

Integrated Urban Planning: An Example of the Historic Center of the City of Zagreb

Jadranka Veselić Bruvo
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GRAZ, 14-16 April, 2025
Institute for Physical Planning_City of Zagreb

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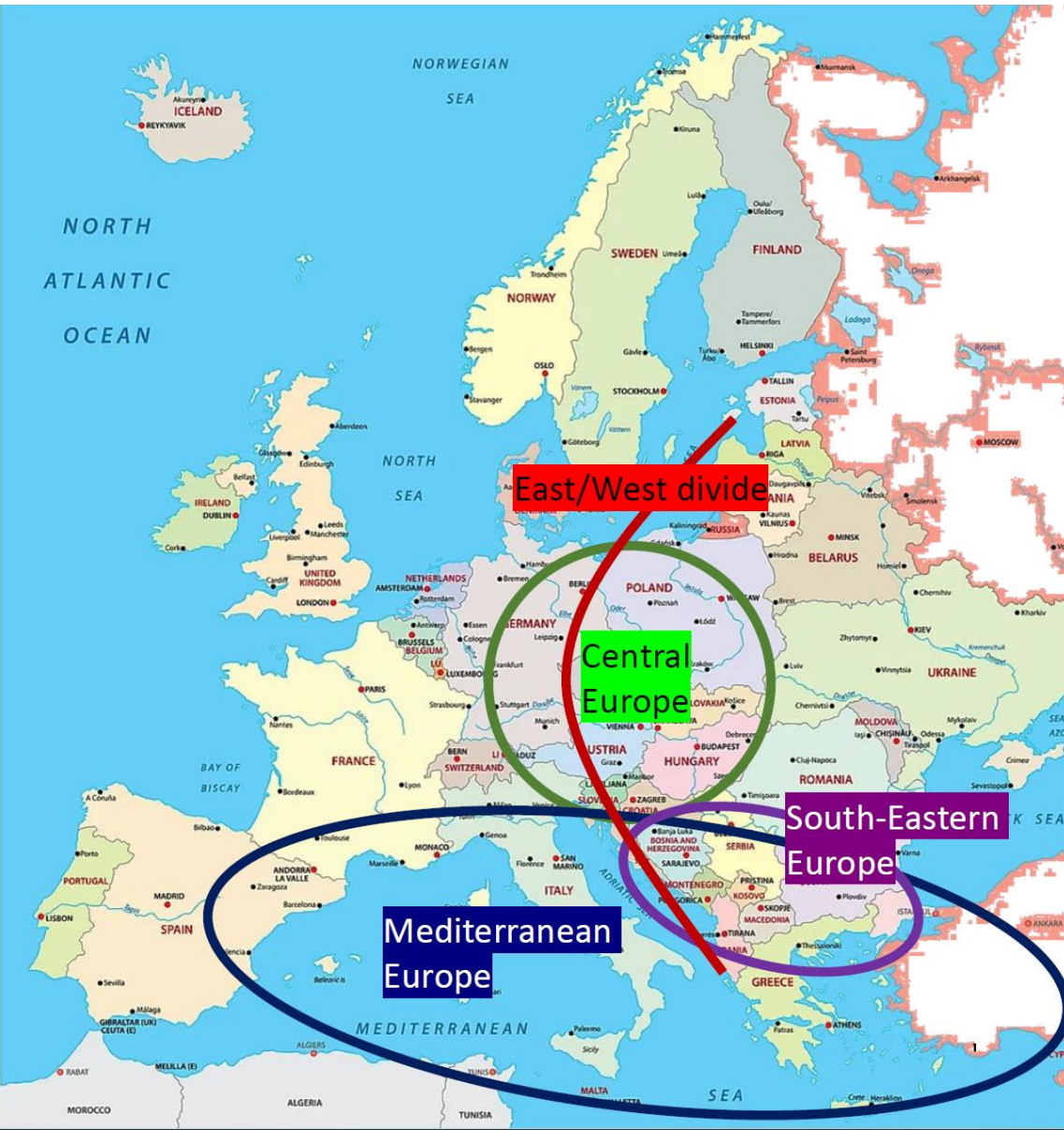
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7. Spatial modeling: Components
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CROATIA: basic data



- 56.594 sq. km
- 31.067 sq. km sea area
- 1.250 islands

population:

- 3,871.833 (2021)
- 4,284. 899 (2011)

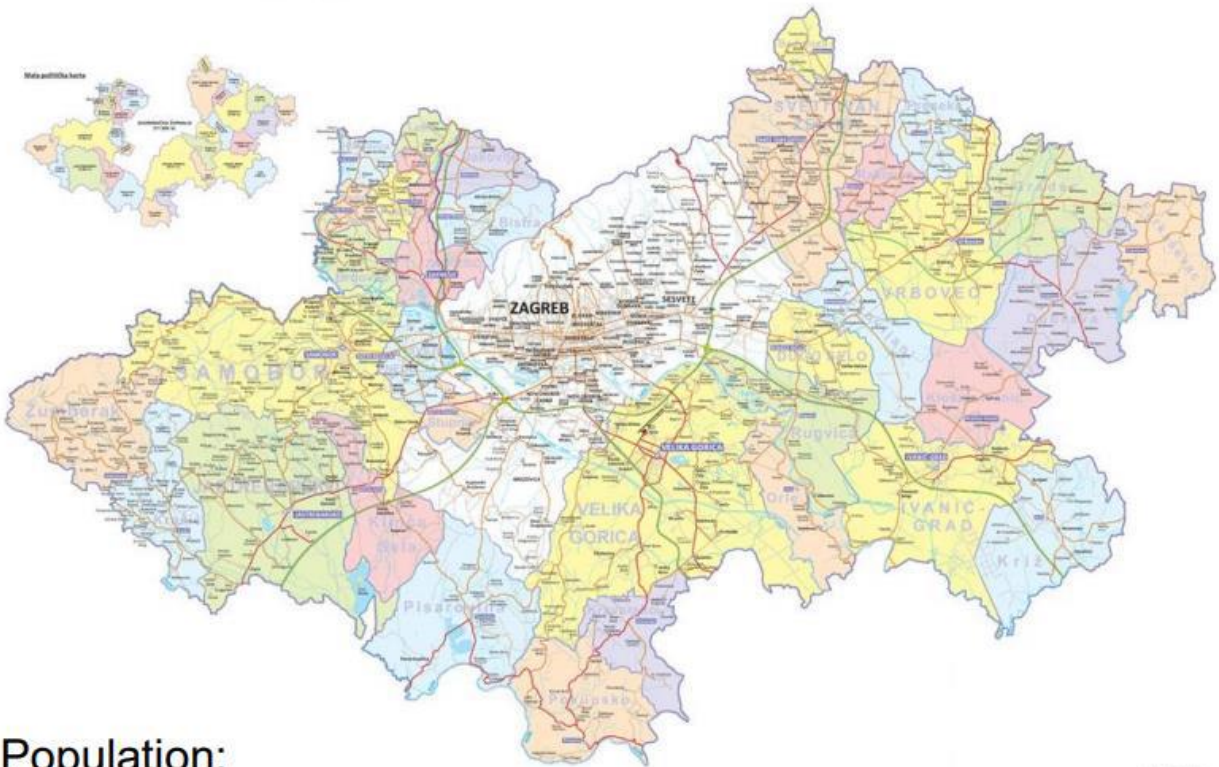


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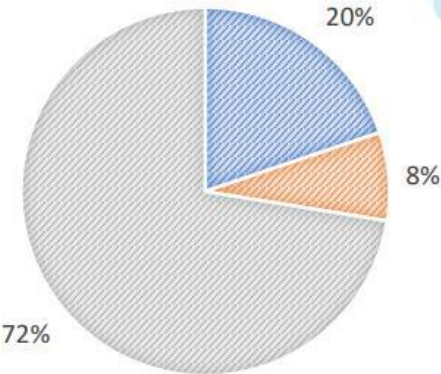
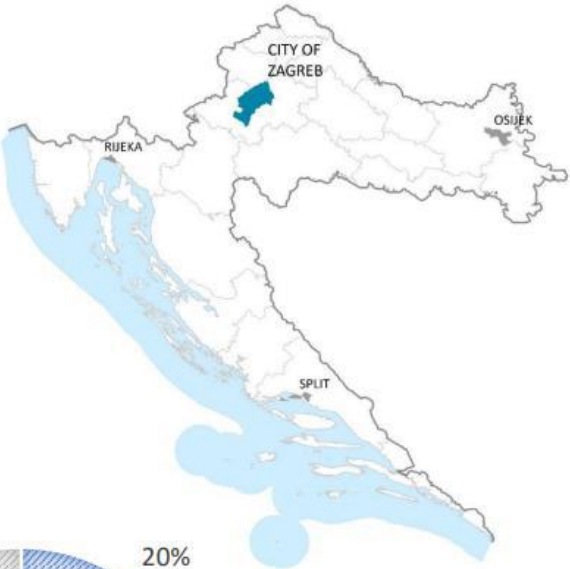
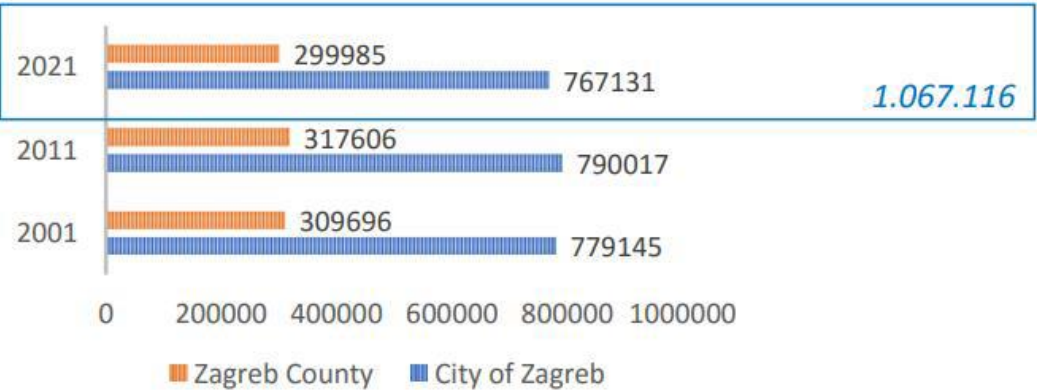
ZAGREB: basic data



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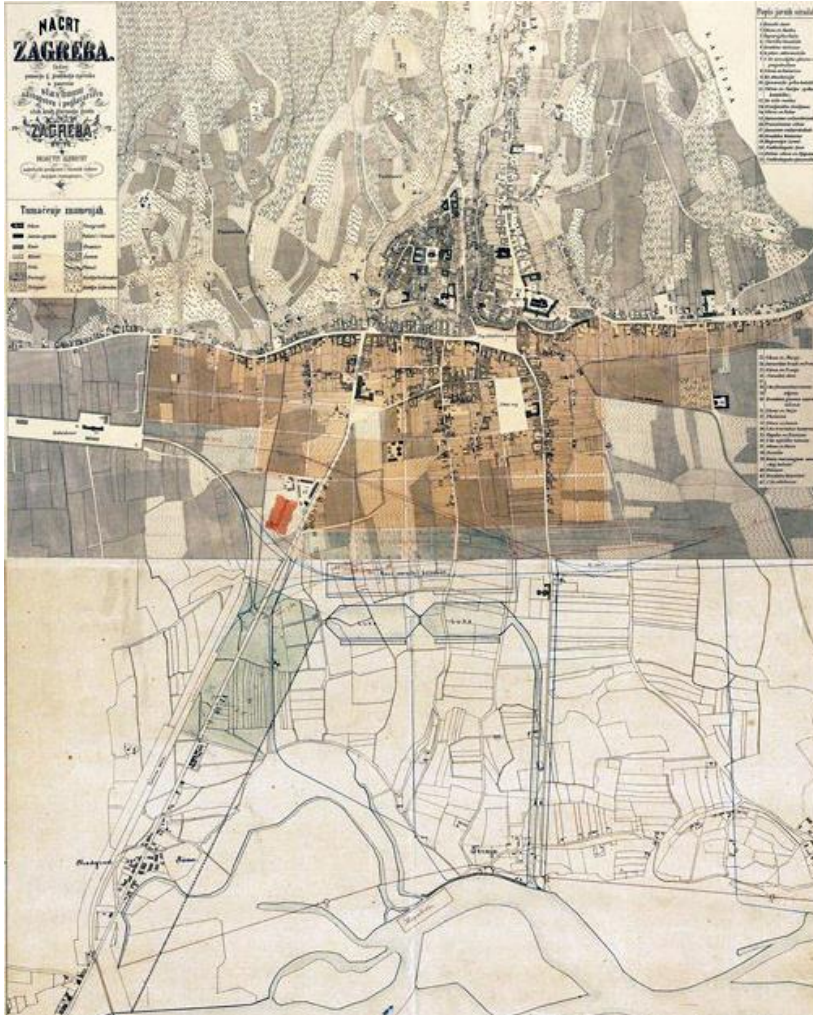
Population:



City of Zagreb Zagreb County Rest of Croatia

zavod za
prostorno
uređenje
grada
zagreba

Urban Planning Tradition



Regulatory Basis 1865



Regulatory Basis 1887



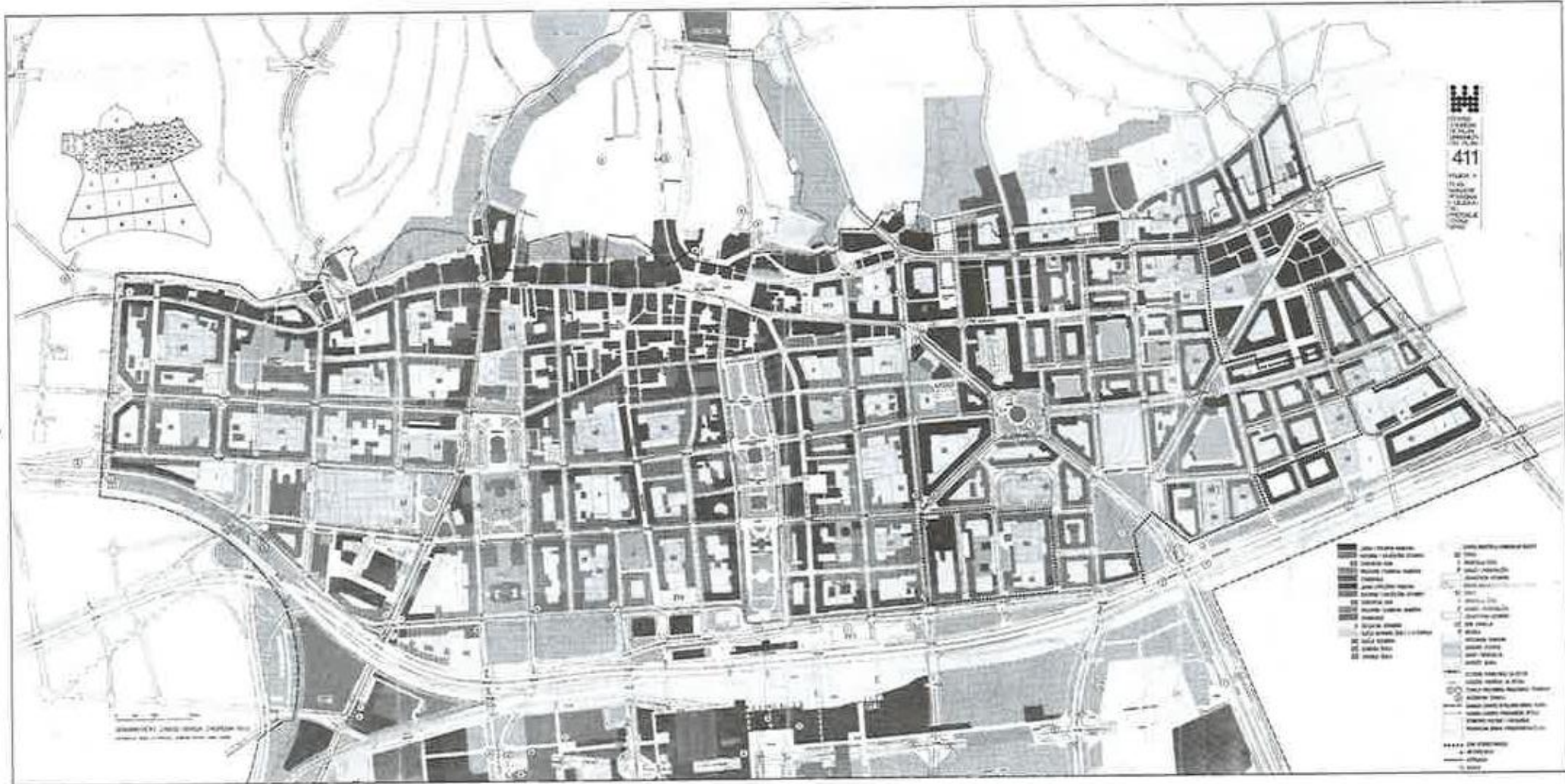
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Plans of the Historic Core of the City of Zagreb

Detailed urban plan of Center_1974



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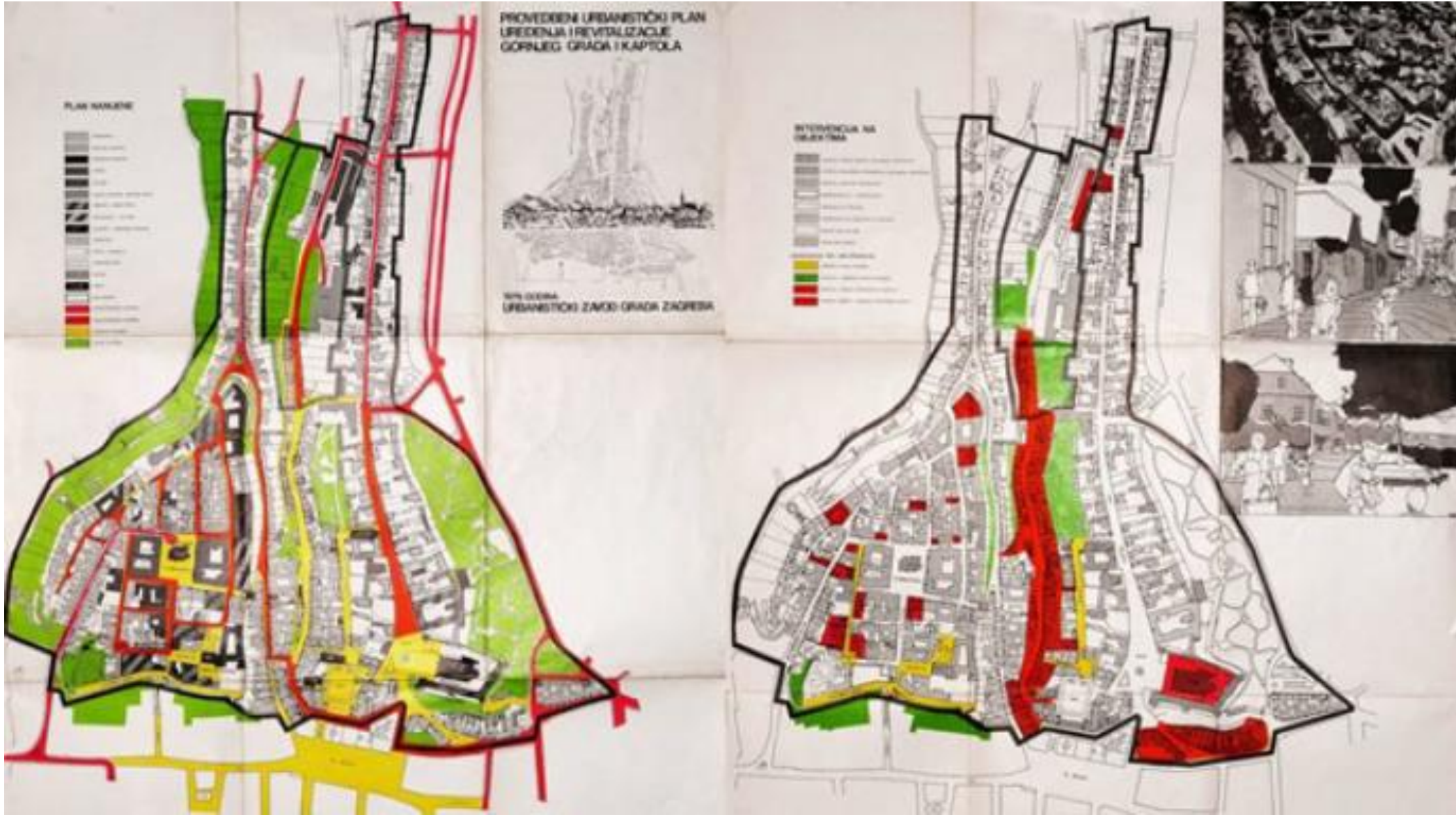


Plans of the Historic Core of the City of Zagreb

Implementation urban plan of Upper Town and Kaptol area_1979



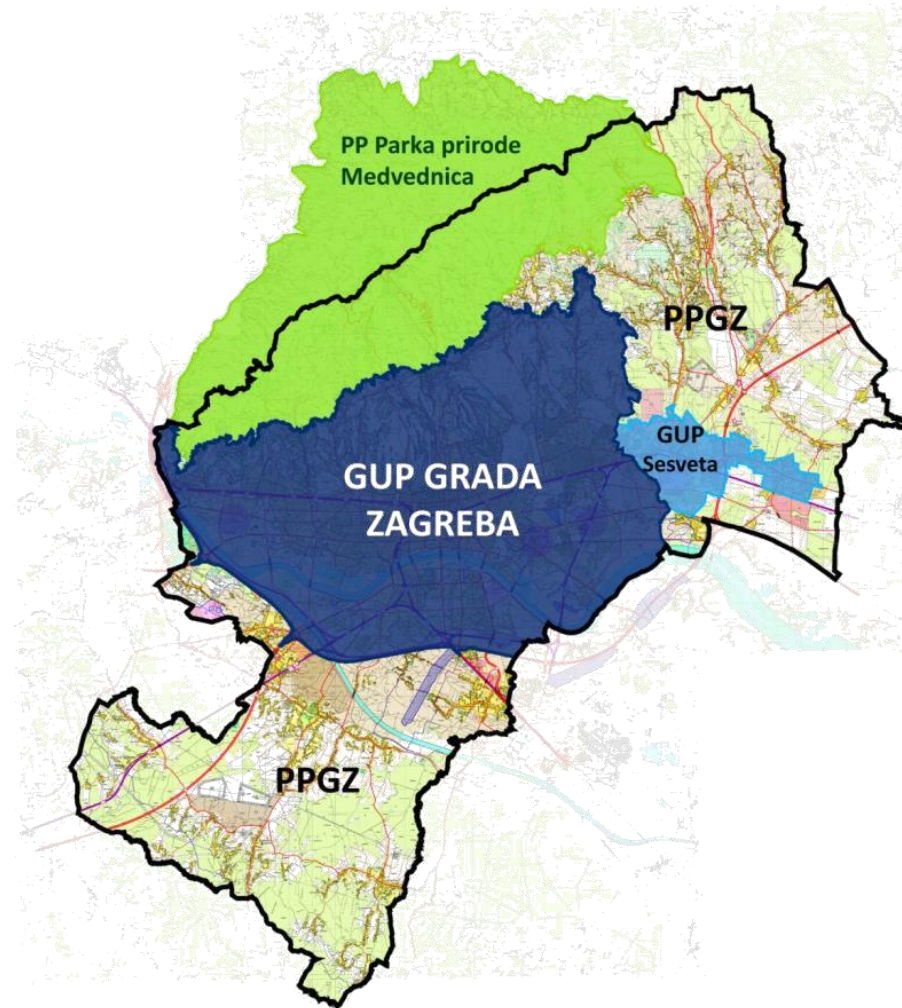
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Institute for Physical Planning

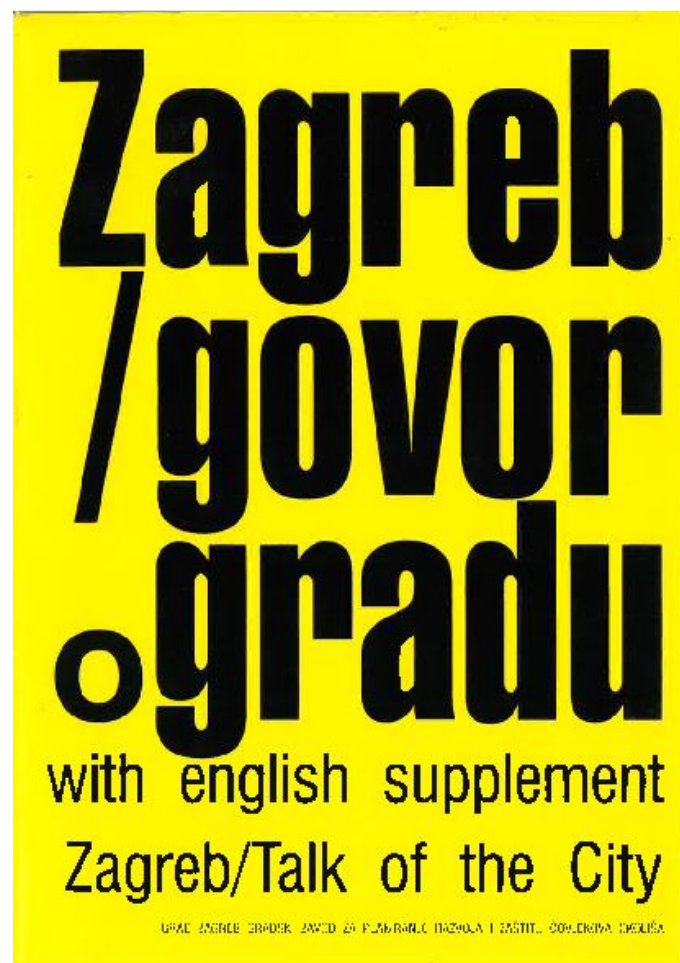
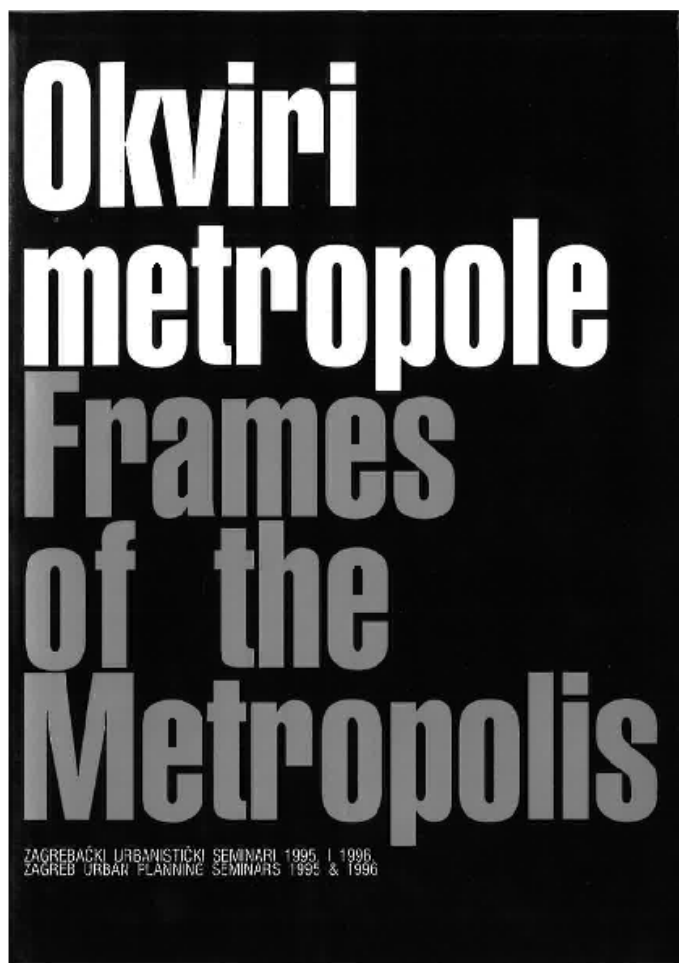
Zagreb 2000+ New Urban Strategy



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Institute for Physical Planning

exploring the possibilities improvement of the planning system
and modernization in terms of content and procedure



international
seminars
& workshops
1995 - 1998

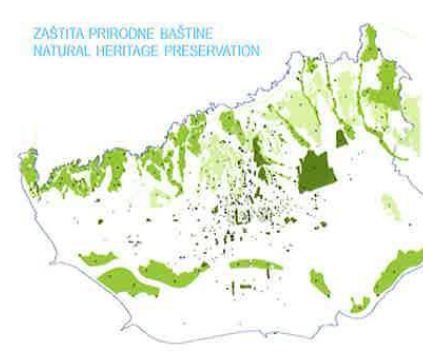
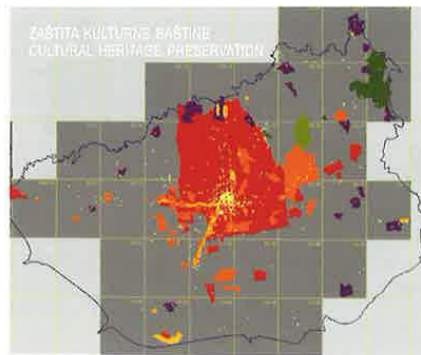
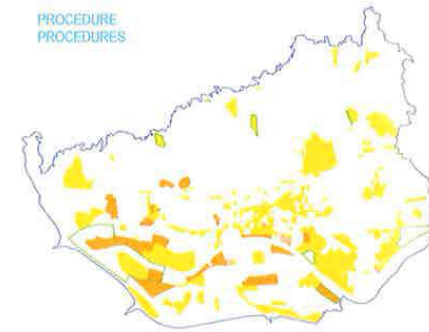
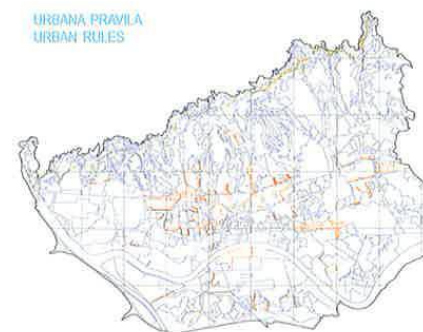
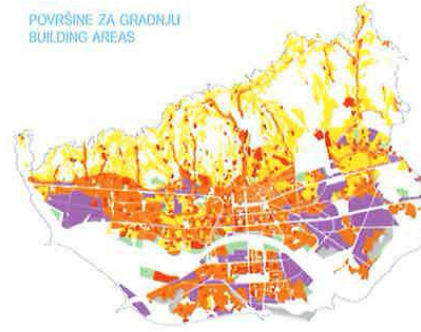
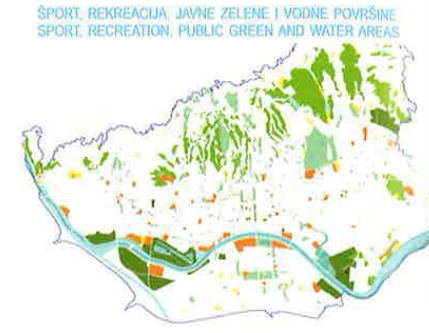
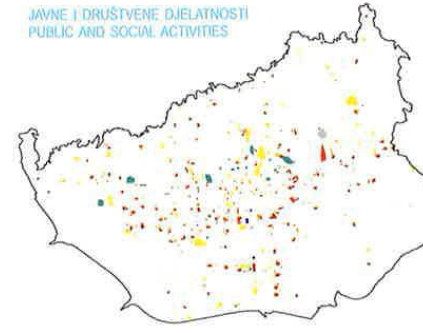
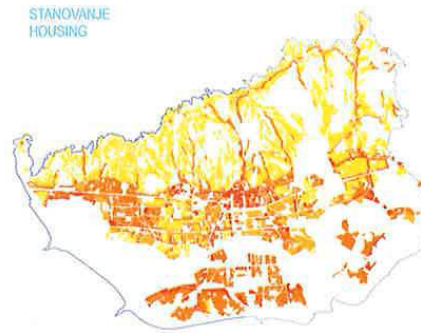
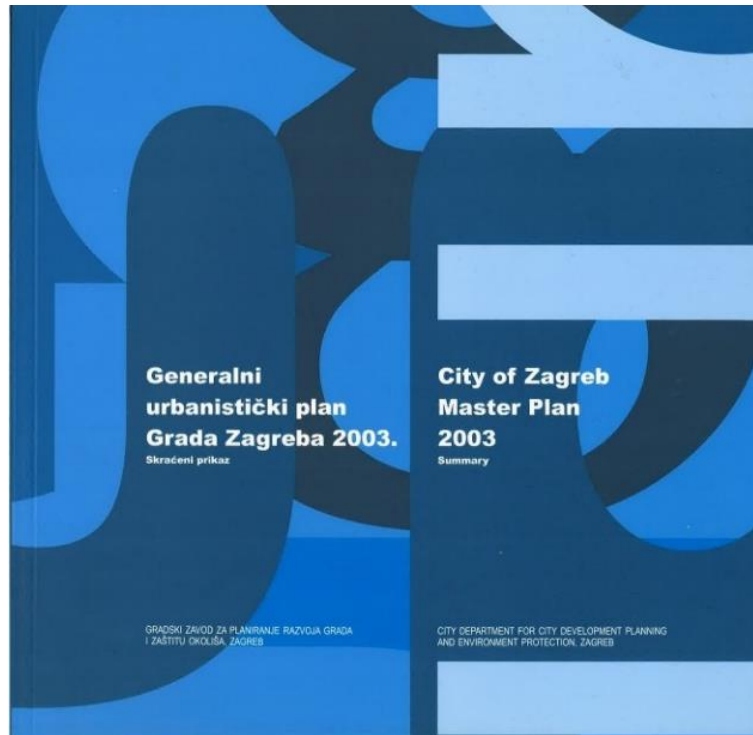


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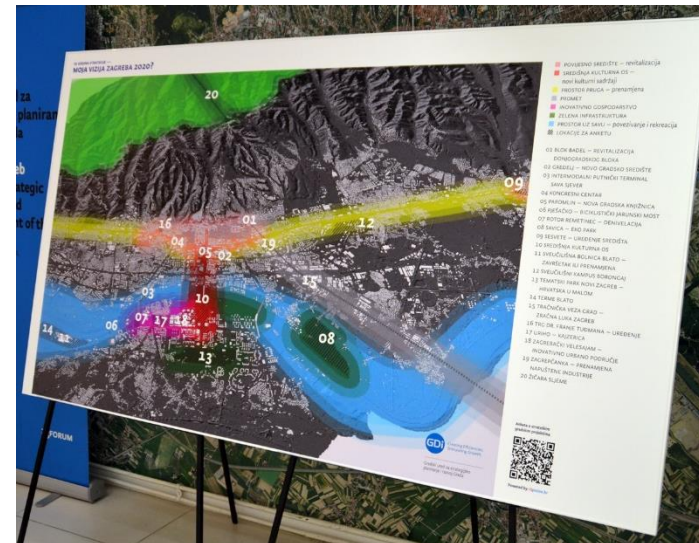
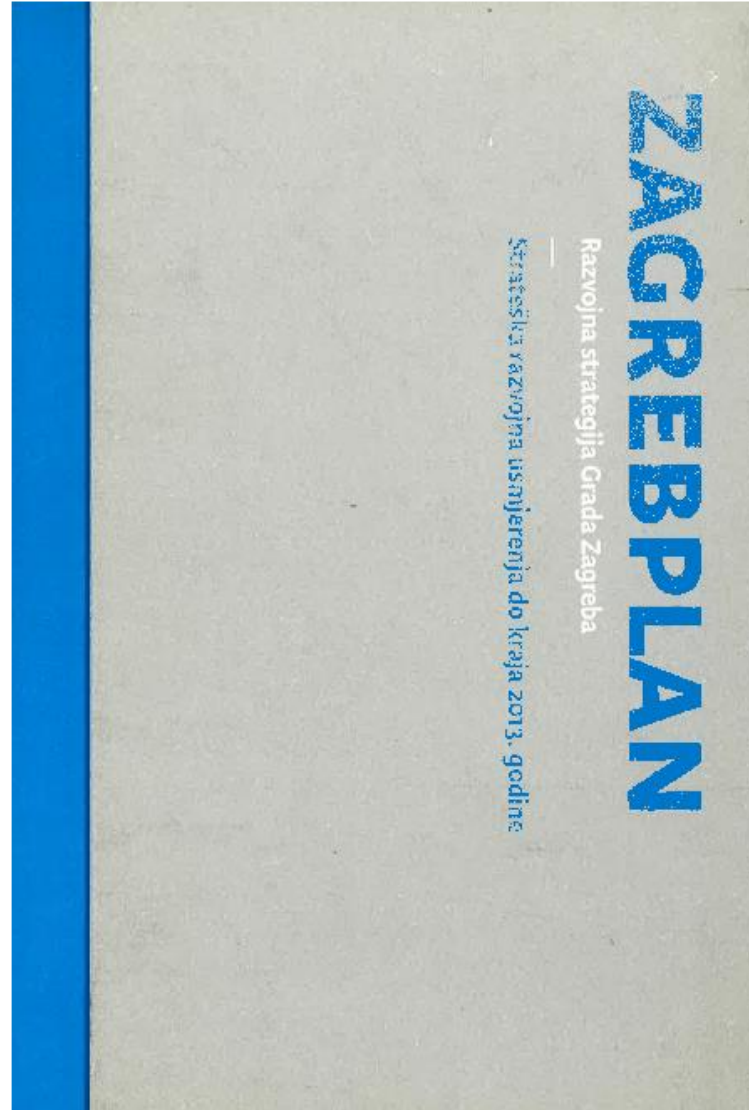
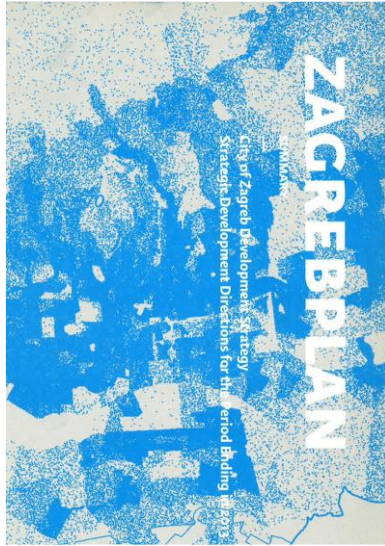
City of Zagreb_General Urban Plan 2003.



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ZagrebPlan 2012.



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Today's challenges for urban planners ... the same, but ...

- different social, economic and ownership platform
- more careful attitude towards space
- new standards and requirements
- application of modern technical solutions
- public participation
- coordination of all levels of government



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2020: Zagreb and Petrinja earthquakes



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city	date	time	Richter magnitude scale
Zagreb	22.3.2020.	6:24 AM	5.5
Zagreb	22.3.2020.	7:01 AM	5.0
Petrinja	28.12.2020.	6:28 AM	5.0
Petrinja	29.12.2020.	12:19 PM	6.2

... and many aftershocks

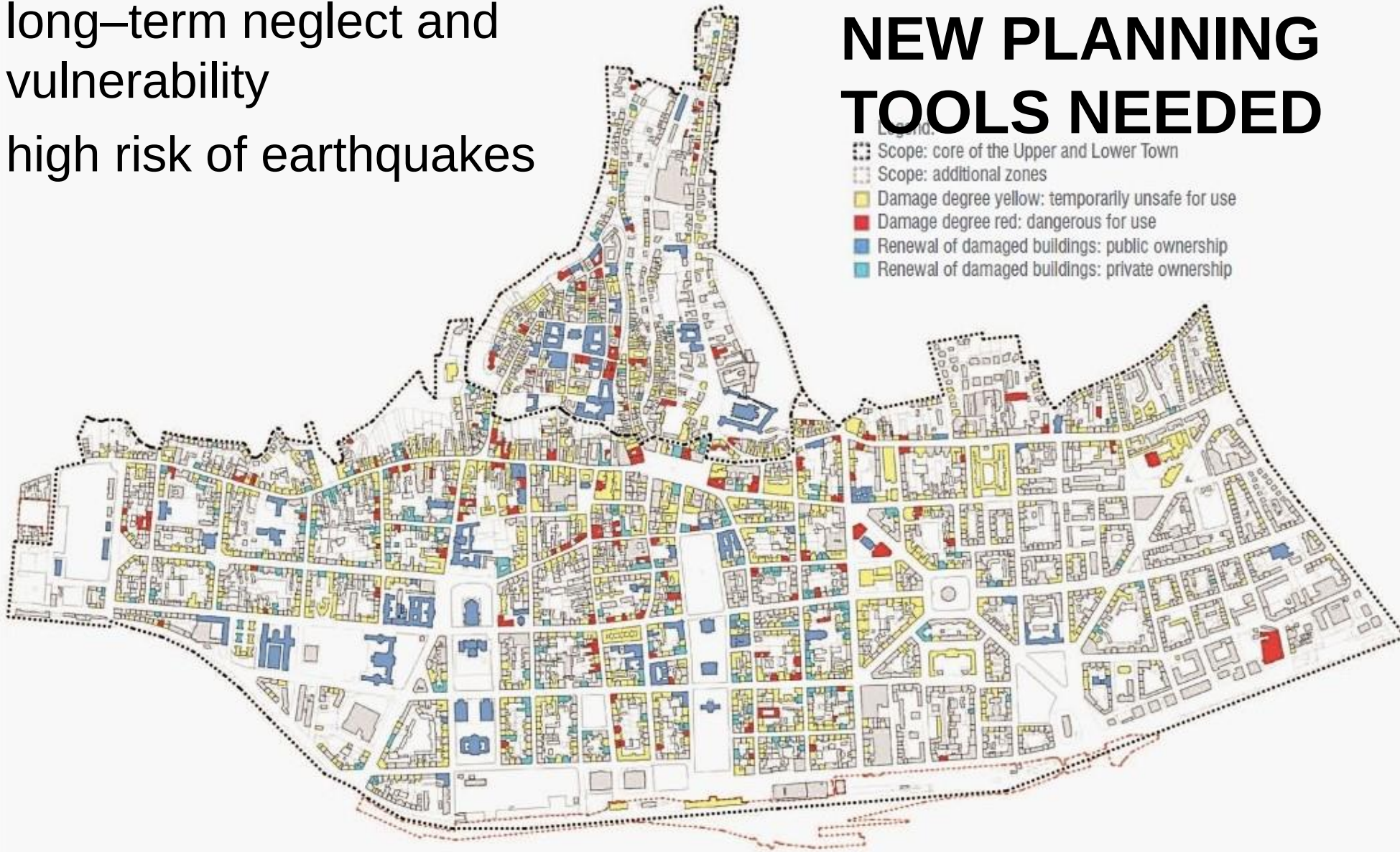
- strongest since 1880 – 6.3 on Richter scale
- 20,000 damaged buildings, 70% in historic urban core

2020: Zagreb and Petrinja earthquakes

- long-term neglect and vulnerability
- high risk of earthquakes

NEW PLANNING TOOLS NEEDED

- Legend:
- Scope: core of the Upper and Lower Town
 - Scope: additional zones
 - Damage degree yellow: temporarily unsafe for use
 - Damage degree red: dangerous for use
 - Renewal of damaged buildings: public ownership
 - Renewal of damaged buildings: private ownership

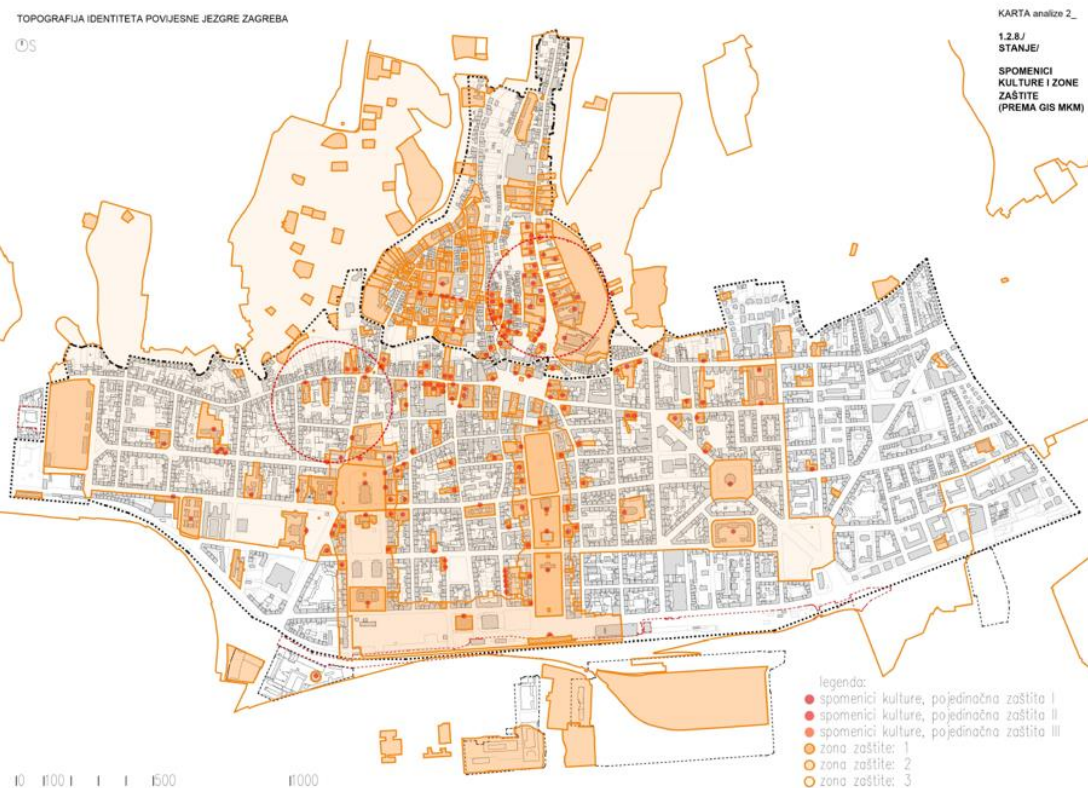


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Historic urban core

AREA_351.58 ha / 3.5 km²
BLOCKS_168
INHABITANTS_31.148 (2021) / 45.108 (2001)

BUILDINGS_ 7.188



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92% of the total number of Lower Town apartments is older than their economic lifespan

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New tools of urban transformation: INTEGRATED PLANNING



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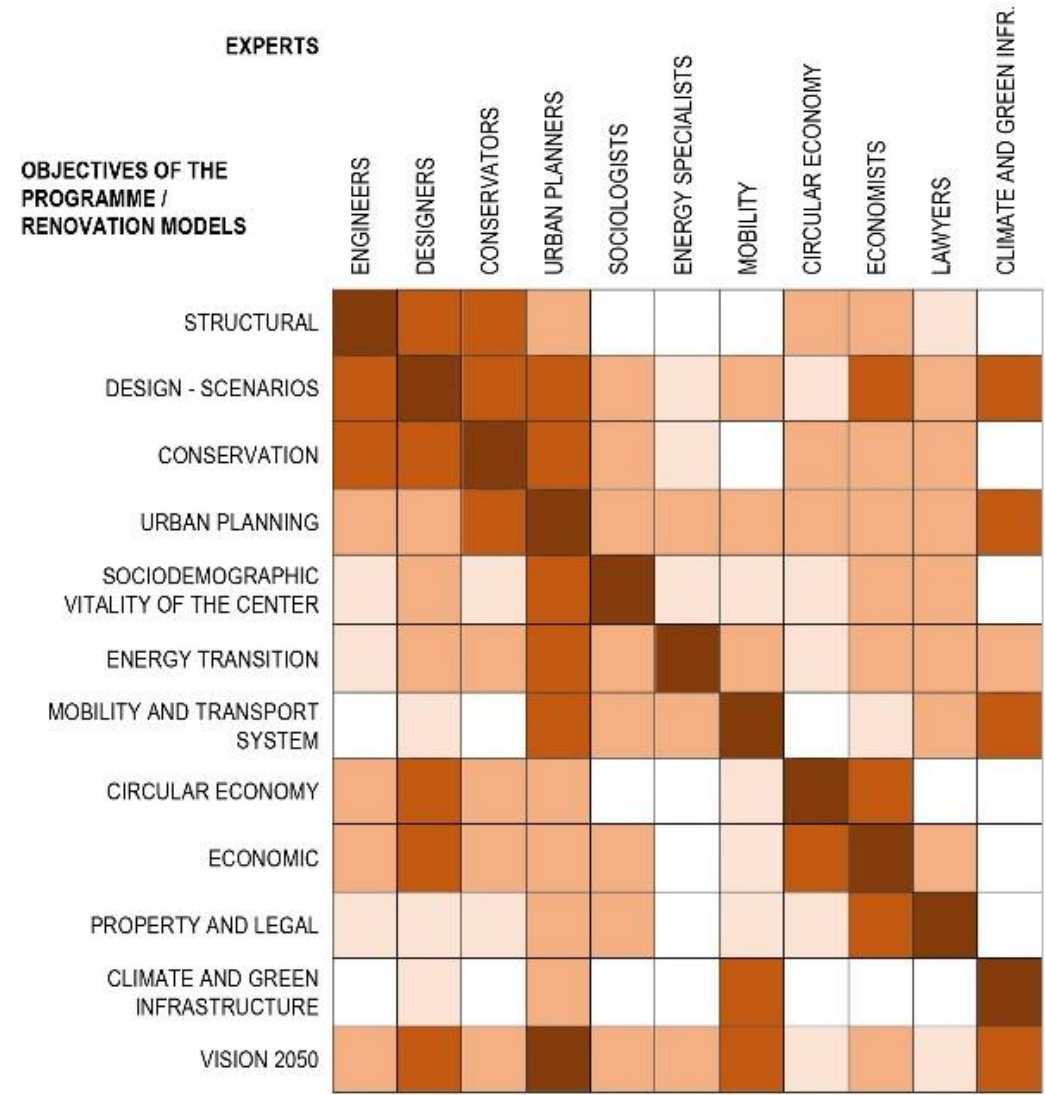
Traditional planning – **NO**

Integrated planning – **YES**

Necessary experts related to the goals



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proposal of
necessary experts / studies
related to goals of the
Comprehensive Renewal Program

METHODOLOGY

Comprehensive Renewal Programme



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COMPLETE RESTORATION PROGRAM OF THE HISTORIC URBAN CORE

PILOT PROJECT BLOCK 19

INTEGRAL DIGITAL INTEROPERABLE PLATFORM

short-term plans
NOW

mid-term plans

long-term plans
VISION 2050

METHODOLOGY

Comprehensive Renewal Programme



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Methodology was designed by Institute for Physical Planning and included:

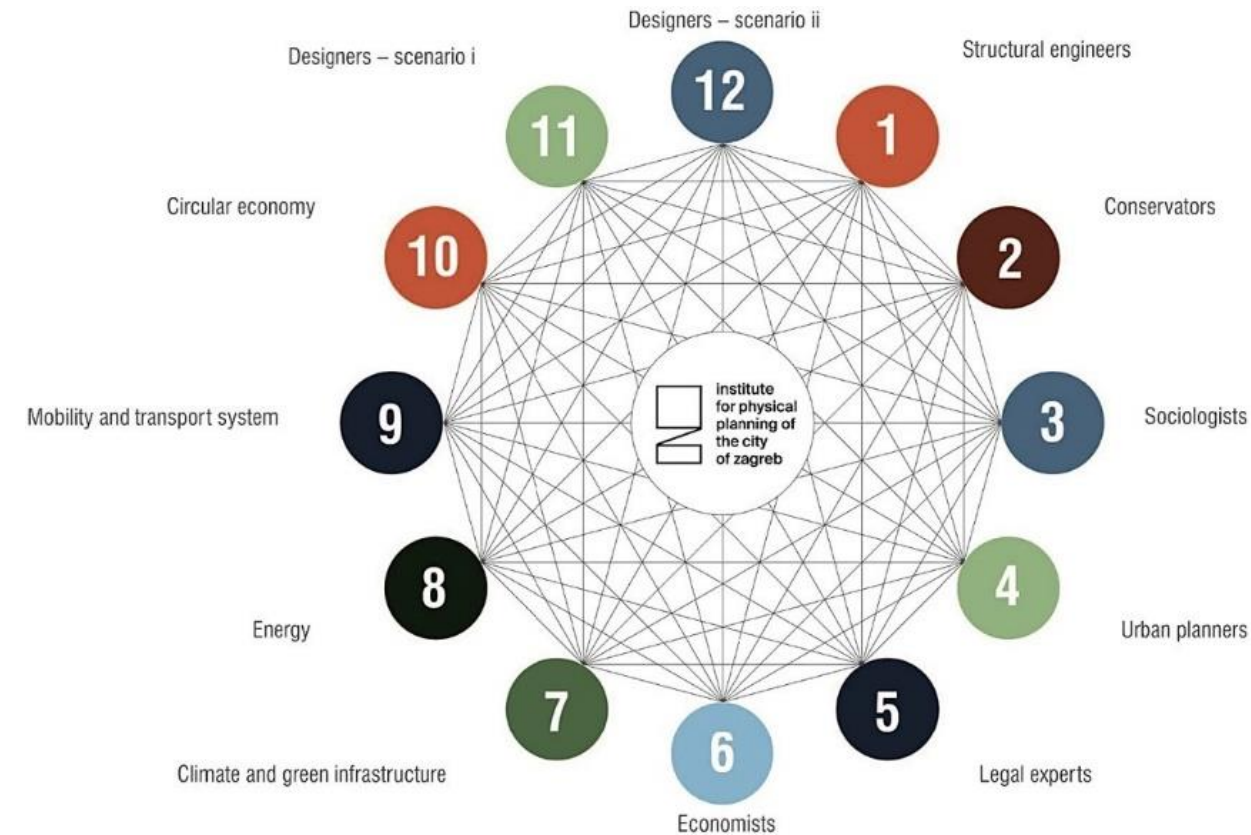
- **pilot-project** of Lower Town block with the possibility of replication in specific structure of Lower Town
- **15 expert working groups** of different professions researching, elaborating and proposing solutions in their fields

Intersectoral coordination



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**network of
intersectoral coordination
in the development
of the
Comprehensive
Renewal Programme:
cooperation between sectors
instead of negotiations
between them**



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Participation ...



KAKO VRATITI stanovnike u gradsko središte?
KAKO SAČUVATI zagrebačku povijesnu cjelinu jedinstvene ambijentalne i arhitektonske vrijednosti?
KAKO OSMISLITI cjelovitu protupožarnu, protupožarnu i energetska obnovu?
KAKO OSIGURATI organizacijski, financijski i imovinsko - pravni okvir i zadržati sociodemografsku vitalnost?

KAKO OBNOVITI CENTAR?
A N K E T A

Poštovani stanari i korisnici bloka Ilica - Frankopanska - Dalmatinska - Medulićeva,
Vaš blok odabrali smo za pilot projekt istraživanje prve faze izrade Programa cjelovite obnove povijesne jezgre Grada Zagreba. U okviru pilot projekta, sociološku anketu provode Zavod za prostorno uređenje Grada Zagreba i Institut za društvena istraživanja u Zagrebu u suradnji s Mjesnim odborom Andrija Medulić. Vaša mišljenja, iskustvo, sugestije i prijedlozi od iznimne su važnosti za obnovu središta Zagreba, te molimo Vaš doprinos popunjavanjem ankete:

na poveznici www.zzpugz.hr/anketa
ili
preuzeće od predstavnika suvlasnika

Unaprijed se zahvaljujemo. O rezultatima ankete i ostalim aktivnostima rada na projektu bit ćete obaviješteni. Za sva dodatna pitanja možete nas kontaktirati slanjem poruke na e-mail adresu pilot@idi.hr.

Sociološko istraživanje se provodi u svrhu izrade Programa cjelovite obnove povijesne jezgre Grada Zagreba kojeg temeljem Zakona o obnovi zgrada oštećenih potresom na području Grada Zagreba, Krapinsko-zagorske županije i Zagrebačke županije (Narodne novine 102/2020), čl. 12. st. 3. izrađuje Zavod za prostorno uređenje Grada Zagreba. Anonimnost ispitanika je zagarantirana, a dobiveni podaci koristeći će se isključivo u svrhu izrade Programa cjelovite obnove povijesne jezgre Grada Zagreba te stručnih i znanstvenih studija. Obavezujući se da ćemo sukladno propisima koji uređuju područje zaštite osobnih podataka (Opća uredba o zaštiti podataka i Zakon o provedbi Opće uredbе o zaštiti podataka) čuvati povjerljivost osobnih podataka koji se nalaze u sustavima pohrane Instituta te da ćemo ista koristiti isključivo u točno određenu svrhu i čuvati godinu dana ili do povlačenja prijave kao i da osobe podrijetla kojima imamo pravo i ovlast pristupa nećemo dostavljati dajući na korištenje ni na bilo koji drugi način učiniti dostupnima trećim (neovlaštenim) osobama.

PROGRAM CJELOVITE OBNOVE
POVIJESNE JEZGRE GRADA ZAGREBA

INSTITUT ZA
DRUŠTVENA ISTRAŽIVANJA

ZAVOD ZA PROSTORNO UREĐENJE
GRADA ZAGREBA

GRAD ZAGREB

- sociological researches / focus groups, interviews, surveys
- workshops and communication with residents and users
- thematic discussions, public forums
- coordinations and harmonizations of the 15 expert working groups

Long-term Development vision

GreenCentre 2050

1. well-maintained and safe, attractive and lively
2. multifunctional area of the city
3. inclusiveness and consideration
4. new level of modernization and transformation
5. circularly and innovatively renewed and transformed
6. leader in energy transition, digitalization and economic development
7. achieved climate neutrality
8. relieved of transit, car and freight rail traffic
9. content redefined
10. capital's most desirable neighbourhood to live in

Development vision GreenCentre 2050

24/7 city attractive for its citizens,
visitors and investors
urban sustainability - green, inclusive,
adaptable and resilient city

15-minute city
DtZgApp - City as an app
Zagreb - climate neutral city by 2050
... or sooner?

renewal as a driver of economic growth
energy transition towards
renewable energy
circular management
of buildings and space

block with an identity and a distinctive
character - art block / sculpture park
programming block amenities

new modernisation - structural transformation
vital urban centre

seismically resistant existing
building stock
decarbonisation
innovative, smart and green city
city with a multifunctional network
of green infrastructure elements



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Comprehensive urban renewal goals (5). Measures (54).

Urban renewal goals:

- C1.** innovative / circular perimeter renewal and structural transformation of the block / insula interiors
- C2.** sociodemographic vitality, social cohesion and equity
- C3.** identity, ambience and distinctive character of the city centre
- C4.** climate change resilience and climate neutrality by using NBS
- C5.** energy transition and improved circular economy in a smart and green city based on digitalisation

legenda:
obuhvat : jezgra gornjeg i donjeg grada
obuhvat : promjene unutar jezgre
broj bloka ili insule
granice čestica
struktura izgradnje : stambeno
struktura bloka : pretežito stambeno
struktura izgradnje : nestambeno
struktura bloka : pretežito nestambeno



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Thematic spatial modeling - programming components

University of Zagreb, Faculty of Civil Engineering, Department of Engineering Mechanics 

Institute of Art History 

Institute for Social Research in Zagreb 

University of Zagreb, Faculty of Architecture, Department of Urban Planning, Spatial Planning and Landscape Architecture Af

University of Zagreb, Faculty of Law 

University of Zagreb, Faculty of Economics & Business 

North-West Croatia Regional Energy Agency (REGEA) 

University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Department of Energy, Power and Environmental Engineering 

University of Zagreb, Faculty of Civil Engineering, Department of Transportation Engineering 

University of Zagreb, Faculty of Architecture, Department of Architectural Technology and Building Science Af

R/INOVACIJA 

Arhitektonski atelier Hrčić d.o.o.  ATELIER HRČIĆ
PROJEKTIRANJE I GRADNJE

urban planning
construction
conservation
design
mobility
identity
quality of life
energy and climate
circular economy
green infrastructure
property law
financing



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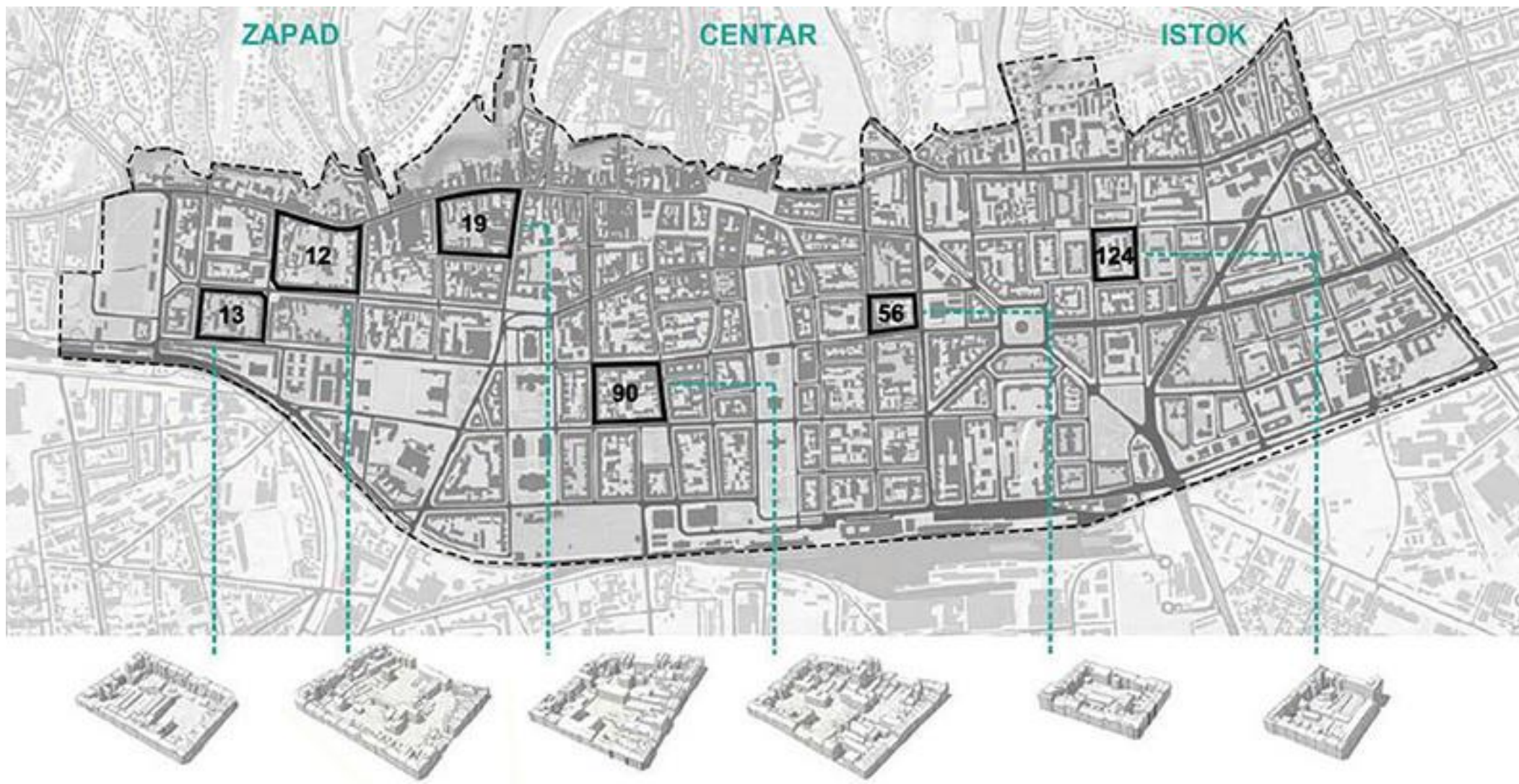
GRAZ, 14-16 April

Proposed basic block renewal models

based on the typological classification of blocks having the same or similar characteristics...

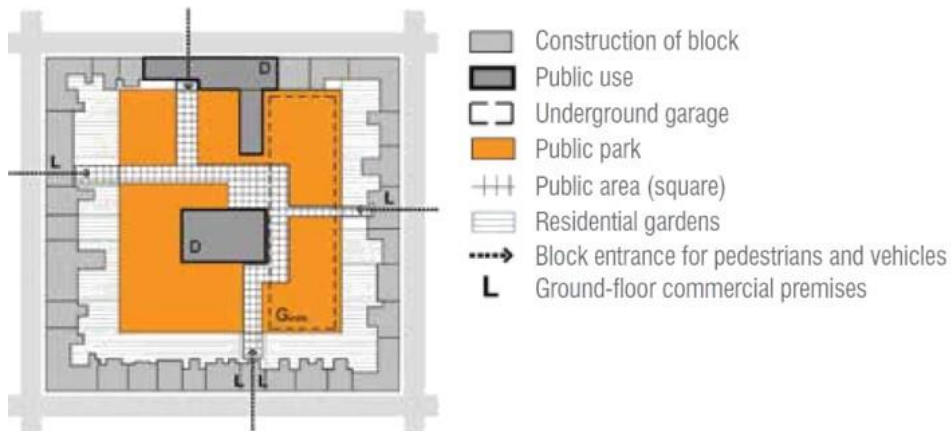
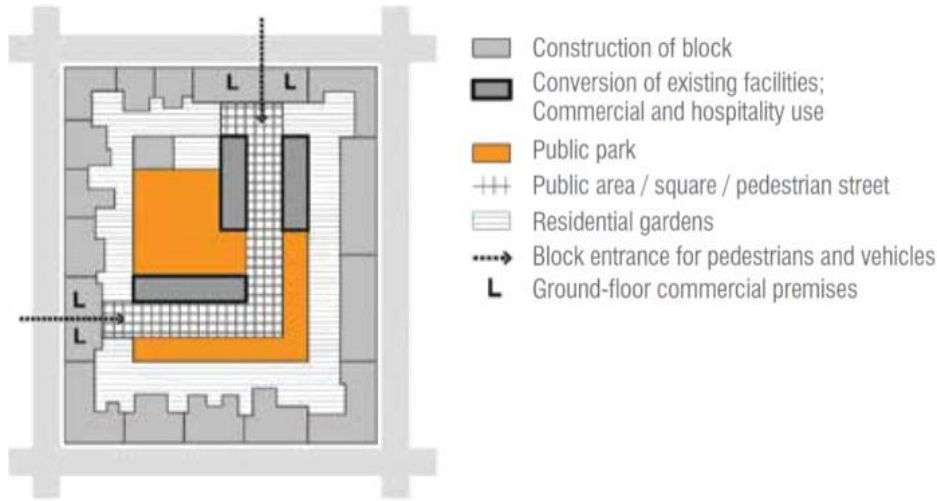


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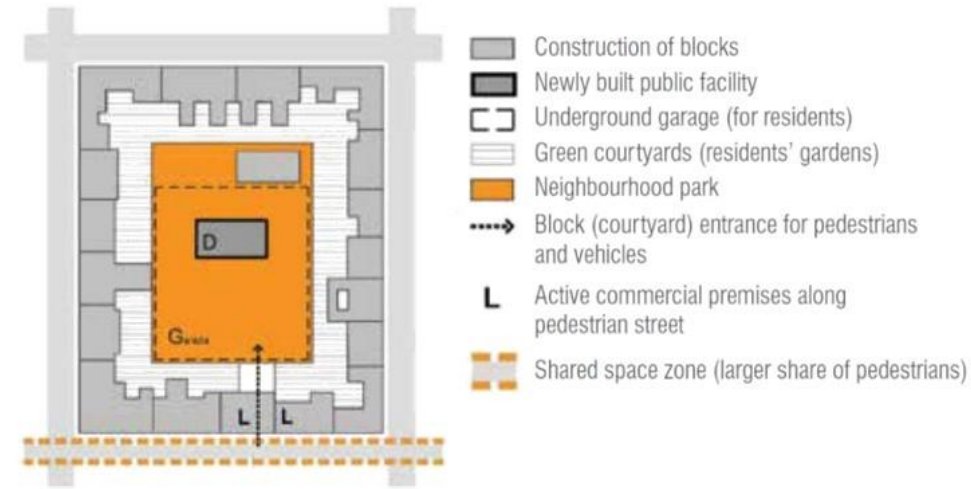
Proposed basic block renewal models

1. open block design / a new neighborhood sub-center



2. open block design, highly public character / public use, square, park

3. closed block design / garden with public amenities and underground garage



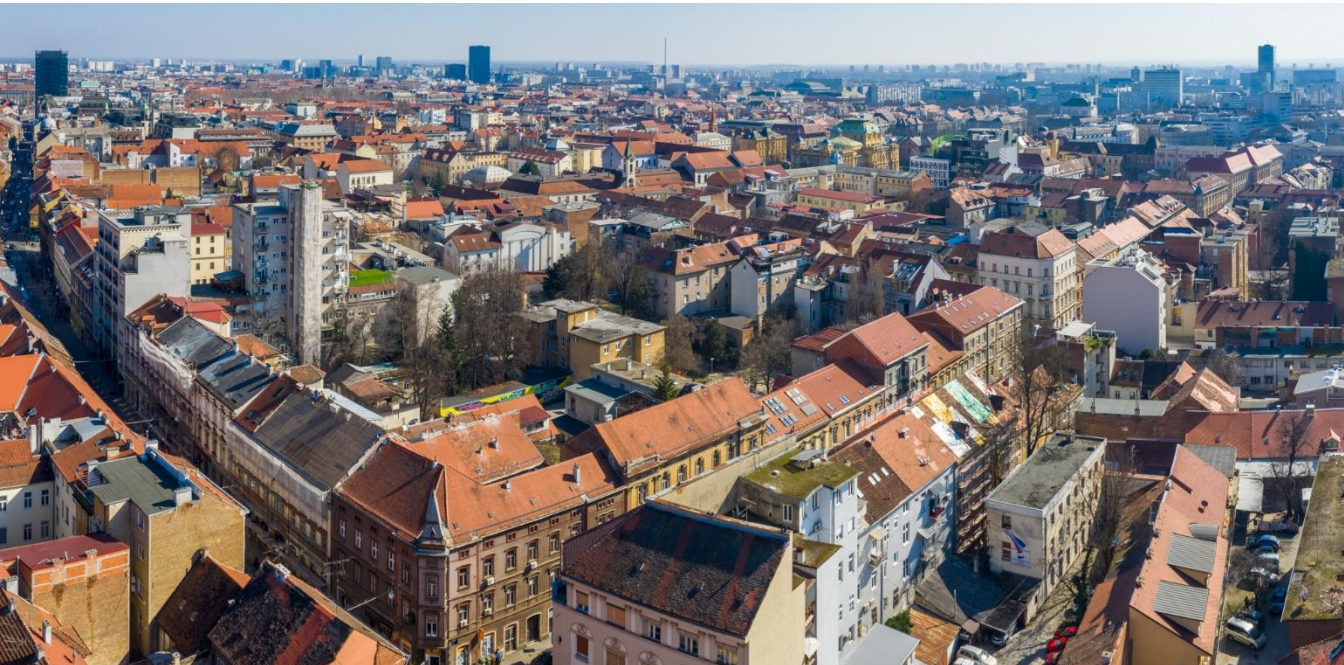
4. closed block design with a pedestrian street



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CONSERVATION models of restoration

1. complete protection of historical buildings
2. partial protection of historical buildings
3. demolition and replacement with facsimiles
4. demolition and replacement with new construction



FRANKOPANSKA ULICA



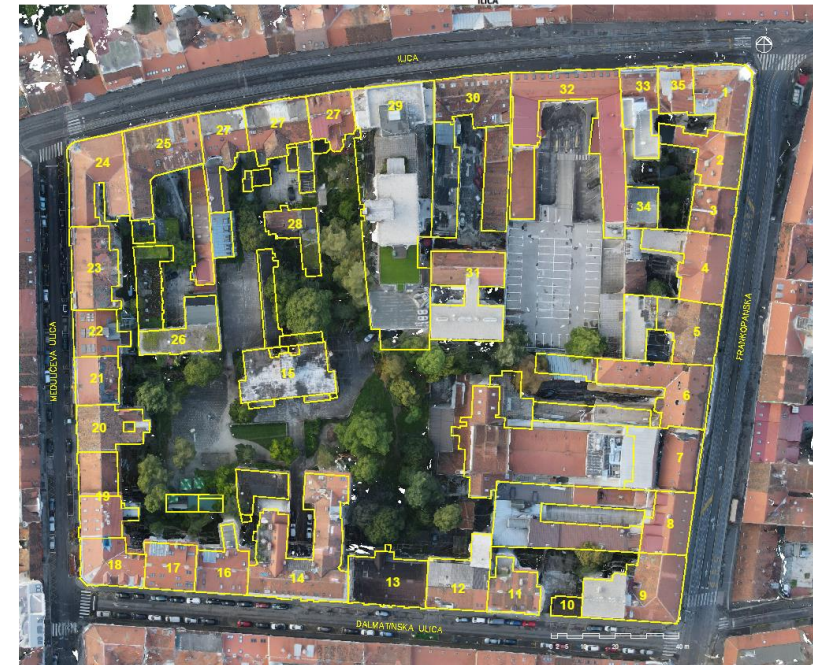
DALMATINSKA ULICA



MEDULIĆEVA ULICA



ULICA



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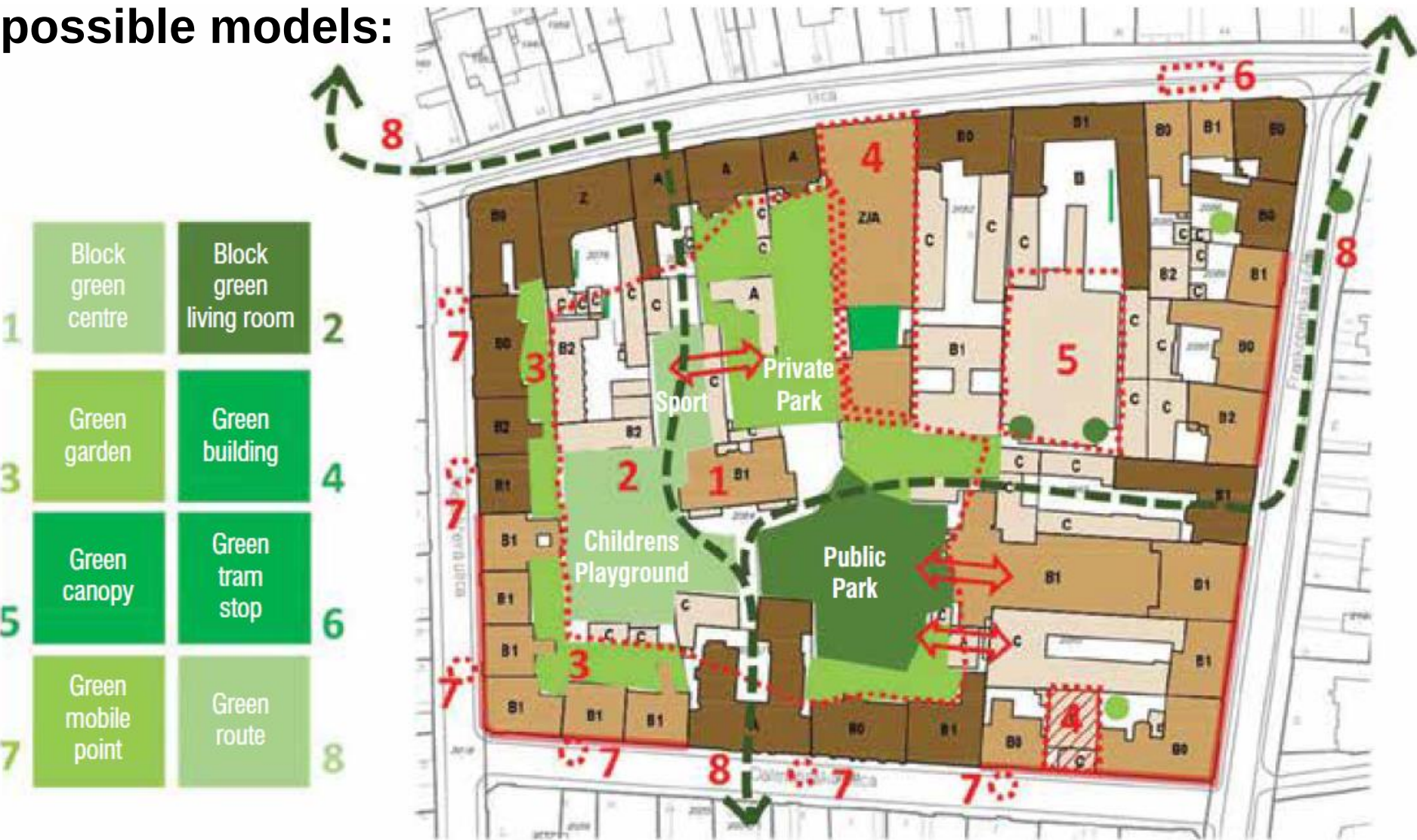
GREEN INFRASTRUCTURE models

adaptation to climate change impacts



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possible models:



GREEN INFRASTRUCTURE models

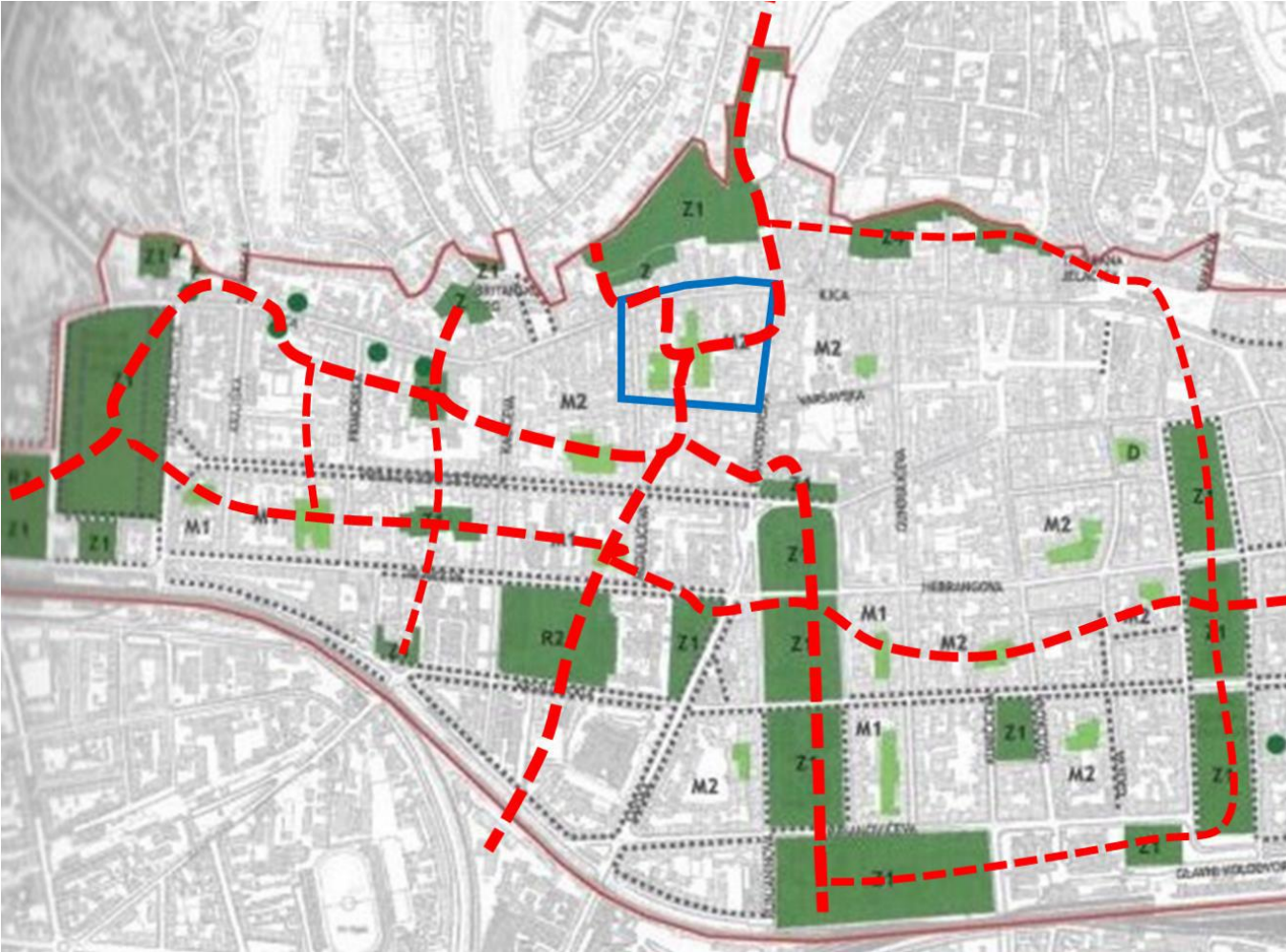
creating green walking routes connecting blocks

Creating green infrastructure network in the Historic Urban Core of the City of Zagreb

Increase in share of green infrastructure using block identity solutions

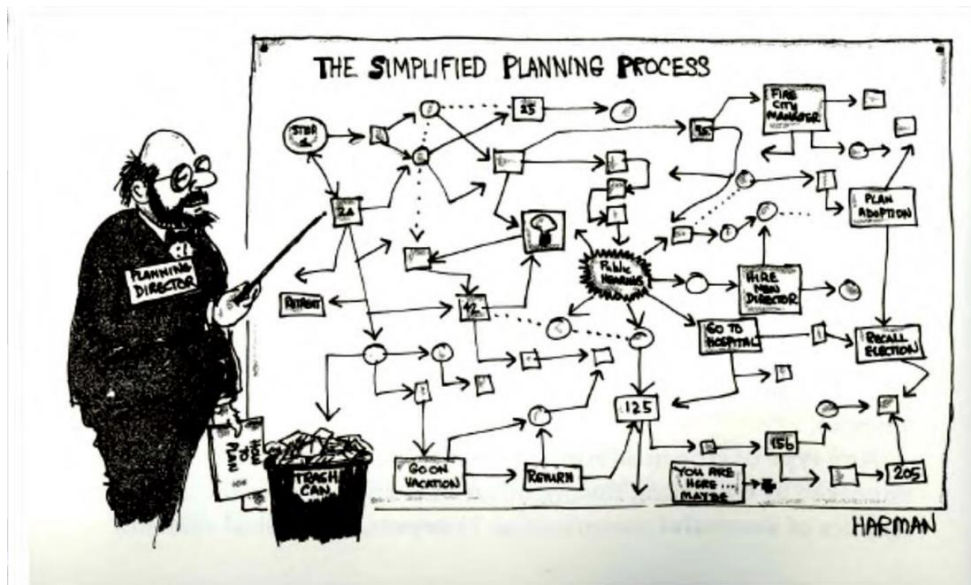
Green infrastructure as a part of economic model – heritage and tourism

Reinforcing/creating synergetic relationships: green infrastructure + public space + buildings



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Conclusion



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1. directing planning activities through a high degree of respect and consensus of different professions
2. involving residents and users through all phases of the planning process
3. high degree of cooperation between all levels of government
4. interaction between urban and strategic planning
5. integration of cultural heritage into spatial plans

CONCLUSION



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- designing of an integrated urban planning and conservation plan
- transformation / transition from traditional /*static* approaches to an integrated /*dynamic* process of planning
- developing a resilient city that can respond to current and future challenges

THANK YOU

www.zzpugz.hr

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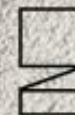
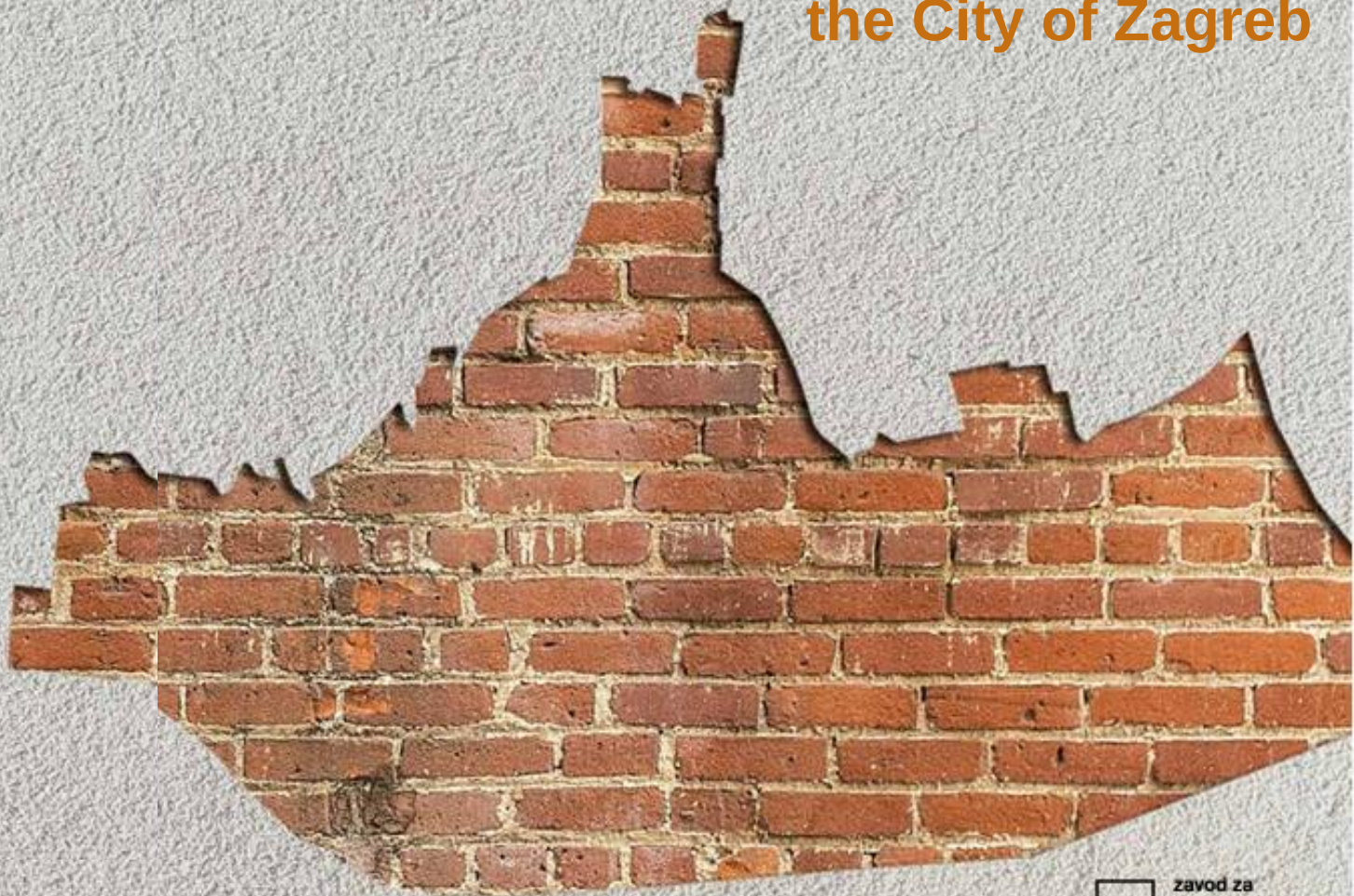
mirna.mestrovic@zagreb.hr

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institute
for physical
planning of
the city
of zagreb

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zavod za
prostorno
uređenje
grada
zagreba