

A FRAMEWORK FOR TRANSITION

URBAN PLANNING SUSTAINABILITY ON BELGRADE'S RIVERFRONT

European Post-Master of Urbanism - Graduation Project

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 **TU**Delft

Marina Višić

02.07.2020.

EUROPEAN
POST-MASTER
IN URBANISM **EMU**
strategies and design for
cities and territories



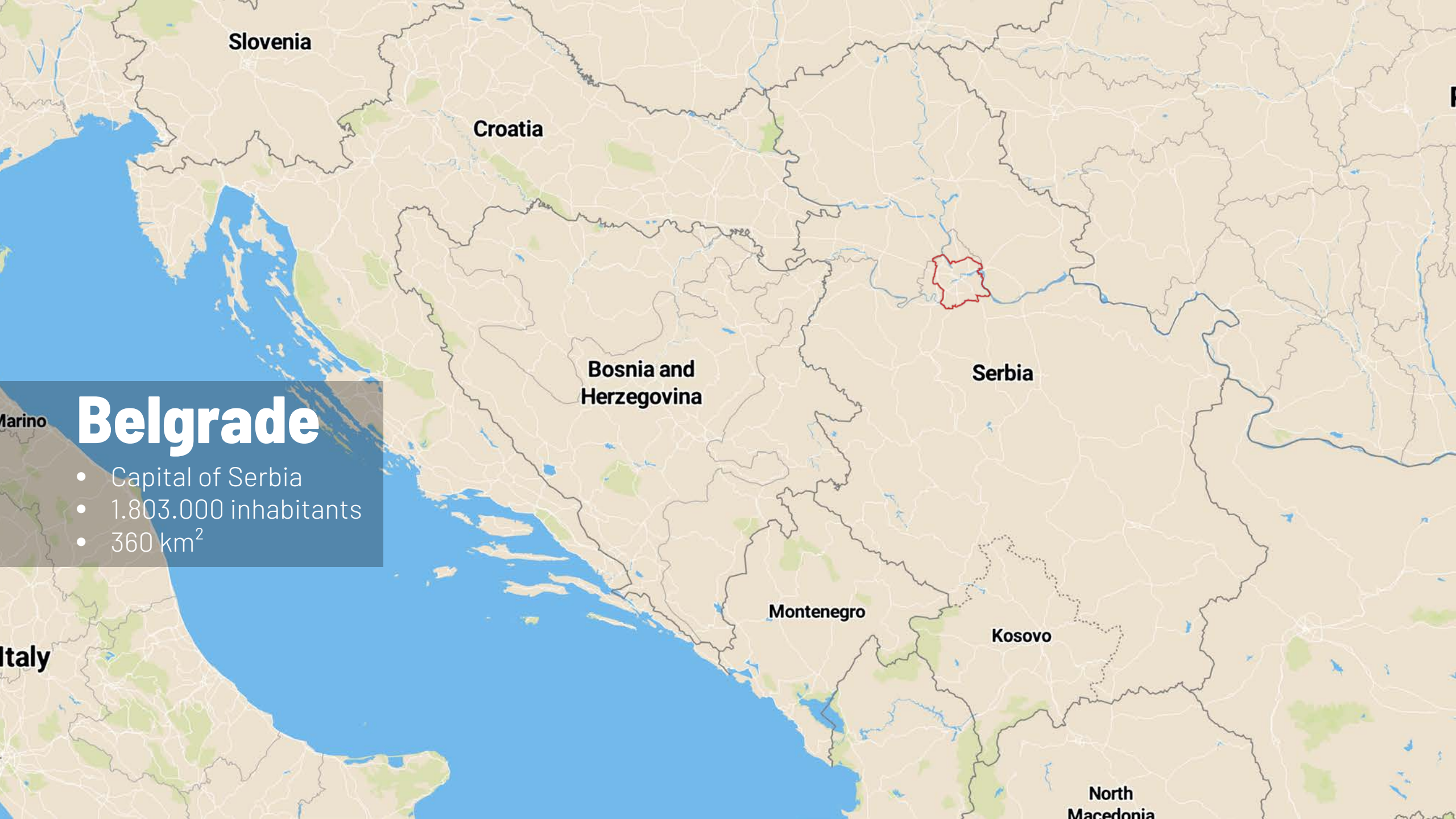
Where?



Serbia

- 6 945 235 inhabitants
- area = 88,361 km²





Slovenia

Croatia

Bosnia and Herzegovina

Serbia

Montenegro

Kosovo

North Macedonia

Belgrade

- Capital of Serbia
- 1.803.000 inhabitants
- 360 km²

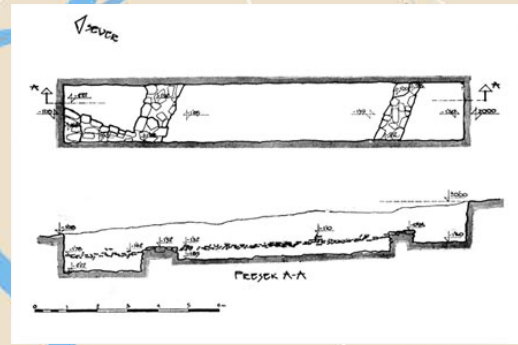
Belgrade

- lies on confluence of the Danube and Sava
- waterfront ~ 200 km





Castrum Ad Octavum



Ramadan



Vinča



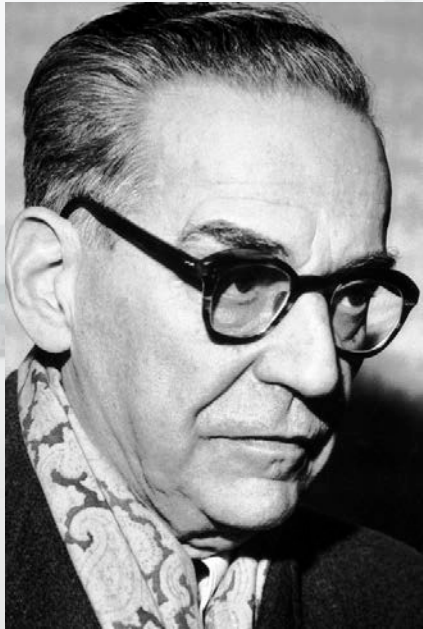
Park Topčider



Belgrade Fortress



Prehistoric Karaburma



"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 - Yugoslav author, 1961 Literature Nobel Prize winner

Problem

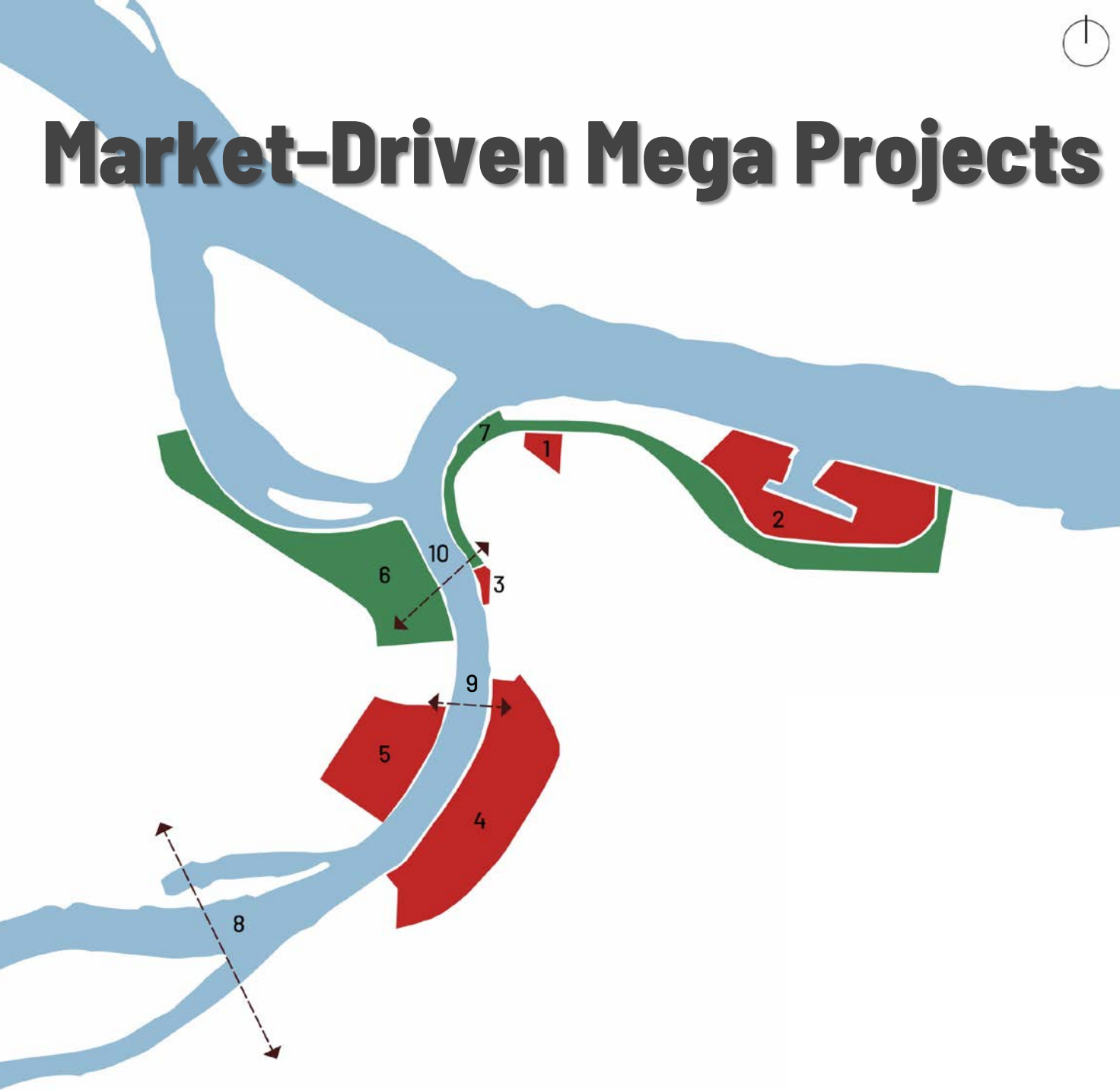
Current development in Belgrade is shaped by market-driven mega projects that are a result of public-private partnerships. There is also a lack of participation in the planning process, which is institutionally allowed. This leads to the development of the most attractive locations which are predominantly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



Market-Driven Mega Projects



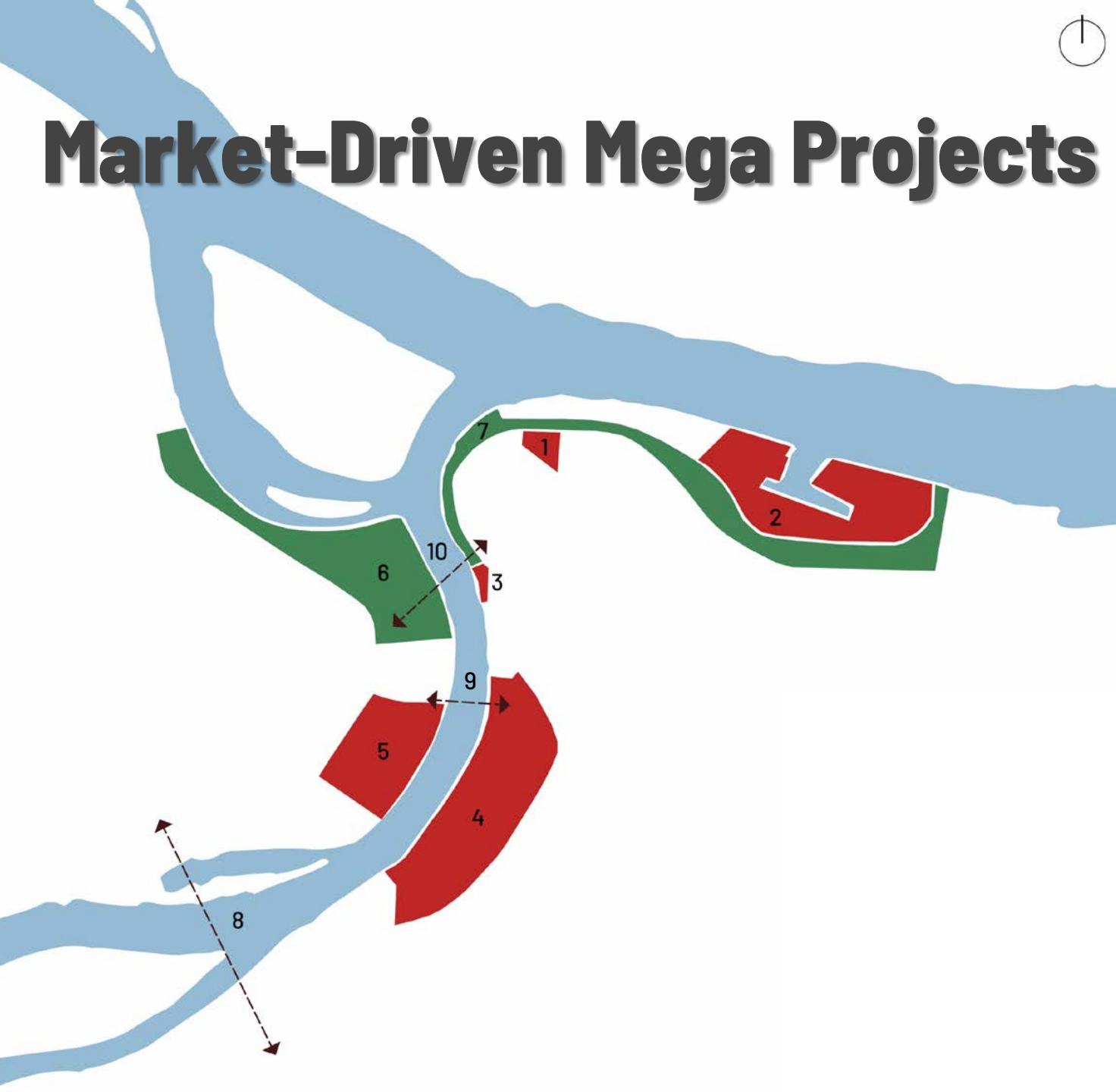
Mix-use Projects

① K1 - District





Market-Driven Mega Projects



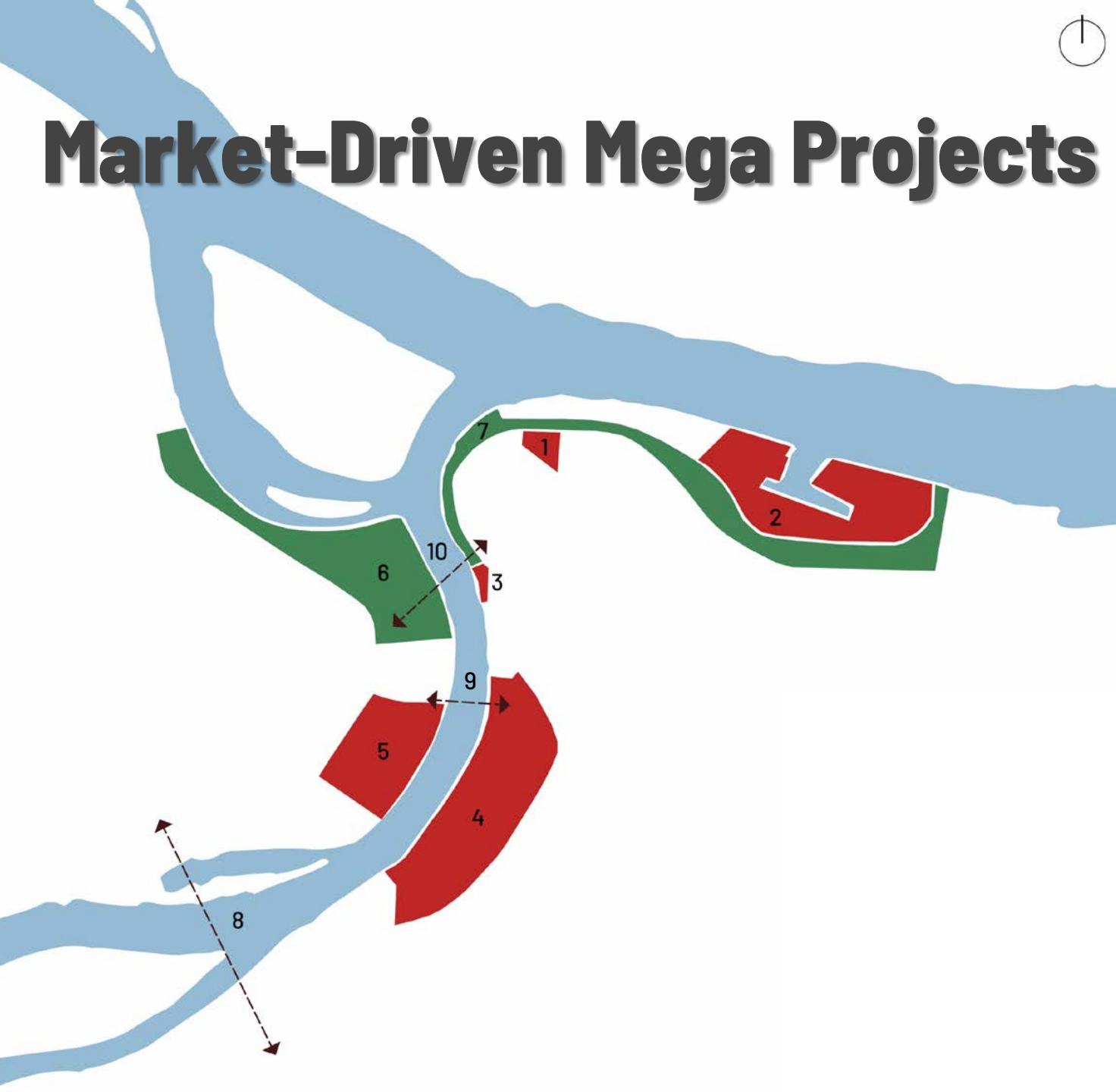
Mix-use Projects

② *City on Water*





Market-Driven Mega Projects



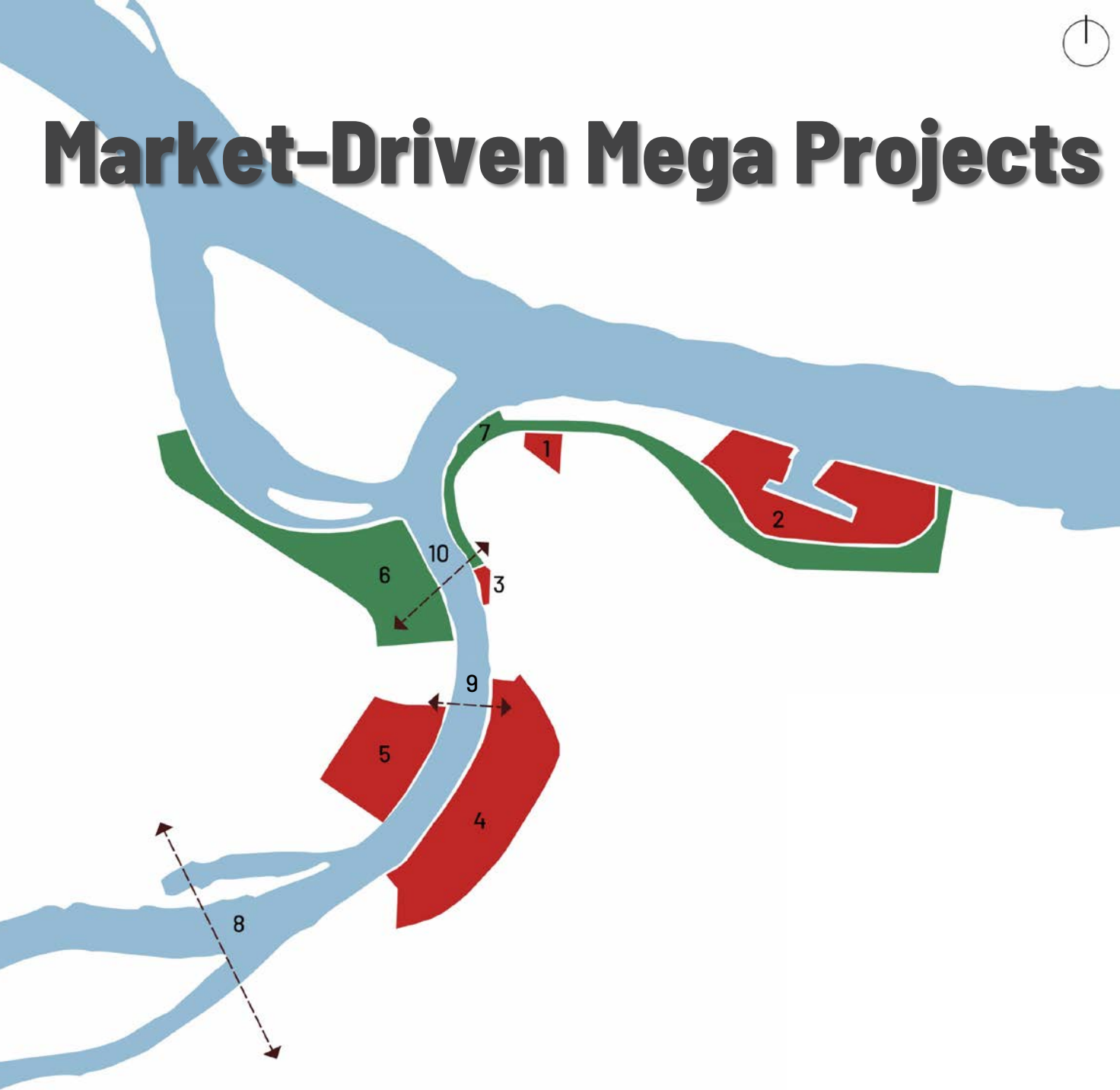
Mix-use Projects

③ Beton Hala





Market-Driven Mega Projects



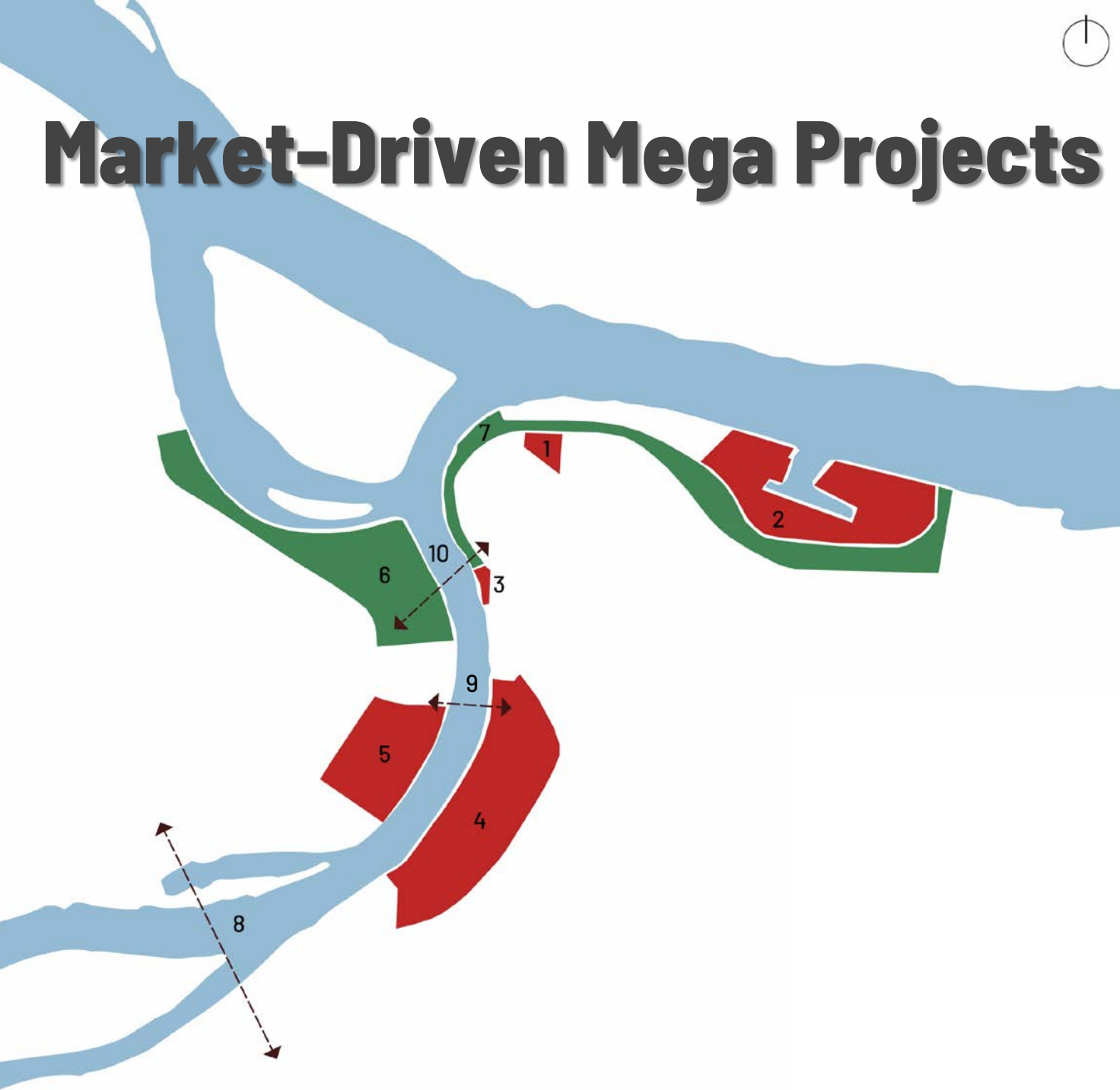
Mix-use Projects

④ Belgrade Waterfront





Market-Driven Mega Projects



Mix-use Projects

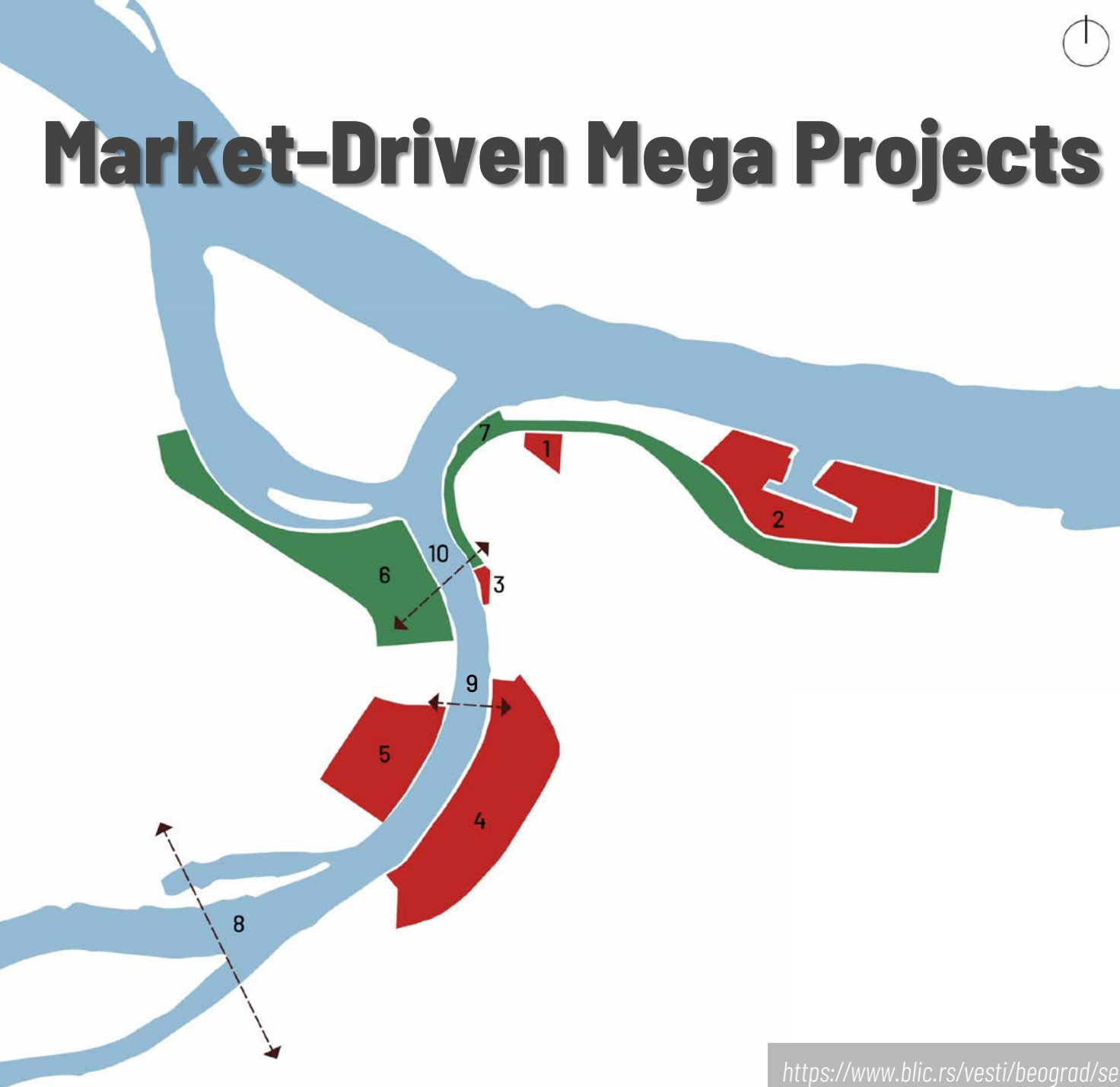
⑤ Block 18



Market-Driven Mega Projects

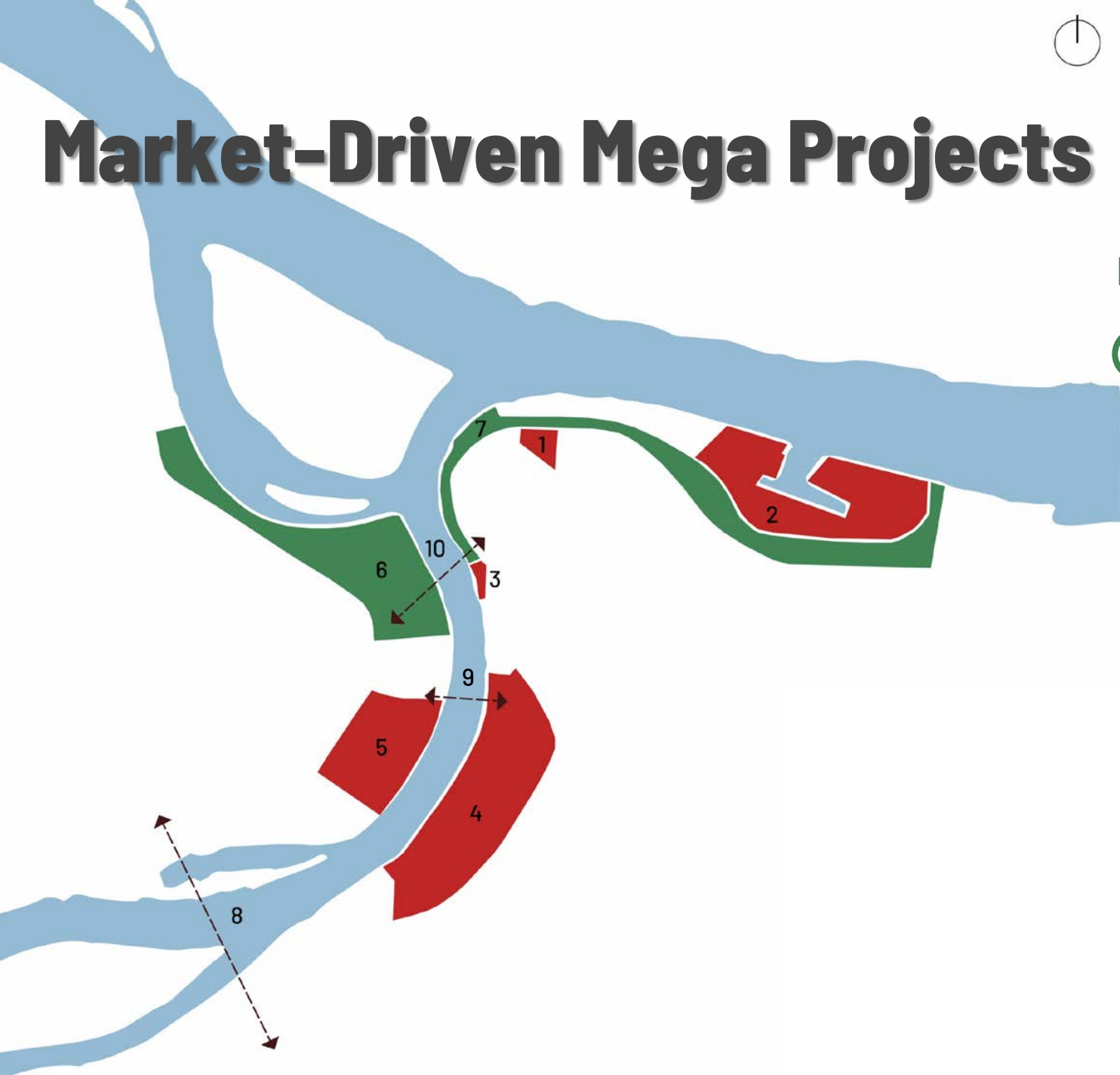
Recreation Area Projects

6 Confluence Park





Market-Driven Mega Projects



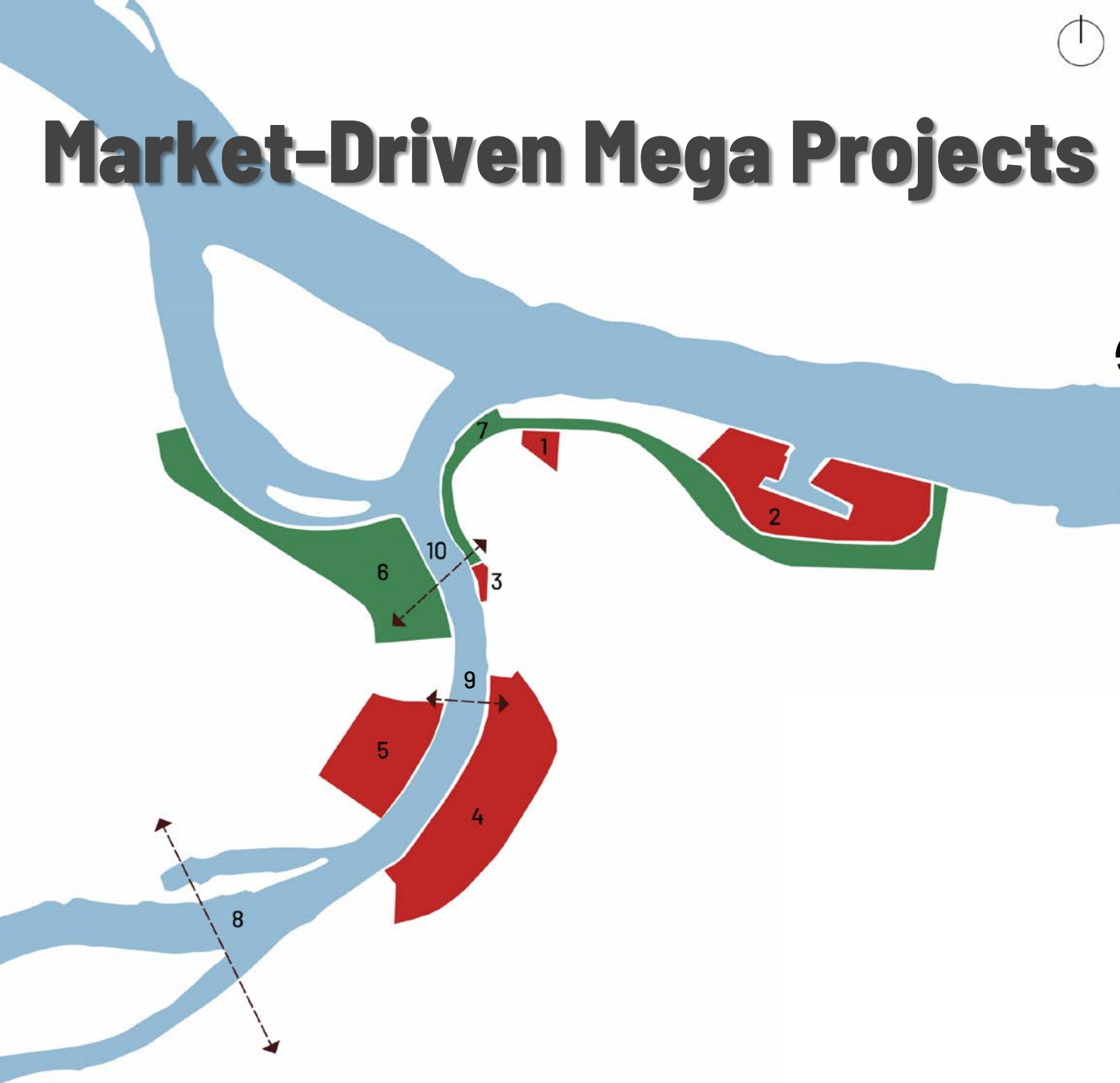
Recreation Area Projects

⑦ Linear Park





Market-Driven Mega Projects



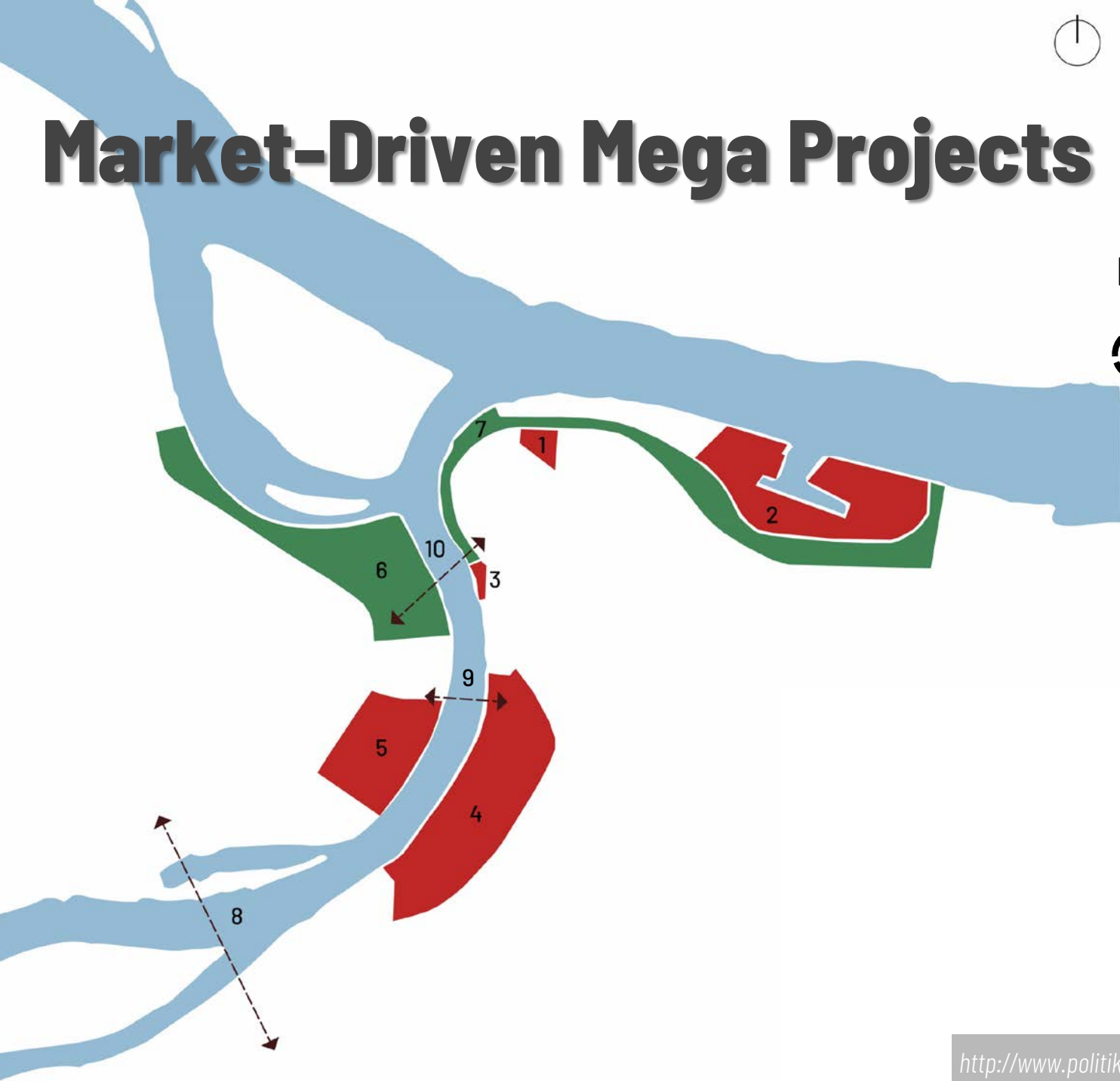
Infrastructure Projects

8 Ada Bridge





Market-Driven Mega Projects



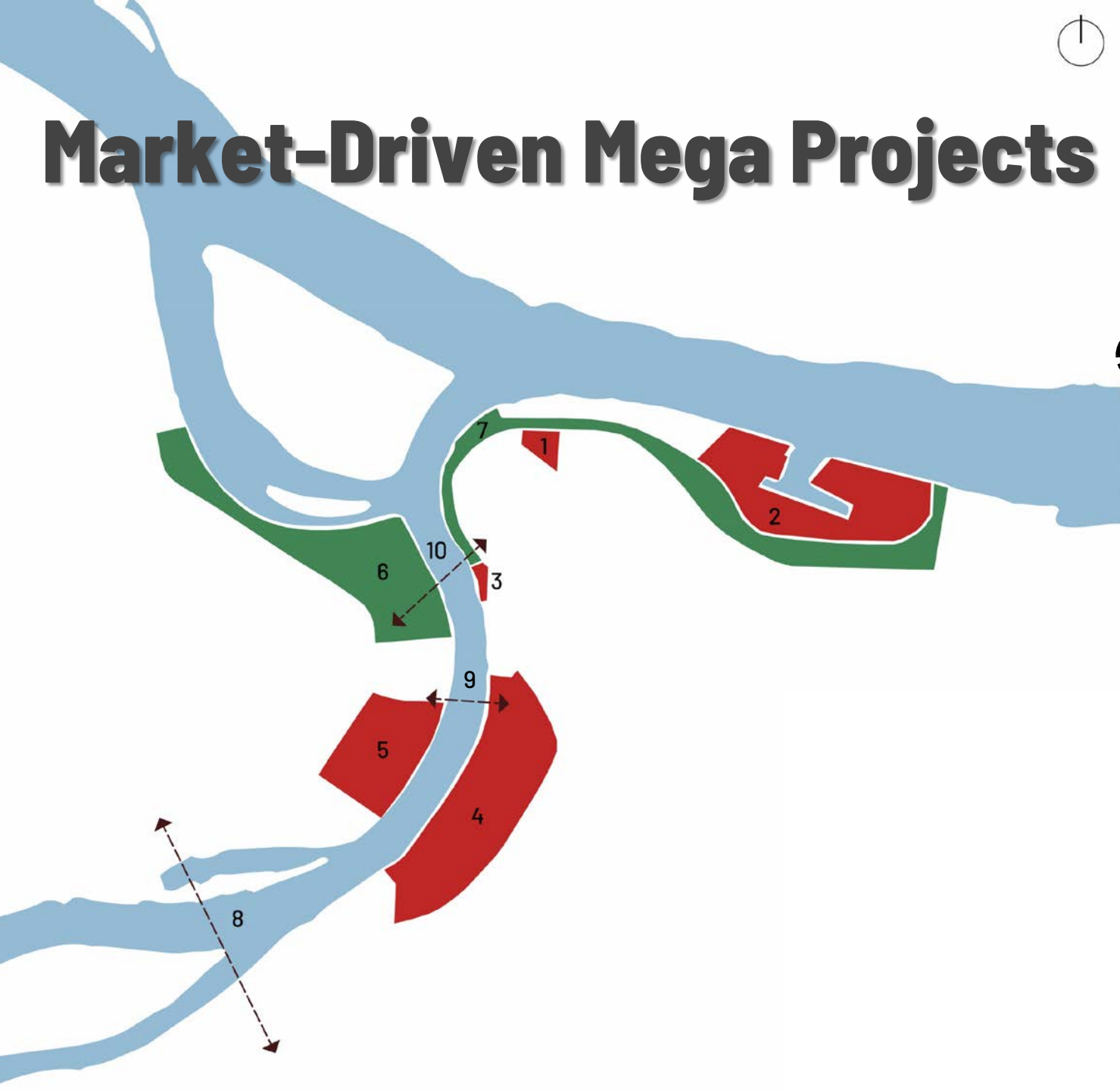
Infrastructure Projects

9 New Sava Bridge





Market-Driven Mega Projects



Infrastructure Projects

 *Belgrade Gondola*



In-existent Participation

Protest against Belgrade Waterfront project, July 2015





Protest against Belgrade Waterfront project, July 2015



Citizens demanding the resignation of people involved in demolishing houses in Belgrade Waterfront project area, February 2017

No Strategy for the Riverfront

Mayor of Belgrade - "...there is no unique plan and project for how the Belgrade riverfront will develop over the next 20 years."

Strategija razvoja priobalja po uzoru na Lisabon

Tanjug/e-Novine

Veličina slova: - +



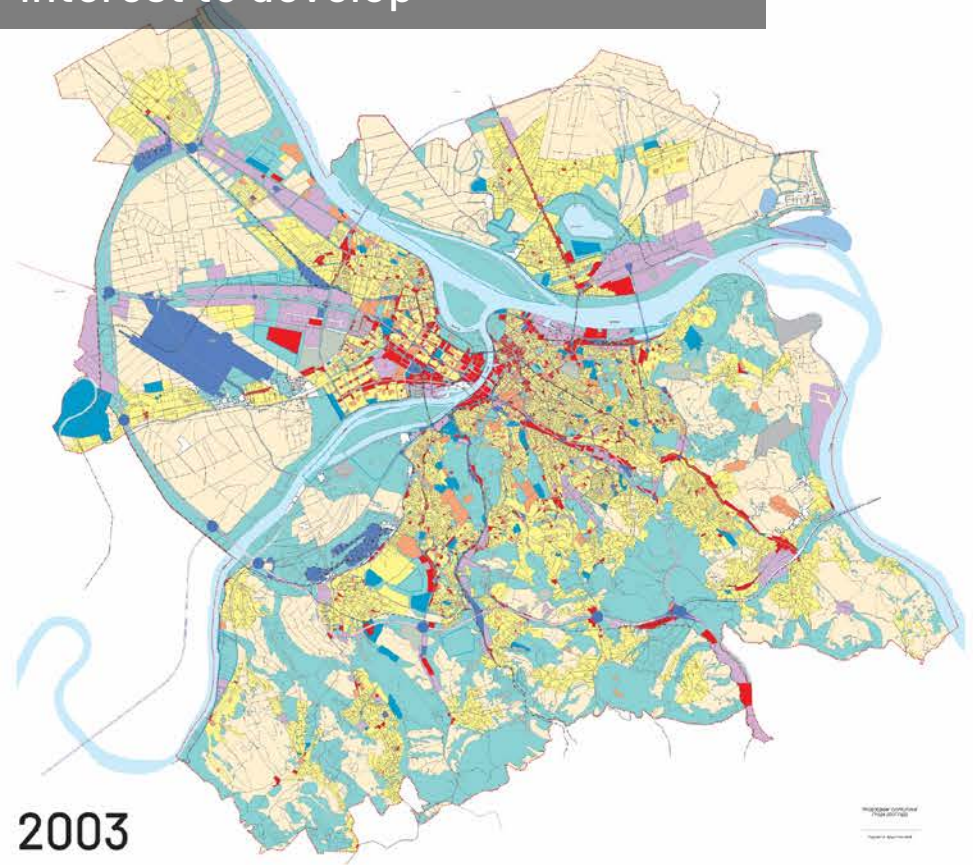
Photo: Zoran Žestić/Tanjug

Gradonačelnik Beograda Siniša Mali je tokom posete Lisabonu prisustvovao prezentaciji portugalskog projekta "Lisbon Waterfront Rehabilitation Plan", pandanu "Beogradu na vodi", poručivši da će strategija razvoja priobalja srpske prestonice biti urađena po uzoru na taj portuglaski grad

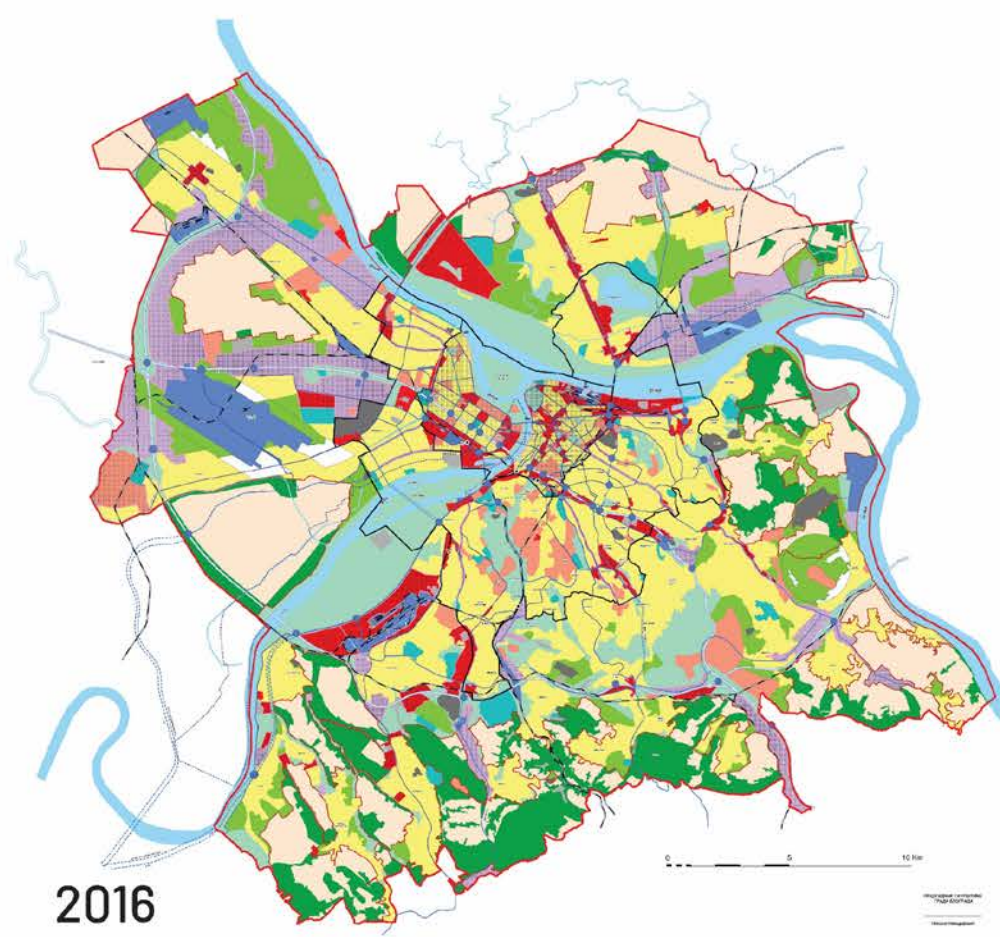
Kako se navodi u saopštenju gradske uprave, projekat koji podrazumeva rehabilitaciju lisabonskog priobalja u dužini od 19 kilometara gradonačelniku Beograda predstavio je gradski arhitekta Lisabona Pedro Diniz.

"Njihovo iskustvo može da bude dragoceno za nas, s obzirom na to da **ne postoji jedinstven plan i projekat na koji način će se u narednih 20 godina razvijati priobalje Beograda**. Sa glavnim gradskim urbanistom ću pokrenuti inicijativu da raspišemo međunarodni konkurs kako bi najveće svetske firme dale ideju kako urediti prostor oko Save i Dunava", rekao je Mali.

GUP amendments according to locations for which investors show interest to develop



2003



2016

- Planned Land-use for 2021**
- residential
 - commercial
 - public services and buildings
 - business zone
 - green areas
 - sport facilities
 - mobility infrastructure
 - rural areas
 - water
 - forests





Objective

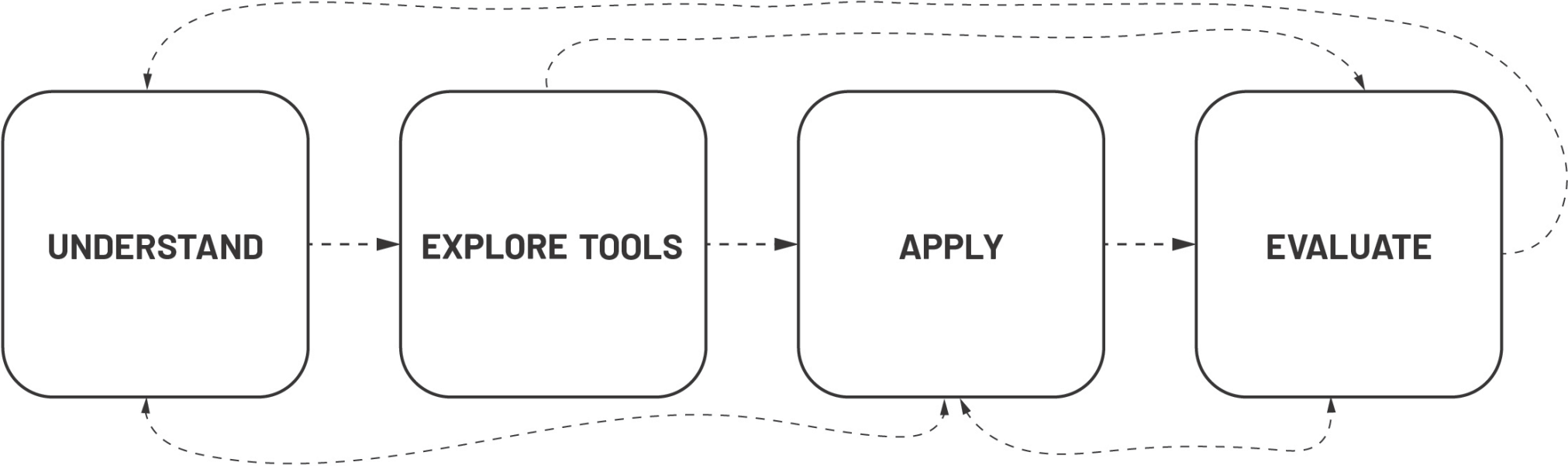
Propose a comprehensive planning approach that provides the transition towards riverfront sustainability.



Objective

Propose a comprehensive planning approach that provides the transition towards riverfront sustainability.

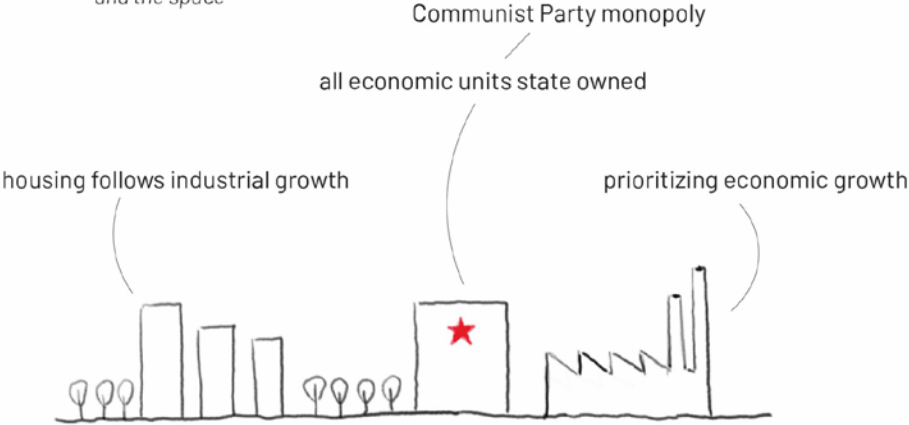
How?



What are the circumstances that led to this way of planning and development in Belgrade?

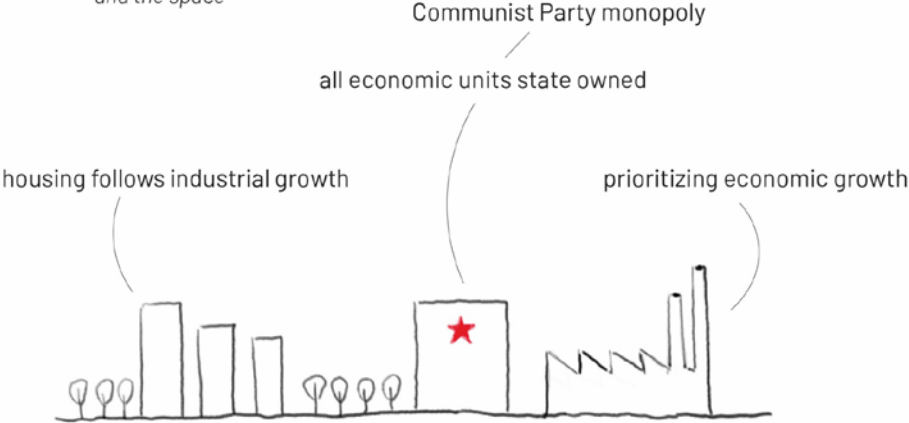
SOCIALIST VALUES

*transform the processes
and the space*



SOCIALIST VALUES

*transform the processes
and the space*



free market

TRANSITION



democracy



institutional
transformation



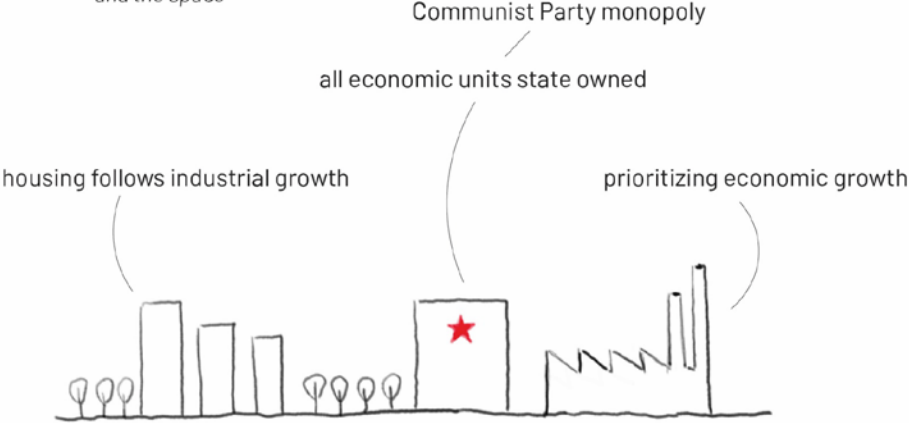
social
transformation



urban
transformation

SOCIALIST VALUES

*transform the processes
and the space*



TRANSITION



institutional transformation



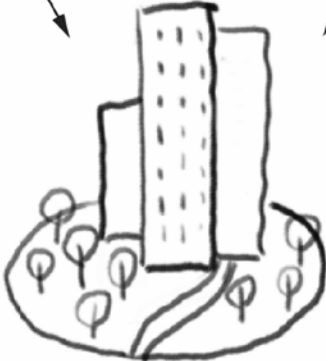
social transformation

urban transformation



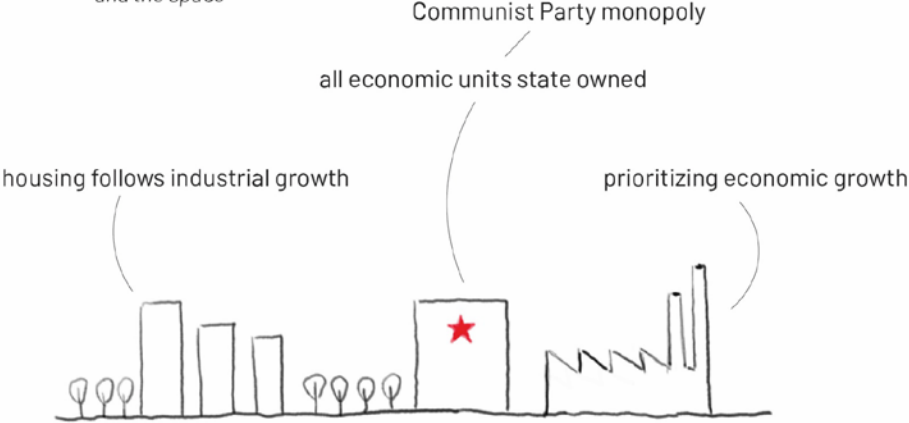
SOCIALIST LEGACY

incomplete TRANSITION



SOCIALIST VALUES

*transform the processes
and the space*



TRANSITION



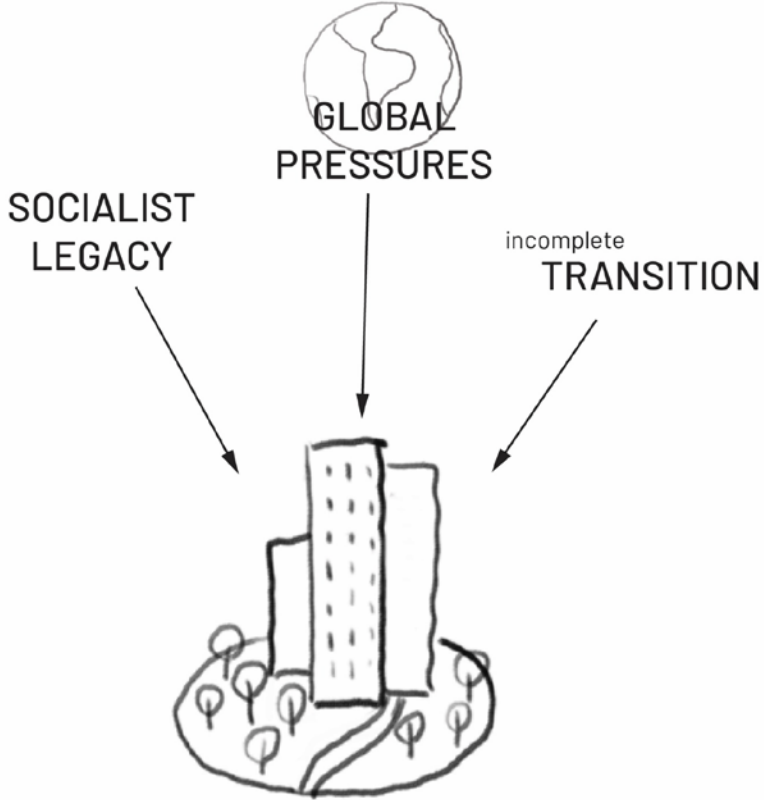
institutional transformation



social transformation

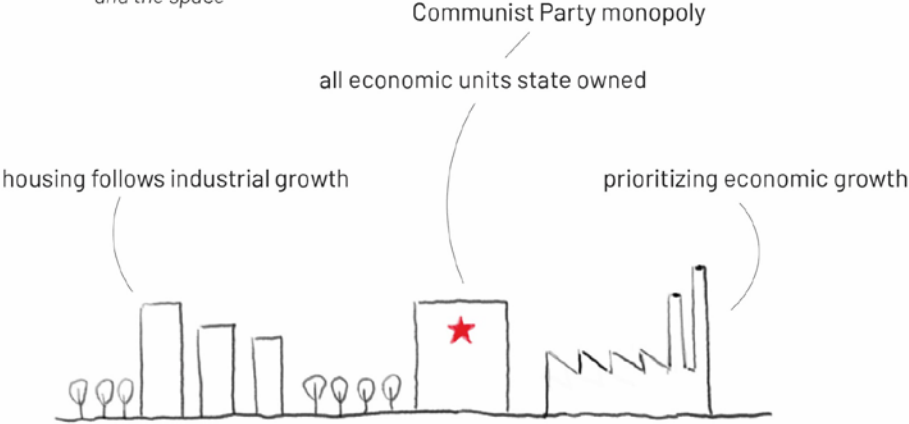


urban transformation



SOCIALIST VALUES

transform the processes and the space



TRANSITION



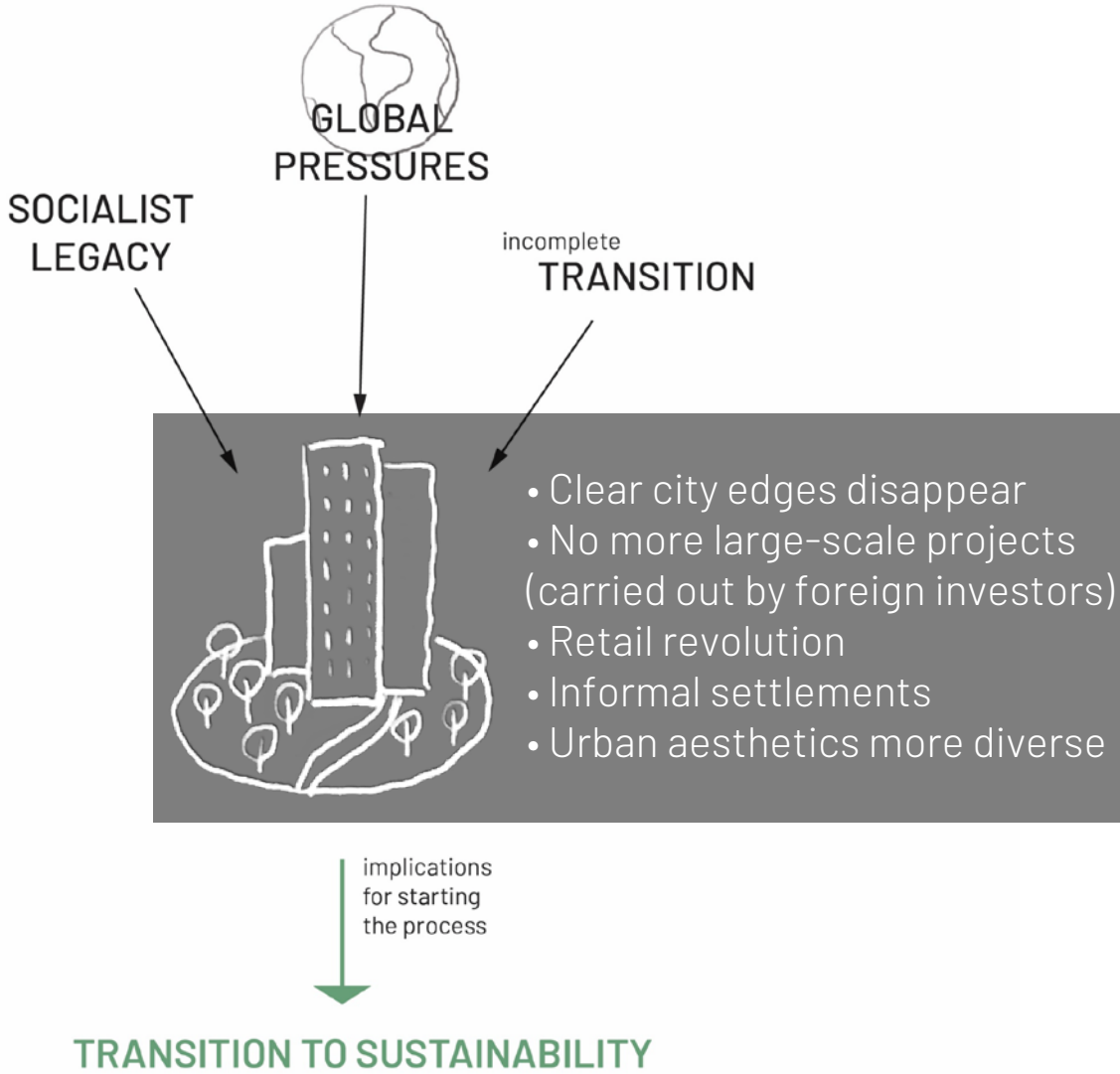
institutional transformation



social transformation



urban transformation





27.06.1991.
SLOVENIA AND
CROATIA DECLARE
INDEPENDENCE

20.11.1991.
MACEDONIA
DECLARES
INDEPENDENCE

03.03.1992.
BOSNIA
DECLARES
INDEPENDENCE

03.06.2006.
MONTENEGRO
DECLARES
INDEPENDENCE

17.02.2008.
KOSOVO
DECLARES
INDEPENDENCE

TERRITORY

CONFLICTS

WAR IN BOSNIA

WAR IN CROATIA

KOSOVO WAR

NATO BOMBING BELGRADE

ECONOMY

PLANNED ECONOMY

GREY ECONOMY

MARKET ECONOMY

HYPERINFLATION

UN EMBARGO

PRIVATIZATION

POLITICS

TOTALITARIAN REGIME

NATIONALIST DICTATORSHIP

DEMOCRACY - 05.10.2000. THE OCTOBER 5 REVOLUTION

DEMOCRACY?

REFUGEES AND IDPS

PLANNING

SOCIALIST PLANNING AND HOUSING POLICY

NO LAND REGISTRATION

NO PRIVATE LAND IN CITIES

NO PLANNING + MAXIMUM PROFIT

INVESTORS' URBANISM

MEGA PROJECTS

TEMPORARY BUILDING PERMITS

DENATIONALIZATION OF PUBLIC LAND

NEW MASTER PLAN

NUMEROUS AMENDMENTS TO MATCH PPP

STATE

SOCIALIST FEDERAL REPUBLIC OF YUGOSLAVIA

FEDERAL REPUBLIC OF YUGOSLAVIA

REPUBLIC OF SERBIA AND MONTENEGRO

REPUBLIC OF SERBIA

*VISA-FREE TRAVEL WITHIN EU SCHENGEN AREA

1980

1990

2000

2010

2020

Yugoslavia
Socialist period

Grey Period
Fall of the socialist state

Investors' Urbanism
Transitioning to free market and
democracy

**Government's
Renovation**

Yugoslavia

Until 1990s



Yugoslavia

Until 1990s

"You are our new army, an army of labor, which will create both for themselves and for future generations a better and happier future."

Tito at the First United Federation of Anti-fascist Youth of Yugoslavia Congress Serbia in Belgrade, November 16, 1944.

Grey Period

1990s



Investors' Urbanism

2000-2014



@malo_smo_nadogradili

https://www.instagram.com/malo_smo_nadogradili/?hl=en

Government's Renovation

2014 - ?

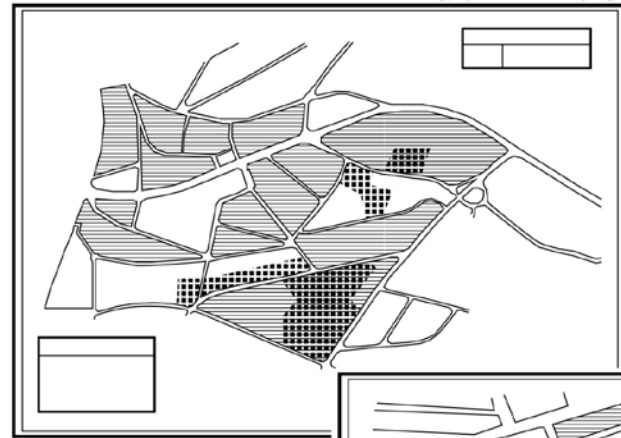


***What is the planning process behind this
unsustainable development?***

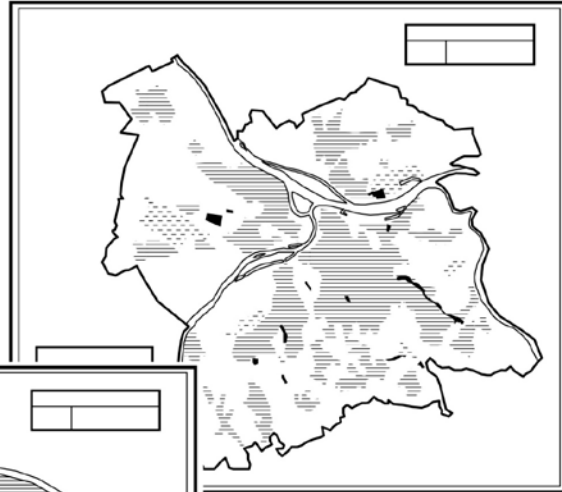
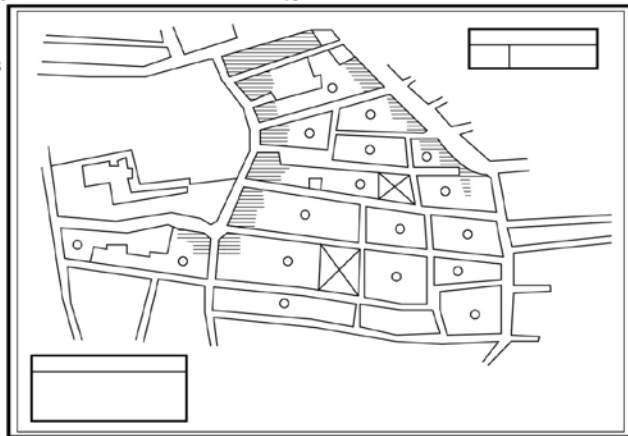
Urban Plans

1. GUP
General Urban Plan

2. PGR
Plan of General
Regulation



3. PDR
Plan of Detailed Regulation

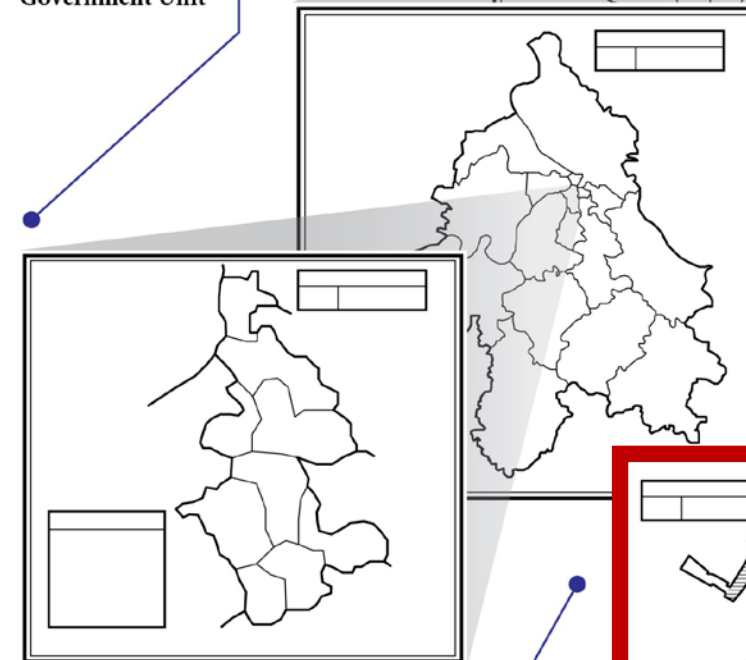


Spatial Plans

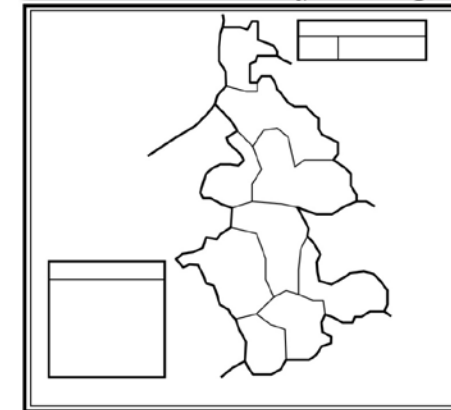
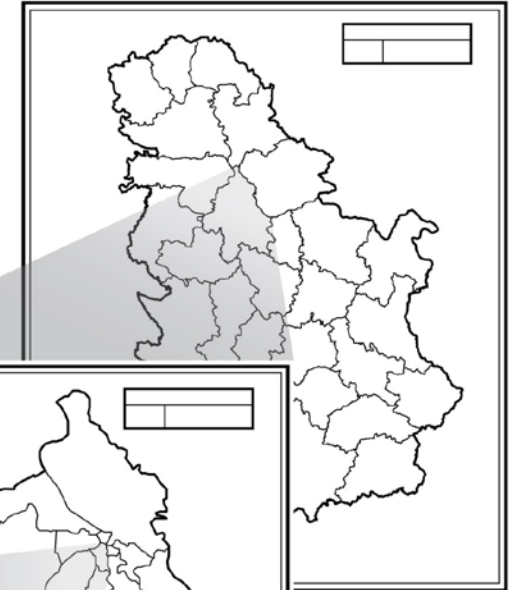
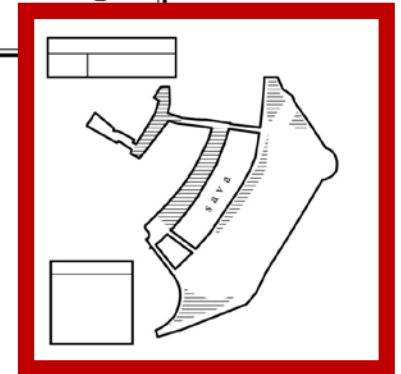
1. PPRS
Spatial Plan of the Republic of Serbia

2. RPP
Regional Spatial Plan

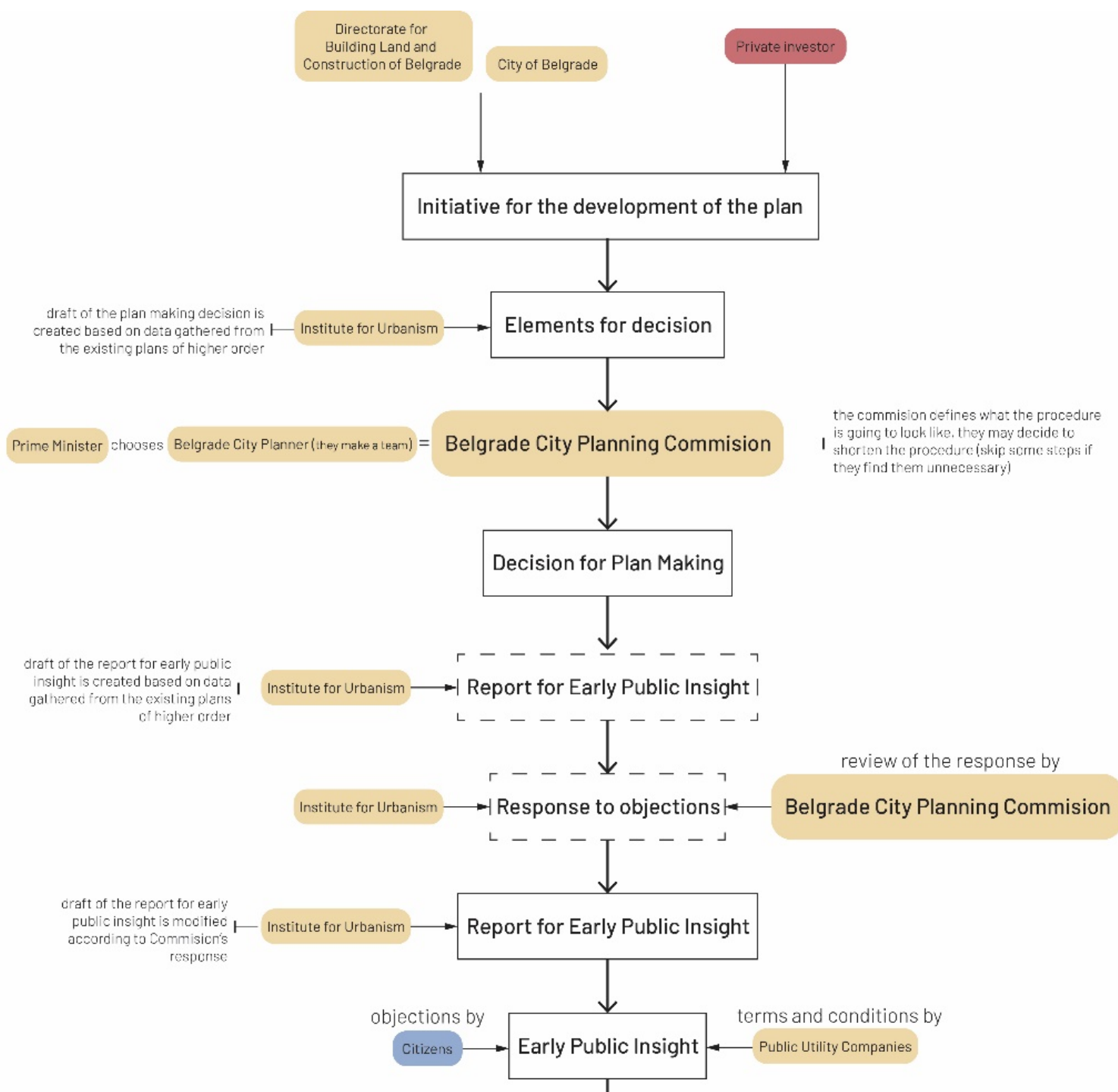
3. PPJLS
Spatial Plan of the Local
Government Unit

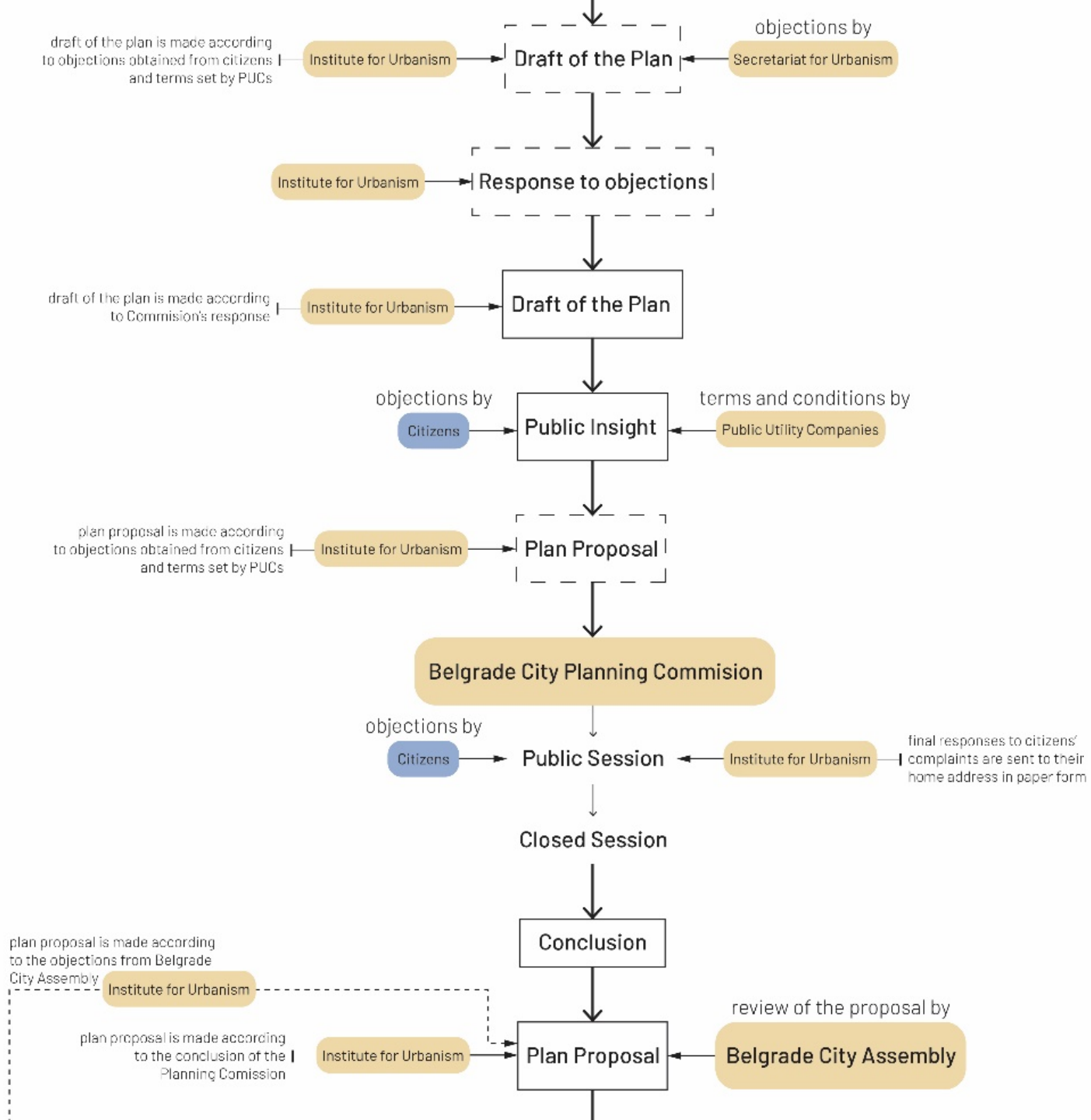


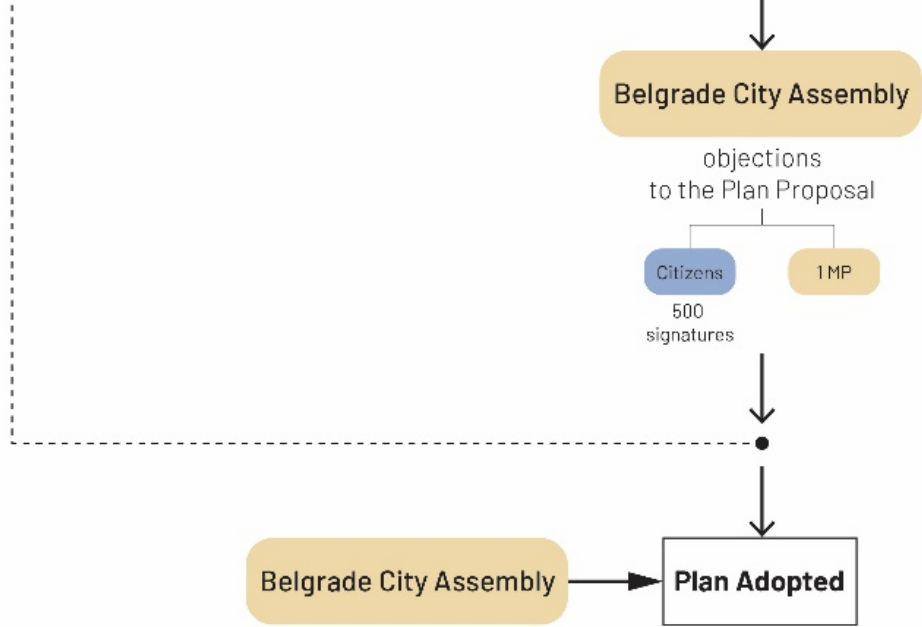
4. PPPPN
Spatial Plan of a Special Purpose Area



Planning Process







- Public sector
- Private sector
- Civil society

Public Participation

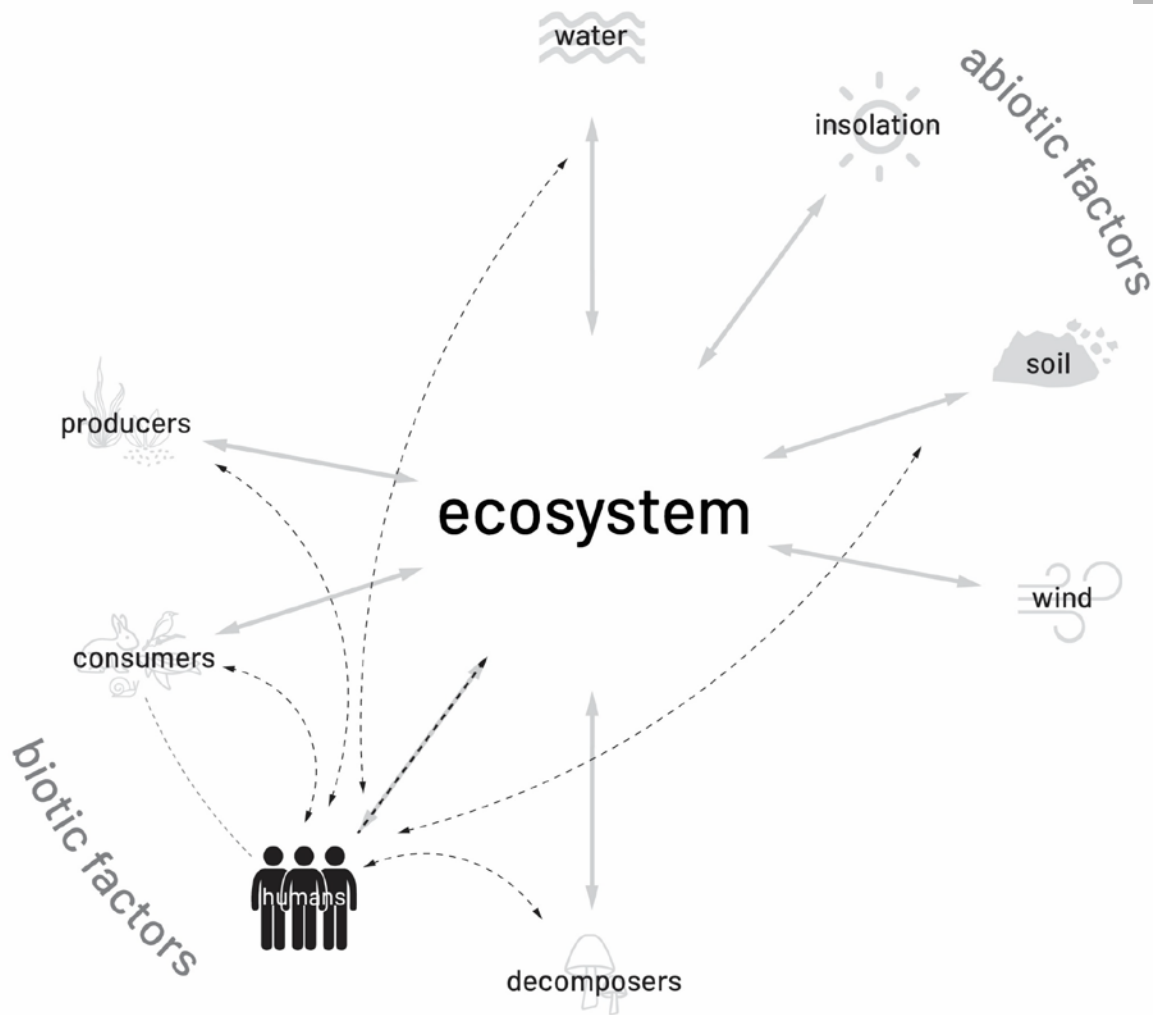
Where it takes place



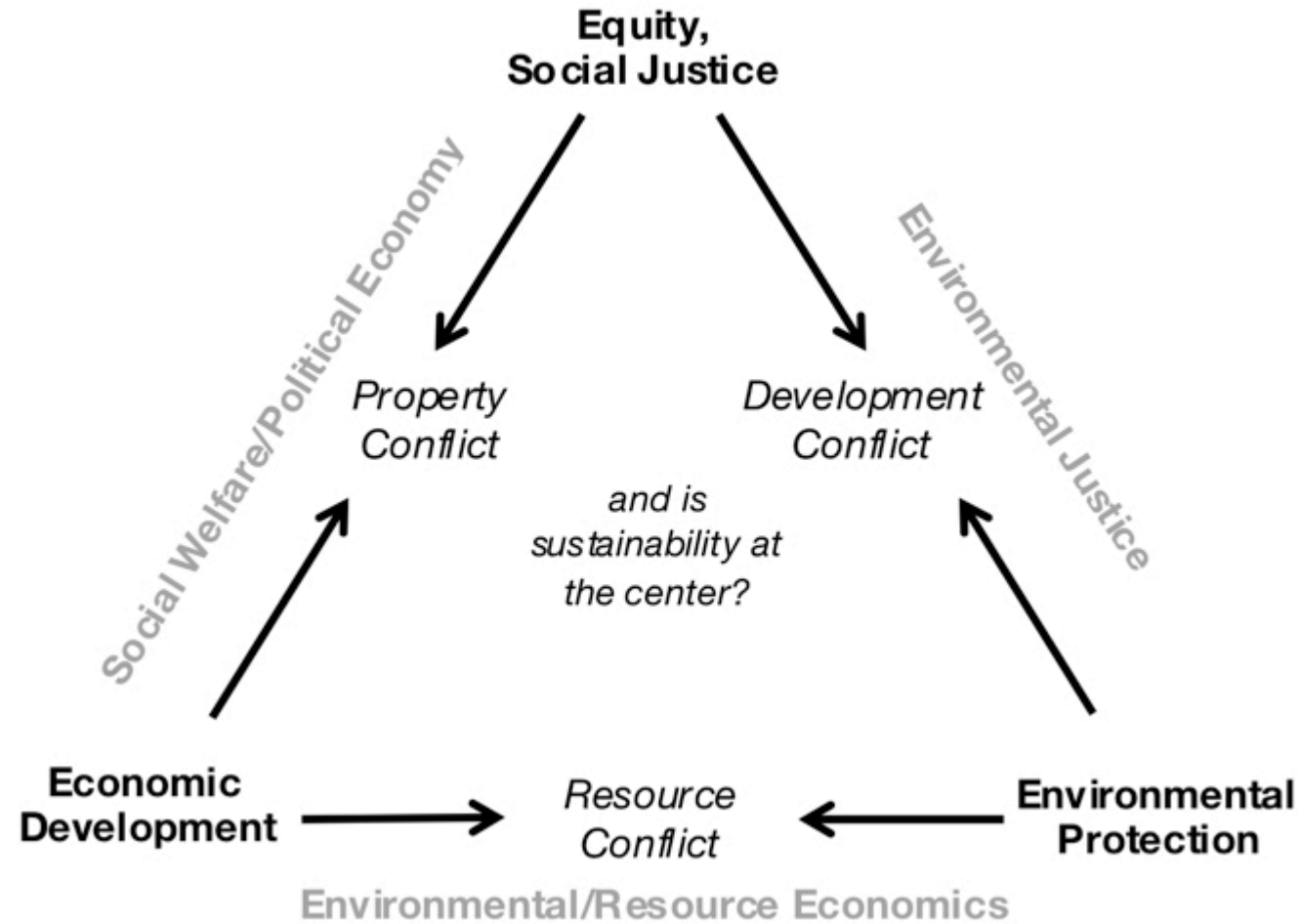


How does a planning process that produces sustainable development look like?

Sustainability



Sustainability



Integrated Urban Planning

Long-term perspective

Holistic outlook

Acceptance of limits

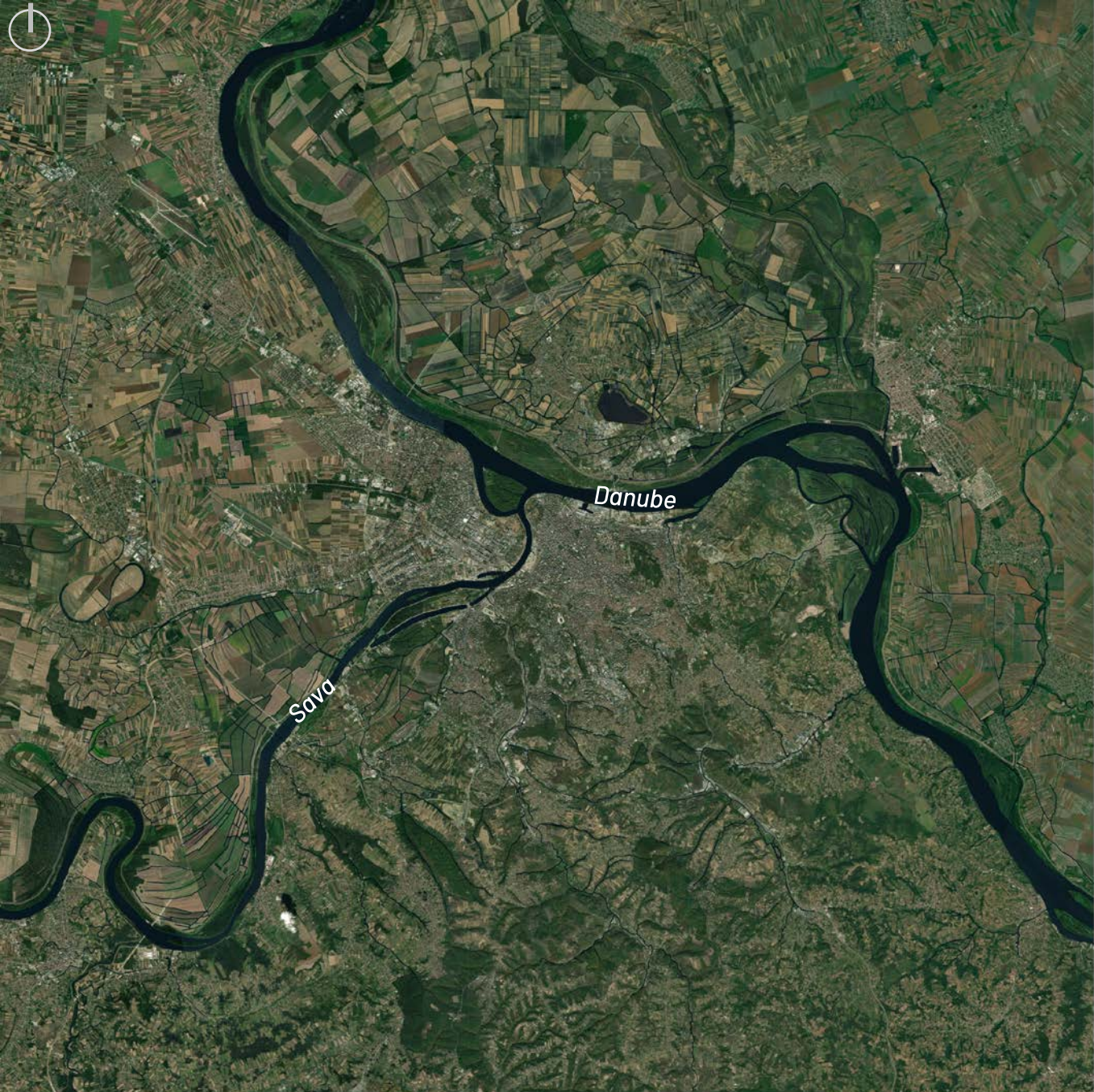
A focus on place

Active involvement in problem-solving

Participation



What is the territorial context that these values can be applied to?

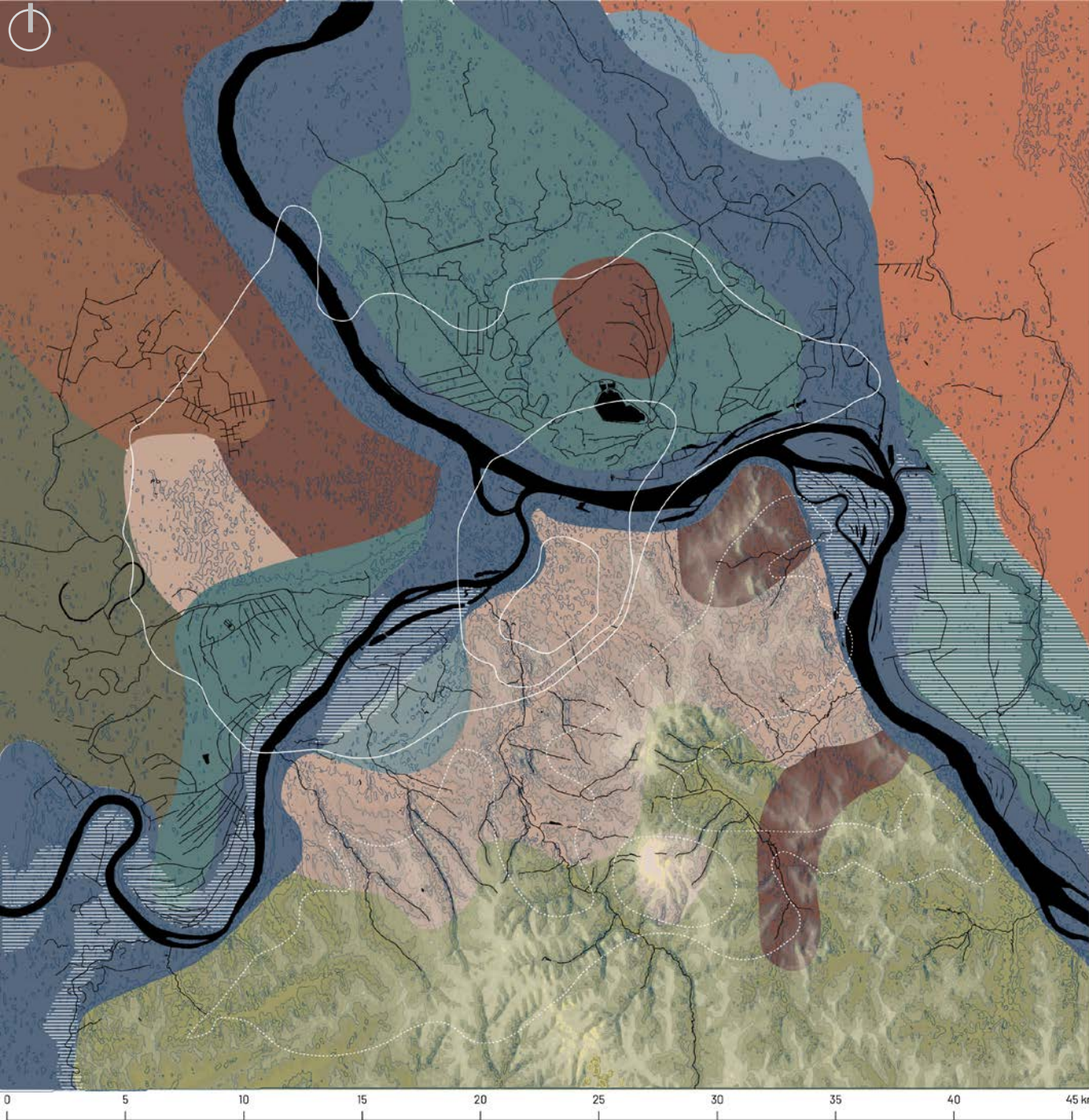


Danube

Sava

0 5 10 15 20 25 30 35 40 45 km

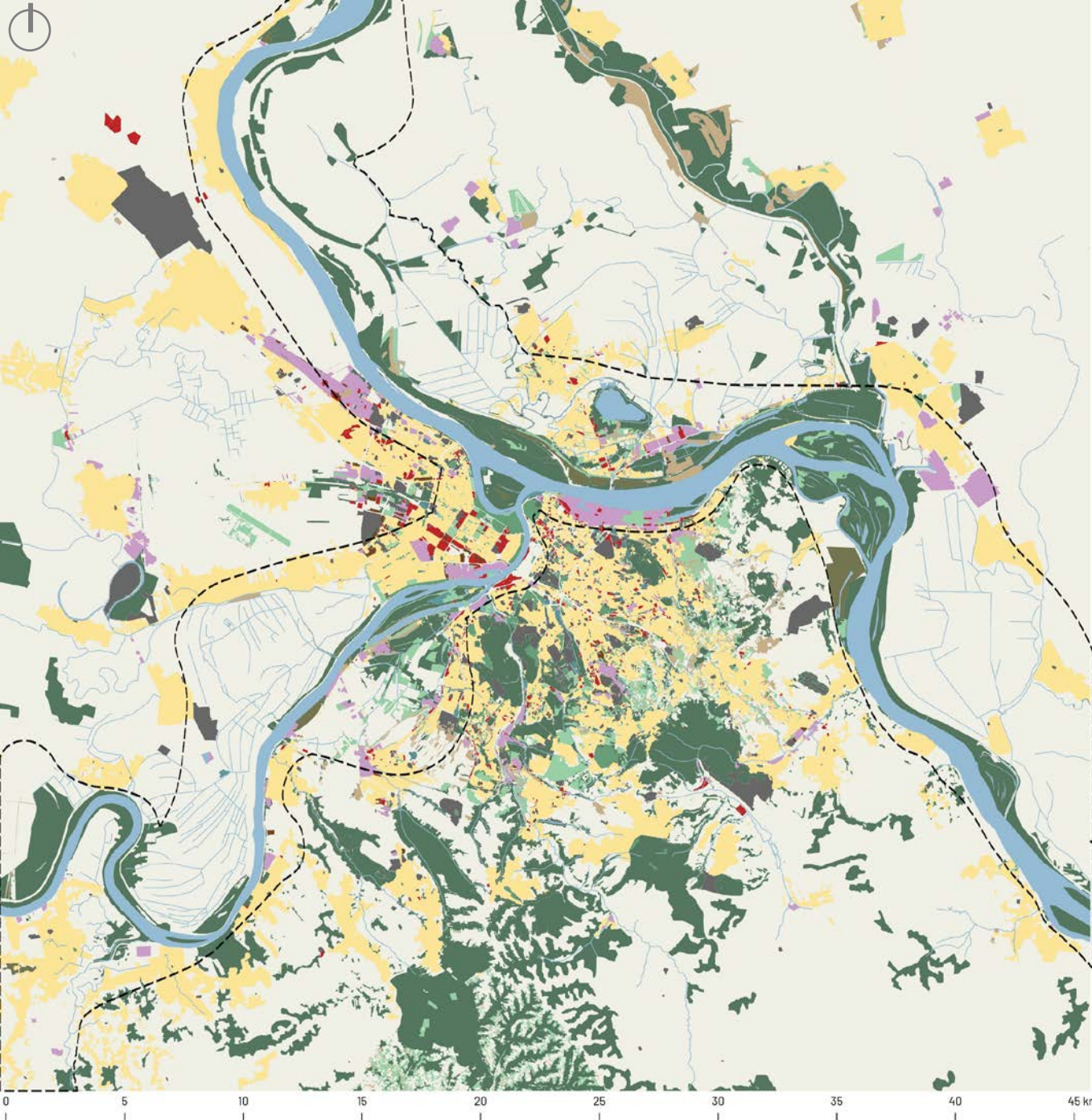
Ground Layer



Legend

- chernozem
- chernozem affected by surface water
- chernozem and meadow soils
- degraded chernozem
- alkaline and saline soils
- brown forest soils
- mixed soils
- smonitza soils
- black hydromorphic soils
- alluvial deposits
- extreme high temperatures
- extreme low temperatures
- water
- polluted soil

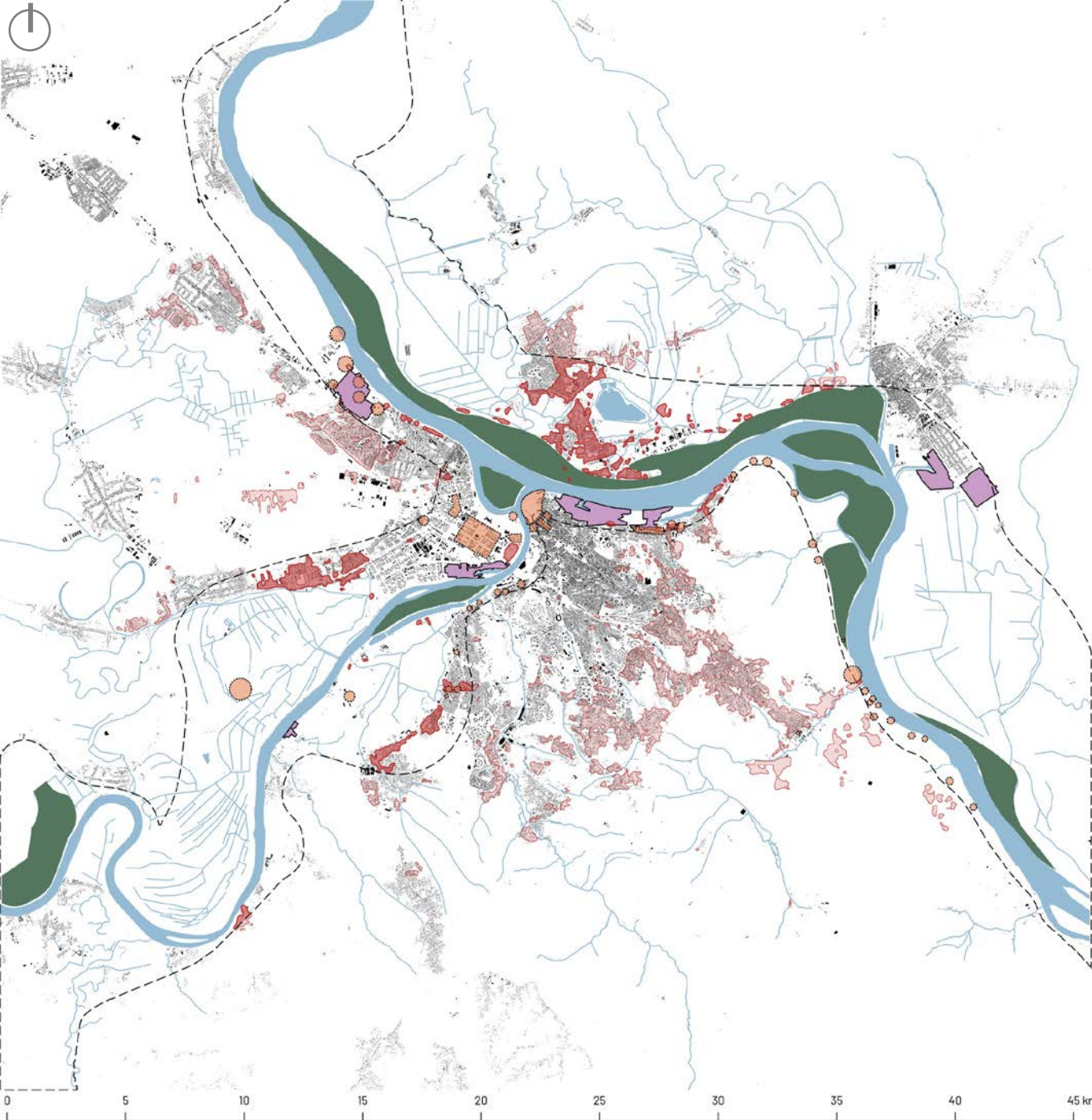
Landuse



Legend

- water
- agriculture
- sand/gravel
- forest
- grass
- recreation ground
- park
- wetland
- residential
- commercial
- public services
- industrial
- traffic areas

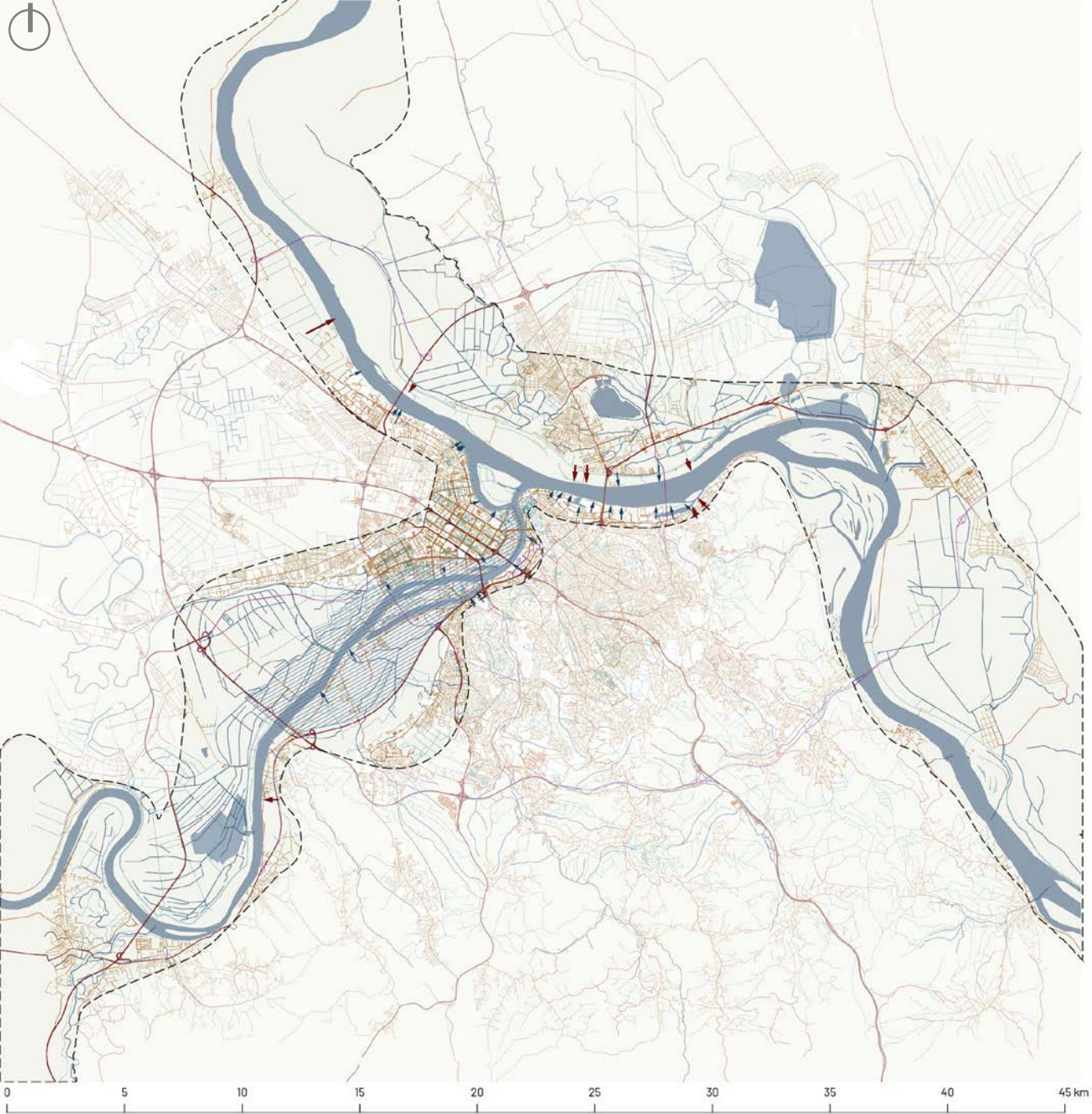
Occupation



Legend

- water
- natural areas
- incompatible land use
- heritage
- informal settlements

Infrastructure



Legend

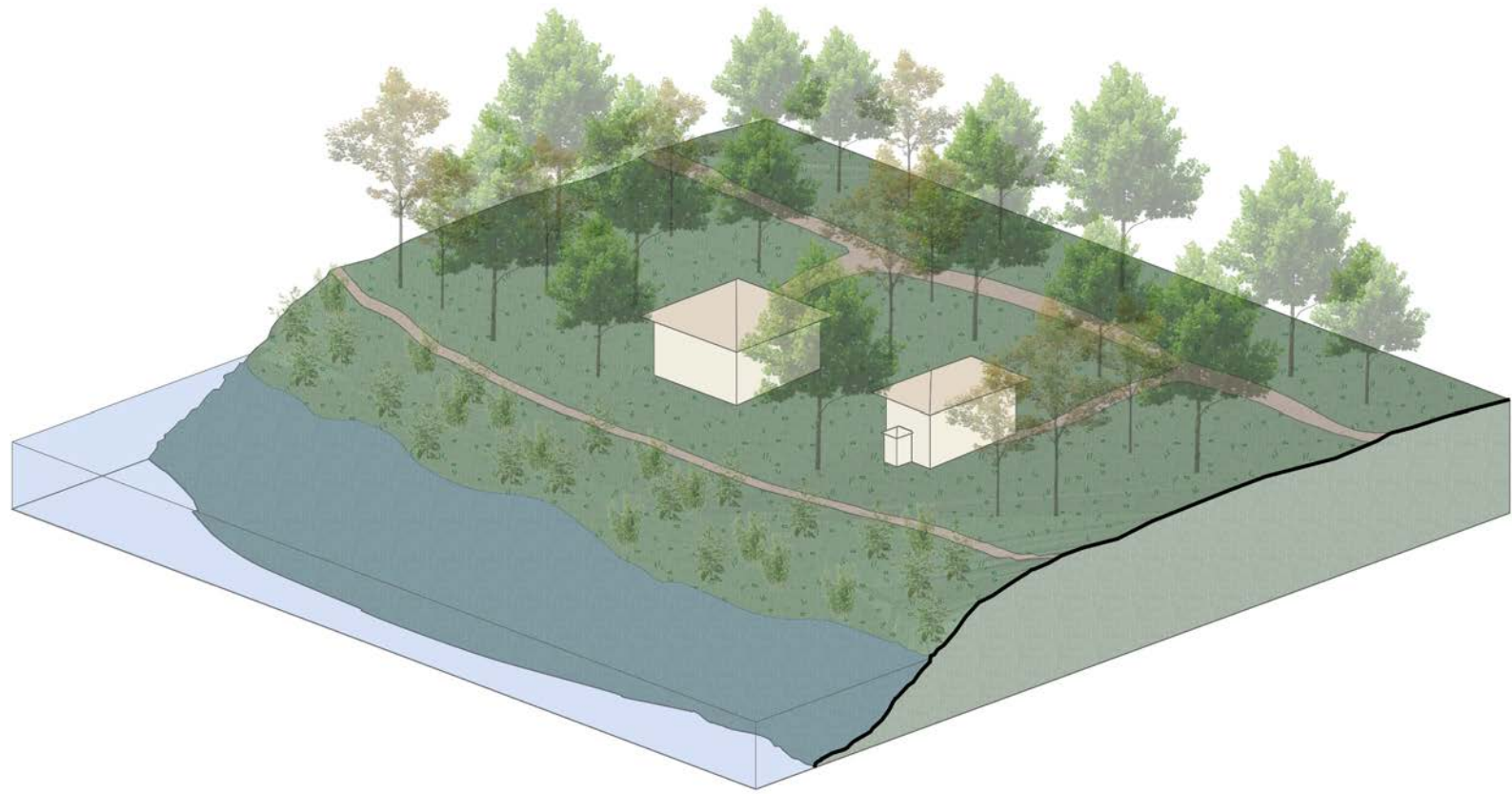
- water
- primary roads
- secondary roads
- tertiary roads
- residential roads
- pedestrian roads
- in construction
- proposed
- drinking water spring
- aquifers area
- sewage outflow
- storm water drainage

Accessibility

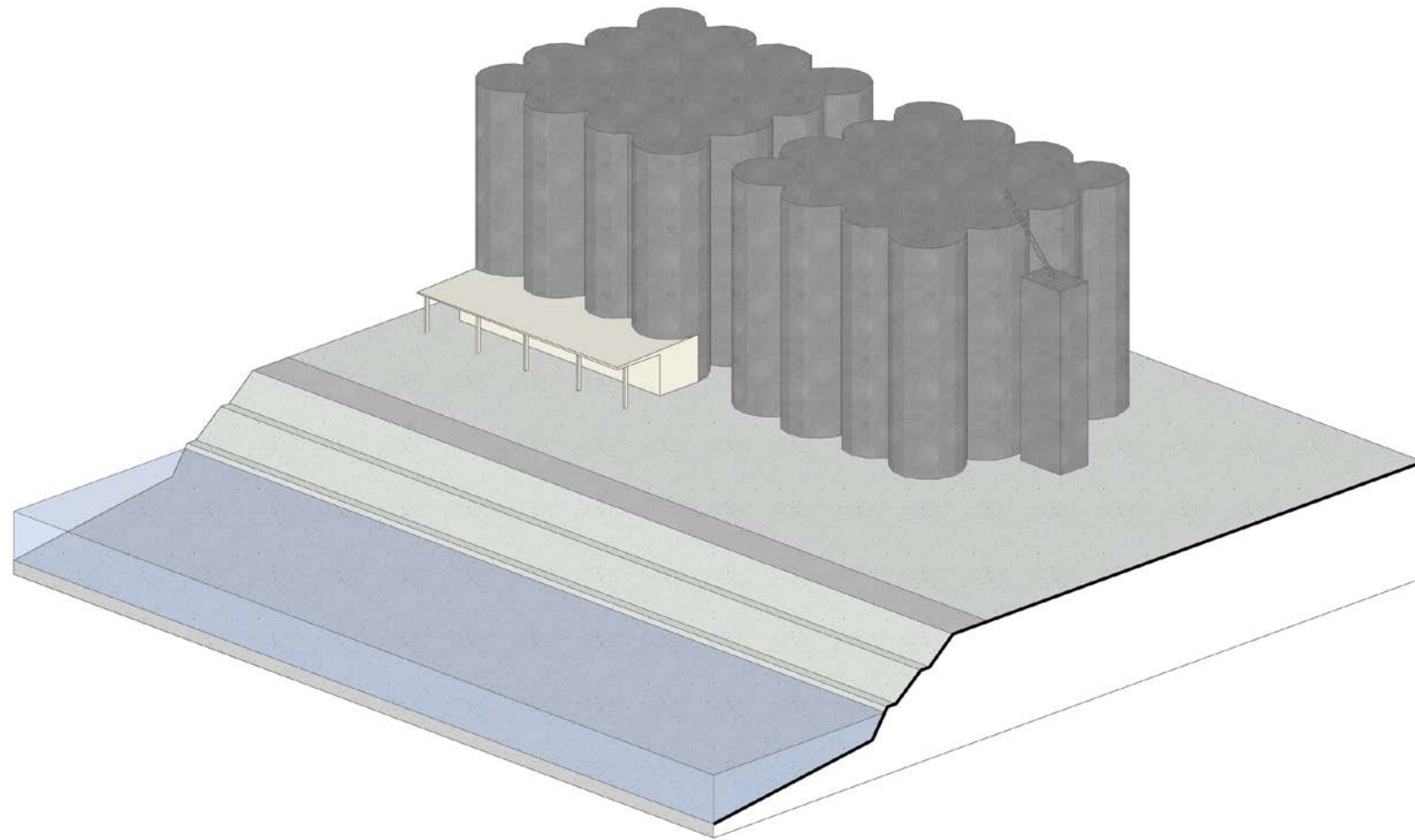


Legend

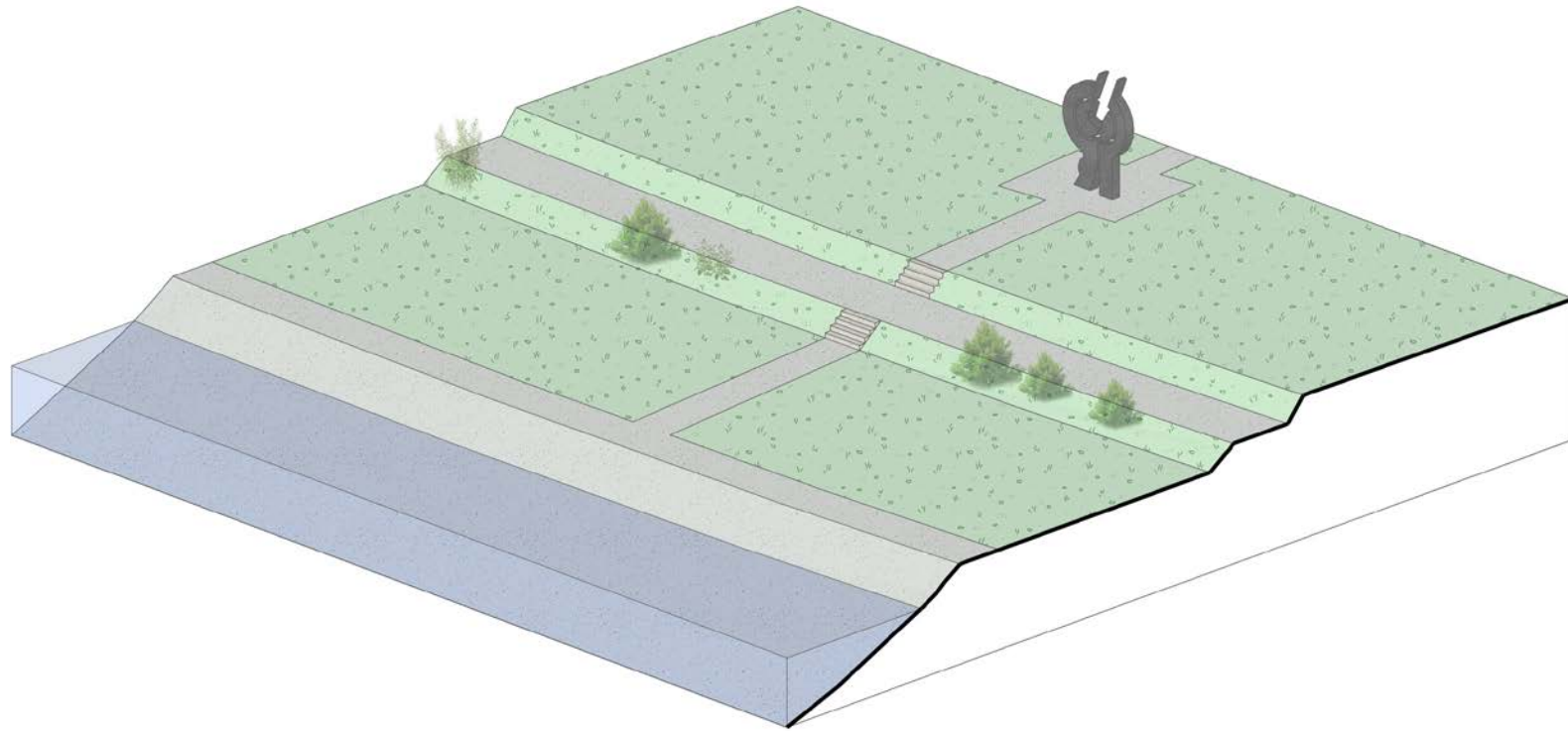
-  water
-  agriculture
-  sand/gravel
-  forest
-  grass
-  recreation ground
-  park
-  wetland
-  inaccessible edge



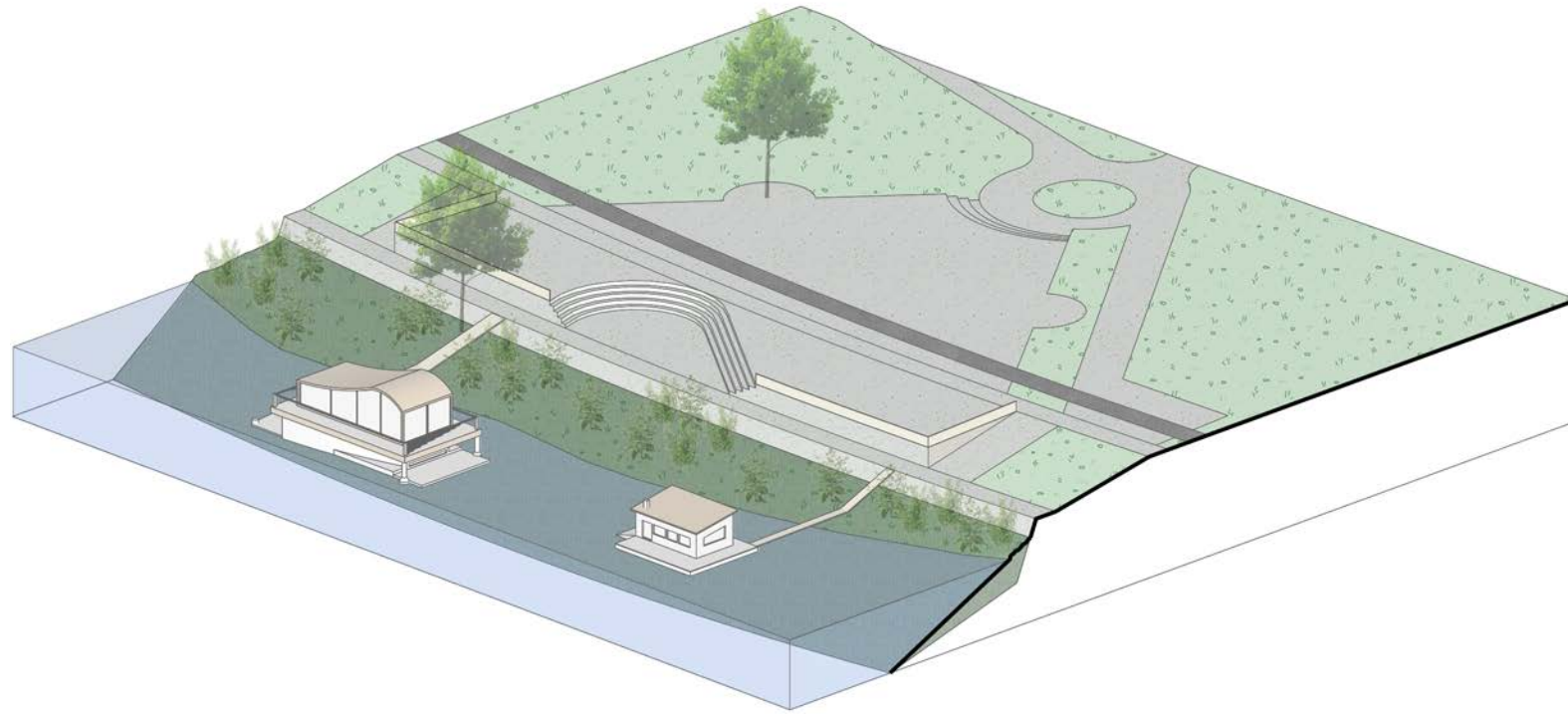
Natural Edge



Industrial Edge

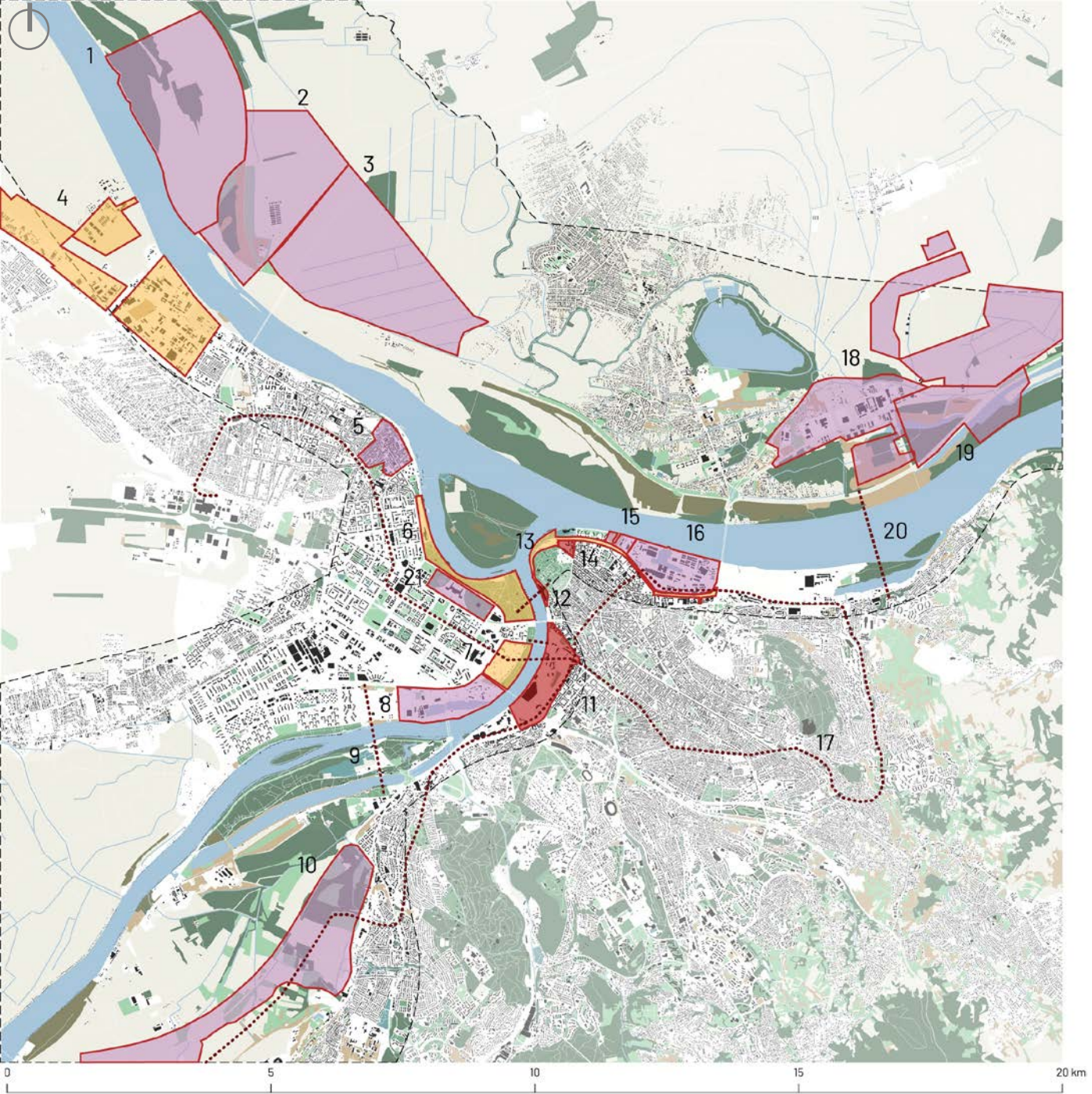


Heritage Site Edge



Recreational Edge

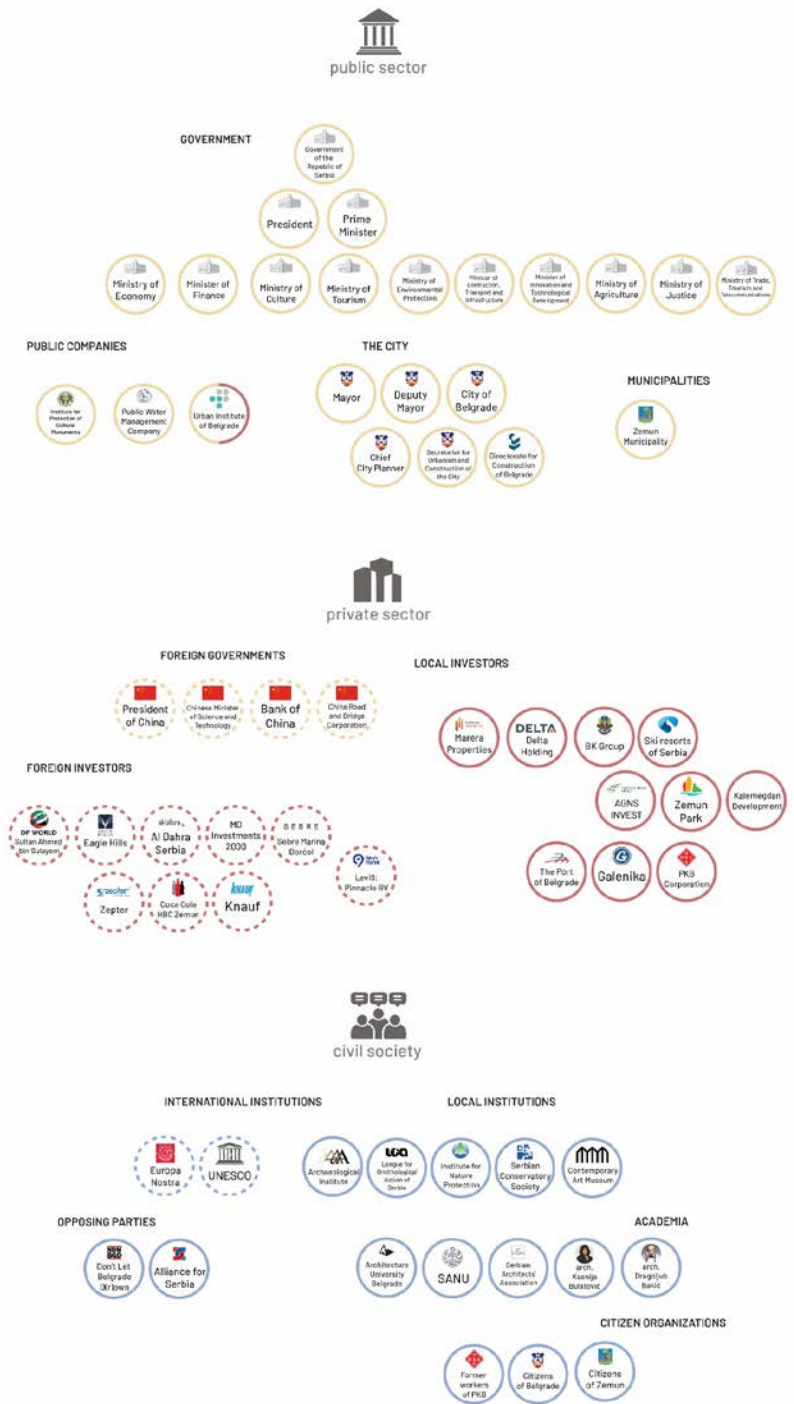
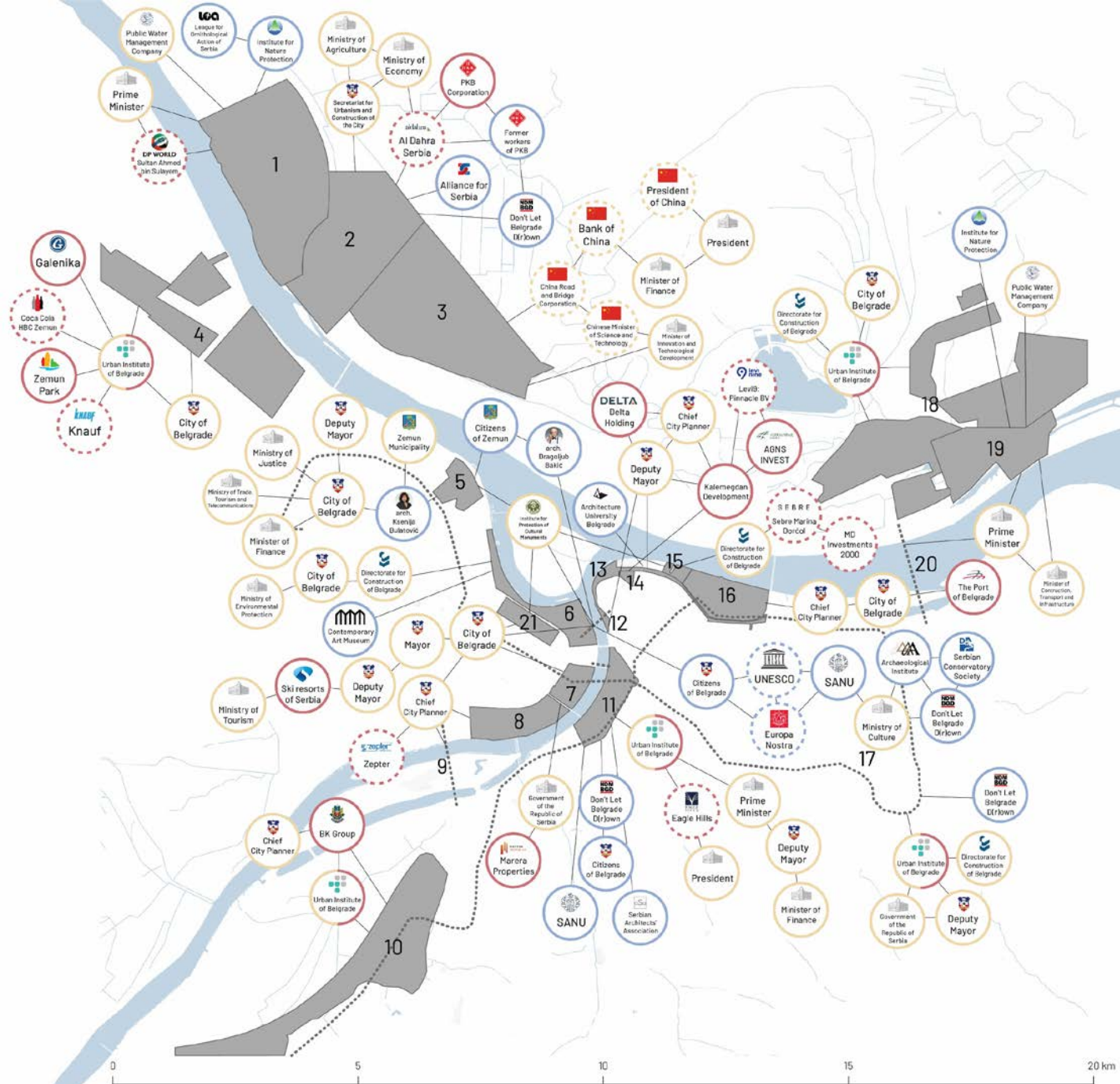
***What are the implications of the current
development at the riverfront?***

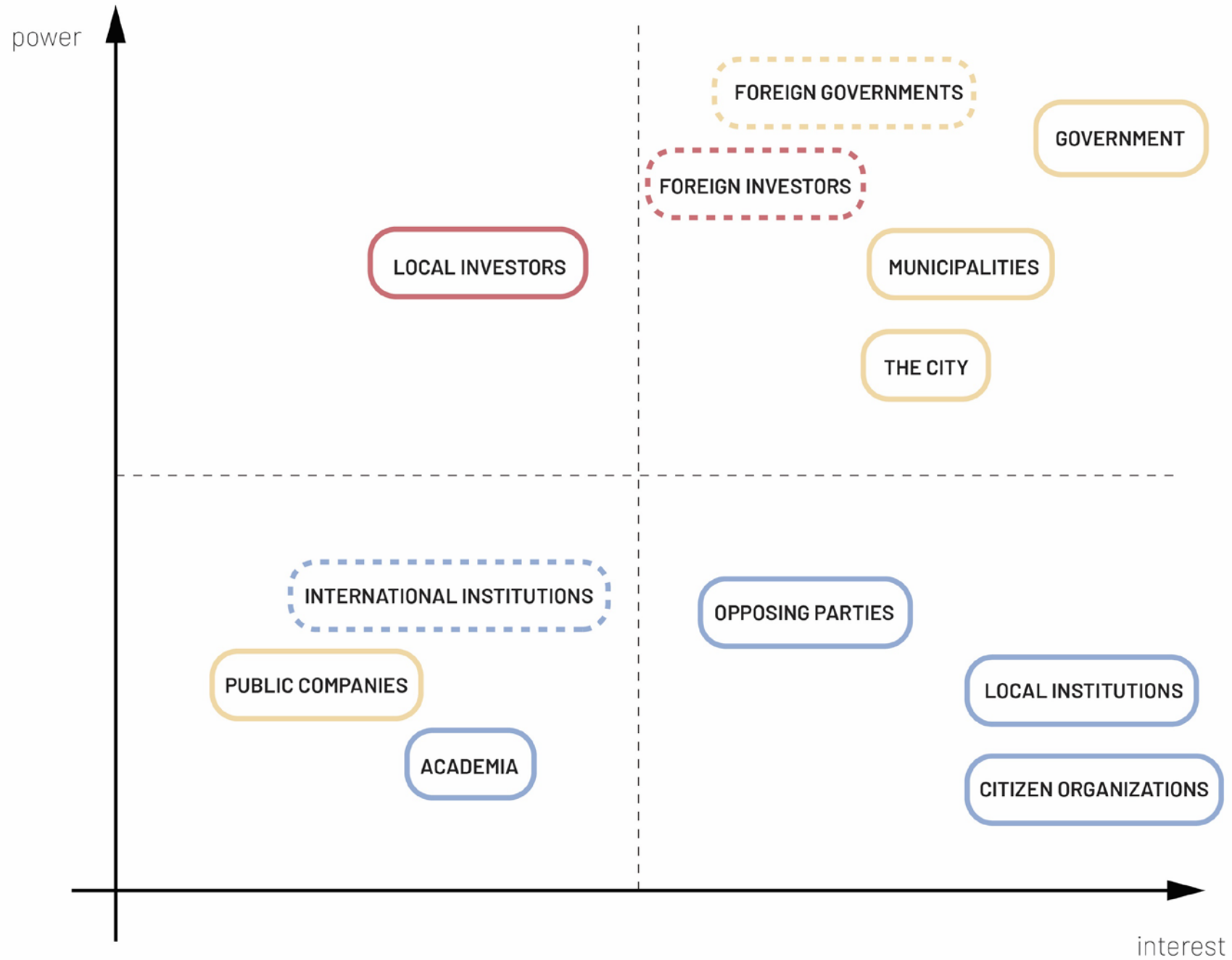


Legend

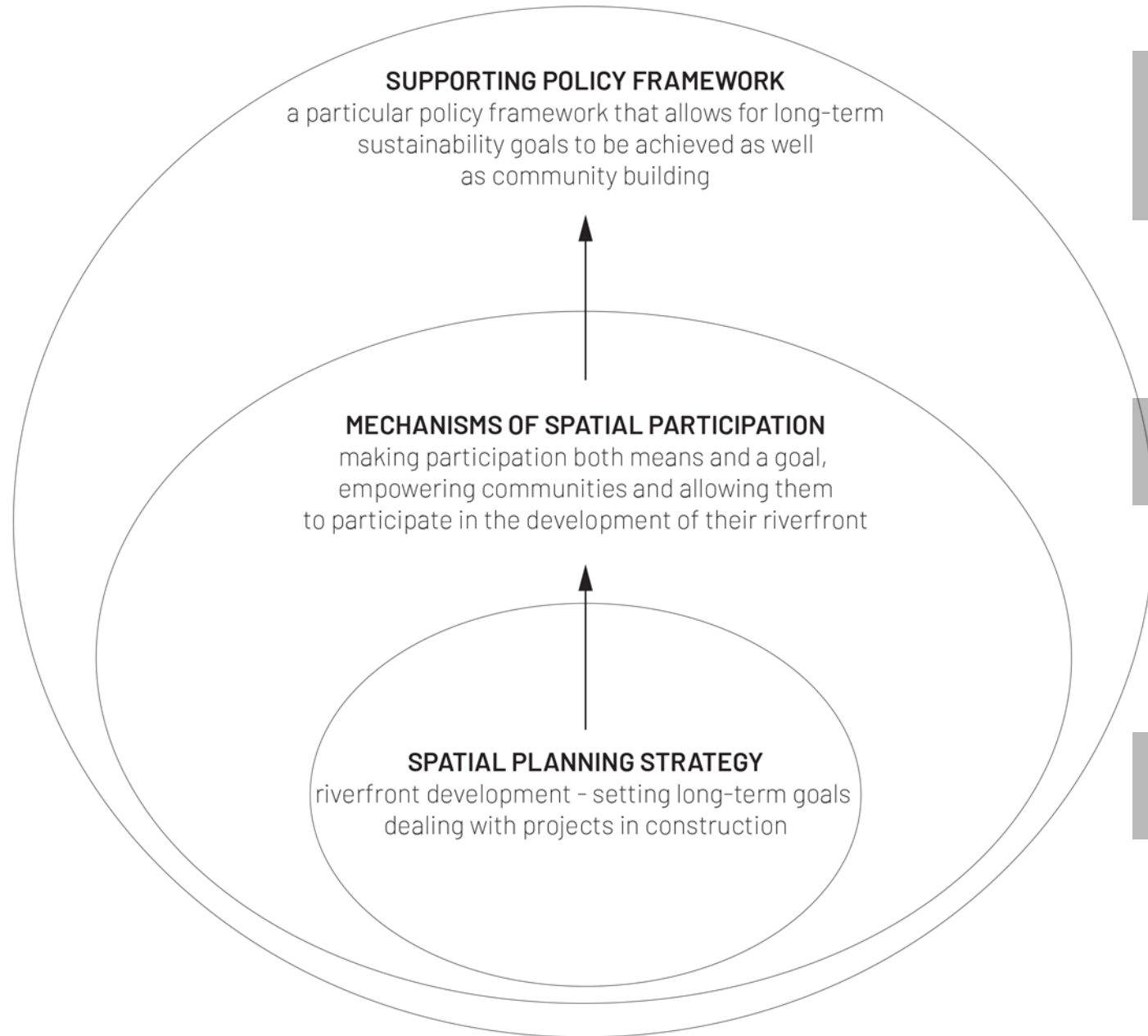
-  proposed
-  approved
-  in development

*Who is in charge of the riverfront
development?*





How can this process be transformed to enable more sustainable development?



**Institutional
transformation**

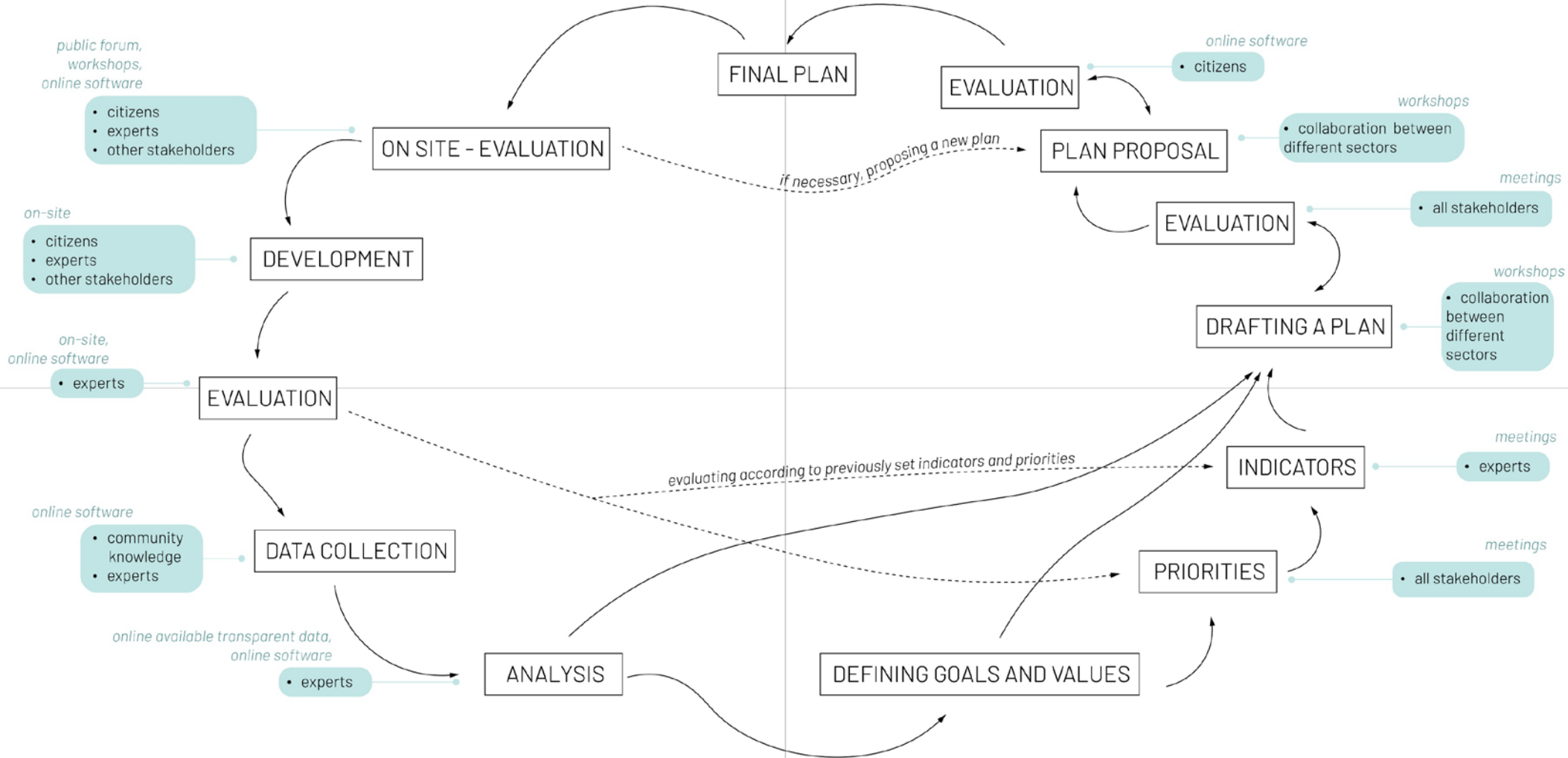
Social transformation

Urban transformation

*How to plan and design for sustainable
development of the riverfront?*

IMPLEMENTATION

ELABORATION



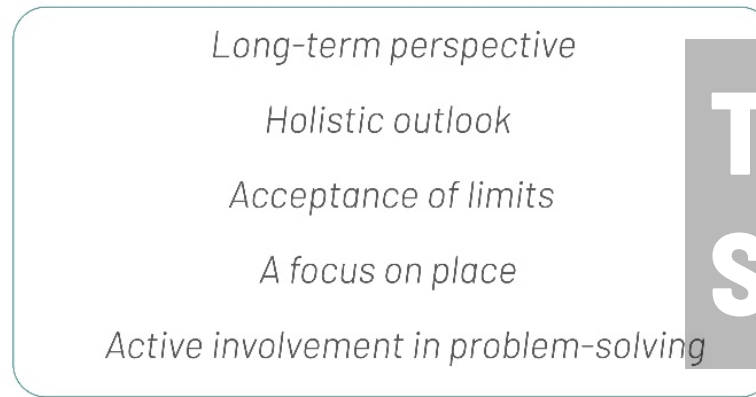
PREPARATION

DEFINING OBJECTIVES

Transcalar Strategy

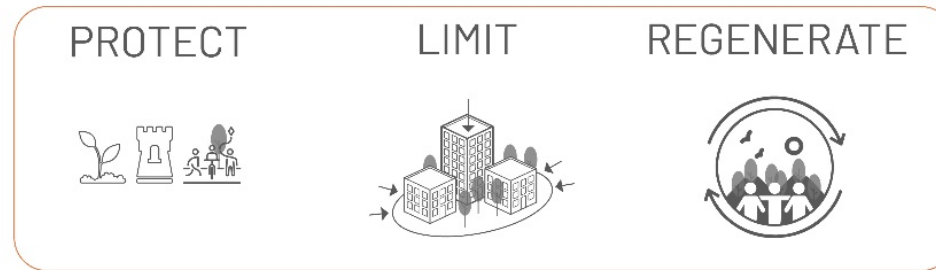
Transcalar Strategy

derived from
conceptual framework



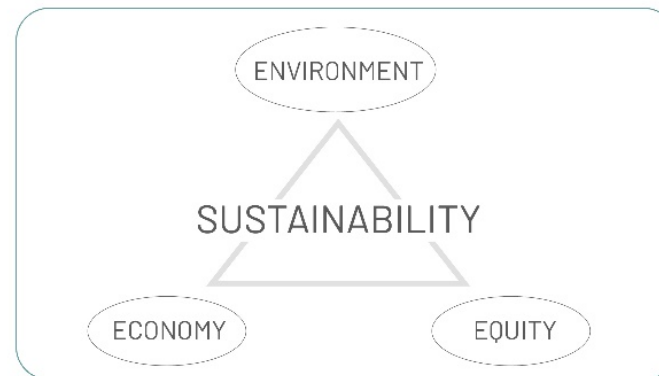
VALUES

applied to analysis
conclusions
form the

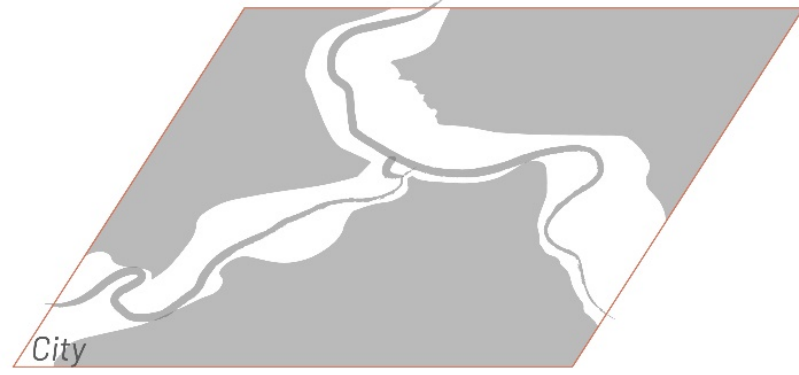


PRINCIPLES

through different
sustainability dimensions
form the



SUSTAINABILITY DIMENSIONS



→ STRATEGIES

through overlapping and
finding balance
form the



→ ZONES

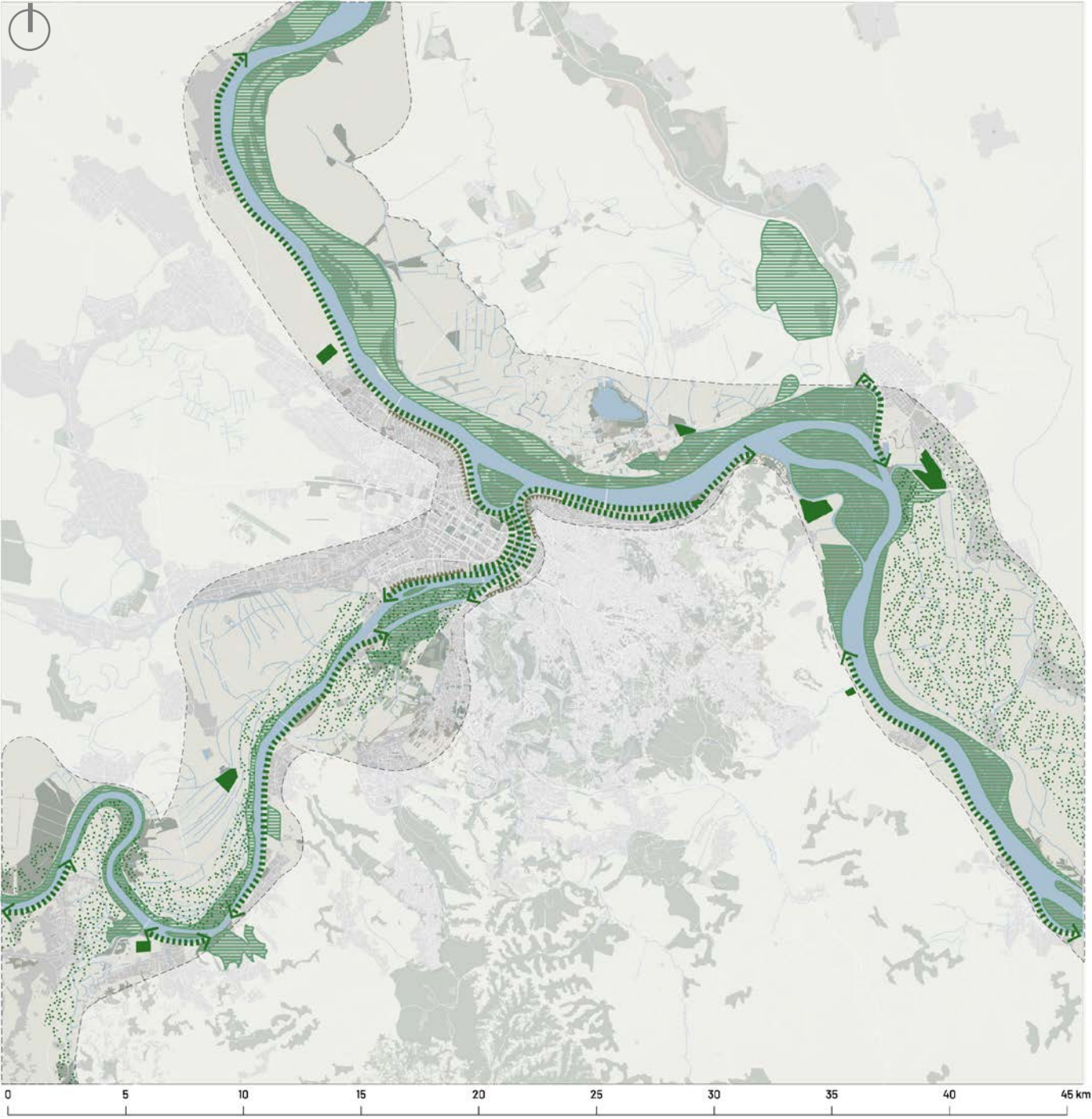
when applied to a specific
context
form the







→ URBAN DESIGN


City Scale

Environmental dimension



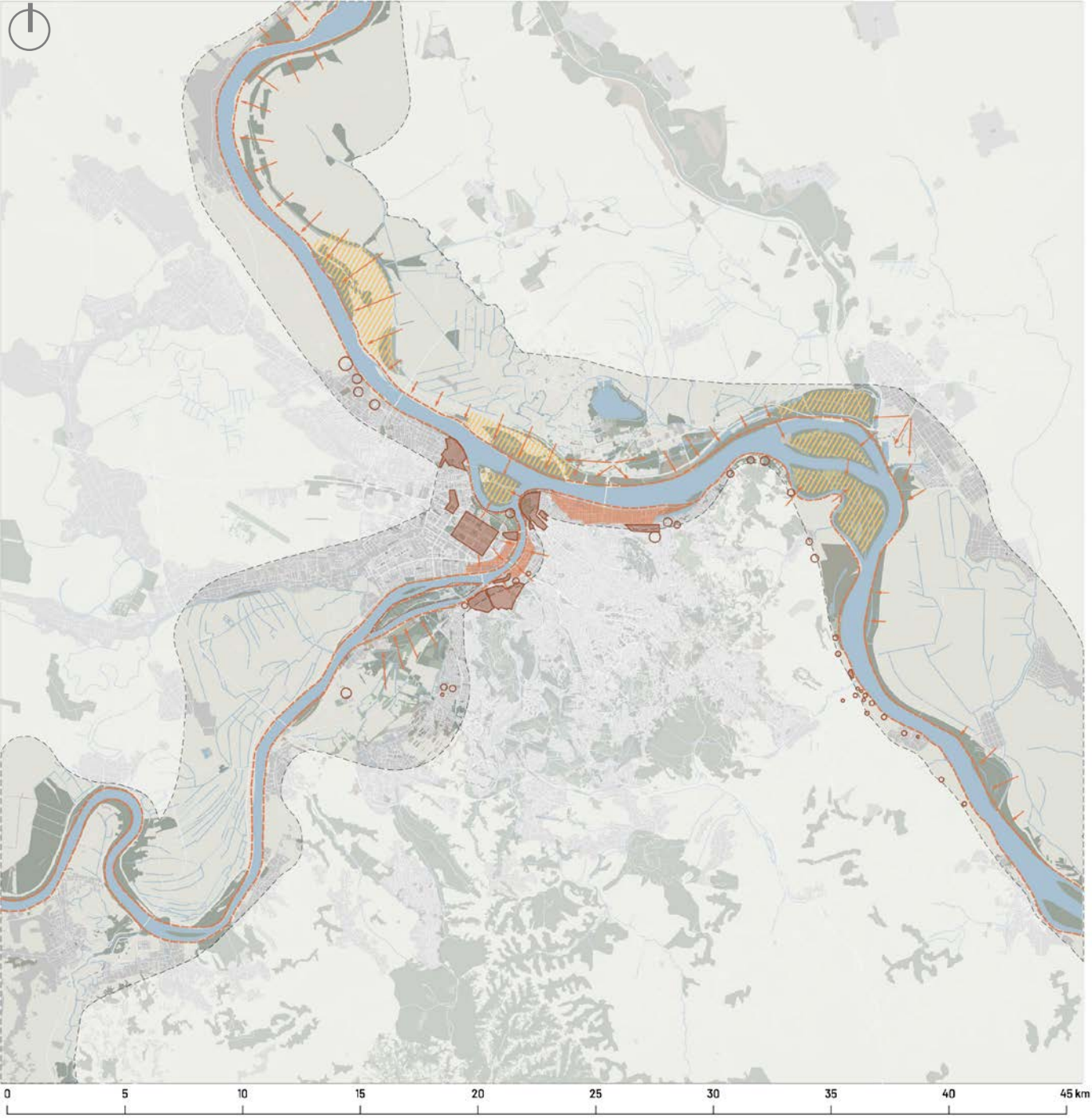
-  - renaturalization of the riverfront: providing adequate biotic and abiotic conditions for native species
- ecological pathways - riparian corridors
- making native ecosystems visible
-  - regeneration of polluted areas
-  - systems for managing pollution

-  - landscaping interventions in heritage site areas and residential areas with high density
- non-native landscaping interventions in riparian river zone

-  - areas with high biodiversity
- large patches of native vegetation
- heterogeneous parts of vegetation within urban areas

City Scale

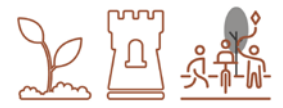
Social dimension



- accessibility and connectivity
- soft mobility
- diversity of public spaces
- cultural and educational facilities



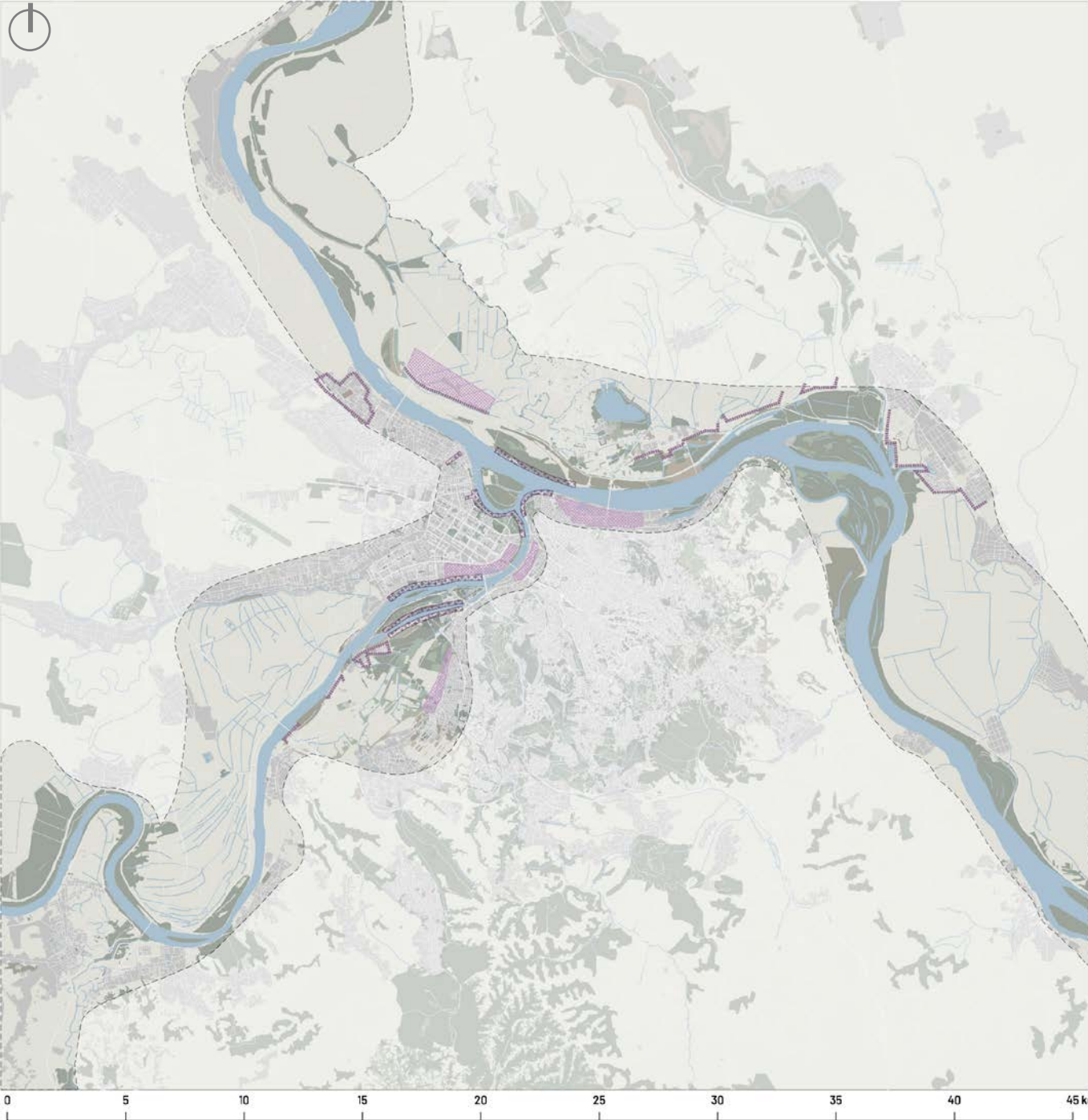
- residential development in vicinity to the riverfront: density and FSR
- motor vehicles mobility interventions
- public spaces - hard engineering



- archeological sites
- heritage sites
- public spaces within the riverfront
- accessible recreation spaces in natural environment
- existing cultural, educational, and recreational facilities
- local identity

City Scale

Economic dimension



- opportunities for socio-economic development of local communities
- redevelopment of old industrial sites for alternative purposes
- maintenance of touristic locations - adequate structure for river related tourism
- polycentric system along the riverfront area that provides activities beyond the city center

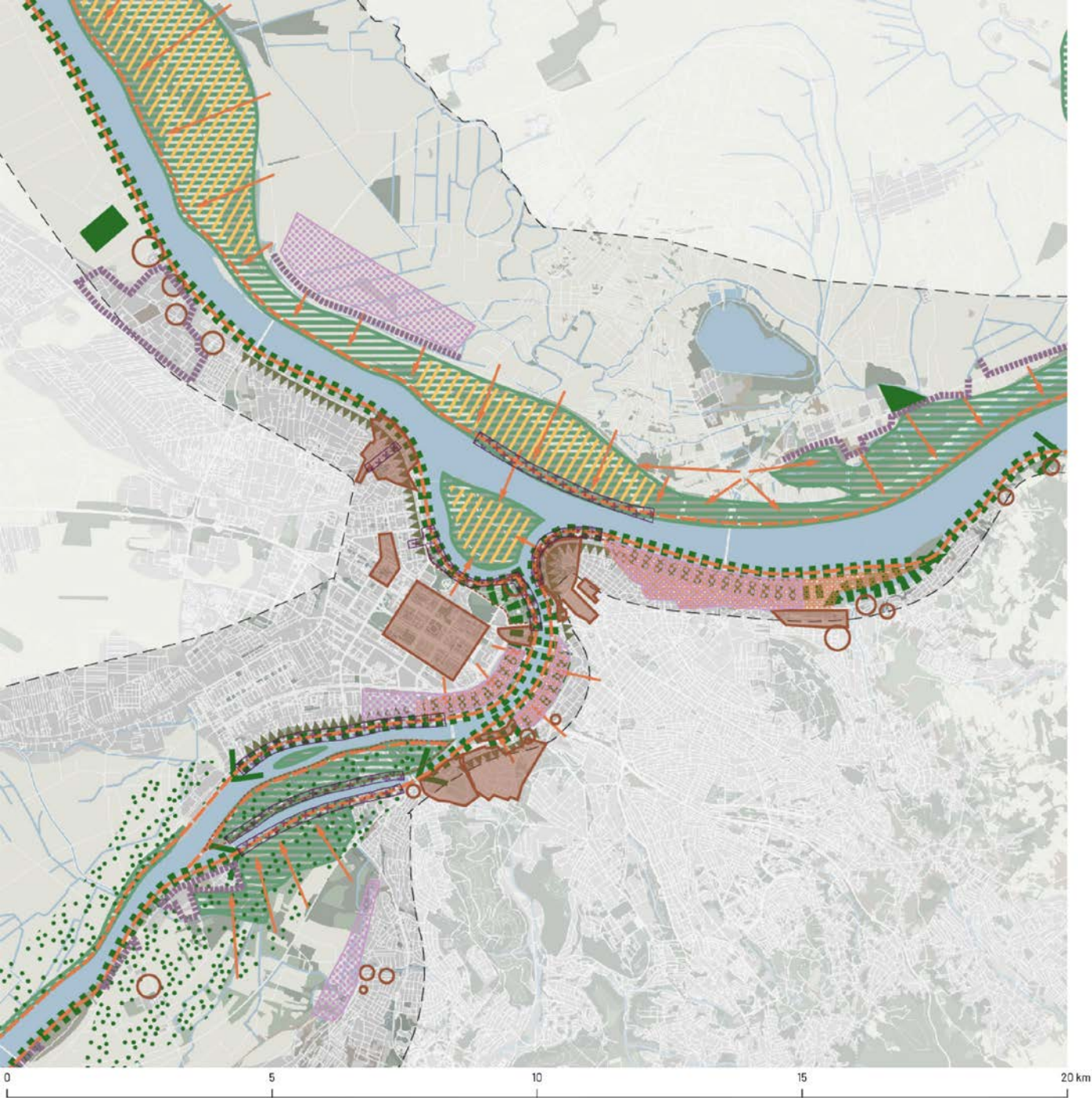


- industrial development
- large scale commercial development



- local businesses
- local touristic attractions

Confluence Scale Overlaps

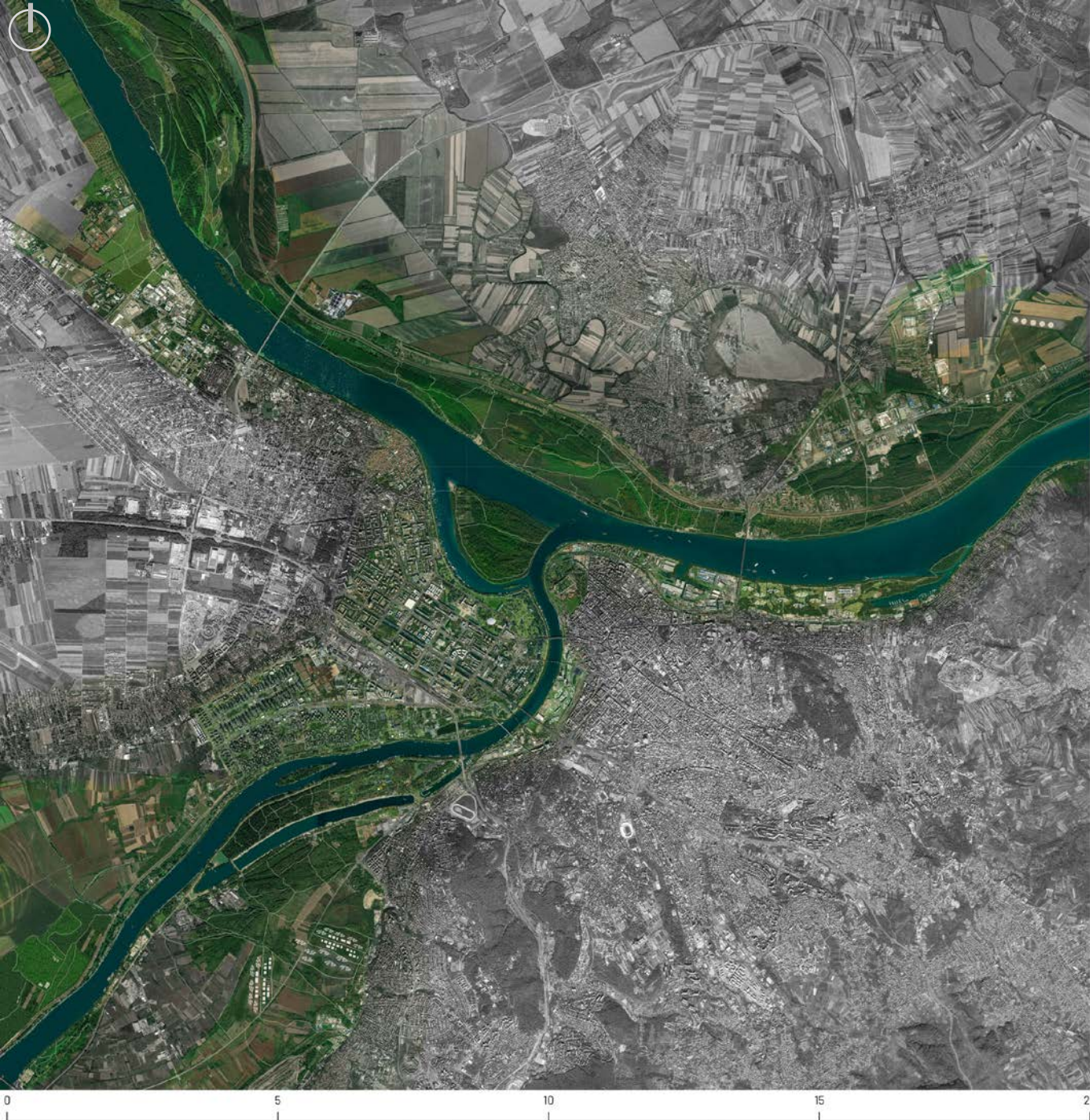




Confluence Scale

Vision

0 5 10 15 20 km



Confluence Scale

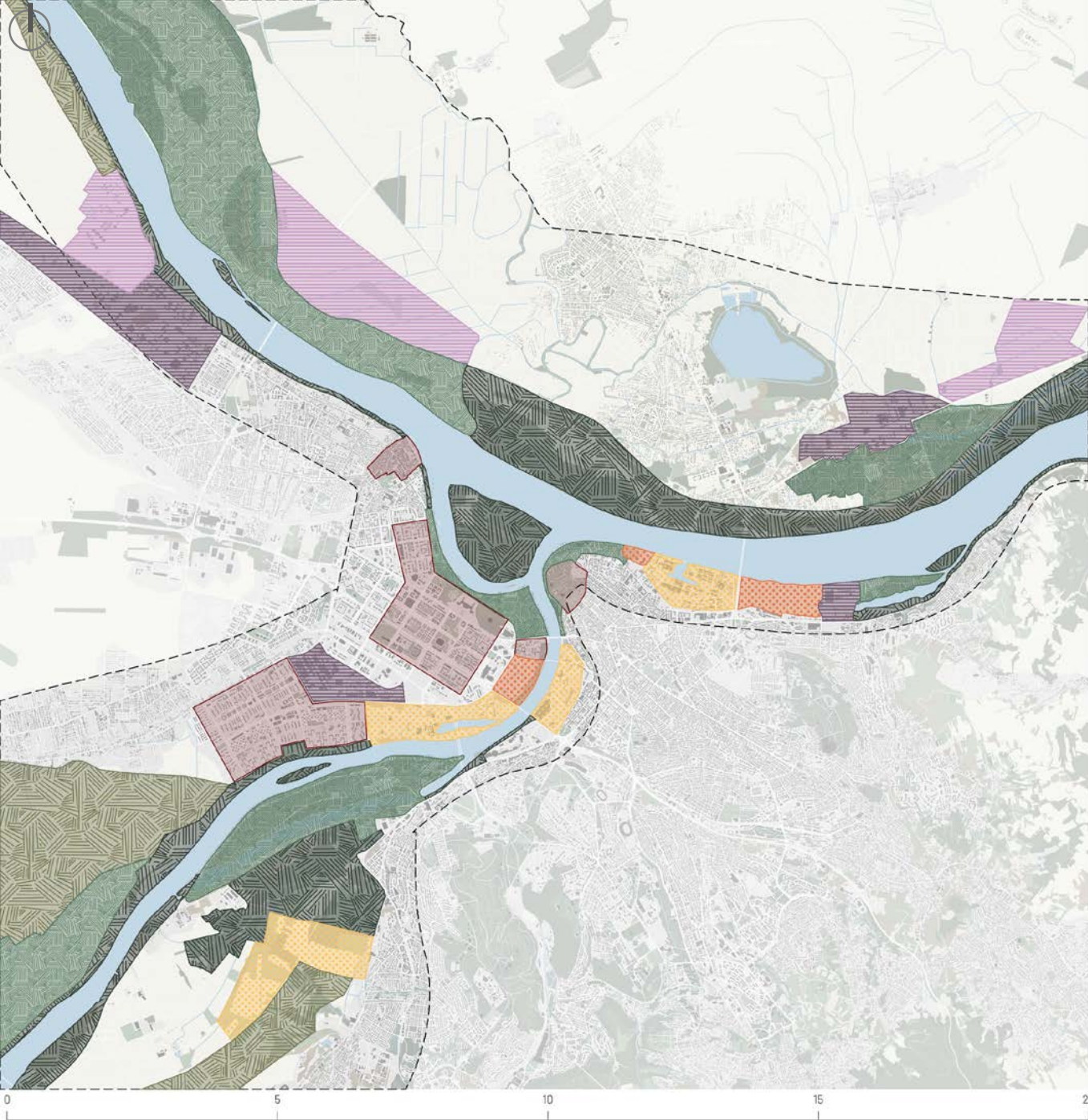
Vision

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.

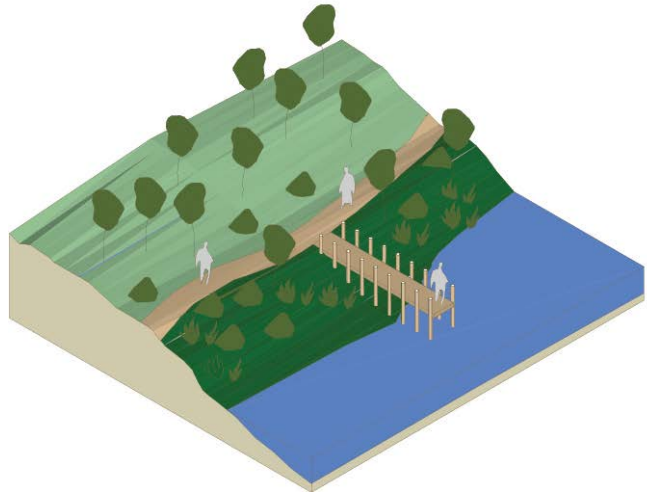
The heritage is preserved and accentuated through maintenance and building of accompanying facilities that provide information and new activities related to it. Heritage sites become new landmarks at the riverfront that tells a story of the city of Belgrade.



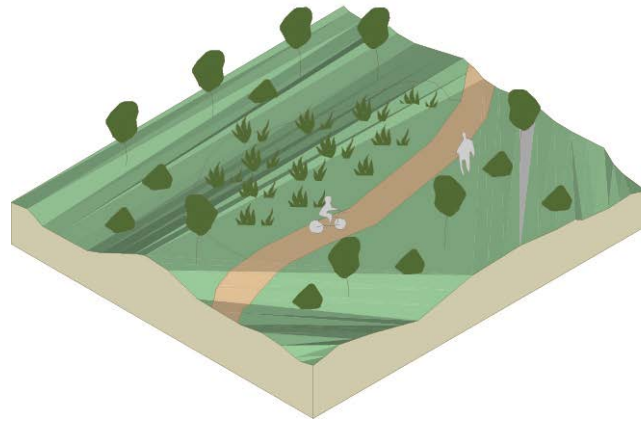
Influence Scale

Zoning Plan

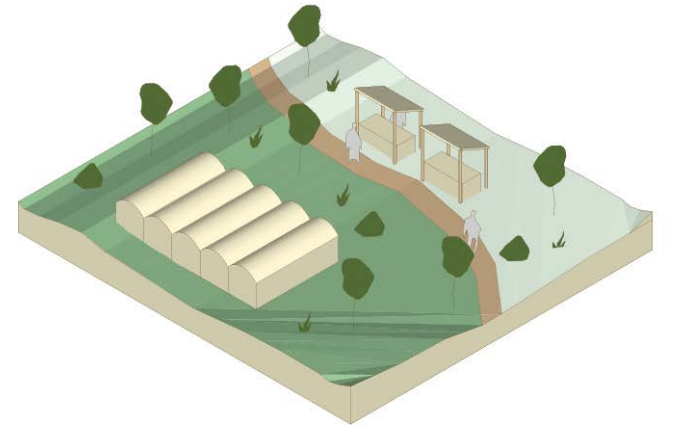
0 5 10 15 20 km



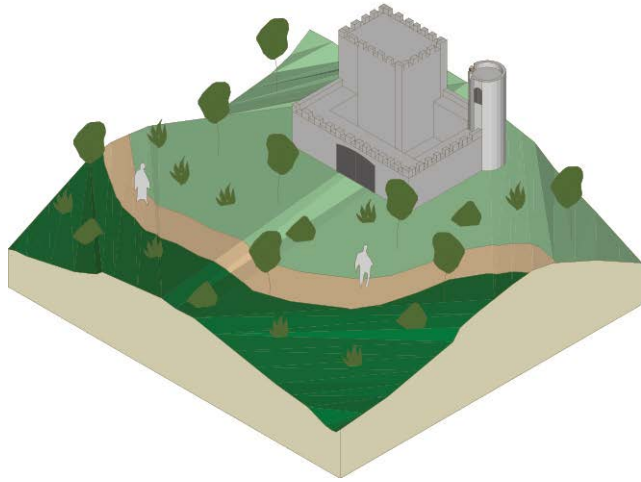
Natural Zone



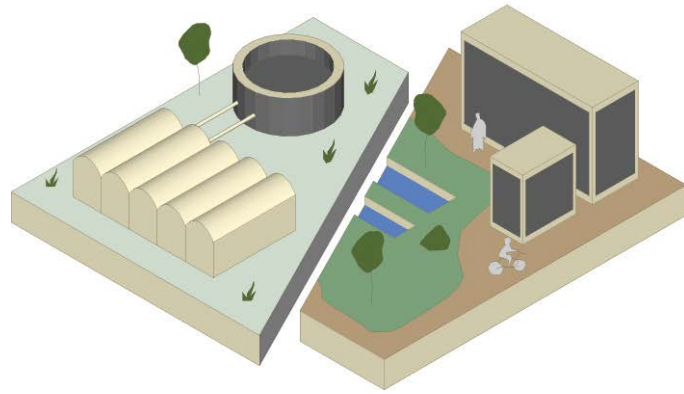
Eco-Park



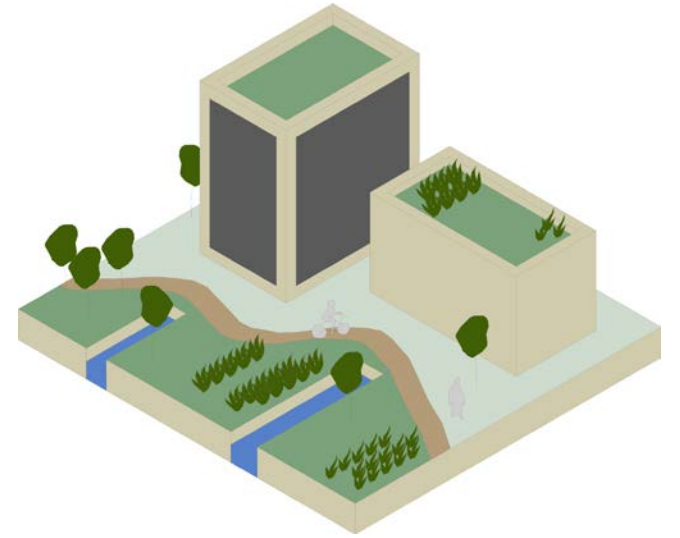
Agro-Park



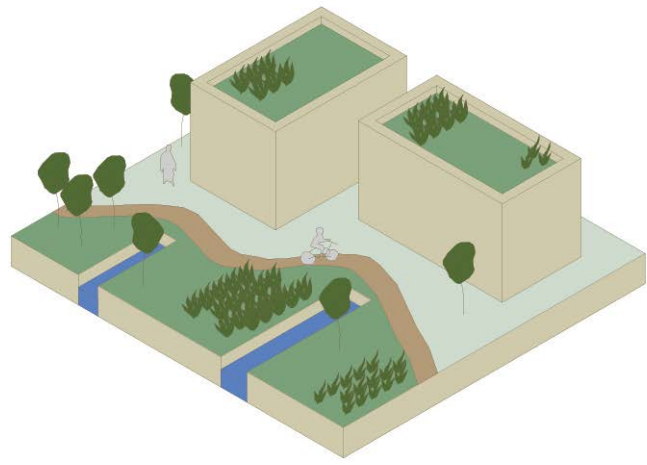
Heritage



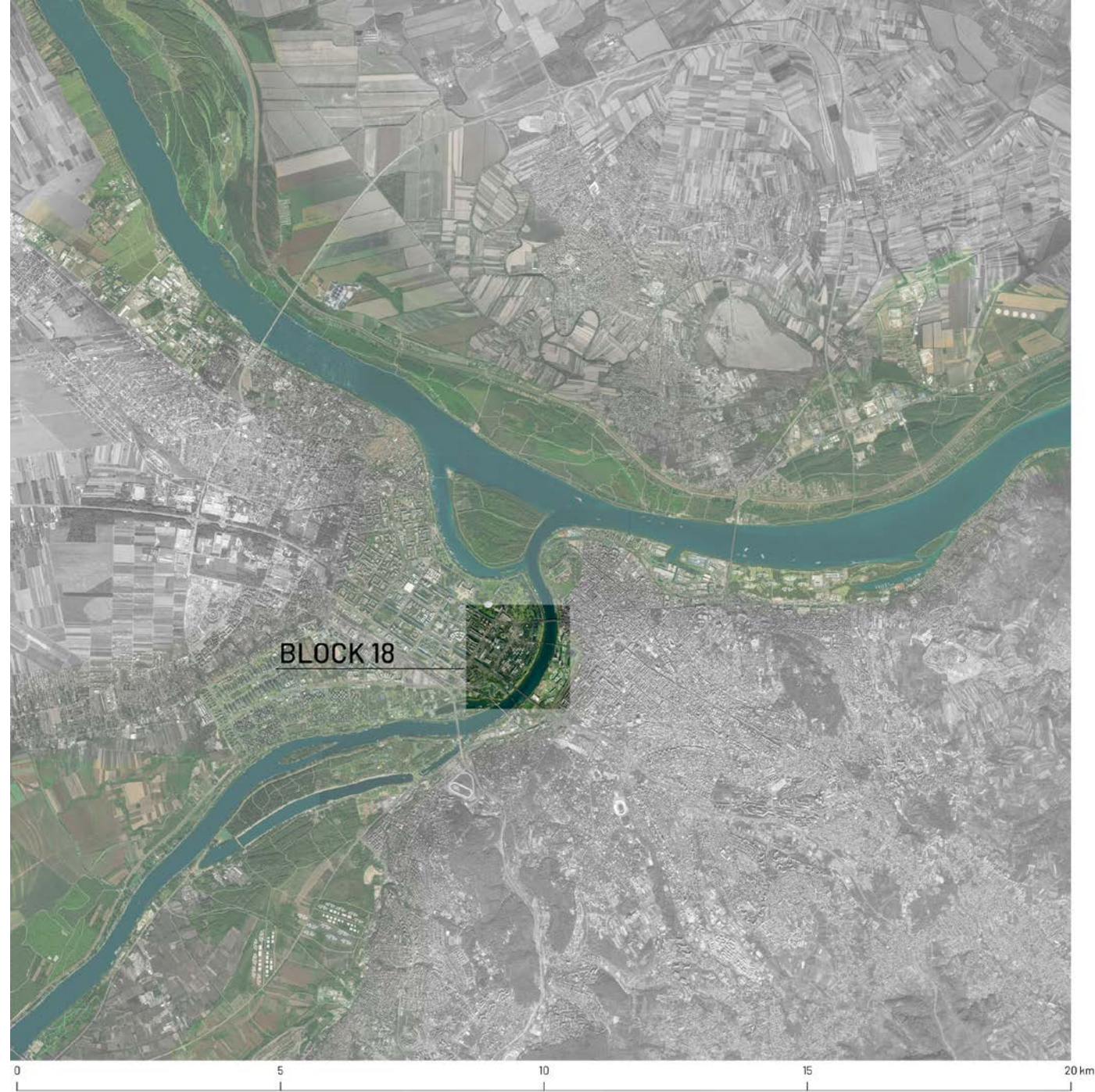
Agro-industrial
Smart City



Entrepreneurial
Eco-neighbourhood



Social
Eco-neighbourhood



Who lives in Block 18?

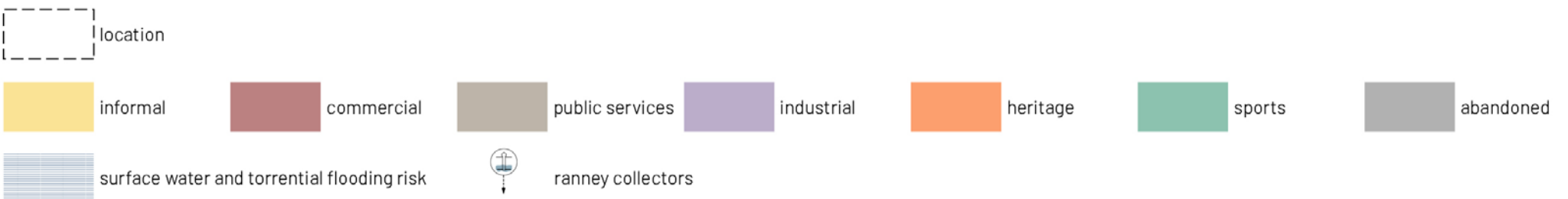
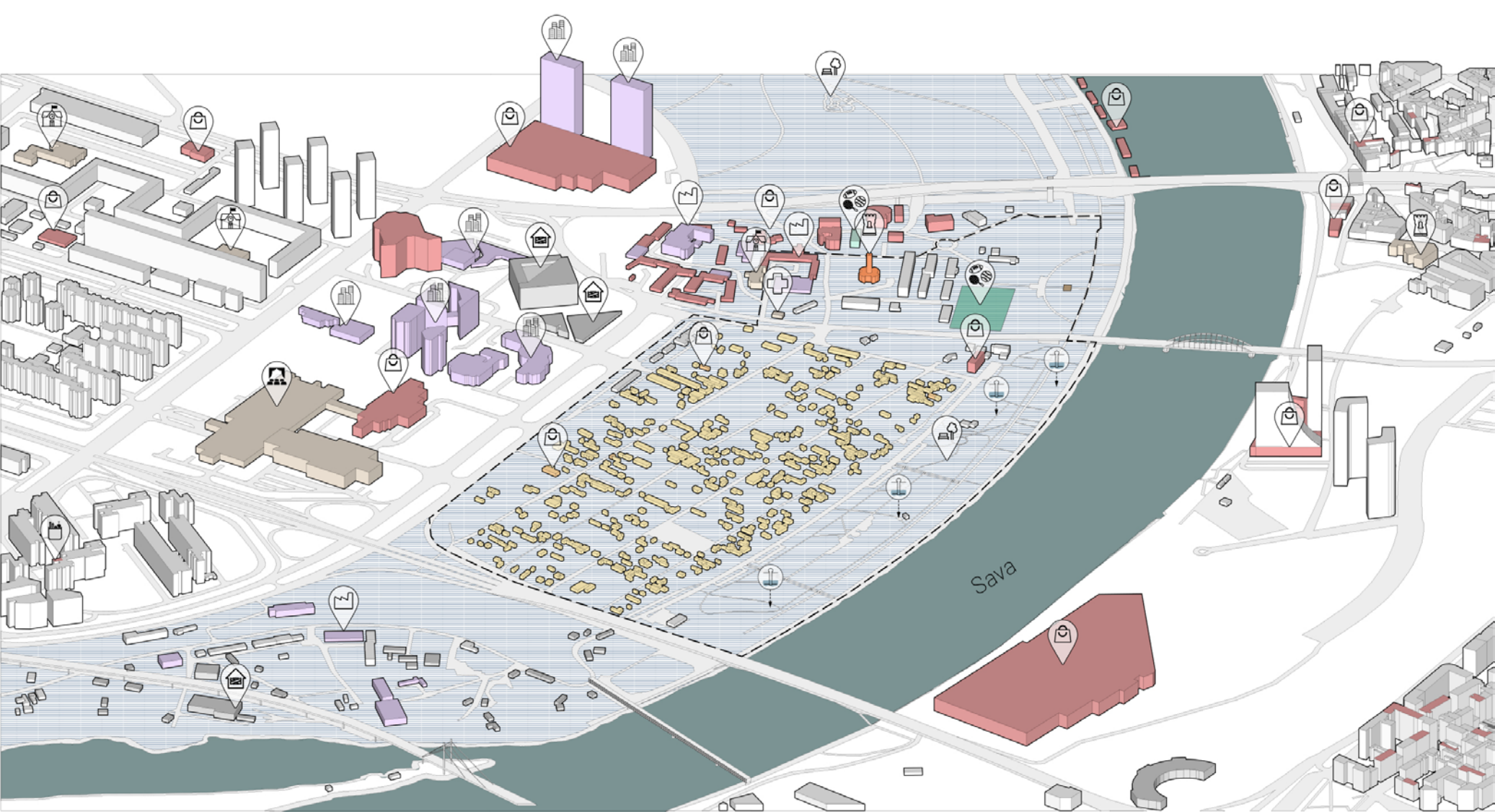




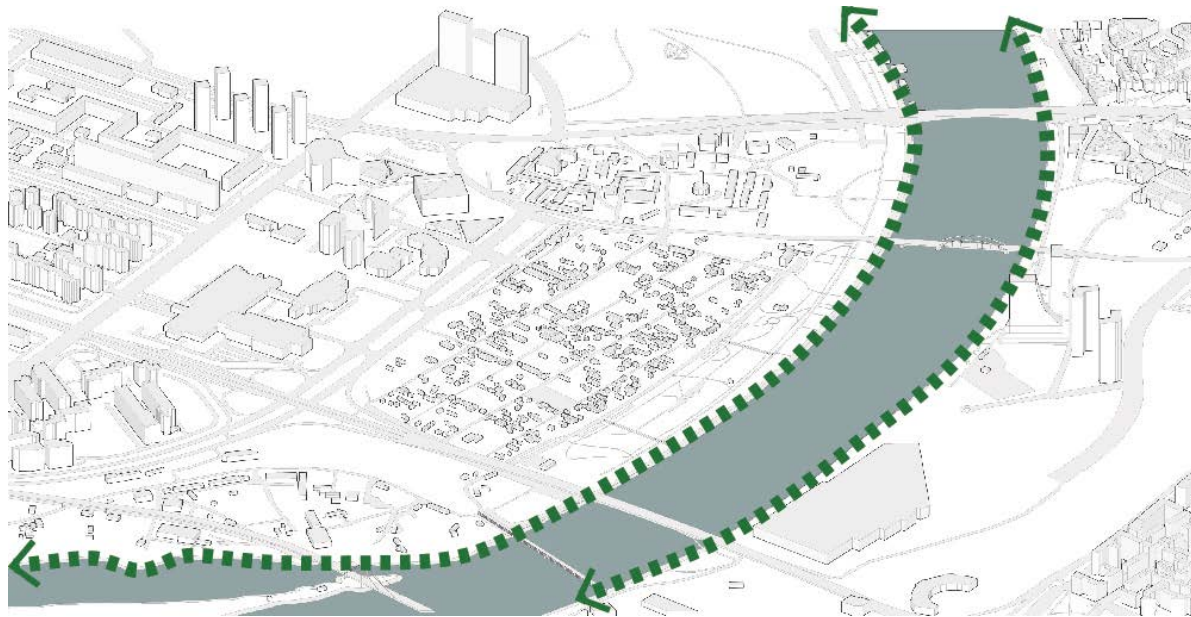
53

3 ATB P H

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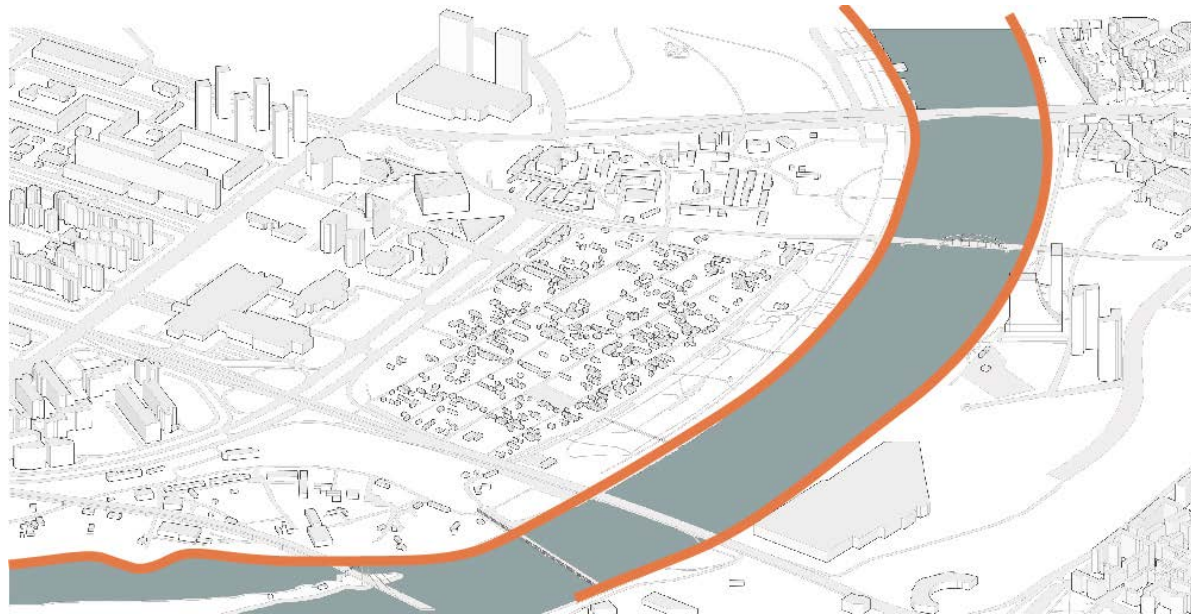


General Design Principles



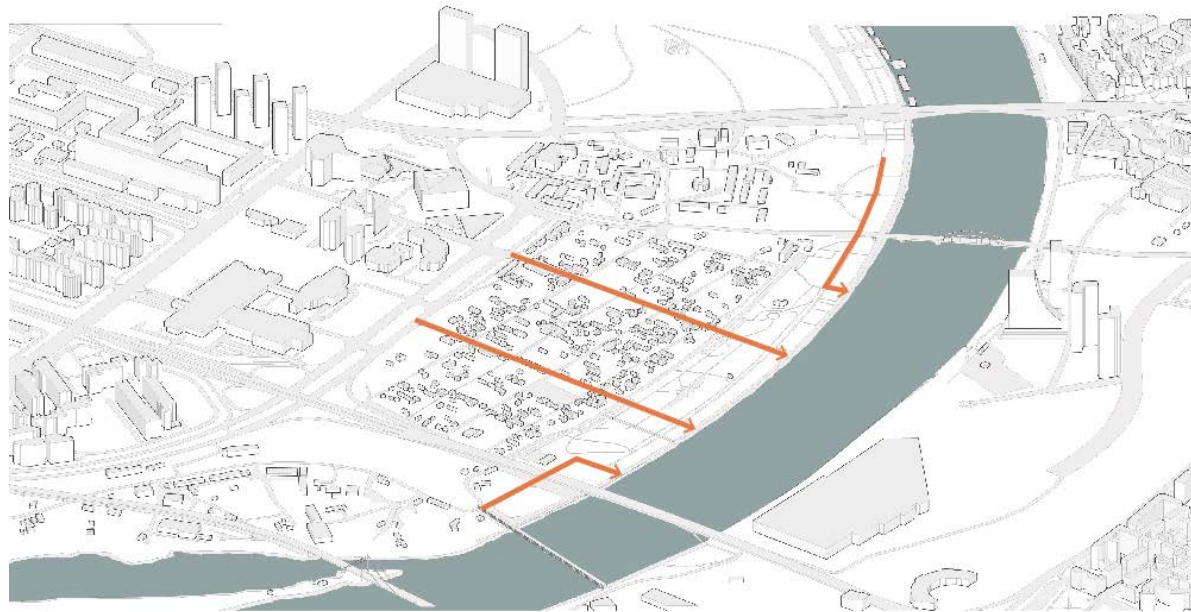
Renaturalizing the
riparian zone

General Design Principles



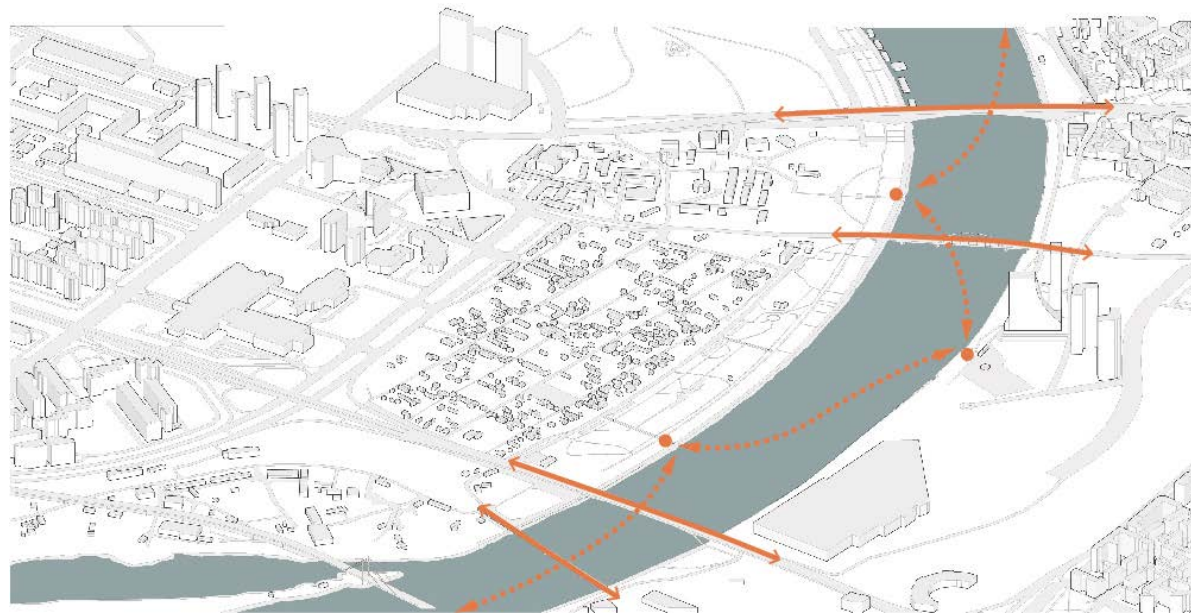
Connected pedestrian
and bicycle networks
along the riverfront

General Design Principles



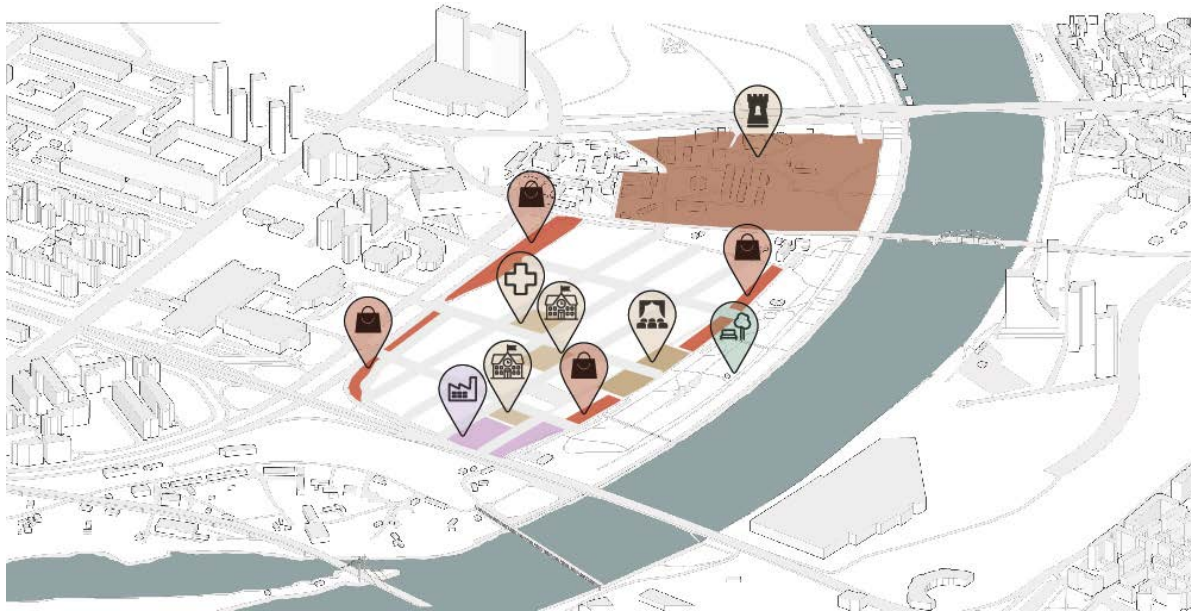
Accessibility to the river

General Design Principles



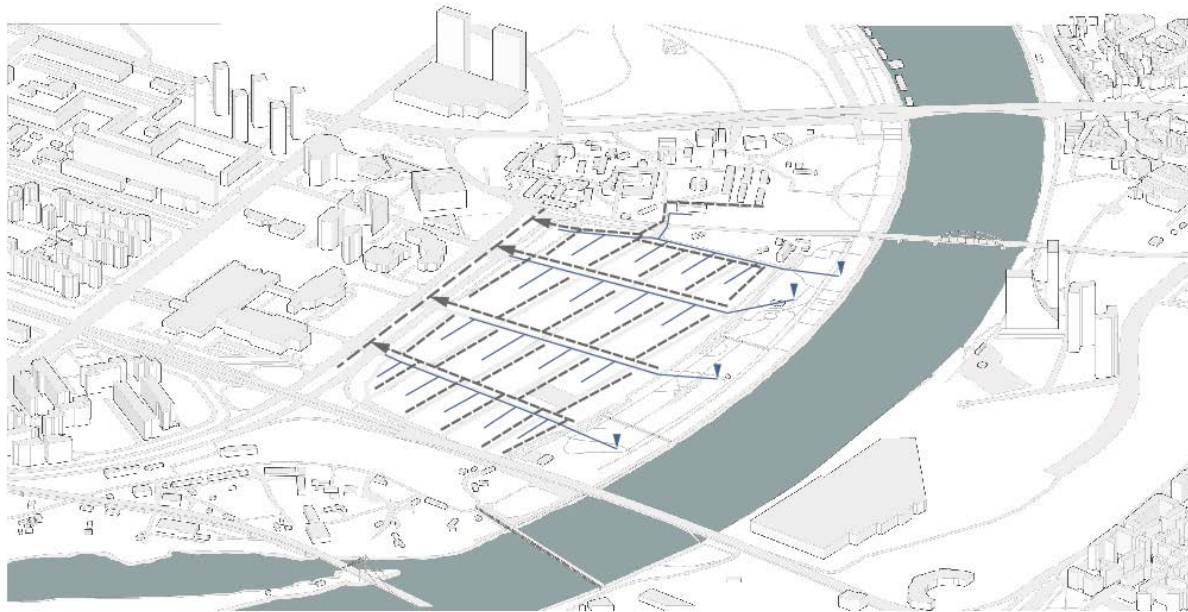
Accessibility across
the river

Specific Design Principles



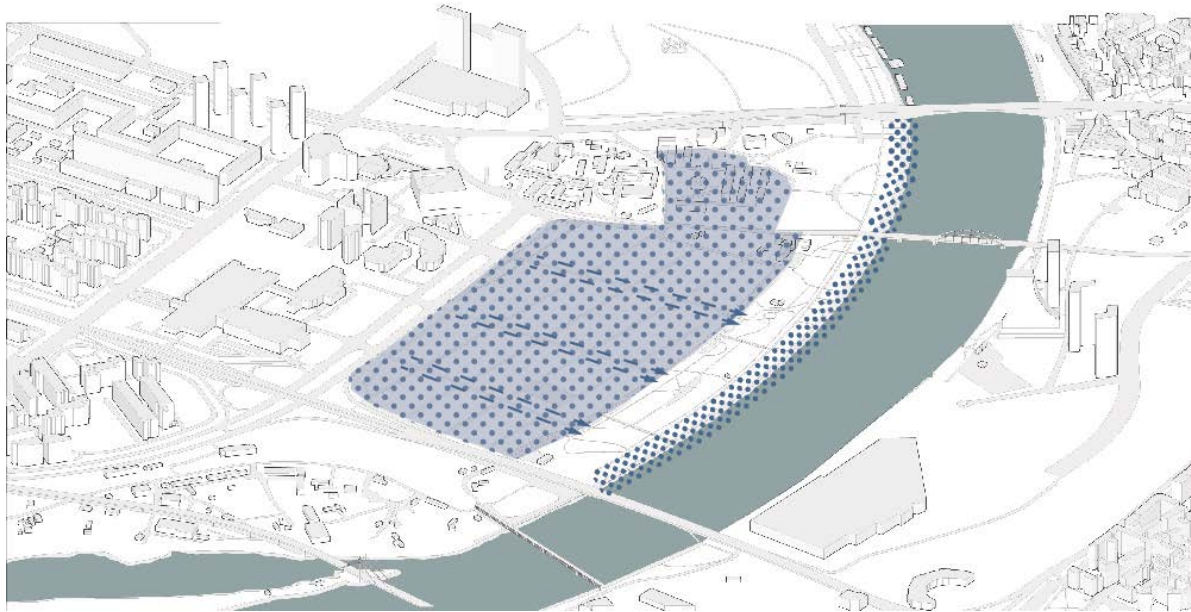
Proposed program

Specific Design Principles



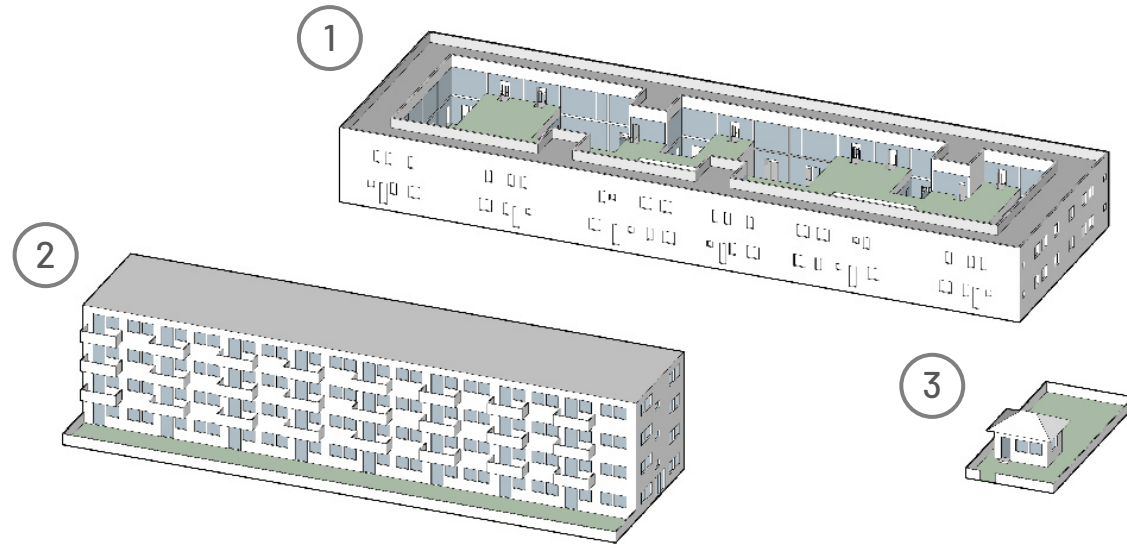
Drinking water and
sewage infrastructure

Specific Design Principles

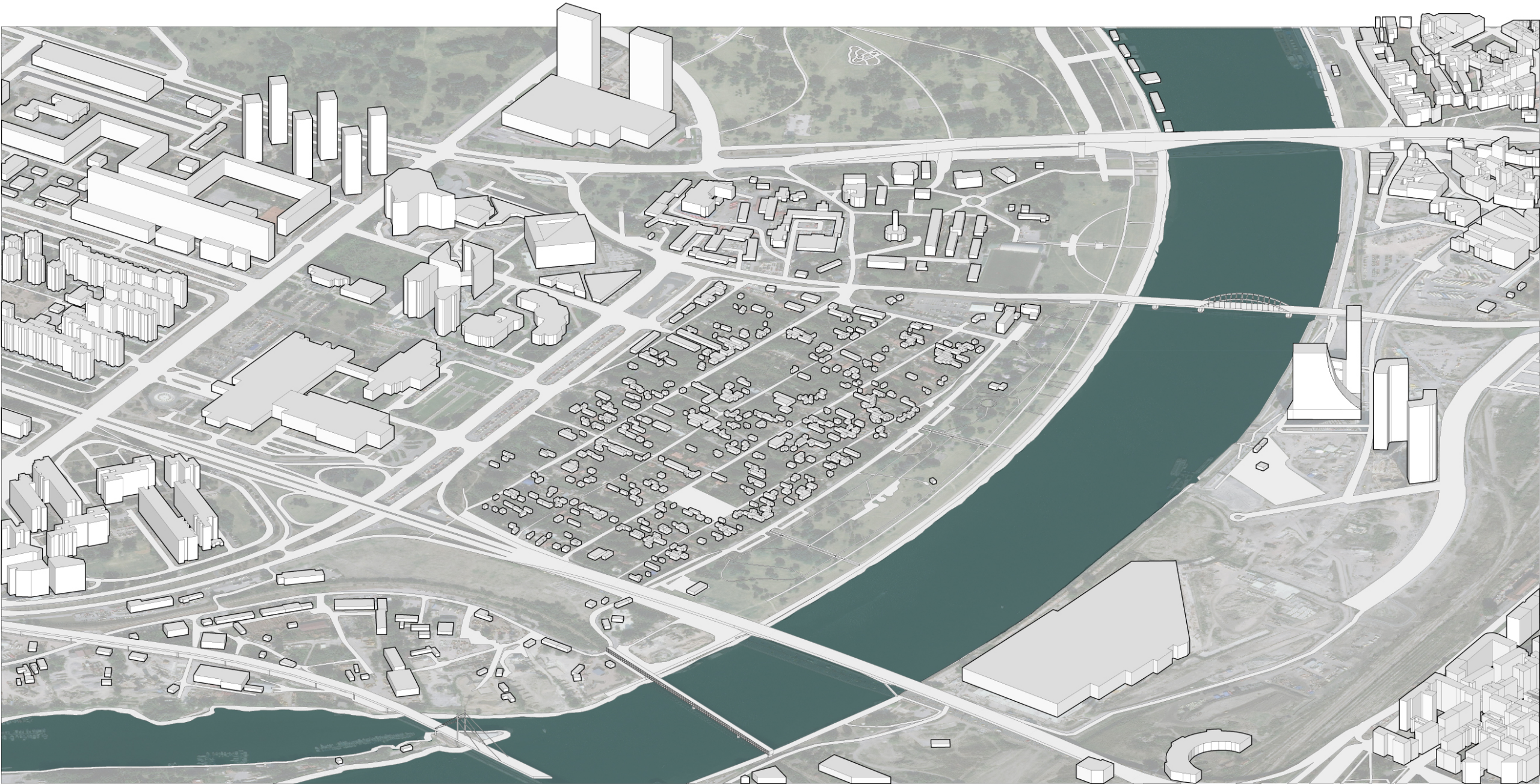


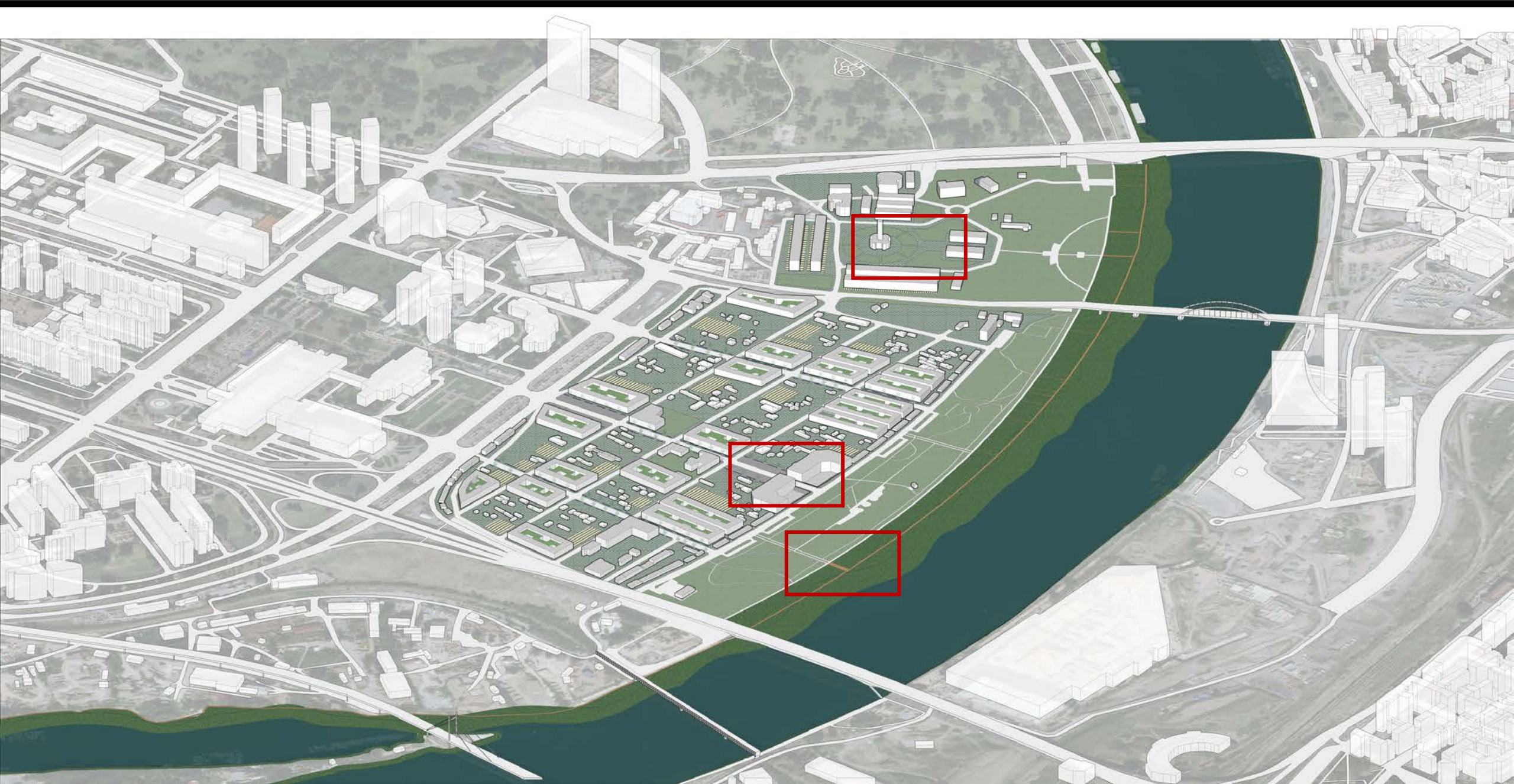
Flood protection

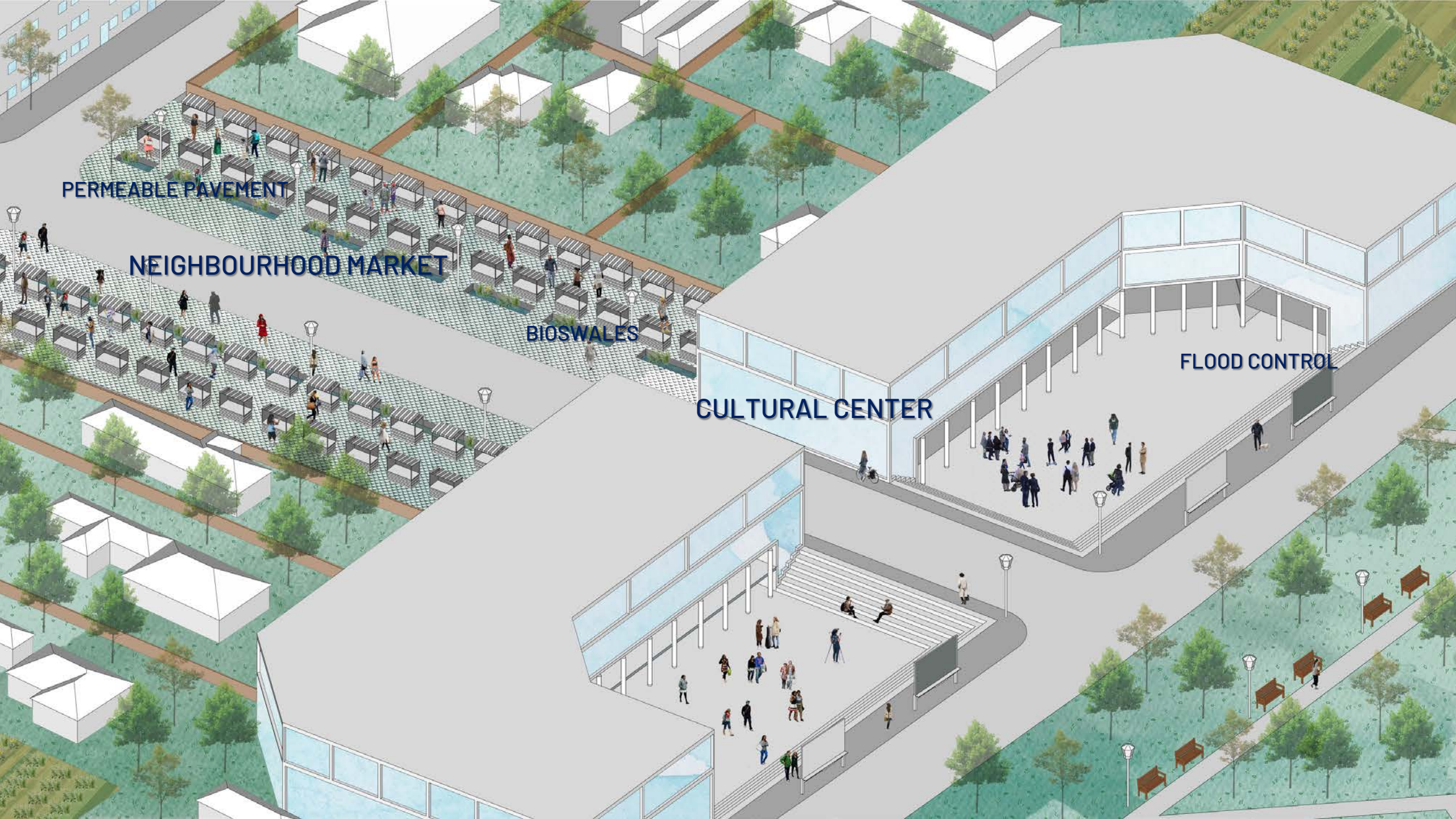
Specific Design Principles



Proposed housing typologies







PERMEABLE PAVEMENT

NEIGHBOURHOOD MARKET

BIOSWALES

CULTURAL CENTER

FLOOD CONTROL

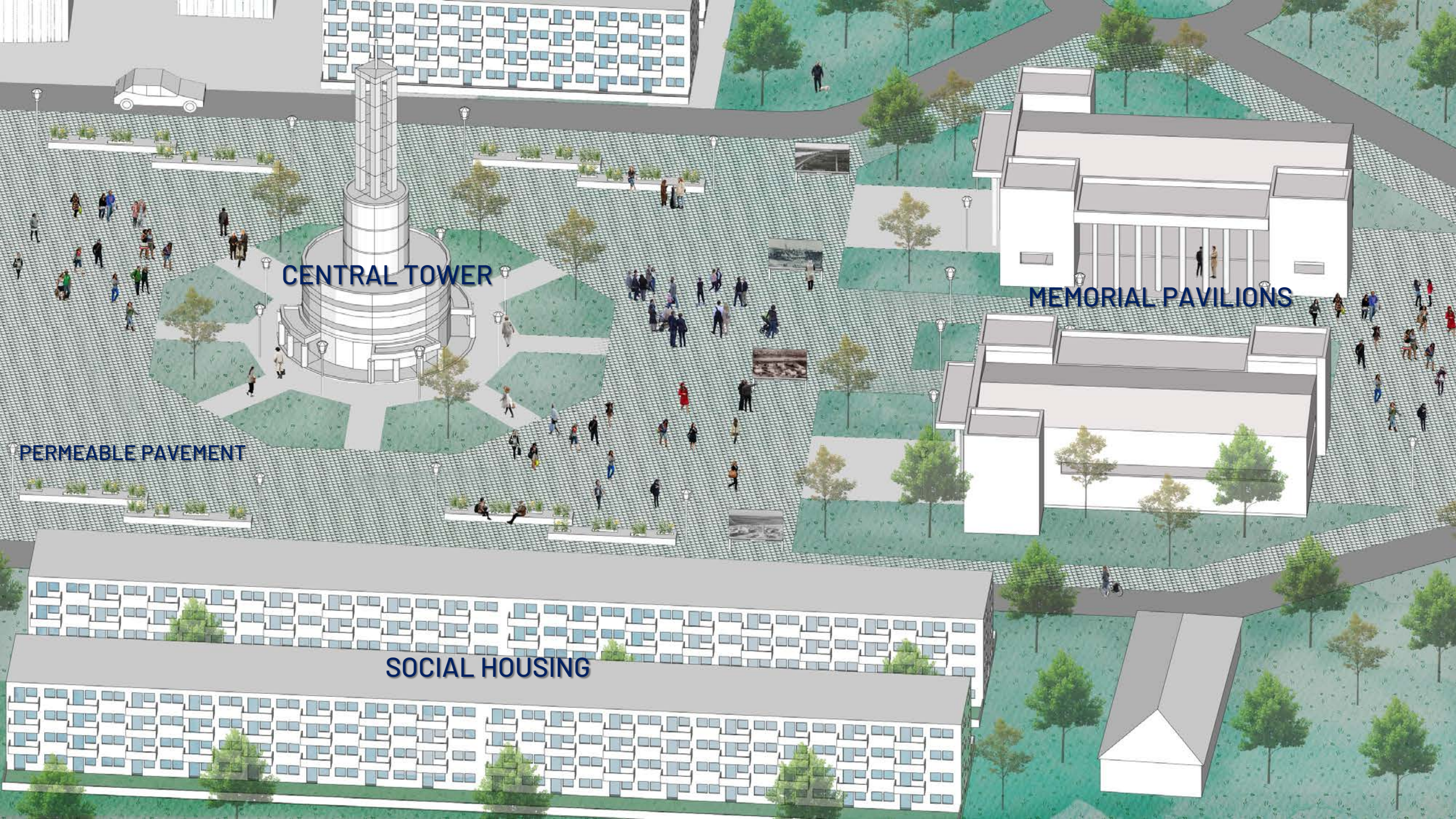


RIVERFRONT PARK

NATURAL RIVER EDGE

BOARDWALK STOP

BOARDWALK



CENTRAL TOWER

MEMORIAL PAVILIONS

PERMEABLE PAVEMENT

SOCIAL HOUSING

Does this approach provide a framework for transition to sustainability in Belgrade riverfront?

“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.”

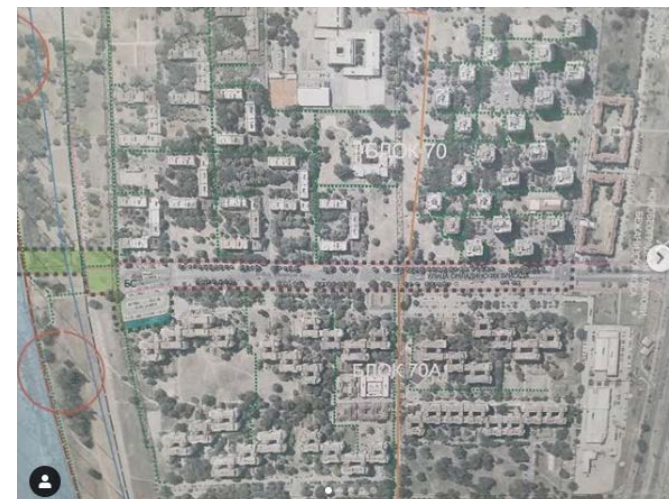
(U.S. Department of State, 2019 Country Reports on Human Rights Practices: Serbia, Bureau of Democracy, Human Rights, and Labor, n.d.)




Izvor: N1

A group of social-democrat MEPs sent a letter to European Commissioner Oliver Várhelyi warning that the political situation in Serbia is critical.

“Democracy, strongly promoted by the European Union and its member states, is now endangered by Serbian leaders and their statements,” the MEPs said in the letter which N1 had access to. The letter called for a fairer electoral process with greater scrutiny in order to prevent corruption and falsified results.



 blok70zajednicka • Following
Blok 70a

 blok70zajednicka VAŽNO: Hitan poziv na zajedničku akciju svima iz blokova 70 i 70a
Drage komšije upravo smo saznali da poslanici političkih partija u skupštini grada spremaju užasan ekocid u našem kraju i to na potezu između bloka 70 i 70a.

U ulici Omladinskih brigada su predvideli da poseku ceo onaj divni

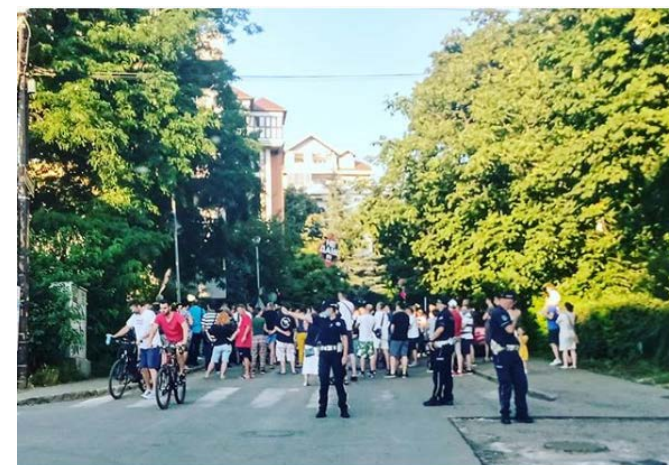
   

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JUNE 24

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Post



 blok70zajednicka • Following

 blok70zajednicka Verovali ili ne, privatni investitor je uz pomoć privatnog obezbeđenja upao u park i protivzakonito seče drveće, ali su se komšije odmah okupile.

Bravo ljudi, ovako se brani otadžbina

❤️

Podrška za komšije sa Banovog brda

#SačuvajmoNašParkić

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15 HOURS AGO

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Post



@blok70zajednicka

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



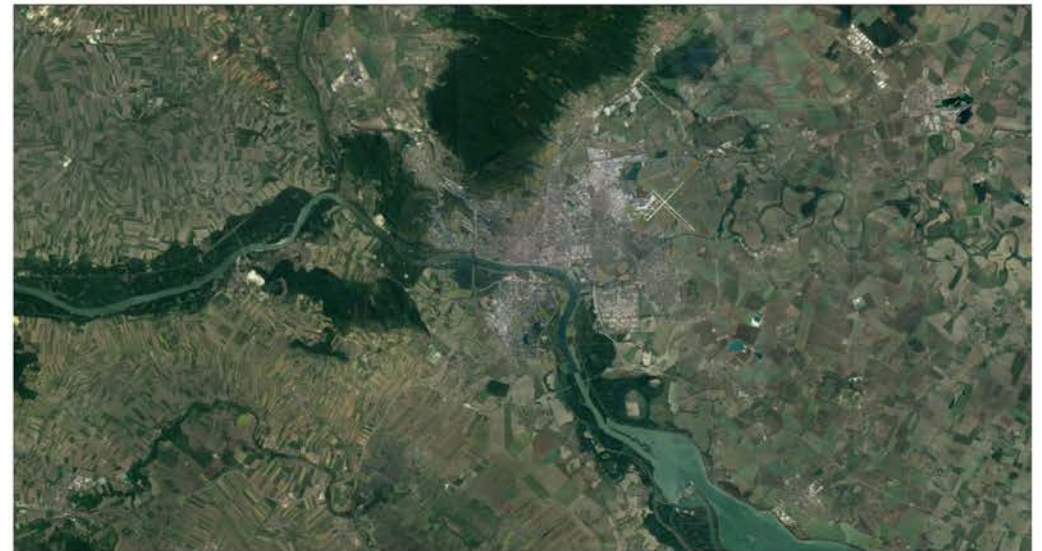
Sava - **Ljubljana**



Sava - **Zagreb**



Danube - **Budapest**



Danube - **Bratislava**

