public square that connects to the walkway through restructured Memorial pavilions. This becomes a memorial promenade that connects to the riverfront and tells the story of New Belgrade beginnings. The housing issue of the residents in this area is resolved with new social housing units that would be built in the same area, and allow them to keep living in the neighbourhood they are attached to, but in sanitary and respectful conditions.

2 – The neighbourhood market and Cultural Center

The market becomes a place where resident can sell and buy local fresh produce. It is located on one of the main roads that access the riverfront. The Cultural Centre acts as a meeting point between the locals and the visitors. The flooding amphitheater squares act as a first line of defence in the case of torrential floods.

3 – The board walk point

The river edge is renaturalized and it can be accessed through a board walk which has multiple resting points. The main resting points are also boat stations from which other locations along and across the river can be accessed. The activities in this area cannot be harmful to the natural environment.

Along with the highly participative process, the level of urban design that is proposed leaves "undersigned" public spaces inside the neighbourhood and outside. The aim of this approach is to allow for different identities to be embedded into space and for new associations to be made with it. In a way, it could be called – designed informality. What this means is that the spaces are designed to an extent that ensures safety and everyone's basic needs being met. This location has a long history of informality and its residents have enjoyed the freedom of defining their own space. There is an opportunity for this in the design process, but also after the implementation phase. Any temporary interventions would be allowed, as long as they are not compromising the sustainability of the environment, economy or equity. Any permanent interventions would be considered in the planning process, and their implications would again be discussed through collaborative procedure. In this way, informality would be formalized in a sustainable way in Block 18 and The Old Expo Center neighbourhood.

9.3.2 – Belgrade Port - Entrepreneurial Eco Neighbourhood

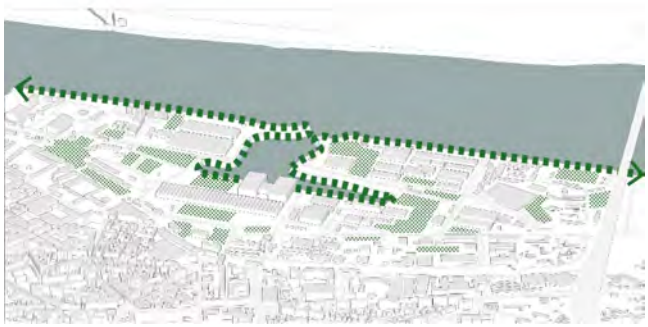
Belgrade Port was established during the socialist period, in 1961. It operated until 2002 as Socially-Owned Enterprise “Belgrade Port”. In 2002 its ownership was transformed, and since then it has been operating as the Joint Stock Company. Some port activities are still taking place in this port, although their intensity has steadily been reducing for years. There have been multiple controversies related to this location, as it is located at the riverfront and has a great potential for transformation.

Currently, there are several commercial and industrial facilities within the port. These points can be accessed, but the rest of the port is inaccessible.
The riverfront area has been used for several years as a cultural festival space, but this was discontinued. There is obviously a spatial potential that lies in the transformation of this location, and the citizens have recognized that by repurposing parts of the port for event spaces.

Description of the zone:

This neighborhood is located at the riverfront city-center. It is a mix-use zone that consists of residential, commercial, productive, and recreation areas. The zone is structured to be more environmentally sustainable through reasonable investments. The companies that manage their businesses in the area are also in charge of providing affordable services for the residents and employees.

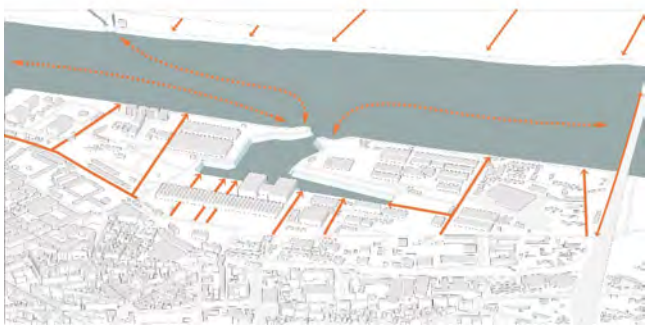
The areas which are publicly accessible connect these neighborhoods with the rest of the riverfront. The investors need to provide a plan for waste management and energy production. Cultural heritage is protected and made accessible. Its program is adapted to allow the continuation of the building usage. These areas connect to the rest of the riverfront through a set of attractive recreational, cultural, and commercial spaces.
There are also opportunities for water sensitive design that would, along with the described tactics, ensure more environmental sustainability.



1

Renaturalizing the riparian zone:

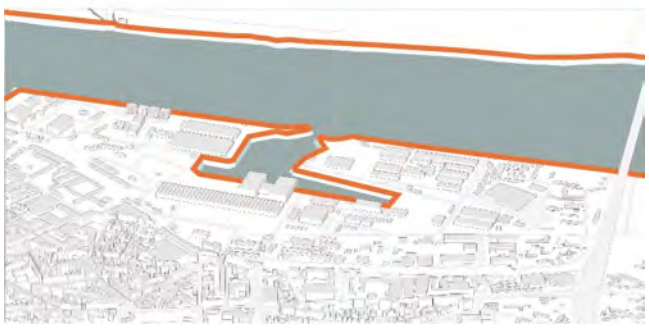
The river edge is renaturalized to ensure the continuity of the riparian ecosystem pathway. This is done through partial deconstruction of hard embankments and planting indigenous vegetation. The riparian zone in this area is currently higly-polluted, and this is why soil decontamination is the first step before plantation of phytoremediation plants that would help the recovery of the ecosystem.



3

Accessibility to and across the river:

The existing street layout is altered to improve access to the riverfront. The existing port provides excellent conditions for the public boat service that could be used to cross the river to the natural river bank.



2

Connected pedestrian and bicycle networks along the riverfront:

Enabling access along the riverfront is particularly important for this location, as it has been closed off for visitors since the port was established. In this particular location, the existing paved area next to the riparian zone could be adapted to provide pedestrian and bycicle access.

4

Proposed program:

The program that is proposed for this location is very diverse. The most important intervention is increasing the green surface. This must be done with prior soil decontamination. This creates green pockets that are surrounded by residential buildings of various typology. At least a third of all apartments need to be social housing. The building that is under cultural protection is maintained and its structure is preserved. Its program becomes cultural. The rest of the location features small scale commercial and industrial facilities.

FIG. 9.27 Images 1, 2, 3 and 4 - diagrams of tactics to be applied, source: developed by author

9.3.3 – Čaplja and Great War Island - Natural Zone

The Great War Island was formed as a result of various war endeavors that took place at the confluence in the 15th century. It is believed that the shipwreck that fell to the bottom of the confluence caused the sand deposits to collect here and form an island.

However, it has gotten its name because it was used as an attack point many times throughout history.

Today it is under environmental protection because of its amazing vegetation and wildlife. There have been some plans in the past to relocate the Zoo to the island, but this idea was dismissed because the entire island is underwater in cases of torrential floods.

Other than by scientists and a few select people who built weekend houses on the southern side, the only part of the island that is used is its tip because of the "Lido" beach. In the summer months, a pontoon floating bridge is placed between the south river edge and the island.

The northern bank of Danube is mostly natural and used by some people who built their weekend houses here. They access them using dirt roads as there is no other infrastructure in this area.

Since this is a highly natural area, there is an opportunity to increase the social and economic activity in this location. This would need to be done respectfully and it would help also make this island visible.

Description of the zone:

Two natural riverfronts are connected with the city riverfront using public boat service. The character of activities in this location is predominantly cultural, although there are seldom commercial amenities on the northern river bank which provide resting places and new destinations. The frequency of use of the Great War Island space is not intensive. In the spring, joint cultural events take place in all three river banks.

A few roads provide access to the northern river edge. The riverfront is connected longitudinally with light structures, such as a board walk that provide access along the river coast for pedestrians and cyclists.

The intervention in these areas is minimal and related to the public space. The goal of intervening in this location is to provide more healthy natural spaces in the city centre.

1

Renaturalizing the riparian zone:

Since the location is already very natural, the only intervention that is proposed here is on the south bank of Danube. This allows for continuation of the riparian ecosystem.

2

Connected pedestrian and bicycle networks along the riverfront:

Access along the riverfront is enabled through placing light removable structures, such as board walks on the northern bank of Danube. On the southern bank, there is proper infrastructure, it just needs to be properly maintained.

3

Accessibility to and across the river:

Pedestrian and bicycle acess is enabled to the northern river edge. From this point on, the only way to access the other side of the river and the Great War Island using the public boat transport.

Main access routes on the northern bank are also allowed for motor vehicles.

4

Proposed program:

The public space at the tip of the Great War island is adapted for open space events. The only allowed events are the ones that do not disturb the bird species on the island, since they are protected.

New commercial, and cultural activities are proposed on the northern side of Danube, which would connect these three river edges programmatically.

FIG. 9.28 Images 1, 2, 3 and 4 - diagrams of tactics to be applied, source: developed by author

The design presented in this part of the report represents one possibility. The goal of urban design was to show what is the potential spatiality of these locations, as an alternative to what is proposed or in construction.

There are a number of complications that would not make it so easy to propose an intervention, and what is important is that it is necessary to include all these factors in this process in order for the end result to be actually feasible and sustainable.

As in the projects analyzed, improving the economy is a priority, but the way it is approached in the proposal is very different from the projects proposed by the government.

Through coherent, but smaller scale interventions that are locally sensitive, the identity of the location is preserved and the life conditions of the residents are improved. These kinds of interventions would lead to transformations of larger areas, but with more complexity and layers added to the design proposal and through collaborative development that would transform social values in the long term.

PART 5

Discussion and Reflection

Does this approach provide a framework for transition to sustainability in a post-socialist city?

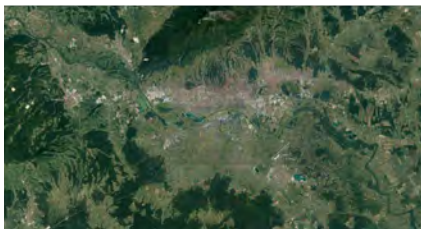
A post-socialist city, Belgrade in this case, has many layers of diverse issues that make any changes seem impossible. This is why the research focuses not only on understanding the historical and ideological background of the city, but also the actual state. In order to break from path-dependency and old ways, strong governance and will is necessary. The global pressures create the urgency that requires all cities to transition to sustainable planning and development immediately.

However, the current planning procedures allow for a lot manoeuvring and adaptation to powerful stakeholders whims. This approach might provide a framework for transition to sustainability in a different political setting, because, even though the framework proposes influencing social values and institutions through urban transformation, a desire for a change needs to exist among enabling stakeholders.

The proposed framework is based on a concept that serves as a tool to operationalize the notion of sustainability. Even though the change might not happen tomorrow or in the near future, the conceptual approach would not be outdated. The analysis of the present state would have to be constantly updated, because as the urban space transforms, the implications for transitioning to sustainable urban planning and development change.

Another aspect that is important to take into account is the level of democracy in Serbia. Aside from strong governance, the corruption issue would need to be resolved before any of the changes would be even possible.

Ljubljana - Sava



Zagreb - Sava

Budapest - Danube

Bratislava - Danube

0 10km

FIG. 9.29 Confluence strategy map, source: developed by author

Project Topic

Planning for sustainability is something that many cities are struggling with at the moment. This is a global problem that requires local solutions, as different territories exhibit different properties and are in different economic and social state. The climate changes are something that the whole world needs to adapt to and how various regions will comply with this also depends on their planning procedures and current economic and social factors.

Climate changes create particularly severe pressures on urban riverfronts and the development in these areas needs to find a way to prioritize social and ecological sustainability. This research deals with an urban riverfront within a post-socialist city context. Urban riverfronts in post-socialist cities went through dramatic urban transformations, that are still underway. Changing ideologies and political regimes resulted in ambiguous river edges that still pose an issue for development of the cities. The leading post-socialist ideology of transitioning to free-market, combined with large portions of former industrial land, creates an obvious threat. In Serbia, which is still struggling financially, this resulted in public-private partnerships and large foreign investments in mega-projects. In the attempt to advance the economic growth of the country, these partnerships often neglect some of the important aspects of the city and the space continues to follow the flow of funds.

Proposing a way to break out of the chase for economic growth and focus on sustainable development is the main goal of this thesis.

Scientific Relevance and Transferability

No two cities are the same, and even though there are some similarities between post-socialist cities, ideologies of different socialist states and the circumstances that occurred after socialism impacted each city differently. Even though the theoretical background gives an overview of general attributes of post-socialist cities, in the contextual analysis it is shown just how particular a post-socialist city can be and what are the aspects this depends on.

Other than proposing a framework for transitioning to urban planning and development sustainability, this research also deals with framing the understanding of post-socialist cities.

Belgrade is not the only capital constituted on the Sava and Danube rivers. There are two other capitals on Sava river, both post-socialist and both once a part of former Yugoslavia – Ljubljana and Zagreb. On Danube, there are three other capitals, Vienna and two post-capitalist ones, Budapest and Bratislava. Only by comparing the basic spatial morphology, it can be concluded that these cities have different relations to their urban riverfronts.

The comprehensive research method used in this thesis is completely transferable, but the approach is unique and it should be this way, for best results.

Societal Relevance

The problem that is analysed in this thesis has been present in Belgrade for a long time. Many citizens are still protesting against government's efforts to renovate the riverfront (among other endeavours), but instead of unifying, the society is being divided in smaller and smaller groups. Many opposing parties, CSOs and NGOs are against this kind of development, but no one is talking about an alternative.

After 5th of October, when Slobodan Milošević was overthrown (autocratic president – first after the break-up of the socialist state), the government that took over did not manage to reform the old procedures. The revolution was carried out with great passion, but not with a lot of organization. Another possible issue was that the complexity of problems that Serbia had was too hard to comprehend all at once.

This research could actually be used as a starting point for reforming the national policy and taking a step towards sustainability.

Methodology and Limitations

Due to the circumstances the research was carried out in, some of the aspects of the thesis are lacking a more personal insight. Most of the research was carried out outside the context, relying on experience acquired up to that time.

This is in a way paradoxical, since it is outlined so many times that the importance of understanding the current circumstances is substantial. However, the methodological approach is something that could be used and applied to other cities struggling with unsustainable development, not only post-socialist ones. When one does not rely on previous experiences and perceived knowledge on the subject, more facts can be discovered, and new conclusions can be drawn.

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