

GREEN INFRASTRUCTURE PLANNING WITHIN SLOVENIAN STRATEGIC SPATIAL PLAN

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Drawing: Nika Miletič

what?

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green infrastructure

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Green Infrastructure or blue-green infrastructure is a network providing the "ingredients" for solving urban and climatic challenges by building with nature.

www.epa.gov

[Green infrastructure - Wikipedia](https://en.wikipedia.org/wiki/Green_infrastructure)
https://en.wikipedia.org/wiki/Green_infrastructure

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- What is green infrastructure PDF?
- What is blue infrastructure?
- What is stormwater infrastructure?
- What is gray infrastructure?

Feedback

[Green Infrastructure - Environment - European Commission](https://ec.europa.eu/environment/nature/ecosystems/index_en.htm)
ec.europa.eu/environment/nature/ecosystems/index_en.htm

Sep 12, 2016 - In practice, Green infrastructure is a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services such as water purification, air quality, space for recreation and climate mitigation



where?



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Programme › Symposia

Urban Green Infrastructure Planning - evidence-based interdisciplinary research across Europe

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Summary

Urban Green Infrastructure (UGI) has evolved as a research topic across Europe recently. The understanding of the European Commission's Green Infrastructure, adopted in 2013, reflects a holistic

- Detailed Congress Programme
- Symposia
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- ESS & LSS 1
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- ESS & LSS 4
- DG E 1
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- DG E 4
- PL 1



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URBAN DESIGN AND PUBLIC SPACES

4. Urban design, public spaces and urban culture

Co-chairs: Ali Madanipour; Gabriella Esposito De Vita; Pedro George

5. Green infrastructures: fostering dialogue across scales and policies

Co-chairs: Anna M. Hersperger; Stephan Pauleit; Isabel Loupa Ramos

TERRITORY AND ITS SOCIAL AND ECONOMIC DIMENSIONS

6. Territorial cohesion: a multiscale approach

Co-chairs: Stefanie Dühr; Giancarlo Cotella; Eduarda Marques da Costa

7. Dialogues in diverse, inclusive, and multicultural cities

Co-chairs: Willem Buunk; Inês Sanchez de Madariaga; Isabel Raposo

8. Regional economics and scarce resources planning

Co-chairs: Michael Getzner; Pantelis Skayannis; João Mourato

why?

IALE

*Urban Green Infrastructure (UGI) has evolved as a research topic across Europe recently. The understanding of the European Commission's Green Infrastructure, adopted in 2013, reflects a holistic approach. It extends the focus of **species and habitat conservation** of the Natura2000 approach, taking into account a variety of demands of our society, **contributing to societal health and human well-being**, including a green economy. The integration of these different aspects require innovative interdisciplinary planning, design and governance approaches which are at the focus of this symposium.*

AESOP

*Green infrastructure principally refers to a **multifunctional network of healthy ecosystems and serves the interests of both people and nature**. We strongly believe that in the light of the implementation of the EU green infrastructure strategy (European Commission 2013) this is a relevant topic to be discussed amongst the European Planning community at the AESOP conference in Lisbon 2017 in order to foster the development of approaches and tools towards its implementation.*

what?

... multifunctional network of healthy ecosystems which serves the interests of human - by positively affecting societal health and human well-being, and nature - by conserving species and habitats ...

“Green infrastructure is a tool for providing ecological, economic and social benefits through natural solutions, helping us to understand the advantages nature offers human society and to mobilize investments that sustain and enhance these benefits.”

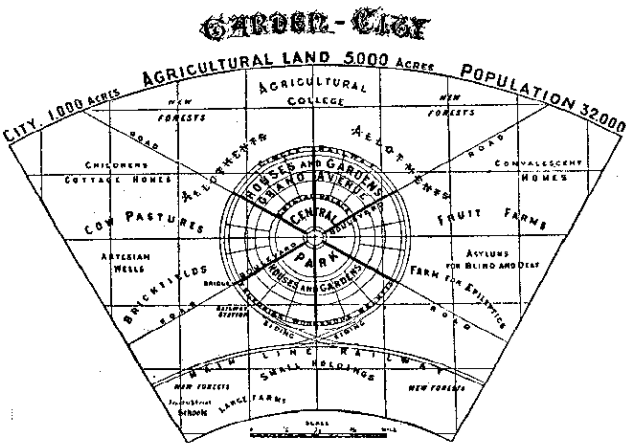
Dige et al., 2014: 8

since when?

greenways

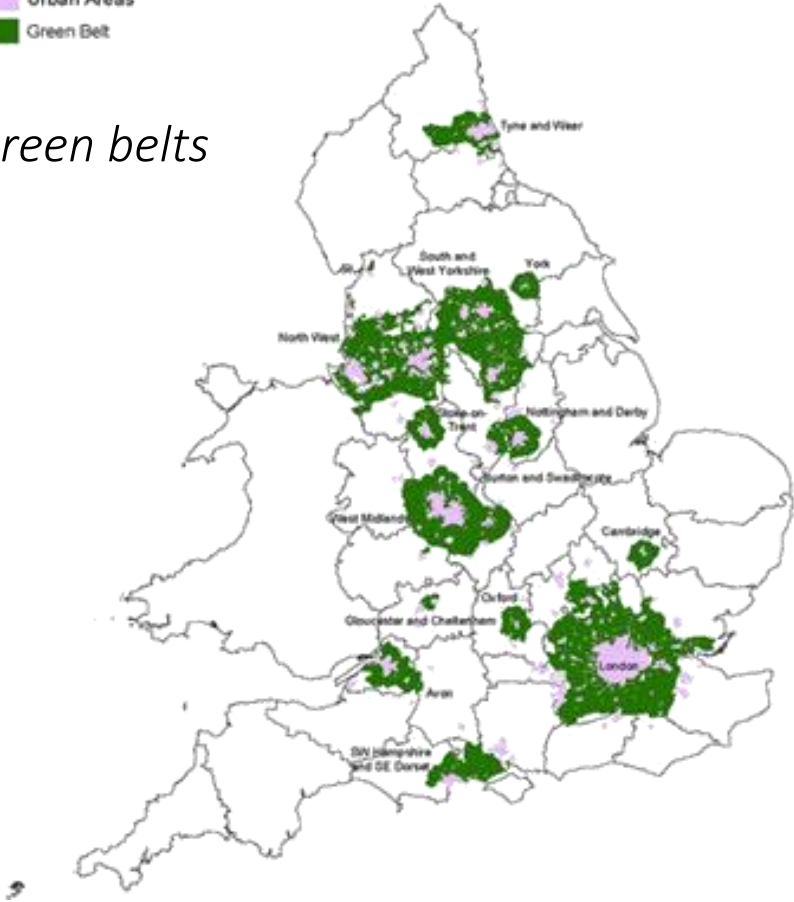


garden city (E. Howard)



Urban Areas¹
Green Belt

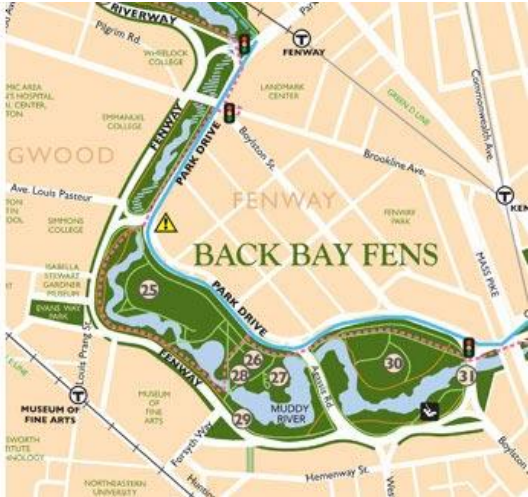
green belts



<http://web.co.lancaster.pa.us/267/Conestoga-Greenway-Trail>

<http://urbanplanning.library.cornell.edu/DOCS/howard.htm>

public parks (F. L. Olmsted: Boston Emerald Necklace)



<http://www.buildinglanduk.co.uk/greenbelt-land-uk.htm>

<http://www.emeraldnecklace.org/park-overview/emerald-necklace-map/>

GI within Slovenian spatial development strategy (SPRS)

urban sprawl, non-rational land use for industrial zones and adjacent infrastructure → negative impact on natural environment and GI

GI as one of the key issues that should be addressed in SPRS revision: GI as a topic within one of the 5 thematic groups:



(1) functional urban areas

(2) mountain and border areas

(3) countryside and green infrastructure

(4) possibilities for low-carbon society

(5) sea and the coast



spatial development model

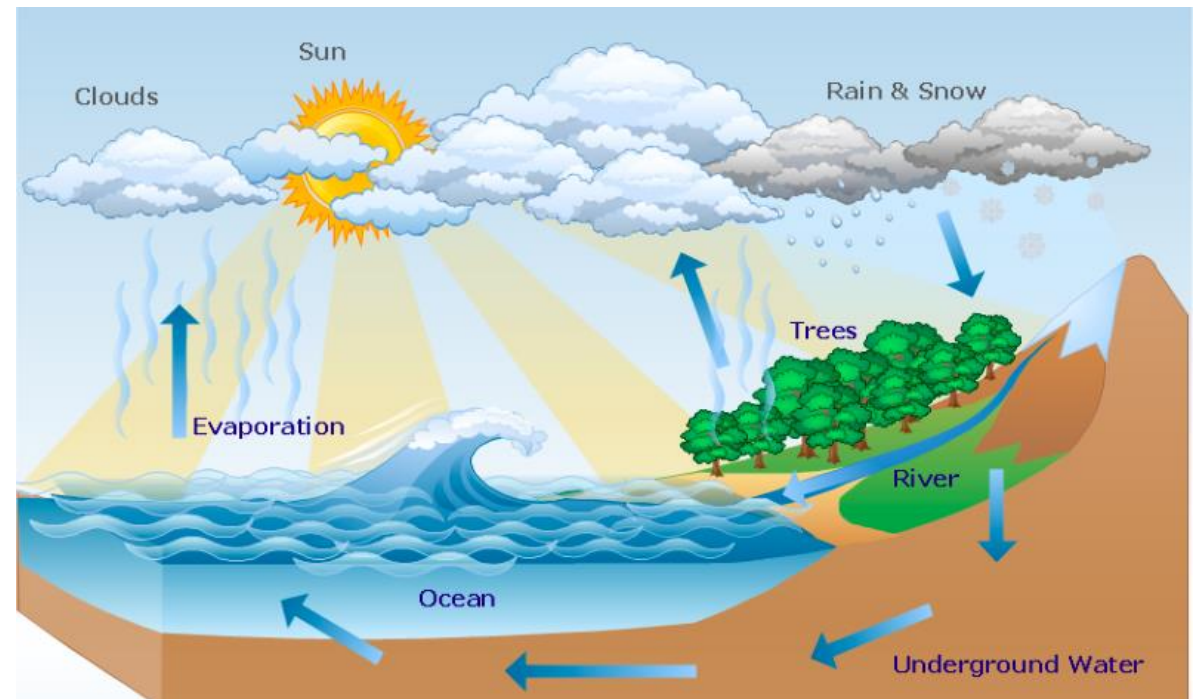
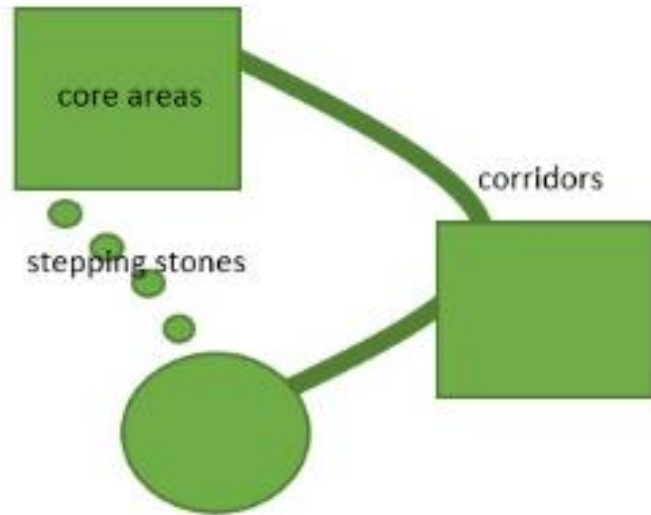


spatial development strategy

GI planning principles

1 GI is a strategic approach to planning, combining knowledge from landscape ecology and methodologies from landscape (ecological) planning

2 GI is a system of interlinked elements and processes

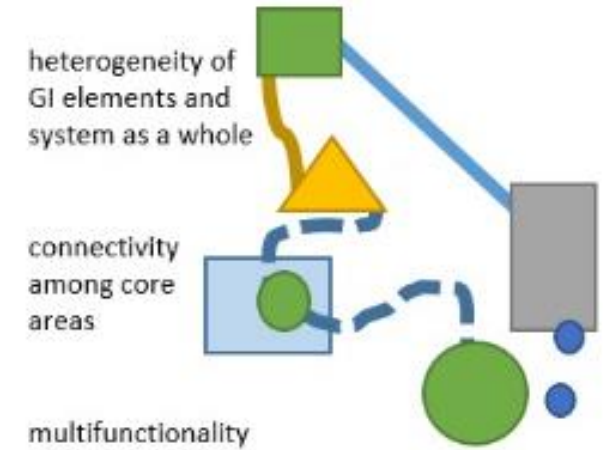


GI planning principles

1 GI is a strategic approach to planning

2 GI is a system of interlinked elements and processes

3 GI is heterogeneous, connected and multifunctional system



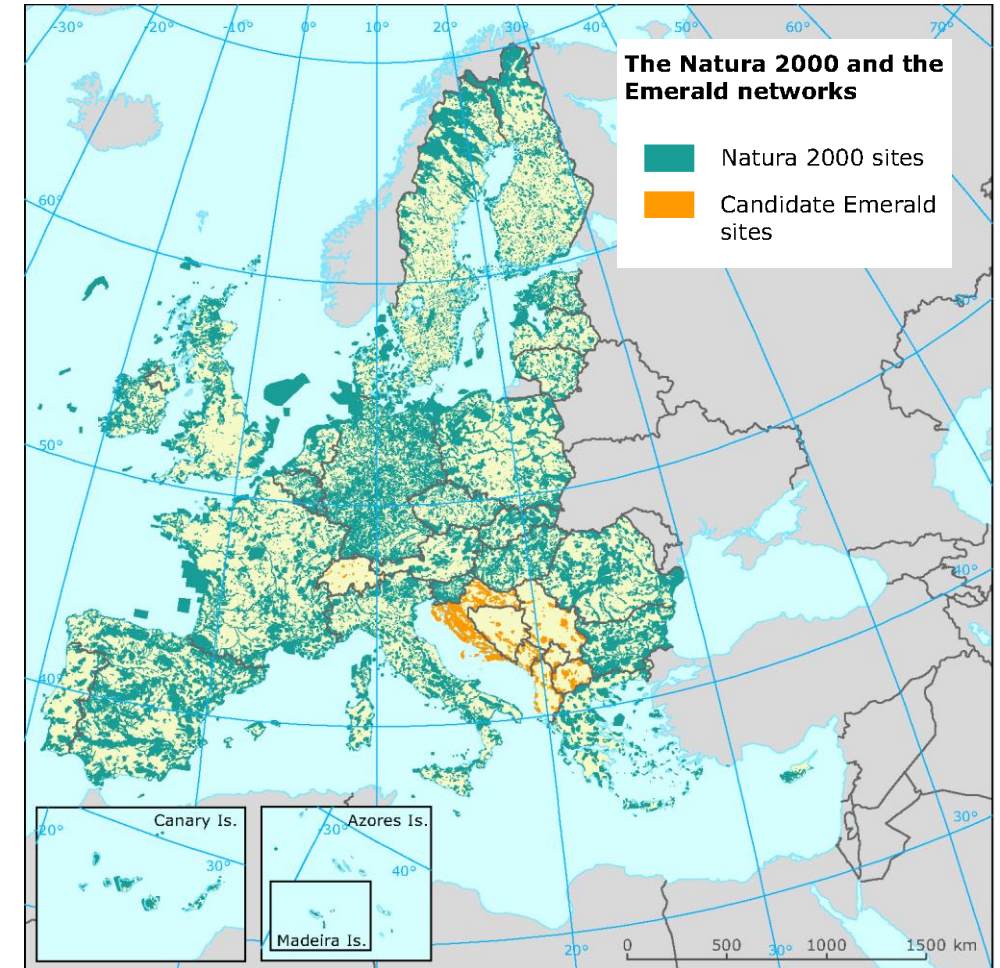
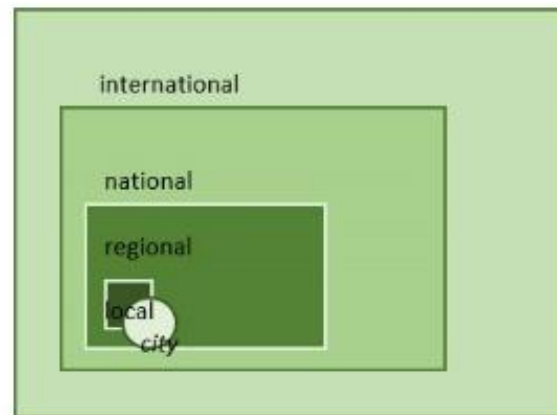
GI planning principles

1 GI is a strategic approach to planning

2 GI is a system of interlinked elements and processes

3 GI is heterogeneous, connected and multifunctional system

4 GI is hierarchical system



GI planning principles

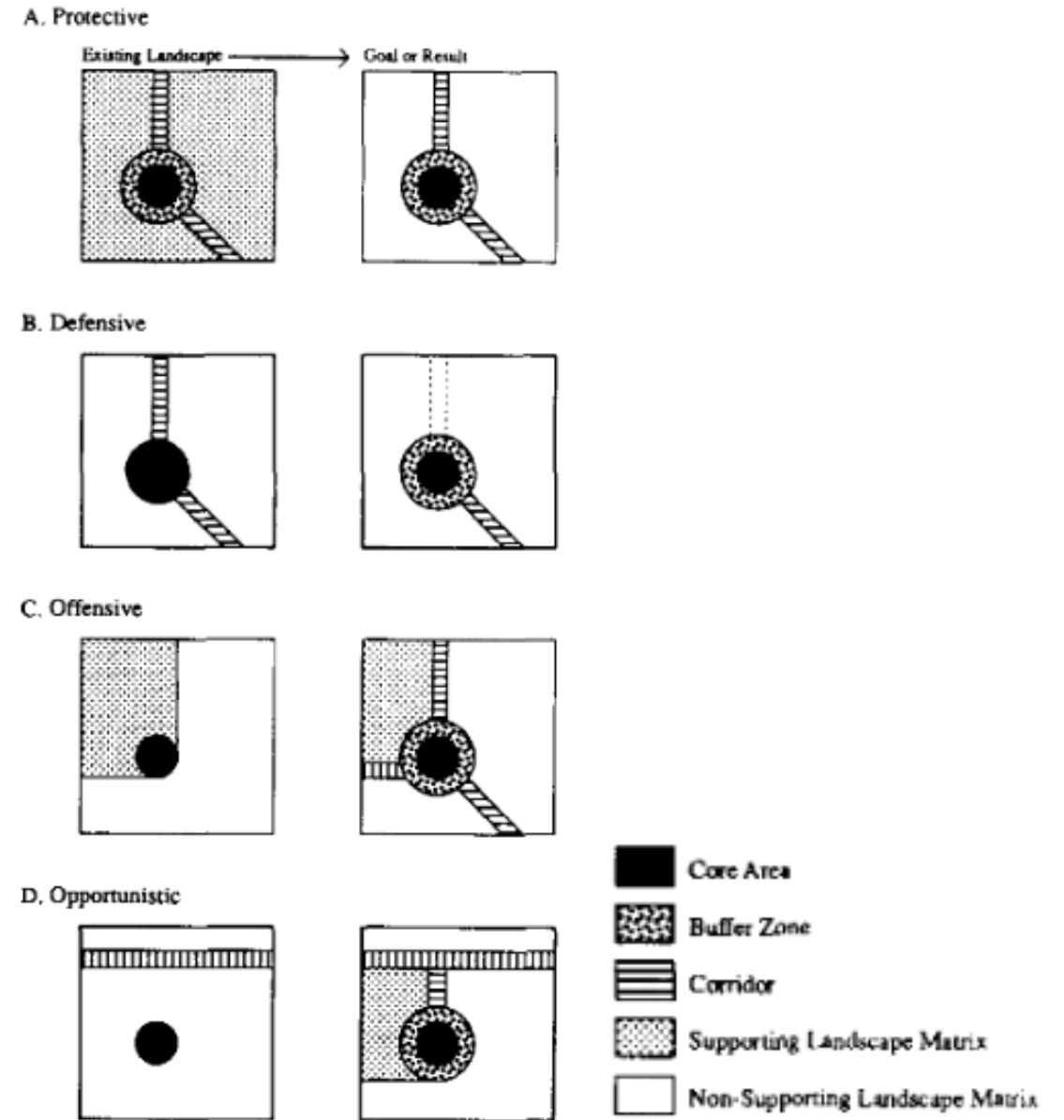
1 GI is a strategic approach to planning

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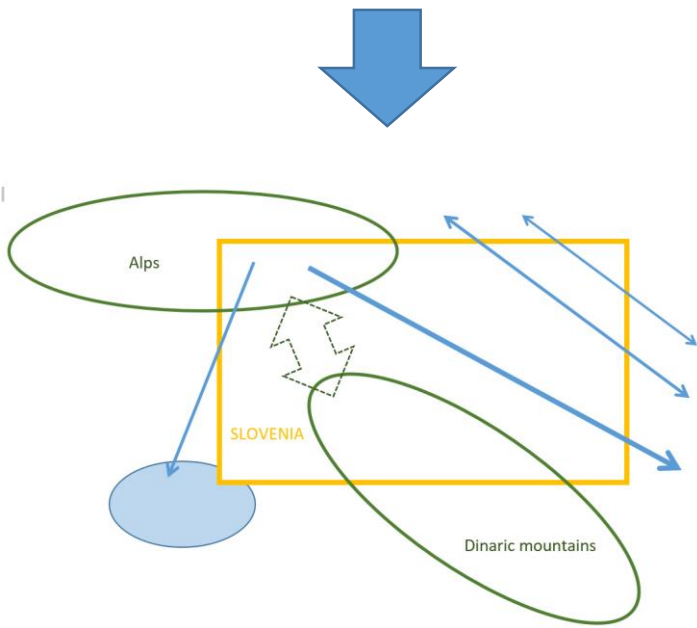
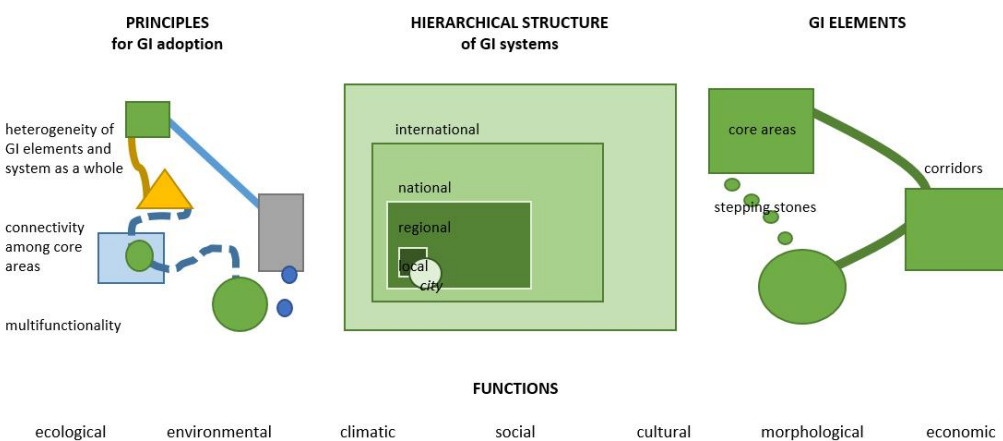
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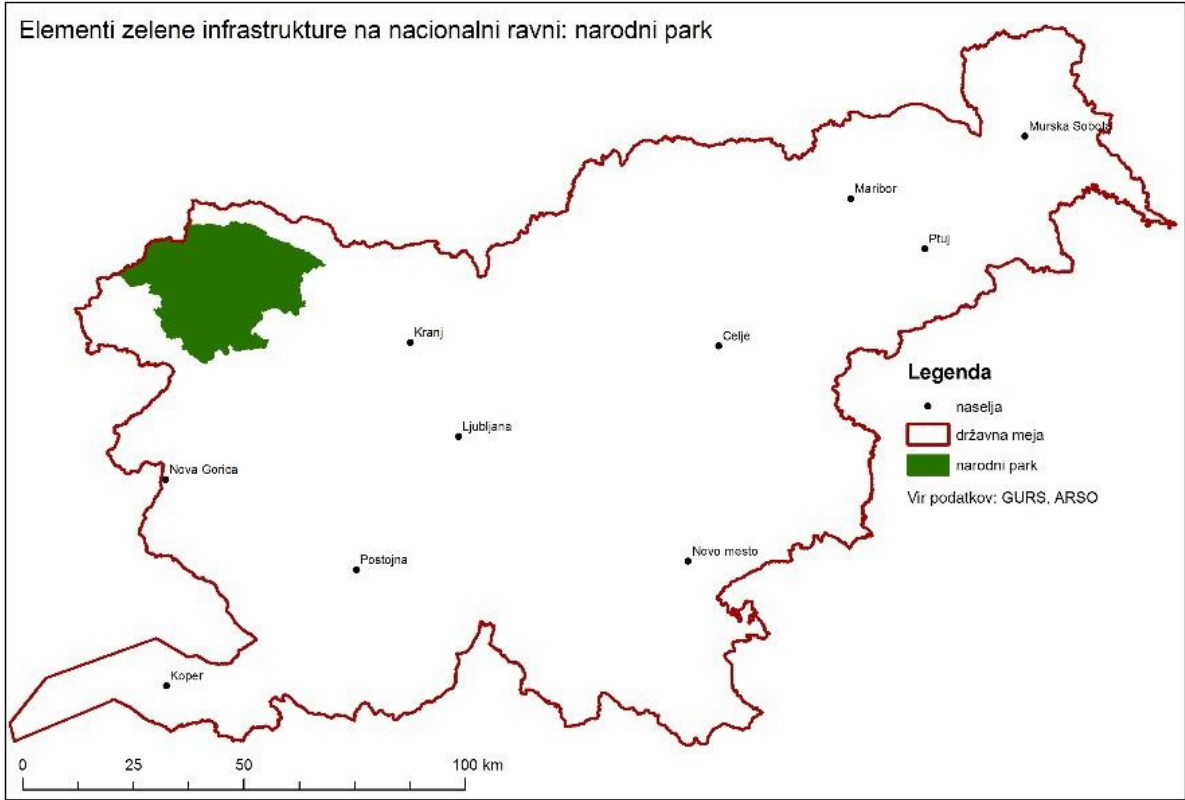
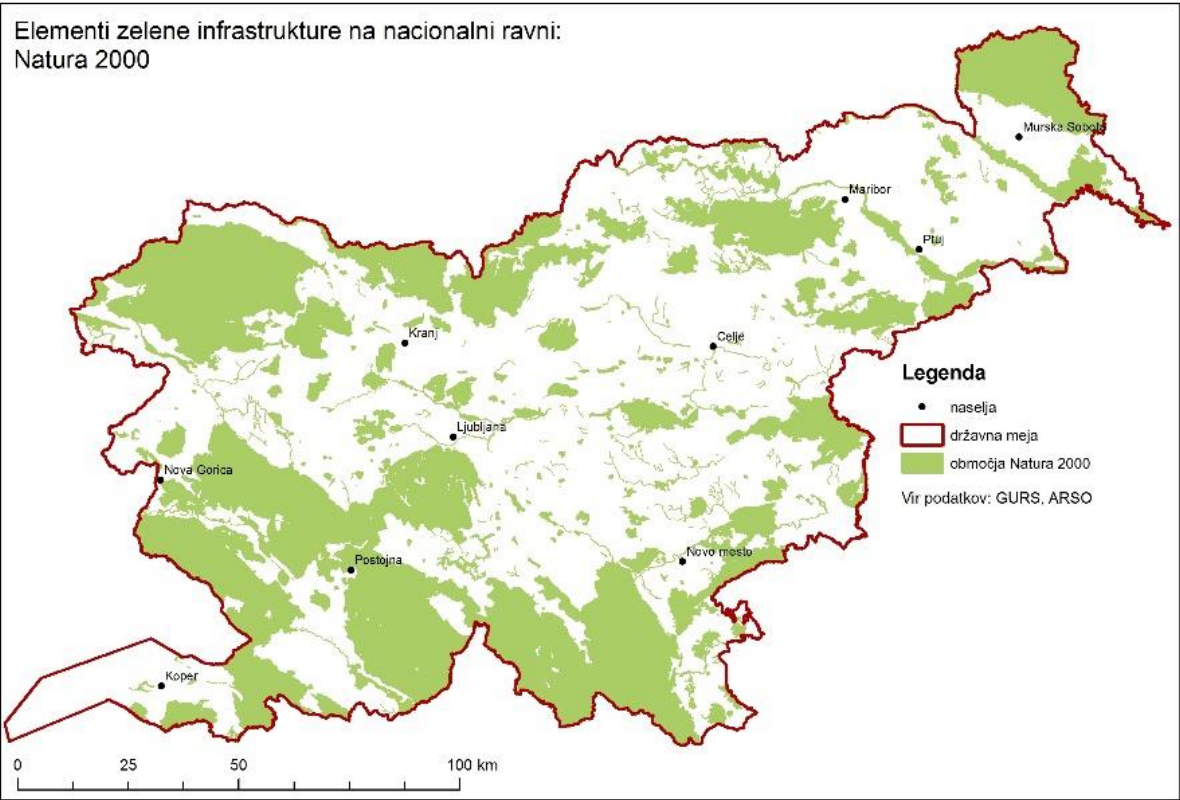
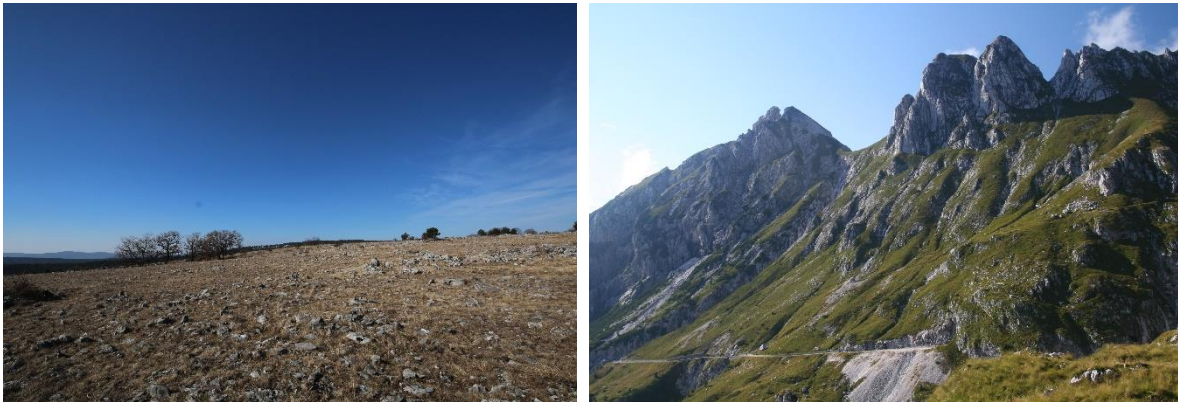
5 different strategies can be applied in GI development



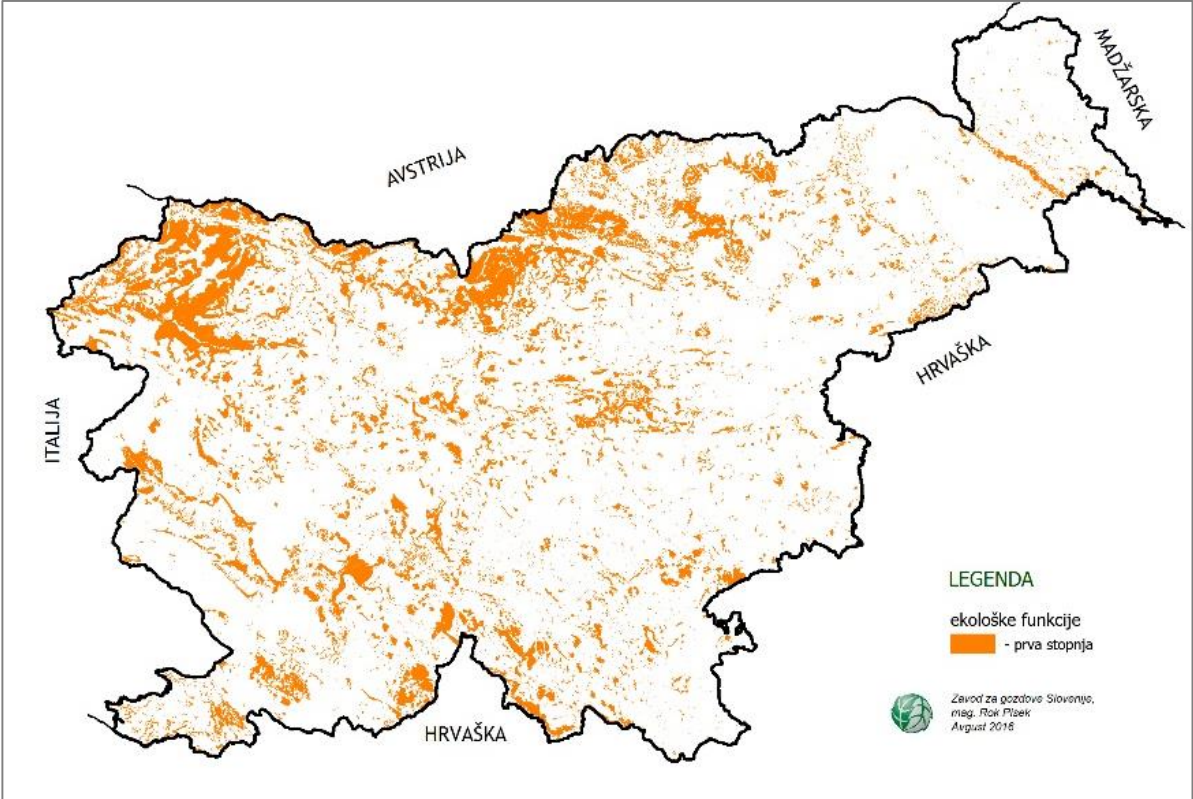
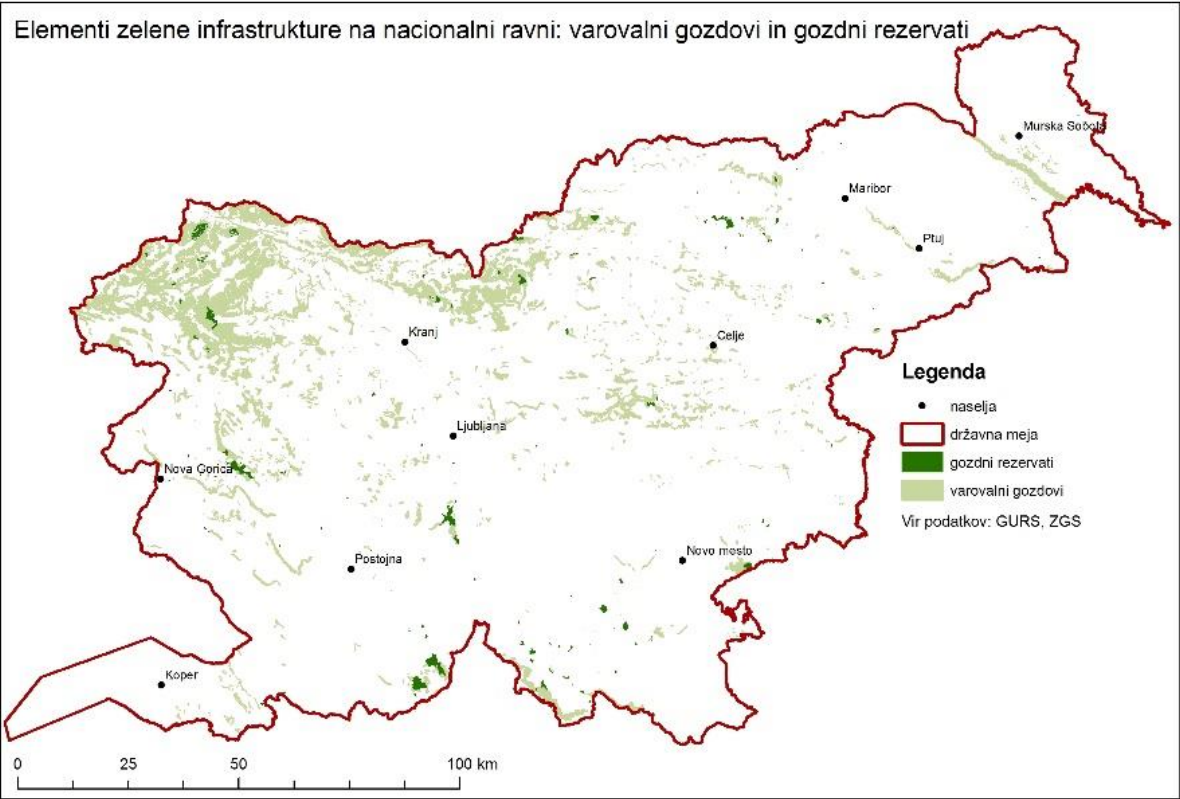
GI concept



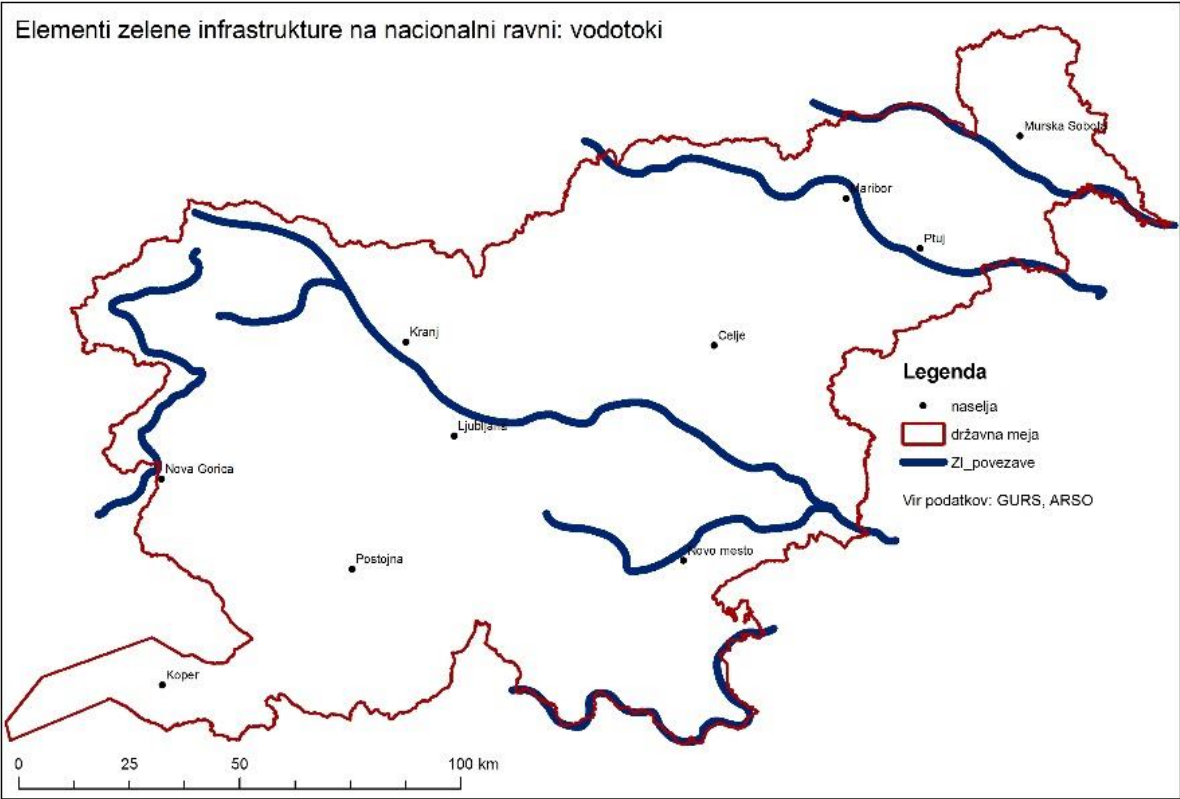
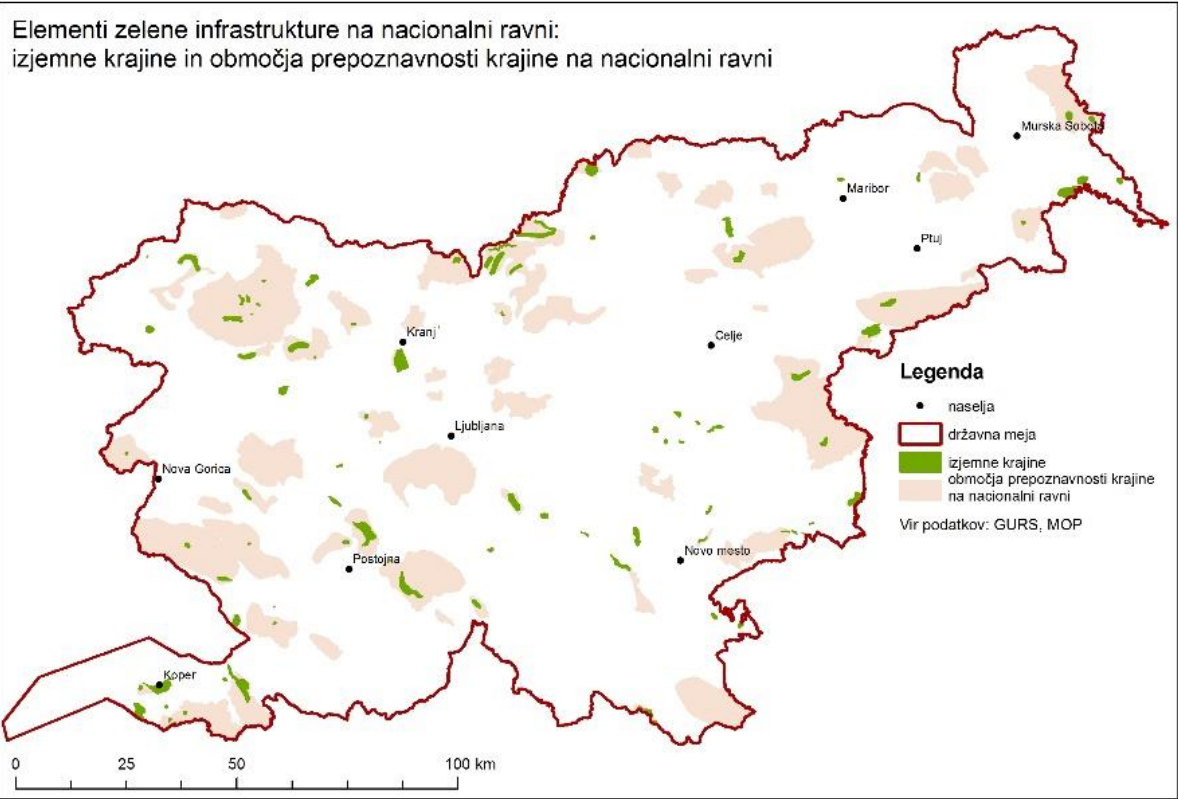
GI elements on national level (1)



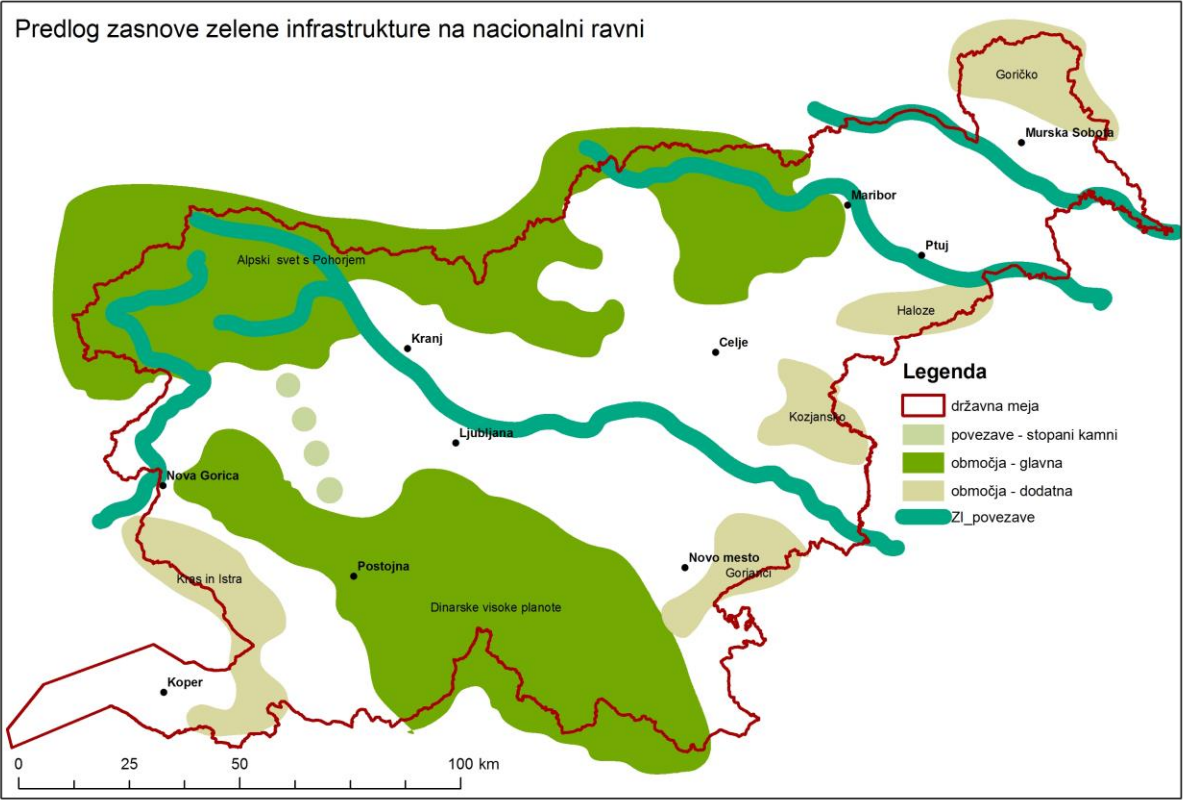
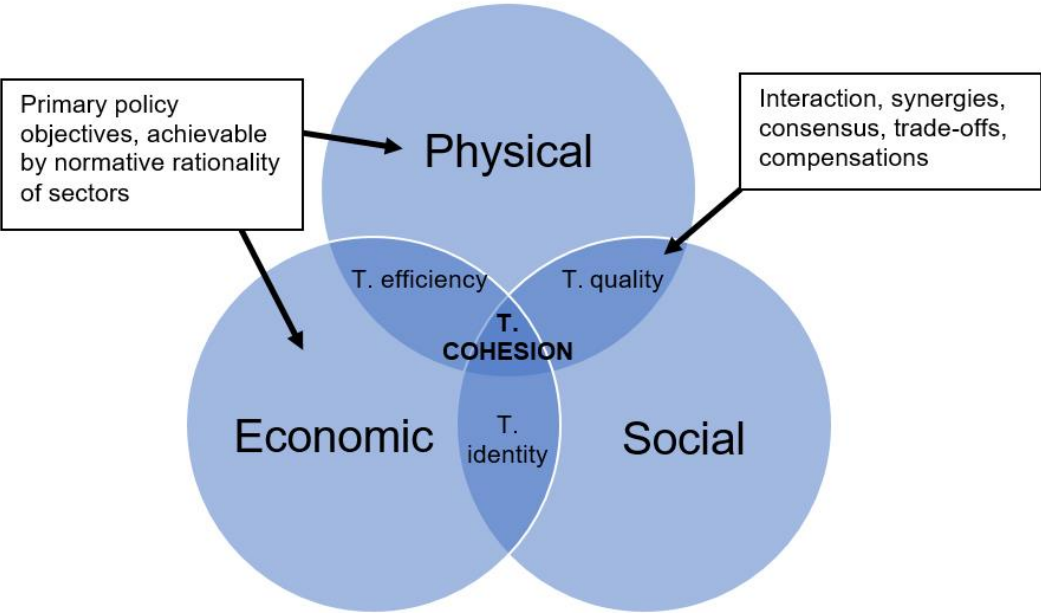
GI elements on national level (2)



GI elements on national level (3)



The principles of territorial cohesion for GI development

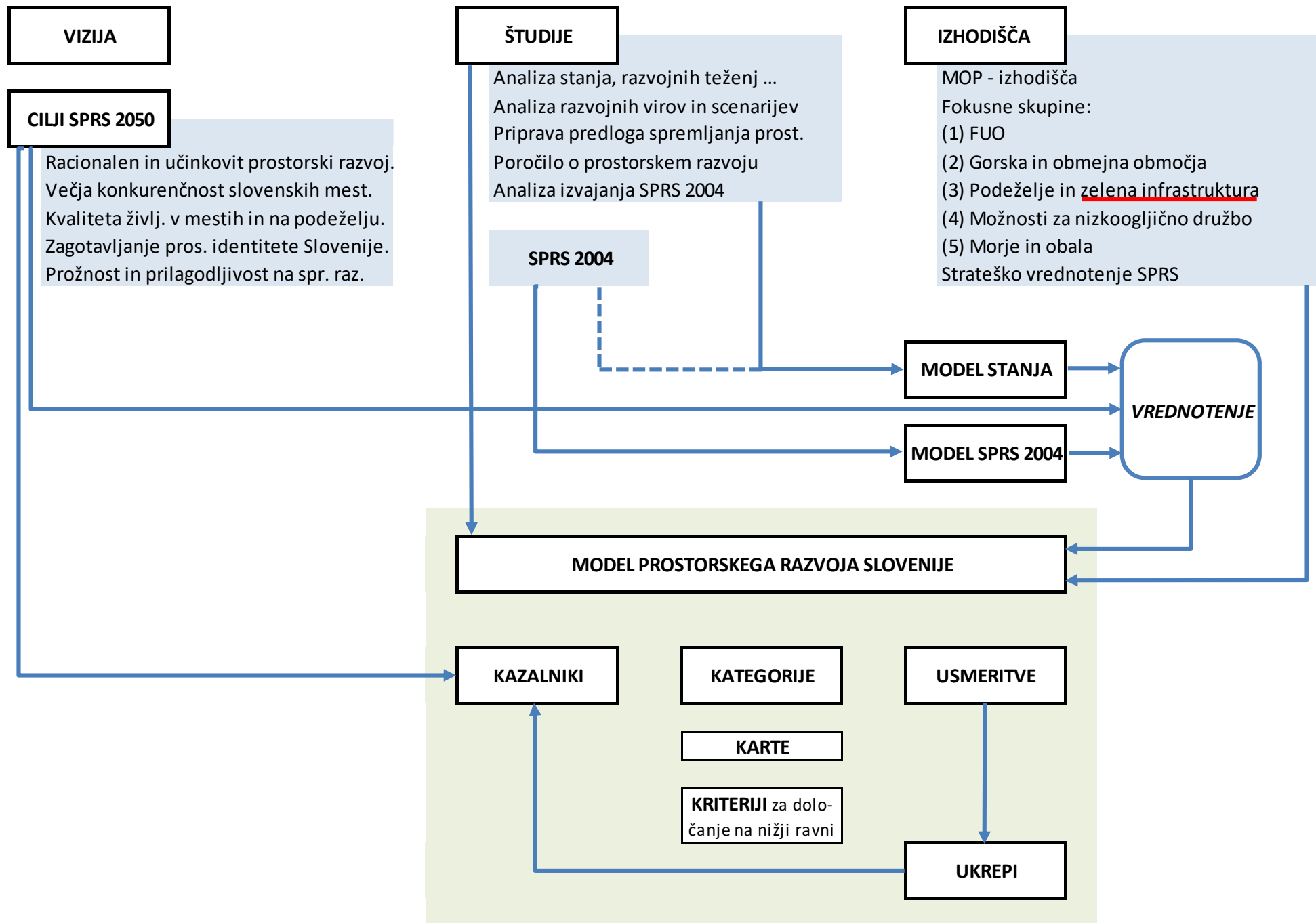


GI elements	Measures for inclusion of GI elements into national level GI system	Elements' characteristics	P	P	P	S	S	S	E
			ecological	environmental	climatic	social	cultural	morphological	economic
Element's functions**									
Importance of function on national level*			5	4	2	2	2	3	3
Natura 2000	Size and connectivity of the areas – to enable the connections between Alps and Dinaric mountains on international level; migration corridors of large carnivores	Core areas: managed landscape and cultural landscape	xx	x	x	x	0	0	0
National park	Whole area of Triglav national park	Core area: nature conservation reserve, managed natural landscape	xx	x	x	x	x	0	x
River corridors	Rivers Sava, Drava, Mura and Soča	Corridors	xx	x	x	x	x	xx	0
Landscapes of national importance	Areas which overlay with above mentioned elements; stepping stones within intensively cultivated/ densley populated landscape	Core areas/stepping stones: cultural landscape	0	0	0	x	xx	xx	x
Outstanding landscapes									
Forests with important ecological f.	All Forests with important social func. Conservation forests Forest reserves	Core areas: managed natural landscape	xx	xx	xx	xx	x	0	0
Forests with important social func.									
Conservation forests			xx	xx	x	0	0	0	0
Forest reserves									
Agricultural land	High nature value farmlands; agricultural land of lower quality and not within larger agricultural complexes	Core areas/stepping stones: cultural landscape	x	0	0	x	x	x	x
National nature conservation areas	Landscape and regional parks which serve as stepping stones and corridors	Core areas: managed natural and cultural landscape	x	x	0	x	x	x	x
Biosphere reserves	Areas within intensively cultivated landscape, stepping stones	Core areas/corridors: biosphere reserves	x	x	0	0	0	0	0
Habitats of large carnivores	Partly included as Natura 2000 areas; migrations	Core areas and corridors	x	x	0	0	0	0	0

* The importance of each function for the national level GI system as a whole is evaluated on 5-stage scale; value 1 means that the function is of no/minor importance on the national level and value 5 means that the function is of major importance on the national level.

** The importance of individual elements' function is evaluated on three stage scale: xx – function of great importance, x – function of medium importance, 0 – function of minor or no importance.

E - economic, S – social, P – physical



Applications (1)

Ljubljana urban region
development plan
(2009): conservation
areas

Strokovne podlage za pripravo regionalnega prostorskega načrta Ljubljanske urbane regije

REGIONALNA ZASNOVA PROSTORSKIH UREDITEV LUR
pregledna karta regije s prikazom varovanih območij in omejitev

LEGENDA:

- varstvo narave (varovana in zavarovana območja narave)
 - naravne vrednote
 - območja najboljših kmetijskih zemljišč
 - varovalni gozd
 - gozdni rezervat
 - območja voda
- vodovarstvena območja - državni nivo
režim varstva
- 0 - območje zajetja
 - 1 - najboljše vodovarstveno območje
 - 2 - ožje varstveno območje
 - 2A - ožje vodovarstveno območje s strogim vodovarstvenim režimom
 - 2B - ožje vodovarstveno območje z manj strogim vodovarstvenim režimom
 - 3 - širše vodovarstveno območje
- vodovarstvena območja - občinski nivo
režim varstva
- 1
 - 1A
 - 1B
 - 2
 - 3
 - 4
- poplavna območja
- območja katastrofalnih poplav
 - območja pogostih poplav
 - območja rednih poplav
- strma zemljišča z nagibi nad 30°
 - erozijska žarišča
 - strogo protierozijsko varovanje
 - zanevnejši protierozijski ukrepi
- † katalište Ljubljana
 - avtocesta
 - HC, G1, G2
 - železniške proge
 - meja LUR
 - meja občine

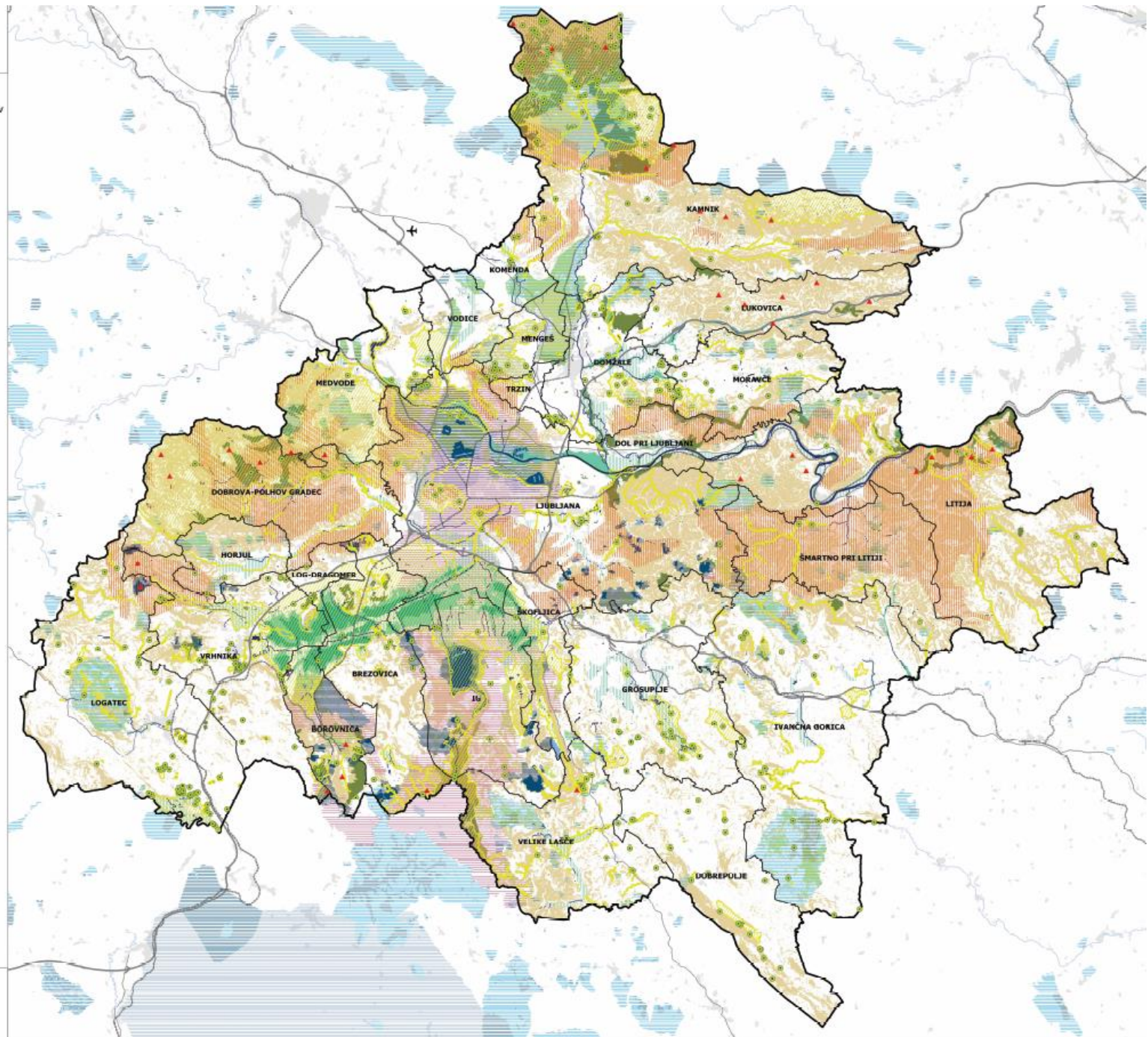
0 2,5 5 10 km

© Urbanistični inštitut Republike Slovenije, avtorji 2009

Nacionalni inštitut za razvoj
regionalnega prostorskega načrta

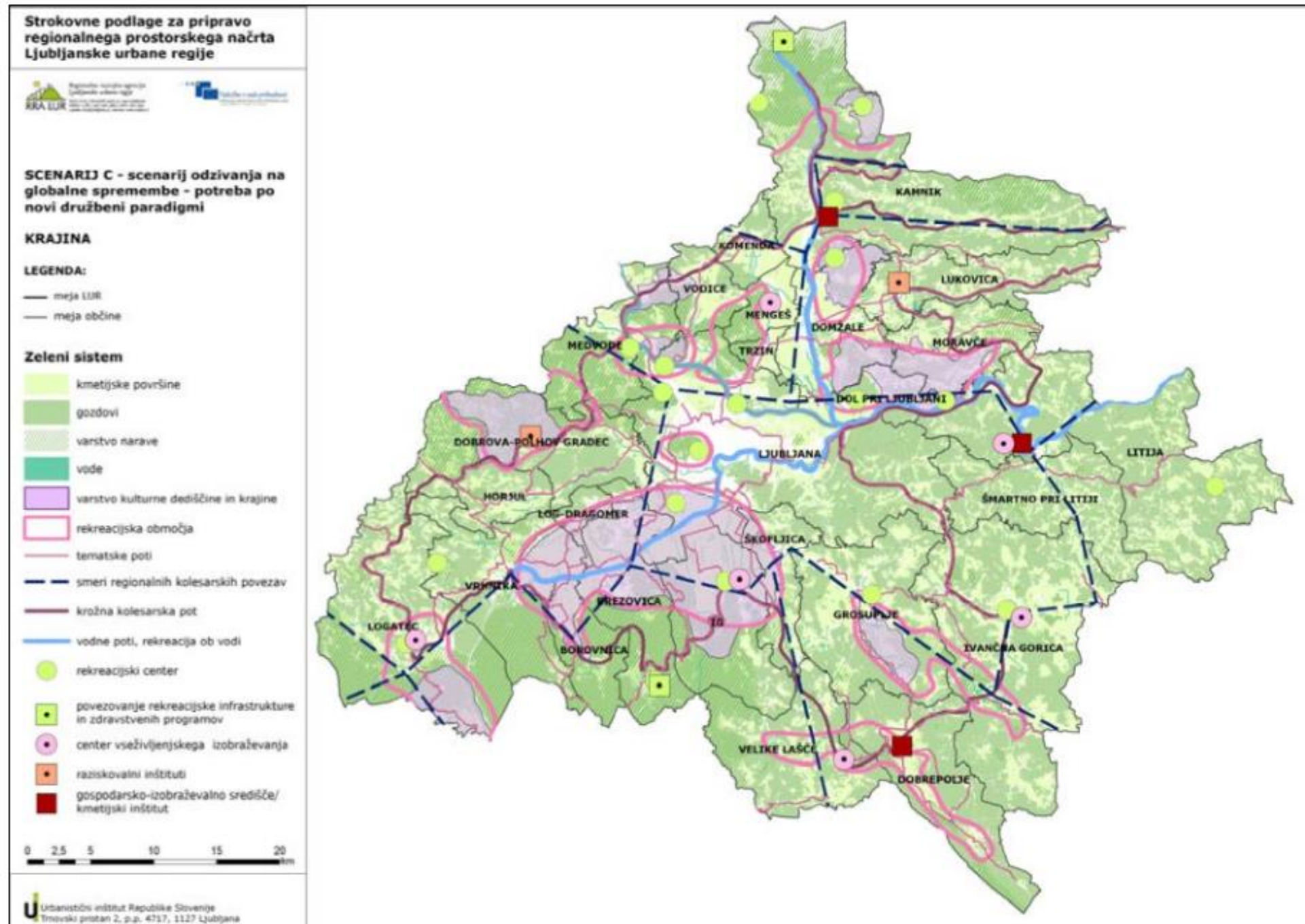
Regionalna razvojna agencija
Ljubljanske urbane regije
RRA LUR

Urbanistični inštitut Republike Slovenije
Trnovski prištan 2, p.p. 4717, 1127 Ljubljana



Applications (1)

Ljubljana urban region
regional development
plan: 3 SCENARIOS –
landscape (=GI)



Applications (2)

Greenway planning: Recreational corridors within Ljubljana urban region (2014/15)

STARTING POINTS: 1 Physical activity is an important factor of healthy lifestyle

2 Accessible open space supports physical activity

3 Potentials in Ljubljana urban region: geographic features, existing facilities, urban population

4 Problems: accessibility (for all user groups), maintenance

VISION: Physical activity as a life style of Ljubljana urban region inhabitants.

OBJECTIVES: 1 Establishing a network of recreation trails and multifunctional sport centers for a variety of users and year-round use,

2 Accessibility with public transport and/or bicycle,

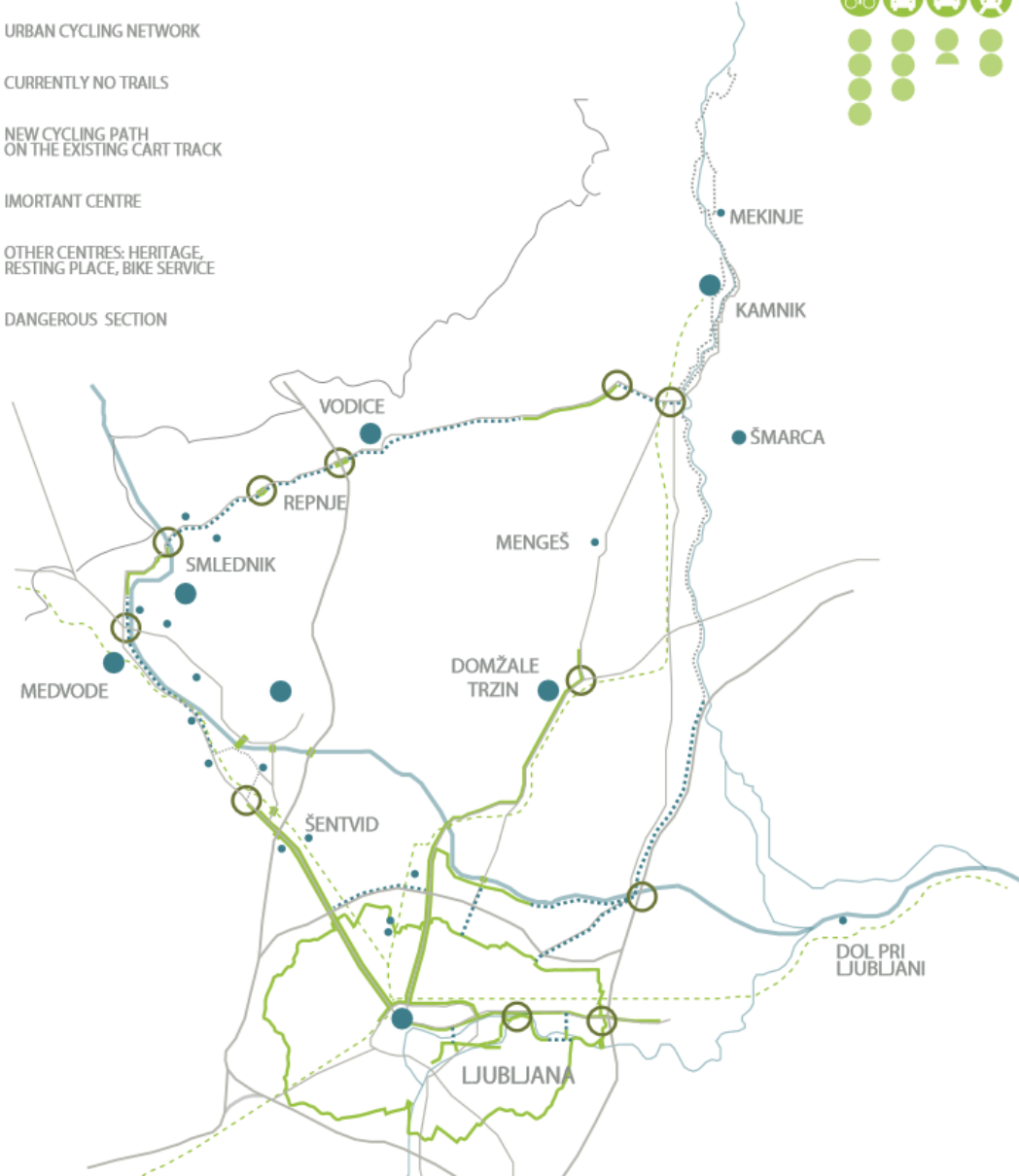
3 (Re)use of degraded or unused sites,

4 Connect nature conservation, education and recreation.

Applications (2)

NEW CYCLING PATHS

- URBAN CYCLING NETWORK
- CURRENTLY NO TRAILS
- NEW CYCLING PATH ON THE EXISTING CART TRACK
- IMORTANT CENTRE
- OTHER CENTRES: HERITAGE, RESTING PLACE, BIKE SERVICE
- DANGEROUS SECTION



13 km
LJUBLJANA - MEDVODE



20 km
MEDVODE - KAMNIK



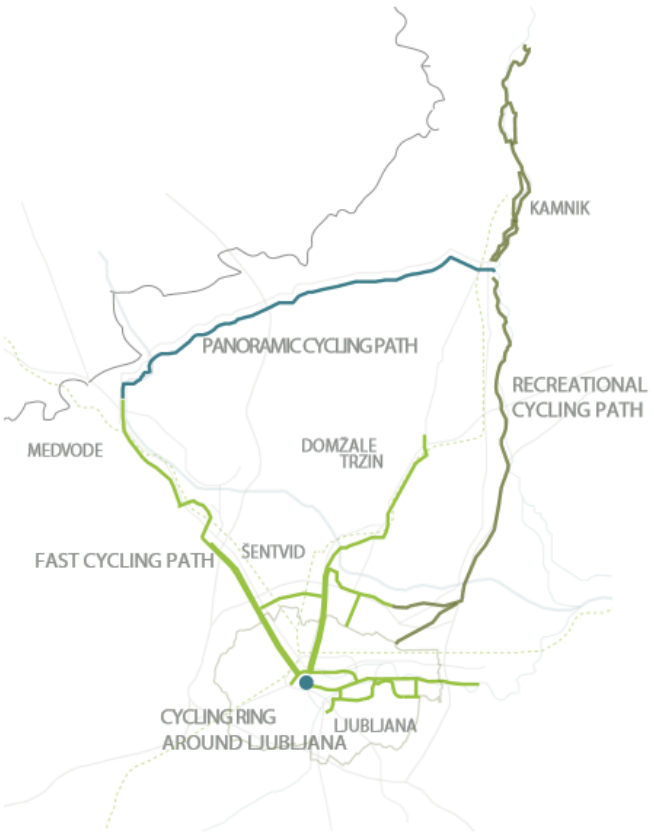
23 km
KAMNIK - LJUBLJANA



12 km
TRZIN - LJUBLJANA

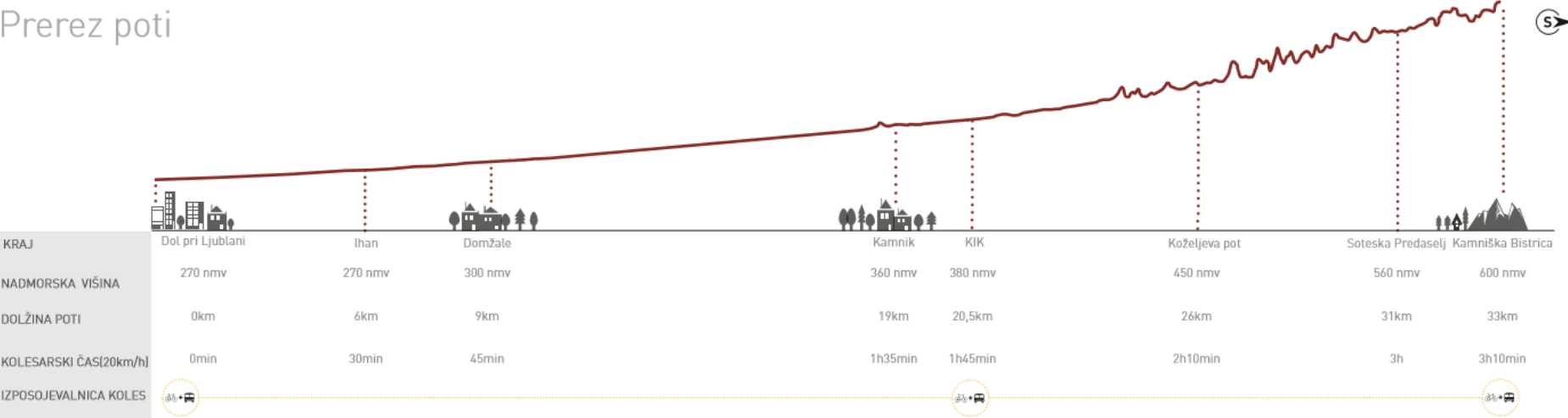


10 min

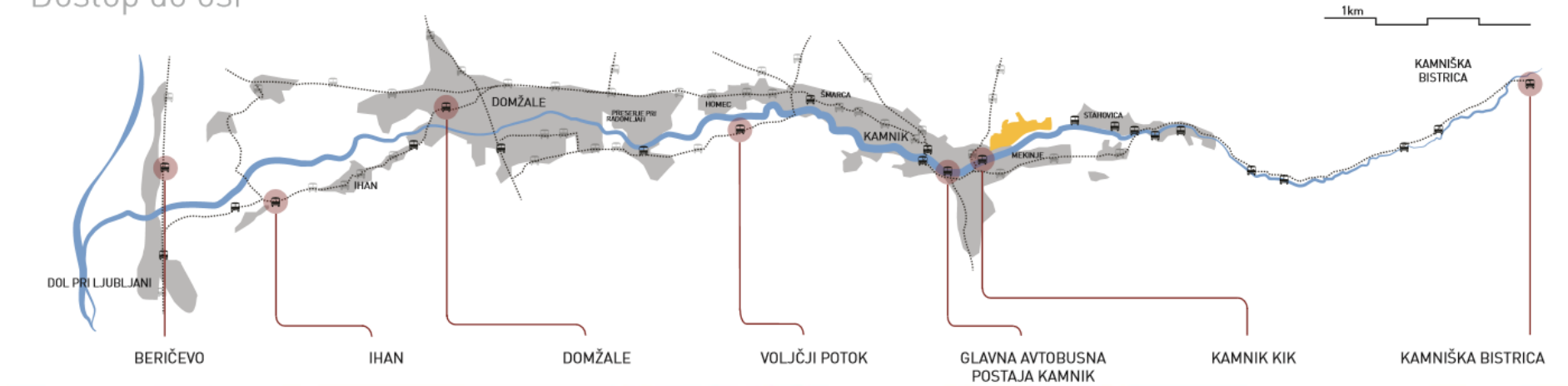


Applications (2)

Prerez poti



Dostop do osi

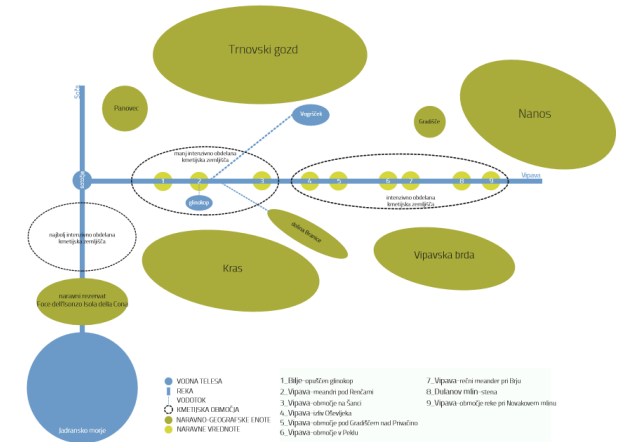


Applications (3)

GI development along the Vipava river (2017)

1 various scales: regional – local – international

2 students – local inhabitants – children – municipality – etc.



DELAVNICE Z OSNOVNOŠOLCI

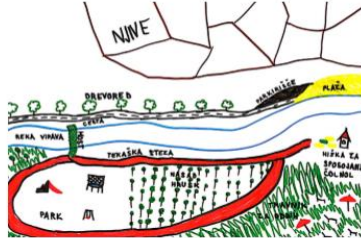
3. in 4. razred



5. razred



7. razred



8. razred



"STORYTELLING"

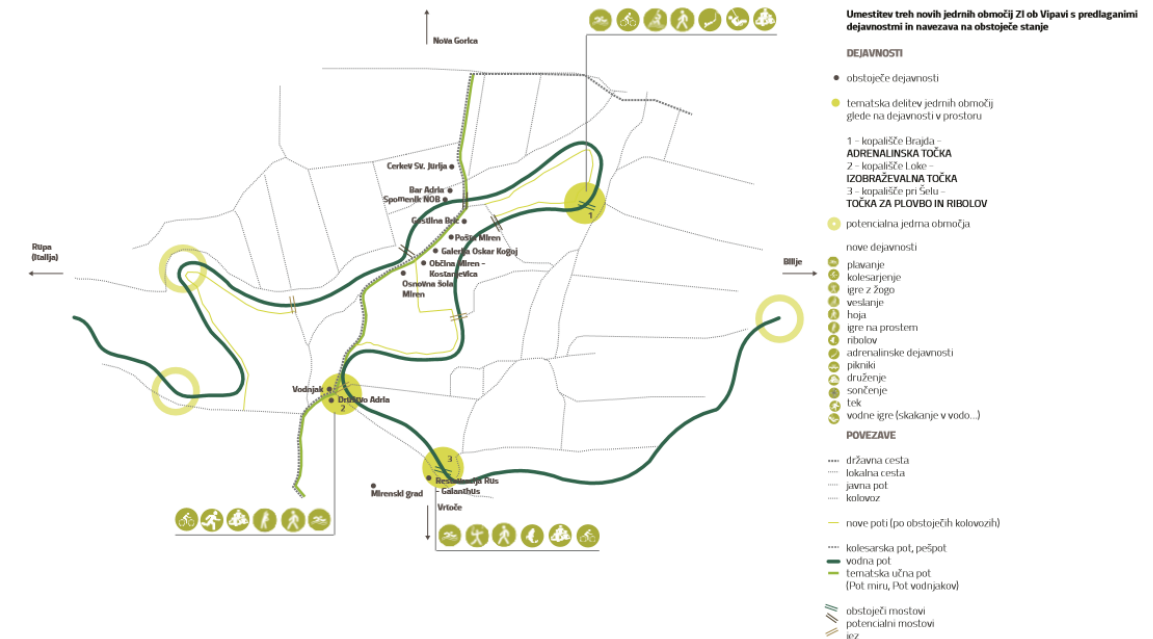
Storytelling ali zgodbarjenje je učinkovito trženjsko orodje, ki v Sloveniji vse bolj postaja celosten in več nivojski pristop k razvoju zgodb. Informacije so statične, zgodbe so dinamične in imajo v sebi velik potencial ponazoritve sporočila.

Vir: Urad vlade za komuniciranje, Republika Slovenija



Delavnice

Načrtovanje zelene infrastrukture



Thank you for your attention!



Ljubljansko barje 7.5.2015