



Project ID: DTP3-1-433-2.2

D.T.2.1.2. Spatial plan to understand the centre-periphery-borderland relations all along the Danube

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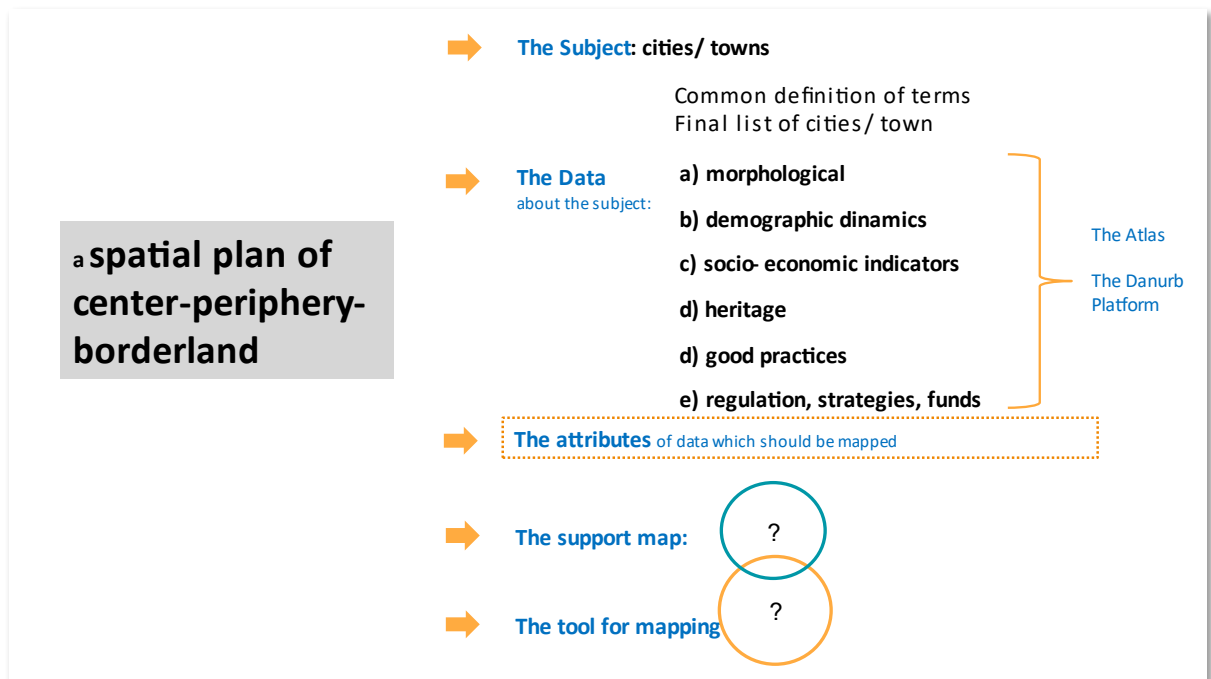
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I. PREMISES

The deliverable was structured following the proposals made during the *Workshops on exploring common patterns in development potentials for peripheral situations along the Danube with the mapping of planning priorities and measures at local and regional level (BME)*, as part of the same Output > **Resource guide to define the common development potentials in peripheral and border regions along the Danube**. Also, the deliverable has inputs from the *Workshops on methodology for researching morphology and local values and to compile the morphological and value categories for Danube towns (UAUIM)* and from the *Student workshops to create heritage development plans (UAUIM)*.

Passing through all of these sections, there are presented the main important elements for partners to support them to develop spatial plans for studied cities in their region, and to help in the understanding better the center- periphery- borderland relations along the Danube.



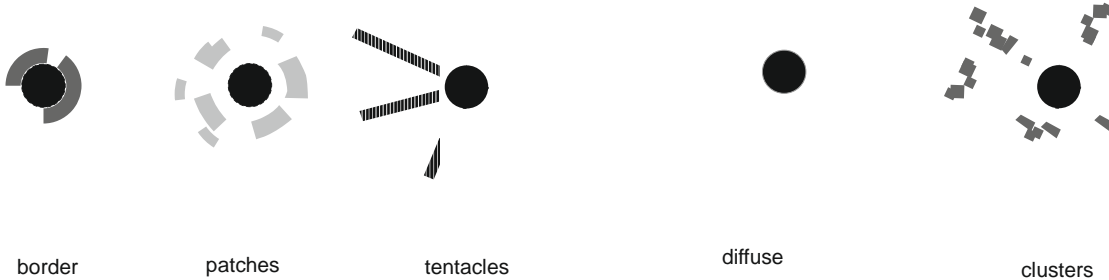


The study started from several crucial research questions:

- **Why a region/ city/ town can be considered peripheral?**

Specific factors:

- Position within the geographical territory
- Relation to centers within the regional settlement matrix
- Administrative aspects (national, regional, EU border)
- Accessibility and connectivity in relation to the main transport corridors
- Socio-economic aspects (scarcity, low salaries, unemployment, aging, small relevance in tourism etc)



- **Why an area of a city/ town can be considered peripheral?**

Specific factors:

- Position within the urban territory – distance to national border
- Administrative and legal aspects (uncertain administration, legal status)
- Accessibility and connectivity in relation to the city street network
- Land use and activities (ongoing/ abandoned activities, public attractivity, port, leisure etc)
- Morphological aspects of the urban fabric (unstructured urban forms, space character)
- Socio-economic aspects (scarcity, ghetto/slums, criminality/violence ratio, etc)

- **Which are the urban phenomena that determine the appearance of peripheries?**

- *Different growth patterns (historical evolution of the urban fabric)*
- *Different planning systems (type of development laws/ regulation, economic development urban- rural, level of uncontrolled development etc)*



- Major changes in land use and cities functional profile (abandoned activities, lack of public attractivity, temporar uses, informal housing etc)
- Border conditions (EU/ Schengen, control procedures etc)

II. METHODOLOGY

In order to address the multiple relationship between centrality-periphery and border in the case of cities located on the Danube, we need to specify that this triangle (and more precisely the relationships and forces involved) is the basis of territorial dynamics in the Danube basin since ancient times. . The Danube, also called the river of empires, has always been marked by the power relations between the centers of Western Europe - the Habsburg Empire and the Eastern European and Southern - the Ottoman Empire, the USSR.

A TYPOLOGICAL FRAMEWORK

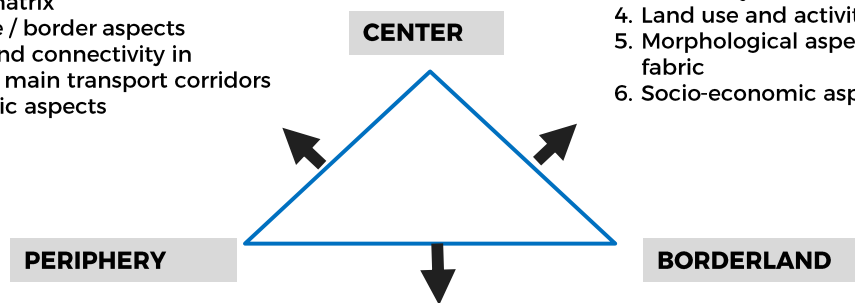
to understand the **center-periphery-borderland relations** along the Danube

CENTER - PERIPHERY:

1. Position within the geographical territory
2. Relation to centers within the regional settlements' matrix
3. Administrative / border aspects
4. Accessibility and connectivity in relation to the main transport corridors
5. Socio-economic aspects

CENTER - BORDERLAND:

1. Position within the urban territory
2. Administrative and legal aspects
3. Accessibility and connectivity in relation to the city street network
4. Land use and activities
5. Morphological aspects of the urban fabric
6. Socio-economic aspects



PERIPHERY - BORDERLAND:

1. Position within the urban territory
2. Administrative and legal aspects
3. Accessibility and connectivity
4. Land use and activities
5. Morphological aspects of the urban fabric
6. Socio-economic aspects
7. River front configuration



III. MATRIX CRITERIA FOR ANALYSIS OF URBAN PERIPHERIES

We have determined that it is necessary to establish a number of attributes to be mapped as a unit in all cases, and with a representation code to be established. The matrix presented below sums up 30 attributes needed to be addressed in local spatial plans.

MATRIX OF SHRINKING & PERIPHERAL LOCAL ATRIBUTES OF DANUBE CITIES/ TOWNS (ASP_s)				
Name of City/ Town:		Google Maps coordinates		
Country		GOOGLEMAP LINK		
CURRENT POPULATION (inhab.)				
Ir.crt.	DOMAIN	ATTRIBUTE	CODE	GRAPHIC CODE
	MORPHOLOGICAL ASPECTS	destructured urban fabric	M01	poligon
		disconnected urban land	M02	poligon
		urban sprawl areas	M03	poligon
	INFRASTRUCTURE / ACESIBILITY	poor connection with highway/ rapid routes	A01	dot or poligon
		poor/no connectivity to TEN-T corridors	A02	dot or poligon
		poor railway connectivity	A03	dot or poligon
		poor velo connectivity	A04	line
		poor pedestrian accesibility	A06	line
	ECONOMY	declining/ abandoned industries	E01	dot
		emergent but still faible new bussines	E02	dot
		creative industries	E03	dot
	SOCIAL ASPECTS	ethnic ghettos	S01	dot
		migrants ghettos	S02	dot
		unsecure areas	S03	dot
		abandoned business	S04	dot
	PUBLIC UTILITIES COVERAGE	lack of sewer system	PU01	dot
		lack of water system	PU02	dot
		spontaneous landfills	PU03	dot
	FUNCTIONAL ASPECTS	residual lands/ not use areas	F01	poligon
		abandoned buildings or plots	F02	poligon
		not well equiped urban green spaces	F03	poligon
		disturbing functions/ activities	F04	poligon
	ENVIRONMENT ASPECTS	spontaneous green	E01	poligon
		wet lands not protected/used	E02	poligon
		damaged water shores	E03	line
	CULTURAL ASPECTS	place of regional/ international cultural events	C01	dot
		places of strong local identity	C02	dot
		unrecognized heritage items	C03	dot
	LANDSCAPE	visual agressed landscapes	L01	poligon
		panoramic views	L02	dot
		most valuable landscape potential	L03	poligon



IV. THE SURVEY EXPLORING COMMON PATTERNS IN DEVELOPMENT POTENTIALS¹


Exploring common patterns in development potentials for peripheral situations along the Danube - contribution to O2.1. Resource guide to define the common development potentials in peripheral and border regions along the Danube

<https://docs.google.com/forms/d/1WtxTfpCX09ff15tuM7JiV8LAoGZfSBKcB7gQLaL2Vw/edit#responses>

The questionnaire helps to identify a common set of attributes and factors that define the urban peripheries of the Danube cities, in the frame of DANURB+ project.

Please, complete the questionnaire considering the focus on shrinking cities situated in Danube region to which you are the most familiar, studied as ASP within Danurb+.

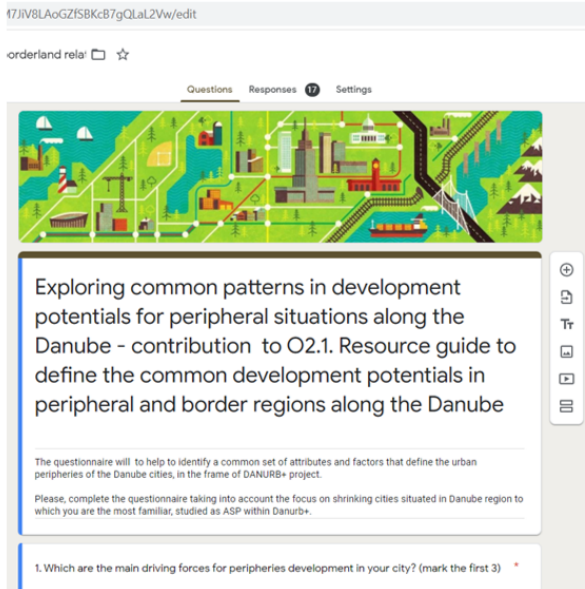
The questionnaire - as design and purpose- have been presented and discussed within Bratislava conference and partners meeting:



Questionnaire

<https://forms.gle/pc3E8MpPi7YPhWXq9>

- the **driving forces for peripheries'** appearance in your region/ city?
- the most **important factors influencing the actual peripheral character** of your region / city?
- the **10 dominant attributes of peripheries** at city/ local scale?
- barriers for transformation of the peripheries** into harmonious urban centers?
- type of projects are most necessary in your city in order to transform the peripheries?**



DANURB+ First Year Review
13 October, 2021
Faculty of Architecture STU
Bratislava, Slovakia

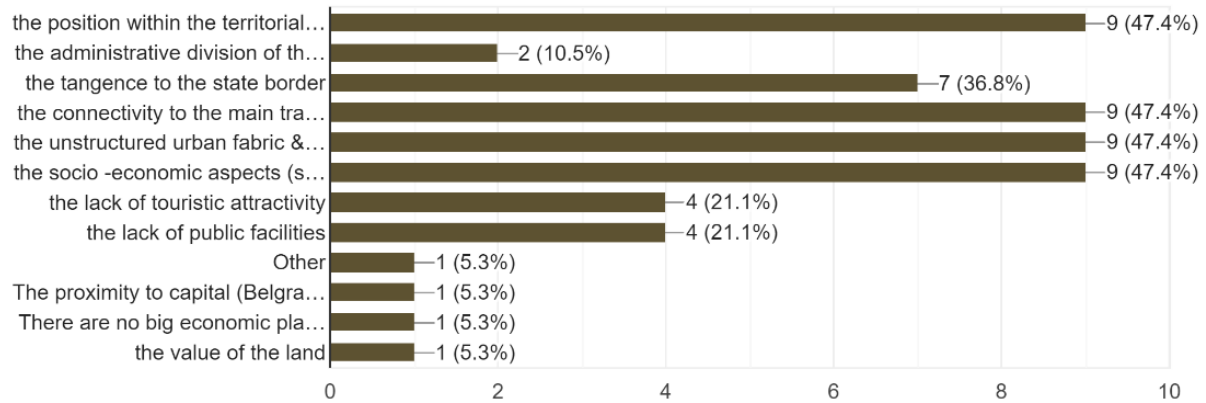
¹ AMONG DANURB PROJECT PARTNERS



The results of the survey are as follows (19 answers):

1. Which are the main driving forces for peripheries development in your city? (mark the first 3)

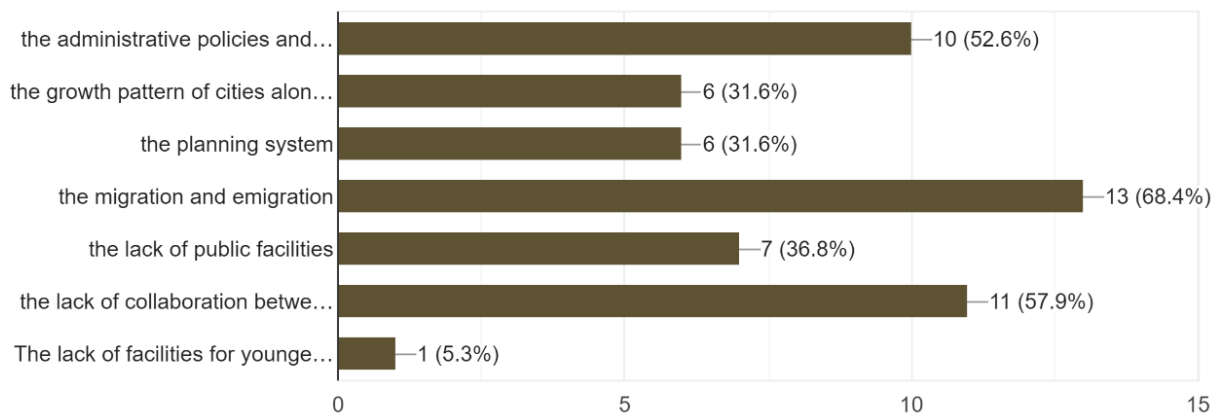
19 responses



2. Which are the most important factors influencing the actual peripheral character of your city?

(mark the first 3)

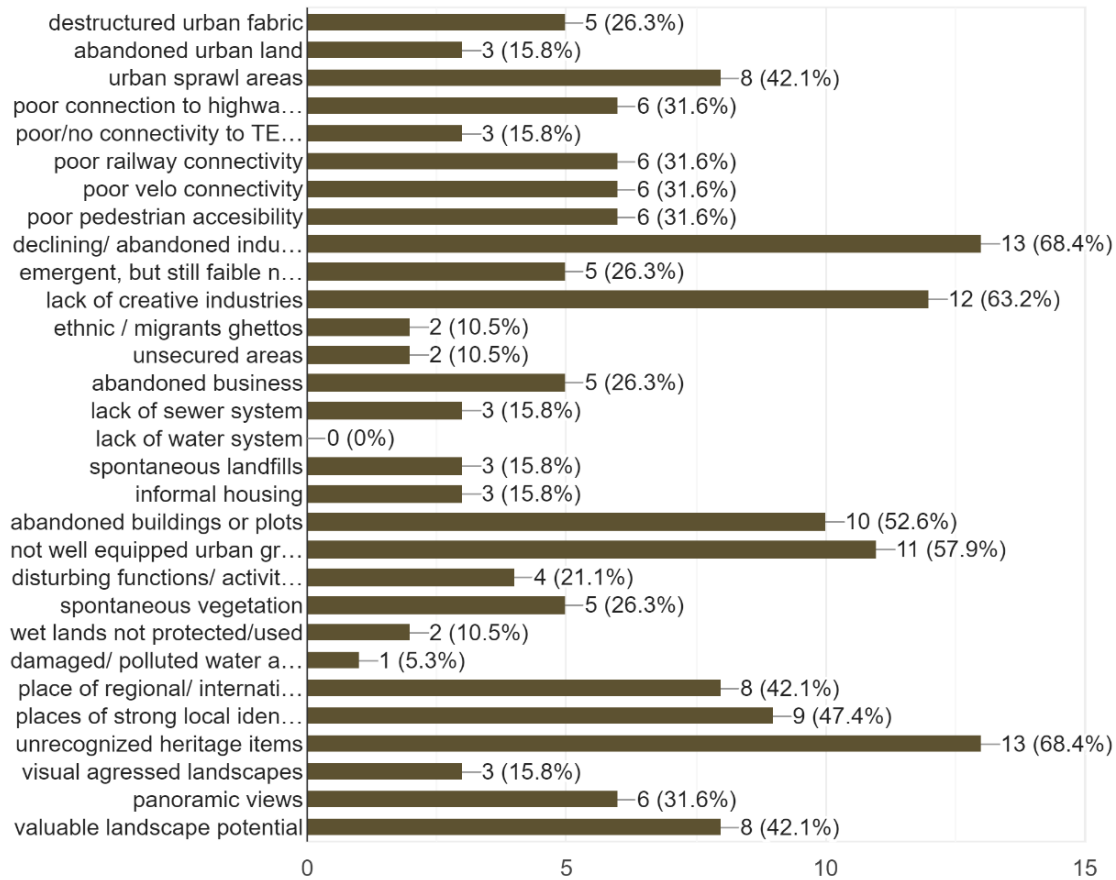
19 responses





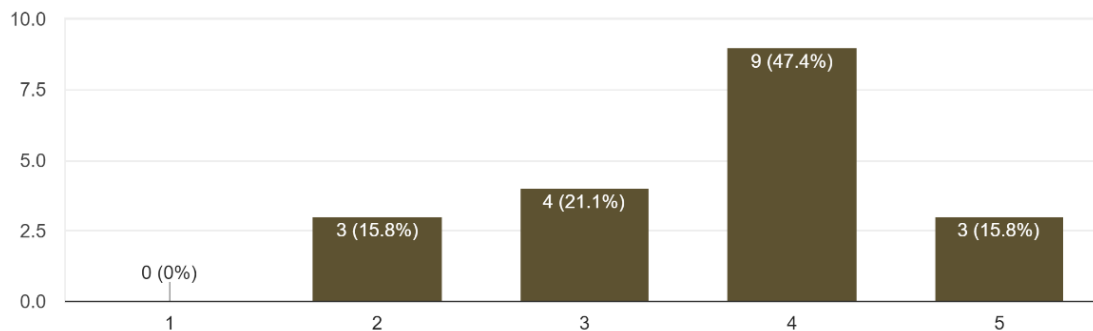
3. Which are the first 10 dominant attributes of peripheries in your city?

19 responses



4. How do you appreciate the role of peripheries for the urban development of your city?

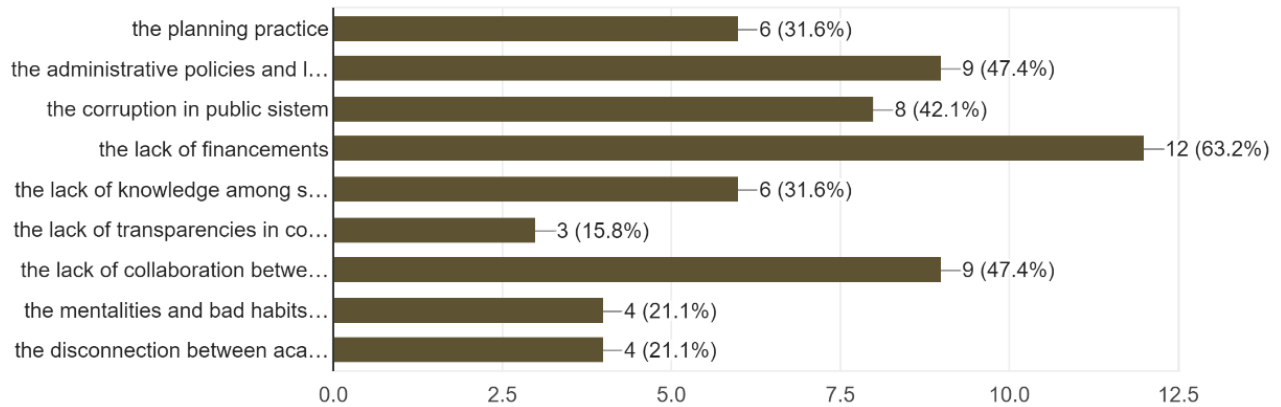
19 responses





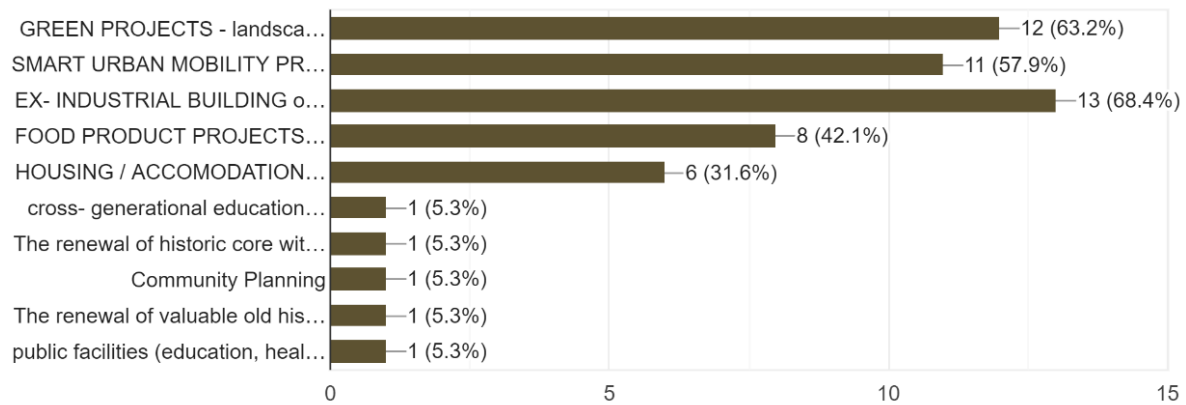
5. Which are the barriers for the transformation of the peripheries into harmonious urban areas? (mark the first 3)

19 responses



6. What type of projects are most necessary in your city in order to transform the peripheries? (mark the first 3)

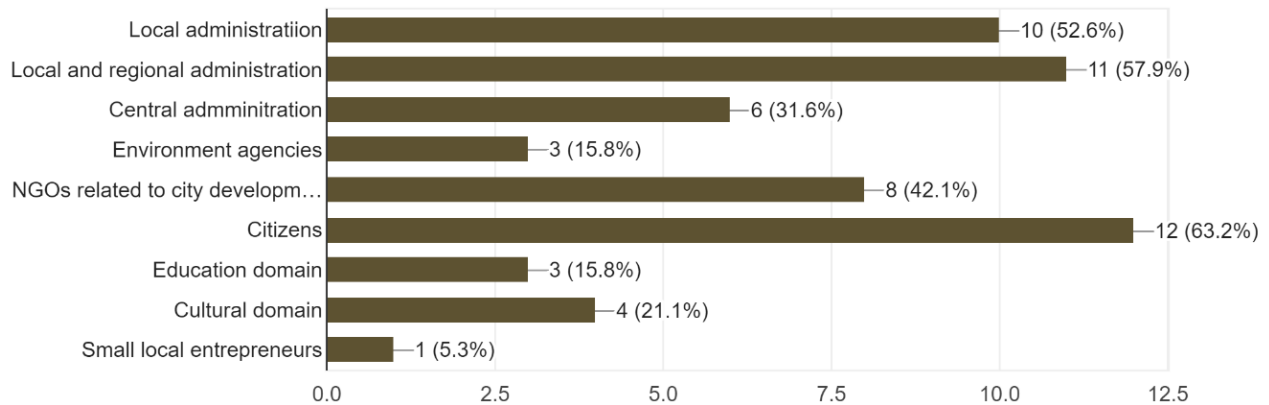
19 responses





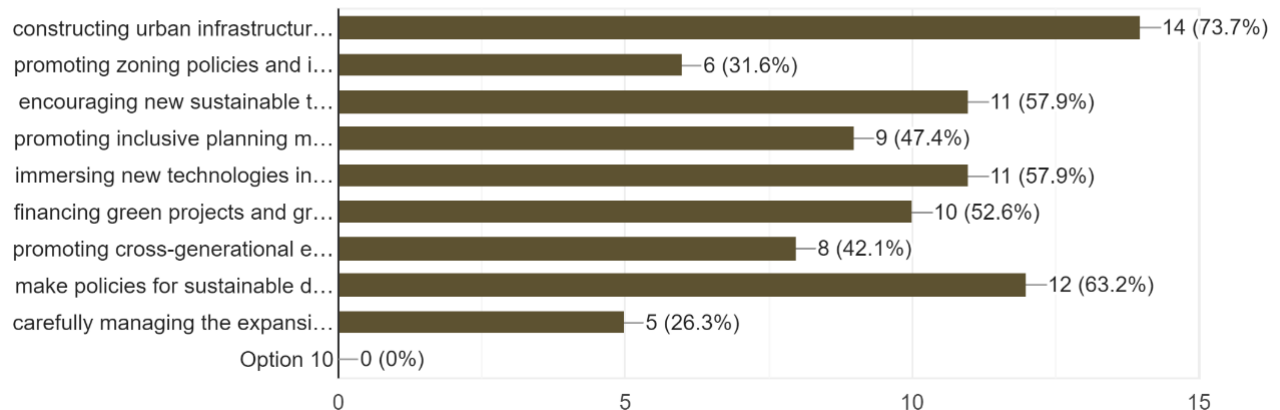
7. In your opinion, who is the most responsive for the peripheries transformation into better places? (mark the first 3)

19 responses



8. In your opinion, which of these possible directions for acting in peripheral shrinking areas are the most suitable? (mark the first 5)

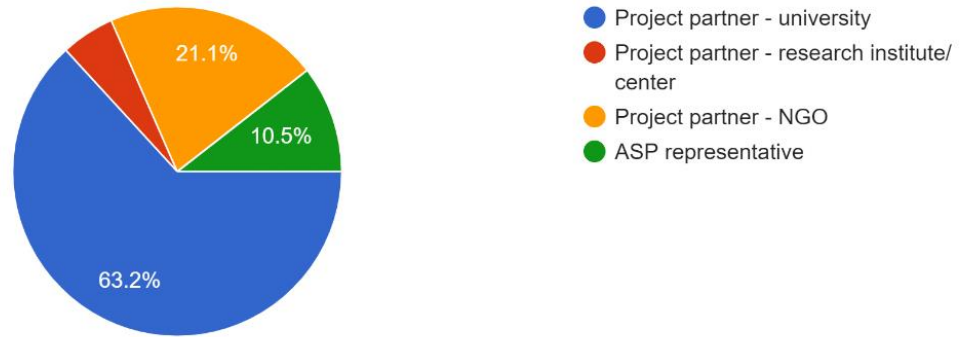
19 responses





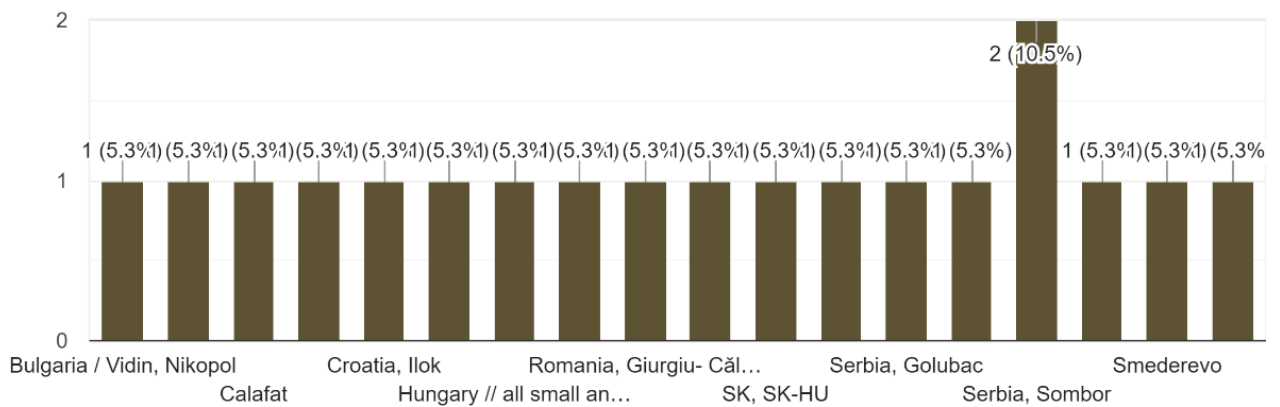
9. Please, mention your affiliation within DANURB+

19 responses



10. Please mention your country and city/ region to which you referred in answers

19 responses





V. GENERIC SWOT ANALYSIS OF URBAN PERIPHERAL AREAS IN DANUBE CITIES

A Generic SWOT analysis helps to guide the local spatial plans by synthetically presenting strengths, weaknesses, opportunities, and threats that relate to their peripheral condition (as cities within the territorial system or as peripheral areaa in cities) and their condition of decline (economic, demographic, cultural).

STRENGHT	WEACKNESSES
<ul style="list-style-type: none"> - good/ increased accessibility in relation to the regional networks (TEN-T, national roads, etc.) - connectivity through nodes / hubs - Danube / crossborder accessibility - slightly fragmented plot - larger lots for housing - new economic units, technologically innovative - increased offer for recreation areas - industrial heritage - increasing human and goods mobility - changing the way of living - urban - rural hybridization - new economic development clusters - growth of the private sector - increasing revenues to the local budget - natural areas - forested, wetlands - beach areas accompanying the Danube - green-blue fragments (patches, corridors) part of an infrastructure 	<ul style="list-style-type: none"> - irrational consumption of land resources - urban non-structuring entails the lack of civic responsibility - developing an unsustainable way of living - aggravation of social discrepancies - installation of a state of abandonment of the space <ul style="list-style-type: none"> - the risk of losing the tourist potential - the lack of a diversified market, by not correlating the demand - lack of co-financing for some social projects that could be financed by structural funds - owering the standard of living by diminishing labor resources - increasing the demand for social services - lack of community aggregation of the population risk of demographic decline and population aging - rising unemployment <ul style="list-style-type: none"> - irreversible environmental degradation - negative impact on public health - loss of chances for ecological recovery



OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> - increased connections to the regional/ EU network - increasing the global accessibility of the city - potential for distribution hubs, intermodal nodes - potential for increasing of “soft mobility” - development of green neighborhoods, alternative to urban living - development of an integrated poly-centric system 	<ul style="list-style-type: none"> - irrational consumption of land resources - urban non-structuring entails the lack of civic responsibility - developing an unsustainable way of living - aggravation of social discrepancies - installation of a state of abandonment of the space <ul style="list-style-type: none"> - the risk of losing the tourist potential - the lack of a diversified market, by not correlating the demand - lack of co-financing for some social projects that could be financed by structural funds - lowering the standard of living by diminishing labor resources - increasing the demand for social services - lack of community aggregation of the population - risk of demographic decline and population aging - rising unemployment <ul style="list-style-type: none"> - irreversible environmental degradation - negative impact on public health - loss of chances for ecological recovery




VI. MACRO- MOPHOLOGICAL ANALYSIS OF URBAN PERIPHERAL FORMS

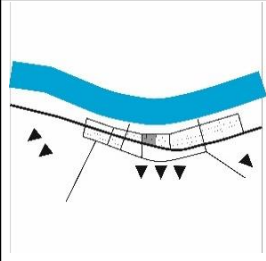
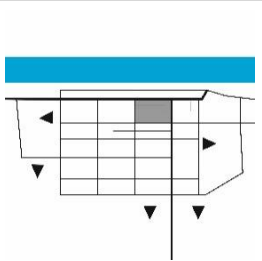
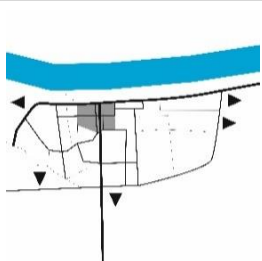
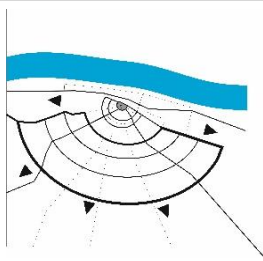
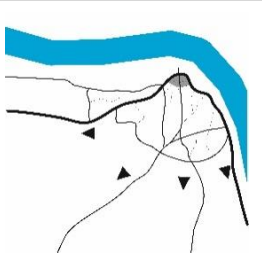
From a spatial point of view, the growth and decline of a city are more like distant and cold statistical data, irrelevant to establish the potential and direction of their urban development. The periphery appears both in growth stages and in demographic decline and is always accompanied by socio-economic imbalances.



Spatially, the shapes that a city can take in situations of accentuated dynamics are varied and depend on the moment they are captured.

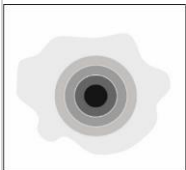
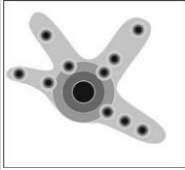
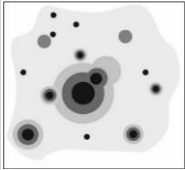
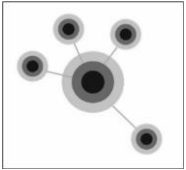

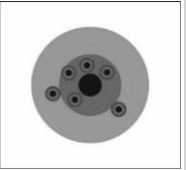
Based on various criteria at macro scale but also at mezzo scale of the urban fabric, we declined the following typologies on which the entire range of the Danubian small and medium cities is situated, in different percents depending on the position on the Danube region (if in Upper Danube, Middle Danube or Lower Danube).

1. TYPE OF THE CITY/ TOWN		
PLANNED	REGULATED	UNPLANNED/ IRREGULAR
		

3. DOMINANT STREET NETWORK PATTERNS				
linear	grid	cellular	radial	tree
				



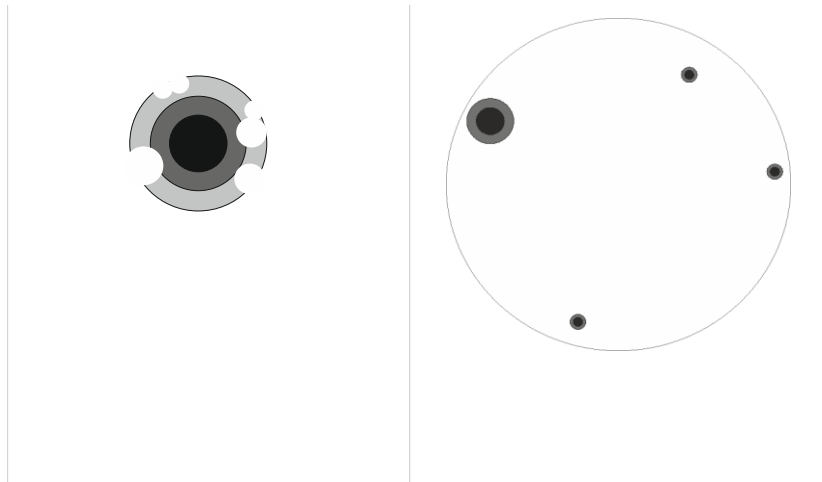
URBAN GROWTH PATTERNS (in last 30-50 years)

extensive/ (semi) radial	extensive/ tentacular	extensive/ sprawl	extensive/ satellite	extensive/ edge	intensive (densification)	no significant growth (some case of "new socialist towns")
						

5. TYPE OF SHRINKAGE

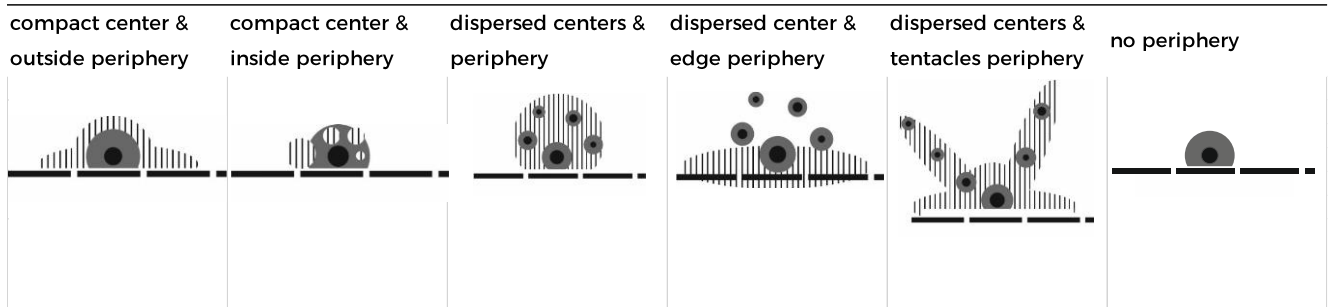
by dez-industrialization (former industrial cities/ towns) Shrinkage is mainly due to the loss of industry/ loss of identity, demographic exodus + **peripheralization effect**, including cases of "re-turn to normal" cities profile, of before the forced industrialization period). Including also former mono-industrial cities, or new cities created exclusively on the socialist logic, without a historically validated identity (in a "chronic industrial" shrinkage).

by disconnection (non-industrial cities/ towns). Shrinkage is mainly due to the loss of gravitation zones in the territorial system, or changing the centralities, loss of system connectivity, limited local services due to border position, rural exodus, or intensive depopulation in dependent rural surroundings)

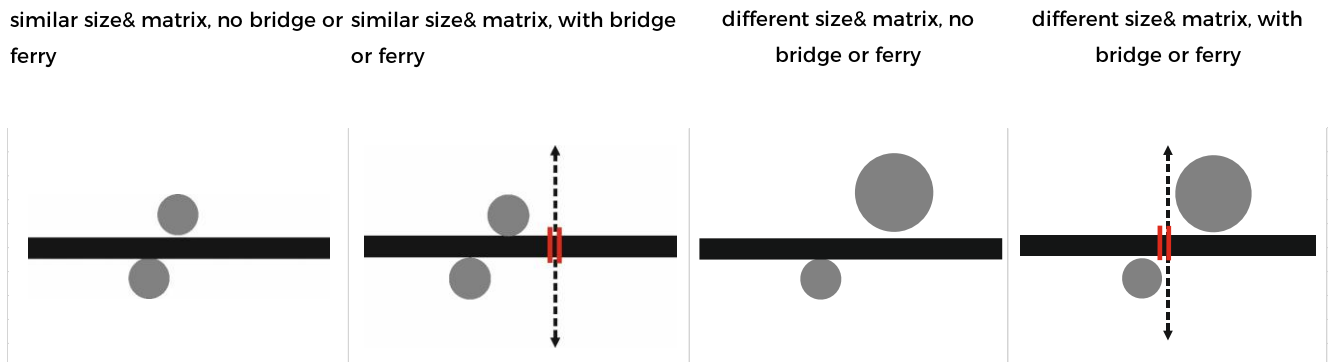




CENTRE-PERIPHERY MORPHOLOGICAL RELATIONSHIP



4. TWIN -CITIES (if case)

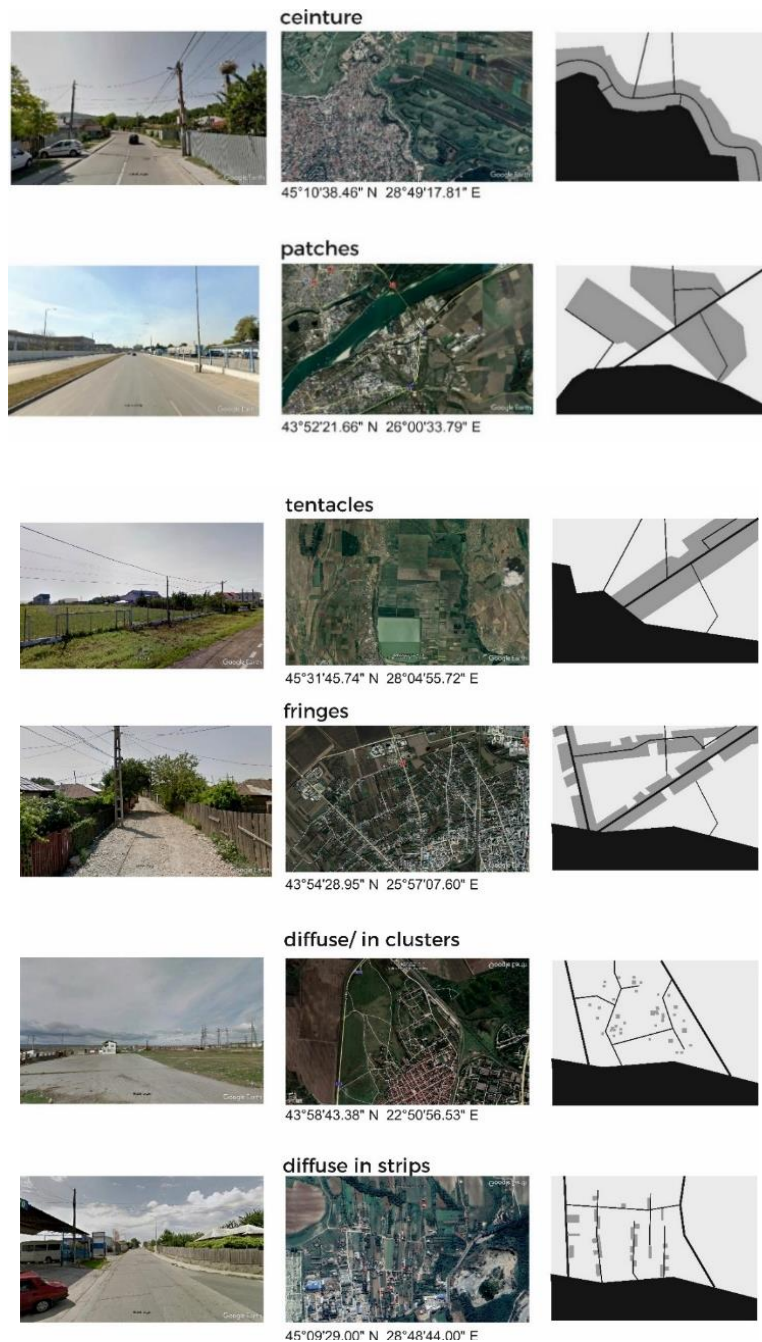


For many cities, the growth of the urban territory - which in some cases takes place even if demographically, there is a decrease of the population, and economically are evident several shrinking aspects, the peripheral urban forms depend on the configuration of the city in relation to the territory in which it is located. Their diversity does not necessarily indicate a diversity in spatial distribution for the same region/ city, but a temporal diversity: in certain stages of development, certain types of peripheral forms are generated.

The cities on the Danube have peripheral shapes that are found in all these situations; exception are some new cities, created during the socialist period in Romania, Bulgaria or Hungary, which are in stagnation, whose periphery is reduced to the actual limit of the city built in relation to unbuilt / agricultural territory.



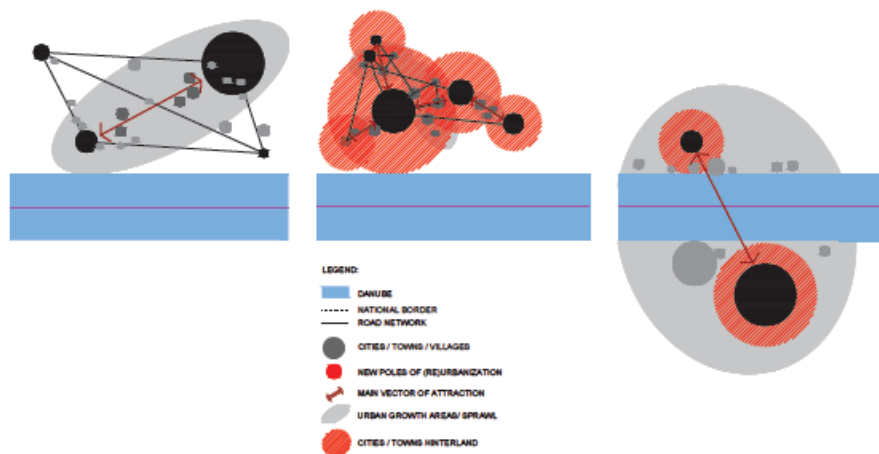
Assuming a sequentialization of the processes of growth and decline, successive or simultaneous, we present below an inventory of possible peripheral forms of organization, based on a careful study of these formations in the Danube region.





VII. NEW POLES OF REURBANISATION

Different approaches to the assessment of reurbanisation can be divided into three categories (Rérat, 2012): (1) reurbanisation as a quantitative stage of urban development, based on the settlement system change and expansion of urban fabric; (2) reurbanisation as an inner transformation process at social and spatial level; and (3) reurbanisation as policy changes through bottom-up interventions and community involvement. Looking at the macro-territorial scale, reurbanisation of Danubian cities is underlined by several driving forces (Fig. 210): The first one is local accessibility in relation to the major transport corridors, which bring greater economic interests and new centralities thereof; for example, Giurgiu, Komarom or Smederevo. A peculiar condition is the river accessibility, a founding element of these cities from ancient times, in close relationship with the contemporary port areas. The second force is represented by new centralities emerging on the intersection between cities' territories and the influence areas of larger cities or capitals: paradoxically, the overlapping of different ties of peripheral areas gives rise to new incipient centralities.



VIII. SPATIAL PLANS GENERAL LAYOUT: 3 SCALES/ 3 TYPES OF PROJECTS

We identified 3 types of interventions, according to the scale space definition:

- **THE CITY as CONTEXT**

This first part/ scale requires knowledge of regional development strategies and plans and study of the following elements:

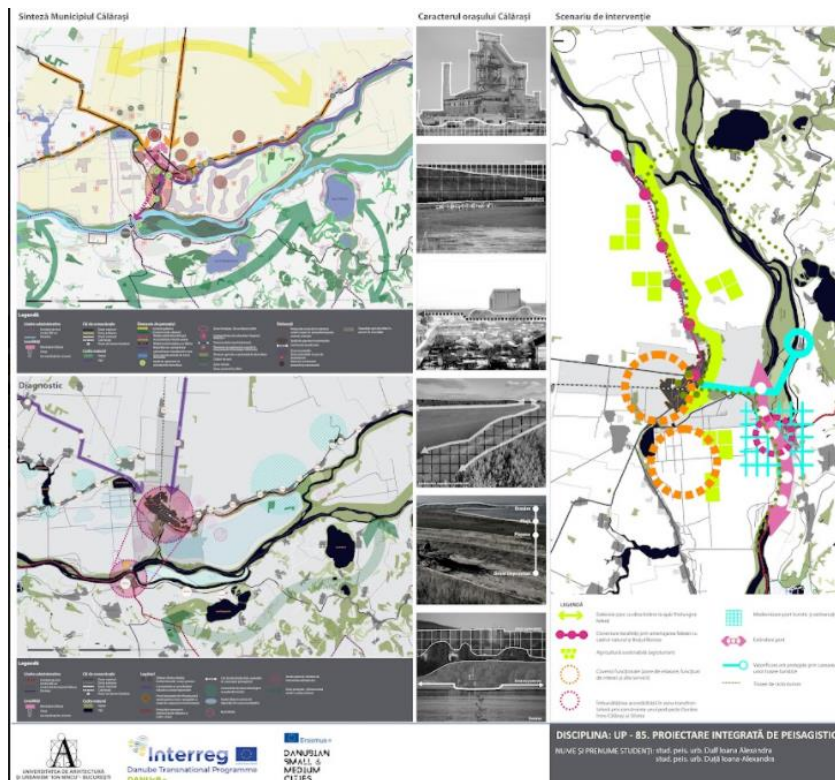
1. **Territorial context:** geographical, geo-morphological, hydrological



2. **Demographic and economic context:** shrinking character
3. **Natural landscapes and environmental factors**
4. **The visual analysis** (from the city to the Danube and vice versa)
5. **Urban landscapes typology** and relations within the Danube green infrastructure
6. **Functional and economic analysis**

Spatial plans should contain:

- a) Sectoral analyzes,
- b) Synthesis of analyzes and diagnosis
- c) Intervention scenario based on the local development plans



*Spatial Plan – level 1- **context diagnosis**- example from UAUMs students work, I semester 2021-2022*

▪ THE INLAND CITY

This second part/ scale involves the customized exploration of the city, with the survey of the local population (representative sample) and the contouring / delimitation of some intervention areas with the greatest potential for landscaping. The study will include analyzes related to:

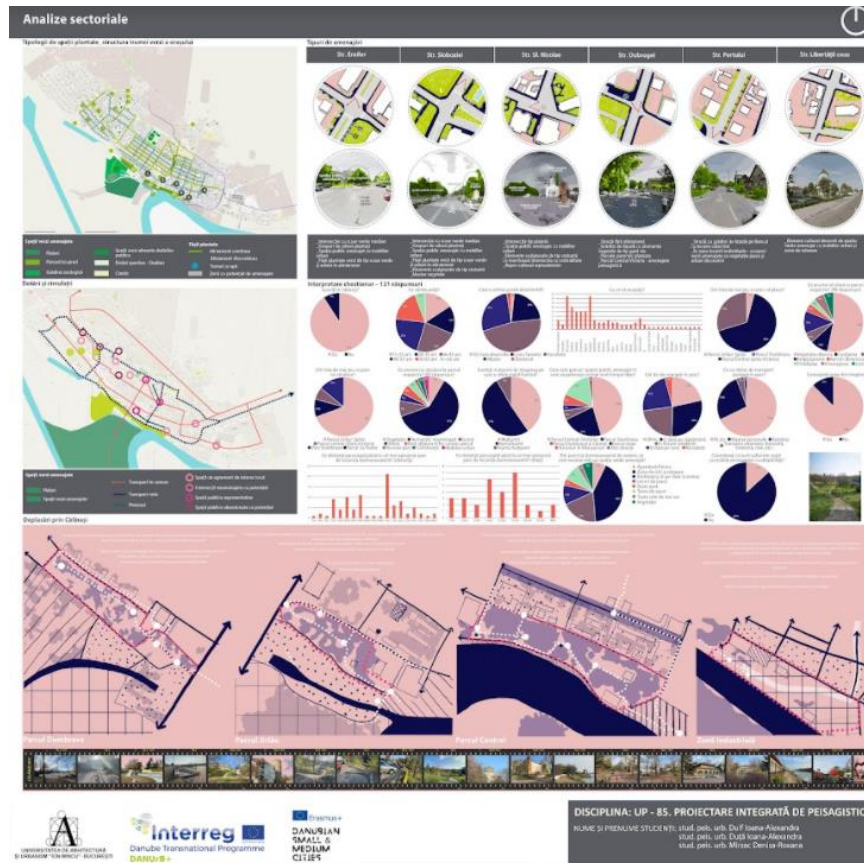
1. **The social and anthropological framework - the population options**
2. **Public space, pedestrian and bicycle accessibility, inclusive accessibility**
3. **Morpho- typological analysis of the built structure within the city**



4. Green spaces typology

Spatial plans should contain:

- a) Sectoral analyzes,
- b) Synthesis of analyzes and diagnosis,
- c) Conceptual plan of zonal re-modelation (urban/ landscape)



Spatial Plan – level 2- Inland City **Sectoral analysis**- - example from UAUIMs students work, I semester 2021-2022



Spatial Plan – level 2- Inland City conceptual plan - example from UAUIMs students work, 1 semester 2021-2022

▪ THE ACUPUNCTURAL CITY

Focusing attention on intensely problematic places within the structure and urban life, or which have the greatest potential for a beneficial landscape intervention, in correlation with those investigated in point B. Spatial plans contain:

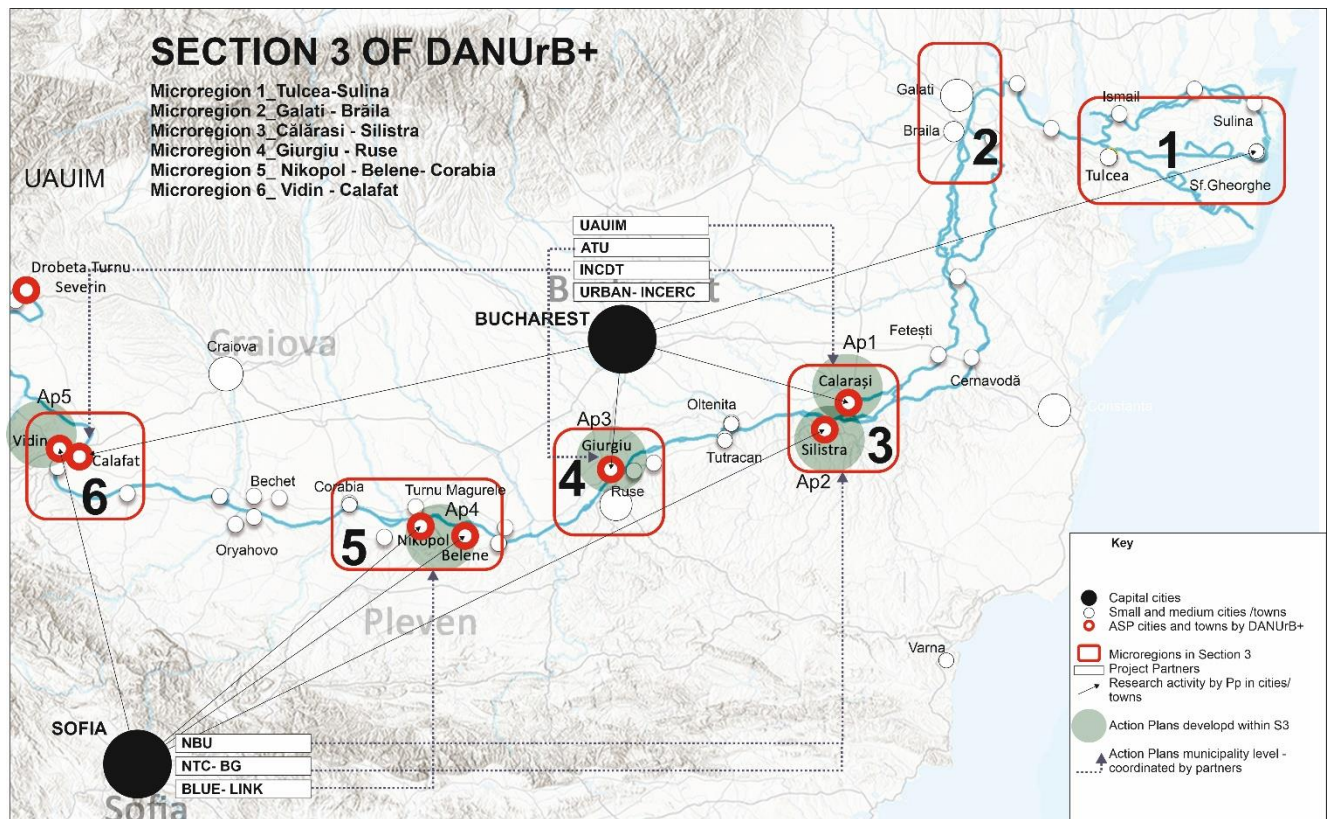
- a) Delimitation of an area of action within the previously delimited area;
- b) punctual, oriented action- plan, detailed in the sense of carrying out concrete interventions,
- c) proposal for detailed urban/ landscape design on the chosen area including the integration of the proposed micro-interventions.



IX. MAPPING THE PERIPHERY AT THE DANUBE SCALE URBAN SYSTEM

In order to better understand and apply the conceptual framework described above, the spatial plan most accurately reflects the positions, ratios, densities, typologies and influences that manifest within this territory.

The map below shows the situation of shrinking cities along the Danube - small and medium-sized cities that are most affected by this phenomenon - and the manifestation of various forces of attraction and the persistence of various patterns of growth and development over time. The plan also reflects the state of peripheralization of some regions, micro-regions and cities due to the geo-position within the Danube basin, to the connectivity and accessibility within the European road, river, rail and air transport systems.





X. CONCLUSIONS

- The most main 3 **driving forces** for peripheries development in our cities have been pointed:
 1. the position within the territorial system,
 2. the connectivity to the main transport corridors
 3. the unstructured urban fabric & spontaneous developments

- The most 3 important **factors influencing the actual peripheral character** of our cities have been considered:
 1. the migration and emigration
 2. the lack of collaboration between different sectors of urban life
 3. the administrative policies and measures

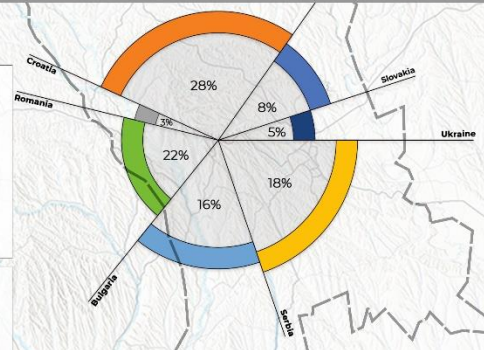
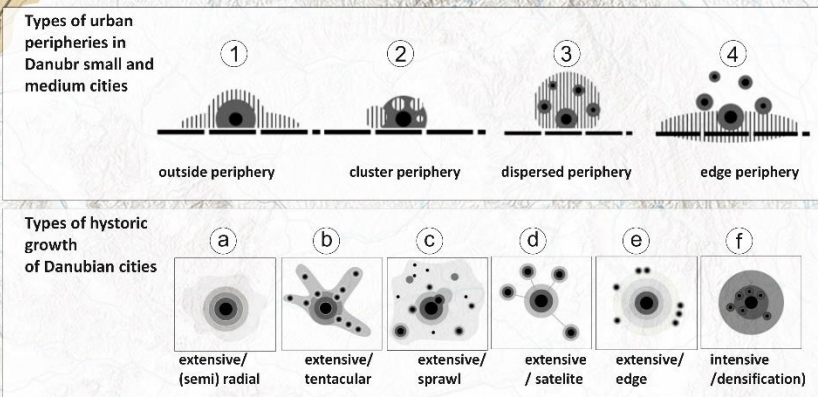
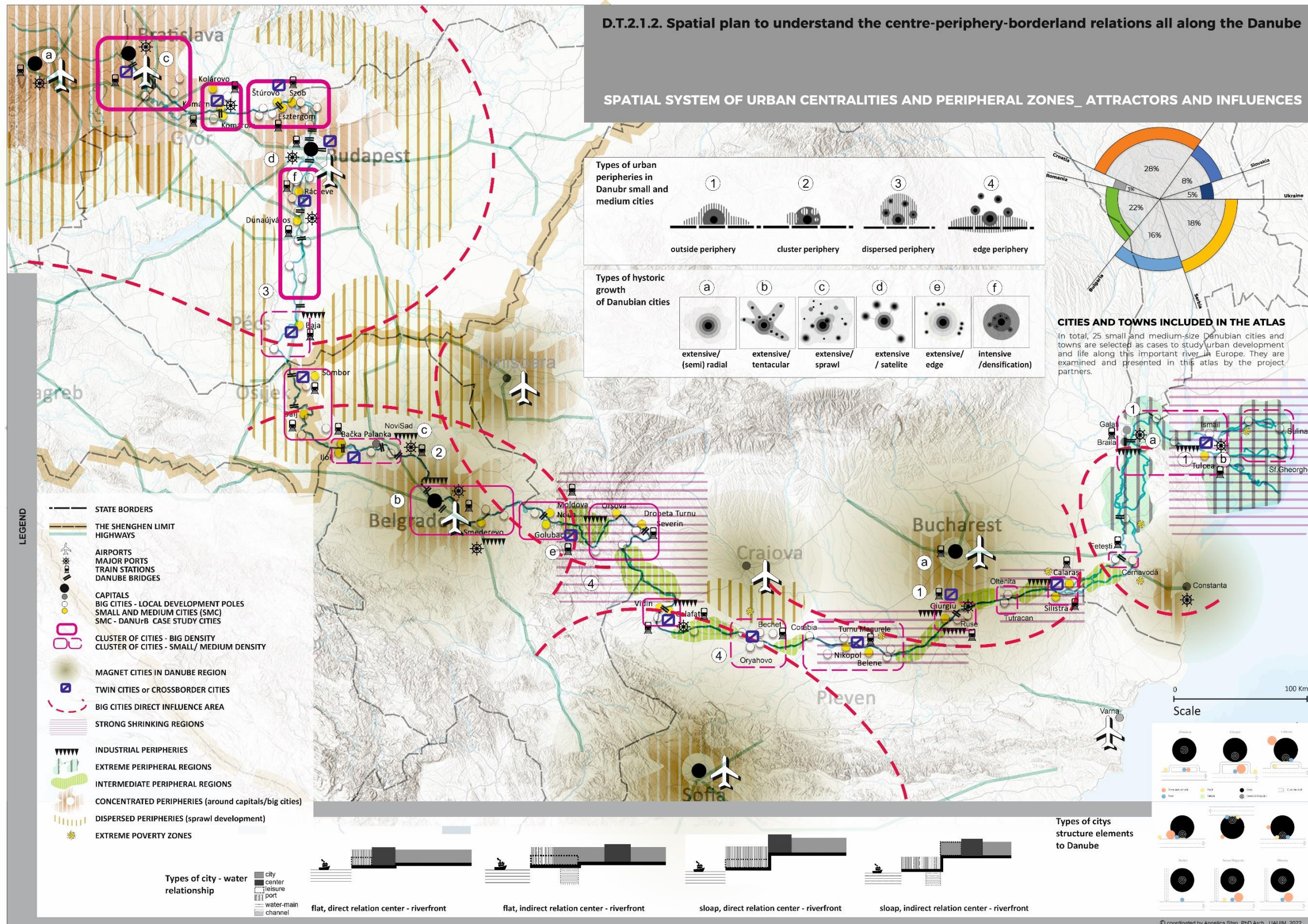
- The first dominant attributes of peripheries in our city appear to be- in this order:
 1. declining/ abandoned industries
 2. unrecognized heritage items
 3. lack of creative industries
 4. not well equipped urban green spaces
 5. abandoned buildings or plots

- For the Spatial plan the most important is Q3_8. *In your opinion, which of these possible directions for acting in peripheral shrinking areas are the most suitable? (mark the first 5), and the results to this questions show us a semnificative opinion, being ranked in this order the following items:*
 1. constructing urban infrastructure and essential services
 2. make policies for sustainable development in the frame of circular economy
 3. encouraging new sustainable tourism and eco -tourism activities
 4. immersing new technologies in all urban domains
 5. financing green projects and green eco-system services



D.T.2.1.2. Spatial plan to understand the centre-periphery-borderland relations all along the Danube

SPATIAL SYSTEM OF URBAN CENTRALITIES AND PERIPHERAL ZONES_ ATTRACTORS AND INFLUENCES



CITIES AND TOWNS INCLUDED IN THE ATLAS

In total, 25 small and medium-size Danubian cities and towns are selected as cases to study urban development and life along this important river in Europe. They are examined and presented in this atlas by the project partners.

- LEGEND**
- STATE BORDERS
 - THE SHENGEN LIMIT
 - HIGHWAYS
 - AIRPORTS
 - MAJOR PORTS
 - TRAIN STATIONS
 - DANUBE BRIDGES
 - CAPITALS
 - BIG CITIES - LOCAL DEVELOPMENT POLES
 - SMALL AND MEDIUM CITIES (SMC)
 - SMC - DANUB+ CASE STUDY CITIES
 - CLUSTER OF CITIES - BIG DENSITY
 - CLUSTER OF CITIES - SMALL/ MEDIUM DENSITY
 - MAGNET CITIES IN DANUBE REGION
 - TWIN CITIES or CROSSBORDER CITIES
 - BIG CITIES DIRECT INFLUENCE AREA
 - STRONG SHRINKING REGIONS
 - INDUSTRIAL PERIPHERIES
 - EXTREME PERIPHERAL REGIONS
 - INTERMEDIATE PERIPHERAL REGIONS
 - CONCENTRATED PERIPHERIES (around capitals/big cities)
 - DISPERSED PERIPHERIES (sprawl development)
 - EXTREME POVERTY ZONES

0 100 Km
Scale

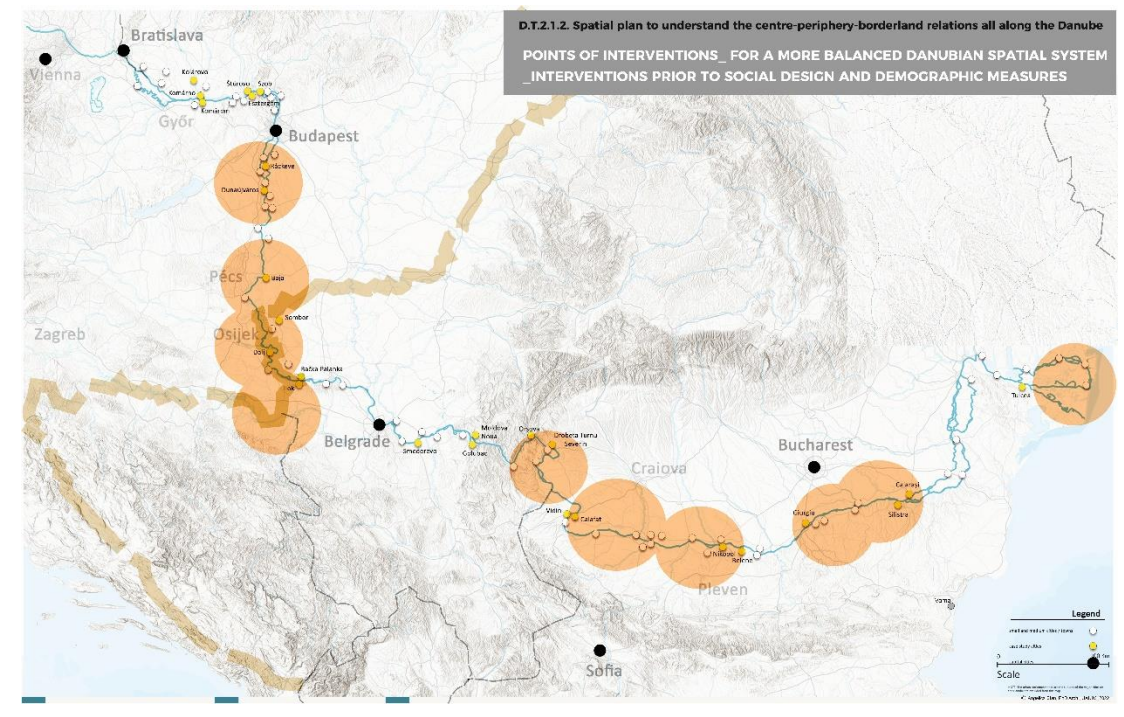
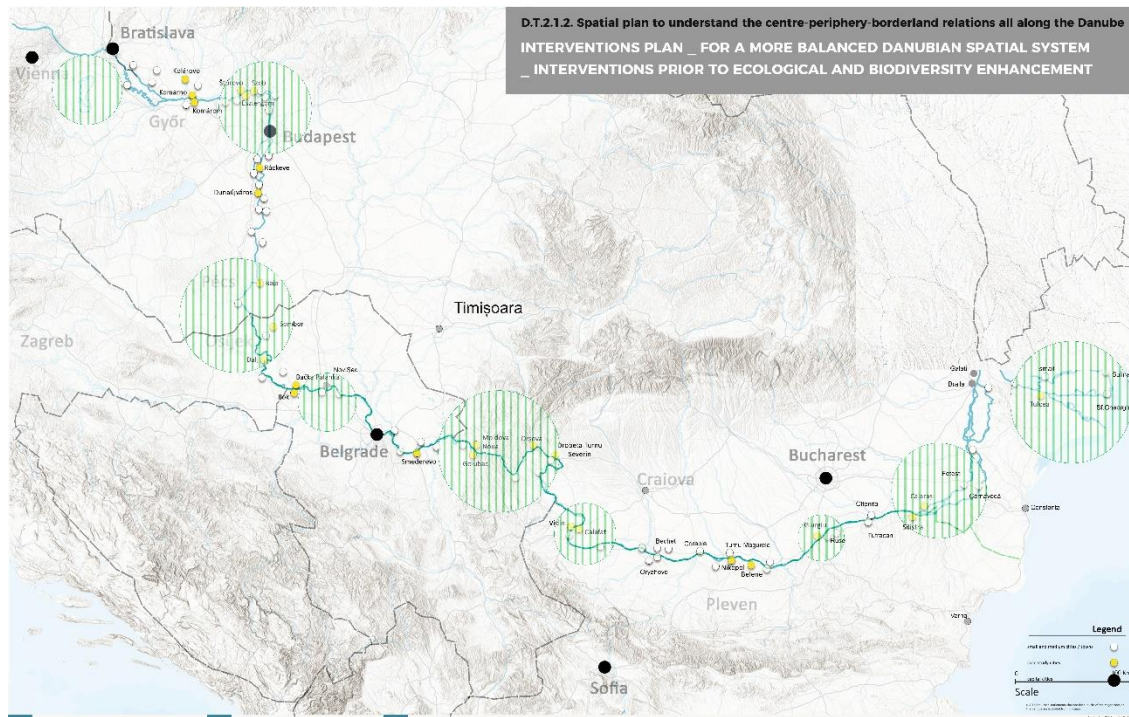
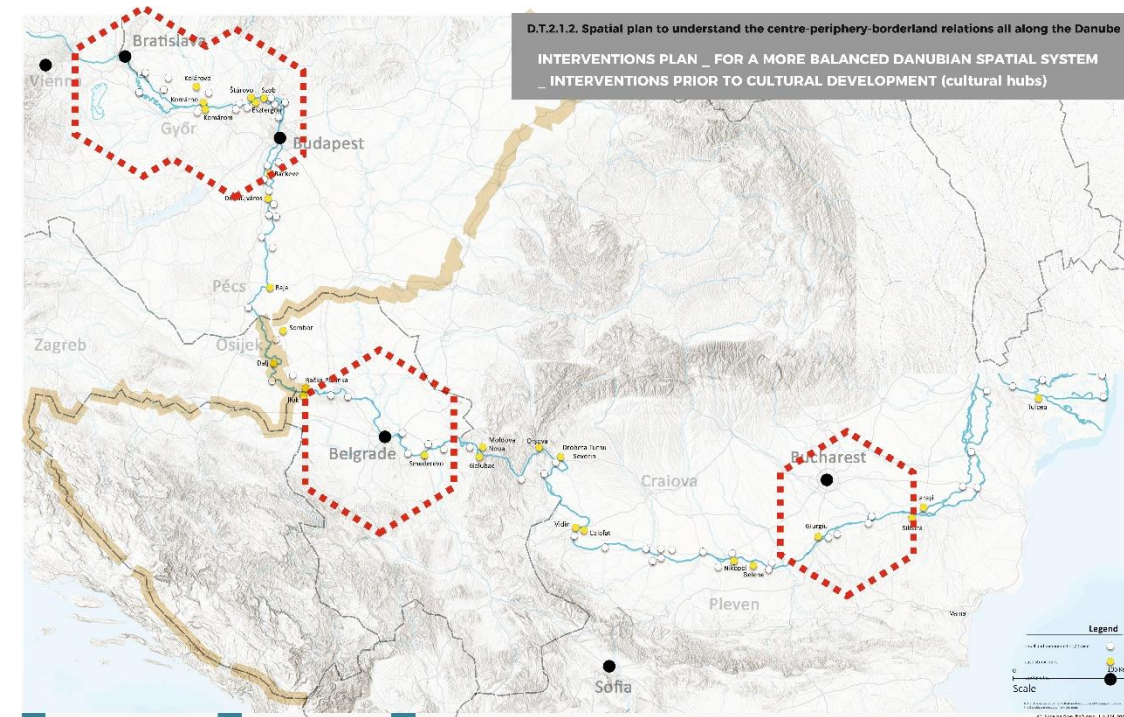
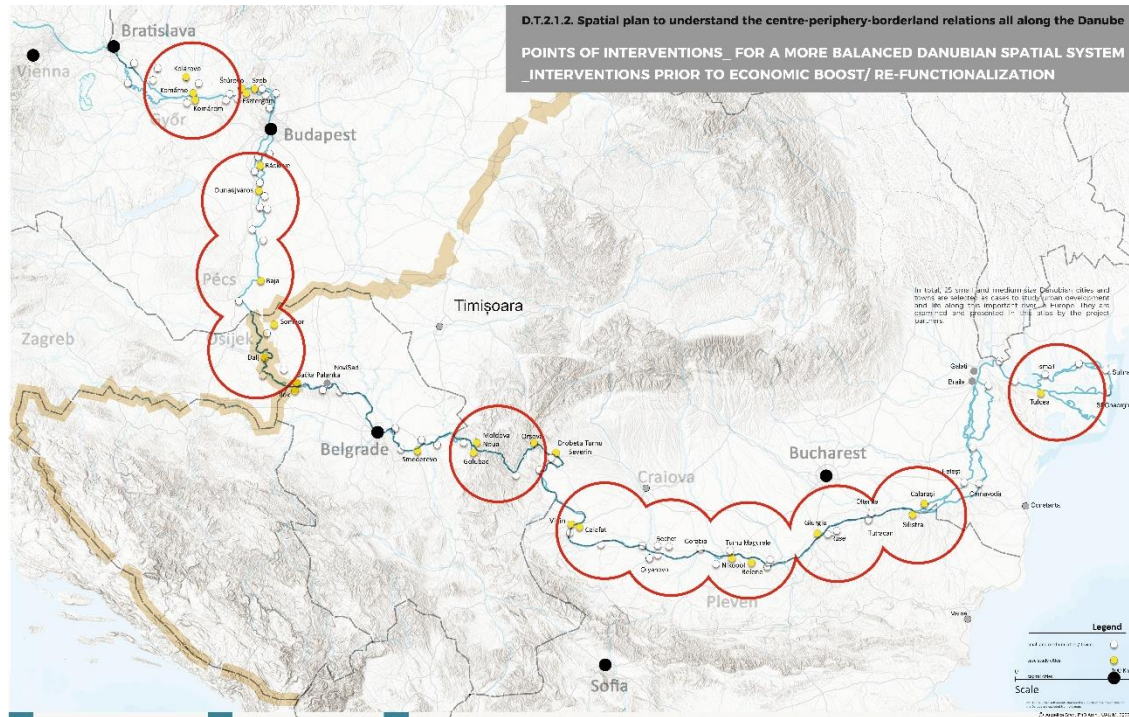
Types of city - water relationship

- city
- center
- leisure
- port
- water-main
- channel



Types of city structure elements to Danube







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