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D+Atlas

ATLAS of Hidden Urban Values along the Danube

Editors // A. Djukić, B. Kádár, A. Stan, B. Antonić

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Универзитет у Београду - Архитектонски факултет
University of Belgrade - Faculty of Architecture
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along the Danube — 2022

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DANUrB+ DANube Urban Brand + Building Regional and Local Resilience through the Valorization of Danube's Cultural Heritage

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DANUrB+ aims to reactivate underused cultural heritage and resources in shrinking settlements of Danube river's peripheral and border regions, to create new possibilities to make its towns and regions attractive again.

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Foreword

FOREWORD

Aleksandra Djukić, Bálint Kádár, Angelica Stan

The Danube is the most international and multicultural river on Earth, the main connection for cultures in Central Europe and the Balkans, but also a spatial system fragmented by borders in need to reconnect in its identity. The natural wonders of this river and the capital cities on its shores usually get all the attention, but it is the smaller towns, often neglected in peripheral situations, that still today hold the multicultural essence of the Danubian Region. With this Atlas compiled by the DANUrB partnership our intention is to present urban communities along the Danube River which share similar tangible and intangible heritage in their local identities. One of the main aims of the DANUrB INTERREG Project is the reactivation of underused cultural heritage and resources in shrinking settlements of Danube river's peripheral and border regions in order to make them more attractive again.

A vision of a collaborating network of cities along the Danube allowed us to better understand the potentials for development whilst also exploring possible strategies. Therefore, it is our mission with this Atlas to show an interconnected spatial and cultural system of communities along the Danube, helping to understand the highly complex and dynamic transformation of our region through the centuries and to value its natural and built resources.

Besides the presentation of Danubian medium and small cities, and their undiscovered heritage and potentials, our mission was also to spread the successful stories and projects from the region, promoting the transferability of good practices to less developed towns. We aimed to make comparable the spatial development of the selected settlements along the Danube by using the common format of this Atlas for many diverse maps, photos, illustrations, and short texts.

The Atlas has five parts, and it is thematically organized into three sections regarding the periods of development: past, present and future. In the first introductory part the the-

oretical background about shrinking cities and border regions is explained, as well as the urban morphology of the cities along the Danube. Furthermore, the selection criteria of the representative cities for each period are explained. The second part is dedicated to the historic development of Danubian cities and towns starting from the period of early industrialization. The third part responds with the present situation underlining the current prospects and challenges in the urban development of Danube' shrinking cities. The fourth part is dealing with future prospects of development, through the presentation of the best practices in urban planning and urban design, showing urban acupuncture, grassroot movements and other innovative methods. The last part of the Atlas includes concluding remarks, recommendations, and visions for

the future development of medium and small Danubian cities. The large maps of the Atlas illustrate the following chapters explaining different aspects that influenced the development processes treated in the different parts. The small maps within the chapters are placed to provide better understanding of the selected urban areas and highlight the most important facts.

We hope this publication is useful as an introduction to regional and local urban development of Danubian cities, as a base for further research, as a teaching tool, but also as a source of information for locals and tourists. We therefore do believe that this Atlas will bring a new contribution to the spatial and cultural analysis of settlements along the Danube, empowering their potentials and visions for successful and sustainable development.

chapter 01 – OVERVIEW

Overview

D+ Atlas

1.1 OVERVIEW // INTRODUCING SHRINKING CITIES FROM GLOBAL PERSPECTIVE

Aleksandra Djukić
Jelena Marić

Despite the fact that we have the largest population so far and that many cities are growing rapidly, Europe has been losing population since the second half of the 20th century. The shrinking cities is a phenomenon caused by low birth rates, deindustrialisation, and political changes in the 1990s. Although industrialisation enabled rapid population growth, it also initiated the population reduction with the economic crisis, pollution, reduction of housing comfort and safety. This phenomenon became extremely massive in almost all parts of the world (Fig. 001), 42% of the largest urban areas in Europe recorded a population decline, which led to the perception of this issue as a global sensation (Richardson & Nam, 2014).

Fig. 001 / The first examples of shrinking cities were industrial cities in the west, such as Rotterdam in Netherlands. Many of them have recently entered the processes of reurbanisation and urban regeneration (Author: B. Antonić, 2017).

Fig. 002 / Kaunas, Lithuania – urban shrinkage is a very complex urban process, which reflects through the different spheres of urban life, including the visual decline of a city (Author: J. Marić, 2016).

There is no unique definition of shrinking cities phenomenon, but there are many terms used, such as: Counter-urbanisation; Urban decay; Ghost towns; Cities in stagnation; Smart decline; Planned shrinkage; Decline to survive; Right-sizing cities; Regrowing cities etc. Also, there are different causes and explanations of this concept. The scientifically accepted name for shrinking cities, appeared only in the early 2000s. This results in a complex and diverse view of declining cities around the world. In its essence, urban decline is a rather negative term, which is primarily related to the economic side of urbanisation, as well as demographic decline.

The Network for International Research of Declining Cities (SciRN) has given a broad definition of the concept of declining cities that includes different approaches. After 1950, at least 370 cities with more than 100 thousand inhabitants lost more than 10% of their previous inhabitants (Oswalt & Rieniets, 2007). Highly developed countries were the first to experience urban decline and it is most prevalent here. The economic crisis of 2008 further encouraged unfavourable development trends regarding urban decline processes. Many aspects influence the decline: (1) demographic; (2) economic; (3) political-administrative; (4) social; (5) ecological and (6) spatial aspect (Antonić, 2018) (Fig. 002).

R

- Richardson, H. & Nam, C. W. (2014). Shrinking cities: a global perspective. London: Routledge.
- Oswalt, P. & Rieniets, T. (2007). Global context. Shrinking Cities. Retrieved from http://www.shrinkingcities.com/globaler_kontext.0.html?&L=1.
- Antonić, B. (2018). Становање у функцији покретања урбаног развоја деградираних градова: случај градова у Војводини / Housing as an activator of urban development in shrinking cities: the case of cities in Vojvodina. Belgrade (University of Belgrade – Faculty of Architecture).

Since its inception in the early 1990s, the post-socialist transition has been considered one of the of the most current world challenges, with the sudden transition from the socialist period to the post-socialist transformation (Fig. 003). The new and young democracies of Eastern Europe were in aspirations to free the socialist heritage as soon as possible, with a fast, neoliberal approach to the global scene in all spheres of development. This approach had the characteristics of "shock therapies" for unprepared societies (Stanilov, 2007). Therefore, similar to urban decline, the post-socialist transition is often interconnected with negative determinants.

The cities of the former socialist states are very affected by the new changes, which created a completely new order in the city. However, having exclusively negative approach towards the post socialist cities that are declining is incorrect (Fig. 004). Certain cities with declining show a better quality of life and higher productivity than cities with ongoing growth (Restrepo Cadavid et al., 2017). Yet, the reasons for the sudden and massive shrinking of cities throughout former socialist Europe are deeper and often related to its spatial, demographic, historical and other aspects. In the case of the post-socialist city, the collapse of socialist industry, and economical issues brought a huge spatial problem on a micro-level, in the form of large areas with abandoned industrial facilities, popularly known as the brownfields. However, the most obvious indicator is the reduction of natural increase, shorter life span, mass emigration of highly educated population to the West, aging population and other unfavourable demographic changes (Fig. 005).

Fig. 004 / Dresden in (the former Eastern) Germany had urban shrinkage during the first phase of post-socialist development (1990-2005), but the parallel improvements of the quality of urban life have overturn this negative trend (Author: A. Djukić, 2020).

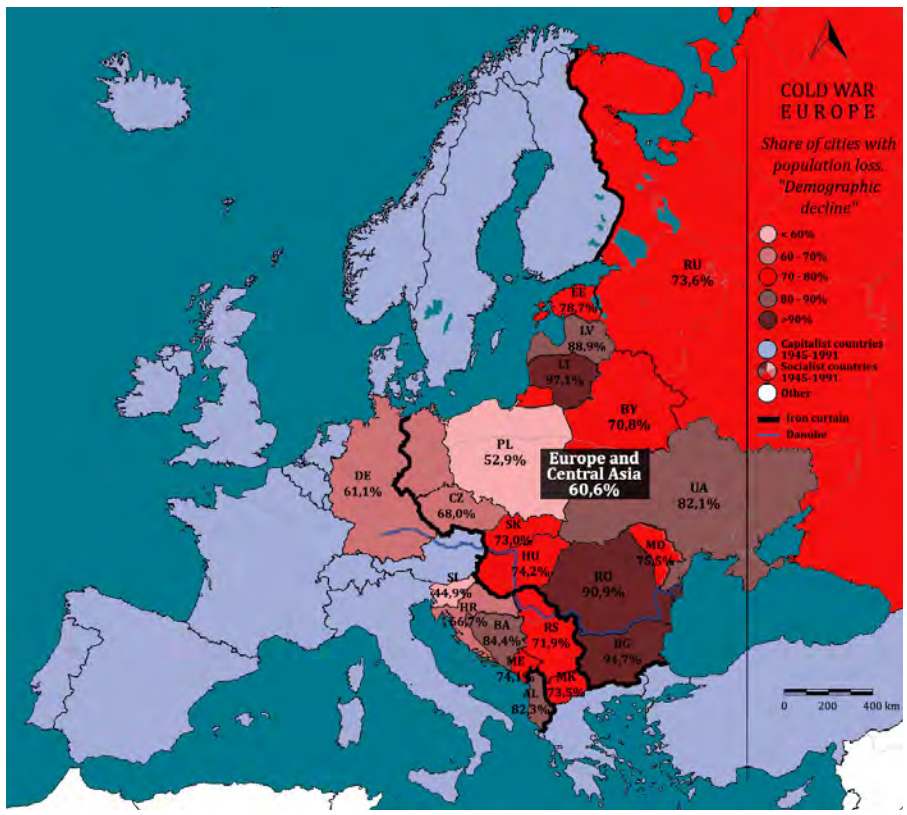

Fig. 003 / The share of shrinking cities per country in post-socialist Europe in the 2010s (Author: J. Marić, 2022).

Fig. 005 / Houses on the main street in Plovdiv, Bulgaria – urban decay noticed even in relatively prosperous cities in post-socialist European states (Author: A. Djukić, 2020).

R

- Stanilov, K. (Ed.) (2007). The Post-Socialist City. Dordrecht: Springer.
- Restrepo Cadavid, P., Cineas, G., Quintero, L. & Zhukova, S. (2017). Cities in Eastern Europe and Central Asia: A Story of Urban Growth and Decline. Washington, DC: World Bank.

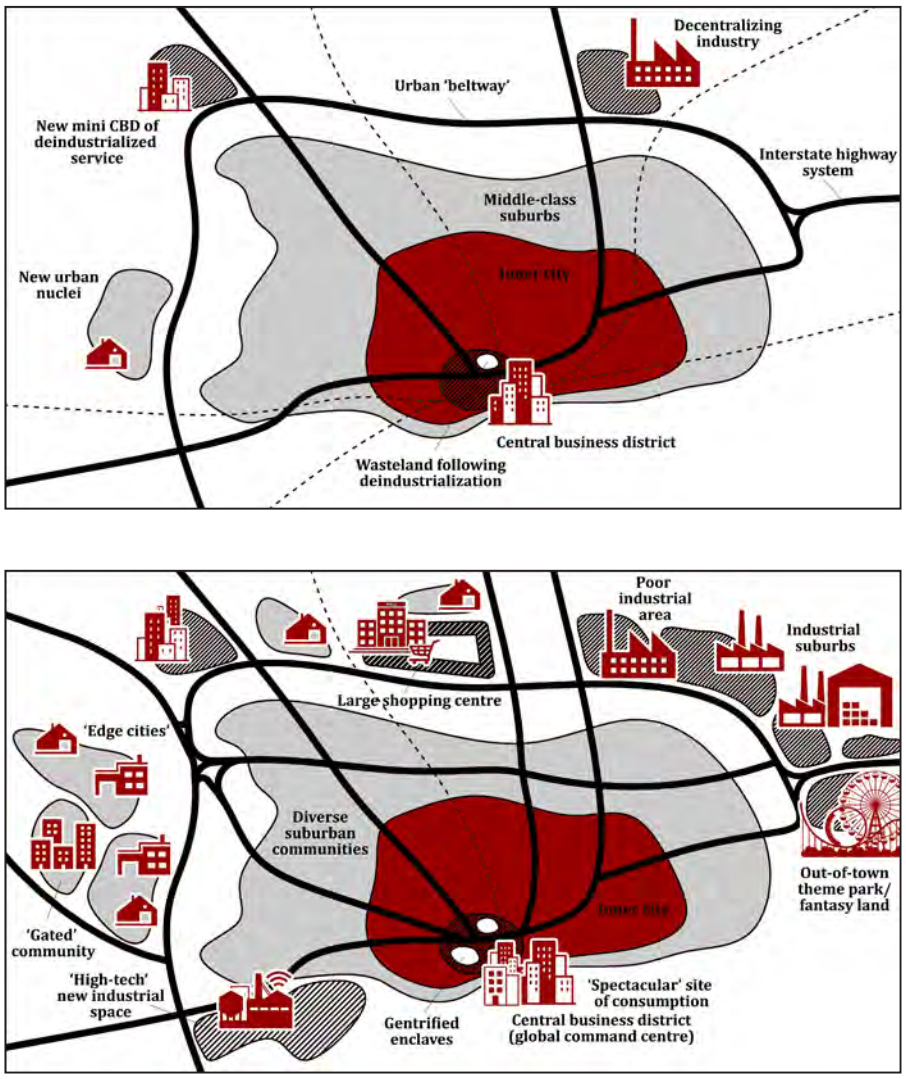

Fig. 006 / Fordist (top) & post-Fordist city (bottom) – 2D (Source: R. Anderson; Author: N. Mitrović, 2022).

Fig. 007 / Old Steelworks in Smederevo is among the largest brownfield sites in Serbia (Author: A. Djukić, 2018).

Although a significant and steady decline in the number of inhabitants in urban area is considered as a most important indicator of urban shrinkage it is common to consider also the structural changes in the economy (Turok & Mykhnenko, 2007). There are different economic models of the city that influence the shrinking, which are essentially linked to industrial production: 1) Industrial (Fordist) city model, which can be described as average in relation to the theory of urban change; 2) Monostructural model of the city, which functions on the basis of one (industrial) enterprise and 3) The "shock therapy" model, rapid and completely uncontrolled urban decline due to a sudden change in the economic and political regime (Bontje, M., 2005).

Both the Fordist and post-Fordist systems had a deep impact on the city, but with different spatial determinants (Fig. 006). The Fordist city is one-layered, with the preserved old centre, while the new industrial structures, as the main economic flywheel of this era, are located on the outskirts of the city. The post-the Fordist city is multi-layered, i.e., in addition to the old core, there are new centres for peripheral gatherings in the form of shopping malls, theme parks and new businesses districts in the city.

R

- Turok, I. & Mykhnenko, V. (2007). The trajectories of European cities, 1960–2005. Cities, 24 (3), 165–182, DOI: 10.1016/j.cities.2007.01.007.
- Bontje, M. (2005): Understanding Shrinkage in European Regions. Built Environment, 38(2), 153-161

The most common topics related to economical aspects and models for overcoming urban shrinkage are connected to the issue of vacant real estate and underutilised urban construction land as a limited resource (Fig.007). Also, different fiscal mechanisms refer to incentives, and pressures (increased taxes) to influence the population to move from less populated to more dense parts of shrinking cities. These mechanisms are not only within the scope of economics, but also the planning measures, since they include the spatial dimension and require the engagement of spatial experts, mostly urban planners.

Fig. 009 / Frankfurt (Oder), Germany: Embedded by extreme low birth rate and the emigration of young population to west Germany during the 1990s, many east German cities witnessed rapid urban decline during this post-socialist decade (Author: B. Antonić, 2018).

Fig. 008 / Tutrakan, Bulgaria: Urban ageing is visible across the post-socialist urban Europe (Author: A. Radulescu, 2018).

Many researchers underline that population decline is the most important in determining whether a city or urban area is shrinking. This trend usually occurs through a combination of several demographic trends, the two most important are negative natural growth, urban ageing (Fig. 008) and emigration. Europe, as today the only continent with negative natural growth, has the highest concentration of shrinking cities (Rumpel & Slach, 2014) (Fig. 009). Similar trends have been observed in recent decades in many other highly developed urban areas, such as Japan, Singapore or Australia. In addition, a large role in the creation of shrinking cities depends on the emigration from the city center to the suburbs and emigration to a different country. Today, with modern modes of transportation and general networking and ICTs, this distance between cities and countries becomes more and more relative. Regardless of the distance, migrations show the connection between the state of the city's economy and the overall quality of urban life. At the same time, a concept called 'brain drain' usually occurs – the young and highly educated individuals leave the country (Cunningham-Sabot et al., 2013). At the level of the continent such as Europe, it creates an additional gap between the growing cities in the west and north and the shrinking cities in the east and the south of Europe.

Specific answers to overcoming urban decline in the domain of demographics are not overly common and address the issues of decline and emigration. They are usually associated with other more specific and strategic measures mostly related to the field of urban planning. Some of them, like encouraging birth, are mainly in the competence of the state and regional level and cannot be dealt with at the local level. Additionally, increasing the overall quality of life, developing new specific activities, and attracting investors could result in increasing the overall number of inhabitants in a city.

R

- Rumpel, P. & Slach, O. (2014). Shrinking cities in central Europe. In T. Herrschel, P. Dostál, P. Raška & J. Koutský (Eds.), Transitions in Regional Science – Regions in Transition: Regional research in Central Europe (pp. 142-155). Alphen aan den Rijn, NL: Wolters Kluwer.
- Cunningham-Sabot, E., Audirac, I., Fol, S. & Martinez Fernandez, C. (2013). Theoretical approaches of "shrinking cities". In K. Pallagst, T. Wiechmann & C. Martinez-Fernandez (Eds.), Shrinking Cities: International Perspectives and Policy Implications (pp. 14-30). Oxford: Routledge.

Fig. 010 / An empty street in the border city of Gorizia in north-western Italy (Author: J. Marić, 2015).

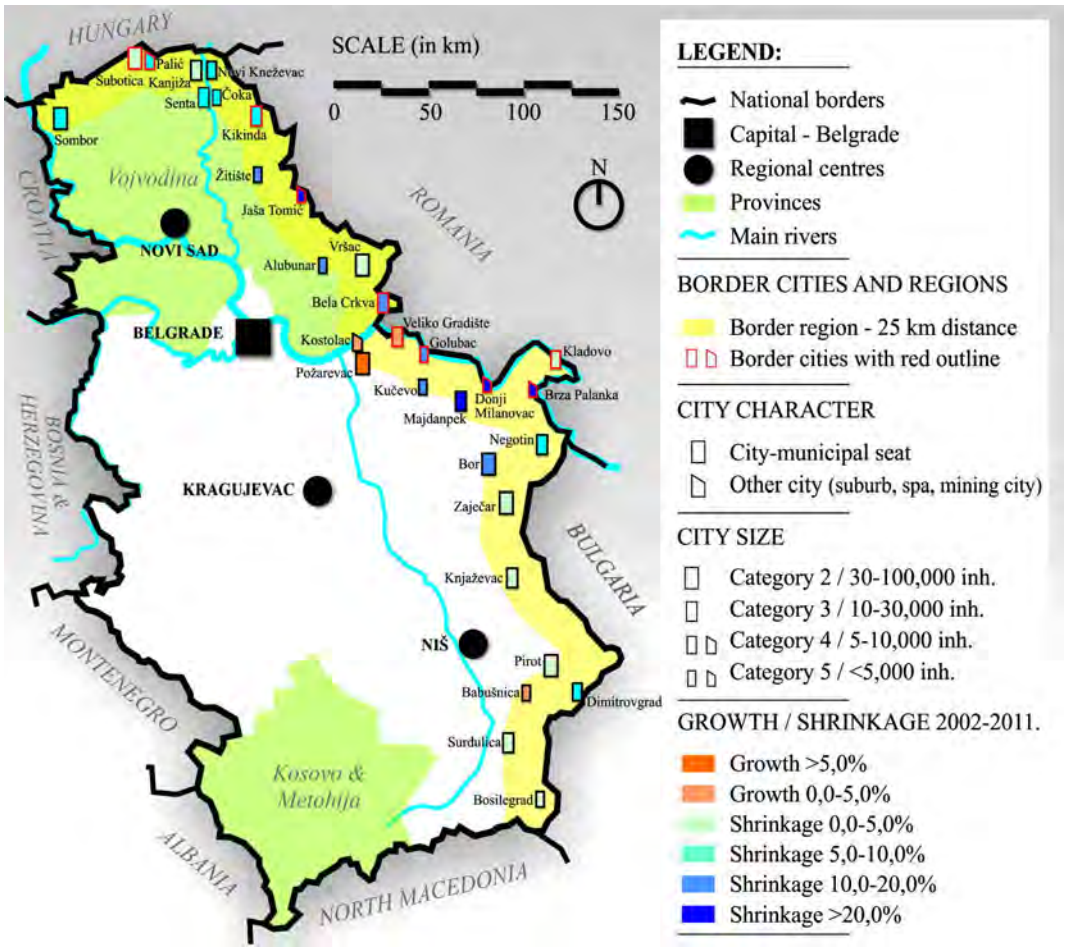

Fig. 011 / Borderland urban shrinkage in Serbia, along long-established and hard/external EU borders with Hungary, Romania and Bulgaria (Author: B. Antonić, 2020).

Alongside with the demographic aspects of urban shrinkage, in European cities the political and administrative aspects are proven to be rather significant. The political perception of cities in decline refers to the impact of long-term political administrative decisions on urban decline. There can be distinguished several types of urban decline according to the political-spatial context in which it occurs and takes place, depending on the macro-, meso- and micro-context.

MACRO-CONTEXT refers to urban decline caused by changes in national borders. Therefore, related urban decline is often regarded in the case of cities that underwent the boarder transformation or the change in the political regime (Haase et al., 2008). The city thereby loses part or even most of its dependent area, and its traffic and networking are significantly limited by the border line, as a new obstacle (Bruneckiene & Sinkiene, 2015). This was the case with Gorizia (Fig. 010) and Trieste in Italy. The cities along so-called “hard” borders (with strict border control) are especially prone to rapid urban shrinkage (Fig. 011).

MESO-CONTEXT is related to the urban decline that occurs due to the decline of the area which gravitates towards it. Across Europe, the decline of small and medium-sized cities is directly related to the limitations of

the regions to which they belong (Fig. 012). These are mostly cities in regions on the periphery of the main development streams on the continent, in the far south, or cities in the far north.

MICRO-CONTEXT refers to the urban decline as a consequence of administrative division into settlements and municipalities. This includes one of the most important features of urban shrinkage - the decline of the (central) city settlements at the expense of the suburbs. Existence of suburbs as separate political units in relation to the main urban settlement in the middle is not equally spread in the world. The most famous examples of urban decline through suburbanization are related to large cities in the USA, which mostly declined during the second half of the 20th century. Regarding Europe, Gdynia in Poland is one of the examples of the suburbanisation in the context of urban shrinkage (Fig. 013).

Fig. 013 / New suburbs of Gdynia, Poland: Suburbanisation in post-socialist Europe as a consequence of the urban decline of major cities (Author: A. Djukić, 2018).

Fig. 012 / Zlin, Czech Republic: The eastern part of Czech Republic has had regional shrinkage due to its industrial and mining character. Many cities and towns in this region have followed this trajectory (Author: J. Marić, 2022).

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- Haase, D., Haase, A., Kabisch, S. & Bischoff, P. (2008). Guidelines for the "Perfect Inner City". Discussing the Appropriateness of Monitoring Approaches for Reurbanization. European Planning Studies, 16(8), 1075-1100. DOI: 10.1080/09654310802315765.
- Bruneckiene & Sinkiene, 2015
- Bruneckiene, J. & Sinkiene, J. (2015). The economic competitiveness of Lithuanian-Polish border region's cities: the specific of urban shrinkage. Equilibrium. Quarterly Journal of Economics and Economic Policy, 10(4), 133-149. DOI:10.12775/EQUIL.2015.039.

There are two basic approaches to the topic of urban decline, from the aspect of urban planning, which are based on concrete goals and different perceptions of this phenomenon. The first potential goal is the return of the population to the state before the decline, while the second approach is based on accepting the current state and adapting to it (Fig. 014-015). Another potential approach to "solving" the problem of shrinkage is to increase their attractiveness and liveability, especially at the level of aesthetics and attraction for new investments, through the construction of significant architectural buildings, so-called flagship projects, and the urban renewal projects (Fig. 016). The second approach relies on the understanding that a declining city needs to accept the previous level of urban decline as a fact and focus the efforts on preventing further urban decline through strengthening the socio-economic base (Hospers, 2014).

Fig. 014 / A new park on the site of removed unnecessary residential buildings as a radical response to fast urban shrinkage in Eisenhüttenstadt, Germany (Author: B. Antonić, 2018).

Fig. 015 / Semi-occupied multi-family building in Moldova Noua in Romania (Author: L. Lupu, 2022).

Fig. 016 / Krems / Donau, Austria: the urban reuse of the former tabaco factory into a new university as a critical trigger for the wider urban regeneration (Author: J. Marić, 2020).

Urban design as a tool in urban development is mainly orientated to micro-interventions in urban space (Fig. 017). In built-up areas, such projects are usually used in urban renewal, to prevent the physical and physical decay of an open public space, urban block or quarter (Djukić et al, 2010). In the case of shrinking cities, urban design has a minor role than urban planning, with a limited impact (Fig. 018-019). Nevertheless, urban design as a tool cannot be fully omitted. Urban design has to be able to handle different scenarios of urban change, regardless is it a case of urban growth or shrinkage. The key is the adaptations of urban design, where its tasks must encompass three categories of improvement: visual, physical, and socio-economic ones (Wassenberg, van Meer & van Kempen, 2007). Primarily, it has to be adapted to the current conditions of the entire urban area in shrinking process (Hollander et al, 2009).

Two common approaches are created: (1) FLAGSHIP PROJECTS usually use the brownfield sites in inner city parts. These sites are mainly the former industrial and port zones with a certain level of pollution; (2) URBAN ARCHIPELAGO is the approach that is closely attached to urban planning. The aim is to implement urban design projects just in those areas in shrinking cities that have higher population density and better possibility for redevelopment and re-urbanisation (Cepl, 2006). In essence, the logic behind all urban design interventions in shrinking cities is different; it aims to revive, redevelop, and rebrand an already existing city instead of creating a new one (Fig. 017).

Fig. 018 / Esztergom, Hungary: the renewal of historic buildings with a limited impact at urban-quarter level (Author: J. Marić, 2021).

Fig. 019 / Despite visible efforts to improve city image by urban design, Nova Gorica is still among relatively rare major shrinking cities in Slovenia (Author: J. Marić, 2015).

Fig. 017 / "VukovART" mural path in Vukovar, Croatia, as an example of 'tactical' urban design to revive this fast-shrinking city (Author: P. Antonov, 2021).

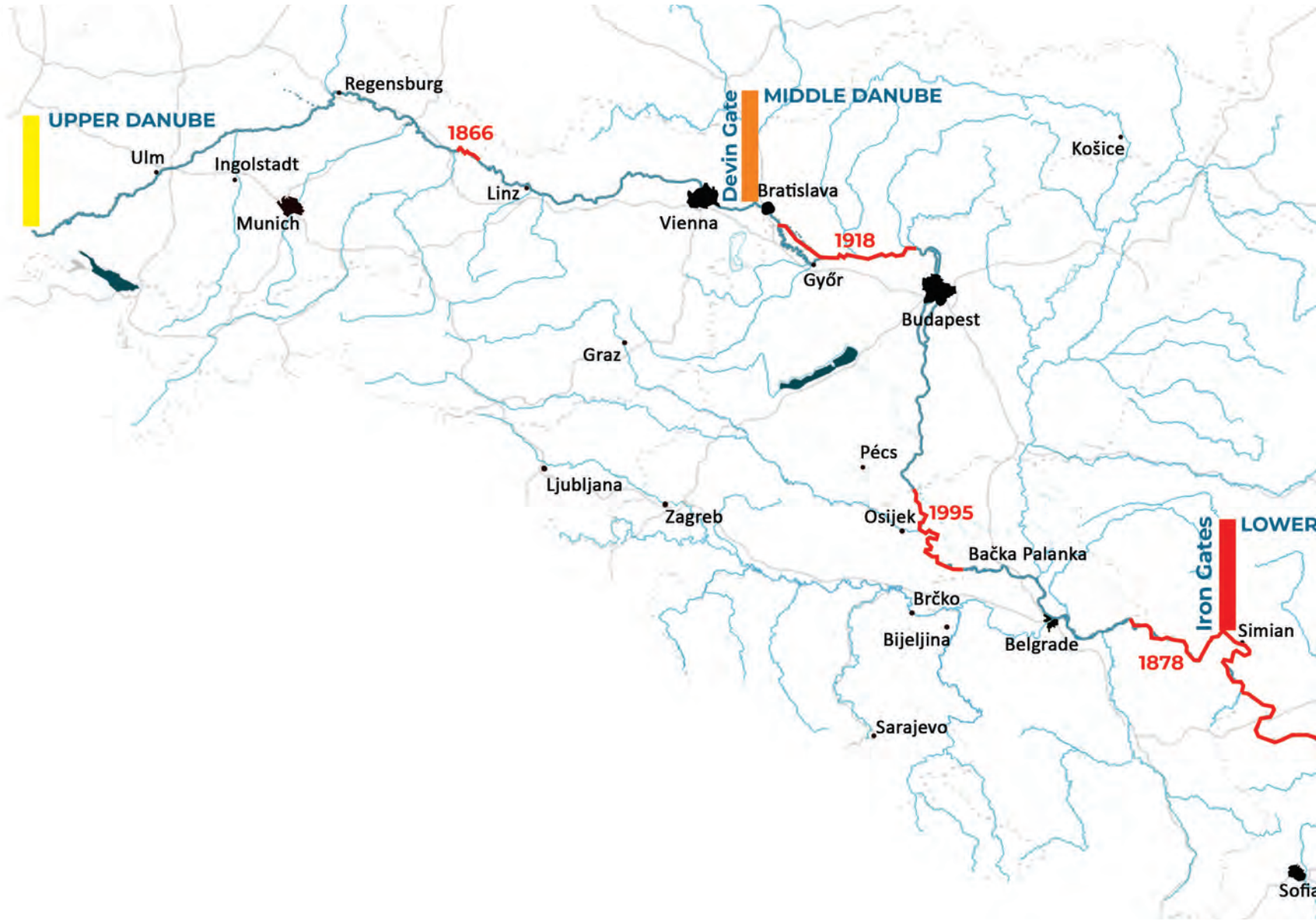
R

- Hospers, G-J. (2014). Policy Responses to Urban Shrinkage: From Growth Thinking to Civic Engagement. URBAN DESIGN International, 18(1), 78-89. DOI: 10.1057/udi.2012.29.
- Djukic, A., Krstic-Furundzic, A. & Kusic, A. (2010, February 16-17). Cities in Decline: Causes and Consequences of Shrinkage in the Industrialized City - Case Study Belgrade. "Shrinkage in Europe; Causes, Effects and Policy Strategies" COST Action TU0803 conference, Amsterdam, Netherlands.
- Wassenberg, F., van Meer, A. & van Kempen, R. (2007). Strategies for Upgrading the Physical Environment in Deprived Urban Areas: Examples of Good Practice in Europe. Berlin: BMVBS/BBR.
- Cepl, J. (2006). Oswald Mathias Unger's Urban Archipelago for Shrinking Berlin. In P. Oswalt (ed.), Shrinking Cities Volume 2: Interventions (pp. 187-195). Ostfildern, Germany: Hatje Cantz.

1.2 OVERVIEW // HOW THE ATLAS SHOULD BE UNDERSTOOD?

Branislav Antonić

Before presenting the content of the Atlas, it is important to explain its fundamentals. In the other words, we had to clarify how the atlas that researches shrinking cities in the Danube Space should be understood?



First, we had to place this Atlas among the 'world' of atlases, which has been changing at the beginning of the third millennium (Buckley, 2003). It is important to start with the essentials. By traditional definition, an atlas is a systematic compilation of maps, published as a printed book (Willard, 2017). The most usual form is a traditional geographical atlas for elementary education. However, the recent development of atlases across the world has caused their significant diversification and overlapping of topics and scopes. Hence, there are many typologies and categorisations of atlases today (Bugdayci & Bildirici, 2016).

This atlas follows this trend; it combines data from different scientific fields, such as geography, history, economy, demography or so-

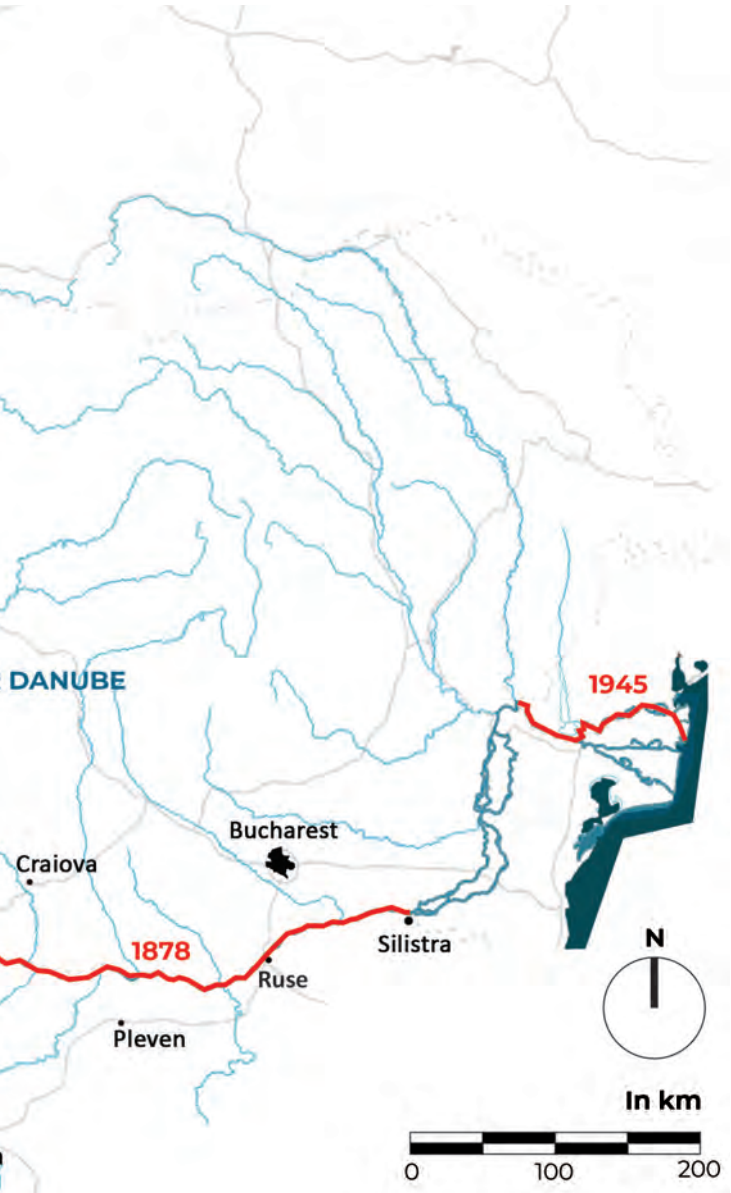


Fig. 020 / Three Danube regions: the Upper, Middle and Lower Danube. Existing national borders are marked with the year of establishment (Author: B. Antonić, 2021)

ciology, by innovatively presenting this content through urban morphological maps and plans, as well as through regional maps, but including also the other, up-to-date forms of the presentation for an atlas, such as the schemes and diagrams of urban morphology.

Apart from the already underlined focus of the atlas on shrinking urban areas along the Danube River, it is important to clarify the other key issues for its prospective readers and users. One of the aims of the atlas is to explore (still) undiscovered urban heritage along the Danube. Therefore, it is oriented to the region of the MIDDLE AND LOWER DANUBE, which is generally less developed and more physically isolated than the Upper Danube Region (Fig. 020); thus, the region is more attached to traditional life and culture and with a lot of preserved cultural heritage, which is still less visited by globetrotters.

R

- Buckley, A. (2013). Atlas Mapping in the 21st Century. Cartography and Geographic Information Science, 30(2), 149-158. DOI: 10.1559/152304003100011117.
- Bugdayci, I. & Bildirici, O. (2016). Evaluation of Educational Atlas Maps in Terms of Cartographic Design. In IOP Conference Series: Earth and Environmental Science, 44(4), 042022. DOI: 10.1088/1755-1315/44/4/042022.
- Willard, L. J. (2017). What is an Atlas? A Historical Overview and Comparison of Use between the Netherlands and the United States, and a Recontextualization for 21st Century Design [dissertation, Texas State University]. https://digital.library.txstate.edu/bitstream/handle/10877/6924/WILLARD-THESIS-2017.pdf?sequence=1&isAllowed=y.

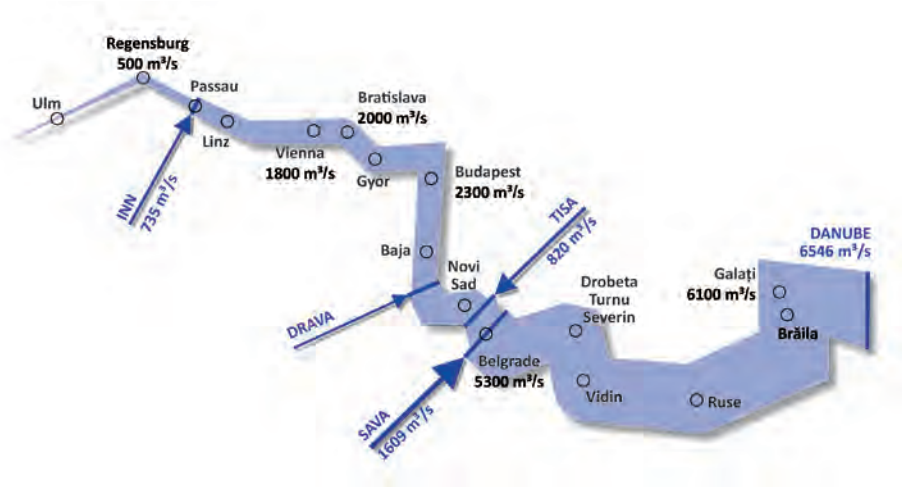


Fig. 021 / Scheme: Water flow of the Danube (Author: B. Antonić, 2021)

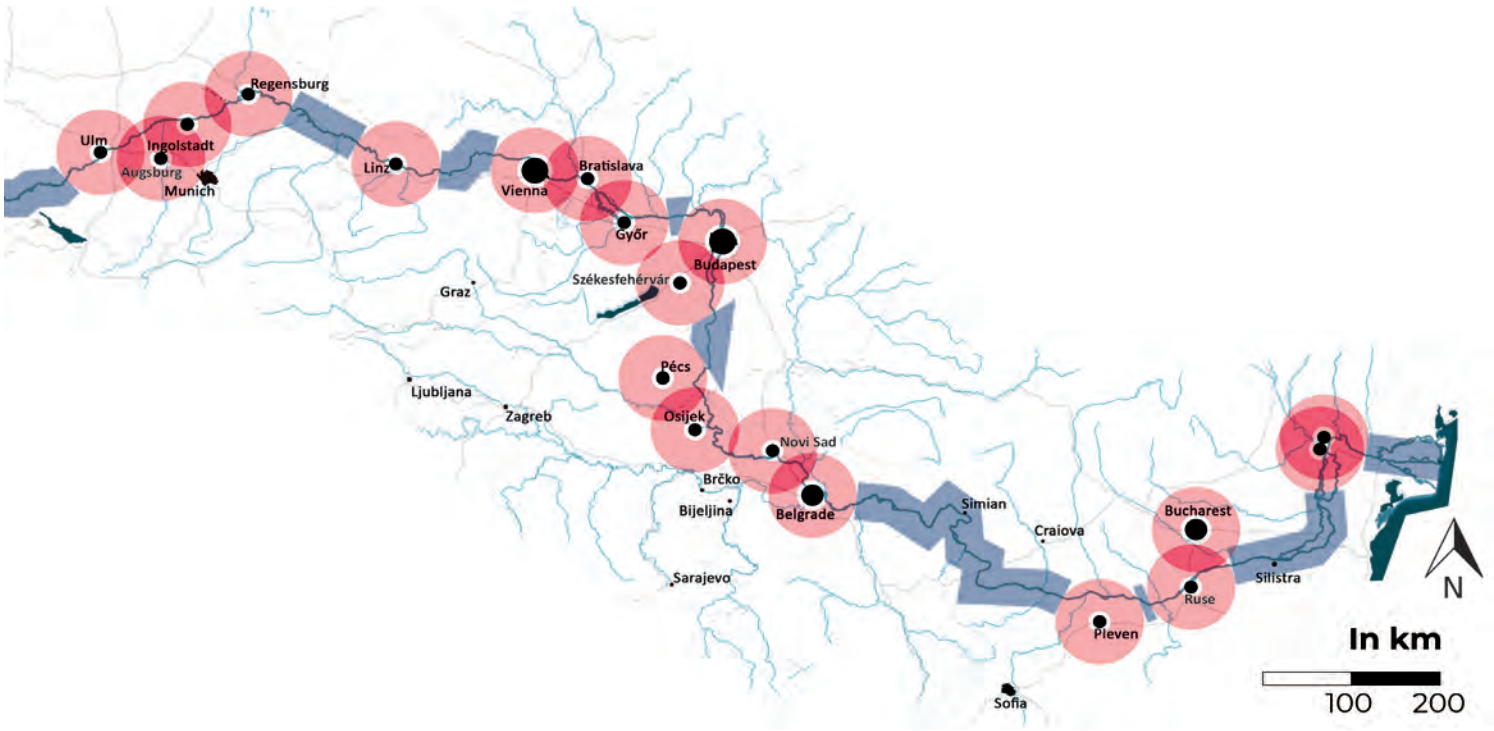


Fig. 022 / Scheme: Dichotomy of Danubian Space – metropolitan regions as 50-km-radius red circular zones around major cities (>100,000 inhabitants) and rural blue zones between them (Author: B. Antonić, 2021)

The encircled research area of the Middle and Lower Danube regions has other specificities, which have to be underlined in this explanatory chapter of the atlas:

[1] PHYSICAL SPECIFICITY: The Danube becomes a LARGE RIVER after Vienna, when it enters Pannonian Plain, which slows its flow, so the river consequently widens. Similarly, it receives a lot of its water in its upper middle part; between Bratislava and Belgrade, it receives three out of four major tributaries – the Drava, the Tis(z)a, and the Sava (Fig 021). Their waters nearly triple the flow of the Danube (ICPDR, 2005). As a consequence, it becomes a wider river, for both passing and bridging.

[2] POLITICAL SPECIFICITY 1: Being a significant physical obstacle, the Danube in its middle and lower sections has become also a PROMINENT POLITICAL AND ADMINISTRATIVE BOUNDARY (Fig 020). In antiquity, it represented the most of the north-eastern limes of Ancient Rome. In the Middle Ages, the Danube Region became a battleground between eastern and western Christianity. In early modernity, the river divided Habsburg and Ottoman empires - as two political realms, but also two different civilisations (Vezenkov, 2017). Even nowadays, the river is still a political and administrative border in many parts of its middle and lower sections and this is especially noticeable in its lowest part, as the 470-km long border between Romania and Bulgaria (Vasileva, 2014).

[3] POLITICAL SPECIFICITY 2: FOUR NATIONAL CAPITALS are on the Danube shores: Vienna, Bratislava, Budapest, and Belgrade, whereas Bucharest is only 50 km far away (Fig. 022). A dichotomy between their gravitation zones and vast Danubian areas far from them has caused a significant spatial polarisation between the fast-growing metropolitan areas of capitals and the spatially isolated and fragmentised in-between spaces of many small cities and towns on the Danube.

[4] POLITICAL SPECIFICITY 3: Almost the entire space of the Middle and Lower Danube belongs to POST-SOCIALIST COUNTRIES (Fig. 023). National development during the socialist era was very introverted; every country tried to develop in order to cover all their necessities. Post-socialist countries were the last ones to embrace globalisation in the early 1990s (Pickvance, 2002). However, their long-lasting isolation and self-dependence still influence the fragmentation of the entire region.

[5] SOCIO-ECONOMIC SPECIFICITY: The explained physical and political characteristics have influenced the present-day underdevelopment of the Middle and Lower Danube countries within Europe. These countries are mostly among the last third by economic indicators (Fig. 024). Knowing that most of the national wealth is concentrated in capital regions, the rest of the Danube Region belongs to the least developed ones in Europe.

Thus, the atlas examines cities and towns along the middle and lower sections of the Danube in seven post-socialist European countries: SLOVAKIA, HUNGARY, CROATIA, SERBIA, ROMANIA, BULGARIA, and UKRAINE. Although Moldova also fits with the aforementioned prerequisites, it is not included in the atlas because Giurgiulești, its only settlement on the 480-m long Danube Shore in the country, is not an urban settlement.

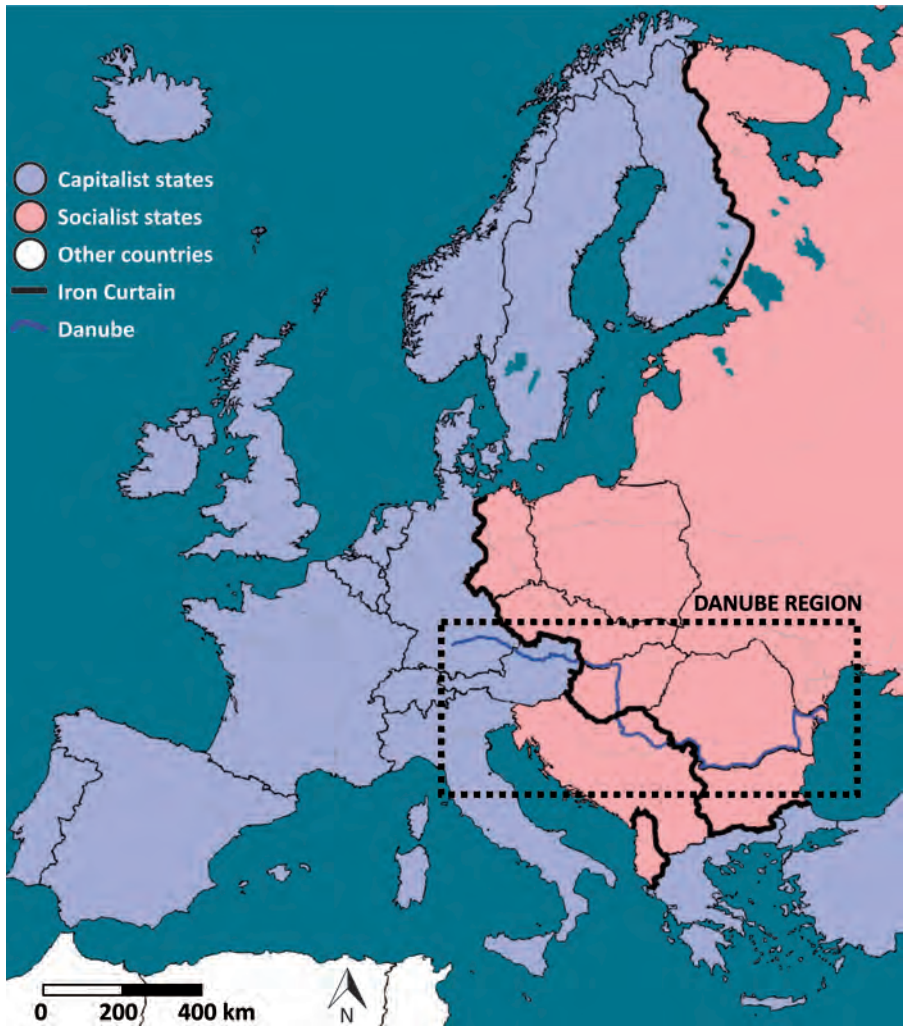


Fig. 023 / The Danube Region in Europe during the Cold War (1945-1991)
(Author: M. Obradović, 2021)

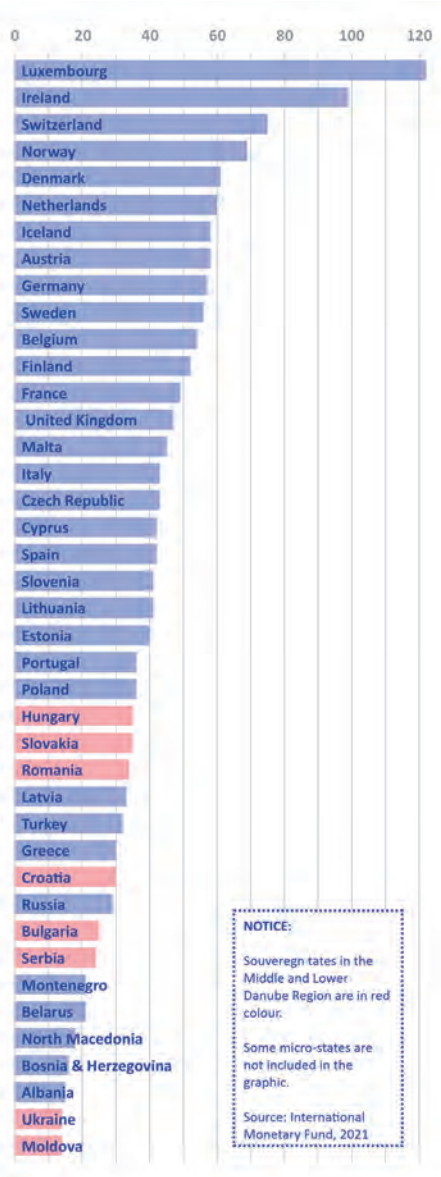


Fig. 024 / The comparison of sovereign states in Europe by projected 2021 gross domestic product in purchasing power parity per capita based on international dollars
(Author: B. Antonić, 2021)

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- International Commission for the Protection of the Danube River – ICPDR (2005). The Danube River Basin District: Part A – Basin-wide overview. http://www.icpdr.org/main/danube-basin/countries-danube-river-basin.
- Vasileva, V. (2014). Development of Tourism in the Danube Tourist Region of Bulgaria. Geography and Tourism, 2(1), 51-59. http://www.geography.and.tourism.ukw.edu.pl/artykuly/vol2.no1_2014/Geography-and-Tourism_2014-01_article-06.pdf.
- Vezenkov, A. (2017). Entangled Geographies of the Balkans: the Boundaries of the Region and the Limits of the Discipline. In: R. Daskalov & T. Marinov (Eds.) Entangled Histories of the Balkans: Volume Four (pp. 115-256). Leiden: Brill.
- Pickvance, C. (2002). State-Socialism and their Urban Patterns: Theorizing the Central and Eastern European Experience. In J. Eade & C. Mele (Eds.), Understanding the City (pp. 183-203). Oxford: Wiley. DOI: 10.1002/9780470693582.ch9.

In line with the previous observation about the still undiscovered urban heritage along the Danube, the atlas is also oriented toward SMALL AND MEDIUM-SIZE URBAN AREAS, i.e., small cities and towns along the river which are still not well-promoted internationally. Three questions arise from this approach:

QUESTION 1: HOW THE INCLUDED COUNTRIES OFFICIALLY DEFINE AN URBAN SETTLEMENT, CITY AND TOWN?

Additionally, is there any official difference between the terms city and town? Or, how to define them (Bernt, 2016)? This definition varies between countries in the Middle and Lower Danube, but, in all of them, the status of urban (and rural) settlements is defined by law. There are regional differences (Fig. 025):

All analysed cities and towns are from the OFFICIAL LISTS OF URBAN SETTLEMENTS of seven selected countries, enacted by law. This includes the following implications (See: Annex – Table 1):

_ Half of the considered countries have a quantitative/numerical criterion (population size) as a threshold to legally define the status of an urban settlement (city), with exceptions related to smaller settlements with certain special features (Fig. 026).

_ The other half of the countries has not clear legal criteria to define a city status. Instead of this, it depends only on legislative procedures, but, in most cases, relevant legislation follows the “size-dependent” rule in the background.

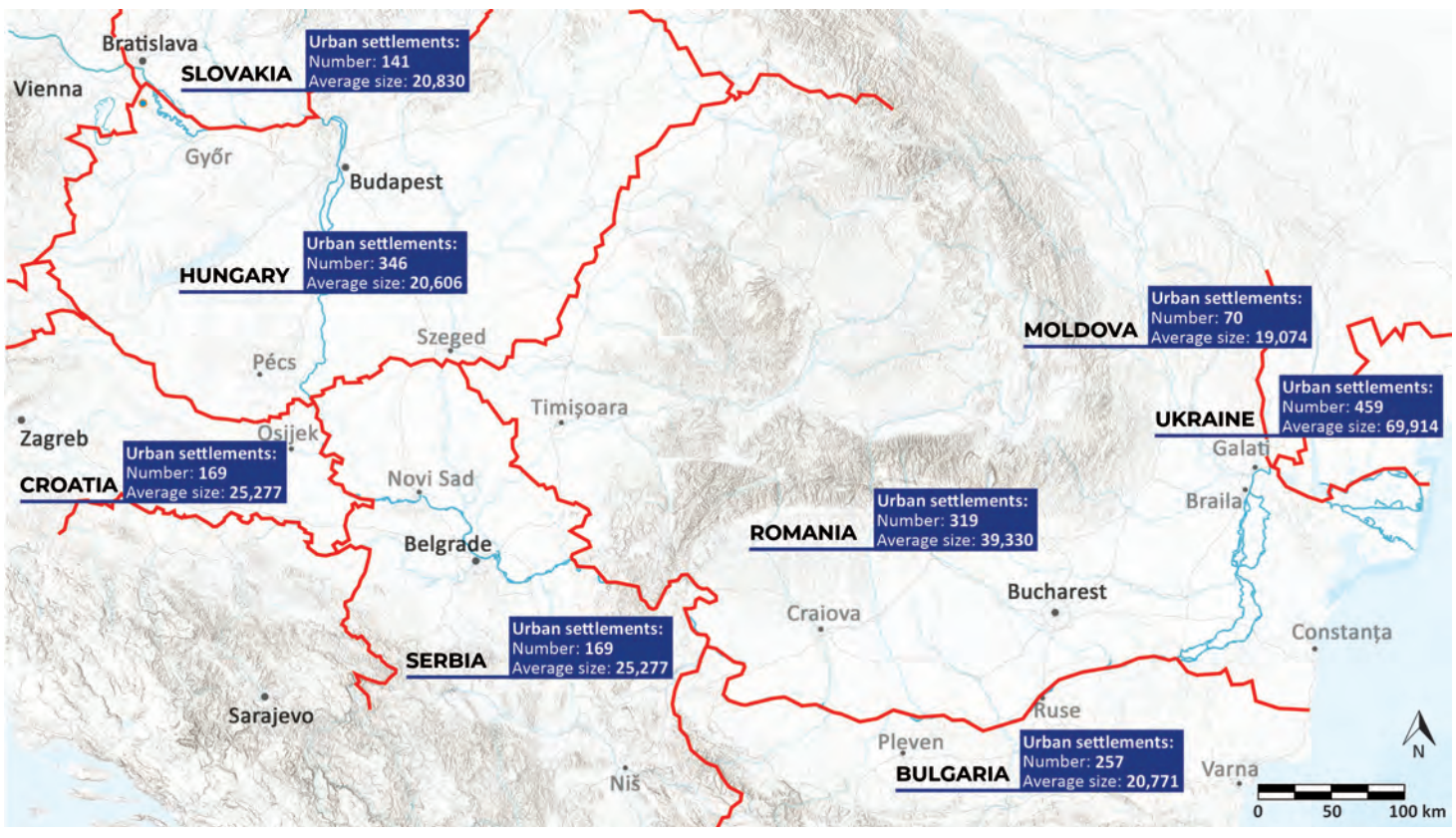

Fig. 025 / Map: Urban settlements in the states in the Middle and Lower Danube – number and average size (Author: B. Antonić, 2021)

Fig. 026 / Some of urban settlements along the Danube have always been very small towns, such as Golubac in Eastern Serbia, with 2,500 inhabitants in urban zone today (Source: TO Golubac, 2022)

_ The most common 'other' criteria for a city status are usually historic/traditional – historic significance and/or "old-city look" (Fig. 027-028). Then, economic criteria come – non-agrarian character, tourist settlements, etc., while geographic reasons are less important.
_ The ratio between the number of urban settlements and the total urban population in the all the countries is relatively unified.
_ The two biggest countries – Romania and Ukraine – have both ratios smaller than average for countries, which means that their average city sizes are noticeable bigger than in most of the analysed countries.

The analysed figures per country show that the AVERAGE POPULATION SIZE of urban settlements is mainly 20,000-25,000 inhabitants (See: Annex – Table 2). Only Romania and Ukraine have a different situation, which is probably related to their different/bigger size; in Romania, an average urban settlement has almost 40,000 inhabitants, while it is even bigger in Ukraine – 69,000 inhabitants.

Fig. 027 / Middle-sized cities in Danubian states usually have some attributes of bigger cities, such as monumental buildings or important institutions. An example is a Drama Theatre in Vidin in North-western Bulgaria (Author: D. Mincheva-Yordanova, 2022)

Fig. 028 / Szob is an example of Hungarian town for historic and regional significance; the town has less than 3,000 inhabitants today (Author: A. Radulescu, 2021)

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· Bernt, M. (2016). The Limits of Shrinkage: Conceptual Pitfalls and Alternatives in the Discussion of Urban Population Loss. International Journal of Urban and Regional Research, 40(2), 441-450. DOI: 10.1111/1468-2427.12289.

QUESTION 2: IS THERE ANY NATIONALLY BASED DIFFERENTIATION BETWEEN BIG, MEDIUM(-SIZED), AND SMALL CITIES?

The size of a city/town matters in the research of shrinking cities (Oswalt & Rieniets, 2006). Similar to the previous question, the countries of the Middle and Lower Danube and their national legislation present a variety relating to the division between bigger and smaller urban settlements, as well as between cities and towns. This is a true legislative 'mosaic' (Fig. 029):

The conclusion regarding the official differentiation of urban settlements is that the majority of selected countries do not have (1) the official legal division of cities by their size and (2) different legal names for cities and towns, except in Romania (municipiu vs. oraș).

In this situation, the difference between urban settlements by size can be established by the EU territorial organisation of the Nomenclature of Territorial Units for Statistics (NUTS) as a useful approach. Hence, urban settlements (cities and towns) in the analysed countries are arranged comparing their relation to the territorial subdivision of the countries into NUTS and LAU (local administrative units) levels (See: Annex – Table 3). There are three types of territorial organisation for city/town level (Fig. 12.52).

The inputs from NUTS-based comparison are crucial to address the DIVISION BETWEEN URBAN SETTLEMENTS of different sizes, used in this atlas (Fig. 030):

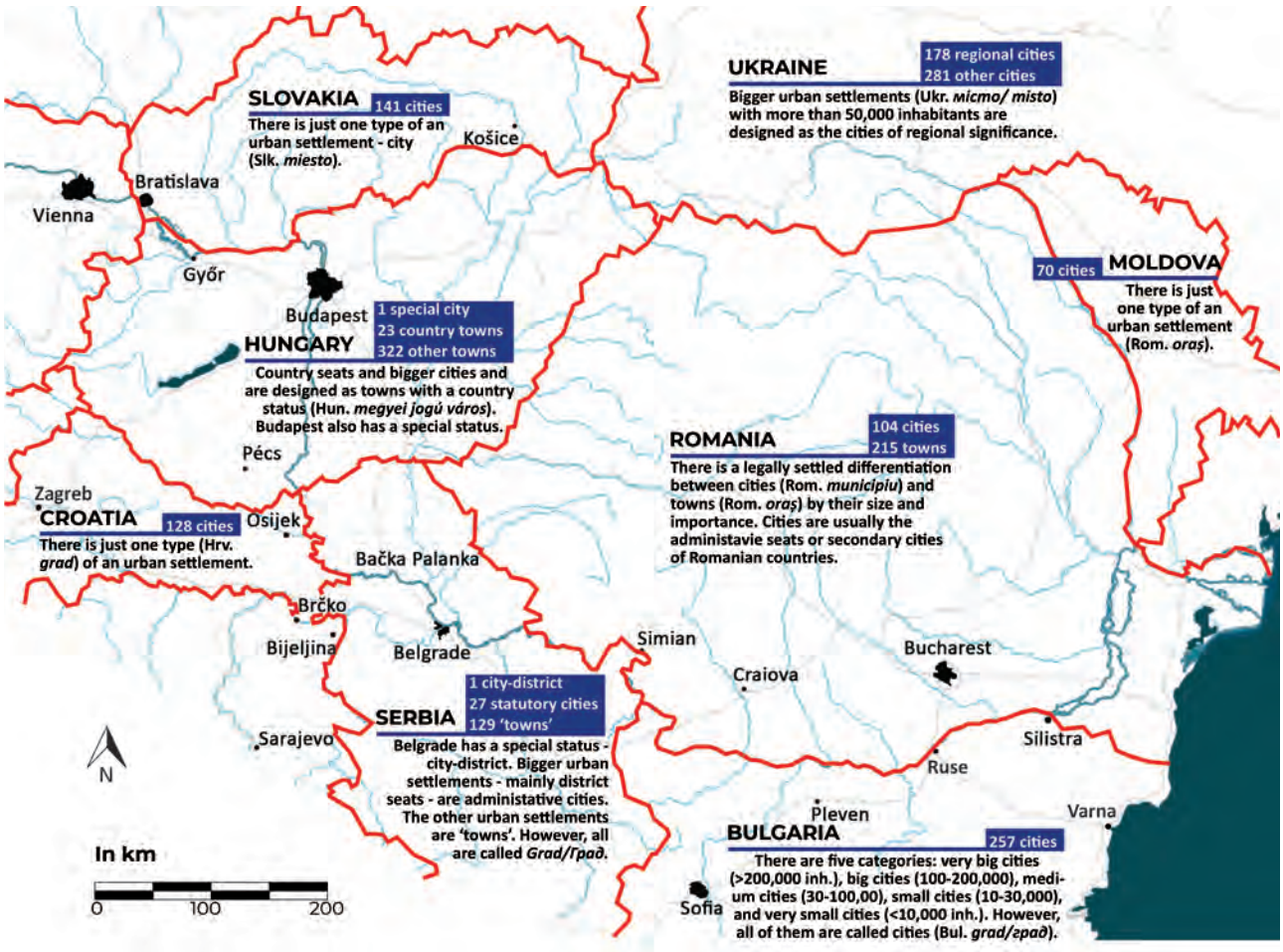

Fig. 029 / City/Town division in national legislation in the countries of the Middle and Lower Danube Region (Author: B. Antonić, 2021)

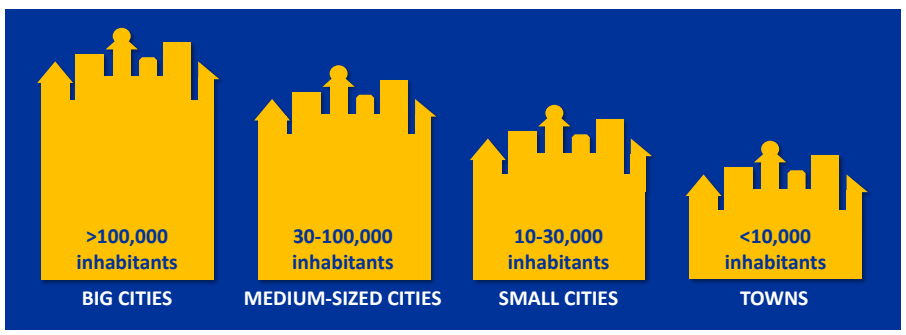

Fig. 030 / The adopted division of urban settlements related to their population size (Author: B. Antonić, 2022)

QUESTION 3: WHERE ARE THE SPATIAL LIMITS / BOUNDARIES OF URBAN AREAS IN THE DANUBE REGION?

The issue of URBAN LIMITS generally pertains to two possible options, (1) administrative or (2) physical/built-up limits of urban areas. As some previously discussed elements, there are diverse situations across the countries of the Middle and Lower Danube. Slovakia and Hungary have small and single-settlement municipalities, which can be urban or rural, depending on the status of a settlement (Fig. 031). Serbia, Bulgaria and Ukraine have relatively big municipalities with many settlements (usually rural), while their seat is often a town/city (Fig. 032). Croatia and Romania are positioned between these two 'poles'. Their municipalities often encompass several settlements, where a municipal seat can be either urban or rural. These three cases can be explained through the following schemes (Fig. 033):

The proposal adopted in the atlas is to follow the physical limits of a city/town – the CONTINUOUS BUILT-UP AREA of an urban settlement. This approach is scientifically suitable (Drobne et al, 2014). Furthermore, it usually concurs with the coverage of general urban plans or similar documents, which are considered as key strategic documents for the studies of important spatial issues in small urban settlements (Troeger-Weiß & Domhardt, 2009). Demographically speaking, this proposal means that the borders of a built-up area encompass a central city/town plus suburbia, under the condition that suburbia exits in the form of separate settlements. Concerning three explained cases, this applies:
CASE 1: Slovakia, Hungary – an urban municipality + suburban municipality/ies;
CASE 2: Croatia, Romania – an urban municipality as a whole;
CASE 3: Serbia, Bulgaria, Ukraine – the part of the municipality which includes a central urban settlement and suburban settlements in its close surroundings.

Fig. 031 / Municipalities in Slovakia are usually equal to settlements. Even small towns, such as Gabčikovo in the Danubian part of the country, are sole settlements in a municipality (Author: S. László, 2008)

Fig. 032 / Municipalities in Bulgaria usually have many settlements, where with cities or towns as their seats. Nikopol on the Danube is the seat of a municipality of 14 settlements. (Author: BlueLink, 2022)

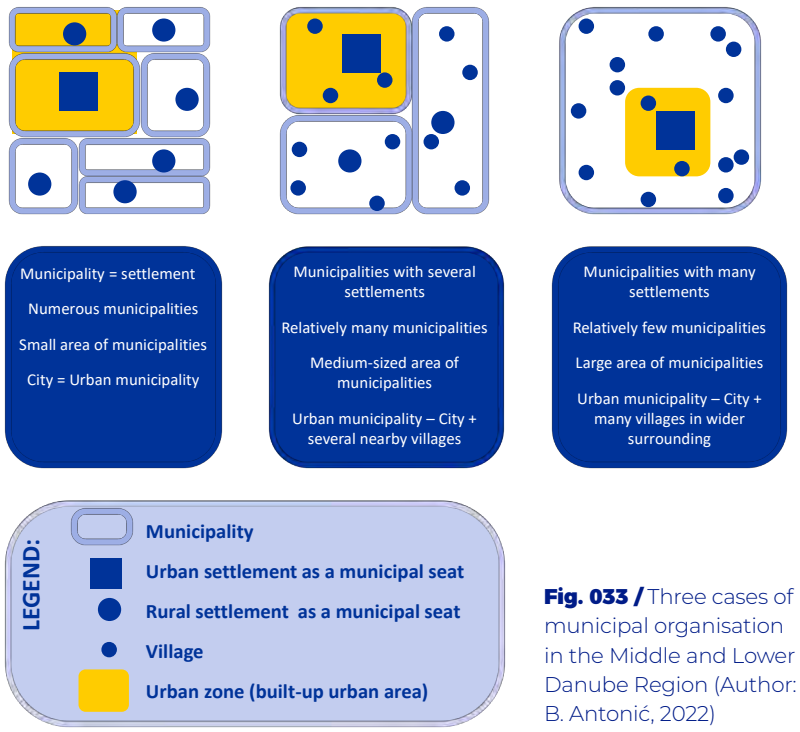

Fig. 033 / Three cases of municipal organisation in the Middle and Lower Danube Region (Author: B. Antonić, 2022)

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- Oswalt, P. & Rieniets, T. (2006). Atlas of Shrinking Cities. Ostfildern: Hatje Cantz.
- Drobne, S., Žaucer, T., Foški, M. & Zavodnik Lamovšek, A. (2014). Continuous built-up areas as a measure for delineation of urban settlements. Geodetski Vestnik, 58(1), 69-102. DOI: http://dx.doi.org/10.15292/geodetic-Vestnik.2014.01.069-102.
- Troeger-Weiß, G. & Domhardt, H-J. (2009). Germany's Shrinkage on a Small Town Scale. In K. Pallagst et al (Eds.), The Future of Shrinking Cities (pp. 161). Berkeley, CA: Berkeley University. Retrieved from https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/report-pallagst-et-al.pdf.

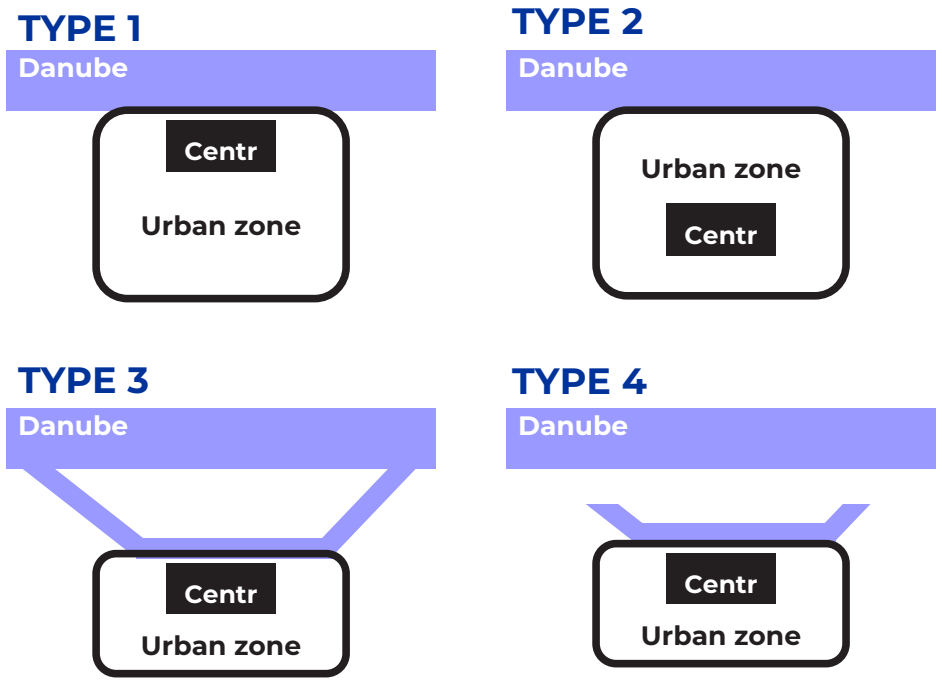


Fig. 035 / Simplified types of Danubian cities and towns (Author: B. Antonić, 2022).

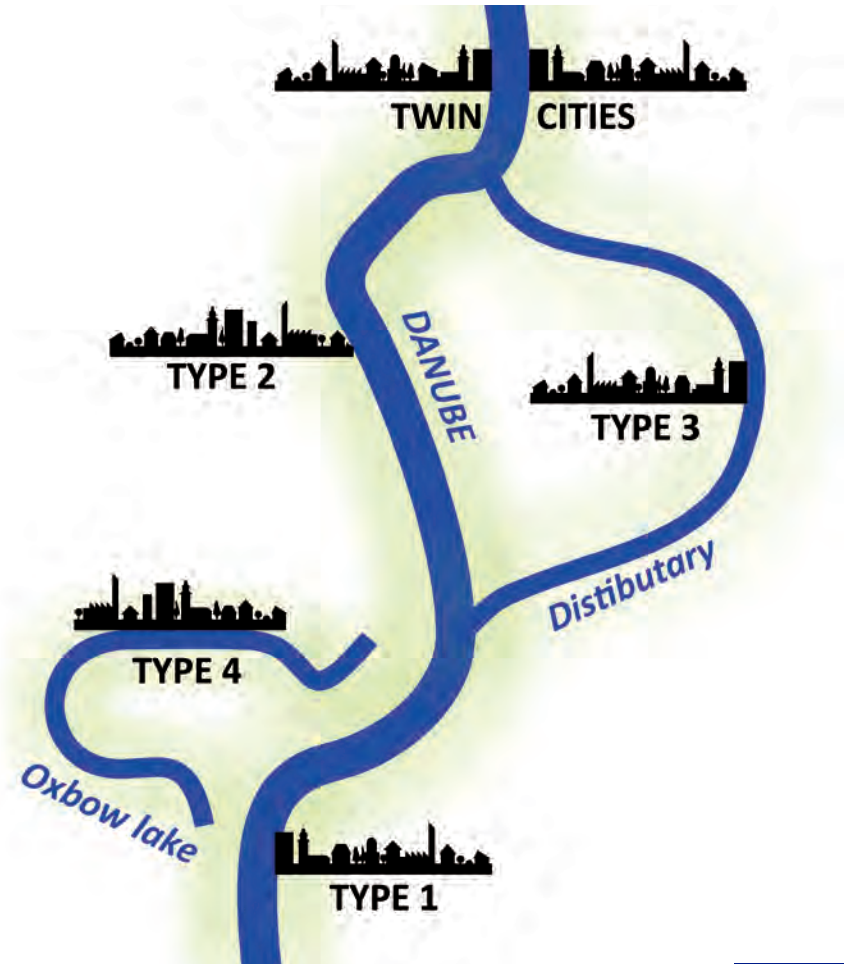


Fig. 034 / Four types of Danubian cities and towns regarding their position to the Danube (Author: B. Antonić, 2022).

As it was previously highlighted, the Danube becomes a wide river in its middle and lower sections. Thus, only several largest cities, such as Budapest or Belgrade, have succeeded to expand across the river, on both riversides. Hence, all middle and small cities and towns in this region are 'entrenched' to ONE RIVERSIDE. However, TWIN CITIES across the Danube represent slightly different cases (Fig. 034) which will be studied in a separate chapter dedicated to this unique topic.

Apart from this unusual type, all other middle and small cities and towns can be organised in four types regarding their relation to the Danube (Fig. 035):

TYPE 1: Cities and towns directly located on the Danube, with their urban centre on the Danube riverfront (Fig. 036);

TYPE 2: Cities and towns partially located on the Danube, where just their peripheral zones (industrial, recreational, tourist) belong to urban riverside (Fig. 037);

TYPE 3: Cities and towns indirectly located on the Danube, i.e., located on the Danube canals or distributaries, usually several kilometres from the main riverbed (Fig. 038);

TYPE 4: Cities and towns historically located on the Danube – founded on old riverbeds, which are nowadays oxbow lakes and canals (Fig. 039).

Fig. 036 / Tulcea in Romania as Type 1. The city centre is directly located on the Danube (Author: B. Antonić, 2019).

Fig. 037 / Šamorín in Slovakia as Type 2. The only urban part on the Danube Shore is X-Bionic Sport and Recreation Resort on the southern edge of the town (Author: A. Radulescu, 2021).

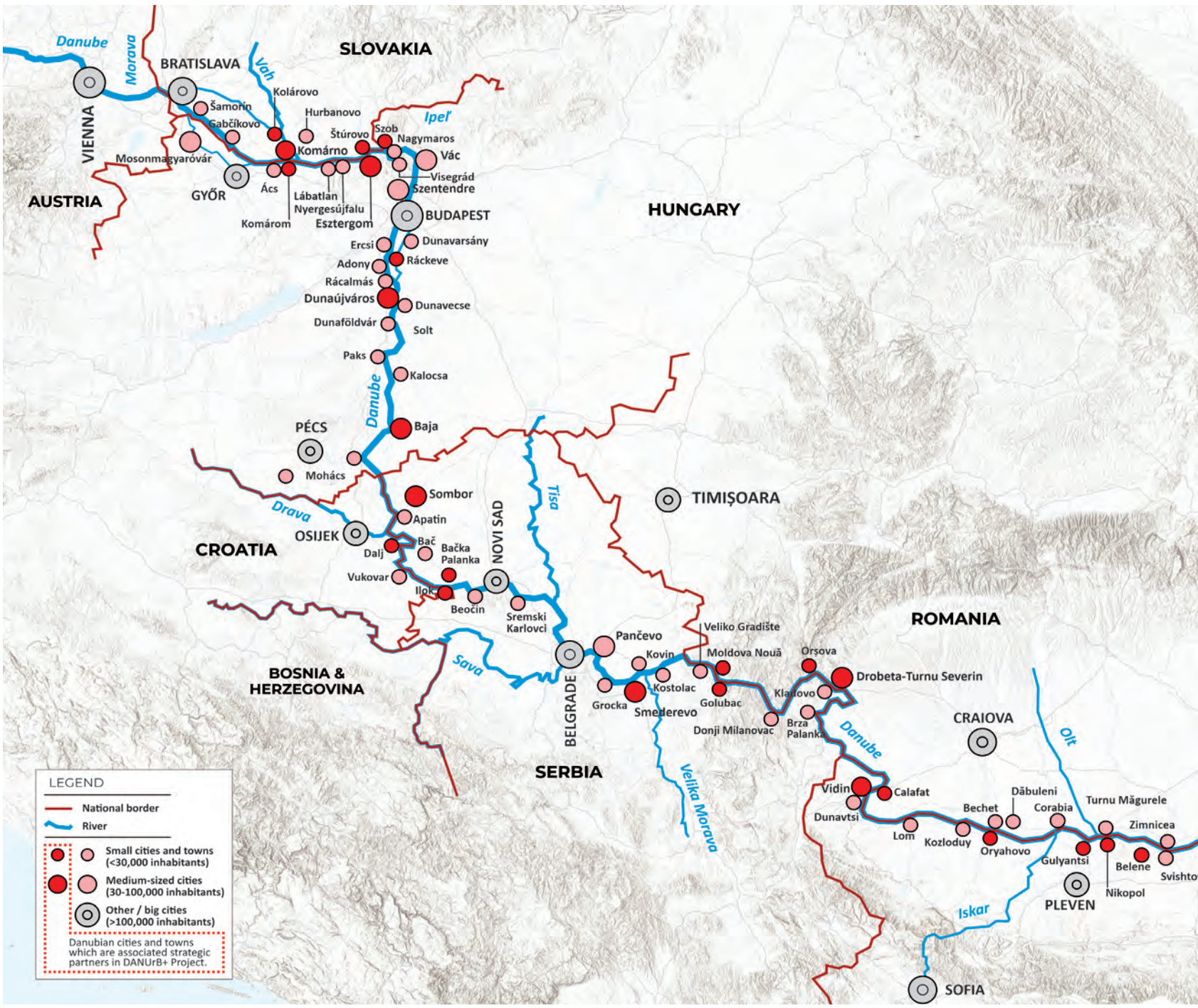
Fig. 038 / Ráckeve on the river Island of Csepel in Hungary as Type 3. The town lies on Soroksári Danube, the river left distributary (Author: P. Wolf, 2022).

Fig. 039 / Bač in Serbia is one of the rare examples of Type 4. The town was formed on the river distributary, which became an almost dry oxbow lake (Author: M. Obradović, 2021).

1.3 OVERVIEW // WHY CASE-STUDY CITIES ARE HIGHLIGHTED?

Vladimir Pařežanin

The cases studies in this atlas are done on cities and towns in the region of the Middle and Lower Danube, which is sprawled across eight European countries. In total, there are 92 urban areas along its banks, 8 of which are big cities with more than 100,000 inhabitants. Three national capitals are located in these two Danube sections – Bratislava, Budapest and Belgrade – whereas other five cities are of a regional importance – Győr in Hungary, Novi Sad in Serbia, Ruse in Bulgaria, Brăila and Galați in Romania. Romanian capital of Bucharest is close to the river, as well as some other regional cities, such as Pécs in Hungary, Osijek in Croatia or Pleven in Bulgaria.



Medium-sized and small cities and towns are more numerous – there are 84 of them (Fig. 040). 17 (20%) are considered as medium-sized cities with 30-100,000 inhabitants, while there are 26 (31%) small cities (10-30,000 inhabitants).

Finally, almost the half of this group (41/49%) consists of towns with less than 10,000 inhabitants. The first analysis of all considered cities and towns also shows that the urban network is the densest in the upper part of the analysed region, between Bratislava and Budapest, while cities and towns are especially scarce in the easternmost part of the Danube Region, before the delta.

Fig. 040 / Map: Cities and towns in the Middle and Lower Danube Region (Author: V. Parežanin, 2021)

The special focus of DANUrB+ Project and this atlas is on the medium-sized and small cities and towns. Their representatives officially participate in the project partnership, as associated strategic partners (ASPs), marked red (Fig. 040). The selection of these cities and towns for the project was done based on their common features and peculiarities relating to local heritage, tradition, urban morphology, community, economy and their links to the Danube. They are recognised, described and mapped in the atlas. There are 28 ASP cities and towns, which are spread along the Danube Region, in six analysed states: Slovakia, Hungary, Croatia, Serbia, Bulgaria, and Romania. The atlas also covers the stories about some other Danubian cities and towns which are specific, such as Sulina in Romania, Mohács in Hungary, Vukovar in Croatia or Donji Milanovac in Serbia. Finally, some examples are more regionally oriented, e.g., Zalesie Region in Slovakia, Ipoly Valley in Hungary / Slovakia or the Iron Gates Gorge in Romania/Serbia.

SOME PECULIARITIES OF DANUBIAN CITIES!

- DROBETA TURNU SEVERIN in southwestern Romania is the largest city analysed in the atlas, with more than 90,000 inhabitants.
- BRZA PALANKA in eastern Serbia is the smallest town in the atlas, with less than 1,000 inhabitants.
- MOLDOVA has a very short Danube Riverside – just 480 metres! Therefore, there are no cities on the river in this country, as the only settlement, Giurgiulești, is without a city status.
- CROATIA has only three urban settlements on the Danube – Dalj, Vukovar and Ilok.
- HUNGARY has the largest number of Danubian cities and towns – 26 of them in total!
- GALAȚI and BRĂILA are two closest big cities on the Danube shores – the distance between two cities is just 20 km!

chapter 02 – LEARNING FROM THE PAST – EMBRACING HERITAGE

Learning from the Past – Embracing Heritage

D+ Atlas

2.1 PRE-INDUSTRIAL CITY IN THE DANUBE REGION
INTRODUCTION

Adam Németh

Before the 19th century, when rapid technological innovation and increasing urban development radically altered the relationship between rivers and cities, the Danube was the source of both opportunities and dangers for the human settlements built on its shores. Until modern times the river was unregulated, and many cities were surrounded by side arms and islands and were highly exposed to flood risk. Islands on the Danube, on the other hand, provided the townsmen with pasture for grazing animals, as well as land for orchards, and in times of danger offered refuge for the population, just like side arms could provide safe harbour for merchant ships.

Since ancient times, a major trade route run along the Danube which gave rise to important urban centres. During the medieval and early modern periods some of the latter had become royal and imperial seats (Esztergom, Buda, Vienna, Bratislava, Smederevo), others evolved into commercial hubs (Baja, Ruse, Tulcea) or military strongholds (Komárno, Petrovaradin, Golubac). Cities with distinguished political and military functions were often established at places where the river passed an elevated point offering a more easily defensible spot. The fortunes of such centres were strongly dependent on the wars with the Ottoman Empire taking place in the region between the 14th and 19th centuries which saw major battles fought by the Danube (Nikopol, Belgrade, Mohács).

Before the industrial revolution and still during its early phase, urban economy was highly dependent on the resources provided by rivers which was reflected on the cities' riverside townscape (Fig. 041-042). Watermills (Fig. 043), ship mills, fishers' hous-

Fig. 041 / View of Novi Sad in the 19th century (Author: M. Troh, 19th century).

Fig. 042 / A view of Ruse from 1824: Lithography (Autor: A. von Saar after a drawing of L. Erminy, 1824).

es, granaries and warehouses were typical structures to be found on the shores. Some cities, however, were separated from the river by their defensive systems and thus these structures stood outside the area of the city proper. In other cases, in front of the walls of fortified cities new settlements arose on the banks of the Danube. After the demolition of urban fortifications in the 18th-19th centuries, these were usually integrated into the neighbouring cities in both administrative and physical terms. In most cities, the 19th century brought about significant changes to the urban riverscape: the building of embankments and bridges, the creation of parks and promenades, and the emergence of modern ports and industrial facilities caused the disappearance of traditional structures and entirely transformed the use and appearance of urban riverside areas.

Fig. 043 / Shipboard watermill in Kolárovo, Slovakia.
Author: F. Radulescu, 2021.

2.1.1 CASE STUDY 1 // ESZTERGOM, HUNGARY

Adam Németh

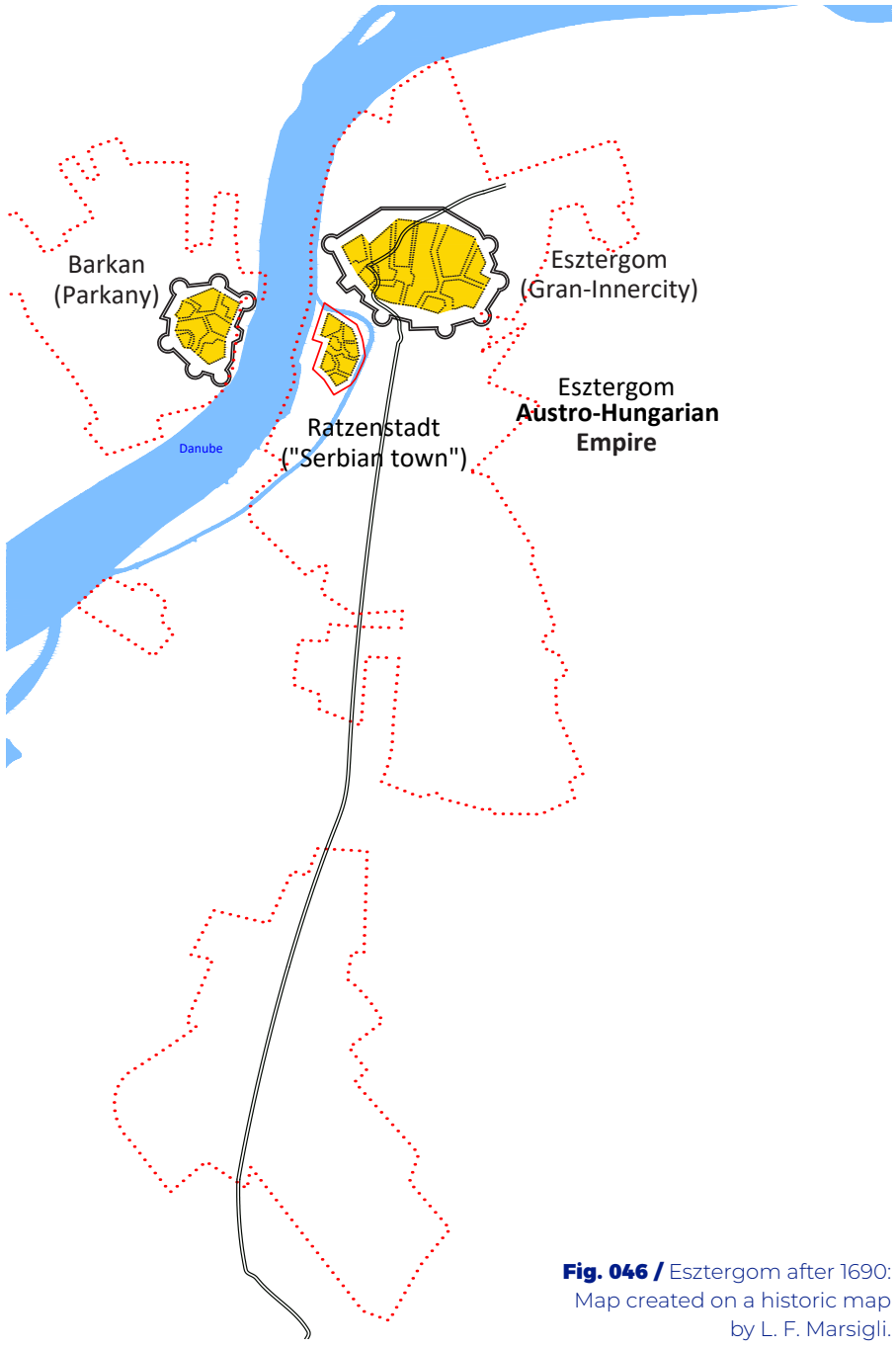
POPULATION:
1820: 10,169
1850: 11,661
1869: 14, 512

The present area of Esztergom, a city in Northern Hungary at the border with Slovakia, has been inhabited at least since the Bronze Age. The curve of the Danube and the slight elevation of the Castle Hill provided here a strategically advantageous position along this ancient trade route. In 1001 the first king of Hungary, Stephen I, made Esztergom the seat of the kingdom's first archdiocese, thus it became the ecclesiastical centre of Hungary. Moreover, from the 11th to the 13th century it served as the main residence of the royal court.

Fig. 044 / The view of Ottoman Esztergom in 1600. Later engraving by J. van Vianen after W. Dillich.

The present area of Esztergom, a city in Northern Hungary at the border with Slovakia, has been inhabited at least since the Bronze Age. The curve of the Danube and the slight elevation of the Castle Hill provided here a strategically advantageous position along this ancient trade route. In 1001, the first king of Hungary, Stephen I, made Esztergom the seat of the kingdom's first archdiocese, thus it became the ecclesiastical centre of Medieval Hungary. Moreover, from the 11th to the 13th century it served as the main residence of the royal court.

The medieval city consisted of multiple settlements centred around two boroughs: the Castle Hill and the Royal City, built on a river island. In addition, the Water Town situated beneath the Castle Hill and belonging to the archbishop received royal privileges in 1239 and was fortified some hundred years later. Within the castle, the palace and the cathedral were remodelled several times. In the late 15th century, the archiepiscopal court was an important centre of early Renaissance art and humanist learning. This came to an end in in 1543 the Ottoman army captured Esztergom (Fig. 043). In the many sieges taking place during the



Ottoman period the medieval city y was entirely destroyed, with the palace and cathedral in ruins after the city's final recapture by the Christian forces in 1683.

The rebuilding of Esztergom during the 18th century resulted in a Baroque townscape with newly erected churches and public buildings (Fig. 045). Until 1895, the city was made up of four administratively separate towns: the free royal city of Esztergom (the area of the medieval Royal City) and the market towns of Water Town, Szenttamás and Szentgyörgymező. Although Esztergom was a county seat and in the early 19th century with the regained status of the centre of the Hungarian Catholic Church (Fig. 046), the city entered the industrial age with a stagnating economy and difficulties stemming from its administrative fragmentation. However, the city has preserved its historic urban fabric due to this long stagnation (Fig. 047).

Fig. 046 / Esztergom after 1690: Map created on a historic map by L. F. Marsigli.

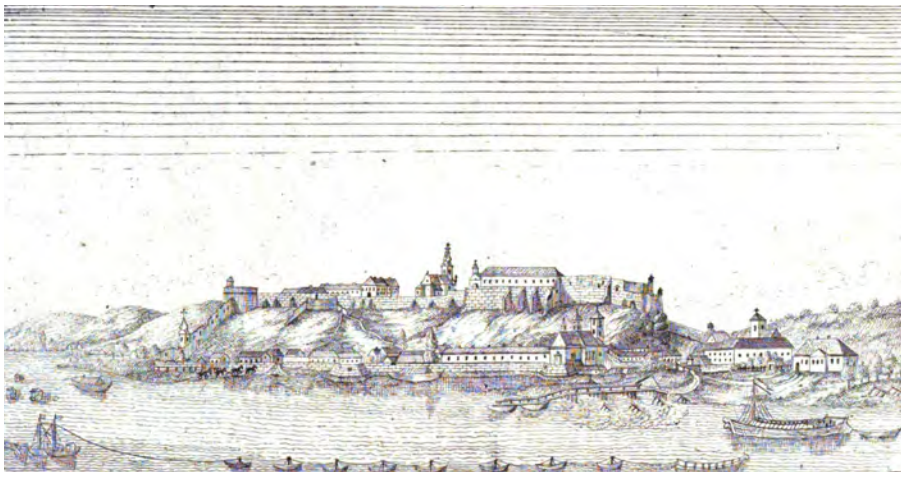


Fig. 045 / View of Esztergom in the early 19th century, engraved by J. Schmid.

Fig. 047 / Preserved urban fabric in Esztergom from 18th-19th century (source: DANUrB, 2017).

2.1.2 CASE STUDY 2 // DALJ, CROATIA

Dina Stober

POPULATION:
1866: 4,449
1890:5,737
1910: 6,088

The Notitia Dignitatum, a late Roman state manual, mentions on the site of Dalj a fortress called Teutoburgium (Stillwell et al, 1976). The settlement has been continuously inhabited since then. The Roman remains were discovered on the bank of the Danube in the 19th century (Pinterović, 1975). Excavations in 1966 discovered architectural fragments, arms, pottery, and coins (Bulat, 1969). In the Middle Ages, Dalj was a small town. Between 1526 and 1687, it was part of the Ottoman Empire as an important trade centre designed on a rectangular plan. After the Ottoman army left the area along with Muslim and Vlach inhabitants, in 1706 Emperor Joseph I donated the settlement to the Serbian Orthodox Patriarchate.

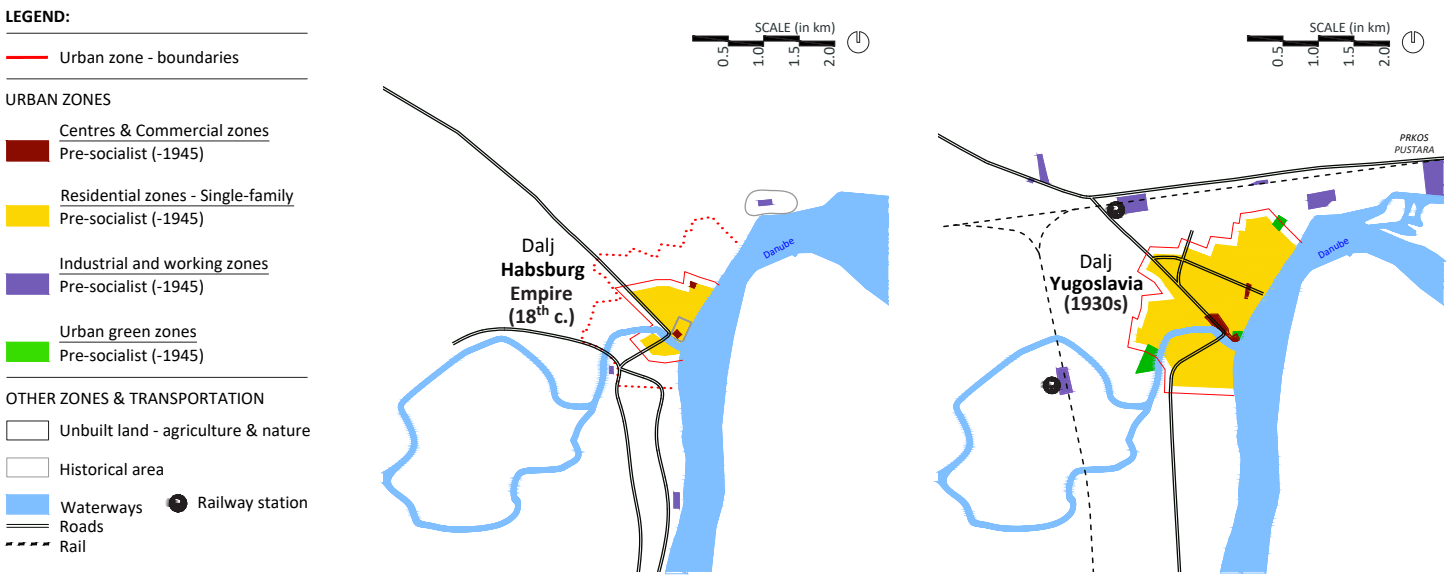


Fig. 048 / The spatial development of Dalj from 18th century (left) to the interwar period (right)

Dalj prospered during the 19th century, when new functions appeared in the town: a railway station, a brick factory and a distillery, and until World War II it also had urban-like amenities such as a pharmacy, vet office, police station, two elementary schools, a cinema, a fire station, etc. (Fig. 048). At the beginning of the 20th century, the Dalj-Vinkovci-Brod on Sava railway line was of great importance, and in 1912 a second track was built between Dalj and Vinkovci. In the centre of Dalj, there was a Christian

church since medieval times, used as a mosque during the Ottoman times, and the Orthodox church of St. Dimitrije was built in 1791-1799 in the Baroque-Classicist style, it is an important monument of Orthodox church architecture (Đuranović, 2007). Right next to the church there is the summer residence of the Serbian patriarchs (Fig. 049), the 18th-19th-century park complex on the Danube Shore, protected today as a green infrastructure heritage (Fig. 050). The Neo-Gothic Catholic St. Joseph church had been restored after the last war.

Fig. 049 / The porch of the Patriarchal Palace in Dalj (Author: D. Stober, 2021).

Fig. 050 / The view of the Danube from the park (Author: D. Stober, 2021).

Fig. 051 / "Milutin Milanković" Cultural and Scientific Centre (Author: D. Stober, 2021).

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- Bulat M. (1969). Topografska istraživanja limesa u Slavoniji i Baranji (Topographical Research of Roman Limes in Slavonia and Baranja). Osječki zbornik, 12, 39-52.
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2.1.3 CASE STUDY 3 // SMEDEREVO, SERBIA

Aleksandar Grujičić

POPULATION:
1866: 4,449
1890:5,737
1910: 6,088

The first written record of Smederevo is from 1381. However, by the early 15th century, Smederevo was a significant place, becoming the last capital of the medieval Serbian state. The rule of despot Đurađ Branković saw the building of the Smederevo Fortress (1428-1439), strategically positioned on the confluence of rivers Jezava and Danube. This Byzantine-style fortress, covering 11 hectares, used to be one of the largest water fortresses in Europe (Fig. 052-053).

Fig. 052 / Model of Smederevo Fortress (A. Grujičić, 2018).

Fig. 053 / Bastion towers of Smederevo Fortress (A. Grujičić, 2018).

Smederevo fell to the Ottoman conquest in 1459, but the strategic position and size of the fortress preserved the urban character of Smederevo in the following centuries of Ottoman reign. The city was spatially divided between different confessions, based on Ottoman millet law. Muslims ("Turks") lived within the fortress, where administrative buildings and mosques were also located. Christians (Serbs) occupied Smederevo suburbia, with an empty strip of land in between – Kalemegdan or, in Turkish, fortress square – was used by the Ottoman army as the training ground, ceremonial military review location and the gathering point of the army. Muslim cemetery was located next to the fortress, while Christian one preserved the medieval location next

SMEDEREVO FORTRESS

1 Royal castle / "Small town"

2 "Big town" / Turkish settlement during Ottoman era

STRUCTURES *EXTRA MUROS*

3 Ottoman suburb / "Serbian settlement"

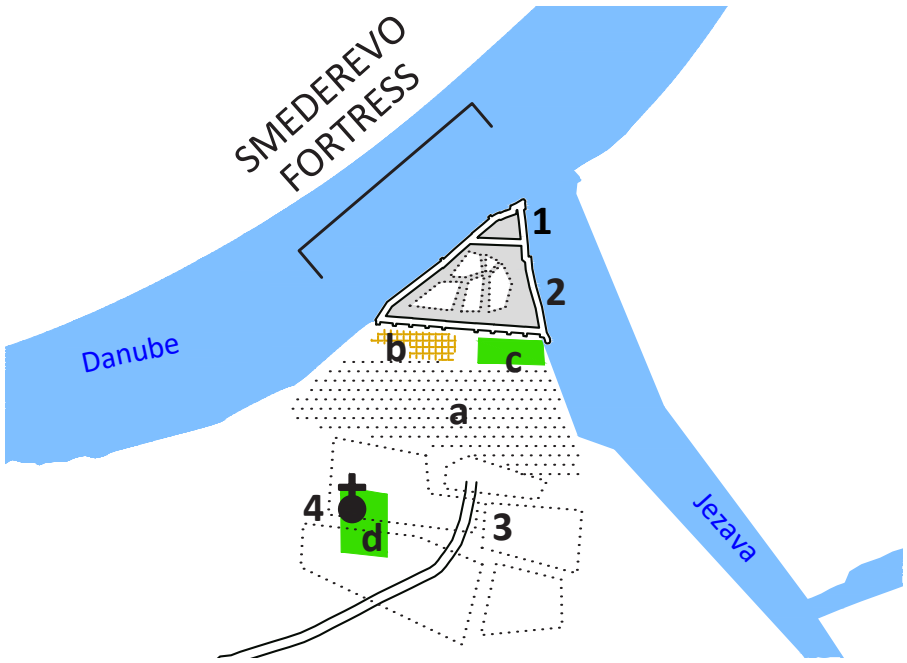
4 Medieval Church of the Holy Assumption

a Esplanade - a clear space between the fortress and the suburb

b Vineyarsds

c Ottoman cemetery

d Orthodox cemetery



to the Church of the Assumption of Mary on the nearest hill to the fortress, 700 m south-west (Fig. 054).

This urban morphology has had an immense impact on the formation of the modern city in 19th century, within the Principality of Serbia. Christian quarter became the nucleus of the new vibrant city, with the main square at the crossroads of the connection between the Danube and the Jezava and the connection between the fortress and the nearest hill (Fig. 201.34). In the other side, the fortress lost its significance after Turks left Serbian cities in 1868, with the deposition of all buildings within the fortress ground (Fig. 055).

Fig. 054 / Smederevo at the eve of 19th century (Author: N. Mitrović, 2022).

Fig. 055 / The last Ottoman buildings in Smederevo Fortress (Author: F. Kaniz, 1860).

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- Pavlović, L. (1980). Istorija Smedereva u reči i slici (The History of Smederevo in Word and Image). Smederevo: Muzej u Smederevu.

2.1.4 CASE STUDY 4 // NIKOPOL, BULGARIA

Maria Shishmanova & Eleonora Gaydarova

POPULATION:
1860s: 20,000 approx.
1880: 4,652
1893: 5,031

Nikopol originated as a settlement within the Roman Empire – Thracian settlement next to the Roman fortress. In the Middle Ages, it flourished during the Second Bulgarian Kingdom and established itself as a town and fortress (Fig. 056), becoming one of the military-strategical, economical, spiritual and political pillars of the kingdom. The fortress is connected by a rampart with a medieval port at its foot. This division of the settlement in upper and lower parts has been preserved until today (Fig. 057).

Fig. 057 / The division of Nikopol into upper part on hills and lower part with a port on the Danube (Author: BlueLink, 2021).

Nikopol preserved this important position in the first centuries of the Ottoman rule (15th-17th centuries). It was the center of the large sanjak of Nikopol. The town retained the functions of a major port and important commercial and administrative center even in the late Ottoman period. During the period of the Bulgarian National Revival in 19th century, changes in economic, cultural-educational and social life took place in Nikopol. The town had Muslim majority and Orthodox-Bulgarian minority, with a small Jewish community holding the commercial affairs in their hands, typical for the Danube ports in this region (Aubaret,

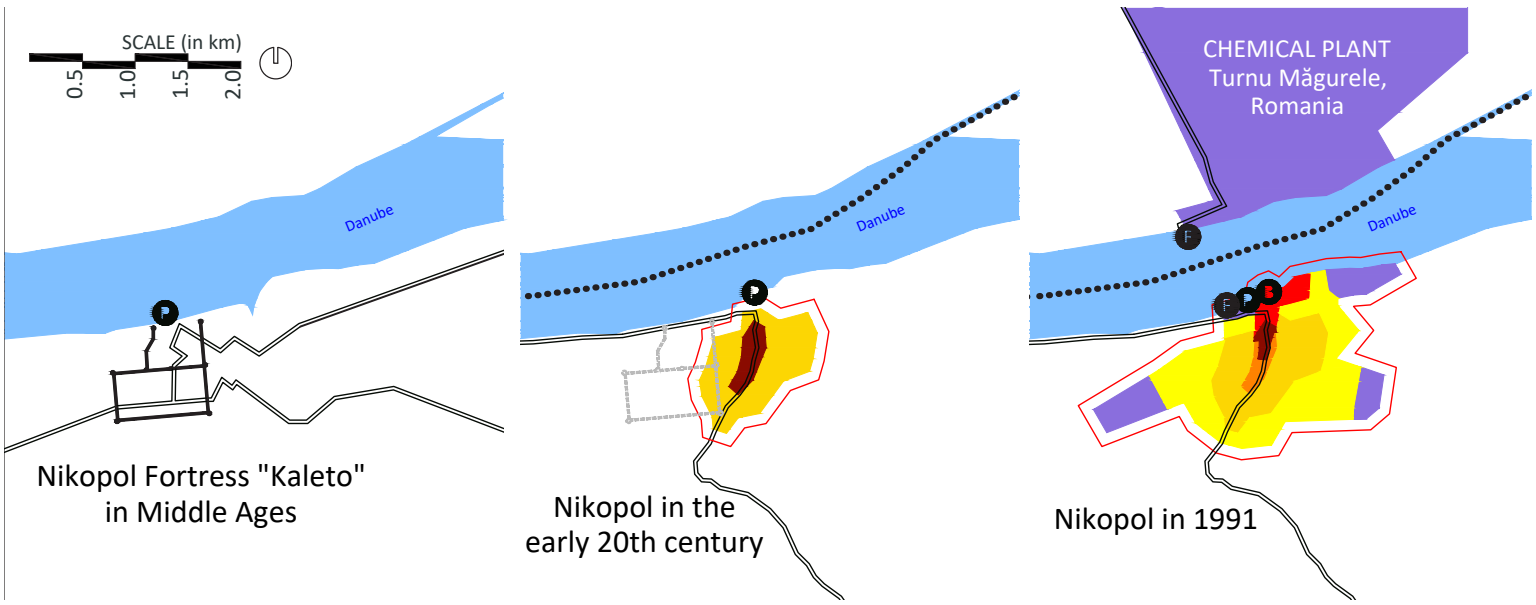

Fig. 056 / The spatial development of Nikopol from the Middle Ages until the late 20th century (Authors: M. Shishmanova & E. Gaydarova, 2022).

1876). The town preserved its position of an administrative seat with local cultural and socio-political life after the liberation from Ottoman rule. However, Nikopol was in decline and eventually lost its status as a major military-administrative and socio-political center during this period (Fig. 056).

This urban decline during the modern history of Bulgaria, paradoxically preserved the cultural and historical heritage of Nikopol. It includes unique monuments from various periods, such as the medieval Orthodox church of St. Peter and Paul (Fig. 058) or rock churches. The mobile heritage of old crafts is preserved in the regional historical museum: knitting of reeds, basketry, cooperage, blacksmithing and knitting of fishing nets.

Fig. 058 / The medieval Orthodox church of St. Peter and Paul in Nikopol (Author: BlueLink, 2022).

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- Aubaret, L.G. (1876). Province Du Danube / Danube Province. Bulletin de la société de géographie, 12, 147-184.
- Nikopol municipality (2014). Municipal development plan of Nikopol Municipality for the Period 2014-2020. Retrieved from https://www.nikopol-bg.com/inc/service/service-download-file.php?fid=1761.
- Nikopol municipality (2014). General development plan of Nikopol Municipality 2014-2030. Retrieved from https://www.nikopol-bg.com/assets/oup/Prilozheniya_OUP_Nikopol.pdf.

2.1.5 CASE STUDY 5 // SULINA, ROMANIA

Maria-Veronica Tănase

POPULATION:
1860: 8,722
1879: 2,875
1900: 5,612

Although Sulina is an old settlement, modern urban development began only after the Treaty of Adrianoupolis in 1829, to facilitate the Danube grain trade. Previously, Ottoman government built a lighthouse to support water transport between Constantinople and the Danube (Fig. 059). However, the fundamental transformation of Sulina Town started in 1856, when the European Commission of the Danube (C.E.D.) was established to take over the Sulina Danube Channel. During the next five decades, Sulina was turned into a modern electrified city with an American generator, a Dutch water system, and new building materials. It became a resort town and free port, with a population belonging to over 20 ethnic groups. The urban matrix of Sulina followed this development: the city has linearly developed along the Channel, first on its right side.

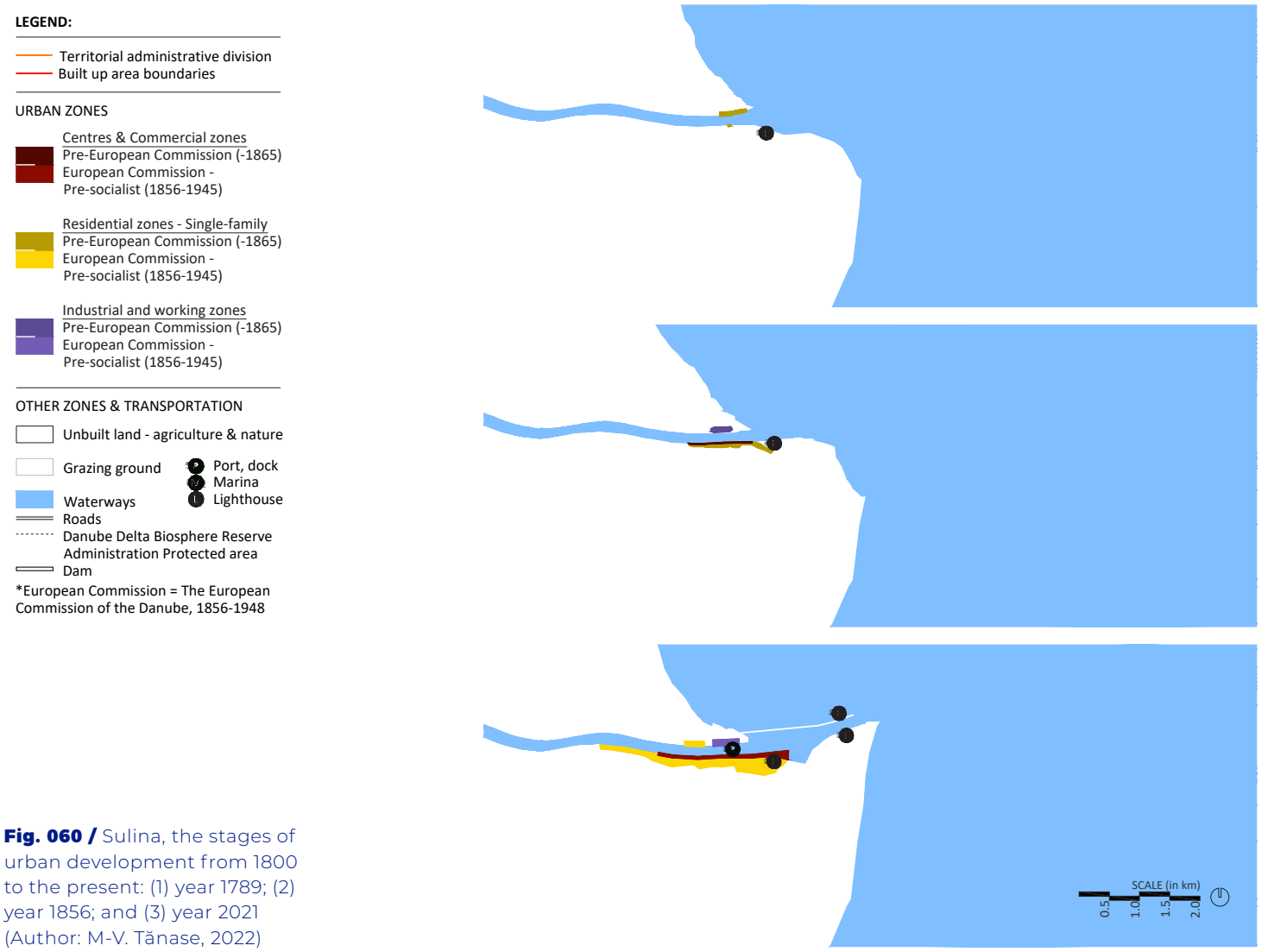

Fig. 060 / Sulina, the stages of urban development from 1800 to the present: (1) year 1789; (2) year 1856; and (3) year 2021 (Author: M-V. Tănase, 2022)

The urban fabric of Sulina was seriously damaged during World War I. The further decline of the city was accelerated by the development of the port of Constanța. In 1930, the city was organised into four main streets parallel to the Danube bank. Small development in the interwar period happened on the left side of the channel, opposing the older city. A new era began for Sulina during the Communist regime, turning it into an industrial city by setting up a fish factory, drying its swamps for the creation of arable land, and the production of reed pulp (Motoc, 2019) (Fig. 060-061). In 1982, the Sulina Shipyard was established for repairing ships (Fig. 062), which collapsed with post-socialist transition.

Demographically, post-socialist Sulina has been declining with population aging and economic difficulties. The urban fabric is continuously degrading, and contemporary developments are not in accordance with the ambiance of the former cosmopolitan city and the Danube Delta. The recent development is mostly related to tourist facilities and spaces (Fig. 063).

Fig. 059 / Sulina: old lighthouse (Author: A. Radulescu, 2021).

Fig. 062 / View of the port of Sulina (Author: M.V. Tănase, 2021).

Fig. 063 / A new Danube promenade in Sulina (Author: A. Radulescu, 2021).

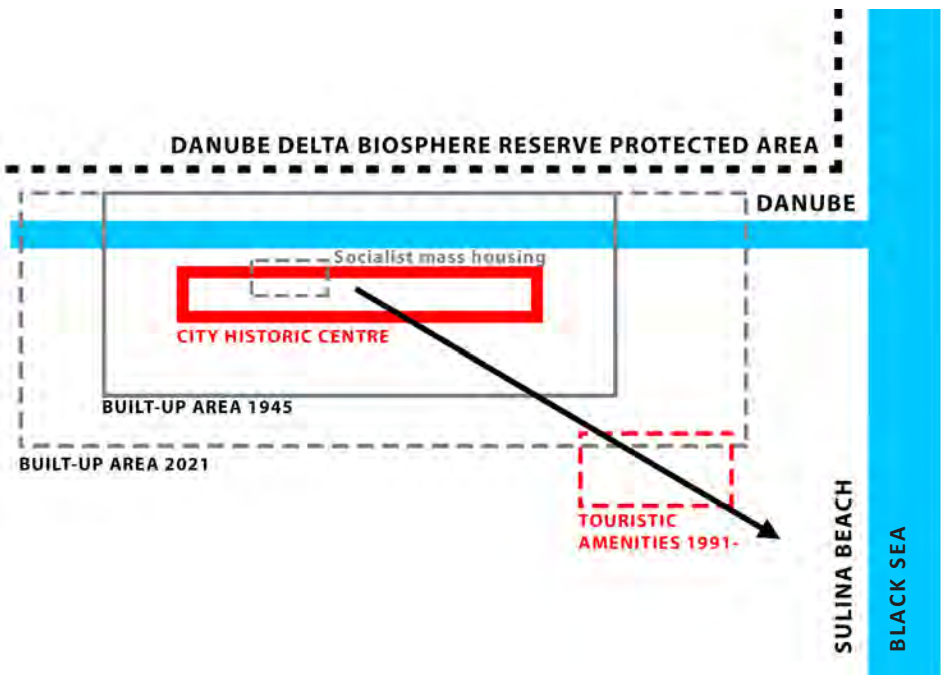

Fig. 061 / A graphic scheme of the spatial development of Sulina (Author: M-V. Tănase, 2022).

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- Enăchescu, A. (2018). Strategia de Dezvoltare Locală a Orașului Sulina (Local Development Strategy of the Town of Sulina). Sulina: Primăriei Sulina.
- Motoc, C. (2019, June 23). Delta Dunării în communism (the Danube Delta in Communism). [Blog post]. Retrieved from https://www.tulceanoastra.ro/historia/delta-dunarii-in-comunism.

Rail represents the “pioneer” of early industrialisation in Europe. The construction of rail network triggered industrial development across the continent during 19th and early 20th centuries, from west to east. This can be applied in the Danube Region – first rail lines were built in presented-day Slovakia and Hungary in the middle od 19 th century. In the next few decades, the current rail system has been established across the region, with a bit postponed development along the lowest section of the Danube. However, the importance of rail has been decreasing last decades, especially with deindustrialisation and urban shrinkage in the post-socialist times.

MAP **2.2**

THE ARRIVAL OF RAIL AS THE “PIONEER” OF EARLY INDUSTRIALISATION IN THE DANUBE REGION

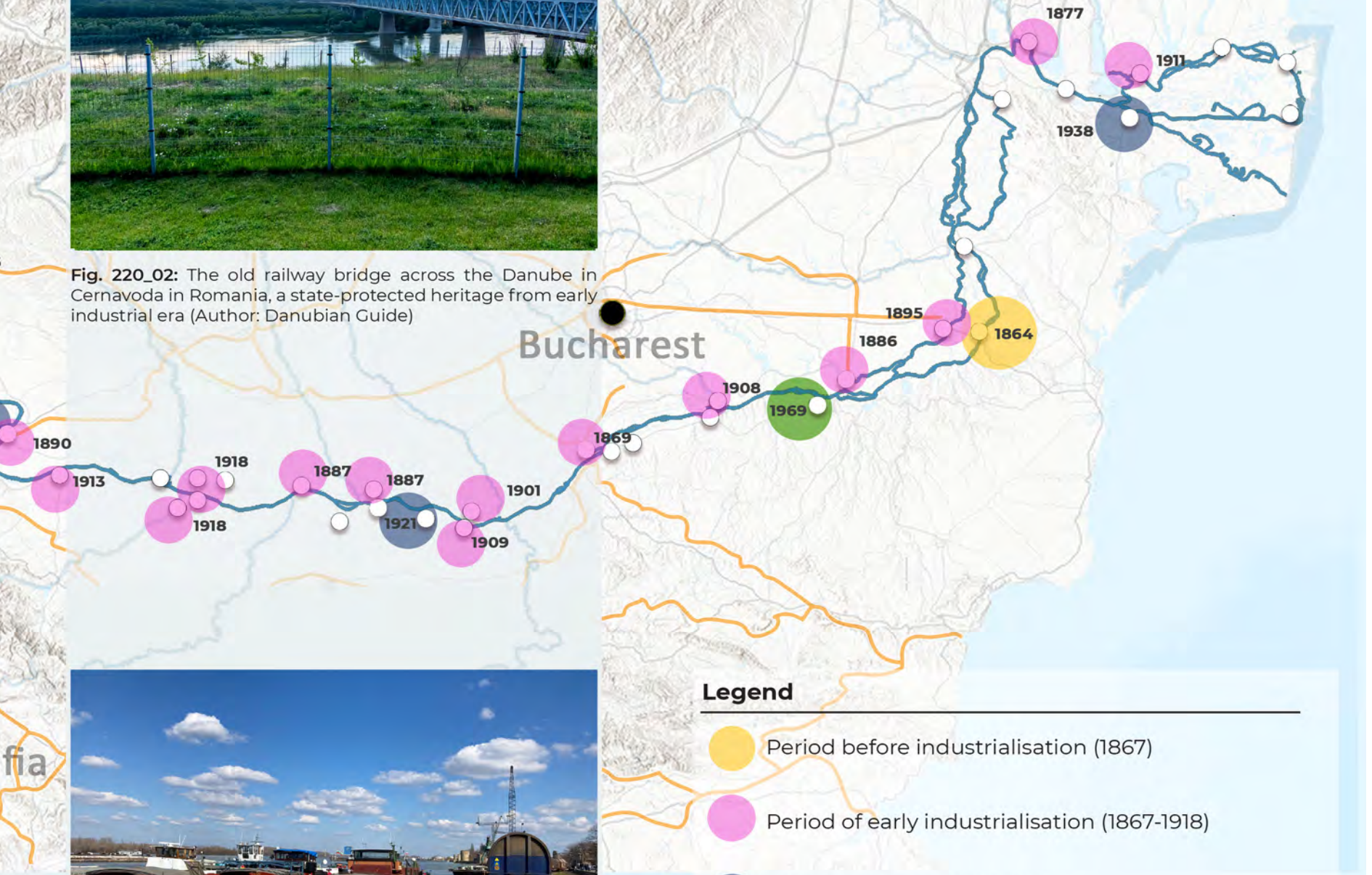
Fig. 220_01: The oldest major railway in the Middle and Lower Danube Region in Szob – the railway between Bratislava and Budapest (Author: P. Wolf)

Fig. 220_02: The old railway bridge across the Danube in Cernavoda in Romania, a state-protected heritage from early industrial era (Author: Danubian Guide)

Fig. 220_03: Old inter-modal node in Smederevo between the railway and old port on the Danube (Author: K. Dankov)

The “golden age“ of railway was the period of the late 19th and early 20th Century when 2/3 of the analysed small and medium-sized cities and towns along the Danube got their connection to European railway system. Consequently, the railway replaced waterways - the Danube and its main tributaries (Sava and Tisa) - as the key transportation corridors in this region.

The railway capacities are currently oversized and are not fully utilised, including railway stations, obsolete railway lines, and other infrastructure facilities. However, recent development in the European railway sector, with modernisation of the entire system (high-speed rail), indicates the future increase of the potential of this type of transport.



Legend

- Period before industrialisation (1867)
- Period of early industrialisation (1867-1918)
- Interwar period (1918-1945)
- Socialism and post-socialism (1945-)

2.3 FROM THE EARLY INDUSTRIAL CITY ALONG THE DANUBE TO REGIONAL INDUSTRIAL HERITAGE // INTRODUCTION

Danijela Milovanović Rodić

Industrialisation reached the Danube Region in the late 19th century, 100 years after the first industrial revolution in Great Britain. This one-century gap was caused by the slower socio-economic development of the easter half of Europe. Similarly, comparing to West European cities, cities in this Eastern Europe were less independent and consequently had a smaller role in the rise of capitalist economy and modern society (Bodnar, 2001). Therefore, the cities were underdeveloped and without a rapid demographic growth well into the 19th century (Musil, 2005).

The Middle Danube section in Pannonian Plan was first one to be industrialised, from 1870s-1880s, while industrialisation started only in the turn of 19th century in its lower part in the newly-established kingdoms of Romania, Serbia, and Bulgaria. However, the first phase of industrial development until the World War II was fast, as well as urbanisation. Light industry was prevalent along the Danube (Fig. 064). Two types of industry were especially developed (Antonić & Djukić, 2022); the first type was based on local natural resources, such as agricultural products, wood or clay. In this case, already present small-scale manufactures, such as mills, brickyards or breweries, were fast transformed to industrial plants (Fig. 065). The other type was more peculiar as it encompassed new plants developed by the Danube as a waterway – furniture, silk and textile factories or sugar refineries. Finally, first shipyards were opened, as the first examples of heavy industry. This industrial progress was

Fig. 065 / The 19th-century segment of Apatin Brewery, the oldest one in the present-day Serbia (author: D. Siljanović Kozoderović, 2022).

Fig. 066 / Early industrialisation was followed by the significant upgrading of infrastructure, such as steam pumping station in Kameničná, Slovakia (author: A. Radulescu, 2021).

supported by the advanced development of infrastructure, such as ports, pump stations (Fig. 066), rail with stations, canals with gate locks or worker's housing – "worker colonies".

Nevertheless, the overall pace of industrialisation along the Danube before socialist period was insufficient. Only after 1945, industrialisation achieved its momentum. Thus, the most such industry has been lost in the waves of modernisation (Fig. 067), whereas the examples of early industry are relatively rare and usually in bad state. Just the small segment of early industry is protected as an industrial heritage or even regenerated (Fig. 068). Therefore, this chapter present different, but illustrative examples along the Danube.

Fig. 067 / The first factory of "Lomsko pivo" Brewery (1912) from Lom, Bulgaria, which does not exist today; a modern brewery is on its side (Source: Bulgarian State Archives).

Fig. 068 / A new museum in the former tobacco factory in Ostrov near Călărași, Romania (author: A. Radulescu, 2022).

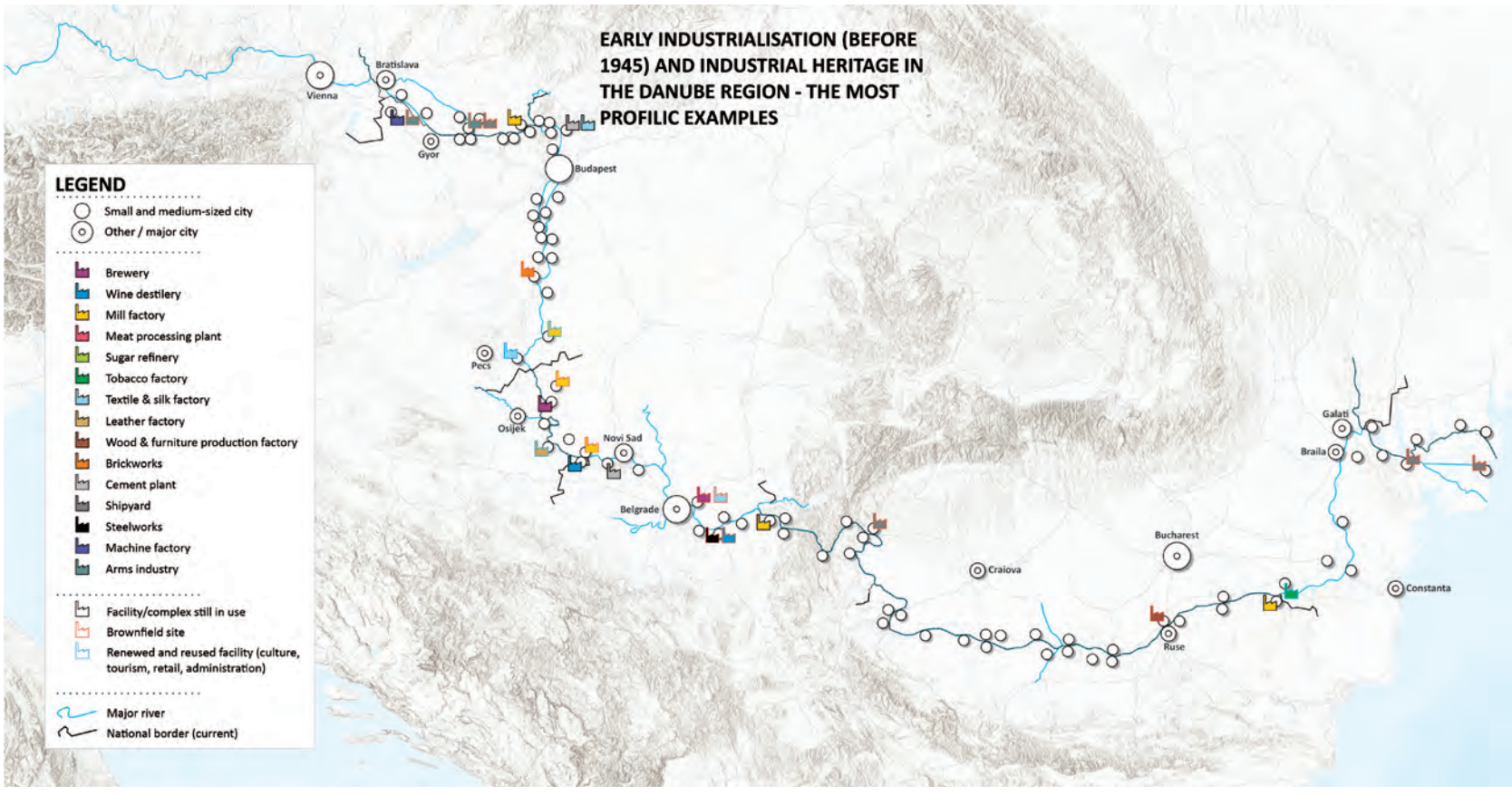


Fig. 064 / The most developed branches of early industry in Danubian cities before the World War II (Author: B. Antonić, 2021).

- Antonić, B. & Djukić, A. (2021). Industry and Pannonian City: The Transformative Role of Industry for the Modern Development of Middle-size Cities in Northern Serbia. In: C. Hein (Ed). Proceedings of the 19th IPHS Conference. Vol. 19: City Space Transformation (pp. 115-130). Delft: TU Delft. DOI: 10.7480/iphs.2022.1.6441.
- Bodnar, J. (2001). Fin de Millénaire Budapest: Metamorphoses of Urban Life. Minneapolis & London: University of Minnesota press.
- Musil, J. (2005). City development in Central and Eastern Europe before 1990: Historical context and socialist legacies. In I. Hamilton, K. Dimitrovska Andrews & N. Pichler-Milanović (Eds.), Transformation of cities in central and Eastern Europe: Towards globalization (pp. 22-43). Tokyo; New York; Paris: UN University Press.

2.3.1

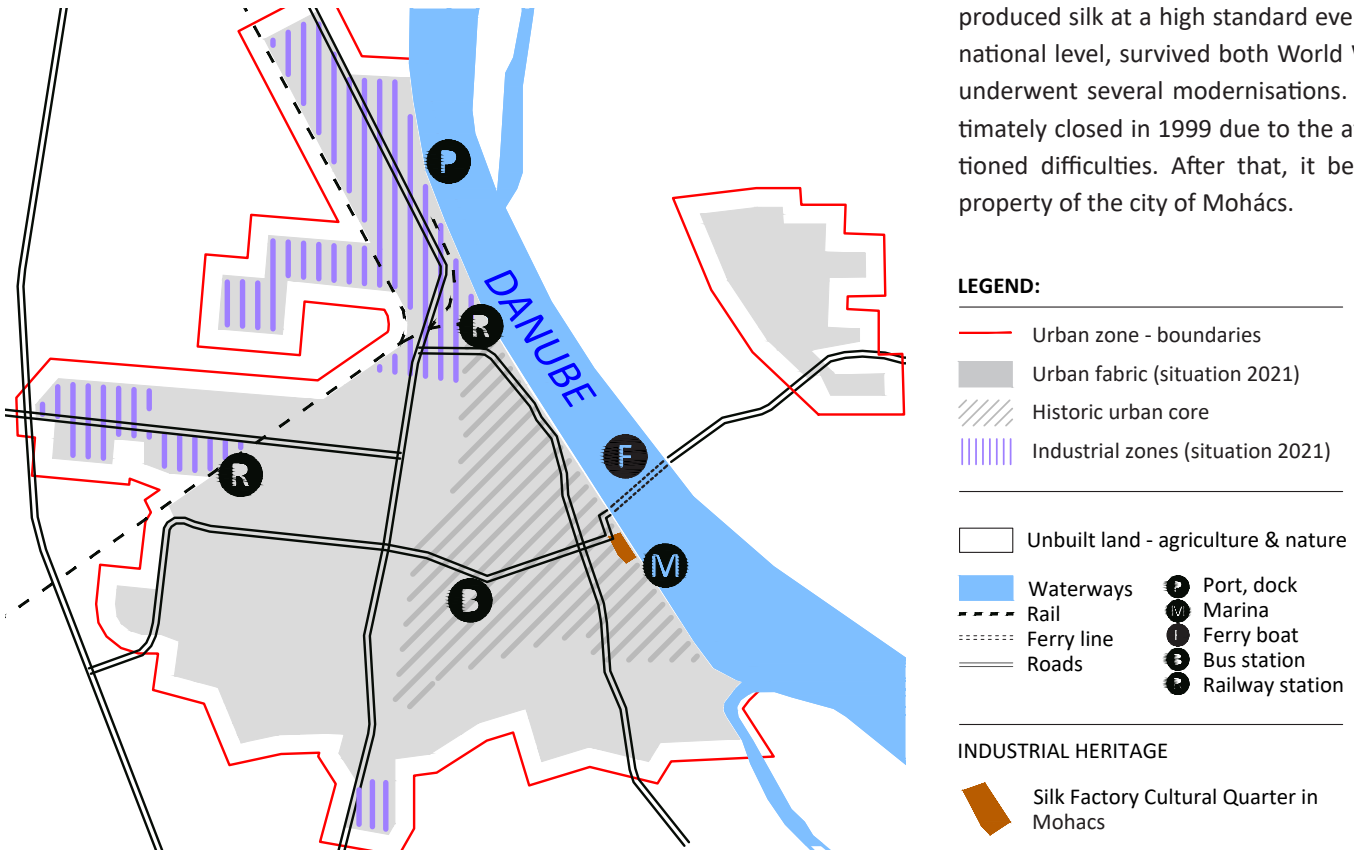
CASE STUDY 1 // MOHÁCS, HUNGARY

Dániel Balizs

POPULATION:
1869: 10,684
1890: 12,578
1910: 14,870
1930: 14,695
1949: 16,088

Mohács is the southernmost Danubian city in Hungary, as well as an important city since the Middle Ages. The port of Mohács was already active in the mid 19th century, and – thanks to the nearby black coal mining in the Mecsek Mountains – it had a railway very early (1857). The city has been home for peoples who have lived together for centuries: Hungarians, Germans, Šokacs, Serbs, Jews, and Roma. "Busójárás" is an annual event declared as the UNESCO World Cultural Heritage. It originates from the traditional customs of Šokacs, Rome Catholic South Slavic ethnic group (UNESCO, n.d.). This tradition makes the Danube a direct part of the event and the life of the city as well. However, Mohács has passed through challenging times recently, which is visible on the city demographics – its population has fallen from 21,000 (1980) to 17,000 (2021).

Fig. 069 / Location of Mohács Silk Factory in the city, next to the Danube (authors: B. Antonić & A. Nemeth, 2022)



The Silk Factory is located in the centre of Mohács, on the right bank of the Danube (Fig. 069). Next to the factory, there is a ferry which operates between the city and the Danube east riverside. The factory began its operations in 1905. At the time, the factory produced silk at a high standard even at international level, survived both World Wars, and underwent several modernisations. It was ultimately closed in 1999 due to the afore mentioned difficulties. After that, it became the property of the city of Mohács.

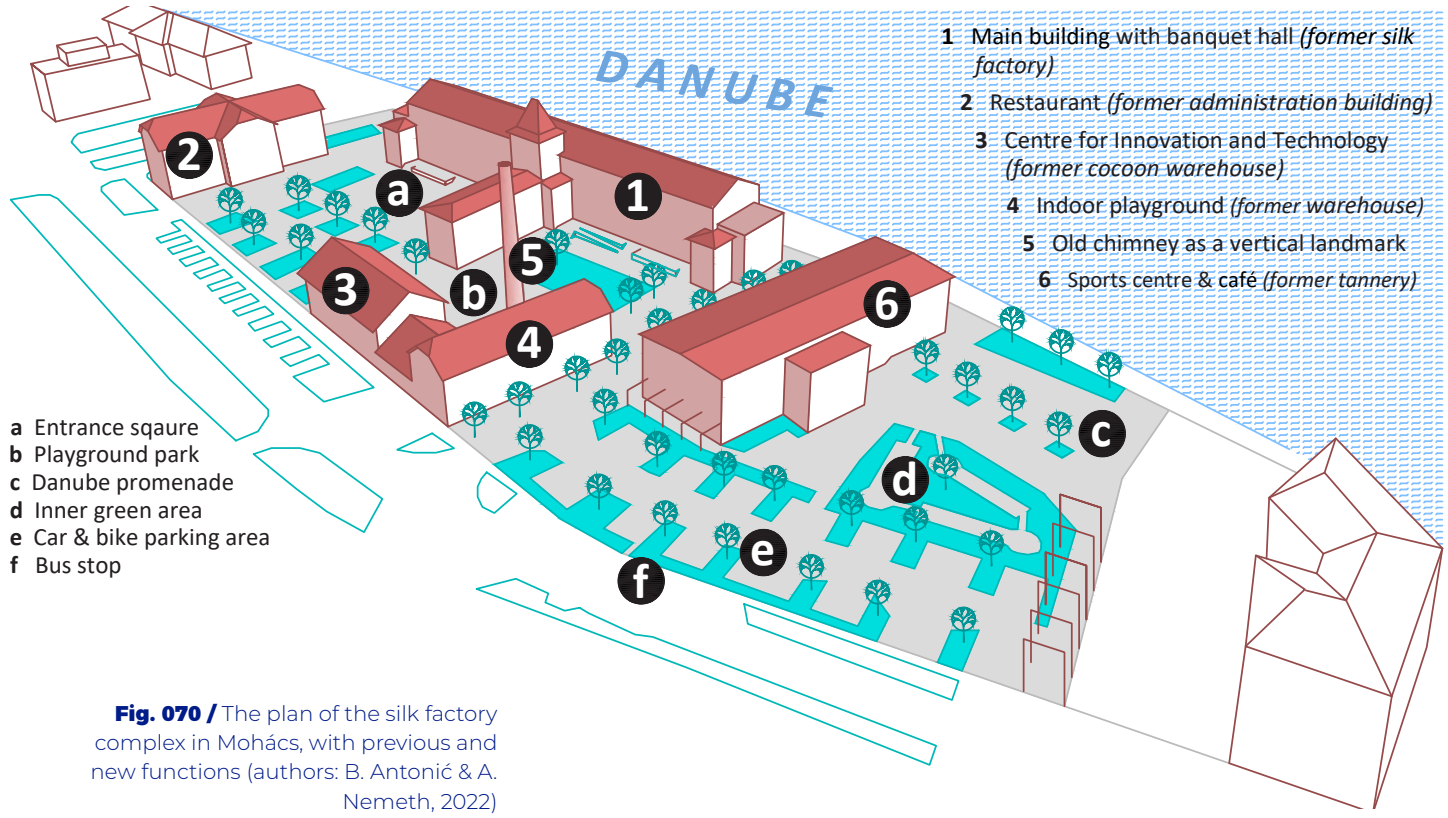


Fig. 070 / The plan of the silk factory complex in Mohács, with previous and new functions (authors: B. Antonić & A. Nemeth, 2022)

The factory complex got a new life with a comprehensive renovation and it was reopened in 2021. However, with a new urban function, appropriate for its central location (Fig. 070). The protected buildings were kept in their original form, while later additions and extensions were demolished. The main building of the Silk Factory has preserved its central role (Fig. 071). Its upper floor was adapted to be a 400-person event hall with an amazing panoramic view on the Danube, with additional service rooms. The ground floor of the building was designed for rentable office and business premises, accessible from both the Danube and the city, including the Tourist Office of Mohács. The former industrial yard around it become new open public space for socialisation in the downtown (Fig. 072).

Fig. 071 / The main building of the silk factory of preserved its central role in the complex as an event and business premise (author: KEK, 2022).

Fig. 072 / The former industrial yard in the silk factory become new open public space in Mohács downtown (author: D. Siljanović Kozoderović, 2022)

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- United Nations Educational, Scientific and Cultural Organisation – UNESCO (no date). Busó festivities at Mohács: masked end-of-winter carnival custom. Retrieved from https://ich.unesco.org/en/RL/bus-festivities-at-mohcs-masked-end-of-winter-carnival-custom-00252.

2.3.2

CASE STUDY 2 // BATA-VILLE, VUKOVAR, CROATIA

Dina Stober

POPULATION:
1869: 9,453
1890: 11,205
1910: 12,149
1931: 12,738
1948: 18,994

Borovo Naselje has been created as a satellite village by "Bata" Shoes Factory between 1931 and 1938, at the outskirts of Vukovar (Fig. 073). The settlement is one of the most valuable examples of newly planned towns from the time of early Art Noveau in Central Europe. "Bata-Ville", as it was officially known, was built in an open undeveloped area along the Danube according to the established model in Zlin, Czechoslovakia, where the headquarters of this international corporation were. The plan of the settlement and the buildings projects were made by three Czech architects: František Lydie Gahura, Vladimír Karfík, and Antonin Vitek (Fig. 074). The factory was located between the settlement and the Danube (Fig. 075).

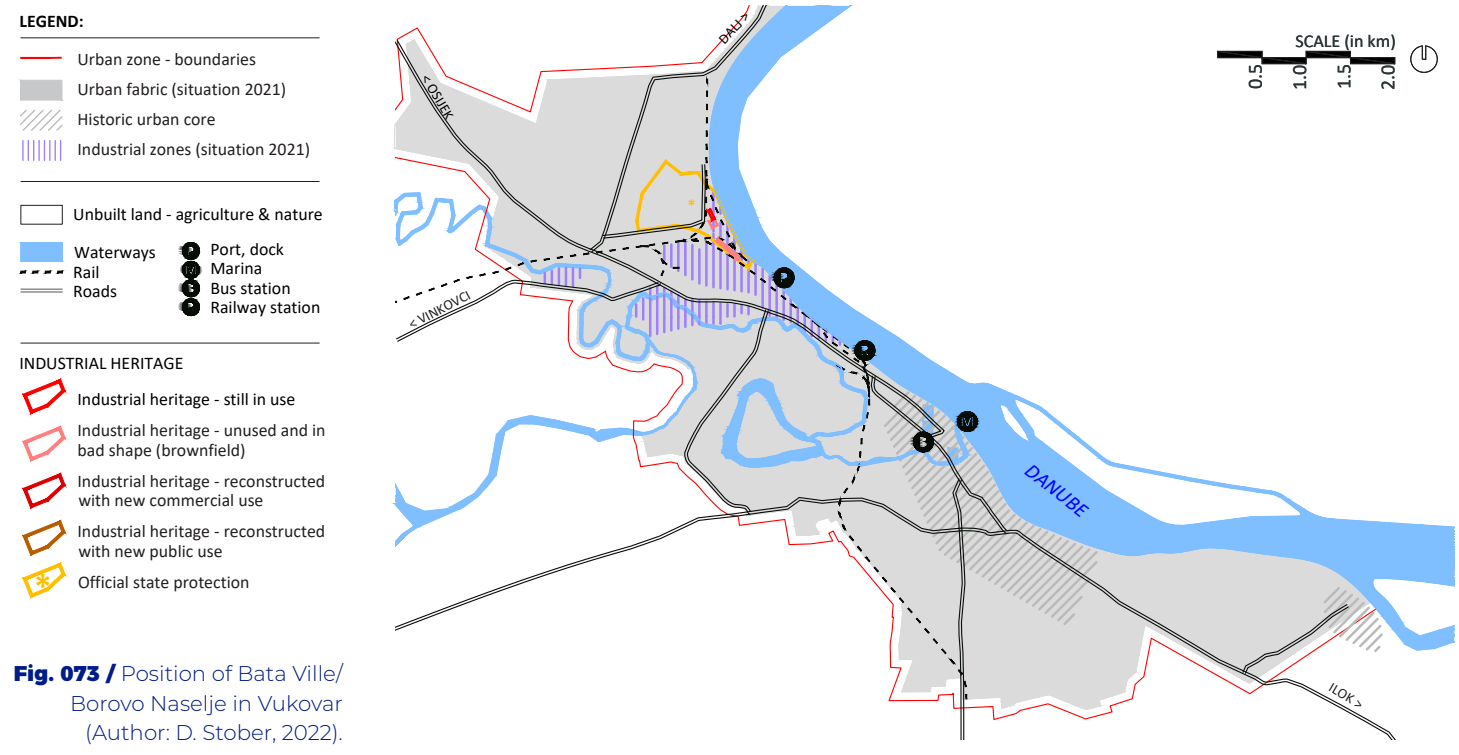

Fig. 073 / Position of Bata Ville/ Borovo Naselje in Vukovar (Author: D. Stober, 2022).

Fig. 076 / Bata Ville, Vukovar: Residential building and secondary school (Author: D. Stober, 2022)

In 1936, Bata-Ville had 122 buildings, 421 apartments with 1,818 inhabitants. The small industrial settlement presented innovations in urban planning, building construction technology and public services. Thus, a workers' restaurant, an electric power plant, a stadium, a sports airport, a cinema, a social home, a primary school, a school for students in nature, and a vocational school were built in the area

Fig. 077-078 / Bata Ville, Vukovar: Reconstructed (left) and facsimile (right) of residential building Bata Ville (Author: D. Stober, 2022).

around the factory (Fig. 076). The settlement was infrastructurally equipped above the average, including the detailed planning of green infrastructure in the interspace of residential buildings (Fig. 203_24).

After 1945, the original buildings were partially destroyed, and the complex began to lose the value with the construction of new buildings that did not respect the initial design. In the following years, the settlement was expanded in the peripheral zones by multi-apartment construction on the border of the original settlement. The settlement was affected by the war in 1991, and residential buildings and production facilities were severely damaged or burned down. With the peaceful reintegration of the Croatian Danube Region, the reconstruction of the settlement began with inadequate features such as multi-plane roofs, which disrupted the recognisable architectural forms of Art Noveau (Fig. 203_25). The protection of the settlement as a cultural asset was adopted by a decision of the Ministry of Culture in 2011 and part of the residential buildings were renovated according to original designs and shapes, and the value of the complex has been recognised and presented.

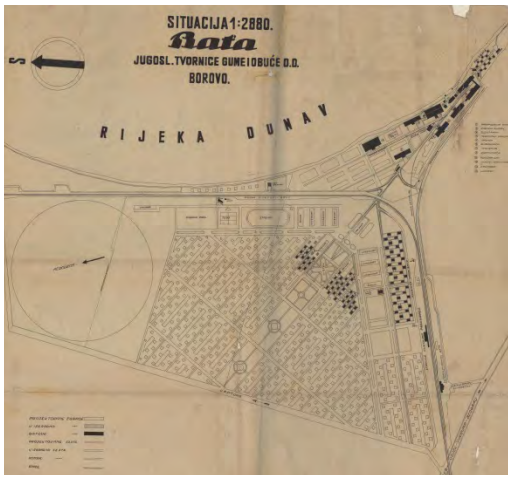

Fig. 074 / Bata Ville, Vukovar: land use of the neighbourhood (Source: National Archives in Vukovar)

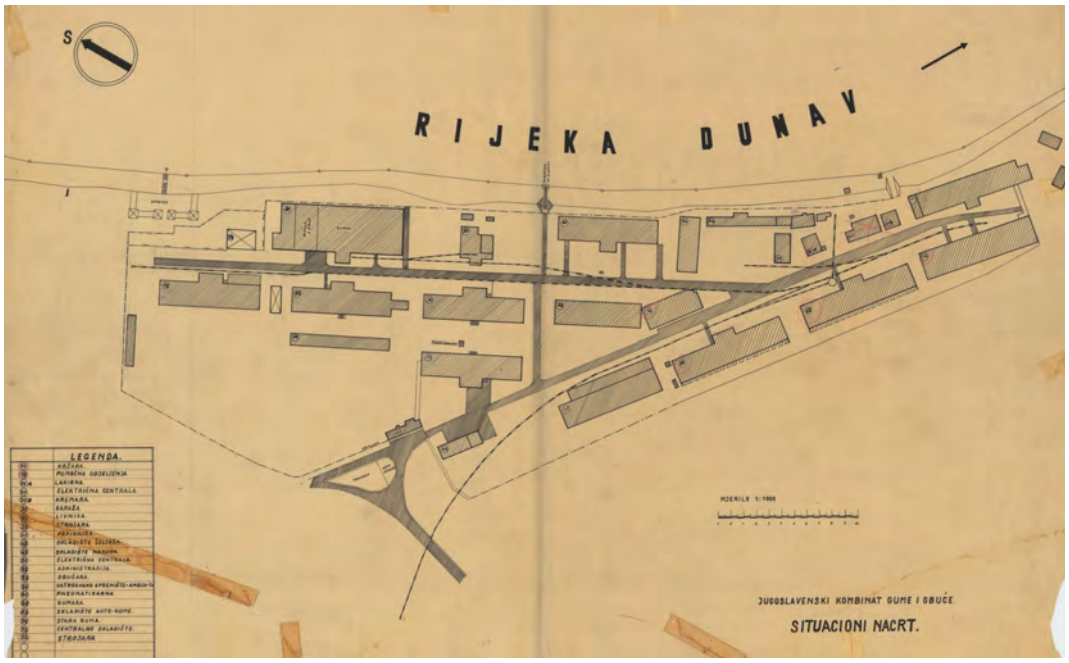

Fig. 075 / The location of "Bata" Factory next to the Danube (Source: National Archives in Vukovar)

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- Karač, Z. (2008). Bata-Ville/Borovo. Urbani razvoj i spomenički značaj industrijskog grada europske vrijednosti / Bata-Ville/ Borovo. Urban Development and Heritage Significance of Industrial City of European Values. Vukovar: City Library.
- Živić, D., Cviklić, S. & Žebec Šilj, I. (Eds.) (2019). Bata-Borovo (1931. - 2016.). Povijesno naslijedje i perspektive / Historic Heritage and Perspectives. Zagreb-Vukovar: Institut drustvenih znanosti "Ivo Pilar".
- Žunić, A. (2011) Sretan grad hrvatske moderne / The Happy Town of Croatian Modernism. Oris: časopis za arhitekturu i kulturu, 13(67), 102-113. Retrieved from http://www.oris.hr/hr/casopis/clanak/[13]sretan-grad-hrvatske-moderne,229.html.

2.3.3

CASE STUDY 3 // PANČEVO, SERBIA

Danijela Milovanović Rodić

POPULATION:
1869: 16,888
1890: 17,772
1910: 20,808
1931: 22,089
1948: 30,516

Pančevo is a city with rich cultural heritage, the legacy of its intense and continuous industrial past. The location of the city at the mouth of the Tamiš River into the Danube, historic border between the Ottoman and Austrian empires, and the proximity of Belgrade have always been conveniences for the trade and manufacture. Merchants, artisans and travellers, as well as different raw materials and goods arrived in Pančevo via the Danube. That induced the construction of docks, warehouses and industrial complexes on the Tamiš bank (Fig. 079) (Vujović, 2009). This riverfront is among the zones with the most densely concentration of industrial heritage in Serbia today. Furthermore, its favourable location within the city – between the river and the city core (Antonijev Stajić, 2012) – were the reasons for declaring it the official protected "Old Industrial Area of Pančevo" (Fig. 080). The area included in 2004 in the Council of Europe's Regional Program for cultural and natural heritage of Southeast Europe (Mihaila et al, 2015).

Fig. 081 / The Old (Weifert) brewery (Author: D. Milovanović Rodić, 2022).

Fig. 079 / The old photo (late 19th century) of the first industrial area of Pančevo on the Tamiš River, before its mouth into the Danube (Source: Historic Archives in Pančevo).

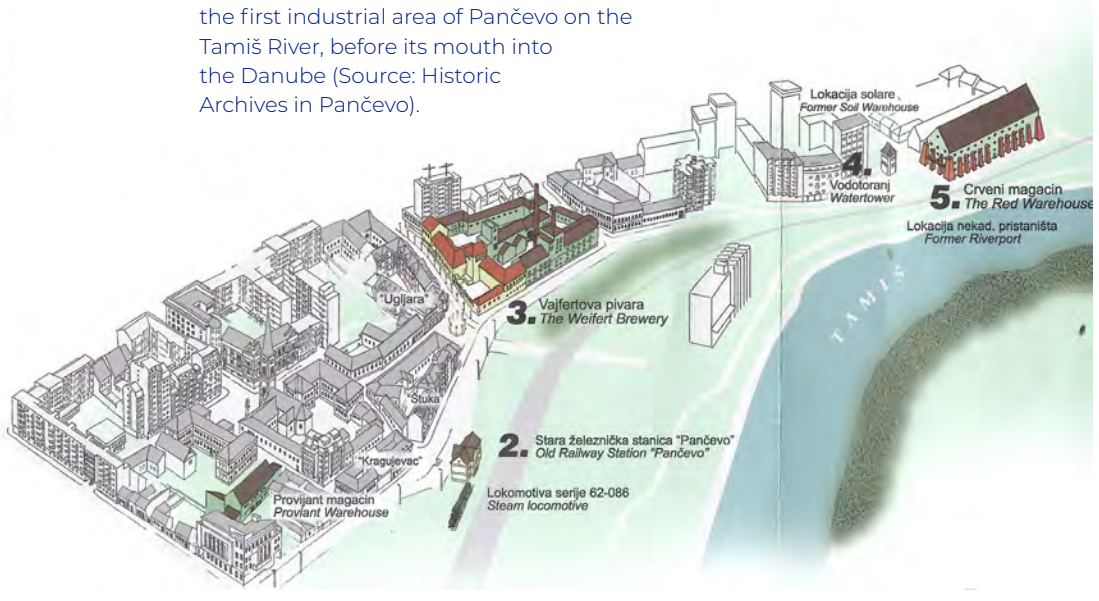


Fig. 080 / The Old industrial area of Pančevo under state protection (Authors: T. Tasić & R. Kulenović, 2011).

Fig. 082-083 / The Silk factory in Pančevo – before (Author: B. Nikoličić, 2015) and after partial reconstruction (Author: D. Milovanović Rodić, 2022).

The most representative example of industrial heritage is the Old Brewery (1722), the oldest industrial building in Pančevo, declared as a cultural monument of a great importance (Fig. 081). Numerous warehouses were built on the riverbanks, of which Provision Warehouse (1761) and the Red Warehouse (1787) are preserved. Then, in the same area, there are a Mill Complex (1830), the port building (1857), the Railway Station (1894), the Silk factory complex (1899) (Fig. 082-083), the lighthouses at the Tamiš Mouth into the Danube (1909), and the Water tower (1931). The Steam Mill (1891) and a Silk Weaving Mill (1836) are located within the urban fabric (Tasić & Kulenović, 2011). The mentioned industrial heritage is under state protection, but not all such entities in Pančevo are (Fig. 084). For example, the large "Tesla" light bulb factory from 1931 was demolished in 2010 for a new shopping centre, despite being registered on the preliminary list of industrial heritage.

Although the mentioned buildings and complexes have been protected and recognised as such in different strategies, action and urban plans, they have mostly fallen into decay due to the lack of adequate measures for their protection, restoration and revitalisation. A number of buildings have been abandoned and are in poor condition, e.g., Provision warehouse. Other ones that are in use are mostly ruined due to inadequately implemented adaptation for a new purpose, e.g., the old brewery was burned in a fire in 2005 because it was used as a timber storage (Fig. 081). There is a very small number of those buildings that, despite the conversion and the change of ownership, have preserved authentic architecture, such as the Silk factory complex (Fig. 082-083).

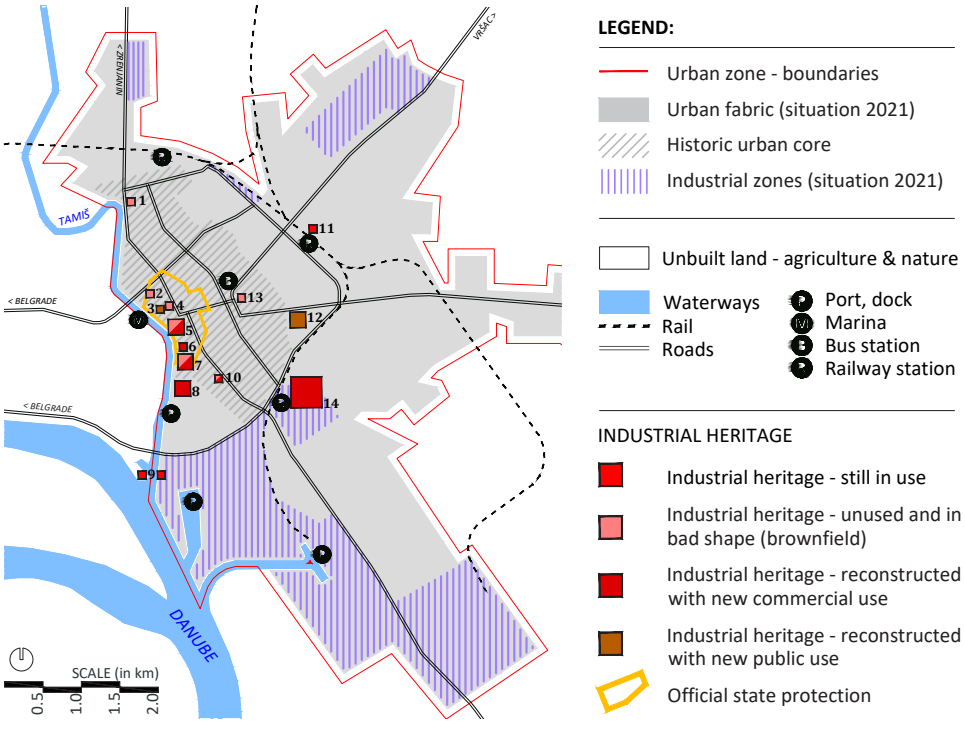


Fig. 084/ Map: the distribution of industrial heritage in the City of Pančevo (Author: D. Milovanović Rodić, 2022).

1. Upper Town mill - brownfield
2. Proviant Warehouse - brownfield
3. Old railway station "Pančevo" - Public use (Railway Museum)
4. "Kaćur" Printing House - brownfield
5. The "Weifert" Brewery - partly in use (restaurant)
6. Water tower - in use (cafe)
7. The Red warehouse - partly in use (sport club headquarters)
8. Silk factory - reconstructed, urban reuse (Construction company)
9. Lighthouses on Danube bank - reconstructed, original function
10. Steam mill - partly in use (warehouse)
11. "Pančevo - Varoš" railway station - reconstructed, original function
12. "Slavina" Beer bottling unit - partly in use (public administation)
13. "Tesla" Electric bulb factory - mainly demolished, new land use (retail centre + warehouse), including the preserved part of the building
14. Glass factory - reconstructed, new industrial function (fertilizer warehouse), the character of building complex significantly damaged

R

- Antonijev Stajić, D. (Ed.) (2012). Rivers and Industrial Heritage. Pančevo: Institute for the Protection of Cultural Monuments in Pančevo.
- Text BoxShapeShapeMihaila, M., Andritoi, C. & Ghita, R. (Eds.) (2015). Banat's cultural patrimony a European patrimony. Timisoara: Tempus.
- Tasić, T. & Kulenović, R. (2011). Industrial Heritage of Southern Banat – Brochure. Pančevo: Regional Institute for the Protection of Cultural Monuments.

2.3.4 CASE STUDY 4 // DROBETA-TURNU SEVERIN, ROMANIA

Gabriela Domokos-Pașcu

POPULATION:
1859: 2,925
1887: 14,000
1912: 23,643
1930: 21,107
1948: 31,296

The modern development of the city of Drobeta-Turnu Severin is primarily related to its location on the banks of the Danube and intensive shipyard industry. The opportunity for a regional administrative centre was associated with the feasibility to develop industrial activities in relation to the Danube and the Bucharest-Timișoara railroad, considering a colonial cartesian plan for what is now the historic core of the city. The connection to European river navigation routes via the Danube has allowed the development of industry and the city as a whole, at the entrance in the most difficult part for the river navigation: the Iron Gates Gorge.

Fig. 085 / Skyline of Drobeta-Turnu Severin, in the background the Cellulose and Paper Plant (Author: G. Domokos-Pașcu, 2022).

The most flourishing periods in city history were the beginning of the 20th century, with the early development of large shipyards (Dănescu, 2004), the interwar period and the one after the 1960s, during the stage of socialist expansion. With the completion of the "Iron Gates I" Hydroelectric Power Plant in 1972, the Cellulose and Paper Plant, the Combined Fodder Factory, the Tire Factory, the "Drobeta" Chemical Plant and the Heavy Water Plant. Nowadays, the biggest part of these industrial sites is not used, being enormous brownfields in the city (Fig. 085-086). The development of these large socialist industrial ensembles in Drobeta-Turnu Severin was followed by the new neighbourhoods of standardised workers' blocks (Butnariu, 1998).

Fig. 086 / Skyline of Drobeta-Turnu Severin, in the background the former Heavy Water Plant (Author: G. Domokos-Pașcu, 2022).

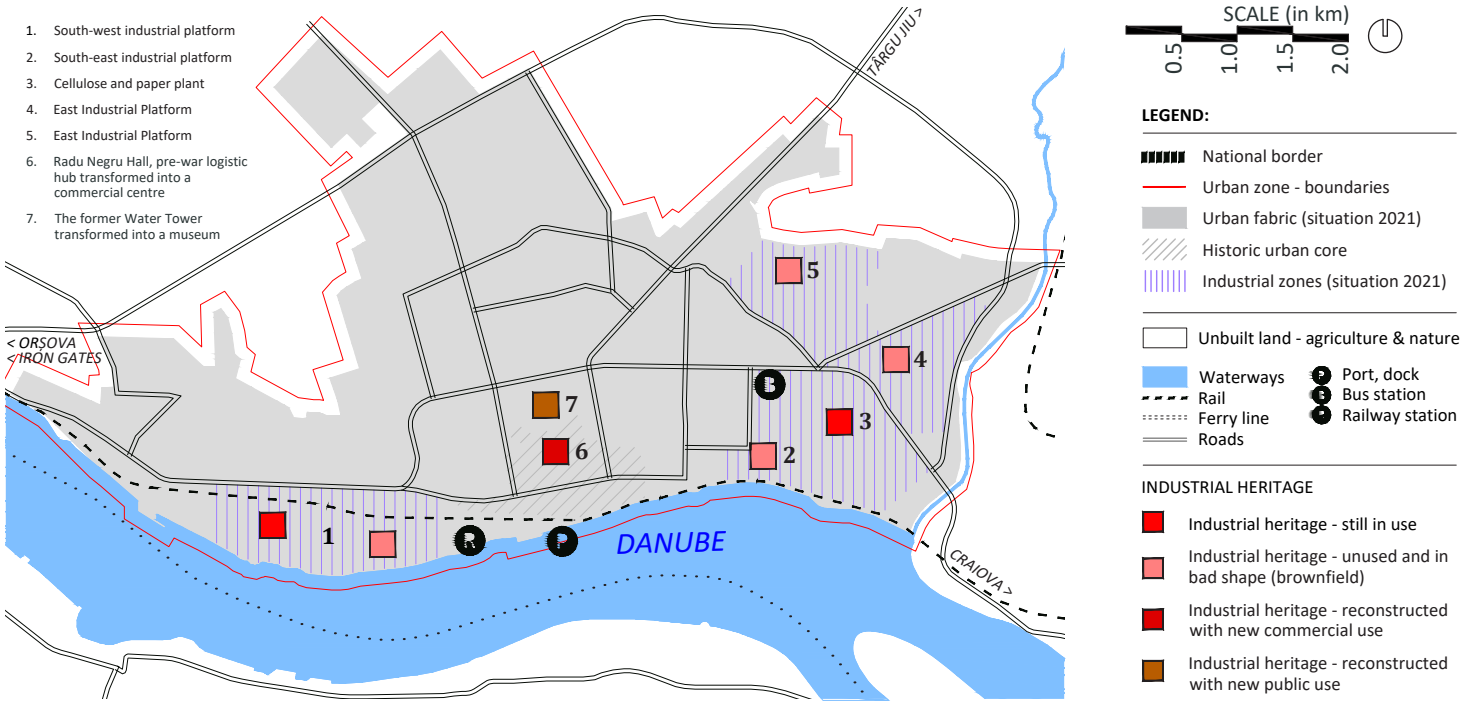


Fig. 087 / Map: the main former and present industrial sites in Drobeta-Turnu Severin (Author: M. Danciu, 2022).

The fast and semi-forced expansion between 1960-1980 was counterbalanced by the period of decline after 1990 (Fig. 087). In the last years, several industrial areas were transformed into business or retail areas. The others, such as the largest industrial asset of the city, "Severnav" Shipyard in the southwestern part of the city between the Danube and the railroad (Dănescu, 2004), has restored its activities. A particular example is the case of industrial infrastructures in the historic centre, which have been recently reused as cultural or commercial facilities (Fig. 088-089).

Fig. 088 / Radu Negru Hall, pre-war logistic hub transformed into a commercial centre (Author: M. Danciu, 2022).

Fig. 089 / The Water Tower in the historic centre, the former industrial structure transformed into a museum (Author: G. Domokos-Pașcu, 2022).

R

- Butnariu, M. (1998). Monografia orașului Drobeta-Turnu Severin / Monograph of the City of Drobeta-Turnu Severin. Drobeta Turnu Severin: Prier.
- Dănescu, C. (2004). Șantierul Naval din Turnu Severin (1851-1950) / Shipyard of Turnu Severin (1851-1950). Drobeta-Turnu Severin: Prier.

Bratislava

Vienna

Budapest

Zagreb

Belgrade

N

0 50 100

Fig. 240_03: Sulina as a town at the lowest point on the Danube and the only “water town” along the river, demographically shrank during this late 19th century, when water transport declined (Author: A. Radulescu)

MAP **2.4**

DEMOGRAPHIC TRENDS DURING THE PERIOD OF EARLY INDUSTRIALISATION, IN DECADES BEFORE THE WORLD WAR I

Fig. 240_01: Drobeta Turnu Severin was among the most industrialised cities in the Kingdom of Romania. This was reflected in the fast demographic growth (Author: A. Radulescu)

NOTE 1: All demographic trends are calculated per year

NOTE 2: Demographic trends are calculated for different periods due to the different years of population censuses

Slovakia 1869-1919
Hungary 1869-1910
Croatia 1857-1910
Serbia 1869-1910: Vojvodina; 1868-1910: Central Serbia
Bulgaria 1880-1910
Romania 1869-1910: Western Romania; 1859-1912: Kingdom of Romania (bigger cities); 1899-1912: Kingdom of Romania (other settlements)
Ukraine 1897-1930

NOTE 3: Cities and towns are enlisted in pies relating to their current states, to easier understanding of historic demographic trends at national level

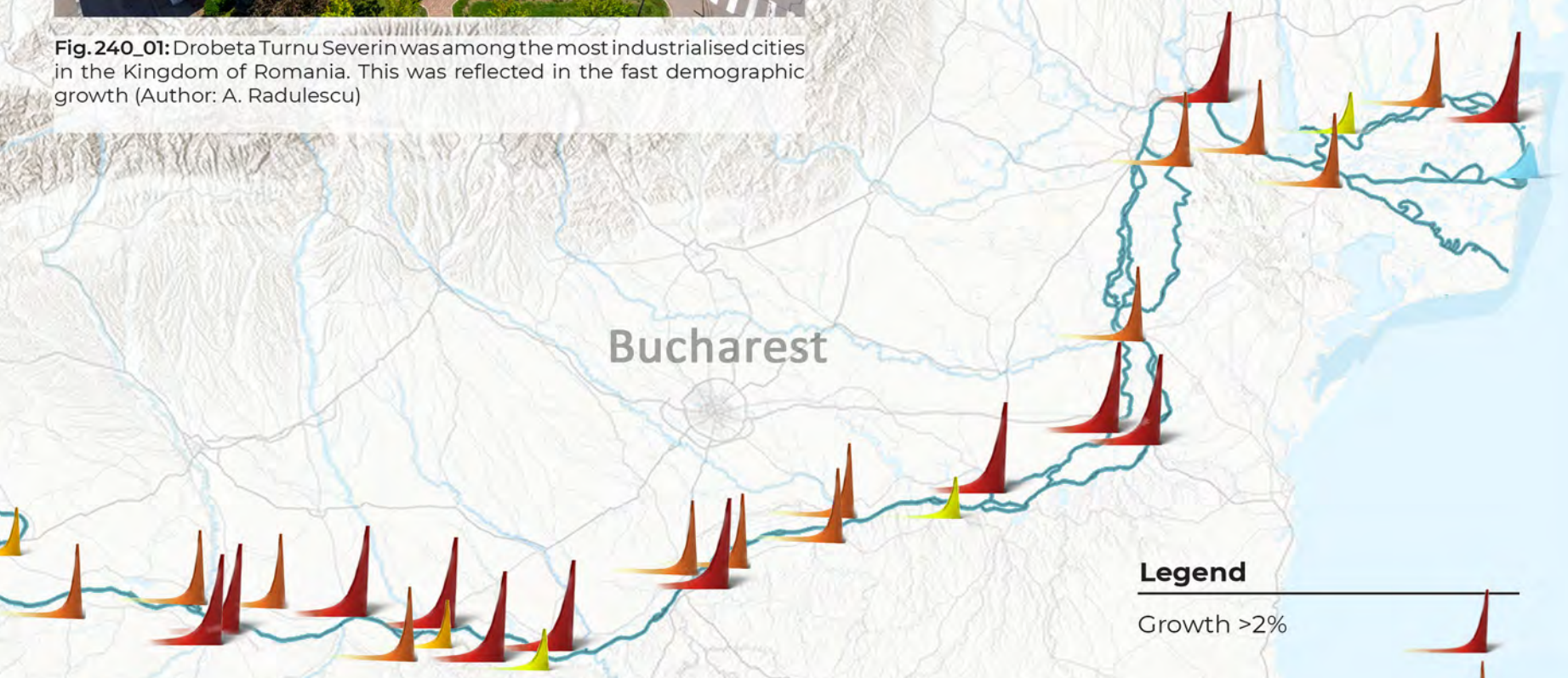


Fig. 240_02: Komarno in present-day Slovakia was a typical city of the late Austro-hungarian Empire, with a moderate demographic growth (Author: J. Maric)

Legend

Growth >2%
Growth 1-2%
Growth 0.5-1%
Growth 0-0.5%
Decline 0.-0.5%
Decline 0.5-1%
Decline 1-2%
Decline >2%

Bratislava

Vienna

Budapest

Zagreb

Belgrade

N

0 50 100

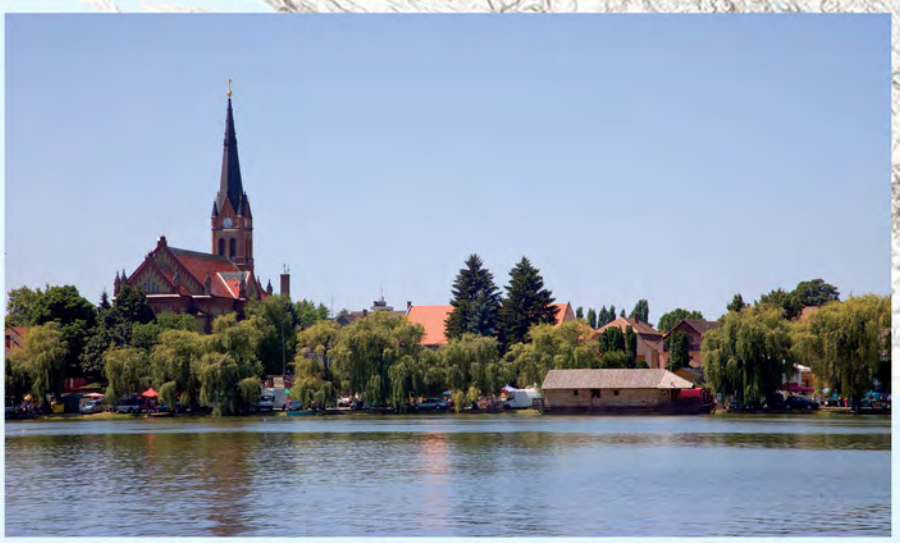


Fig. 250_01: Rackeve in Hungary was an example of the stagnation of small countryside towns across the Danube Region (Author: P. Wolf)

Fig. 250_02: Despite preserved industrial base, Vukovar in Croatia/forme Yugoslavia had a minimal demographic growth. Demographic recover started only in the 1930s (Author: A. Radulescu)

MAP **2.5**

DEMOGRAPHIC TRENDS DURING THE INTERWAR PERIOD (1918-1939)

NOTE 1: All demographic trends are calculated per year

NOTE 2: Demographic trends are calculated for different periods due to the different years of population censuses

Slovakia 1869-1919
Hungary 1869-1910
Croatia 1857-1910
Serbia 1869-1910: Vojvodina; 1868-1910: Central Serbia
Bulgaria 1880-1910
Romania 1869-1910: Western Romania; 1859-1912: Kingdom of Romania
(bigger cities); 1899-1912: Kingdom of Romania (other settlements)
Ukraine 1897-1930

NOTE 3: Cities and towns are enlisted in pies relating to their current states, to easier understanding of historic demographic trends at national level

Demographic trends of all analyzed cities

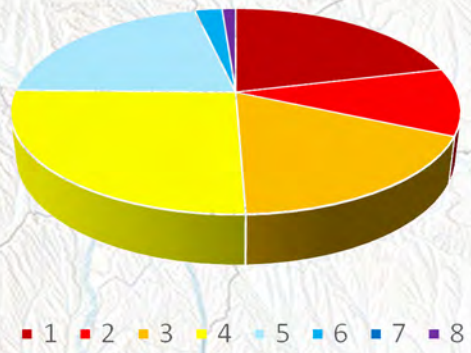


Fig. 250_03: Belene had a rapid demographic growth due to a late/interwar industrialisation in Bulgaria (Author: New Bulgarian Guide)

Legend

Growth >2%
Growth 1-2%
Growth 0.5-1%
Growth 0-0.5%
Decline 0.-0.5%
Decline 0.5-1%
Decline 1-2%
Decline >2%

2.6

NEW BORDER CITIES IN INTERBELLUM STAGNATION
// INTRODUCTION

Branislav Antonić

The end of the World War I in 1918 changed dramatically the political picture of the eastern half of Europe, mainly divided between three large realms: Austro-Hungarian, German and Russian empires. Their dissolution made space for new national states (Boeckh, 2014), which were much smaller, causing a lot of new borderlands. Moreover, these new borders disrupt well-established economic markets, zones, and corridors. As a consequence, many urban settlements in the region became border cities and towns or were deeply affected by new borders (Fig. 090); they eventually entered the interwar period (1918-1939) with challenging economic prospects, which influenced their demographic stagnation or shrinkage (Antonić & Djukić, 2020).

Fig. 091 / Unplanned twin cities – View on Esztergom Basilica in Hungary across the Danube River from Štúrovo/Párkány in Slovakia (Author: B. Antonić, 2018).

Being a huge natural barrier, the Danube River perfectly served for demarcation in this region. Before 1918, the river was a political border just in its lower section between Serbia and Bulgaria (right) and Romania (left). However, three new borders on the river raised between Czechoslovakia and Austria, Czechoslovakia and Hungary and Hungary and Yugoslavia. Hence, the half of the Danube flow from Vienna to Black Sea became a natural-political border.

This unfavoured borderland situation had profound effects on urban life and economy along the Danube in interbellum years. New urban development was an exception, limited to just several cities with special advantages, such as Bratislava (new ethnic capital) or Novi Sad (new regional seat). The most affected cities were those ones divided by the newly established borders the Danube – unwanted twin cities. For instance, Esztergom and Štúrovo/Párkány (Fig. 091). Similarly, towns on the preserved borders, for example, in the Iron Gates Region, continued their stagnation (Fig. 092). Finally, some bigger cities along the Danube lost their gravitation zones (Mosonmagyaróvár) or the status of a country seat (Sombor), which produced similar disadvantages as being directly on border.

Fig. 092 / The "oldest" border on the Danube in the Iron Gates Gorge near Golubac, Serbia: between Serbia and Austro-Hungary before 1918 and between Yugoslavia and Romania after 1918 (Author: B. Antonić, 2018).

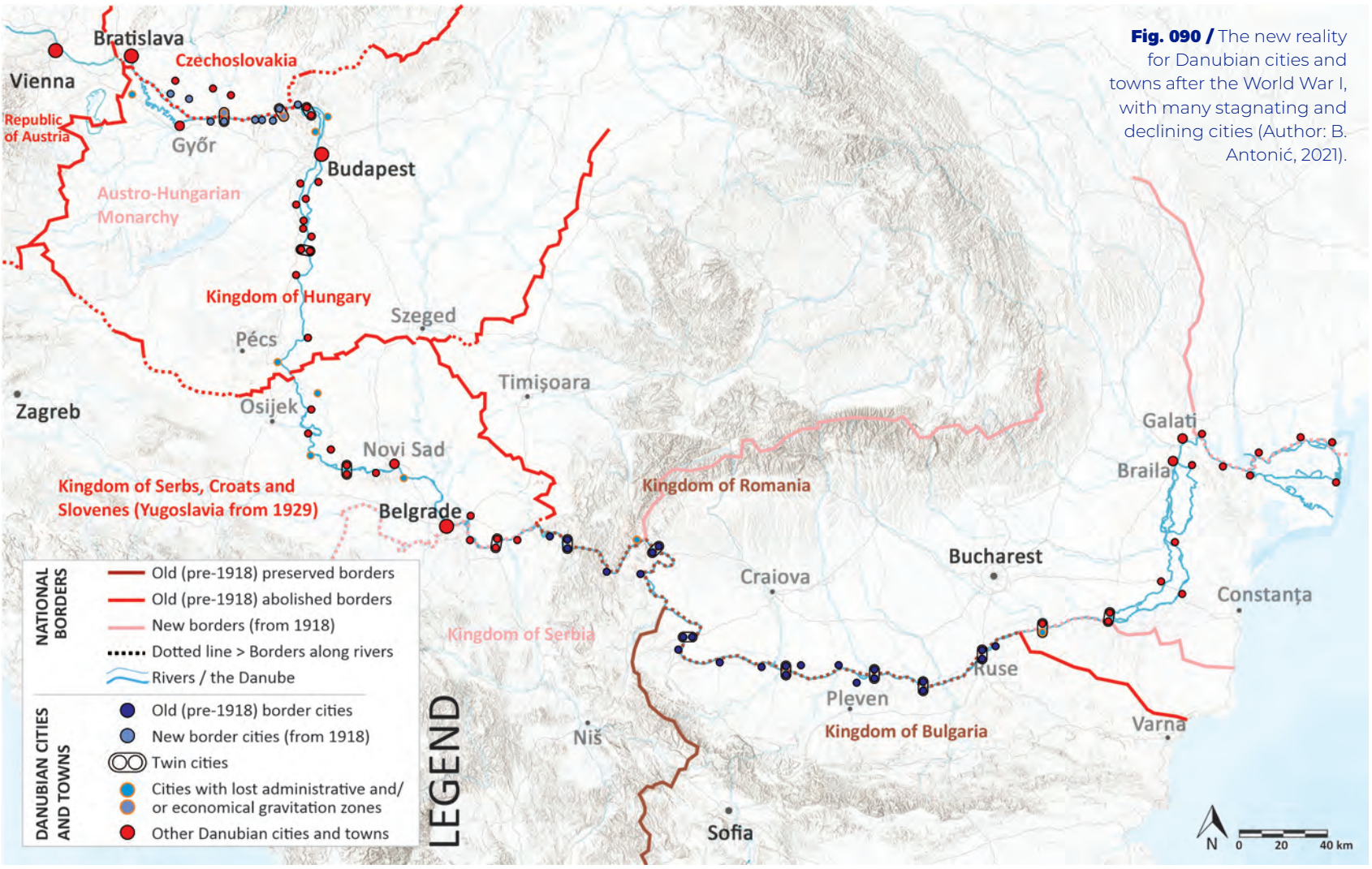


Fig. 090 / The new reality for Danubian cities and towns after the World War I, with many stagnating and declining cities (Author: B. Antonić, 2021).

- Antonić, B. & Djukić, A. (2020). Are Shrinking Cities a Completely New Phenomenon in Post-Socialist Space? Urban Shrinkage in Eastern Europe before and during Socialism. In: A. Djukić, A. Krstić-Furundžić, E. Vaništa Lazarević & M. Vukmirović (Eds.), Proceedings of Seventh International Academic Conference on Places and Technologies (pp. 475-484). Belgrade: Faculty of Architecture. DOI: 10.18485/arh_pt.2020.7.ch56.
- Boeckh, Katrin. 2014. "Crumbling of Empires and Emerging States: Czechoslovakia and Yugoslavia as (Multi)national Countries." In International Encyclopedia of the First World War Online. Retrieved from https://encyclopedia.1914-1918-online.net/pdf/1914-1918-Online-crumbling_of_empires_and_emerging_states_czechoslovakia_and_yugoslavia_as_multinational_countries-2014-10-08.pdf.

2.6.1

CASE STUDY 1 // ŠTÚROVO (PÁRKÁNY), SLOVAKIA

Ľubica Vitková

POPULATION:
1919: 3,395
1941: 4,221
1950: 5,662

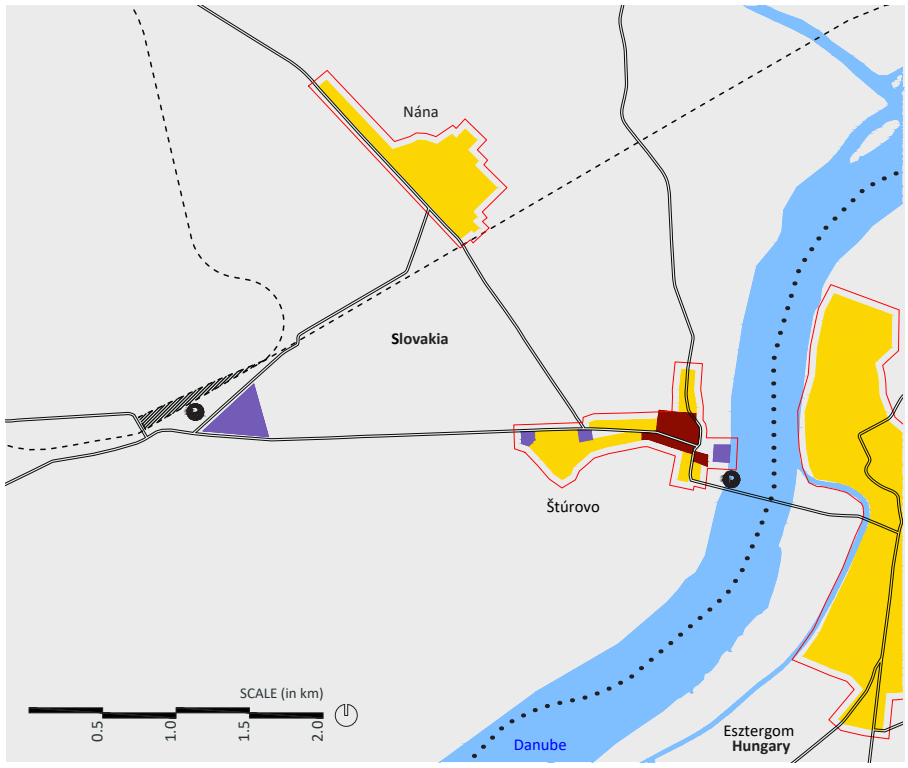
With the disintegration of Austria-Hungary in 1918, Štúrovo (Parkany) became a border town. Its close ties with Esztergom have taken on a different meaning. Until then, Štúrovo represented a food base for the dominant Esztergom, which was the administrative, ecclesiastical and economic centre of the region. It was connected with Esztergom by a bridge and socio-cultural ties, too.

Fig. 093 / Štúrovo – railway station as a node of development in 1920s (Baka, 2021).

After integration into Czechoslovakia, Štúrovo change its statute – became a district town. Decisive for the further development of the town was its strategic location on the Budapest-Bratislava railway line (Fig. 093), connection to the Danube and the surrounding fertile plain. The town thus continued the previous economic development, tied mainly to the processing of domestic agricultural production. The industrial infrastructure consisted of factories founded in the late 19th century – a steam mill, a factory for the production of vinegar or starch. The brickyard, known for the quality of its products, prospered in particular.

The change in the statute of Štúrovo mainly supported the development of civic amenities. Cultural, educational, church buildings and barracks were built (Fig. 094). In 1935, with the

Fig. 094 / Synagogue in Štúrovo, as a part of the construction of public and church buildings during the First Czechoslovak Republic (Baka, 2021).



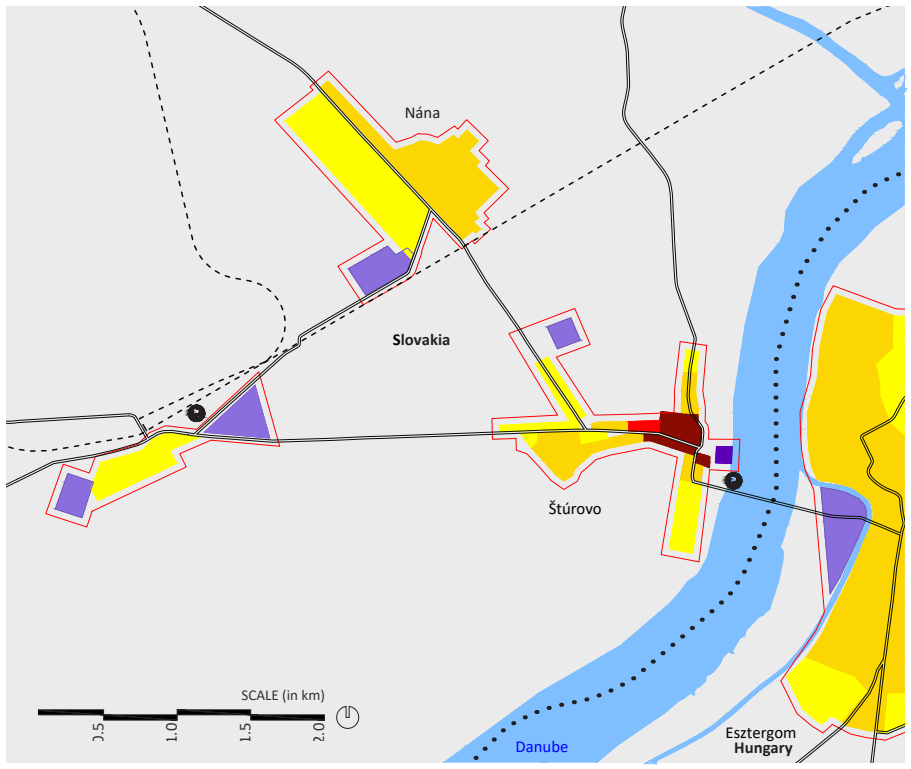


Fig. 095-096 / Štúrovo Urban Area: situation in 1918 (up) and situation in 1945 (down) (Author: L. Vitkova, 2022).

financial support of the town, the first stage of the construction of a modern port was completed. It was intended mainly for the transport of industrial commodities, coal and agricultural products (Mravík, 1969). The town gradually densified and increased the height of its urban fabric (Fig. 095-096). The development around the railway station was more significant, where housing construction took place (Mravík, 1969). This direction of the city development, towards northwest, i.e., Bratislava, has been preserved until today (Fig. 097).

In November 1938, Štúrovo became a part of Hungary. The end of the war and the destroyed bridge meant the interruption of the direct connection between two cities (Mravík, 1969).

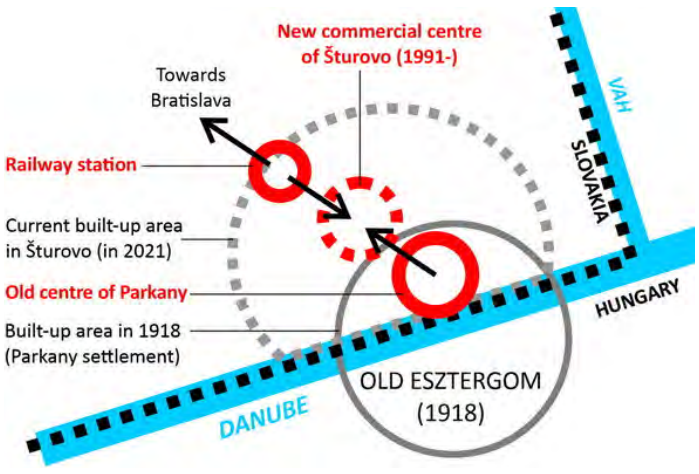


Fig. 097 / Štúrovo – Urban development scheme 1918-2021 (Author: L. Vitkova, 2022).

R

- Mravík, J., (1969). Štúrovo a okolie / Štúrovo and surroundings. Bratislava: Slavín.
- Baka, T., (2021). Štúrovo Párkány. Bratislava: Marenčin.

2.6.2

CASE STUDY 2 // **KOMÁROM, HUNGARY**

Dániel Balizs

POPULATION:
1910: 6,892
1930: 7,563
1941: 12,266

The unity of Austro-Hungarian Komárom, developing as one city over the centuries, disappeared after 1918 and 1945, respectively, due to the state border between Hungary and Czechoslovakia (Sikos & Tiner, 2007; Tamáska, 2016a; Tamáska & 2016b). In the Middle Ages, Komárom essentially existed only on the north Danube shore. The population on the southern shore, i.e., the area officially called Komárom today, accelerated only from the 19th century (Fig. 098). Even in 1910, this area had barely five thousand inhabitants, whose livelihoods were provided mainly by industrial plants and rail transhipment functions, to the Danube barges (Majdán, 2009).

The present-day Komárom become independent municipality only in the interwar period, after the northern part came to the Czechoslovak Republic. Local economy stagnated after the World War I, but, at the same time, the settlement as a new administrative centre developed

Fig. 098 / Historic image of Komarom and the Danube Shore, from the 19th century (Source: L. Grafel collection).

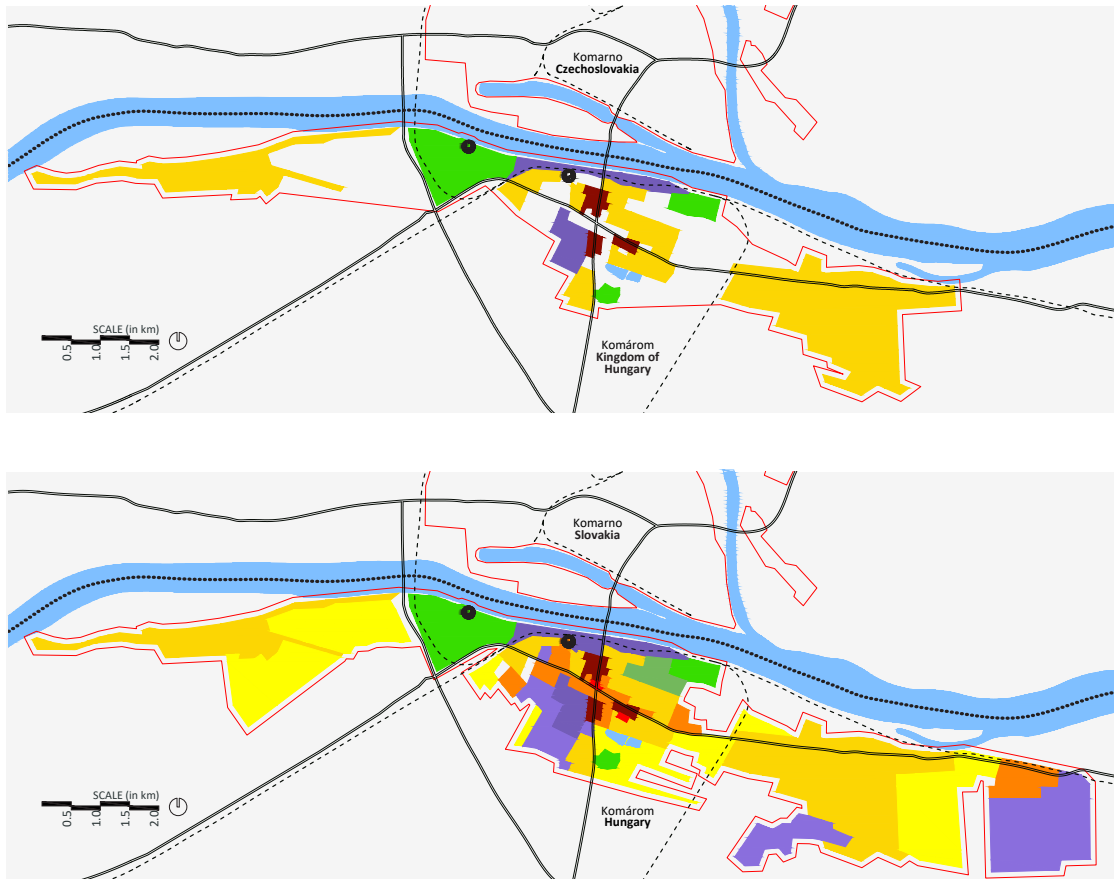


Fig. 099-100 / Urban zones in Komárom, Hungary, from the interwar period (up) until the end of socialism in 1991 (down) (Author: D. Balizs, 2021).

further architecturally and infrastructurally (Fig. 099-100). It partly took over the role of Czechoslovakian Komárno, which 'remained' on the other side of the Danube. Approximately 500 residential properties were built, as well as several administrative, ecclesiastical and cultural buildings in the interwar period (Fig. 101).

The period of 1938-1945 was the restoration of Hungarian administration, which tried to make the two "Komároms" into one city again. However, this could not have taken place due to the short period and visible functional differences; the northern part was civic and administrative, whereas the southern part was industrial and transport-oriented. At the end of the World War II and returning Komárno to Czechoslovakia, two cities turned backs on each other again, with the bordering Danube in the middle. This political situation had further spatial repercussions for both river sides; the presence

Fig. 101 / Heart of Jesus Roman Catholic Church, built in 1937 in Bauhaus style (Author: D. Balizs, 2018).

of the main railway line on the south and the laying of port, the shipyard and industrial tracks on the north determined the character of both cities for a long time.

R

- Majdán, J. (2009): A vasutak és a dunai kikötők kapcsolata 1895-ben [The connection of the railways and the Danube ports in 1895]. Közép-Európai Közlemények 2(4-5), 102-108.
- _ Sikos T. & Tiner, T. (Eds.) (2007): Egy város–Két ország. Komárom–Komárno [One city – Two countries. Komarom-Komarno]. Komárom: Selye János Egyetem Kutatóintézete.
- Tamáska, M. (2016a): Komárom Duna-partjának várostörténete a kezdetektől 1945-ig [The history of the Danube riverside of Komarom from the beginning until 1945]. Építés- és Építészettudomány, 44(1-2), 107-128.
- Tamáska, M. (2016b): The Suburban Townscape. Its origin and perspectives based on the example of a broder town in Hungary (Komárom-Koppánymonostor). Társadalomtudományi Szemle 4(6), 135-159.

2.6.3

CASE STUDY 3 // **SOMBOR, SERBIA**

Eva Vaništa Lazarević
Jelena Marić

POPULATION:
1910: 30,039
1921: 31,342
1931: 32,334
1948: 33,613

After the World War I, Sombor has become a peripheral city in Yugoslavia, 20 km far away from a newly-established border to Hungary. The city was also administratively downgraded from the seat of large Bač-Bodrog Country to the provincial city of Western Bačka Region (Pušić, 1987). The nearby Danube was also cut by several new national borders, which additionally complicated waterway transport. These changes caused the economic and demographic stagnation of Sombor in this period.

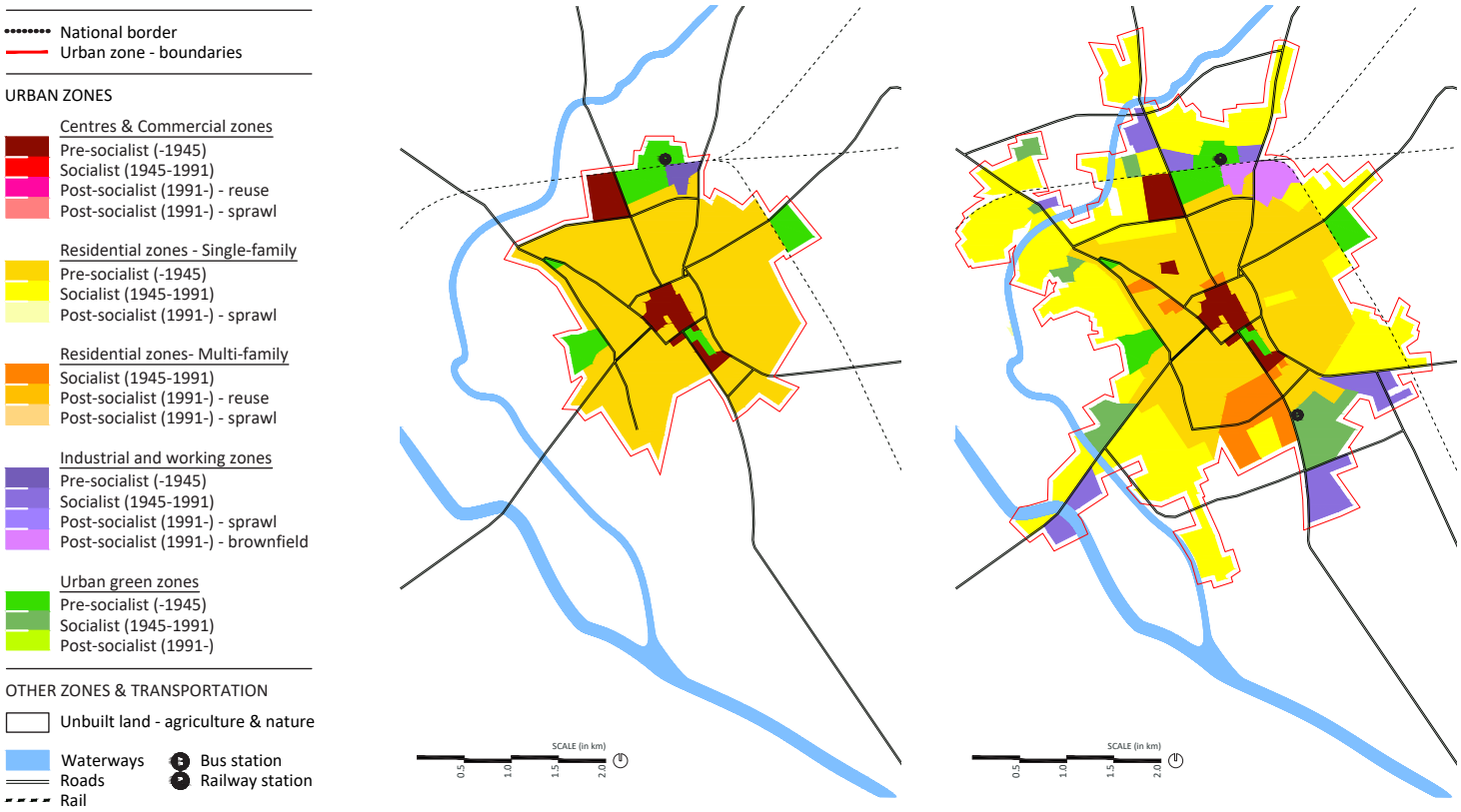


Fig. 102 / Sombor: urban development at the end of the interwar period, in 1941, and today, in 2021 (Authors: E. Vaništa Lazarević & J. Marić)

This challenging situation was clearly visible in the urban morphology of Sombor. From the 1920s up until the 1940s, the city did not expand (Fig. 102). Similarly, the historic core of Sombor stalled both functionally and physically (Djukić, 2011). Just two urban spots were added in the core – a new culture hall in 1919 and a social insurance building in 1931. The later building is especially interesting, as it is a rare example of Art Deco style in the present-day

Serbia (Fig. 103). Local population, even pro-Yugoslavian Serbs and Bunjevacs, were deeply disenchanted by the stagnation, so the city authorities tried to deal with this by erecting the monument to King Alexander on the main square in Sombor in 1940 (Fig. 104). The monument was soon removed by Hungarians, at the beginnings of the World War II.

The position of Sombor was somehow improved after the World War II, with limited industrialisation and socio-economical improvements during the socialist Yugoslavia (1945-1992). Nevertheless, the great influence of the border was preserved, so the main course of the city development was towards south, i.e., opposite to the border, where the only mass-housing estate – Nova Selenča – was built. This "southern widening" of Sombor has been prolonged even in post-socialist times. It was cemented with the formation of the second city centre, concentrated around a new shopping centre, at the southern edge of Sombor (Fig. 105).

Fig. 103 / Social insurance building (1931) in Sombor is an extremely rare example of Art Deco style in the present-day Serbia (Author: D. Siljanović Kozoderović, 2021).

Fig. 104 / Monument of King Alexander from 1939 on the main square of Sombor (Source: collection of M. Stepanović).

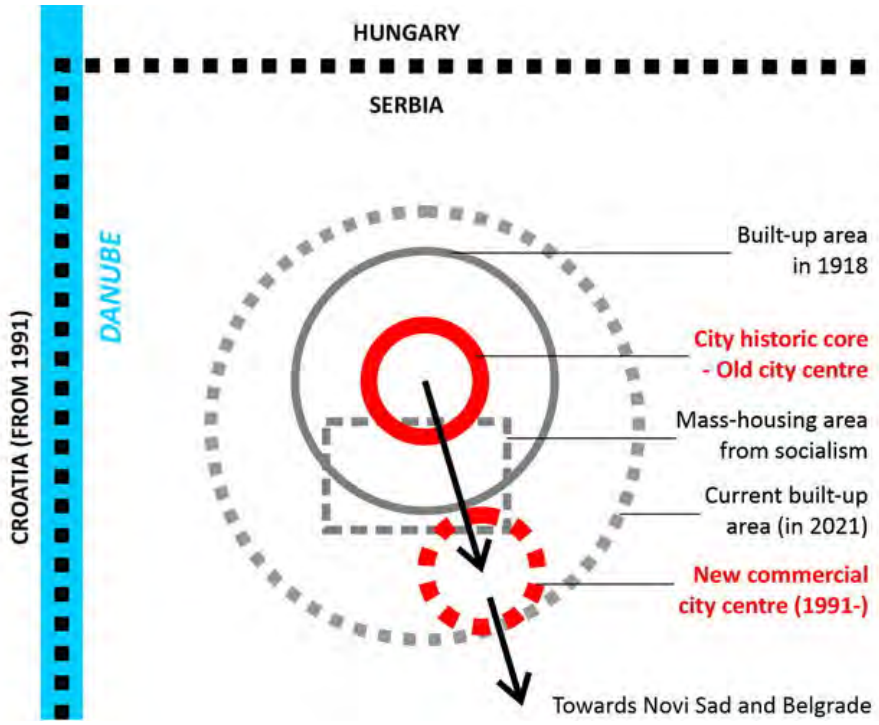


Fig. 105 / Scheme: the spatial development of Sombor since the World War I - the direction of the development towards south, i.e., opposite to the border to Hungary (Author: J. Marić, 2021).

R

- Djukić, A. (2011). Очување идентитета главне улице војвођанског града у процесу урбане обнове [Keeping the Identity of the Main Streets in Vojvodinian Cities in the Process of Urban Renewal] (Doctoral dissertation, Faculty of Architecture, Belgrade, Serbia).
- Pušić, Lj. (1987). Урбанистички развој градова у Војводини у 19. и првој половини 20. века [Urban development of the cities in Vojvodina in 19th and first half of the 20th century]. Novi Sad: Matica Srpska.

2.6.4

CASE STUDY 4 // CĂLĂRAȘI, ROMANIA

Mihaela Hărmănescu
Sorin Manea

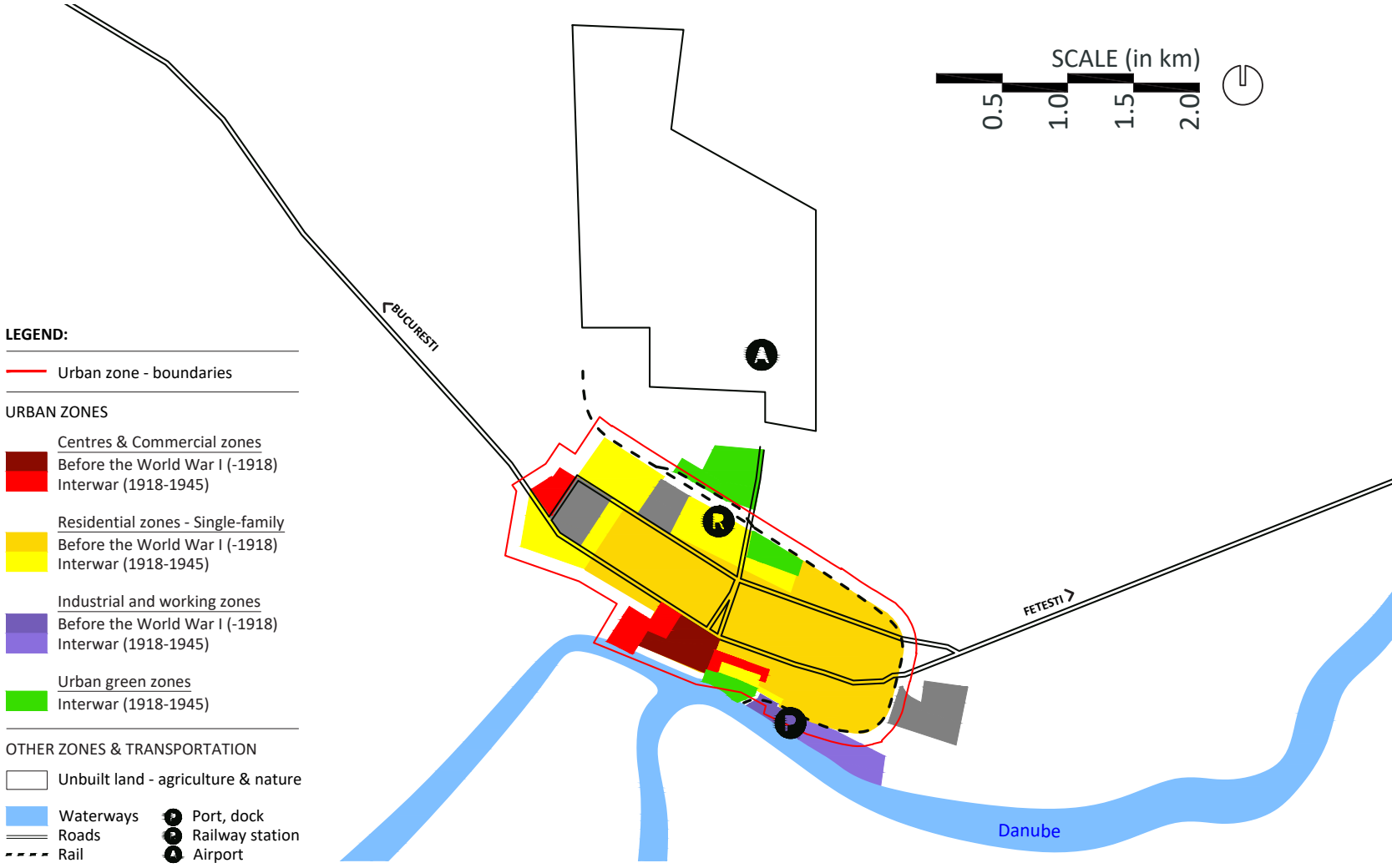
POPULATION:
1914: 12,995
1925: 13,050
1937: 18,300
1941: 24,345

The strategic position of the city of Călărași was significantly changed in the early 20th century, as Romania annexed the Quadrilateral or Southern Dobruja Region across the Danube in 1913. The other important moments for the city were the union of the Romanian Principalities in 1918 and the Great Agrarian Reform in 1917-1921. These circumstances influenced the accelerated development of Călărași since the 1920s, followed by an intensive demographic growth. New, spontaneously formed plots appear, which are rebuilt and integrated in the city. In 1926 City plan, the new plots contain subdivisions for housing and supplementary urban functions. The administrative boundaries of the city expanded in 1931, by incorporating the neighbouring town, Mircea Voda, which became a suburban commune.

Fig. 106 / Călărași in interbellum period: The Communal Palace (Source: Collection of F. Radulescu).

Fig. 107 / Călărași in interbellum period: Park Theatre (Source: Collection of F. Radulescu).

Fig. 108 / Călărași in interbellum period: Stibey Voda Street (Source: Collection of F. Radulescu).



Social and cultural public functions are increasing in number, the industry and services are developed (Fig. 106-108). Călărași even had built an airport, for the Bucharest-Călărași-Bazargic-Balchik route, which operated for civil flights in 1936-1940. The city location in the southern plains of the Danube trajected economic development towards agriculture, especially cereals, animal husbandry and fish farming. However, the city's interwar economy did not develop to its full potential, being described more as a family and subsistence economy. This economic profile and the geographical location of Călărași reflected in a certain typology of land use, with commercial activities in relation to the Danube, visible so far. Although the orthogonal matrix of the city was maintained and extended in the same manner (Fig. 109), the main industrial activities were located on the waterfront, in relation to the port. Low-density construction with one- or two-level floors has been the dominant altimetry in the city since then.

Fig. 109 / Călărași – urban development during interbellum years (1920-1940) (Authors: M. Hărmănescu & S. Manea).

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- Mihăilescu, I. (1938). Mongrafia economică a județului Ialomița / Economic monograph of Ialomița county, 1933-1938. Călărași: Banca Națională a României.
- Pompei, Gh. S. (1931). Istoria orasului Călărași, Ialomița dela origini până la anul 1852 / History of the City of Călărași, Ialomița, from early beginnings to the year of 1852. Bucharest: Editura Agora.
- Tudor, C. (2005). Administrația românească în Cadrilater / Romanian Administration of Quadrilateral (1913-1940). Bucharest: Editura Agora.
- ARHIGAMA (2008). Plan Urbanistic General (General Urban Plan) for Mun. Călărași. Retrieved from primariacalarasi.ro/index.php/despre-calarasi/istorie.

2.6.5

CASE STUDY 5 // SILISTRA, BULGARIA

Georgi Georgiev
Eleonora Gaydarova

POPULATION:
1910: 11,046
1934: 15,159
1946: 16,142

Silistra was included as a **border town in the territory of a modern Bulgarian state after the Russo-Turkish War of 1877-1878.** The town belonged to Bulgaria only 25 years. Following the treaties of Bucharest (1913) and Neuilly (1919), Silistra with Southern Dobruja became a part of Romania until 1940 (Nyagulov & Todorov, 2007). During this short period between the two world wars, Silistra was the seat of Romanian Durostor County, which later become the part of Ținutul Mării ("Sea District", 1938-1940).

Fig. 110 / The former branch building of Romanian National Bank in Silistra, today the city archaeological museum (Author G. Georgiev, 2021)

The interwar Silistra in the Kingdom of Romania was surrounded by no borders lines and was centrally located as a regional centre. However, being a part of less developed Romanian territory, no significant signs of urban development have been observed during the interwar period. Accordingly, the population growth was negligible. The interwar construction activity in the town was under a "new Romanian style", which contributed to the European appearance of Silistra (Fig. 110). A specific case was so-called "Block-House" complex, influenced by Bauhaus Modernism (Fig. 111), which is marked as a group cultural monument by the operative Master Plan of the city (Silistra Municipality, 2021).

Under the Treaty of Craiova, Silistra was returned to Bulgaria and became a border city to Romania once again. Nevertheless, the city location as the easternmost point in Bulgaria on the Danube Water Corridor has given Silistra a strategic advantage. Ultimately, this has influenced local urban development, so the main directions of the spatial expansion of Silistra have been in opposite to national border, i.e., to west and along the Danube – new part of the city centre, industrial zone, new port – and south – residential estates (Fig. 112).

Fig. 111 / "Block-House" Apartment building, influenced by Bauhaus movement, from the 1930s (Author G. Georgiev, 2021)

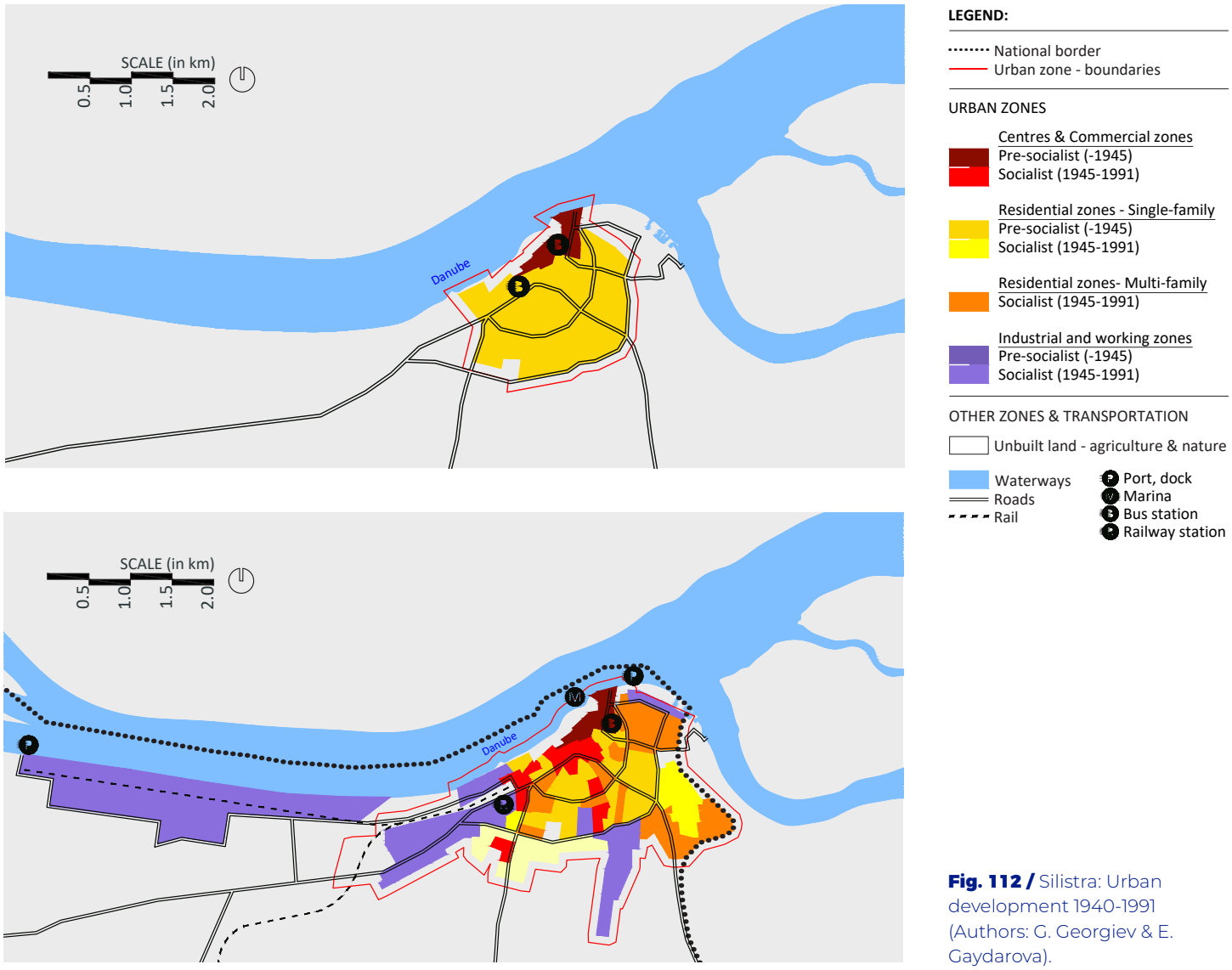

Fig. 112 / Silistra: Urban development 1940-1991 (Authors: G. Georgiev & E. Gaydarova).

- Silistra Municipality (2021). План за интегрирано развитие на община Силистра 2021-2027 / Integrated development plan of the municipality of Silistra 2021-2027. Retrieved from http://www.silistra.bg/files/2020/24.10.2020-e869c7222ee80506fc89a-915c8a748b31.pdf.
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- Nyagulov, P. & Todorov, P. (Eds.) (2007). История на Добруджа, Том 4 / History of Dobruja, Edition 4. Veliko Tarnovo: Faber.

Bratislava
Vienna
Kolárovo
Štúrovo
Szob
Komárno
Esztergom
Komárom
Győr
Budapest
Ráckeve
Dunaújváros
Pécs
Baja
Sombor
Zagreb
Osijek
Dalj
Bačka Palanka
Ilok
Belgrade
Smederevo
Golubac
Moldova Noua
Orșova
Drobeta Turnu Severin
Vidin
N
0
50
100

Fig. 270_01: Abandoned power station in Vidin, a legacy of early industrial period in interwar Bulgaria (Author: G. Georgiev)

Fig. 270_02: Golubac in Eastern Serbia traditional market town with small-sca Golubac)

MAP **2.7**

THE CHARACTER OF URBAN ECONOMY DURING THE PERIOD OF EARLY INDUSTRIALISATION

The era of early industrialisation in the Danube Region approximately starts with the Austro-Hungarian Compromise 1867, which initiated the development of first industry in Hungarian part of dual monarchy and, with the start of 20th century, the first wave of industrialisation in Danubian cities and towns Serbia, Bulgaria and Romania. This first industry was mainly light industry – mills, brickyards, food-processing, lumber, furniture and textile factories and manufactures dominated. Just a few major cities got the plants of heavy industry, such shipyards. Furthermore, many small cities and towns along the Danube passed through this period preserving their preindustrial economy, based on crafts and local trade.

1. HI: Developed industrial city/town with the dominance of heavy industry in local economy (machinery, iron- and steelworks, automobiles, complex chemical)

2. LI: Developed industrial city/town with the dominance of light industry in local economy and with the variety of industrial sectors (food, furniture, textile, leather, wood, ceramics)

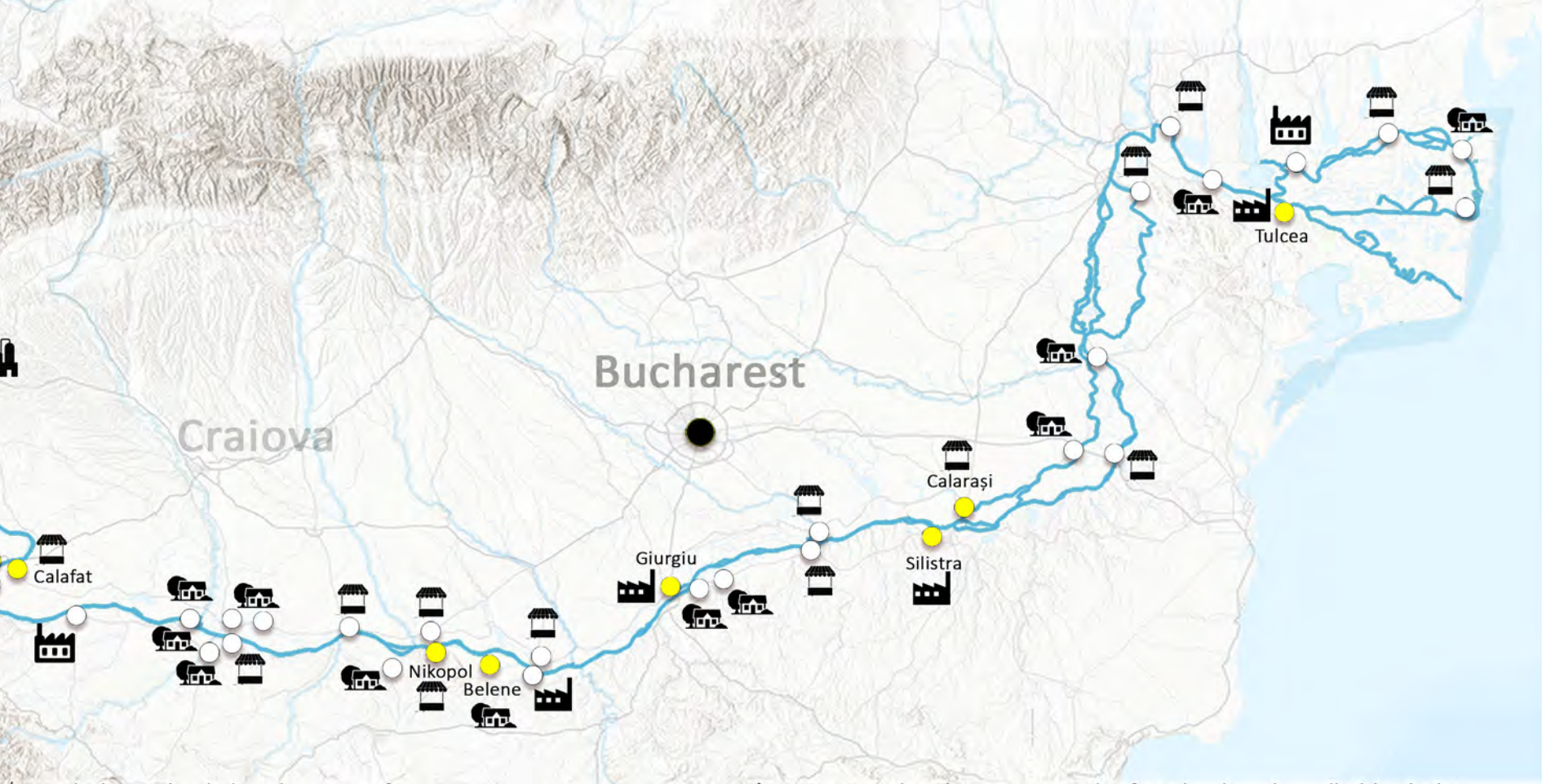
3. EI: Early industrial city/town with basic industry, such as food or wood industry, but where the main economic sectors are still trade and crafts

4. TM: Mining town around a mine or quarry (based on mineral deposits, cement processing)

5. MT: Market town with development active central market square/street and local crafts, but with no industry and with agriculture at outskirts

6. VA: Settlement was a village with primary sector (agriculture, forestry) as a dominant local economy

7. NO: Non-existent as a settlement



a/Yugoslavia retained the elements of a le craft and retail economy (Author: TO

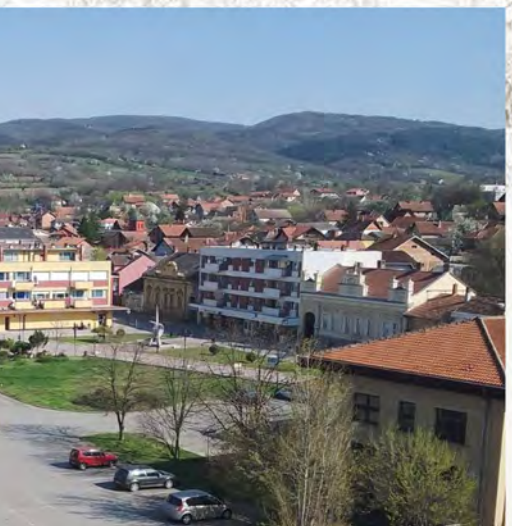


Fig. 270_03: Calarasi was among the fast developed small cities in interwar Romania – the old city casino as a symbol of this period, which ultimately declined during the next, socialist era (Author: Bulgarian Guide)

Bratislava
Vienna
Budapest
Zagreb
Belgrade

Legend

- Growth >2%
- Growth 1-2%
- Growth 0.5-1%
- Growth 0-0.5%
- Decline 0.-0.5%
- Decline 0.5-1%
- Decline 1-2%
- Decline >2%

NOTE 1: All demographic trends are calculated per year

NOTE 2: Demographic trends are calculated for different periods due to the different years of population censuses

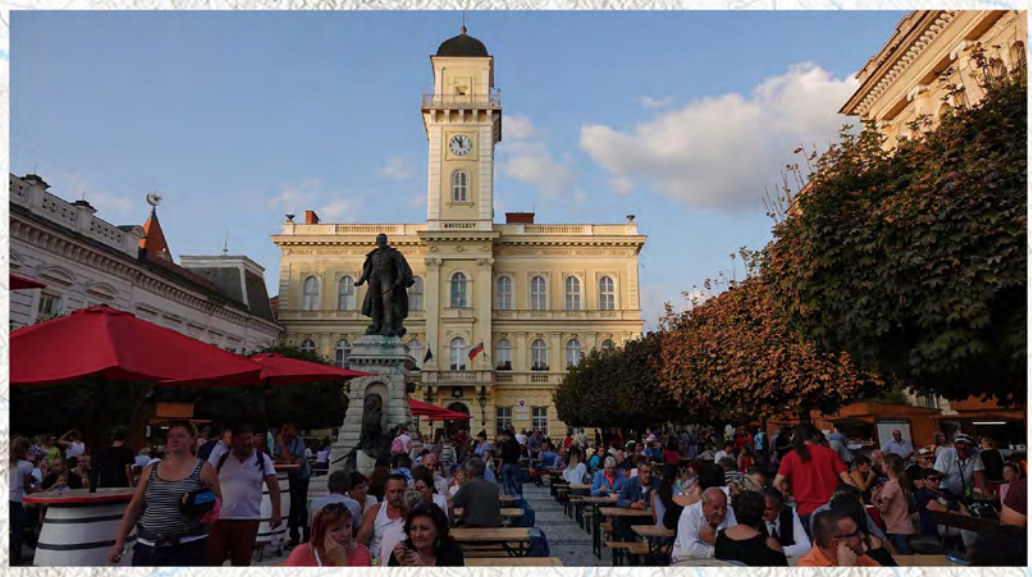
Slovakia 1869-1919
Hungary 1869-1910
Croatia 1857-1910
Serbia 1869-1910: Vojvodina; 1868-1910: Central Serbia
Bulgaria 1880-1910
Romania 1869-1910: Western Romania; 1859-1912: Kingdom of Romania
(bigger cities); 1899-1912: Kingdom of Romania (other settlements)
Ukraine 1897-1930

NOTE 3: Cities and towns are enlisted in pies relating to their current states, to easier understanding of historic demographic trends at national level

Fig. 280_02: A ‘new silo’ and ‘new port’ in Pančevo, which was the most industrialised cities in the former Yugoslavia during socialist decades, with a substantial number of heavy industries. This was followed by intensified demographic growth (Author: D. Milovanović Rodić)

MAP **2.8**

DEMOGRAPHIC TRENDS DURING THE SOCIALIST PERIOD (1945-1991)



During socialism (1945-1991) many Danubian cities and towns had ideologically support mass-industrialisation and demographic boom as a consequence. Surprisingly, more than 15% of urban settlements in the region, mainly smaller towns, lost population during this period. In Hungary, Bulgaria and Croatia approximately 1/3 of all urban settlements were in this position, breaking down usual prejudices about “bright” years for urbanisation in a socialist system.

Fig. 280_01: Fig. 290_01: Komarno was among the cities with the fast increase of population during socialist era due to ideological reasons (Author: Pons Danubii)

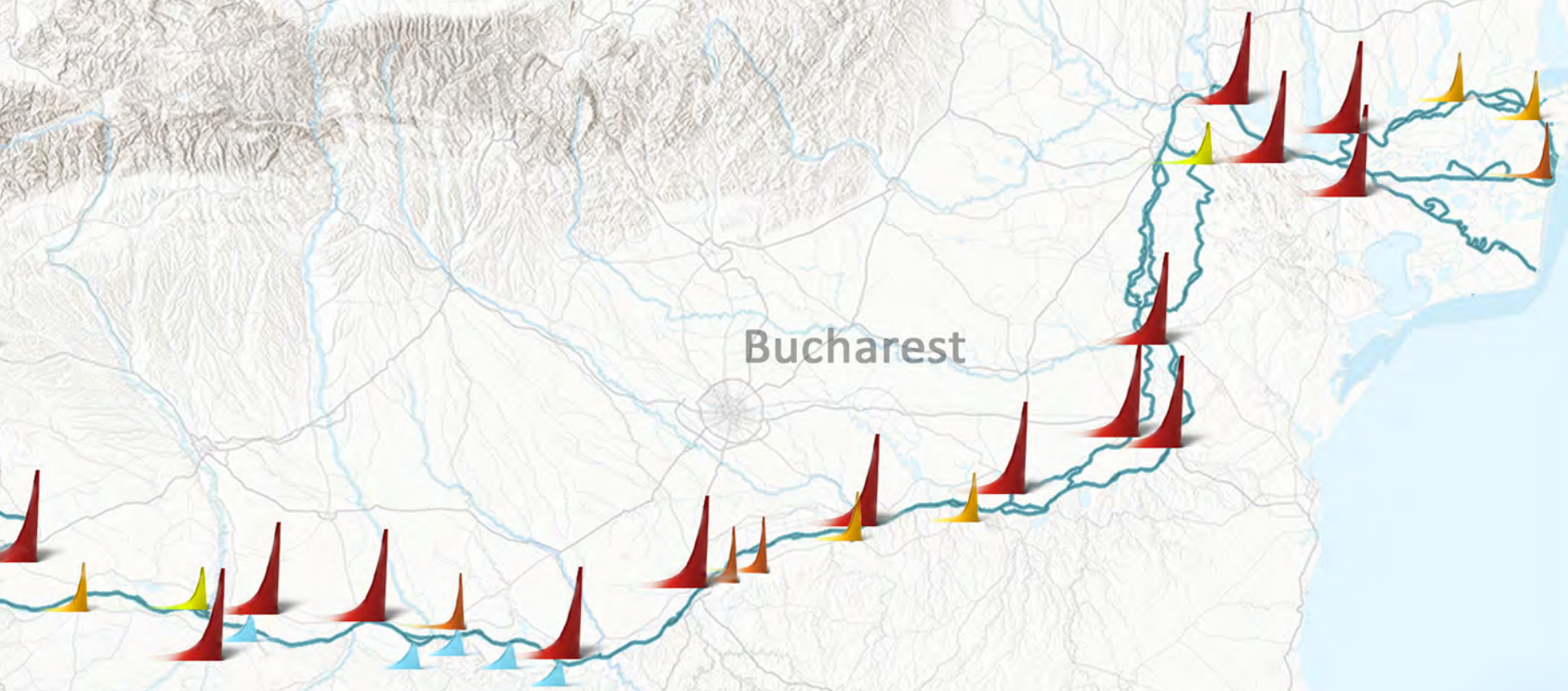


Fig. 280_03: Shipyard in Giurgiu, Romania, was developed in the present state in the socialist era. (Author: A. Radulescu)

2.9

SOCIALIST CITY IN RAPID EXPANSION VS. CRITICAL REGIONALISM // INTRODUCTION

Aleksandra Stupar

The chapter focuses on the period between 1945 and 1991 providing a brief insight into the development tendencies of Paks (Hungary), Smederevo (Serbia), Vidin (Bulgaria), Drobeta-Turnu Severin and Giurgiu (Romania), instigated during the period of Socialism. Although the post-war reconstruction and rapid industrialisation (Fig. 113) provided a strong impetus for economic progress, they also caused a significant impact on urban structure (Fig. 114). The main triggers of change were different (e.g., a nuclear power plant in Paks, a steel factory in Smederevo, a hydroelectric power plant in Drobeta-Turnu Severin) but mostly industry-oriented, especially during the period between the 1960s and the 1980s.

Fig. 113 / Turnu Magurele in Romania was heavily industrialised during the socialist era. A view on the city huge petrochemical plant from the Bulgarian town Nikopol across to the Danube (Author: BlueLink, 2022).

The urban expansion and intense population growth contributed to the changed urban identity, leading to sharp contrasts between the traditional core and newly created areas, dedicated to industrial facilities, accompanying mass-housing estates, services and traffic infrastructure, e.g., Vidin airport, Friendship Bridge and Nord Railway Station in Giurgiu (Fig. 115). Depending on the local/regional preferences of professional practice, but always in accordance with the dominant ideological framework, the historical parts of cit-

ies, as well as their patterns and typologies, were contested by new scales and grids of prefabricated housing blocks and modern public buildings, either ignoring or radically replacing inherited tissue during the process of functional and infrastructural upgrading and modernisation (Djukić et al, 2018).

The end of the Socialist period and the consequent socio-economic transition imposed new challenges to all cities. This unfavourable context caused both the industrial and urban decline, leaving many detected problems unsolved. The low level of functional and traffic integration between historical parts and socialist urban developments still remained one of the issues to be considered on several levels, simultaneously tackling the ongoing and emerging setbacks regarding depopulation, the sustainable regeneration of ex-industrial areas, redefined cultural identity, heritage protection/activation and (inter)urban connectivity.

Fig. 114 / The urban fabric of Šturovo in Slovakia was radically changed during socialist Czechoslovakia, with the construction of mass-housing estates (Author: A. Djukić, 2021).

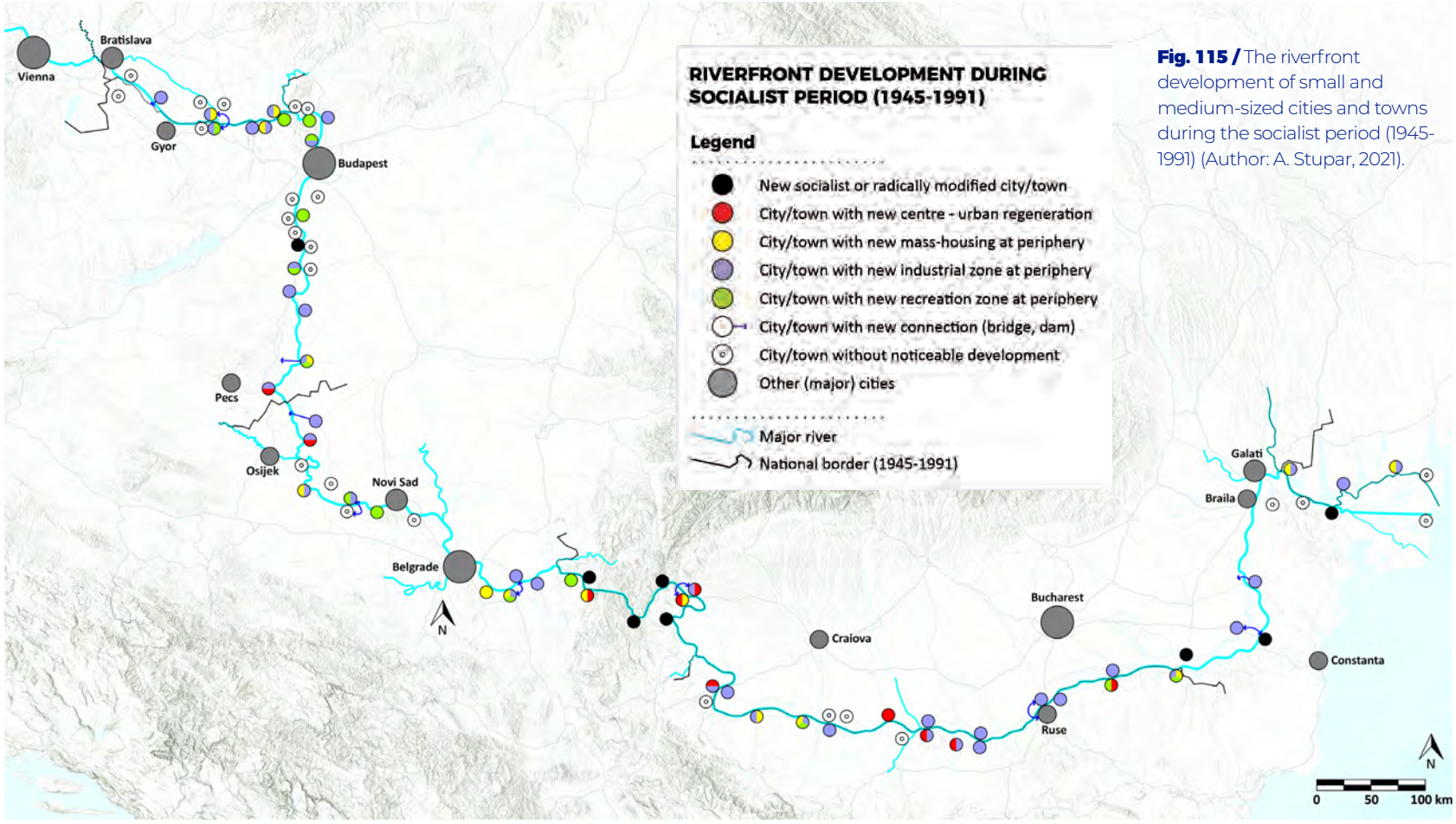


Fig. 115 / The riverfront development of small and medium-sized cities and towns during the socialist period (1945-1991) (Author: A. Stupar, 2021).

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- Djukić, A., Stupar, A. & Antonić, B. (2018). The consequences of urban policies in socialist Yugoslavia on the transformation of historic centres: the case study of cities in Northern Serbia. Journal of Housing and the Built Environment, 33(3), 555-573. DOI: 10.1007/s10901-018-9612-7.

2.9.1

CASE STUDY 1 // PAKS, HUNGARY

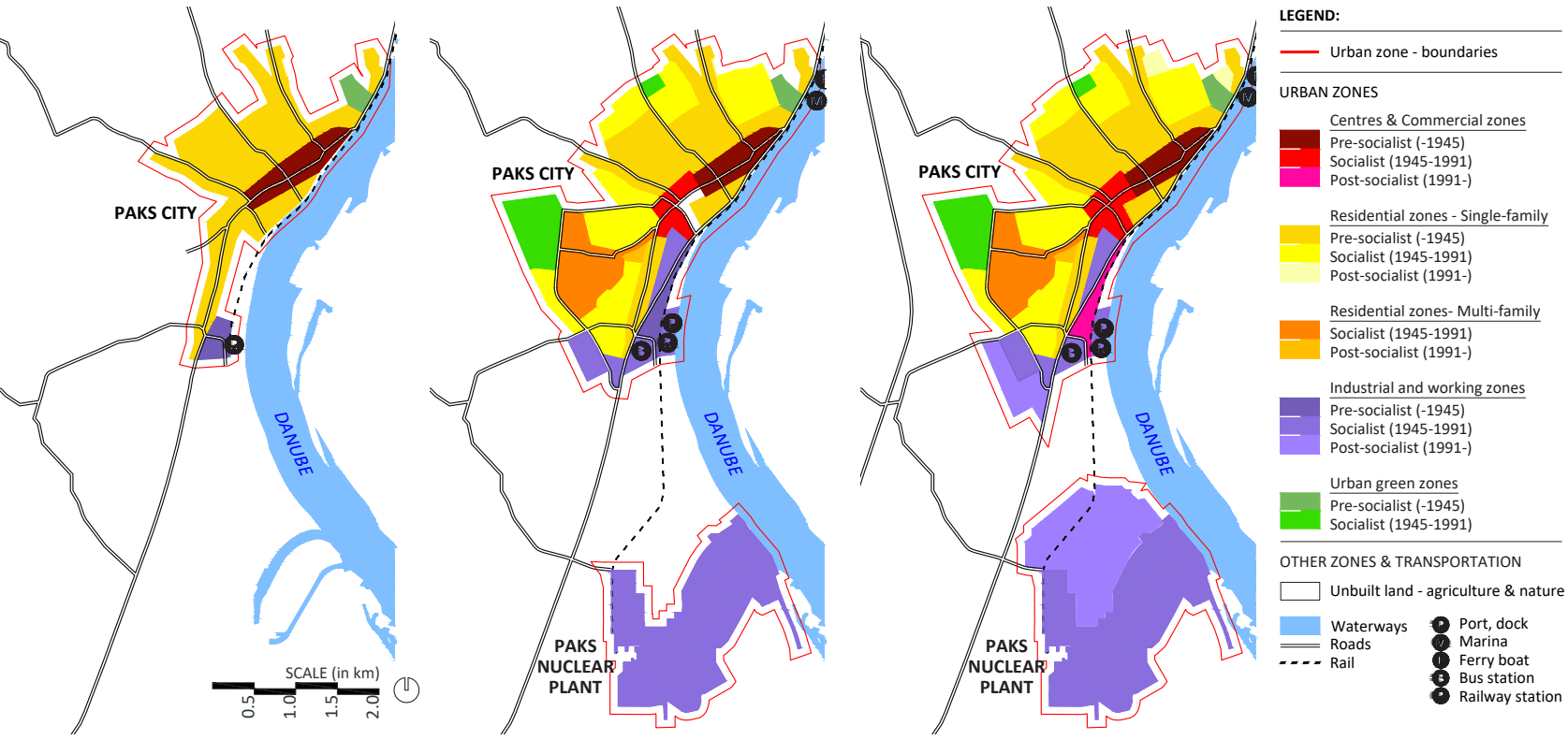
Árpád Szabó

POPULATION:
1949: 13,763
1960: 13,795
1970: 13,585
1980: 19,509
1990: 20,274

Paks became an important agricultural and merchant centre in the 18th-19th centuries, with the Danube waterway helping its economic development. However, Paks became a city only in socialist era. In 1966, Hungary decided to realise a nuclear power plant, and the plateau 5 km south of the city centre was chosen for this purpose (Fig. 116). With an 18-year-old construction period (1969-1987), it started working with full power in 1987.

Fig. 116 / The historic spatial development of Paks with the positions of the new socialist city: situation in 1945 and present-day situation (2021) (Author: A. Szabo, 2021).

From the late 1970s, the city's population grew by 40%, and a completely new city was erected 2 km southwest of the historic centre on top of Kishegy (Hun. Small hill) (Fig. 209.11). The development was a housing estate from prefabricated one-story-high concrete blocks with a city-centre for amenities. The quality of the housing estate is one of the best in the country. Its picturesque setting and high-quality landscaping made it a favourable place, although even further developments did not resolve its ambiguous relation to the old city



centre. The housing estate was the place for the infamous "Tulip Debate". A group of experimental architects from Pécs proposed a decoration based on traditional Hungarian motifs, which resulted in an influential theoretical discussion on the role of architects in new socialist developments. (Fig. 117).

The nuclear plant and its economic power brought welfare to the city from the early 1980s; nevertheless, the historic values and the traditional industry was marginalised. Today, the extension of the nuclear power plant brings new development forces to the city and hopefully the problematic relation of Kishegy will be resolved by the new developments along the planned circular road and in the new city centre (Fig. 116). The city is also making great efforts to redefine its historic identity by new developments in the historic centre connected to its cultural heritage, e.g., Paks City Museum in the Deák House (Fig. 118).

Fig. 117 / Housing estate on Kishegy with the tulip motif prefabricated panels from 1980s (Source: Kistelegdi Collection, https://mandadb.hu/tart/mcitem/381435).

Fig. 118 / New city museum in the historic centre: Deák House (Author: T. Karácsony).

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- Szabó, Á & Nádai, B. (2016). Urban development tasks related to the expansion of the Paks Nuclear Power Plant Urban planning programme. Complex spatial analysis and development concept.
- Balla, R. (2018). A Sustainable Urban Concept for Housing Estates: Plot, Patch, Part. Periodica Polytechnica Architecture, 49(2), 135-143. DOI: 10.3311/PPar.12538.

2.9.2

CASE STUDY 2 // SMEDEREVO, SERBIA

Aleksandra Stupar

POPULATION:
1948: 20,683
1953: 24,148
1961: 34,987
1971: 49,283
1981: 66,639
1991: 76,176

The position at the confluence of the rivers Danube and Velika Morava strongly influences the urban pattern of Smederevo. After the World War II, the development of existing industrial facilities (e.g., "Sartid" steelworks from 1912) affected the significant population increase. However, the first post-war Master plan (1952) mainly focused on the regulation of spontaneously created urban fabric and newly proposed orthogonal urban matrix, with low-rise buildings and continuous frontline along the river.

Fig. 119 / One of socialist multi-family neighbourhoods in Smederevo (Author: K. Dankov, 2021).

The effects of rapid industrial progress were tackled by the 1968 Master plan, but the anticipated numbers were exceeded by 1985 – urban area: 2,250 vs. 1,044 ha, population 62,000 vs. 52,000. New factories attracted numerous professionals, triggering housing development along main traffic arteries and blurring the borders between the city and the periphery (Fig. 119). Recreational zones were attached to the industrial areas and the first open-air thermal swimming pool was created after the geological excavations conducted by industrial companies (late 1970s). In the late 1960s/mid-1970s, the steelworks were moved from the centre/Danube Riverside to the southern outskirts. However, the old port has remained unused, contrasting the Fortress even today. Small part of the urban waterfront was redesigned as a new city green and recreation zone in the late socialism (Fig. 120).

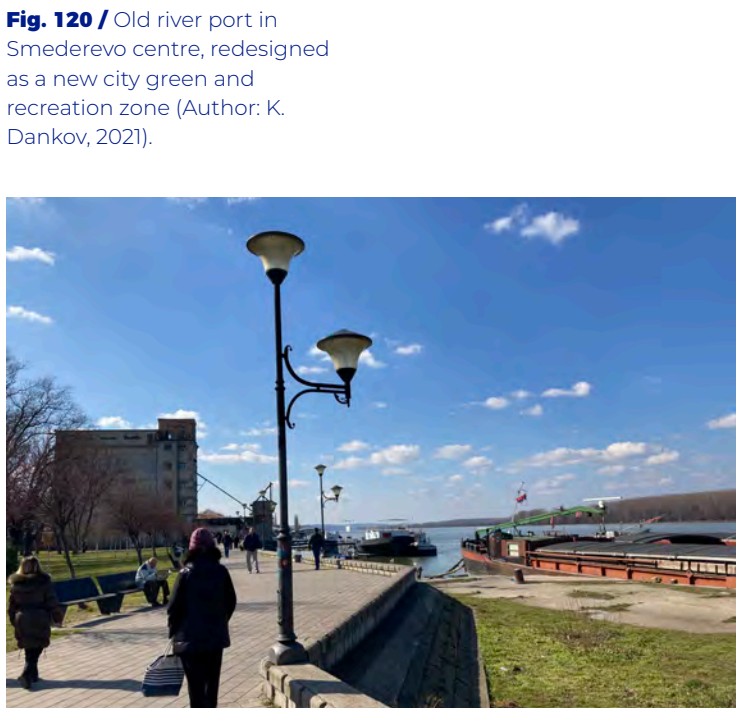
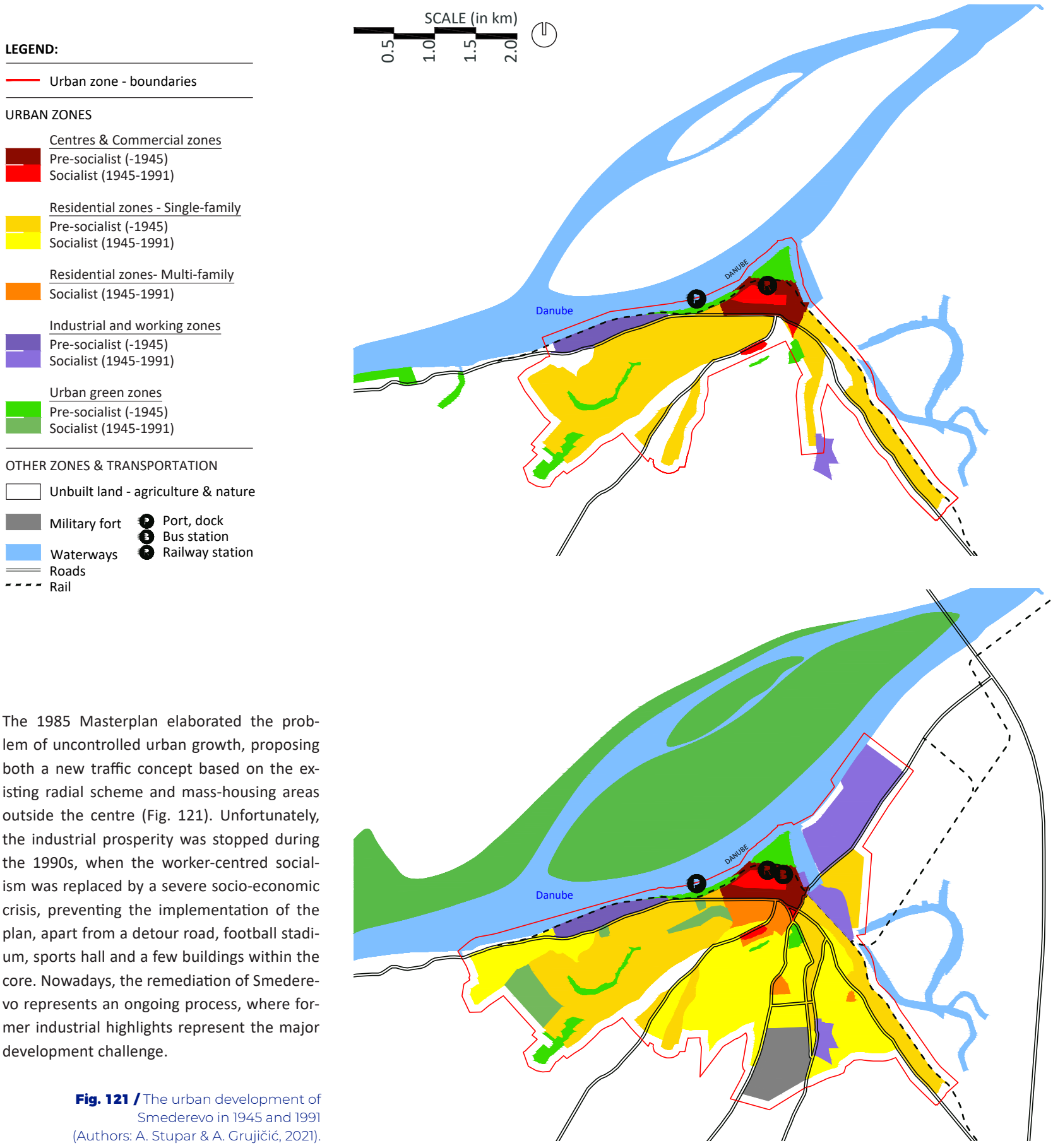


Fig. 120 / Old river port in Smederevo centre, redesigned as a new city green and recreation zone (Author: K. Dankov, 2021).



The 1985 Masterplan elaborated the problem of uncontrolled urban growth, proposing both a new traffic concept based on the existing radial scheme and mass-housing areas outside the centre (Fig. 121). Unfortunately, the industrial prosperity was stopped during the 1990s, when the worker-centred socialism was replaced by a severe socio-economic crisis, preventing the implementation of the plan, apart from a detour road, football stadium, sports hall and a few buildings within the core. Nowadays, the remediation of Smederevo represents an ongoing process, where former industrial highlights represent the major development challenge.

Fig. 121 / The urban development of Smederevo in 1945 and 1991 (Authors: A. Stupar & A. Grujičić, 2021).

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- City of Smederevo (1968). Генерални план Смедерева 1968-1985. / Master Plan of Smederevo 1968-1985. Smederevo: City of Smederevo.
- City of Smederevo (1985). Генерални план Смедерева 1985-2005. / Master Plan of Smederevo 1985-2005. Smederevo: City of Smederevo.
- City of Smederevo (2005). Просторни план Општине Смедерево / Spatial Plan of Municipality of Smederevo. Smederevo: City of Smederevo.

2.9.3

CASE STUDY 3 // DROBETA – TURNU SEVERIN

Gabriela Domokos-Pașcu

POPULATION:
1956: 32,486
1960: 45,397
1977: 76,686
1990: 115,259
2002: 104,557
2011: 92,617

**** Drobeta-Turnu Severin Urban Area includes four settlements: Drobeta – Turnu Severin (seat), Dudașu Schelei, Gura Văii and Schela Cladovei.***

The city of Drobeta-Turnu Severin is a county seat, situated close to the point where the Danube exits the Iron Gates Gorge. The city also represents an important river port. The city developed primarily as a result of its location on the banks of the Danube and the development of a shipyard and connected industries (Fig. 122).

Two main periods of the urban evolution are important to be point out – the interwar period and the socialist one. After 1964, the Iron Gates I Hydroelectric Power Plant with the same-name accumulation reservoir, the Combined Folder Factory, the Tire Factory, the "Drobeta" Chemical Plant and the Heavy Water Plant were built. Due to the developments of the large socialist industrial estates in the city, the standardised neighbourhoods of worker's blocks were developed, especially for the population coming from the south of the country. This ultimately remodelled the original plan of the city (Fig. 123). Some neighbourhoods (such as Kiseleff, North Crihala and a part of Independenței) could be identified as important due to their scale, but not according to their urban or architectural features. However, some singular architectural examples could be highlighted as representative buildings for the period of Socialism (Fig. 124), setting the tone of both the urban context and natural landscape, e.g., the Popular Theatre (1958), the Iron Gates I and II, the polyclinic, "Flacăra" Cinema and the Youth House (1980) and "Traian" Hotel (Ilovan & Merciu, 2021).

Fig. 122 / The Danube Riverfront of Drobeta-Turnu Severin, with the shipyard (left) and the city centre (right) (Author: M. Danciu, 2021).

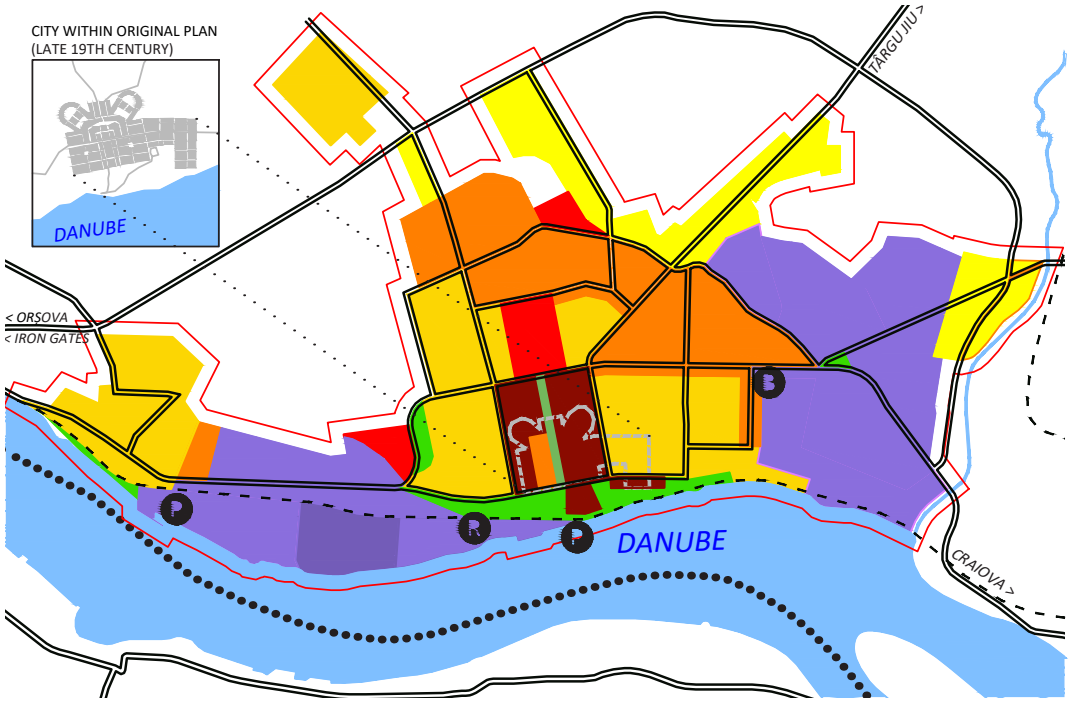

Fig. 123 / Drobeta-Turnu Severin – comparison of the current urban state (Year 2021) with the state in the late 19th century, developed within an original plan and before the indu-strialisation (Author: G. Domokos-Pașcu, 2021).

The rapid and semi-forced expansion between 1960 and 1980 was counterbalanced by the period of urban shrinkage after the Romanian revolution in 1989. One of the consequences was privatisation process, followed by the closure of the biggest part of industrial facilities, depopulation and economic difficulties. Currently, the city is focused on the identity search (re)inventing its urban character, while the future reorganisation should support a reconnection with its cultural heritage.

Fig. 124 / Drobeta-Turnu Severin – comparison of the current urban state (Year 2021) with the state in the late 19th century, developed within an original plan and before the industrialisation (Author: G. Domokos-Pașcu, 2021).

R

Ilovan, O-R. & Merciu, F-C. (2021). Building intertextuality and territorial identities for the Romanian Danubian settlements during socialism. Journal of Settlements and Spatial Planning, 7, 15-50. DOI: 10.24193/JSSPSI.2021.7.03.

2.9.4

CASE STUDY 4 // VIDIN, BULGARIA

Maria Shishmanova

POPULATION:
1946: 18,759
1956: 24,170
1965: 37,128
1975: 53,529
1985: 62,484

*** The urban area of Vidin includes the town of Dunavtsi and five villages in proximity to the radial communications to the town, forming the third city ring.**

During the socialism (1945-1991), the Republic of Bulgaria stimulated the purposeful development and thus rapid demographic growth of cities, causing rural exodus, too. This growth was especially visible in district seats like Vidin, which demographically tripled during socialism. The city developed rapidly during the 1950s; this growth continued during the 1970s and 1980s. The growth was followed by intensive construction in Vidin (Fig. 125). Public facilities almost doubled (Fig. 126). Space of retail and regional trade sites increased three times, whereas sports and entertainment zones nearly four times. The construction of new urban residential zones was also intensive both in central locations and at periphery. Local economy was industrial-agrarian. Even an airport and duty-free zone was built at the end of socialism (City of Vidin, 2014).

Fig. 125 / The spatial development of Vidin: situation plans in 1945 (left) and 1991 (right) (Author: M. Shishmanova, 2021).

Fig. 126 / The Central Square in Vidin with a Regional Library in background – both of them from the socialist period (Author: P. Matov, 2022).

The city grows along its radial transport communications, concentrically on the old historic centre (Fig. 125). New residential complexes are built. There are three residential areas: central/historic part, first ring – the buildings of small and medium height (Fig. 127), density and intensity, second ring – complex construction – with medium-rise. In the residential zones, there was a variety of urban housing types. Depending on ownership, there are three main types of residential neighbourhoods or "constructions": (1) "plot construction" – one/two storey single-family houses in private ownership, (2) "complex construction" – multi-family buildings in municipal-land ownership and (3) "mixed construction" – mixed complex and plot construction (City of Vidin, 2003).

Industrial and warehousing zones still occupy significant areas in Vidin. Southern industrial zone, developed in socialism, is the largest one. It had a major decline after the fall of socialism and many factories in this zone are still destitute. Newer western and northern zones are in a better shape. Similar elements of shrinkage are also visible in socialist residential neighbourhoods and buildings, which prompted the city government to create a special urban regeneration plan for Vidin (City of Vidin, 2013).

Fig. 127 / The Central Square in Vidin with a Regional Library in background – both of them from the socialist period (Author: P. Matov, 2022).

- City of Vidin (2003). Общ устройствен план на град Видин / Master Plan of Vidin. Retrieved from https://vidin.bg/wps/portal/vidin-municipality/administration/architecture-building/oupcity.
- City of Vidin (2013). Интегриран план за градско възстановяване и развитие на Град Видин 2014-2020 / Integrated plan for the Urban Regeneration and Development of Vidin 2014-2020. Retrieved from http://old.vidin.bg/wp-content/uploads/2016/03/IPGVR_VIDIN-FINAL-FINAL.pdf.

2.9.5

CASE STUDY 5 // **GIURGIU, ROMANIA**

Angelica Stan
Sorin Manea

POPULATION:
1956: 32,413
1966: 31,999
1977: 51,440
1980: 74,191
1992: 74,000

Between 1945 and 1952, the Romanian communist regime triggered the process of "nationalisation", confiscating large private properties and giving the agricultural land to so-called "cooperative working". For the City of Giurgiu, whose development was essentially based on the relationship between agriculture in the Danube plenty meadows and the goods transportation on the Danube River, this stage was extremely harmful.

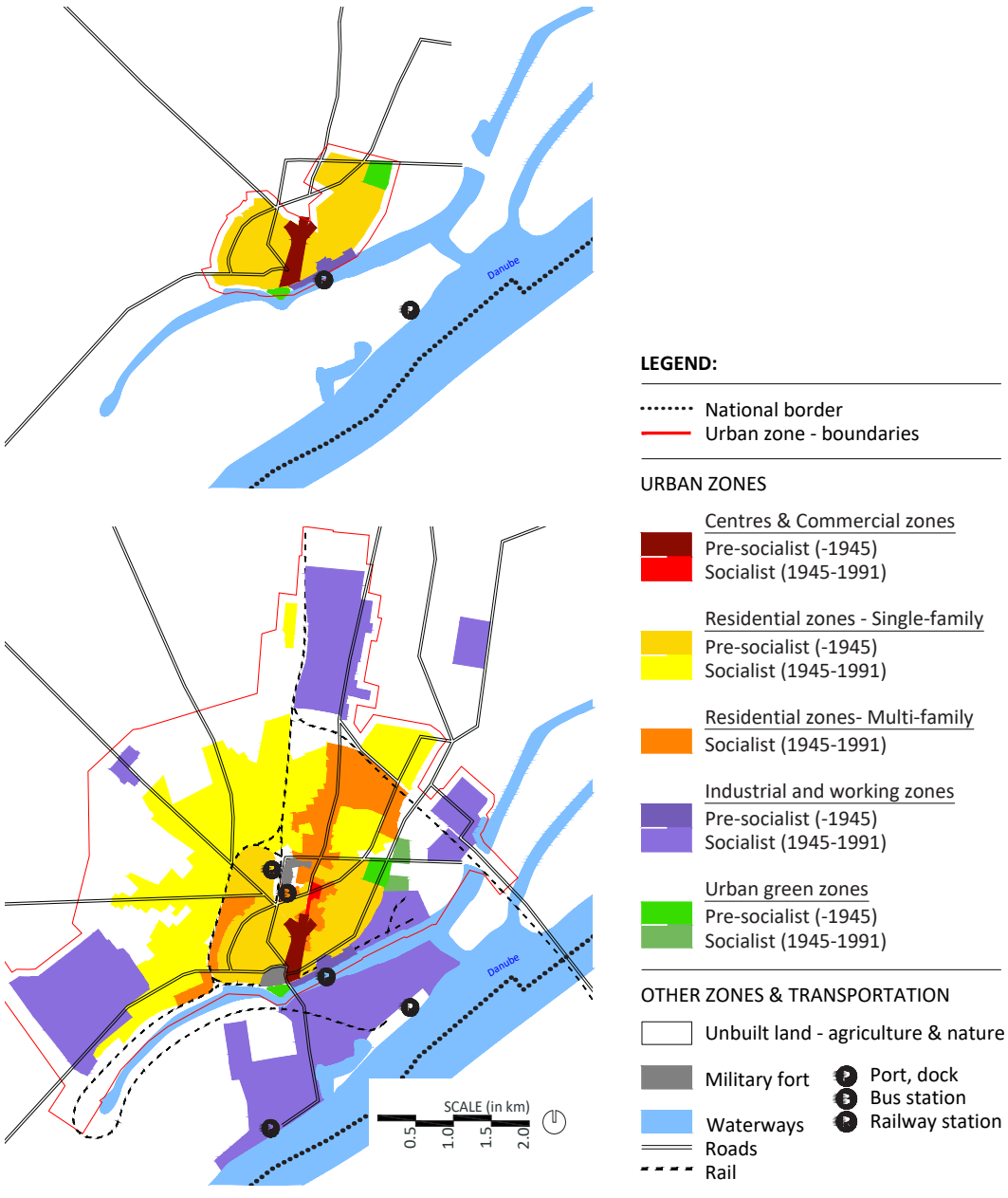

Fig. 128 / The spatial development of the City of Giurgiu during the socialist period, from 1945 to 1991 (Authors: A. Stan & S. Manea, 2021; Photo credit: giurgiuro.blogspot.com).

Like most cities in the country, Giurgiu enters a broad process of forced and fast industrialisation and urbanisation, meaning both gains and losses: the intra-muros territories are expanding, new infrastructure and urban amenities appeared in new functionalist districts (Fig. 128).

For this, the demolitions of old fabric were done without any prior documentation, with immeasurable losses; most part of the pre-war heritage – from architecture to culinary habits – if not physically destroyed, is denigrated, hidden for the new generation, eradicated or distorted. The urban planning 'operations' carried out in the existing urban fabric meant a distortion of the Giurgiu spatial identity and the imposition of a new aesthetic, consonant with the communist ideology. In 1963, a brutal intervention was made on the Central Square ("The plate"), when the historic system of streets and parcels was demolished and a new urban project based on a rectangular street system, totally alien to the existing morphological context, was imposed (Fig. 129). Meanwhile, the expansion of the urban fabric by the new mass-housing was outside the old city barriers.

Fig. 129 / Giurgiu Central area ("Farfuria" or "The Plate") emblematic area partially demolished during the socialist period (photo credit: C. Ghita).

A very important moment of the socialist period is the construction of the "Friendship Bridge" over the Danube, the first one between Romania and Bulgaria, opened in 1954 (Fig. 130), almost in the same period with the Giurgiu Nord Railway Station (1952). During the socialist period, industrial development also imposed a larger connectivity, both on roads and rails, and Giurgiu extended its historical railway infrastructure.

Fig. 130 / The skyline of Giurgiu with "Friendship Bridge" over the Danube (Author: C. Ghita).

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- Giurgiu Municipality (2009). Plan urbanistic general Municipiul Giurgiu / General Urban Plan of Giurgiu. Retrieved from www.primariagiurgiu.ro/portal/giurgiu/primarie/portal.nsf/0/A1AB333C3D93A81A42257AB600332F0E/$FILE/RLU%20final.pdf.
- Ionescu, G- (1994). Comunismul în România / Communism in Romania. Bucharest: Litera.

Bratislava
Vienna
Kolárovo
Štúrovo
Szob
Komárno
Esztergom
Komárom
Győr
Budapest
Ráckeve
Dunaújváros
Pécs
Baja
Sombor
Zagreb
Osijek
Dalj
Bačka Palanka
Ilok
Belgrade
Smederevo
Golubac
Moldova Noua
Orșova
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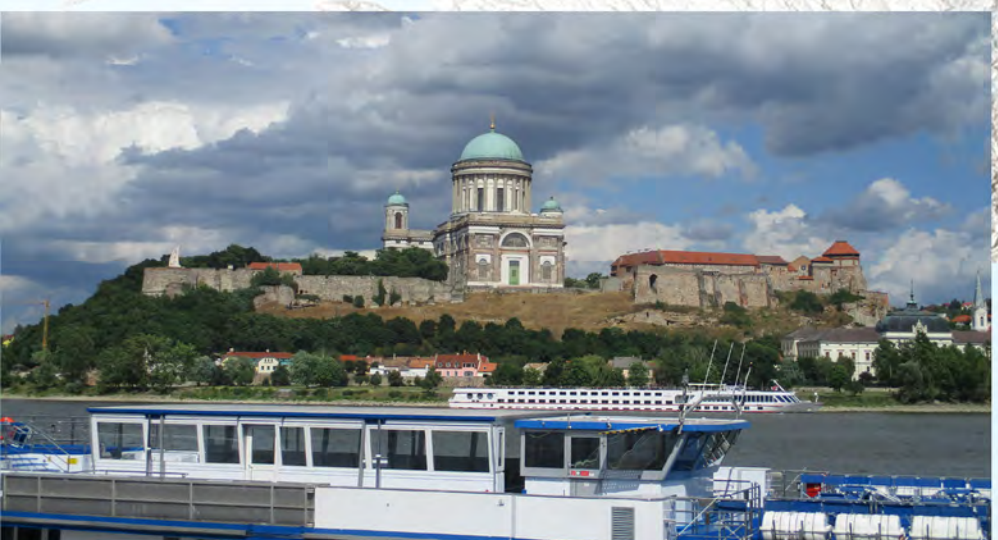
100

Fig. 2100_01: Being a small city, Šturovo in Slovakia preserved the dominance of light industries – mainly food production (Author: B. Antonić)

Fig. 2100_02: Port in Moldova Noua in th socialist period, to support nearby coppe



MAP **2.10**

THE CHARACTER OF URBAN ECONOMY DURING SOCIALIST MASS-INDUSTRIALISATION

One of the main features of urban development during socialist era (1945-1991) was mass- industrialisation. Many cities and towns along the Danube got spacious industrial zones along the river banks. This followed then modern "hygienic model" that a new industrial zone should be located at a river bank, downstream of a city or town. Today, many such zones are large brownfield sites. Interestingly, some smaller cities and towns omitted this destiny and have preserved their traditional role of market places for nearby villages.

1. HI: Developed industrial city/town with the dominance of heavy industry in local economy (machinery, iron- and steelworks, automobiles, complex chemical)

2. LI: Developed industrial city/town with the dominance of light industry in local economy and with the variety of industrial sectors (food, furniture, textile, leather, wood, ceramics)

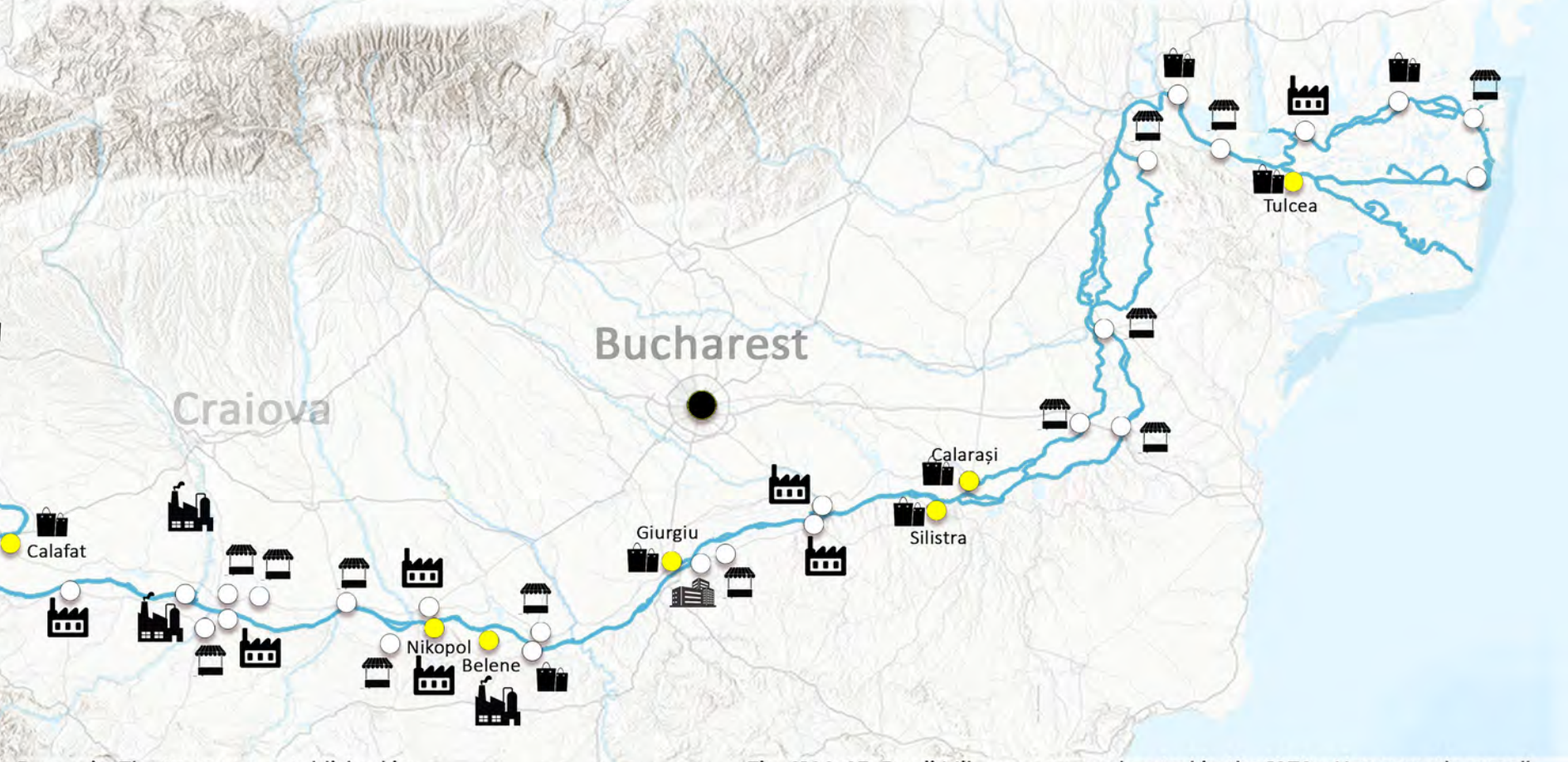
3. EI: Early industrial city/town with basic industry, such as food or wood industry, but where the main economic sectors are still trade and crafts

4. TM: Mining town around a mine or quarry (based on mineral deposits, cement processing)

5. MT: Market town with development active central market square/street and local crafts, but with no industry and with agriculture at outskirts

6. SC: Service city where the modern tertiary sector (retail, services, tourism) is dominant, while industry is at the second place

7. SU: A special type of the town with the facilities of a local service centre facilities which is under the strong influence of a big city in vicinity (but it still not a typical suburb)



e Romania. The town was established in
er mining activities. (Author: M. Danciu)

Fig. 2100_03: Donji Milanovac was relocated in the 1970s. However, the small enterprises of light industry were not sufficient to overcome the inherited position of a locally-relevant market town (Author: B. Antonić)

2.11 THE RISE OF MONO-CITIES AND NEW CITIES ALONG THE DANUBE // INTRODUCTION

Ștefana Bădescu

The socialist and communist political regimes, which took hold of power in countries across Eastern and Central Europe following the World War II, significantly altered the existing urban landscape, be it through radical interventions within the built fabric or through new developments done accordingly to contemporary modernist principles.

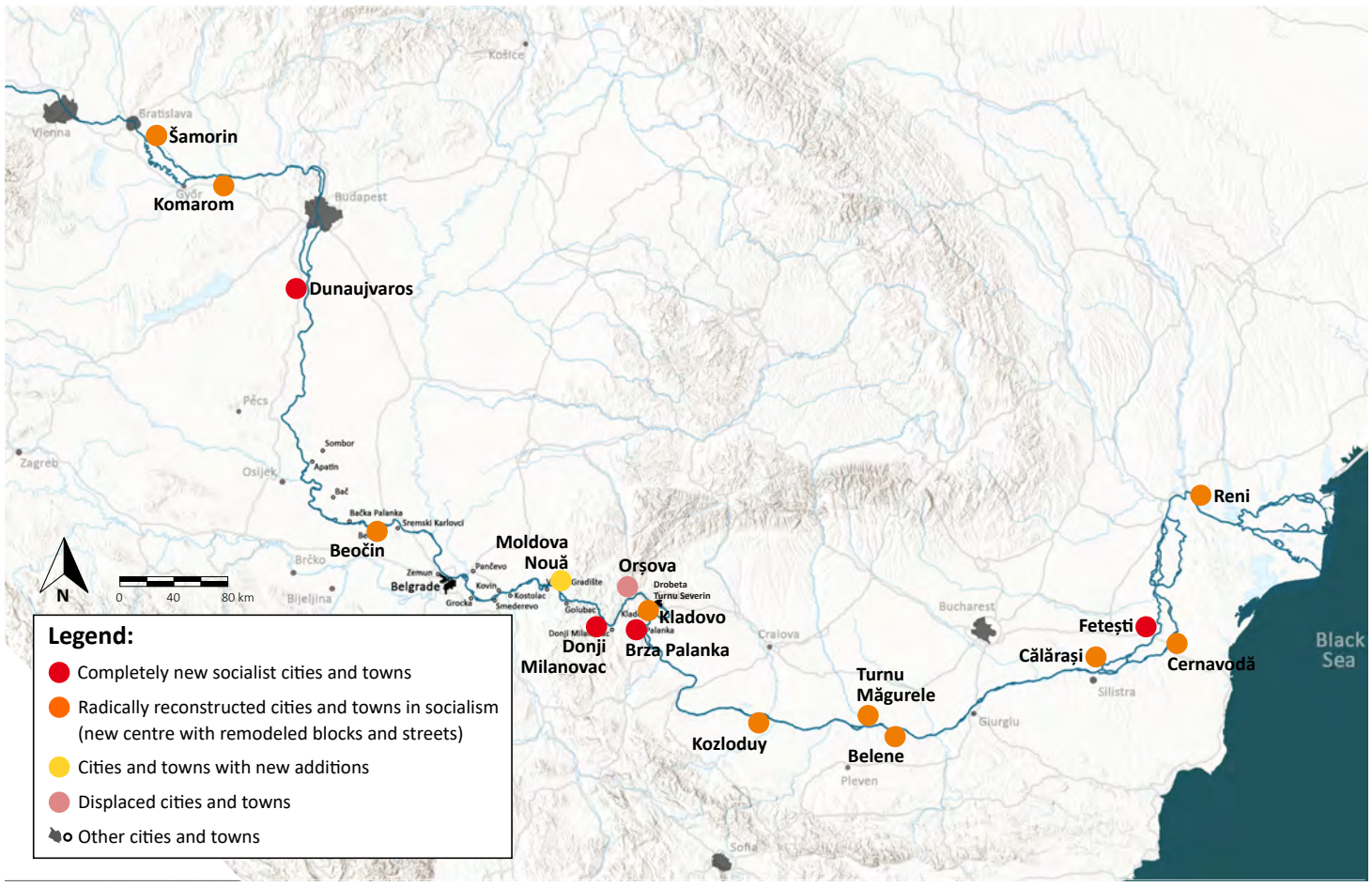


Fig. 131 / New (or radically-refurbished) towns and cities along the Danube under socialist administration (Author: Ș. Bădescu, 2021).

Born as a natural consequence of the accelerated industrialisation process (Bubulete, 2010), the new or newly-refurbished towns and cities were usually built next to a large, centralised industrial facility, which exploited the natural resources of the surrounding area. The Danube and its waterfronts hosted many similar interventions (Fig. 131) due to the high accessibility and connectivity of these areas, as well as to the numerous (and various) resources found nearby. Attracting large numbers of workers from the rural surroundings, these new settlements experienced a rapid, sometimes formidable growth, while also serving another, more subtle, purpose – the 'urbanisation' of the population of these countries.

The new developments usually followed the principles of modernist urban planning, adapted to better suit the socialist philosophy (Fig. 132). As such, the new cities aimed towards a functional segregation, for instance, between industrial and residential areas. At the same time, the multi-family housing estates, conceived as independent units, offered both lodging and public facilities (such as schools, medical services and community centres) to their inhabitants (Bădescu, 2017). Moreover, in order to reflect the grandeur and welfare of the industrialised society, they sometimes incorporated large-scale urban arrangements (Zahariade, 2011), such as boulevards or squares, lined with public buildings and monuments glorifying the fathers of the socialist nation (Fig. 133).

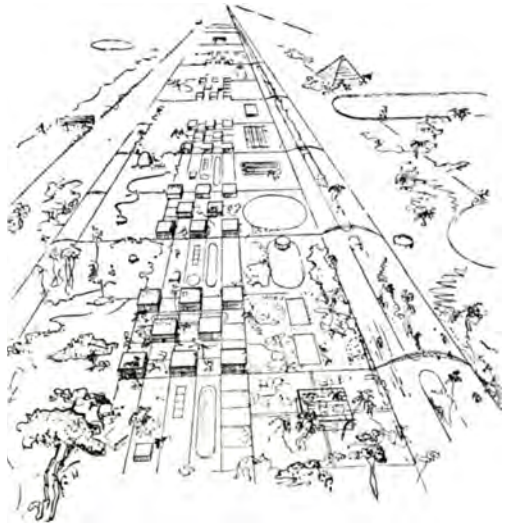


Fig. 132 / Ivan Leonidov, 1930: proposal for an ideal socialist city – competition entry for the new city of Magnitogorsk (USSR) (Source: SOCKS project, 2016, socks-studio.com).

This glory, however, significantly declined following the transition towards a free market economy, in the early 1990s. The industrial activities, the key economy in the "new" socialist towns and cities, gradually became irrelevant and thus many of the existing facilities were forced to shut down. Currently, the mono-cities built along the Danube thus face a difficult challenge: how to adapt to the new economic realities, while also maintaining their heritage and inhabitants.

Fig. 133 / Eisenhüttenstadt was formed as a socialist model city in Eastern Germany in 1950. Today, the city is the showcase of extreme shrinkage. (Author: B. Antonić, 2018).

R

- Bădescu, Ș. (2017). Locuirea colectivă în spațiul urban contemporan. Antecedente, realități actuale, perspective (Collective Living in the Contemporary Urban Space. Background, Current Realities, Perspectives). Timișoara: Editura Politehnica.
- Bubulete, D. (2010-11). Urbanismul socialist al anilor 1944-1969 (Socialist Urbanism 1944-1969). Urbanismul: Serie nouă, 7-8, 92-97.
- Zahariade, A. (2011). Arhitectura în proiectul comunist. România 1944-1989 (Architecture in Communist Project. Romania 1944-1989). Bucharest: Editura Simetria.

2.11.1 CASE STUDY 1 // DUNAÚJVÁROS, HUNGARY

Kornélia Kissfazekas

POPULATION:
1949: 3,949
1960: 30,976
1970: 45,129
1980: 60,736
1990: 59,028

In 1949, in the immediate vicinity of the old fishing village of Dunapentele on the banks of the Danube River in Central Hungary, the government started to build the country's first Socialist industrial city, Sztálinváros (meaning Stalin's City). Intended as a model city, its construction in the 1950s was a flagship project closely connected to the establishment of the ironworks, and thus the choice of the site had been determined by the needs of iron production technology (Pittaway, 2005).

The planners sought to implement progressive urban design principles following the essential requirement of zoning. Their planning concept was defined as a 'microrayon' – a primary neighbourhood unit provided with basic social services (Fig. 134). The political leadership, however, demanded that the architecture and spatial organisation of the new settlements reflect the new social order, and so these had to express the ideological and functional role of heavy industry in the life of the city (Kissfazekas, 2017). Consequently, the Vasmű út (Iron works road – Fig. 135), a boulevard of grandiose proportions connecting the city centre with the plant's main entrance, became the representative urban axis of the city touching the various neighbourhood units which, due to the prolonged construction period, show the architectural and urban characteristics of both socialist realism and modernism (Kustlits, 2013) (Fig. 136). In 1961, the city was renamed Dunaújváros. Around 1980 the city population peaked at 60,000 (Fig. 137).

Fig. 134 / A view toward the Római Városrész Microrayon/ district (left) (Source: Wikimedia Commons; Author: Akutyambuksi, 2010)

Fig. 135 / Vasmű út, the main boulevard, in 1962 (right) (Source: Fortepan / Lechner Nonprofit Kft. Dokumentációs Központ; fortepan.hu/hu/photos/?id=29241).

At the end of the 1980s, Dunaújváros entirely lost its privileged position, yet it did not have to suffer such a traumatic transition during the regime change because the privatisation of the ironworks was delayed until 2004. However, the city lost its former youthful image and its population embarked on the path of rapid ageing (Szirmai, 2016) and has shrunk to the current number of 43,000, with a tendency to continue. Among the new cities in Hungary, Dunaújváros has the greatest potential for commercialising its past and thus the marketing of the city heavily relies on its unique built heritage stripped of its political connotations, what is exemplified by a decades-old educational trail showcasing the diversity of local post-war architecture.

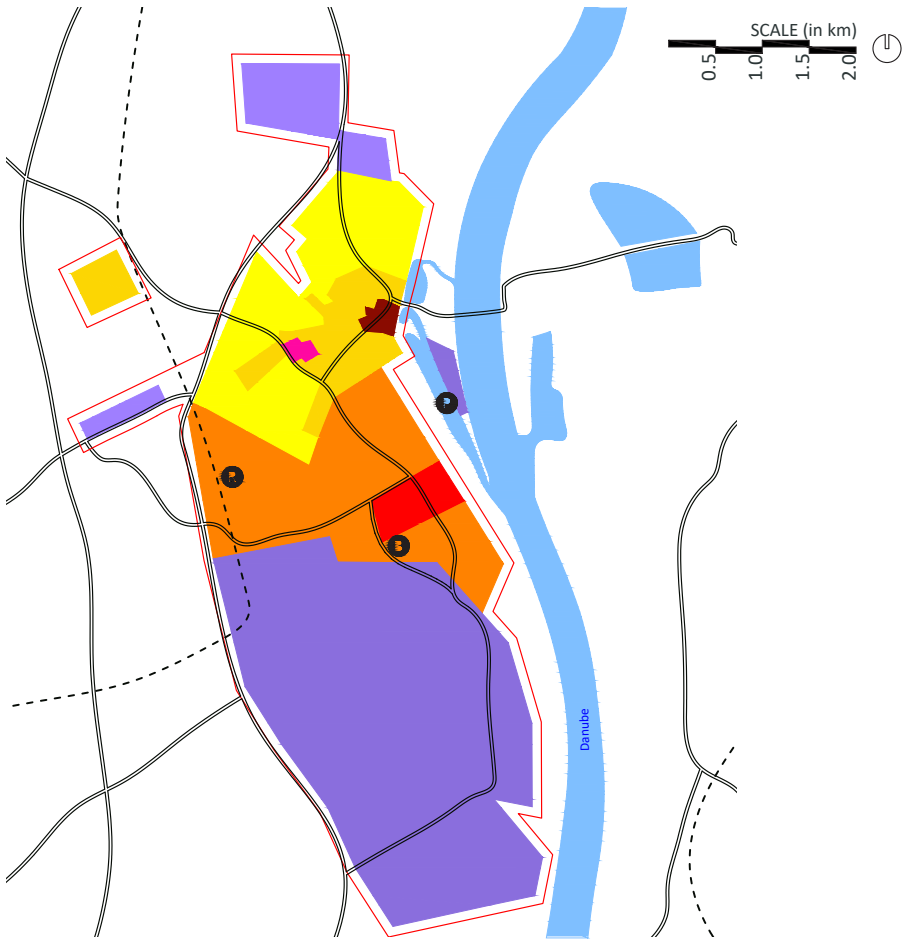


Fig. 137 / The spatial development of Dunaújváros 1945-1991 (Author: K. Kissfazekas, 2021).

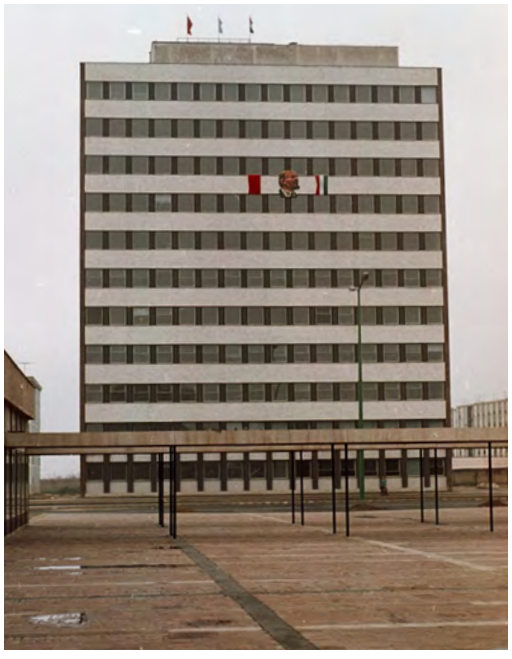


Fig. 136 / The town hall of Dunaújváros in 1970 (Source: Fortepan / Lechner Nonprofit Kft. Dokumentációs Központ. fortepan.hu/hu/photos/?id=29233).

- Kissfazekas, K. (2017). Changes of Town Centres in the Era of State Socialism – Processes and Paradigms in Urban Design. In: A&U Journal of Architectural and Town-planning Theory 51(1-2). 27-19.
- Kustlits, T. (2013) Szocreál építészet Magyarországon: Dunaújváros építéstörténetének különös tanulságai (Socrealist Architecture in Hungary: Special Lessons from the Construction History of Dunaújváros). Széchenyi István University. Retrieved from https://issuu.com/htms4/docs/atrium_szocreal_epiteszet_magyarorszagon.
- Pittaway, M. (2005) Creating and Domesticating Hungary's Socialist Industrial Landscape: From Dunapentele to Sztálinváros, 1950–1958. Historical Archaeology, 39, 75–93.
- Szirmai, V. (Ed.) (2016) „Artificial Towns" in the 21st Century. Social Polarisation in the New Towns Regions of East-Central Europe. Budapest: Institute for Sociology Center for Social Sciences MTA.

2.11.2

CASE STUDY 2 // DONJI MILANOVAC, SERBIA

Vladimir Parežanin

POPULATION:
1948: 2,274
1953: 2,629
1961: 2,669
1971: 2,595
1981: 2,996
1991: 3,265

Donji Milanovac is probably a unique town in Europe – it has been twice relocated and redeveloped by plan in the last two centuries (Fig. 138). The first settlement, known as Poreč, was formed on the nearby Danube Island in the 18th century as a safe location. However, due to frequent floods, Prince Miloš Obrenović of Serbia relocated the town by decree to the Danube right bank in 1832. The "New" Poreč was the first completely planned, orthogonal settlement in modern Serbia (Kojić, 1970). The town also got a new name – Donji (Serb. Lower) Milanovac – by this Serbian ruler in 1859.

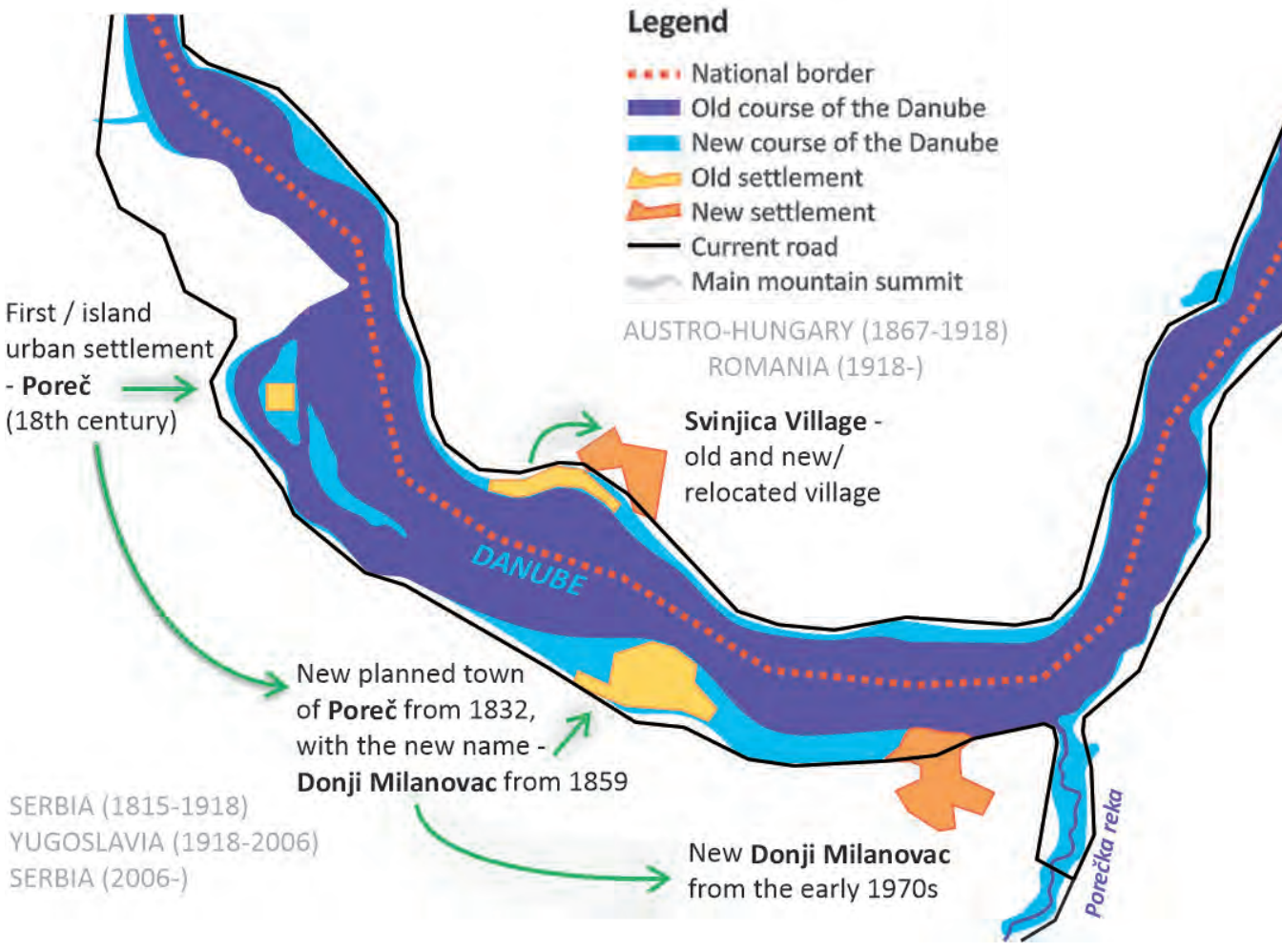


Fig. 138 / Three locations of Donji Milanovac in last two centuries (Author: B. Antonić, 2021)

Being one of the main ports and trade points on the Serbian Danube, Donji Milanovac had an intensive economic development during the middle 19th century, finally obtaining town rights in 1866. The town orthogonal matrix was easily implemented. Its core represented an intersection of two main streets, one following the Danube and the second linking the town port with Serbian hinterlands. The crossroad was enlarged into a central square, surrounded by a church and public buildings (Fig. 139).

The development of Donji Milanovac was slowed during 20th century as waterway transport and trade decreased. However, an upheaval for the town was the formation of the huge artificial Iron Gates Reservoir in the early 1970s. This town was the largest of several relocated settlements on the Serbian side of the Danube. The settlement was relocated 5 kilometres downstream. The new town was shaped in a modernist manner, with the division between a lower central part with more rigid matrix, and an upper, residential part, with an intentionally winding street plan (Fig. 139). All main public institutions and open spaces were situated along the Danube Promenade (Fig. 140). Despite the achieved modern look and well-organised planimetry, the relocation of Donji Milanovac has proven to be a huge stress for local population and economy. Consequently, Donji Milanovac entered the period of stagnation and finally started to shrink rapidly during the post-socialist transition in the early 1990s (Orlović, 1994).

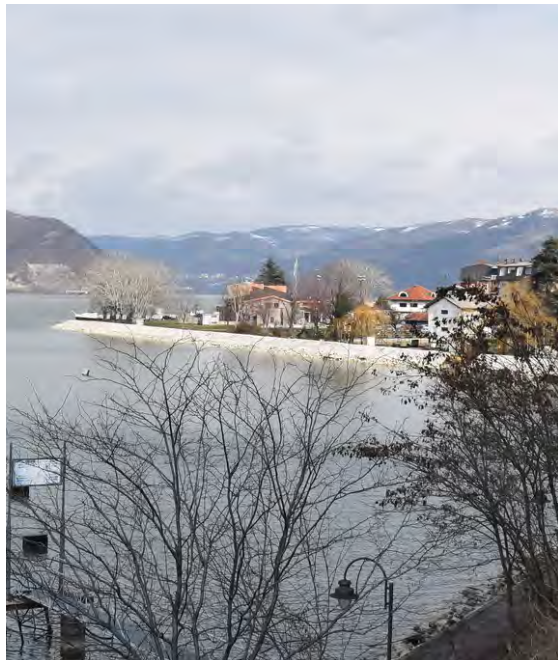


Fig. 140 / Donji Milanovac today: Town Centre with the Danube Riverside (Author: B. Antonić, 2021)

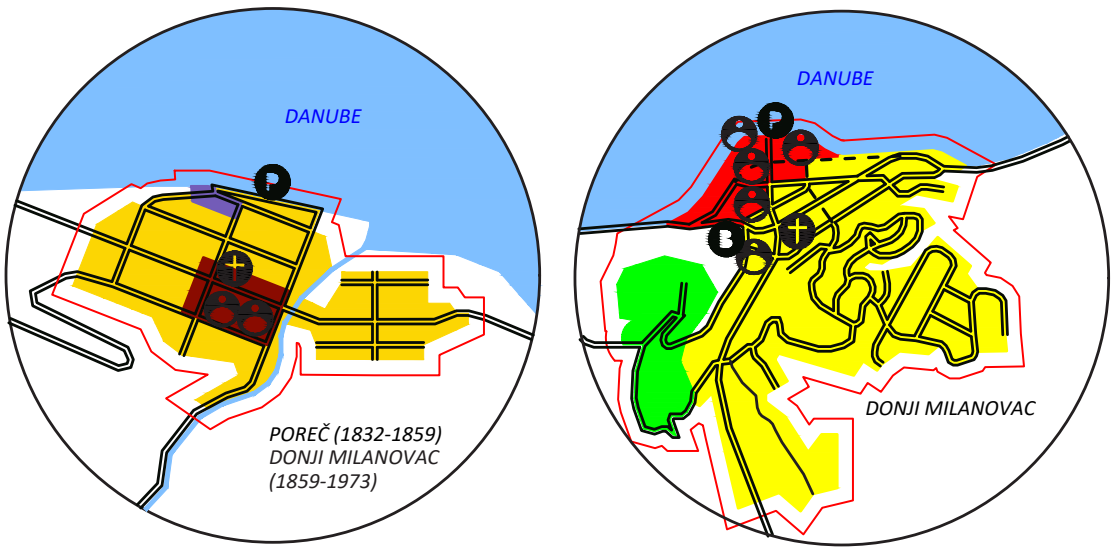


Fig. 139 / Old and new Donji Milanovac: Situation in 1945 (left) and Situation 1991 (Right) (Author: V. Pařežanin, 2021)

R

- Kojić, B. (1970). Варошице у Србији 19. века [Market Towns in Serbia in 19th Century]. Belgrade: Građevinska knjiga.
- Orlović, J. (1994). Поречке сеобе [Poreč Migrations]. Donji Milanovac: Mesna Zajednica.

2.11.3

CASE STUDY 3 // MOLDOVA NOUĂ, ROMANIA

Ștefana Bădescu

POPULATION:
1956: 3,582
1966: 6,192
1977: 15,973
1992: 16,874

*** Moldova Nouă Urban Area includes four settlements: Moldova Nouă, Moldova Veche, Măcești and Moldovița**

Similar to other Romanian settlements along the Danube and elsewhere, the evolution of Moldova Nouă and its surrounding settlements was strongly influenced by the industrialisation process, led by the socialist administration during the second half of the 20th century (Bădescu, 2017).

Fig. 142 / The old part of the town – the former village of Moldova Veche – from the Danube (Author: N. Mitrović, 2022).

Initially a network of small-scale, rural settlements (Fig. 141 left), developed along the Danube ever since ancient times, in relation to the water and nearby non-ferrous resources, Moldova Nouă only became a city in the 1950s. From that moment on, the centralised administration began to valorise the mining potential of the area and developed a large industrial site between Moldova Nouă, Moldova Veche and the Danube itself (Fig. 141 right). The newfound economical boost attracted new settlers in Moldova Nouă, whose population increased

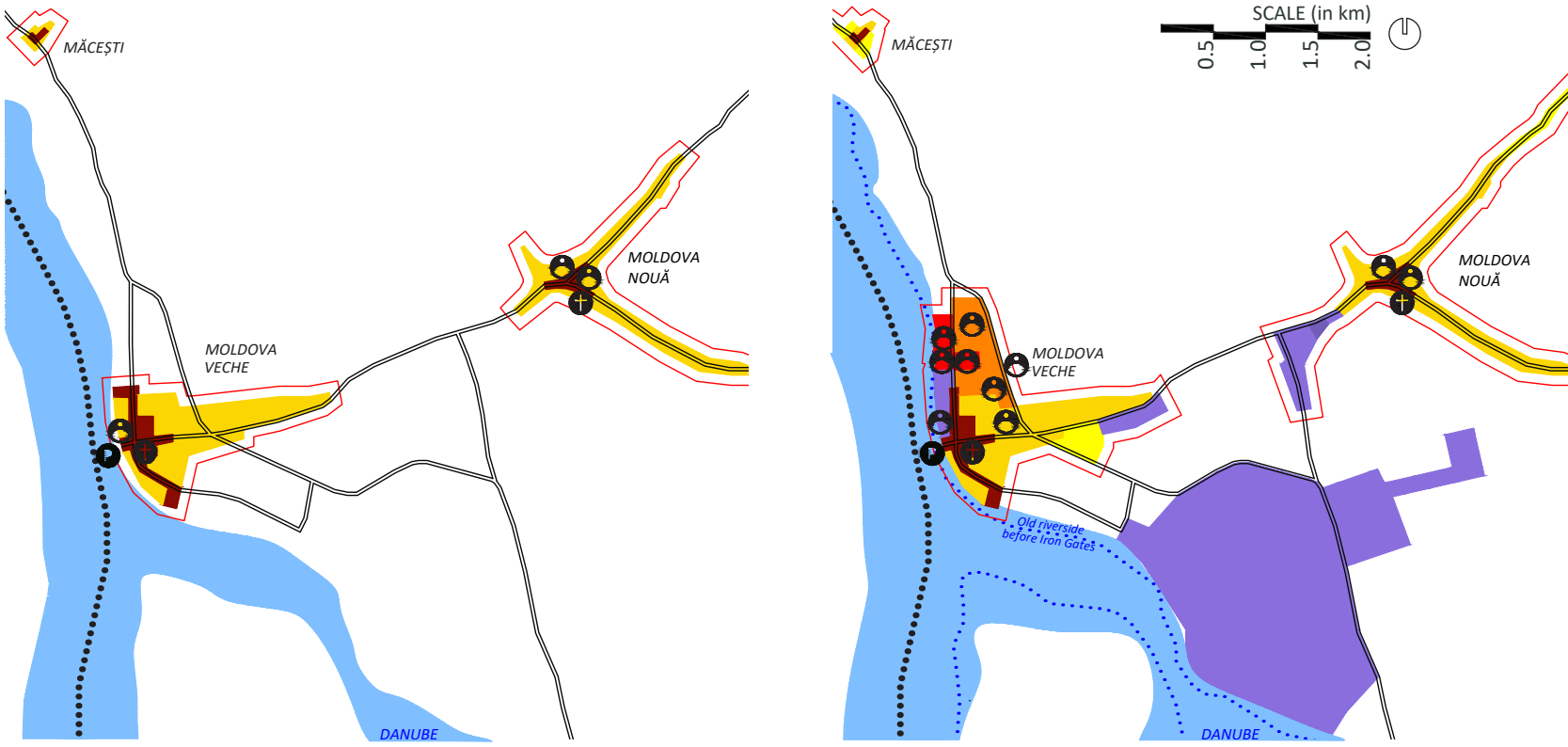


Fig. 141 / Moldova Nouă Urban Area before and after the socialist period: Situation in 1945 (left) and Situation in 1991 (right)

significantly in the 1960s and 1970s. This demographical explosion was naturally followed by the development of a new mass-housing neighbourhood (Fig. 142), built according to modernist principles (Derer, 1985) in the vicinity of Moldova Veche and along the Danube (Fig. 143). Although Moldova Nouă was not dramatically affected by the formation of the Iron Gates Lake in the early 1970s, its lowest lands were lost to the lake, which in turn led to a fractured relation between the urban fabric and the water itself.

The 1989 Revolution and the following transition towards a free-market economy led to the collapse of the industrial activities, which suddenly became irrelevant, triggering demographic decline. However, the real exodus began after Romania joined the EU in 2007, with large numbers of locals leaving home in order to find work in the Western countries. Nowadays, a few initiatives seeking to boost tourism, as well as the reopening of the local copper mine in May 2021, paint a more favourable image for the future.

Fig. 143 / The new mass-housing neighbourhood, built near Moldova Veche under the socialist administration (Author: Ș. Bădescu, 2022).

R

- Bădescu, Ș. (2017). Locuirea colectivă în spațiul urban contemporan. Antecedente, realități actuale, perspective (Collective living in the Contemporary Urban Space. Background, Current Realities, Perspectives). Timișoara: Editura Politehnica.
- Derer, P. (1985). Locuirea urbană. Schiță pentru o abordare evolutivă (Urban Housing. Outline for an Evolutionary Approach). Bucharest: Editura Tehnică.

2.11.4 CASE STUDY 4 // ORȘOVA, ROMANIA

Mihai Danciu

POPULATION:
1956: 3,582
1966: 6,192
1977: 15,973
1992: 16,874

An objective observer can see the history of Orșova as being composed of two distinct historical stages, both influenced by the decisive position at the discharge of Cerna River into the Danube and the exit of the Danube from the Iron Gates Gorge. Its former character, as a border town in relation to the commercial island of Ada Kaleh, was lost with the appearance of the Iron Gates hydrotechnical lake (1965-1975) and the relocation of the town on the south-eastern slopes of the Almăj Mountain. Unlike most cities of its size, Orșova managed to keep its industrial character, imprinted with the relocation and formation of a new urban matrix (Fig. 144).

Fig. 144 / The new city, built on terraces along the Cerna Gulf (Author: Bianca Iagăr)

Between 1965 and 1975, the historic hearth of Orșova was relocated about 3.5 km to the North-West to allow the formation of the Iron Gates Reservoir (Fig. 145). The new location can be seen as an amphitheatre facing the Danube, with a specific architecture of socialist modernism embodied in a civic centre. The town Church of The Immaculate Conception, the work of the architect Hans Fackelmann, which is the only Roman Catholic church built during the communist period, stands out as a particular architectural and cultural insertion (Fig. 146).

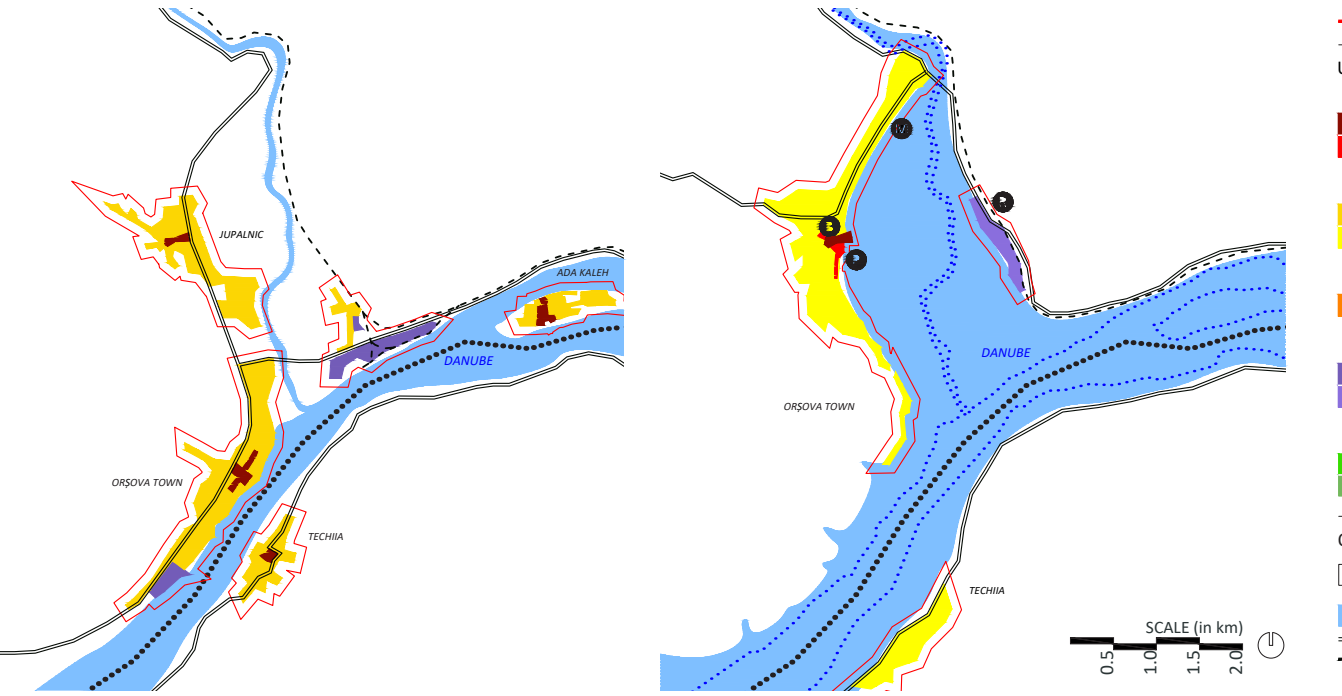


Fig. 145 / Orșova Urban Area before and after the socialist period: Situation in 1945 (left) and Situation in 1991 (Right)

The economic role of the new town in the territorial structure of the communist state was one of a port and shipyard on the Danube, built to house the families of those who worked in the shipbuilding industry. From the perspective of the big scale economy, continuity is maintained. As before 1989, the port ensures efficient transport even today. It also has a modern passenger terminal with a river station. The shipyard remains to this day, as the most important economic driver of local economy. Developing tourism is also changing townscape, in the form of the beautified river esplanade or as the unplanned extensions along the Danube shores.

Fig. 146 / The Roman Catholic Church of The Immaculate Conception as a particular architectural and cultural insertion in the modernist fabric of Orșova (Author: Ș. Badescu, 2022).

R

- Voștinaru, M. (1981) Orașul Nou Orșova (New Orșova Town), Arhitectura Magazine, 4-5, 60-63.
- Miclăuș, M. (2018). Fackelmann – Biserica Catolică Orșova 1976. Text critic (Fackelmann – Catholic Church in Orșova 1976. Critique). Bucharest: eZeppelin.

2.11.5

CASE STUDY 5 // **BELENE, BULGARIA**

Miriana Yordanova

POPULATION:
1946: 6,898
1956: 10,746
1965: 8,905
1975: 9,177
1985: 9,134
1992: 10,453

*** Belene Urban Area includes six settlements: Belene, Byala voda, Dekov, Kulina voda, Petokladenci, Tatari.**

The socialist period (1945-1991) left a recognisable mark on Belene, the only Bulgarian Danube town without a port, leaving the Danube Shore in a natural state (Fig. 147). Belene became a town in 1964. In the early 1980s, a new urban plan was worked out, following the designation of a site for the construction of the second nuclear power plant in Bulgaria. Belene General Urban Plan (1983) reflected the socio-economic and infrastructural factors typical for a centralised planned economy. As a result, the construction sector marked a particularly intensive development. The preparatory construction works included an administrative building, a hotel and an ensemble (Fig 148), which was part of the new look of the central part of the city. The construction of the power plant began in 1987 and continued through 1990, along with the building of 2,044 new homes (117,649 m^2 of living space), kindergartens, schools and green areas in the central part of the town. A new modernist residential estate, Dimum, began to be built, but was never finished, and so was an industrial zone in the style of modernist functionalism, in the southwestern area.

Fig. 147 / Belene Islands Archipelago (Author: M. Iordanova, 2021).

Fig. 148 / The ensemble of the administrative building of unfinished nuclear power plant, a hotel and a restaurant (Author: M. Iordanova, 2021).

During the 1990s, the municipality of Belene, just like the rest of the country, faced the challenges of an economic crisis. Due to the lack of funds, 40% of the construction work completed and 80% of the equipment delivered, the "Belene Project" was frozen. Some elements are planned for the future (Fig. 149). During the recent period, The Persin Island Memorial Park and the 20th Century Martyrs Museum was erected. The park is related to a grim fact in Bulgarian history – the socialist regime set up a labour camp on the nearby island of Persin. The memorial park and local Rome Catholic sanctuary dedicated to Monsignor Bosilkov, Belene martyr, have become the major landmarks of the town.

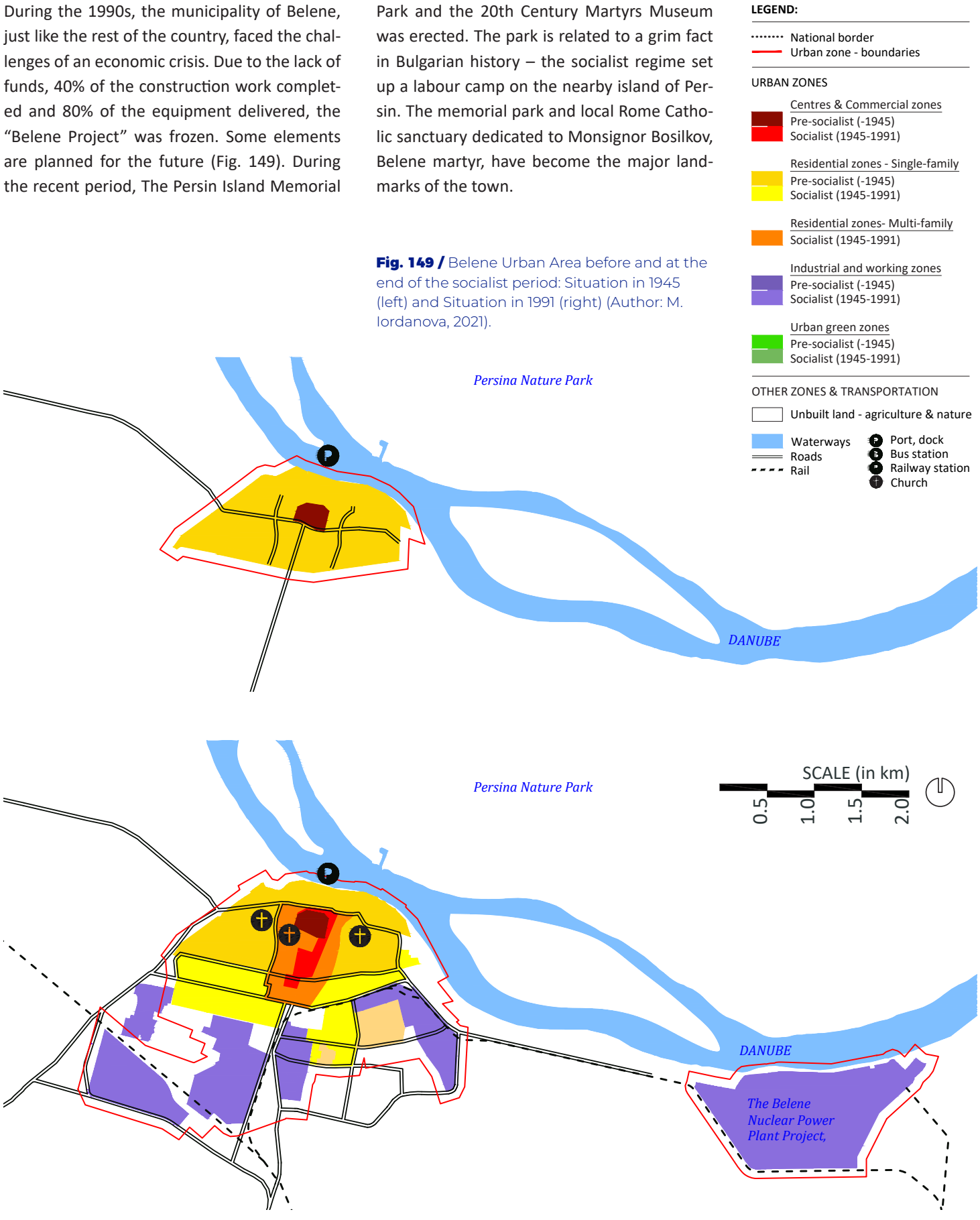


Fig. 149 / Belene Urban Area before and at the end of the socialist period: Situation in 1945 (left) and Situation in 1991 (right) (Author: M. Iordanova, 2021).

R

- Dzhordheta, A. (2006). Край брега на Дунава. Начало на католическите общности в България (Along the banks of the Danube. Beginning of the Catholic communities in Bulgaria). San Gabriele, IT: Editoriale Eco.
- Skochev, B. (2017). Концлагерът Белене (Belene Concentration Camp 1949-1987). Sofia: Siela.
- Йорданова М., Мотев, С. & Димитров, Д. (2012). Общ устройствен план на град (General Development Plan of the Town of Belene). Retrieved from https://belene.bg/%D0%BE%D0%B1%D1%89-%D1%83%D1%81%D1%82%D1%80%D0%BE%D0%B9%D1%81%D1%82%D0%B2%D0%B5%D0%BD-%D0%BF%D0%BB%D0%B0%D0%BD/

chapter 03 – POTENTIALS AND CHALLENGES OF THE PRESENT

Potentials and Challenges of the Present

D+ Atlas

3.1 DANUBIAN CITY IN POST-SOCIALIST TRANSFORMATION // INTRODUCTION

Georgi Georgiev

The overall transition of post-socialist countries has been one of major contemporary processes in Europe (Stanilov, 2007). This transition has been comprehensive and multilayer; from planned to market economy; from industrial era to post-industrial era, from one-party to multi-party system, from self-dependence to globalisation (Petrović, 2005). This process has been sudden and loosely controlled in many ways, so it has the elements of a "shock therapy" (Stryjakiewicz at al, 2012).

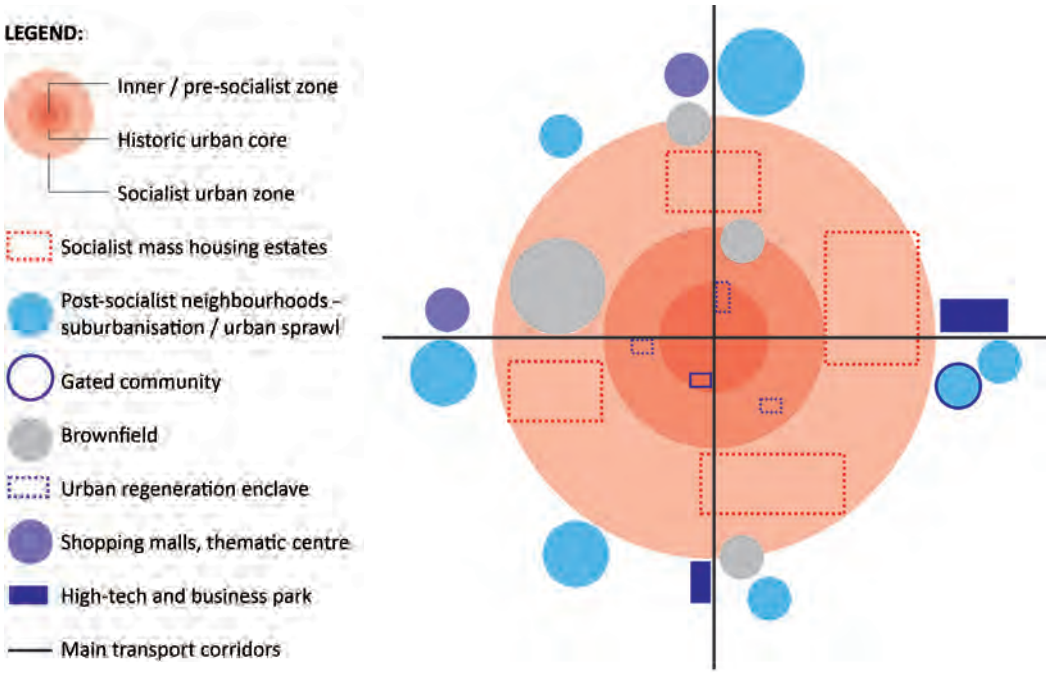


Fig. 150 / Model of the structure of post-socialist city (Author: B. Antonić, 2022)

Cities in the post-socialist countries has carried the reflections of these huge changes, with a new order in urban development, characterised by new socio-economic features, such as the rise of service sector, privatisation, deindustrialisation, commercialisation, social and spatial polarisation and fragmentation (Fig. 150). These changes strongly affected regional urban development, with the new urban tools and processes: planning deregulation, boom of property market, polycentrism, mixed-use, brownfields and urban regeneration, urban sprawl, suburbanisation, etc (Fig. 151-153).

One of the widespread urban processes in this consideration is urban shrinkage. 82% of bigger post-socialist cities (>200,000 inhabitants) were shrinking in the early post-socialism, during the 1990s (Turok & Mykhnenko, 2007).

Fig. 151 / The new "look" of mass-housing estate to prevent its deprivation in Nova Gorica, Slovenia (Author: B. Antonić, 2015)

The recent research of Restrepo Cadavid et al (2017) confirms that urban shrinkage is still the prevalent model of urban development across post-socialist region, whereas in Romania and Bulgaria affects more than 90% of all urban settlements. The same research also points out that small, spatially isolated and single cities are more prone to urban shrinkage. Knowing that the Danube flows through many post-socialist countries, where it is a significant physical obstacle and a national border in many cases, shrinking cities and towns dominates along its riverbanks. However, as well as many other global and regional processes, both post-socialist urban transformation and urban shrinkage have many local peculiarities (Richardson & Woon Nam, 2014), which are explained in the following case studies.

Fig. 152 / Empty and derelict building in central Kaunas, Lithuania (Author: B. Antonić, 2016)

Fig. 153 / Suburbanisation as a "population flight" from central city, Gdynia, Poland (Author: B. Antonić, 2018)

R

- Restrepo Cadavid, P., Cineas, G., Quintero, L. & Zhukova, S. (2017). Cities in Eastern Europe and Central Asia: A Story of Urban Growth and Decline. Washington, DC: World Bank.
- Richardson H. & Woon Nam C. (Eds.) (2014), Shrinking Cities: A Global Perspective. London: Routledge.
- Stanilov, K. (Ed.) (2007). The Post-Socialist City. Dordrecht: Springer.
- Stryjakiewicz, T., Jaroszewska, E. & Ciesiółka, P. (2012). Urban Shrinkage and the Post-Socialist Transformation: The Case of Wałbrzych (Poland). In C. Martinez-Fernandez, N. Kubo, A. Noya & T. Weyman (Eds.), Demographic Change and Local Development: Shrinkage, Regeneration and Social Dynamics (pp. 79-84). Paris: OECD.
- Turok, I. & Mykhnenko, V. (2007). The trajectories of European cities, 1960–2005. Cities, 24(3), 165–182, DOI: 10.1016/j.cities.2007.01.007.

3.1.1 CASE STUDY 1 // GABČÍKOVO, SLOVAKIA

Ľubica Vitková

POPULATION:
1990: 4,910
2001: 5,084
2011: 5,361
2021: 5,232

Gabčíkovo is connected with the Danube and the Danube Plain, the most fertile agricultural area in Slovakia. That determined its character. Gabčíkovo developed as an agricultural village with market law, with agriculture homesteads, breweries, distilleries, sugar factory, and several water mills on the Danube (Dudášová, 2012). However, the construction of the Gabčíkovo Waterworks (Fig. 154) fundamentally changed its rural appearance and surroundings. During the construction of the waterworks, the emphasis was placed mainly on technical parameters and the impacts on the environment and the landscape were not sufficiently taken into account. The waterworks consists of several buildings, a hydroelectric power plant, locks, a collection facility, an observation tower and a network of canals. The period of socialism was marked also by the construction of service facilities related to Gabčíkovo waterworks, such as: former construction site, blocks of flats or large-capacity accommodation facilities (Fig. 155), which currently serve as specialised facilities of the Slovak University of Technology. The mentioned buildings and facilities represemt a contrast to the traditional, mostly single-storey development of family houses and service facilities.

Fig. 154 / Gabčíkovo Waterworks – a dam and locks (author: Ľ. Vitková, 2021).

Fig. 155 / Gabčíkovo Large-capacity accommodation facilities from the socialist period (author: Ľ. Vitková, 2021).

The current challenge for Gabčíkovo is to strengthen its importance as a centre of tourism (Fig. 156). It has all the prerequisites for that - proximity to the Danube, floodplain forest, water recreation areas, thermal springs, cultural landscape and cultural heritage (the manor houses, churches). Last, but not least, Gabčíkovo is a small landscaped town with a pleasant atmosphere, an ideal place for weekend and short-term recreation based on sustainable tourism. The insufficiently used buildings from the period of construction of the dam also represent a potential. The challenge is their transformation into educational, creative, research or social facilities.

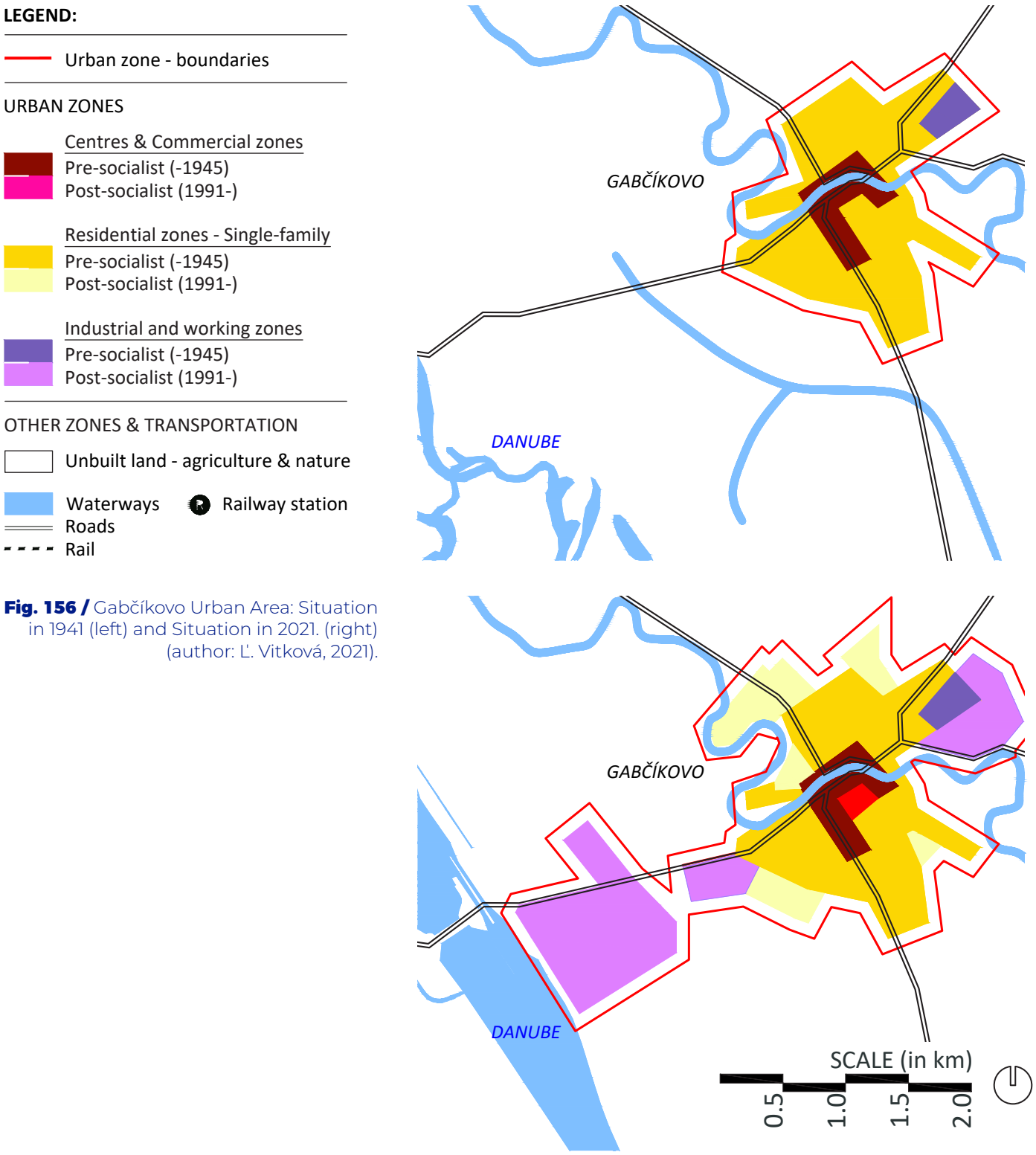


Fig. 156 / Gabčíkovo Urban Area: Situation in 1941 (left) and Situation in 2021. (right) (author: Ľ. Vitková, 2021).

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- Dudášová, M. (2012), Územný plán obce Gabčíkovo: návrh / Territorial Plan of Gabčikovo Municipality: Draft. Gabčíkovo. Retrieved from https://www.gabcikovo.sk/sk/samosprava/dolezite-dokumenty.

3.1.2 CASE STUDY 2 // KOMÁROM, HUNGARY

Daniel Balizs

POPULATION:
1990: 19,532
2001: 19,616
2011: 19,284
2019: 19,126

By 1989, the population of Komárom grew to 20,000, but its demographic and functional characteristics still gave it a small-town character (Fig. 157) – a town whose positional energy is much more due to its location next to the Budapest-Vienna transport axis, not the Danube or the cooperation with its twin city on the opposite riverbank. The originally weak advocacy capacity of the town did not improve during the decades of socialism, while its everyday life was characterised by a kind of "psychic stress" due to the internal malfunctions and its almost impossible connection with Komárno in nearby Slovakia. The impact of this can still be felt today, despite the obvious improvement after the change of regime (Bottoni, 2011; Vajda, 2011).

Fig. 157 / The Danube Store, built in the 1980s, with the stylised view of Komárom (author: D. Balizs, 2019)

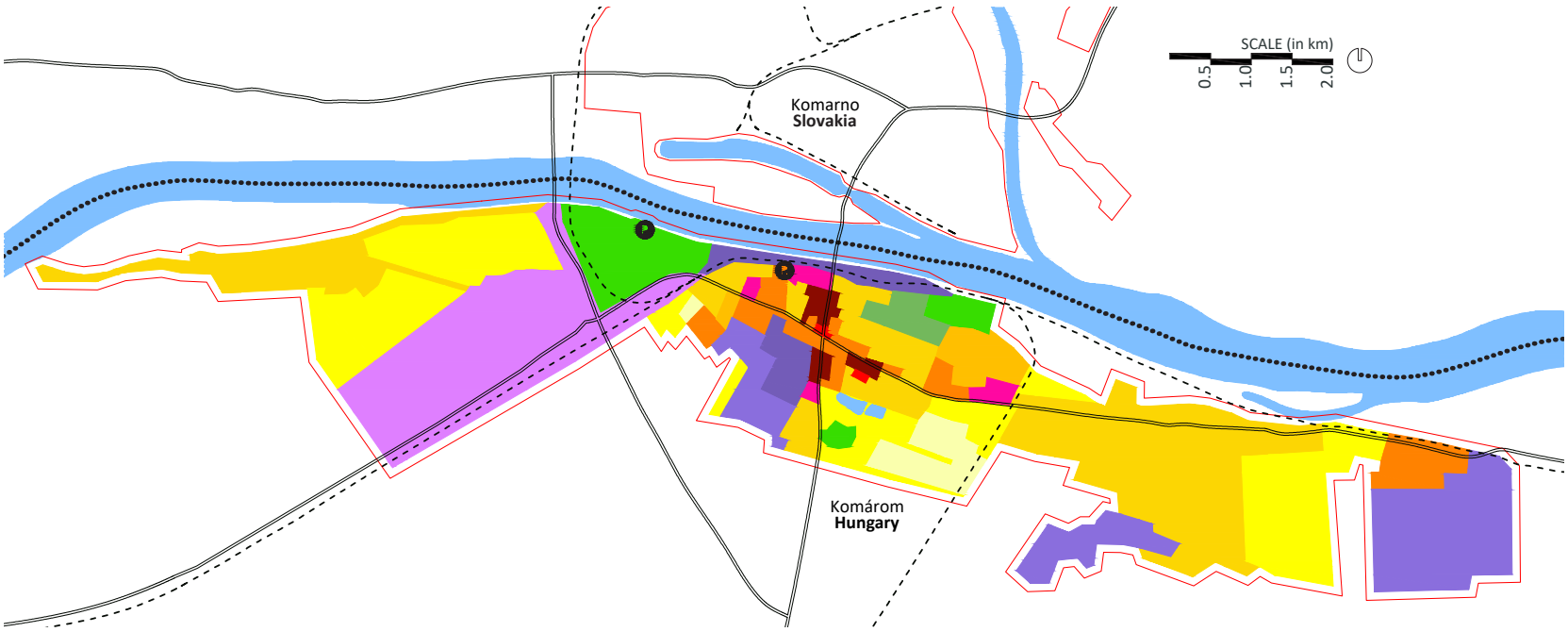


Fig. 158 / The spatial development of Komárom during three decades of post-socialism (1991-2021) (author: D. Balizs).

After 1989, several large companies settled in the industrial park on the south-western edge of the city. This park brought new employment opportunities, even for the people of Slovakian side. However, this is mostly an individual strategy and not due to the close relationship between the Komárom and Komárno (Kovács, 2008).

Fig. 159 / Monostor Fortress as a museum today (Author: J. Marić, 2019).

As a result of the continuous expansion of the built-up area of Komárom in the east-west direction the quarters with completely different characters merged into one administrative unit, even though they were located at a relatively large distance from each other (Fig. 158). In the "downtown" the bridgehead, the dam and the railway closed the settlement from its river, while in its eastern and western edges – the Szőnyi Islands and Koppánymonostor – the Danube riverbanks have preserved their natural character. The latter ones became destinations for those moving out of the town centre (Ádám & Malatinszky, 2012). Monostor and Csillag fortresses, located next to the Danube and between these three town parts, are partly refurbished and open to the public as museums (Fig. 159).

R

- Ádám, Sz. & Malatinszky, Á. (2012). A Szőnyi-szigetcsoport tájtörténete és vegetációja / Protection and Vegetation of Island Groups of Szőnyi. Természetvédelmi Közlemények 18, 15-23.
- Bottoni, S. (2011): Komárom–Komárno. Határmenti mindennapok és párhuzamos életek a szocializmus korszakában / Komárom Komárno. The Social Principles of Socialism are at Stake. In: Vajda, B. (Ed.) (2011). Államhatás és identitás – Komárom/Komárno / State influence and identity –
- Komárom/Komárno. Komárom: Selye János Egyetem Tanárképző Kara.
- Kovács, A. (2008). Nemzetközi tőkebefektetések munkaerő-piaci hatásai Komárom és Komárno térségében / Cross-border Effects on Labour Market in Komárom and Komárno. Földrajzi Értesítő, 57(1-2), 229-241.

3.1.3 CASE STUDY 3 // SMEDEREVO, SERBIA

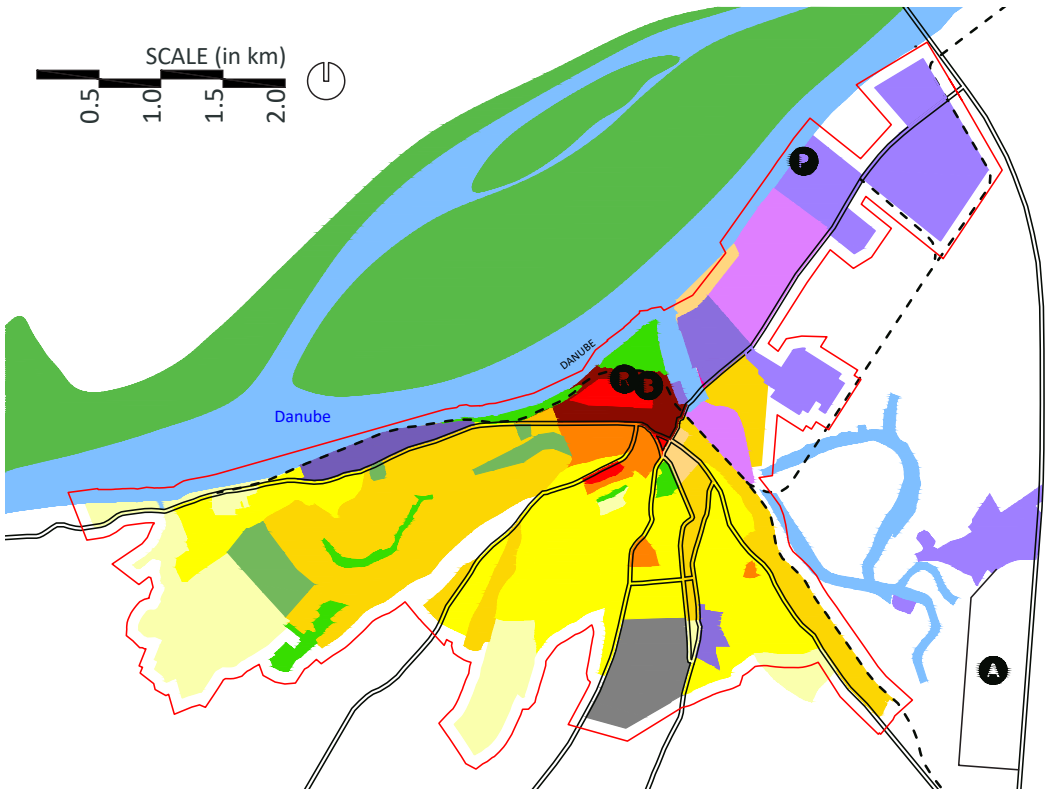
Aleksandar Grujičić

POPULATION:
1990: 19,532
2001: 19,616
2011: 19,284
2019: 19,126

Urban development of Smederevo was decisively determined by its strategic geo-position – the course of the Danube and the Pannonia Plain in the north, the valley of the Velika Morava to the east, and the Šumadija hills to the southwest. Even though the late socialist period envisioned its continual development, mainly based on industrial drive, Smederevo, like most of the Serbian cities during the 1990s, faced economic decline and regression. The Yugoslavian Crisis in the 1990s resulted in new migration flows. Population increase during this period is consequential to the political situation, where refugees from former Yugoslav republics and Kosovo and Metohija immigrated intensively to Smederevo. The first decades of the 21st century show relative stagnation, but statistically presume the continued trend of the decline in natural increase.

Fig. 161 / The most of the old steelworks in the centre of Smederevo are brownfield site today (Author: B. Antonić, 2018).

In the early socialist period, the industrial development in Smederevo has been formed in the north-eastern part, "Godominsko polje" next to the Danube. Later, with the construction of additional facilities of the "Železara" steelworks in the 1970s, industrial facilities dispersed to the city south-eastern outskirts. However, factories built in the centre and in



LEGEND:

Urban zone - boundaries

URBAN ZONES

Centres & Commercial zones
Pre-socialist (-1945)
Socialist (1945-1991)
Post-socialist (1991-) - reuse
Post-socialist (1991-) - sprawl

Residential zones - Single-family
Pre-socialist (-1945)
Socialist (1945-1991)
Post-socialist (1991-) - sprawl

Residential zones- Multi-family
Socialist (1945-1991)
Post-socialist (1991-) - reuse
Post-socialist (1991-) - sprawl

Industrial and working zones
Pre-socialist (-1945)
Socialist (1945-1991)
Post-socialist (1991-) - sprawl
Post-socialist (1991-) - brownfield

Urban green zones
Pre-socialist (-1945)
Socialist (1945-1991)
Post-socialist (1991-)

OTHER ZONES & TRANSPORTATION

Unbuilt land - agriculture & nature
Forest
Military fort
Waterways
Roads
Rail
Port, dock
Bus station
Railway station
Airport

Fig. 160 / Current spatial development of Smederevo (Author: A. Grujičić & N. Mitrović).

“Godominsko polje” north-east zone have slowly lost their activity and are used for other purposes, representing potential brownfield sites (Fig. 160). The total area of built space or planned for the development of business activities is 500 ha, of which 160 ha was built, and the unbuilt area is 340 ha (Fig. 161).

Economic decline and transition period resulted in uncontrolled housing construction, not only on the periphery but in the city centre, where single-family housing is intensively being replaced with multi-family housing. Main housing development goals are trying to direct housing construction as a controlled process that will, in the first place, raise the quality of housing in already built or partially built areas, reconstruction, new construction, and improved equipping of construction land. However, the existing conflicts of different urban functions in the city centre, such as the proximity of industrial areas (including port and railway) to the Smederevo Fortress, uneven and unplanned housing construction, the unused potential of the Danube River waterfront, require systematic regeneration which is still a challenge (Fig. 162).

Fig. 162 / The Danube waterfront of Smederevo: industry and old port in close proximity to Smederevo Fortress (background), as a cultural-heritage site of an exceptional importance (Author: K. Dankov, 2020).

R

- City of Smederevo (2005). Генерални план “Смедерево 2020” / General Plan “Smederevo 2020. Smederevo: City Agency for Built Environment.
- City of Smederevo (2011). Просторни план града Смедерева 2010-2015-2020. / Spatial Plan of the City of Smederevo 2010-2015-2020. Smederevo: City Agency for Built Environment.
- Tošić, D. & Obradović, D. (2003). Modern Tendencies in Developing Net of Settlements of Municipality Smederevo. Bulletin of the Serbian Geographical Society, 83(2), 31-44. Retrieved from https://gery.gef.bg.ac.rs/handle/123456789/62.

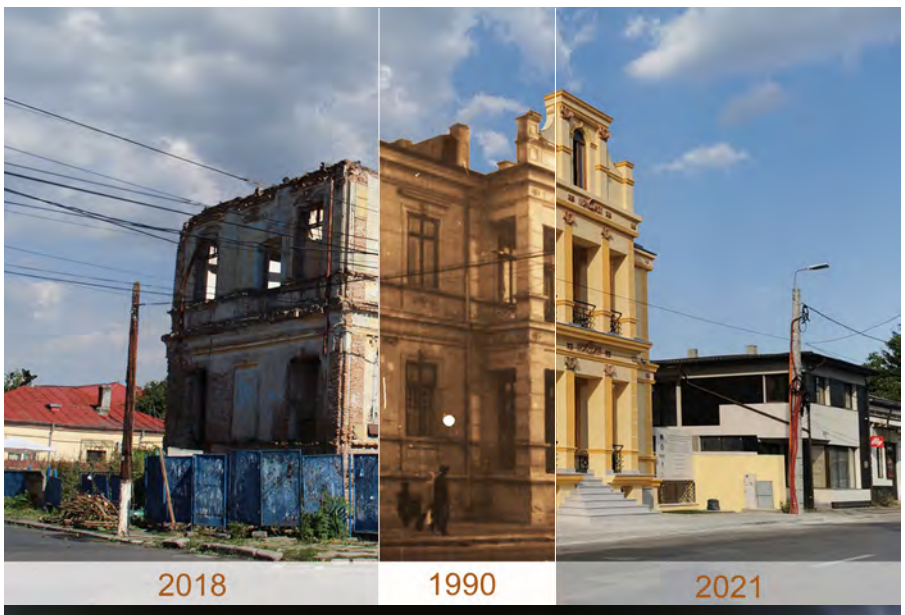
3.1.4

CASE STUDY 4 // CĂLĂRAȘI, ROMANIA

Sorin Manea
Mihaela Hărmănescu
Angelica Stan

POPULATION:
1990: 76,952
2002: 70,039
2011: 65,181

The fall of socialism and the transition to free market economy meant also a painful restructuring process of the industry of Călărași (Fig. 163). The city has lost almost all the steel and the construction industry. "Siderca", big steelworks located in the north western part of Călărași, was closed and abandoned. Similarly, the old port lost its role in regional trade and rapidly degraded, along with other constructions of the city industrial heritage: docks, the river station, the railway station and lines. Some of preserved industrial and port buildings have been eventually privatised and renamed during the 1990s.



After 2000, several new factories have been established in Călărași: for glass production, processing agricultural products, for paper production, located near the old port. The industrial profile of the city seems to be continued and preserved, but on a much smaller scale. With the construction of the Bucharest-Constanta highway, the accessibility of Călărași increased and the commercial activities intensified.

Fig. 165 / The 'metamorphosis' of the Old Post Office Building, before and after refurbishment into a cultural centre (Author: F. Rădulescu)

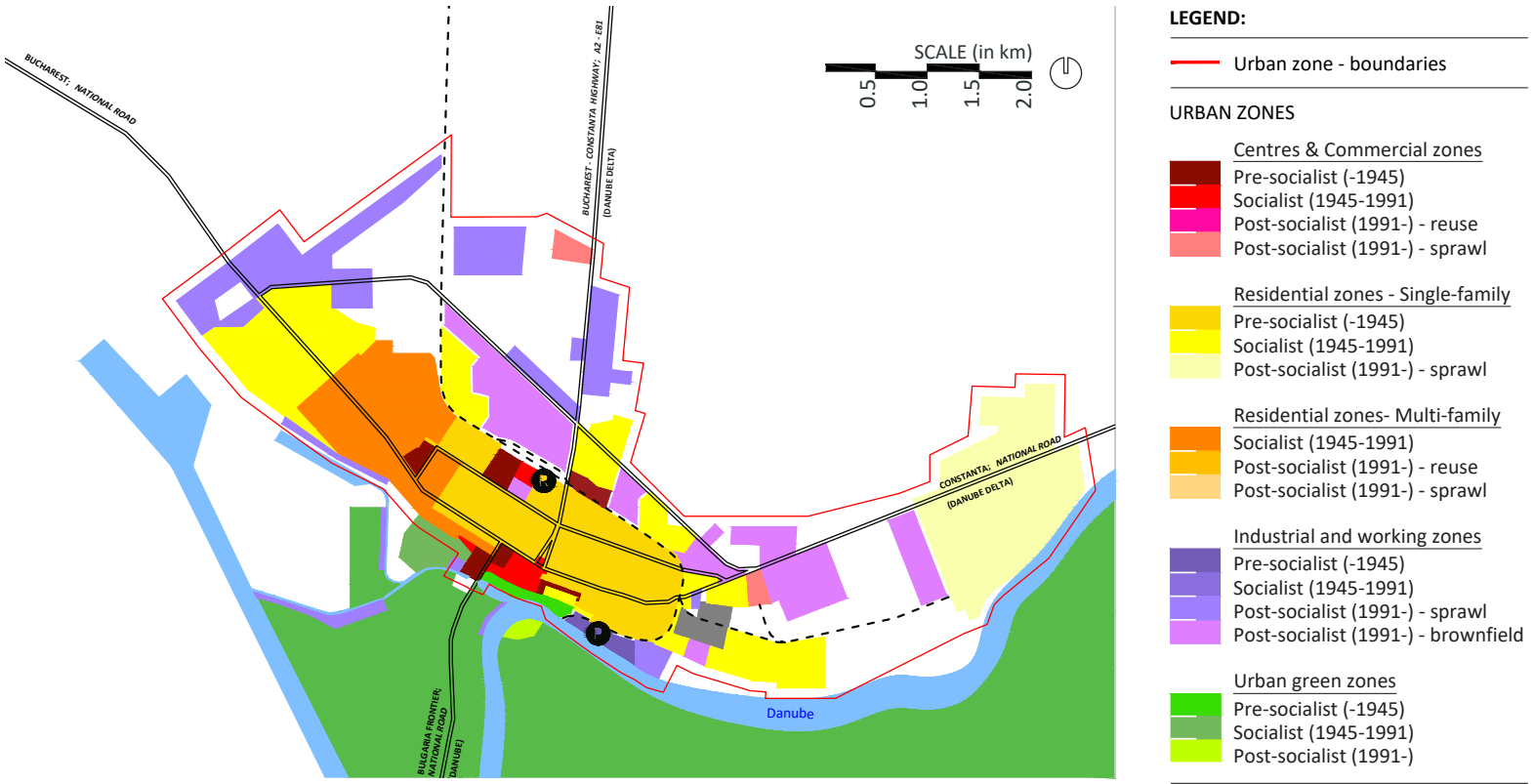


Fig. 164 / Map: the spatial development of Călărași – the actual situation (S. Manea, M. Hărmănescu Mihaela & A. Stan, 2021).

The city did not expand too much its territory after 1990, but tried to manage its 'inside' resources (Fig. 164). The tourism is still poorly developed even if there is the Danube as a natural potential, but Călărași is perceived as a transit city for the most of the Romanians. Several beach facilities on the Danube riverside have been formed in last decades, to attract local tourists.

The architectural heritage of Călărași counts no less than 74 monuments, but many of them are in an advanced state of degradation or functional abandonment. An exception is the case of The Old Post Office Building (Fig. 165) situated in the city centre, a historic monument that has been restored and functionally remodelled, becoming a public hub for young people and local community.

Fig. 163 / The abandoned Grape Unit Factory from socialist era (Author: F. Rădulescu).

R

- Tudor, C. (2008). Istoria orașului Călărași / History of the City of Călărași. Călărași: Agora.
- ARHIGAMA (2008). Plan Urbanistic General / General Urban Plan, Mun. Călărași. Retrieved from https://primariacalarasi.ro/index.php/despre-calarasi/istorie.

3.1.5

CASE STUDY 5 // SILISTRA, BULGARIA

Georgi Georgiev
Miriana Yordanova

POPULATION:
1985: 53,522
1992: 48,360
2001: 41,952
2011: 35,607
2019: 30,983

Silistra occupies the far North-East part of Bulgaria, limited by Danube and the ground border with Romania (Fig. 166). Following the establishment of the socialist Bulgaria with centralised economy, Silistra developed fast as a regional centre of industry and agriculture. This led to a major population increase. With the start of the post-socialist 1990s, the city started to demographically decline due to intensive outmigration to the biggest cities in Bulgaria or abroad. The shrinking population influence that the density indicators in Silistra are constantly decreasing, the city territory is not increasing and uninhabited dwellings appearing. Moreover, most residential neighbourhoods retain the poor conditions of the street network and pedestrian areas (Fig. 167).

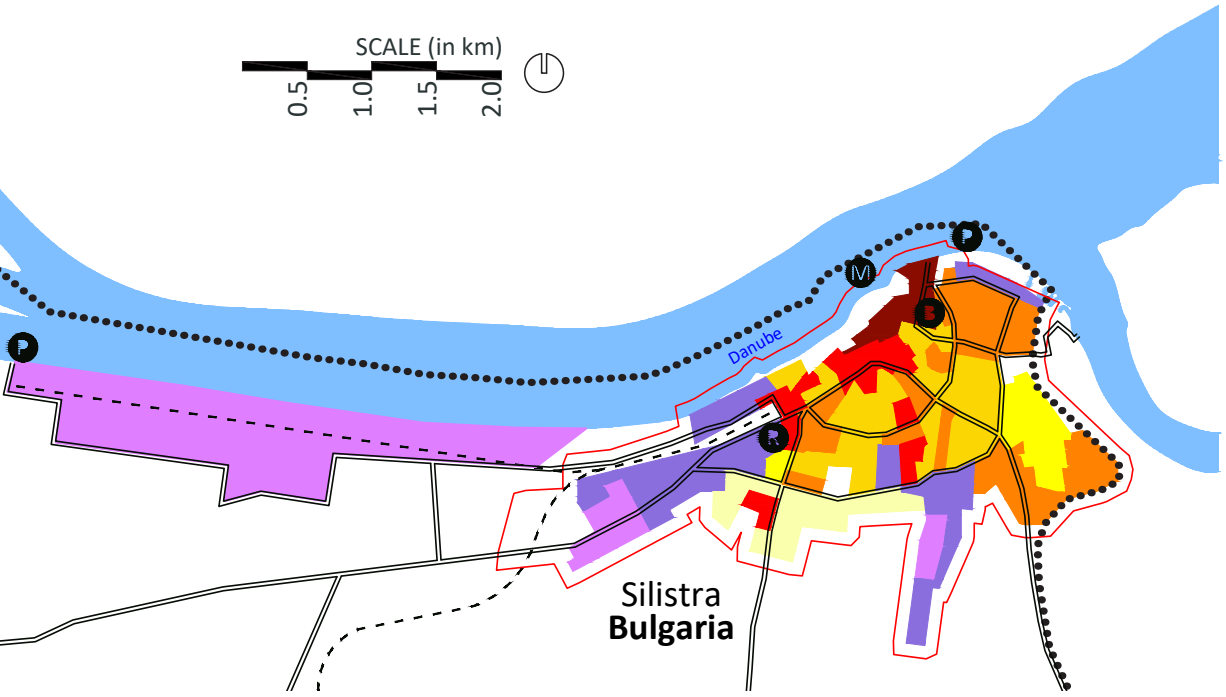


Fig. 166 / Map: the spatial stagnation of Silistra in the period 1991-2021 (Authors: G. Georgiev & M. Yordanova, 2021).

Fig. 167 / The eastern residential outskirts of Silistra from socialist era seen from Ostrov, Romania (Author: A. Radulescu, 2022).

According to the Strategy for Development of Silistra District 2014-2020 (City of Silistra, 2013), the construction of the Danube Bridge III west of the city is crucial for the revival of the city and its region. After the construction of the bridge, territories west of Silistra, as more attractive, will be urbanised. The construction of the bridge will also stimulate transport and economic cooperation across the river. In the long run, with the construction of the Danube Bridge and the modernisation of the city port, the land use had to be restructured in order to take passenger and cargo traffic. In this way, Silistra will become a transport and logistics node of an international importance (City of Silistra, 2021). Side by side with this economic development, the old core of Silistra with legacy from different historic epochs has been slowly refurbished (Fig. 168).

Fig. 168 / Silistra: conservated archaeological remains with refurbished protection elements (Author: A. Radulescu, 2022).

R

- City of Silistra (2013). Стратегия за развитие на област Силистра за периода 2014-2020 / Development Strategy for Silistra District for the Period 2014-2020. Retrieved from https://www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=842.
- City of Silistra (2021). План за интегрирано развитие на Община Силистра 2021-2027 / Plan for Integrated Development of Silistra Municipality 2021-2027. Retrieved from http://www.silistra.bg/files/2020/24.10.2020-e869c7222ee80506fc89a915c8a748b31.pdf.

Bratislava

Vienna

Budapest

Zagreb

Belgrade

N

0 50 100

Fig. 320_01: "Xbionic" leisure centre in Šamorin: Being a small urban settlement near Bratislava, Šamorin has experienced the recent suburbanisation in both demographic and economic sense (Author: A. Radulescu)

Fig. 320_02: Dunaujvaros has been the most shrinking city in the Hungarian part of the Danube Region due to challenging socio-economic legacy of socialism (Author: P. Wolf)

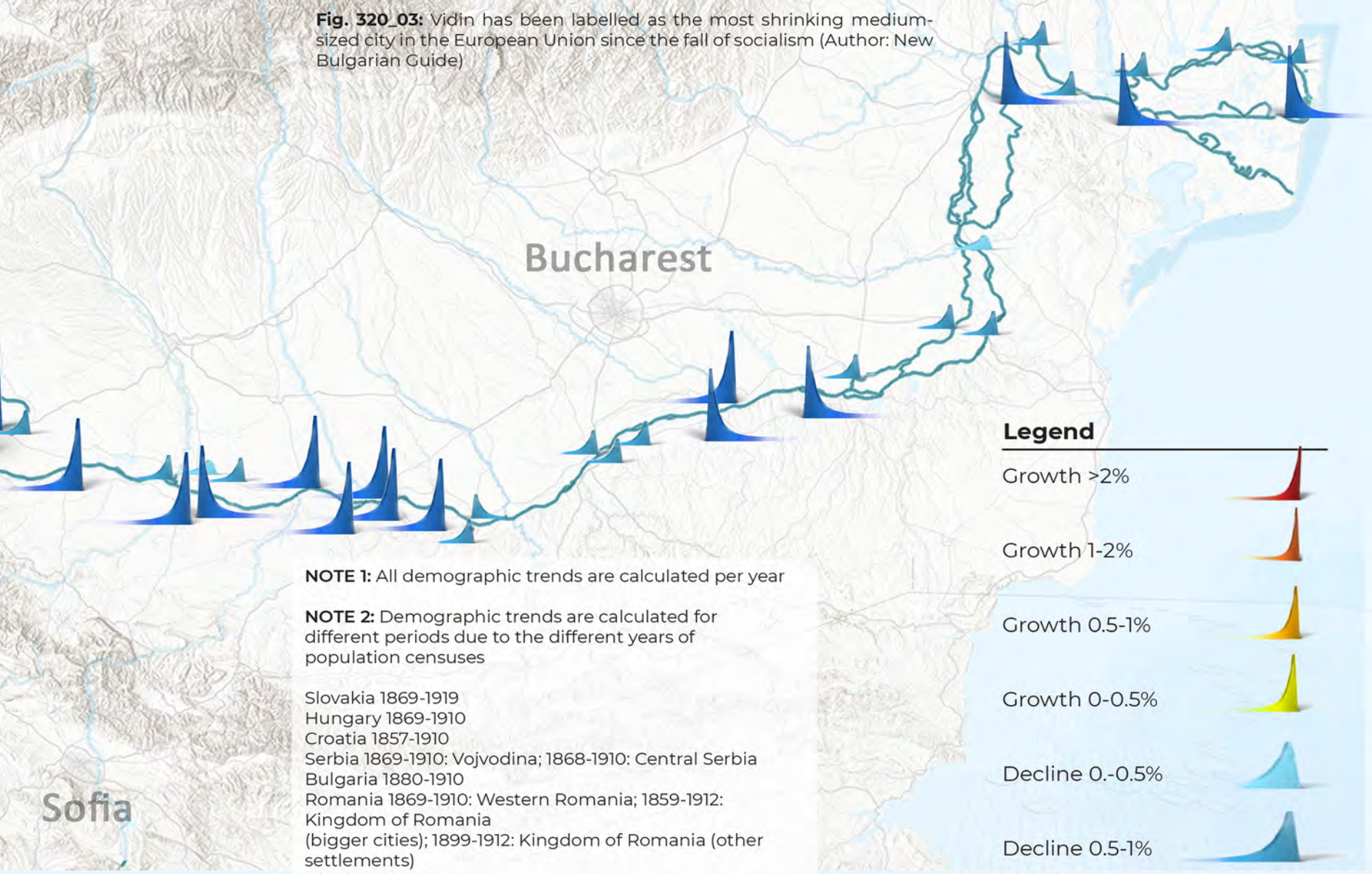
MAP **3.2**

DEMOGRAPHIC TRENDS DURING THE POST-SOCIALIST TRANSITION, 1991 - CURRENT

The “golden age“ of railway was the period of the late 19th and early 20th Century when 2/3 of the analysed small and medium-sized cities and towns along the Danube got their connection to European railway system. Consequently, the railway replaced waterways - the Danube and its main tributaries (Sava and Tisa) - as the key transportation corridors in this region.

The railway capacities are currently oversized and are not fully utilised, including railway stations, obsolete railway lines, and other infrastructure facilities. However, recent development in the European railway sector, with modernisation of the entire system (high-speed rail), indicates the future increase of the potential of this type of transport.

Fig. 320_03: Vidin has been labelled as the most shrinking medium-sized city in the European Union since the fall of socialism (Author: New Bulgarian Guide)



Legend

- Growth >2%
- Growth 1-2%
- Growth 0.5-1%
- Growth 0-0.5%
- Decline 0.-0.5%
- Decline 0.5-1%
- Decline 1-2%
- Decline >2%

NOTE 1: All demographic trends are calculated per year

NOTE 2: Demographic trends are calculated for different periods due to the different years of population censuses

Slovakia 1869-1919
Hungary 1869-1910
Croatia 1857-1910
Serbia 1869-1910: Vojvodina; 1868-1910: Central Serbia
Bulgaria 1880-1910
Romania 1869-1910: Western Romania; 1859-1912: Kingdom of Romania
(bigger cities); 1899-1912: Kingdom of Romania (other settlements)
Ukraine 1897-1930

NOTE 3: Cities and towns are enlisted in pies relating to their current states, to easier understanding of historic demographic trends at national level

3.3 POST-SOCIALIST SHRINKING CITY IN THE BORDERLAND DANUBE REGION // INTRODUCTION

Ana-Maria Branea

Border cities are particularly susceptible to urban shrinkage. The EU territorial documents consider borderland cities and regions as more vulnerable ones (EC, 1999). The border effect manifests itself in a two-fold manner, on the one hand, cities can be affected by accessibility issues, having few connections to their own country or be under the pull of larger nearby cities. On the other hand, they might experience an economic boom due to the border proximity, but once the connection is disrupted the effects are acute (Fig. 169).

Fig. 169 / Silistra in Bulgaria seen from nearby Romania: the negative effects of the city border position on local urban fabric (Author: A. Radulescu, 2022).

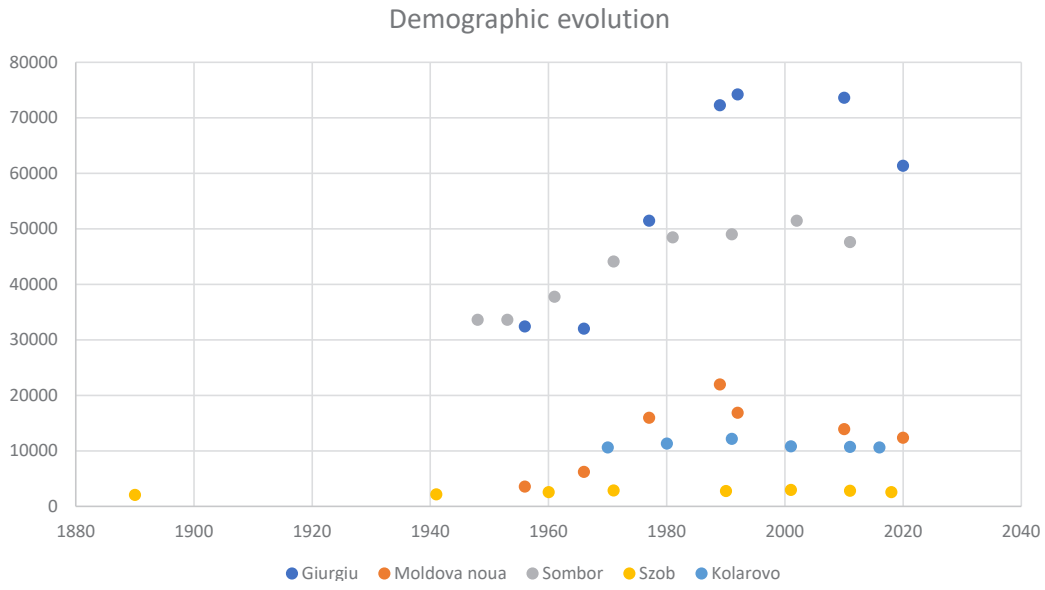


Fig. 170 / Comparative demographic overview of five selected cities-case studies (Author: A-M. Branea, 2022).

All five case studies presented below have experienced a worsening of their economical and demographical situations after the year 2000 (Fig. 170) - due to lost connectivity, damaged bridge by flooding in the case of Szob, mine closure in Moldova Noua, a “hard border” effect in the case of Sombor, emigration or the pull of larger cities. While some may be on their (slow) way to redress, others are visibly scarred by urban shrinkage, easily noticeable in their built environment, abandoned buildings and industrial areas or the poor condition of residential and commercial ones.

For all, a solution can be found in cross-border cooperation. In the case of the Danube, sustainable tourism is promising, taking advantage of natural environment and local heritage. Agro-, velo-, ethno- and gastronomical tourism represent the untapped potential of these areas, although difficult to establish (Fig. 171-172). Reorienting towards tourism and services is a challenge for many Danubian towns and their citizens. Their tourism occupancy rates, the type and price range of offered accommodation and services clearly demonstrate this problem. The COVID-19 pandemic has not made thing easier, closing borders and businesses, but it has created an opportunity to discover local tourism destinations.

Fig. 171 / Gulyantsi, Bulgaria: Agro- and gastronomical tourism (Author: BlueLink, 2022).

Fig. 172 / Multi-ethnic Busójárás Celebration, protected by UNESCO, in Mohacs, the southernmost Danubian city in Hungary, as a potential accelerator for cross-border ethno-tourism (Author: D. Siljanović Kozoderović, 2022).

R

- European Commission – EC (1999). European Spatial Development Perspective – ESDP. Brussels: EC. Retrieved from https://ec.europa.eu/regional_policy/sources/docoffic/official/reports/pdf/sum_en.pdf.

3.3.1 CASE STUDY 1 // KOLÁROVO, SLOVAKIA

Ľubica Vitková

POPULATION:
1991: 12,146
2001: 10,823
2011: 10,696
2016: 10,591

Kolárovo is one of the largest urban settlements in the lower part of Žitný ostrov in Slovakia. From the middle of the 16th century Kolárovo, or previously Guta, developed as a market town with a right of fair. Local economy was strongly connected to the Little Danube – the peculiarity of the area is the floating water mill on this river that resembles this period (Fig. 173). At the beginning of the 20th century, the railway connection, as well as the bridge over the Little Danube, helped the town development. However, the character of Kolárovo, as a local agricultural hub, was preserved even in socialism. A rarity is the construction of a "youth village" in the 1950s, based on collective land management. Kolárovo gained the status of a town only in 1967 (Fig. 174).

Fig. 173 / Kolárovo – old water mill on the Small Danube (author: L. Vitkova, 2021).

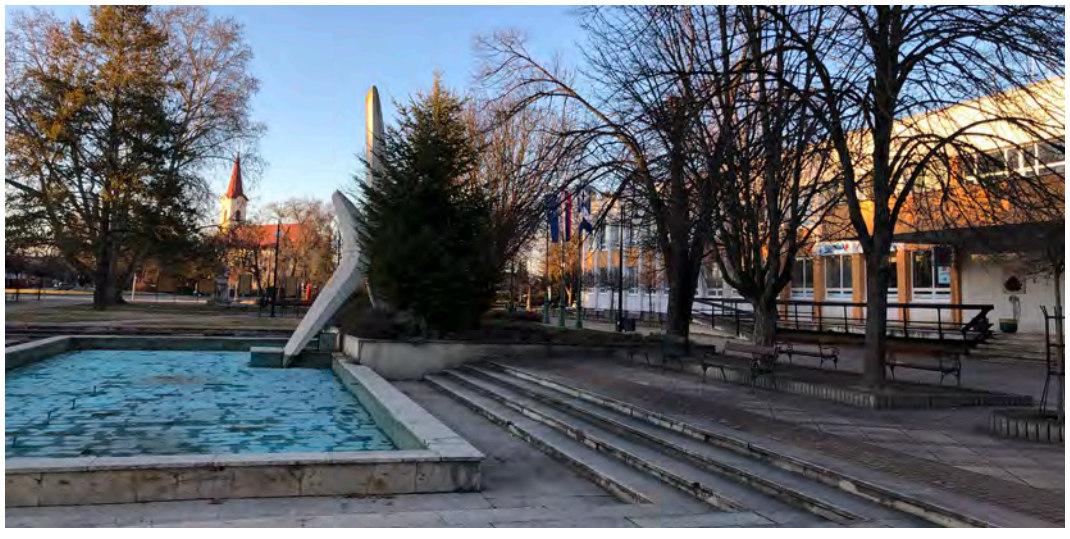


Fig. 174 / Central square in Kolárovo, formed during socialist era (author: L. Vitkova, 2021).

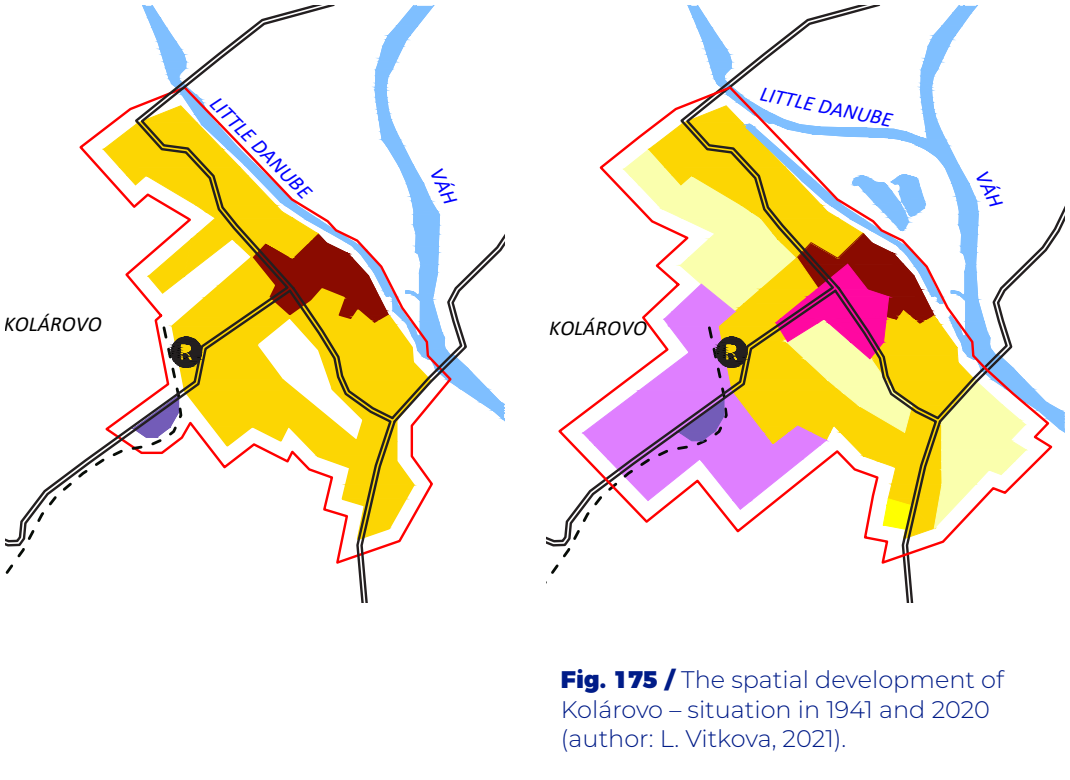


Fig. 175 / The spatial development of Kolárovo – situation in 1941 and 2020 (author: L. Vitkova, 2021).

Kolárovo represents the town with the lowest degree of centripetence in the hierarchy of the towns in Slovakia. It is without connection to major transport routes, only with a connection to Komárno (STAPRING, 2004). The population decline of the town is not dramatic, but rather gradual. However, it does not reflect the degradation of the urban structure (Fig. 175-176). Local economy is based on several companies, which are mainly operating in the town industrial zone, formed during socialist period.

The potential of Kolárovo lies in the development of sustainable tourism, given the unique natural environment – around the Little Danube and Váh, with accompanying floodplain forests, water areas and characteristic canals, which drain swamps or provide irrigation. The added value and hitherto untapped potential, especially for the development of agro-tourism, have “scattered farmsteads”, tied in the past to agriculture and livestock, which was suppressed during the period of collectivisation. The surroundings of Kolárovo provide excellent opportunities for hunting and fishing.

Fig. 176 / The morphological map of Kolárovo (author: L. Vitkova, 2021).

R

- STAPRING (2004). Územný plan mesta Kolárovo / Territorial plan of the Town of Kolárovo. Kolárovo. Retrieved from https://www.uzemneplany.sk/upn/kolarovo.

3.3.2

CASE STUDY 2 // SZOB MICROREGION, HUNGARY

Bálint Kádár

POPULATION SZOB TOWN/MUNICIPALITY:
1990: 2,746
2001: 2,965
2011: 2,794
2018: 2,566

POPULATION SZOB DISTRICT:
1990: 23,235
2001: 24,363
2011: 24,875
2018: 24,818

POPULATION SZOB MICROREGION:
1990: 12,832
2001: 13,632
2011: 12,708
2018: 11,823

POPULATION SZOB DISTRICT WITHOUT SZOB MICROREGION:
1990: 12,832
2001: 13,632
2011: 12,708
2018: 11,823

*** Szob district includes the following municipalities/communities (Fig. 177): Bernecebaráti, Kemence, Perőcsény, Vámosmikola, Nagybörzsöny, Ipolytölgyes, Letkés, Ipolydamásd, Márianosztra, Kóspallag, Zebegény, Nagymaros, Kismaros, Verőce, Szokoly. Underlined communities are the part of Szob Microregion.**

Szob and its district lies between the Börzsöny hills and the rivers Danube and Ipoly. The western part of this area is still part of the developing tourism region of the Hungarian Danube Bent. The municipality of Szob also lies on the shore of the Danube, but at the influx of the border river Ipoly. Therefore, it shares the faith of the villages along the border in strong decline: some lost half of its population in the past 30 years.

The district anticipated a period of growth after the end of the state socialism due to the possibility of decreased isolative effect of the Slovak-Hungarian border. But the bridge built between Ipolydamásd (HU) and Chl'aba (SK) in 1989 was destroyed during the flood in 2000. Other factors also kept this area on the level of shrinking peripheral district (Fig. 177). For example, the decline of fruit orchards and the privatisation and closing of the "Szobi-szörp" fruit processing factory (Fig. 178) contributed to this condition. This was a key source of income and local pride since 1967, with the famous syrups of berry fruits. This industry was reactivated in 2009, but the former market-share is hard to rebuild.

Fig. 179 / Former concrete production line, another industry left in decline in Szob (Author: B. Kadar, 2021).

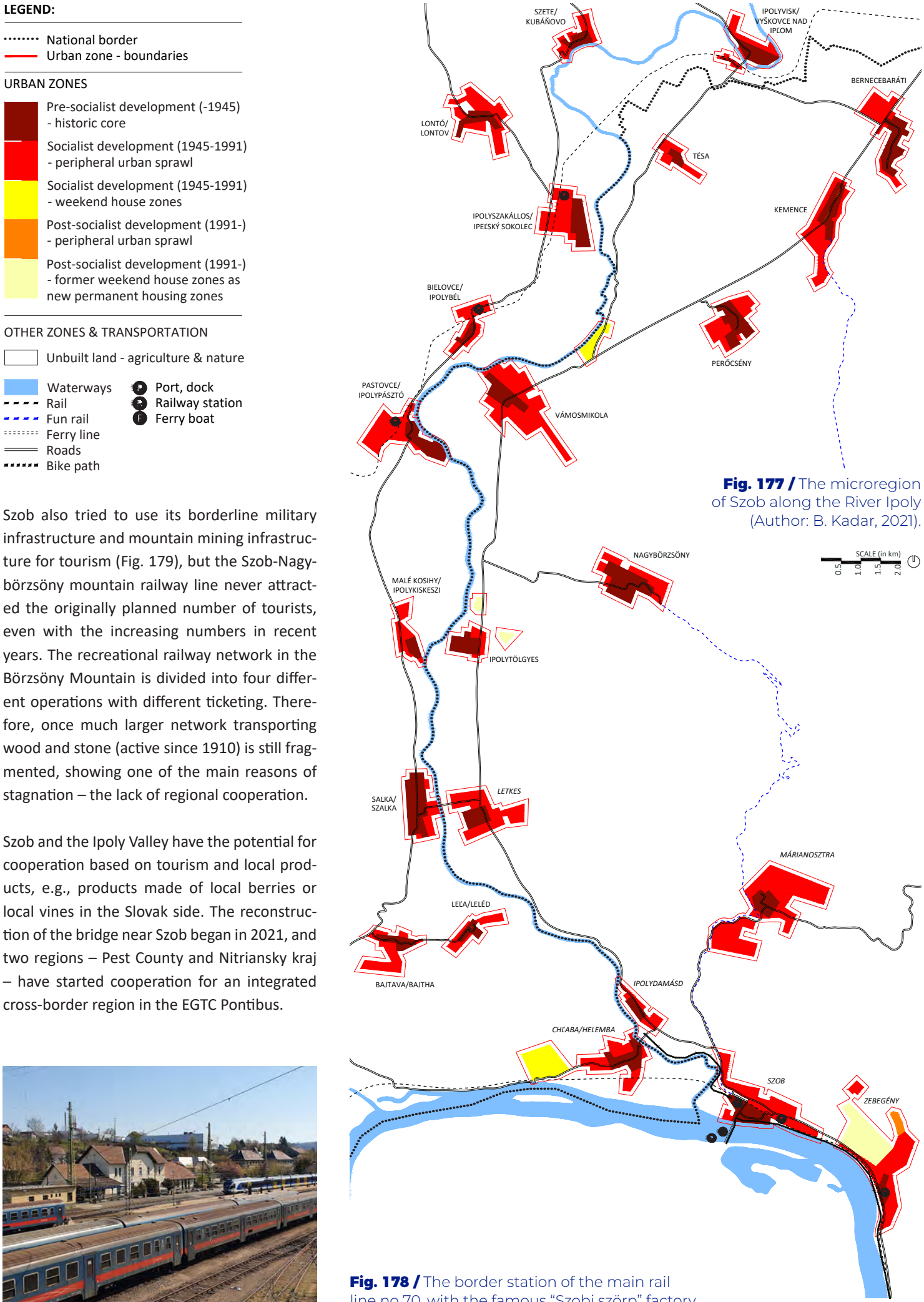


Fig. 177 / The microregion of Szob along the River Ipoly (Author: B. Kadar, 2021).

Szob also tried to use its borderline military infrastructure and mountain mining infrastructure for tourism (Fig. 179), but the Szob-Nagybörzsöny mountain railway line never attracted the originally planned number of tourists, even with the increasing numbers in recent years. The recreational railway network in the Börzsöny Mountain is divided into four different operations with different ticketing. Therefore, once much larger network transporting wood and stone (active since 1910) is still fragmented, showing one of the main reasons of stagnation – the lack of regional cooperation.

Szob and the Ipoly Valley have the potential for cooperation based on tourism and local products, e.g., products made of local berries or local vines in the Slovak side. The reconstruction of the bridge near Szob began in 2021, and two regions – Pest County and Nitriansky kraj – have started cooperation for an integrated cross-border region in the EGTC Pontibus.

Fig. 178 / The border station of the main rail line no 70, with the famous “Szobi szörp” factory in the background (Author: B. Kadar, 2021).

3.3.3

CASE STUDY 3 // **SOMBOR, SERBIA**

Nikola Mitrović
Milorad Obradović

POPULATION:
1991: 48,205
2001: 51,471
2011: 47,623

Sombor experienced several bright decades during the socialist period, with industrial progress and demographic growth. However, this growth was relatively small compared to other district cities in ex-Yugoslavia – less than 50% during 45 socialist years. Conversely, such a slow development had a positive impact on the preservation of the built heritage (Djukić et al, 2018). Hence, the historic core, known as "Venac/Coronet", is the best preserved among the middle-sized cities in Serbia (Fig. 180).

Fig. 180 / The axonometric picture of Sombor historic core, known as "Venac/ Coronet" (Author: B. Jovin; credits: City of Sombor).

The fall of socialism was followed by the Yugoslav Crisis in the 1990s, which significantly influenced post-socialist Sombor. The city hosted a lot of Serbian refugees from nearby Croatia and became even more a border city due to the newly-established border on the Danube. Ultimately, most of the local industry collapsed and the city image lost its vitality (Fig. 181) entering into the period of decline (early 2000s).

Fig. 181 / The poor state of Kronić Palace, which houses a regional trade court today (Author: D. Siljanović Kozoderović, 2021).

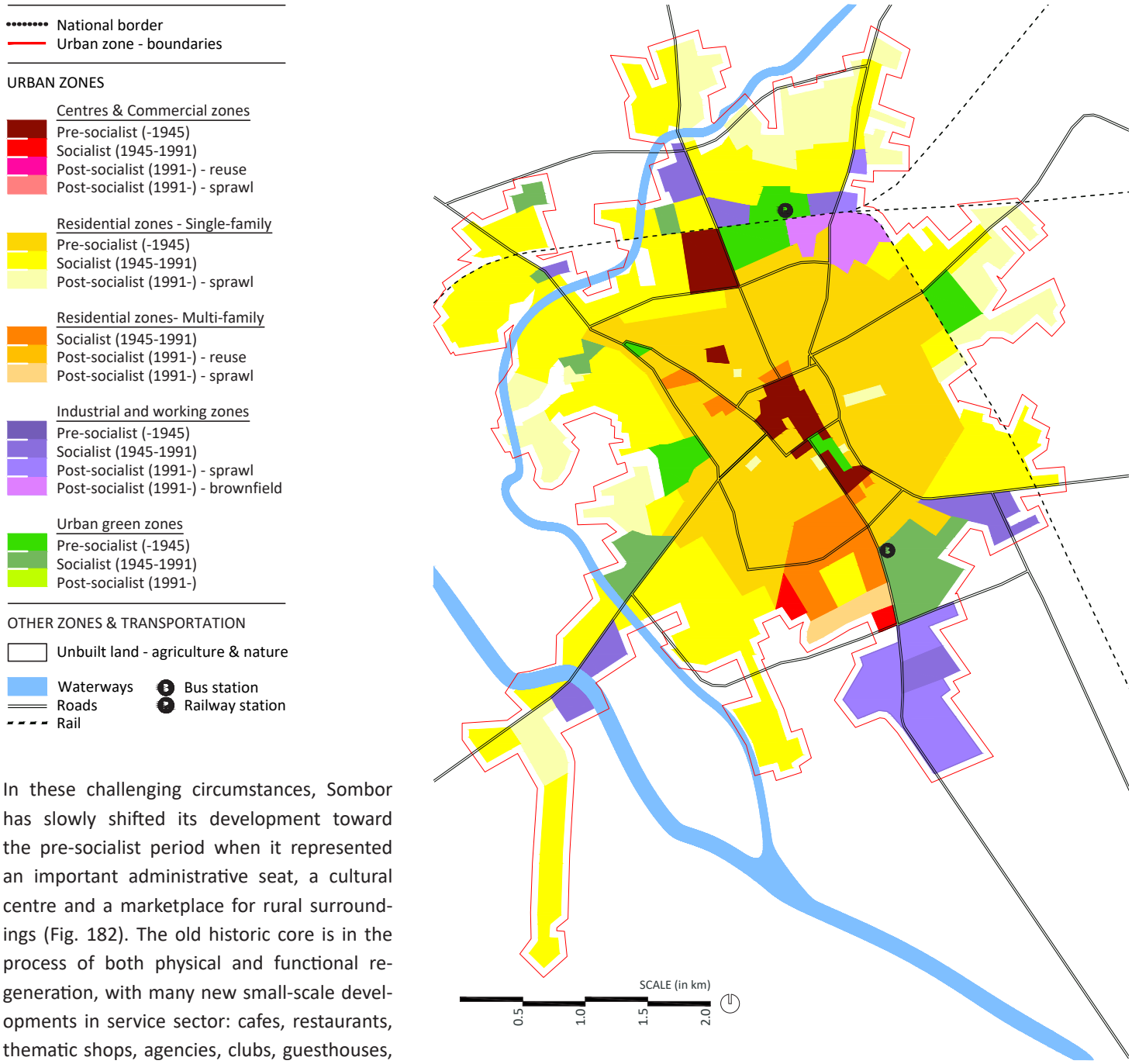


Fig. 182 / Post-socialist development of Sombor: situation 2021 (Author: N. Mitrović, 2022).

In these challenging circumstances, Sombor has slowly shifted its development toward the pre-socialist period when it represented an important administrative seat, a cultural centre and a marketplace for rural surroundings (Fig. 182). The old historic core is in the process of both physical and functional regeneration, with many new small-scale developments in service sector: cafes, restaurants, thematic shops, agencies, clubs, guesthouses, etc. Major administrative and cultural palaces, such as Županija Building (district court) and Grašalković Palace, have been refurbished. The later one is currently prepared to become a new cultural and creative hub (Fig.183). The traditionally developed small-scale industry (Fig. 184) and local crafts have been rediscovered and reinvigorated by new local associations and promotion. Nevertheless, the pace of the urban revitalisation of Sombor is still slow and the local authorities and citizens expect more support from the provincial and national levels, as well as from the development based on the proximity to the Danube.

Fig. 183 / Grašalković Palace, a planned cultural and creative hub of Sombor (Author: B. Antonić, 2021)

Fig. 184 / A 19th-century damask silk weavering manufacture of in Bezdan, near Sombor – both tangible and intangible cultural heritage (Author: D. Siljanović Kozoderović, 2021).

R

- Djukić, A., Stupar, A. & Antonić, B. (2018). The consequences of urban policies in socialist Yugoslavia on the transformation of historic centres: the case study of cities in Northern Serbia. Journal of Housing and the Built Environment, 33(3), 555-573. DOI: 10.1007/s10901-018-9612-7.

3.3.4

CASE STUDY 4 // MOLDOVA NOUĂ, ROMANIA

Ana-Maria Branea

POPULATION:
1991: 16,874
2001: 13,917
2011: 12,350

Moldova Nouă, the town located in the southern part of Romanian Caraș-Severin County, is the site of the former Dacian fortress and Roman castrum Mudava. Medieval fortress was built between 1427-1428, and destroyed by the Turks in the 17th century. The current town is formed mainly during socialist period as a mining community.

Ranked fifth in Romania as the most affected town by urban shrinkage, Moldova Nouă lost 43.79% of its population between 1989 and 2016, of which 36.65% left before 2002. (Păun Constantinescu, 2019). Even the latest 2011 official data showed 12,350 inhabitants, local authorities estimate that only about 8,000-9,000 people are currently living in in the town. For instance, common living cost boards posted at residential building entrances show an approximate 50% occupancy, as the large part of the population working abroad is still registered as living in Moldova Nouă.

The economic causes of this downgraded situation include the copper mine closure in 2006 (Fig. 185) and the lack of employment opportunities since. This severe economic and demographic shrinkage can easily be observed from the advanced state of degradation of some of its, still in use, multi-family housing buildings (Fig. 186). The town peculiar urban tissue, made up of two distinct areas, informally known as the Old and New Moldova, separated by 2.6 km of empty field further impedes its coherent urban development (Fig. 187). The town's peripheral character is exacerbated by its low accessibility,

Fig. 185 / Former copper mine (Author: A-M. Branea)

Fig. 186 / Partially abandoned apartment building in central Moldova Nouă (Author: A-M. Branea)

an issue addressed by the introduction of a ferry connection between Moldova Nouă and Golubac, Serbia, funded by a cross-border European project. The redevelopment potential of Moldova Nouă can lay, however, in either its rediscovered productive past as efforts is made to reopen the copper mine or a shift towards tourism on the Danube, for which the area needs support and preparations.

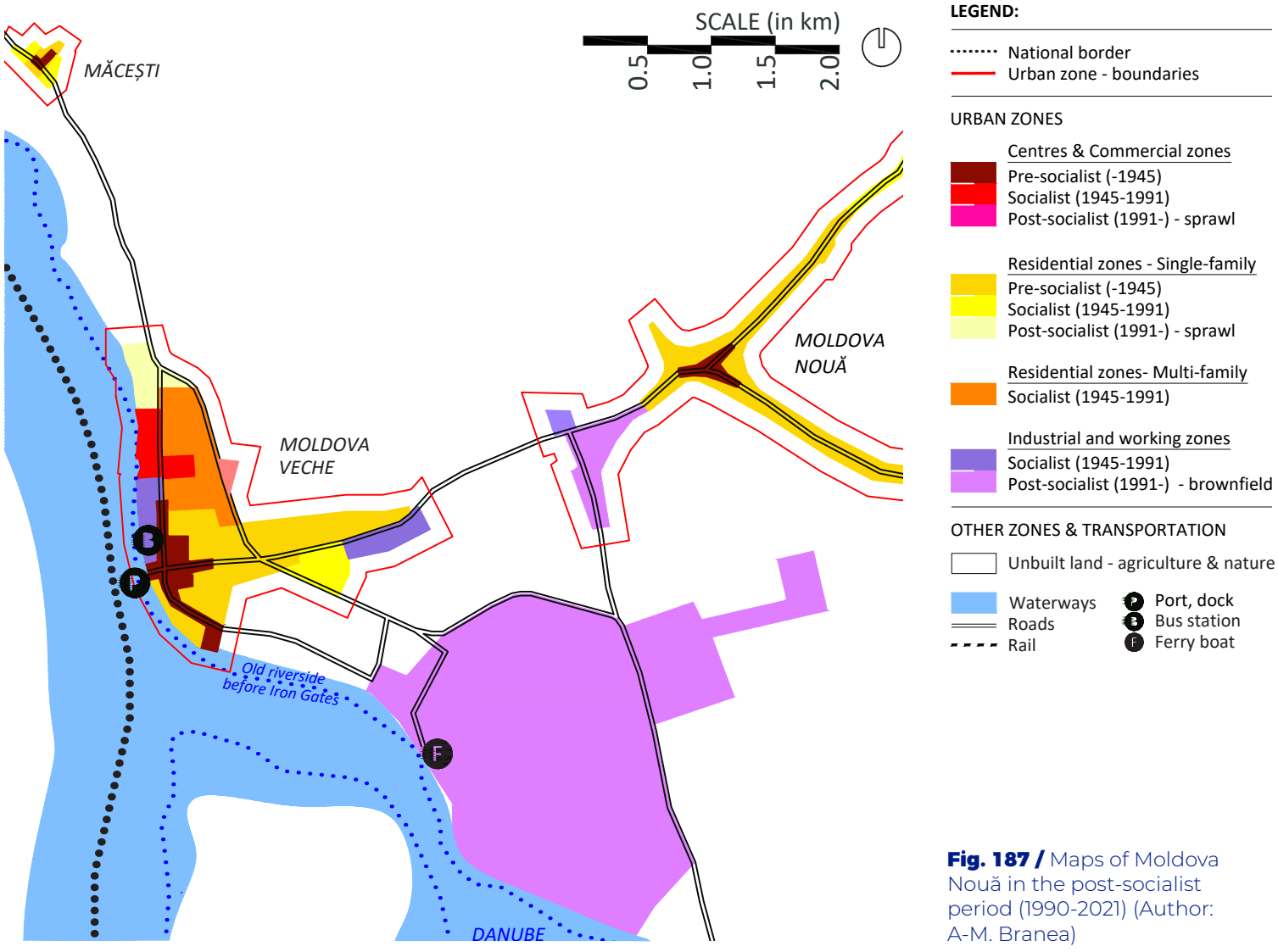


Fig. 187 / Maps of Moldova Nouă in the post-socialist period (1990-2021) (Author: A-M. Branea)

R

- Păun Constantinescu, I. (2019). Orașe românești în declin / Shrinking Cities in Romania. Berlin & Bucharest: DOM Publishers.

3.3.5

CASE STUDY 5 // GIURGIU, ROMANIA

Angelica Stan
Sorin Manea

POPULATION:
1992: 74,000
2002: 69,345
2010: 61,353

Considering the various periodisations done to delimit more precisely the period after 1990 in the development of Danubian cities in Romania, within the geo-political context marked especially by the accession Romania to the EU in 2007, we defined three major sub-periods between 1990 and 2020 (Stan, 2015):

(1) First period (1990-2006), defined by a great enthusiasm, but also by a deep confusion due to a melting system between communist remnants and new capitalist elements;
(2) Second period (2007-14), defined by the worsening of discretionary private pressure of real estate sectors for the large parts of the city, especially in periphery, for new retail zones; and
(3) Third period (2015-20), marked by the effort to overcome the economic crisis and to better adopt the European policies.

All these three periods are also in a continual demographic and social shrinking process, since the attraction of places abroad is very high, and local offer is insufficient in smaller cities such as Giurgiu (Fig. 188).

Fig. 188 / Map of Giurgiu in post-socialist period (1990-2020) (Authors: A. Stan & S. Manea)

Fig. 189 / Giurgiu Shipyard on the Danube (Author: C. Vărzaru)

Fig. 190 / Giurgiu, green resources, and potential for leisure development resources (Author: C. Vărzaru)

The current general aspect regarding the urban development of Giurgiu is of a more conscious attitude of the public authority on the existing potential and development opportunities, but also of a crass inability to implement feasible, necessary projects. There are still very few public investments and those that generate attractive jobs, such as still active Giurgiu shipyard (Fig. 189) with nearby free-trade zone (Zona Libera).

The shrinking phenomenon is deepening, especially expressed in the abandonment of large urban territories of former industrial areas re-taken over by nature, spontaneously vegetated and perhaps in this way, more attractive for wild animals than to citizens (Fig. 190). The shrinking pattern is expressed in the spatial plan by a disorganisation of the peripheral space, with sprawling developments melted with large abandoned areas, and intense development in retail on the direction of dependence/influence exerted by nearby Bucharest (Stan, 2019). In the meantime, many valuable buildings are still neglected, such as the city railways station (Fig. 191).

Fig. 191 / Giurgiu railway station in a neglected state (Author: C. Vărzaru)

R

- Stan A. (2015). Urban expansion in Bucharest, after 1990: errors and benefits. In: Doytchinov, G., Djukić, A. & Ionita, C. (Eds.), Planning Capital Cities: Belgrade, Bucharest, Sofia (pp. 224-233). Graz: TU Graz.
- Stan, A. (2019). Sprawl & Shrinking: A parallel. In: I. Păun Constantinescu (Ed.), Orașe românești în declin / Shrinking Cities in Romania. Berlin & Bucharest: Dom Publishers.

Bratislava
Vienna
Kolárovo
Štúrovo
Szob
Komárno
Esztergom
Komárom
Győr
Budapest
Ráckeve
Dunaújváros
Pécs
Baja
Sombor
Zagreb
Osijek
Dalj
Bačka Palanka
Ilok
Belgrade
Smederevo
Golubac
Moldova Noua
Orșova
Drobeta Turnu Severin
Vidin
N
0
50
100

Fig. 340_01: Tulcea in eastern Romania has become a service city for rising tourism industry in the Danube Delta. Nevertheless, industrial past is still visible (Author: B. Antonić)

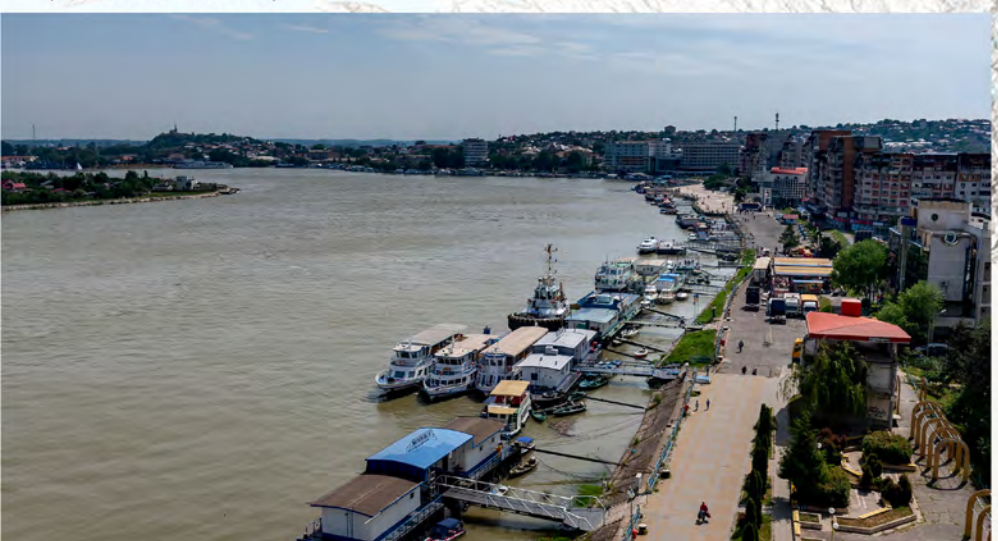


Fig. 340_02: Baja has been a peripheral demographic decline, as well as a deindus city" at regional level (Author: KEK)

MAP **3.4**

THE CHARACTER OF URBAN ECONOMY DURING THE POST-SOCIALIST TRANSITION

Economic downturn has been a common feature of the post-socialist transition in many medium and small cities and towns along the Danube the last three decades. Many urban settlements far away from the main cities and located on the Danube sections which are also national borders have been hit by extreme economic difficulties. This is especially visible in the lower section of the river, downstream from Belgrade, where the Danube becomes a very wide river and huge physical obstacle for cross-river cooperation. Many cities and towns have lost their industrial base or it significantly diminished comparing with socialist times. In these circumstances, many of them have reoriented towards post-industrial service economy, culture-led development or the different types of tourism.

1. HI: Developed industrial city/town with the dominance of heavy industry in local economy (machinery, iron- and steelworks, automobiles, complex chemical)

2. LI: Developed industrial city/town with the dominance of light industry in local economy and with the variety of industrial sectors (food, furniture, textile, leather, wood, ceramics)

3. TO: City or town with tourism-led development – tourism, culture, leisure

4. TM: Mining town around a mine or quarry (based on mineral deposits, cement processing)

5. MT: Market town with development active central market square/street and local crafts, but with no industry and with agriculture at outskirts

6. SC: Service city where the modern tertiary sector (retail, services, tourism) is dominant, while industry is at the second place

7. SU: A special type of the town with the facilities of a local service centre facilities which is under the strong influence of a big city in vicinity (but it still not a typical suburb)

city in south Hungary, which has led to strialisation. The city is currently a "service

Fig. 340_03: Sremski Karlovci in Serbia is a typical example of heritage towns bigger cities in vicinity. The rich cultural heritage of these towns has prevented their complete suburban subordination (Author: N. Mitrović)

3.5 EMERGENCE OF TWIN CITIES ALONG THE DANUBE // INTRODUCTION

Georgi Georgiev

Twin cities represent a particular case of two cities or urban centres founded in a close geographic proximity, which gradually grow into each other, losing most of their mutual buffer zone. There are no precise criteria for the twin-cityhood, but to be considered as twin cities, they have to present a similar administrative status and somewhat comparable sizes. However, some of them, considered twinned by proximity, do not necessarily match demographically, economically, or politically. In many historic cases, cities that grew into each other's space lost their individual identities, and the border or barrier originally separating them became almost irrelevant. A case of twin cities merging to become a united one on the Danube River is Budapest, which began as two settlements (Buda and Pest) facing each other across the river at a strategic crossing place along a trade route. Modern twin cities may share an airport, e.g., Dallas-Fort Worth, Leeds-Bradford or Minneapolis-Saint Paul.

Fig. 194 / Twin cities divided by a state border – View on Mária Valéria Bridge, connecting Esztergom, Hungary, with Šturovo, Slovakia (Author: G. Georgiev, 2021).

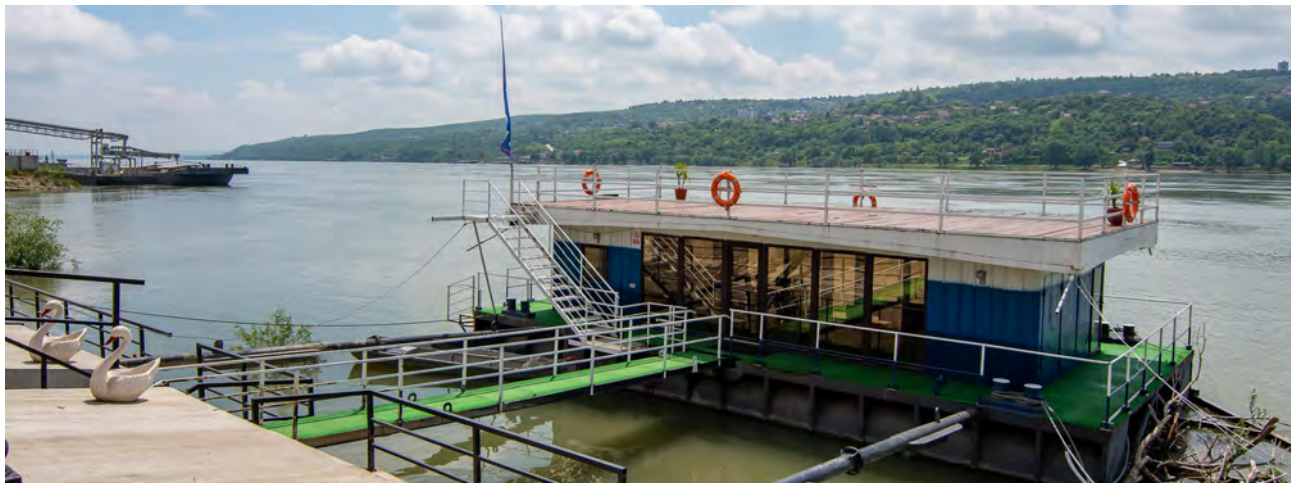


Fig. 193 / Twin cities divided by a state border – View across Danube from Bechet, Romania, to Oryahovo, Bulgaria (Author: A. Radulescu, 2021).

In some cases, the twin cities are divided by a state border, often one that strictly adheres to a geographical landmark. This is the situation with the Danube River that divides several states with twin cities on both river banks (Fig. 192-193): Komarno-Komarom and Šturovo-Esztergom in Slovakia/Hungary (Fig. 194), Ilok-Bačka Palanka in Croatia/Serbia or Vidin-Calafat, Russe-Giurgiu (Fig. 195) and Silistra-Calarasi. Depending on the historical background, twin cities can be divided by the current international border, but retain a cultural and historical similarity, due to their economic and cultural relations within the previous common governmental establishment. Border twin cities on the banks of the Danube, situated in the territory of the former Austro-Hungary Empire, represent such an example. Therefore, it is not unusual that even if they developed as very different entities and became more and more separated through political and socio-economic contexts, these twin cities kept prominent internal similarities (Szabo et al, 2019).

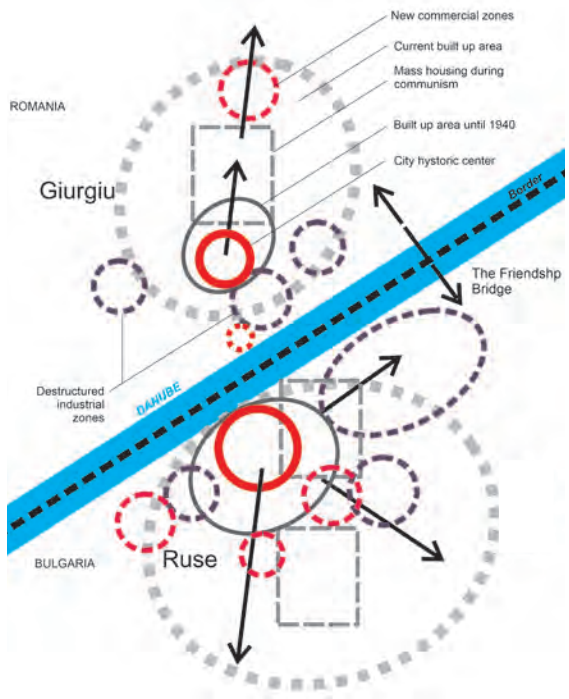


Fig. 195 / Giurgu-Ruse: Urban development scheme 1918-2021 (Author: A. Stan, 2021).

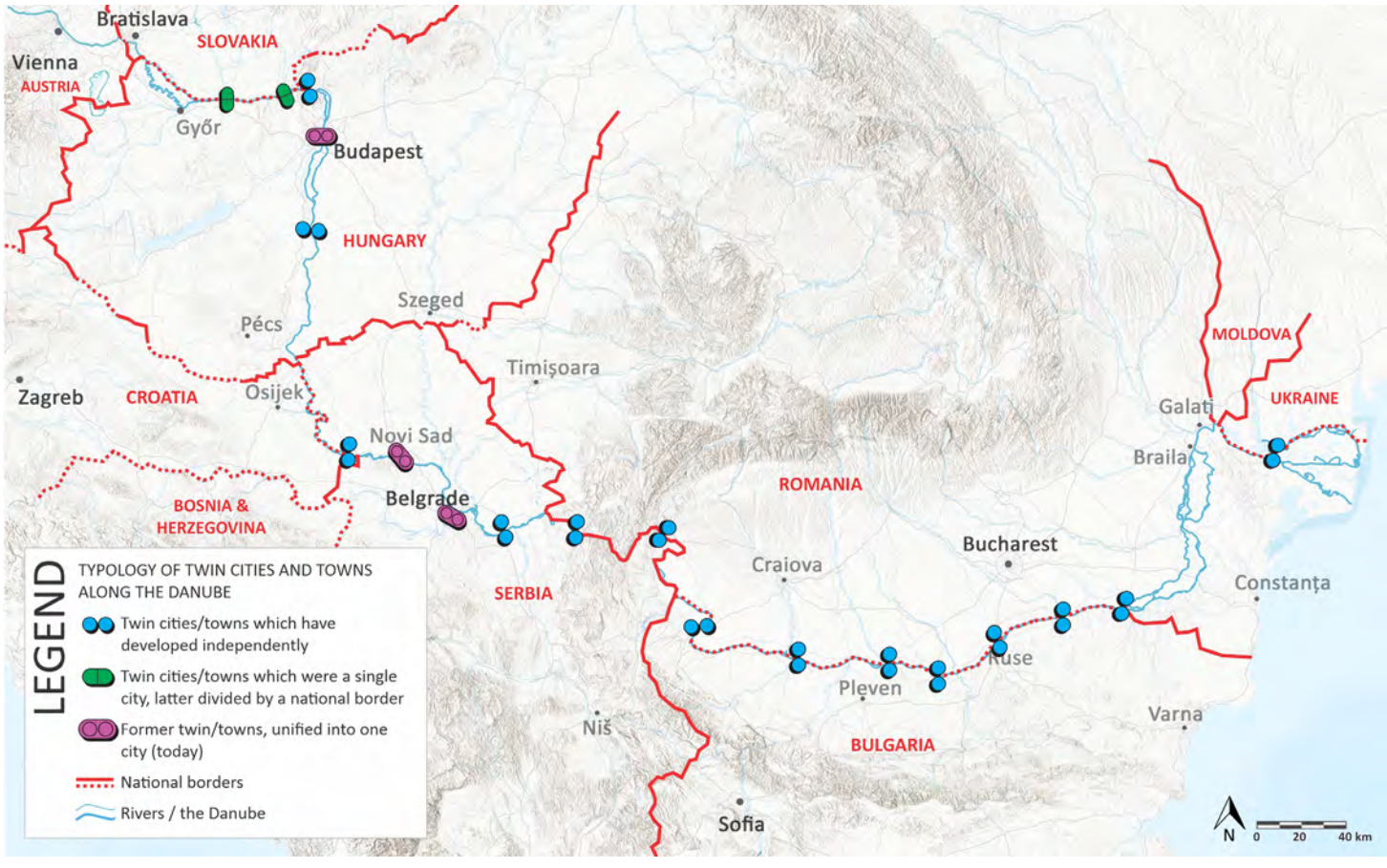


Fig. 192 / Typology of twin cities along the Danube (Author: B. Antonić, 2022).

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- Szabo, J., Stan, A., Smatanova, K. & Simion, A. (2019). Danube's Twin Cities. In: M. Benko, P. Gregor, B. Kadar & L. Vitkova (Eds.), Book on the Unexplored Cultural Heritage in Communities by the Danube (pp. 32-35). Prague: Gasset.

3.5.1

CASE STUDY 1 // ŠTÚROVO, SLOVAKIA, & ESZTERGOM, HUNGARY

Ľubica Vitková &
Kornélia Kissfazekas

POPULATION ŠTÚROVO:
1991: 12,186
2001: 11,708
2011: 10,919
2016: 10,509

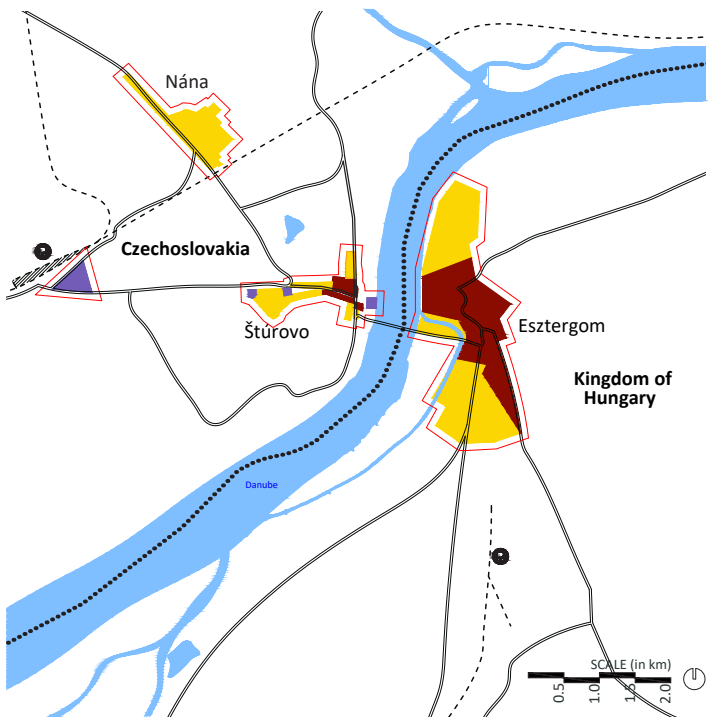
POPULATION ESZTERGOM:
1990: 29,841
2001: 29,452
2011: 28,926
2019: 29,393

The phenomenon of twin cities along the Danube underlines the importance of the river as a connection between states and regions. The ties – economical, cultural and 'physical' – are stronger, especially where they have been historically established and natural. This is the case of the towns of Štúrovo, Slovakia, and Esztergom, Hungary.

Fig. 196 / Historic view from Štúrovo to Estergom, from the early 20th century (source: T. Baka, 2021).

ŠTÚROVO (former: Párkány) was characterised by a close connection to the City of Esztergom. It was about cooperation in providing defence during the Roman Empire or during the Turkish invasions. The relationship between Štúrovo and Esztergom has been a hierarchical relationship for centuries (Fig. 196); Esztergom was a dominant city in administrative, religious, cultural and economic matters, which was reflected in its spatial structure, strengthened by the dominant terrain. In contrary, Štúrovo had a supportive function, representing an agrarian background. The character of its small-town and rural fabric corresponds to this.

It is natural that both settlements connect via the Danube River – by a comp, a pontoon bridge and finally, the Maria Valérie Bridge (Fig. 197) built in 1895 and then rebuilt twice, in 1926 and 2001 (Mravik, 1969). Changes in state borders have also influenced the cooperation of Štúrovo and Esztergom. After centuries of coexistence within Austria-Hungary (until 1918) and within Hungary (1938 to 1945), a border was drawn between the cities. Štúrovo became the territory of Czechoslovakia, and Esztergom remained within Hungary. Currently, due to the membership of the European Union and the Schengen Area, these borders are blurred again. The cooperation between both settlements has great potential, especially in the field of tourism, which is linked to their cultural and natural heritage. Nowadays, these two cities complement each other as they did during history. Each of them can offer something special and attractive, but their combination makes a synergy (Fig. 198).



For centuries, the identity of ESZTERGOM had been primarily based on the Roman Catholic Church and the early history of Hungarian state. After the World War II, however, the value system of the State Socialist regime – in which industrial-economical potential was seen as the main criteria of evaluation – did not allow for the spiritual heritage of the city to be appreciated. As the main seat of the Catholic Church in Hungary, it symbolised everything the Socialist state declared to oppose and sought to eliminate. During this period, Esztergom had also been subjected to industrialisation, accompanied by the building of housing estates. Yet the latter could not alter the architectural character of the city and only weakened its self-image (Pálfy at al, 2017).

The marginalisation of Esztergom affected its inner spatial structure, as well as the city's functioning. The Esztergom Basilica and its environs formed a traditional focal point, but, in the 1970s, the regime sought to counterbalance this by creating a new modern city centre. This was bordered by the road leading to the Mária Valéria Bridge and formerly connecting Esztergom with Štúrovo/Párkány. This bridge, destroyed during the World War II, was rebuilt only in 2001.

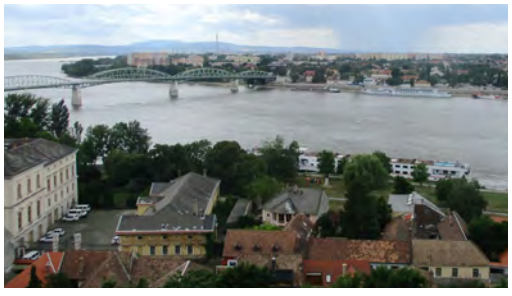


Fig. 197 / View from Esztergom to Štúrovo in 2017, with Maria Valérie Bridge (Author: A. Djukić).

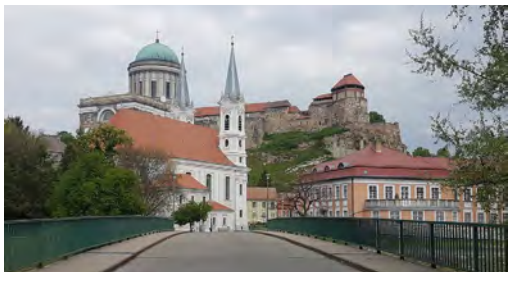
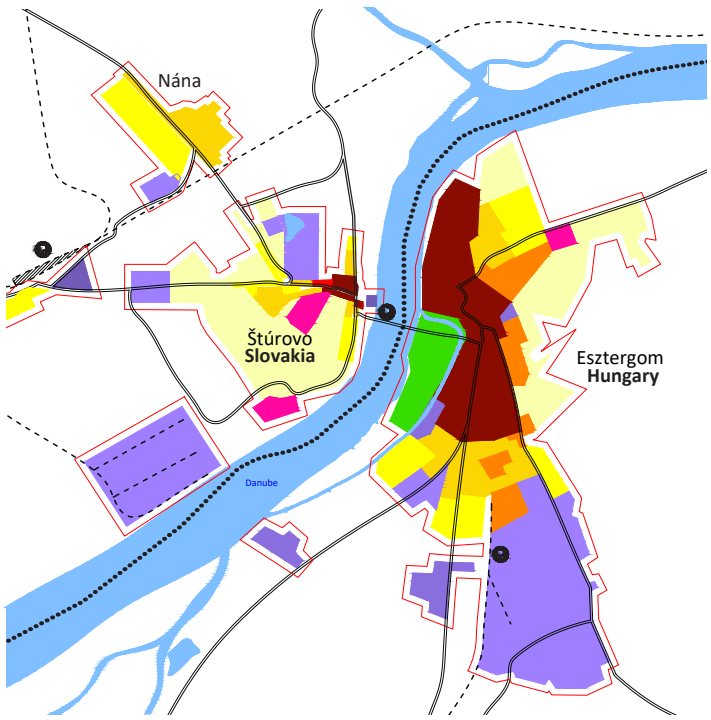


Fig. 199 / The bridge over the Little Danube connecting the Víziváros (Eng. Water Town) and the Prímás Island. (Author: M. Soma Kisery).

Today, the catchment area of Esztergom consists of circa 50 settlements and Štúrovo is also part of this cross-border agglomeration (VÁTI, 2017). The reconstruction of the bridge re-established closer links between the two cities. The historical townscape of Esztergom, working almost as a brand, increases the attractiveness of the thermal baths, and the commercial and hospitality offering of Štúrovo. Esztergom, on the other hand, offers facilities for the inhabitants and visitors of both cities a historic atmosphere along with the natural beauty of the Prímás Island and the Little Danube Arm, located between two city centres (Fig. 199).

Fig. 198 / Štúrovo and Esztergom as the part of Austria-Hungary (until 1918) (left) and as the part of the EU (after 2004) (right) (Authors: Ľ. Vitková/ Štúrovo & K. Kissfazekas/Esztergom, 2021).



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- Mravík, J. (1969). Štúrovo a okolie / Štúrovo and Surroundings. Bratislava: Slavín.
- Baka, T. (1918). Štúrovo Párkány. Bratislava: Marenčin.
- VÁTI Városépítési Tanácsadó és Tervező Iroda Kft. (2017). Esztergom Város Településképi Arculati Kézikönyve / Image Handbook of the Municipal City of Esztergom. Retrieved from: https://www.esztergom.hu/items/rendeletek/testuleti/Esztergom_TAK.pdf.
- Pálfy, S., Kissfazekas, K., Locsmándi, G., Meggyesi, T. & Wettstein, D. (2017). Esztergom jövőképe / The vision of Esztergom. Budapest: BME.

3.5.2 CASE STUDY 2 // ILOK, CROATIA, & BAČKA PALANKA, SERBIA

Dina Stober, Margareta Turkalj Podmanicki &
Danijela Milovanović Rodić

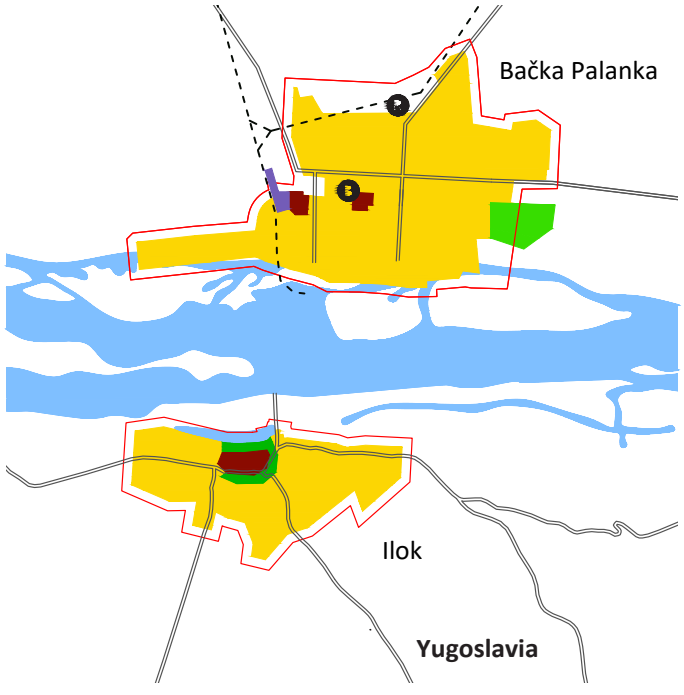
POPULATION ILOK:
1991: 6,775
2001: 5,897
2011: 5,072

POPULATION BAČKA PALANKA:
1991: 26,780
2002: 29,449
2011: 28,239

The favourable position along the navigable Danube and the fertile soil of Fruška Gora Mountain have always been key to the development of ILOK. It flourished in the 15th century during the reign of the princes of Ilok and later, when it became the seat of a large estate (1697-1945) of the Italian princely family Odescalchi.

Within the walls of the medieval historic core are buildings dating from the Gothic to modern times (Fig. 200): the gothic church of St. Ivan Kapistran, the baroque buildings of Franciscan monastery and Brnjaković Manor, ottoman Hammam (bath) and a Turbe (mausoleum of a prominent Turk). The Odescalchi family built a late Baroque-Classicist castle.

The organised cultivation of vines also marked the golden age of Ilok (Fig. 201). Old wine cellars (15th and 18th centuries) still exist. The production of Traminer, the world-famous Ilok wine, was started by the Odescalchi family in 1710. From 1745 to 1945, Ilok was the seat of the county. Over time, industry (brickworks, hop growing) and trade developed, as economical drivers which strengthened the civil society. Ilok was a river port connected by steamboats to Novi Sad, Vukovar, Budapest, Belgrade and a ferry to Bačka Palanka. After the World War II, it lost its administrative status, but remained the seat of the region.



Viticulture, agriculture and the processing of agricultural products continue. An increasing economic crisis and gradual emigration have marked the period from the last quarter of the 20th century. War consequences in the 1990s and the transport isolation of this easternmost settlement in Croatia have led to stagnation in development and depopulation. Today, the most significant potential for the successful recovery of the city represents tourism, based on the high architectural, cultural and natural values, and developed viticulture (Fig. 202). Some new steps have been already undertaken, such as the relocation of the Museum of Ilok with a modern exhibition to the restored Odescalchi Castle in 2010.

Fig. 201 / Veduta from The Odescalchi Castle to local vineyards (first plan), the Town of Ilok (second plan) and the Town of Bačka Palanka (third plan) (Source: Tourist Board of Ilok).

Fig. 200 / Ilok Castle with the Church of St. Ivan Kapistran (Authors: Romulić & Stojčić, 2011).

Fig. 202 / Ilok and Bačka Palanka development: situations after thew World War II (1945) and today (2021) (D. Stober, M. Turkalj Podmanicki & D. Milovanović Rodić).

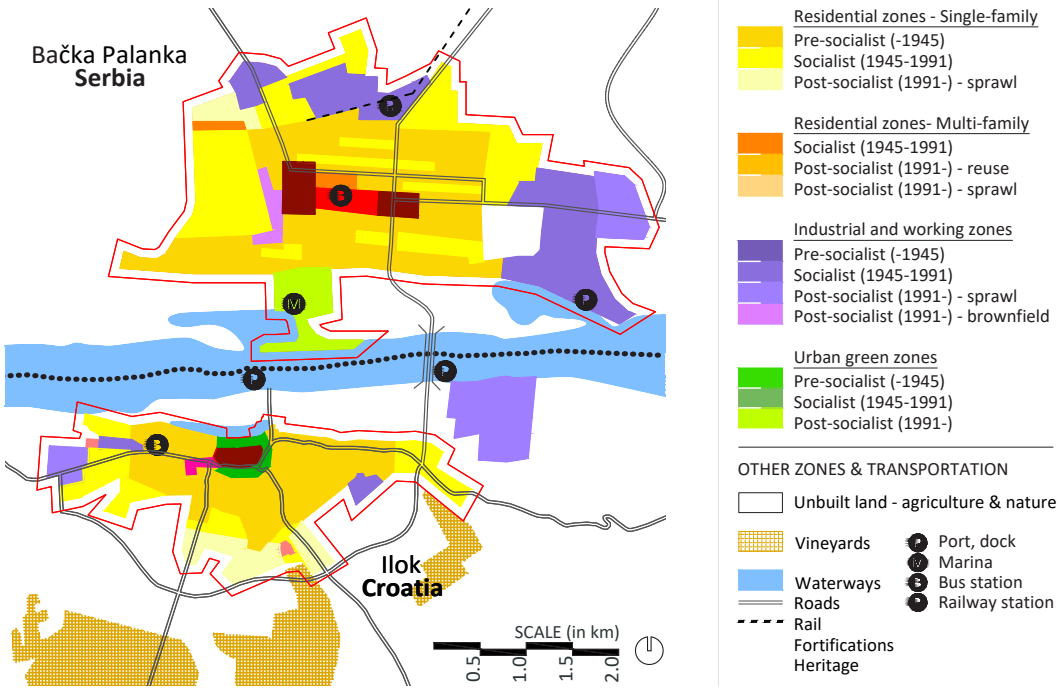


Fig. 203 / Industrial heritage of Bačka Palanka. (Author: A. Grujičić, 2021).

Fig. 204 / DANUrB, 2018: The view on Ilok across the Danube from Tikvara recreational area in Bačka Palanka (Author: B. Antonić).

BAČKA PALANKA: The first settlement dates from the 11th century. Since the Danube was often the border between different realms, Bačka Palanka has had often the position of a border settlement, i.e., the place of exchange and trade. The settlement obtained the town status in 1755. Initially, there were three nearby settlements: Stara (Old) Palanka on the Danube shore, with informal morphology and inhabited by Serbs; Nova (new) Palanka and Nemačka (German) Palanka, both on the upper terrain, as regulated settlements inhabited by Germans (Popović, 1952). Urban regulation was later applied, and the population from area along the Danube was relocated to the elevated terrain.

In the late 19th century, the first significant industrial facilities were opened – mills, hemp processing factory, brickyard and a modern ship port. Some buildings are industrial heritage today (Fig. 203). The population was constantly growing. After the World War I, three Palankas were amalgamated by a common name – Bačka Palanka. During the socialist period, there was an exceptional development of agriculture and industry in this area. The water defensive embankments were built after the severe 1965 flooding. The connection with Ilok across the Danube has been maintained by a ferry since the 18th century. The bridge connecting two settlements was finally built in 1974 (Kostić, 2012).

Today Bačka Palanka is a highly industrialised city for Serbian conditions, with several well-to-do food-processing factories in the eastern industrial zone with a modern port (Fig. 35.34). This specific situation has prevented the significant focus of the city to tourism along the Danube. The most important project is the recent refurbishment of Tikvara green and recreational area on the Danube (Reba et al, 2019), which is located directly opposite to the historic core of Ilok (Fig. 204).

R

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3.5.3 CASE STUDY 3 // VIDIN, BULGARIA, & CALAFAT, ROMANIA

Maria Shishmanova, Miriana Yordanova, Cristi Frenț,
Cristina Lixăndroiu & Adrian Rădulescu

POPULATION VIDIN:
1985: 62,484
1992: 62,691
2001: 57,395
2011: 48,071
2020: 39,568

POPULATION CALAFAT:
1992: 20,445
2002: 18,858
2011: 17,336
** Calafat Area includes four settlements: Calafat (seat), Basarabi, Ciupercenii Vechi and Golenți*

Vidin and Calafat are connected historically, culturally and economically. In the history, the Danube was more a connecting than a dividing element. Hard national borders during the 20th century greatly enhanced the process of separation. This isolation has left deep negative socio-economical consequences on both cities after the fall of socialism. Vidin District ranks last in terms of GDP in the whole EU and is among the demographically fastest shrinking ones in Bulgaria. Similarly, Dolj Country, where Calafat is located, is also among less developed and faster shrinking counties in Romania.

The joint development of two twin cities, VIDIN in Bulgaria and Calafat in Romania, is not a present-day invention. During Middle Ages, there was a connection between the medieval fortifications – the contra-positioned Kaleto Fortress in Vidin and the fortifications of Calafat, controlling the river passage of the Danube from foreign invasions (Fig. 205). The next (transportation) link was the Vidin-Calafat Ferry line with railway and road modes between the ports of two cities. It lasted from 1942 to 2013 (dysfunctional between 1945-1952). This line was closed in mid-June 2013, when a more competitive connection was opened – Danube Bridge 2 or "New Europe" – representing a physical connection of a key importance for both the present and future development of the European Connectivity (Fig. 206).

Additionally, the soft links, such as a website maintenance, Facebook page and a mobile application for car traffic on the facility, have been developed by the joint Bulgarian-Romanian company "Danube Bridge Vidin-Calafat" A.D. Furthermore, the historical reconstruction "Calafat and Vidin in the period 1877-1878" attracts more tourists and preserves the memory of both the common history and the role of Romanians in the liberation of Vidin. A bicycle trip from the medieval Vidin fortress to the lions of Calafat is also organised, as well as cultural manifestations (Fig. 207). These projects clearly underline that the cooperation between Vidin and Calafat provides a good perspective since these cities complement each other.

Fig. 207 / DANUrB+ Festival 2022 in Vidin: Dragon Boat on the Danube between two cities (Author: NTC Bulgarian Guide, 2022).

Fig. 206 / The recently opened "New Europe" Bridge between Vidin and Calafat (Author: New Bulgarian Guide, 2022).

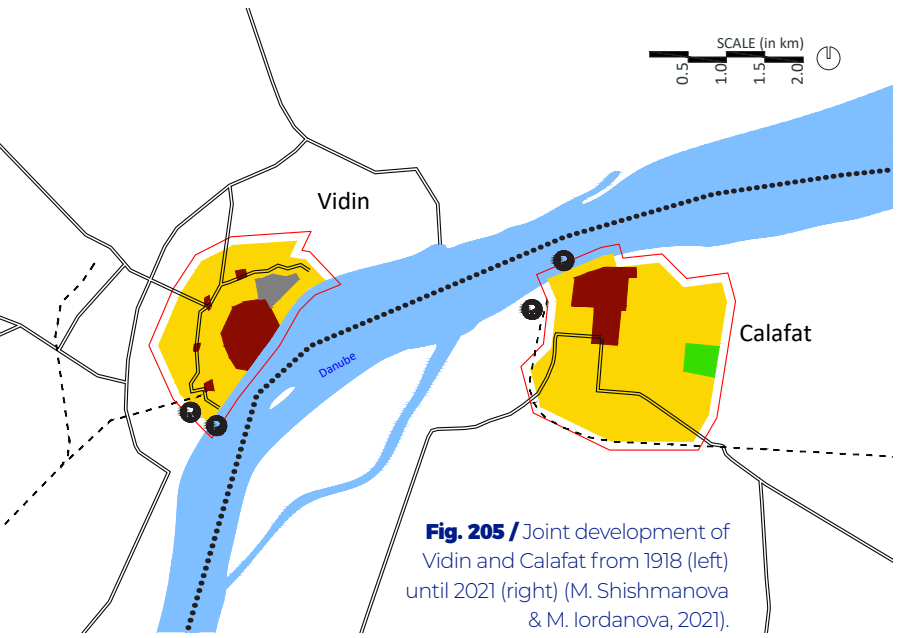
Fig. 208 / The recent development of Calafat riverfront (Author: A. Radulescu, 2021).

Fig. 209 / Art and Ethnography Museum in monumental Marincu Palace, the main cultural tourist attraction in Calafat (Author: A. Radulescu, 2021).

CALAFAT witnessed a radical economic transition in the 20th century. While agriculture remained the basic activity for most of the inhabitants until 1950s, in the period 1950-1980 a strong industrial profile of Calafat was boosted following the industrialisation policy of the communist regime. Thus, important factories were built in this period: for biosynthesis, for sugar, for starch and glucose and textile factories (CM, 2001). Nevertheless, as in the whole Romania, after 1989 the decline of industrial activities has occurred and most of the industrial units are currently closed or underused.

The last 10 years have marked a major shift in local economy, which has moved towards a service-based economy. Consequently, commerce, transport, tourism and other services dominated in local economy in 2018 and 2019. Meanwhile, the industrial activities are losing their share. During the last years the sector of tourism has been emerging, although its importance is still rather low.

An important event was the construction of "New Europe" Bridge, opened in June 2013. Linking Calafat and Vidin over the Danube (Fig. 206). There are still doubts about the prosperity brought by this investment (Deutsche Welle, 2016). However, this seems to boost both the traffic and the riverfront development in Calafat (Fig. 208). Furthermore, the best examples of local built heritage have been refurbished, such as the Art and Ethnography Museum of Calafat (Fig. 209).



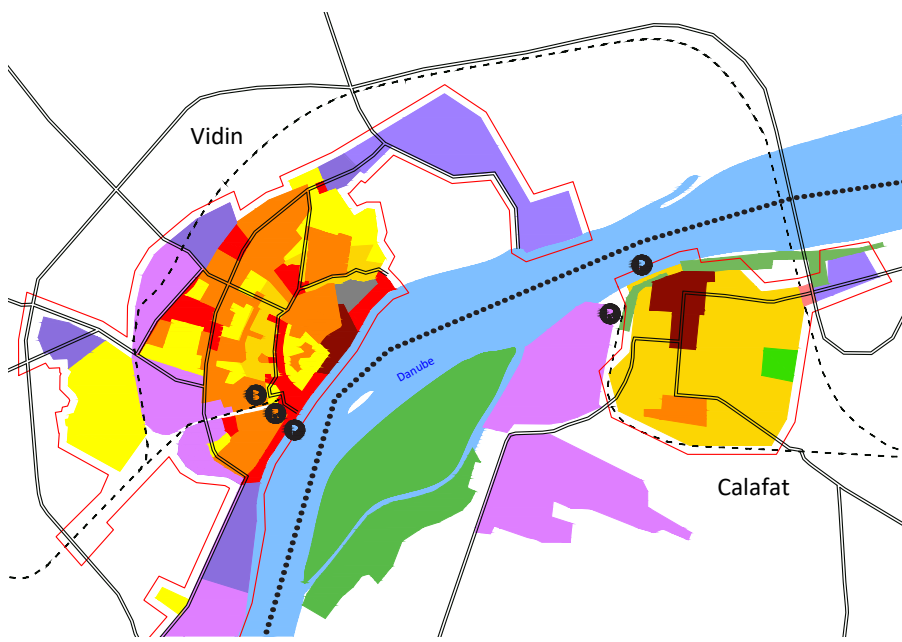
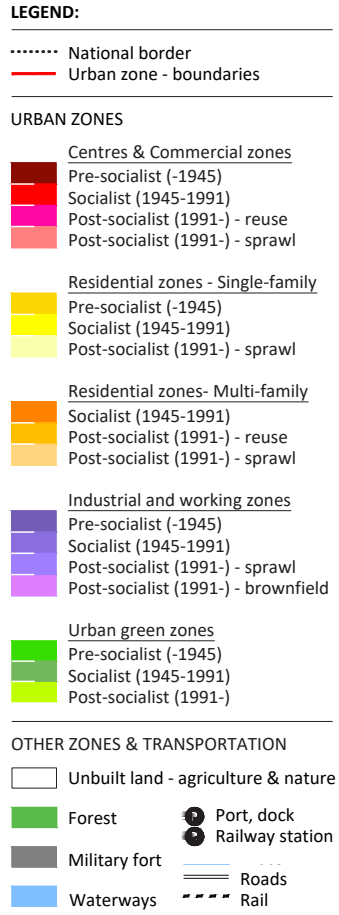


Fig. 205 / Joint development of Vidin and Calafat from 1918 (left) until 2021 (right) (M. Shishmanova & M. Iordanova, 2021).



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Bratislava
Vienna
Kolárovo
Štúrovo
Szob
Komárno
Esztergom
Komárom
Győr
Budapest
Ráckeve
Dunaújváros
Pécs
Baja
Sombor
Zagreb
Osijek
Dalj
Bačka Palanka
Ilok
Belgrade
Smederevo
Golubac
Moldova Nouă
Orșova
Drobeta Turnu Severin
Vidin
N
0
50
100

Legend

- NO, there are no the indications of reurbanisation
- YES, reurbanisation occurs mainly in pre-socialist inner urban zone
- YES, reurbanisation occurs mainly in socialist residential/industrial zones
- YES, reurbanisation occurs mainly in post-socialist peri-urban zone (suburbanisation)

Fig. 360_01: Bechet in Romania has not seen major reurbanisation yet; however, there are local efforts in achieving urban redevelopment with the new Danube Riverfront (Author: A.Radulescu)

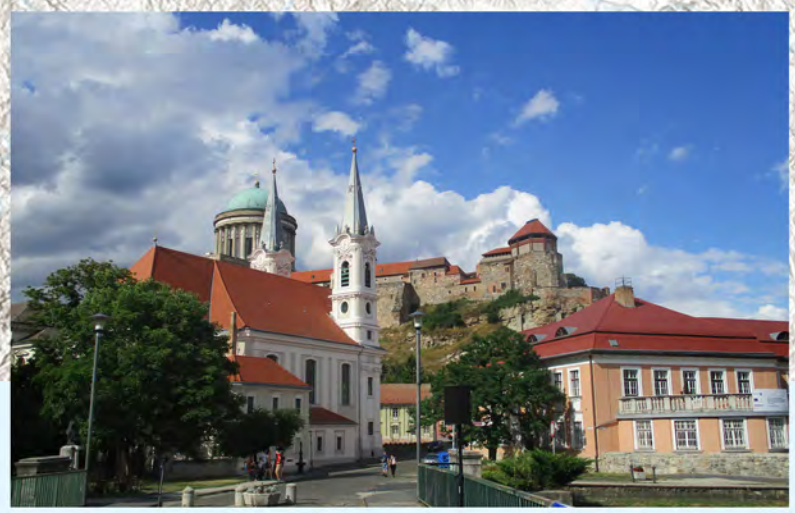

Fig. 360_02: As a historic city and important religious seat under state protection, Esztergom in north Hungary has not seen a significant reurbanisation; however, a new development is emerging in the city suburbia (Author: B.Antonić)

MAP **3.6**

SPATIAL REURBANISATION OF DANUBIAN MEDIUM-SIZE AND SMALL CITIES AND TOWNS

Although just 1/6 of medium-size and small cities and towns along the Danube are demographically growing, 40% of all urban settlements has the first functional and visual sights of reurbanisation and renewal in some urban parts. This is mainly visible in city and town historic centres, usually neglected during socialist period as the reminiscence of the unwanted past (Djukić et al, 2018). Many of the historic centres have been refurbished last years, becoming leisure "hotspots" for both local population and tourists along the Danube, which numbers has rose fast last years. Then, the overall minority of the analysed cities and towns has witnessed suburbanisation process, similar to major cities in post-socialist countries, as well as the redevelopment from their socialist "middle belt". In the other side, more than half of the cities and towns, especially smaller and peripheral ones, have not had any noticeable urban redevelopment.

City around **Budapest** / **Szentendre** or **Vac**: Many small and medium-size cities around Budapest has got the certain elements of suburbia due to the vicinity of this metropolis. This is the case with Szentendre, with finely preserved historic core and many touristic attractions. Residential periphery of this historic city has grown rapidly last few decades.

Sombor: Socialist construction and neighbourhoods in the former socialist Yugoslavia was of high quality comparing to the other socialist countries in Europe. Therefore, many of such neighbourhoods have become new "magnets" for reurbanisation processes. Sombor in Serbia is such example, as the largest socialist neighbourhood – Nova Selenča – has attractedthe bulk of local new projects, such as the main shopping mall in the city and new multi-family residential construction.

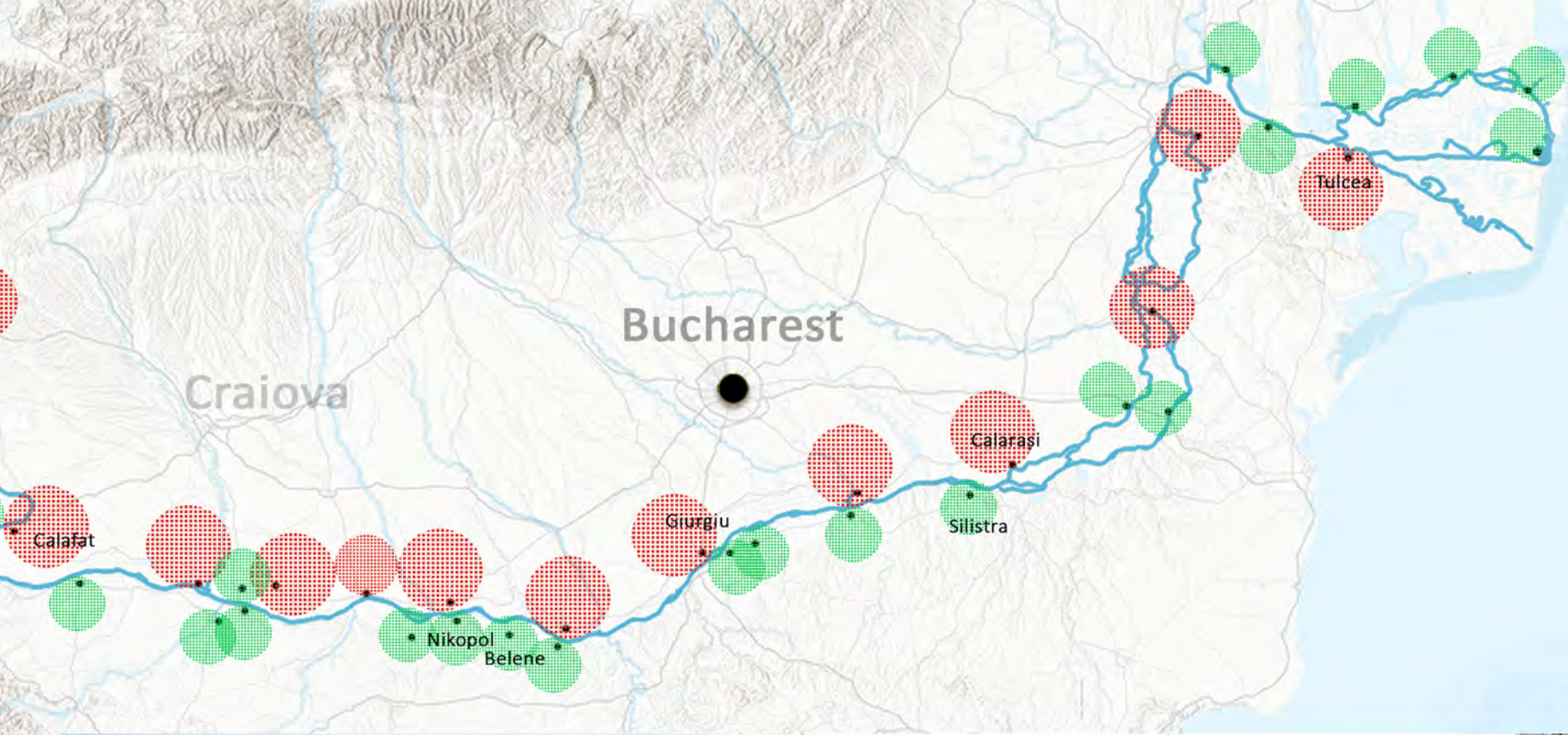

Fig. 360_03: As many medium-sized cities in Serbia, Sombor has witnessed the central urban resurge with the development of retail and multi-family housing (Author: D. Siljanović Kozoderović)

Fig. 360_04: Bulgarian cities and towns (Vidin) along the Danube have been especially hit by economic and demographic decline after the fall of socialism. Therefore, many of them do not show any significant elements of urban reurbanisation. (Author: D. Siljanović Kozoderović)

3.7 NEW POLES OF REURBANISATION
// INTRODUCTION

Angelica Stan

Most of the urban studies define reurbanisation as a distinctive qualitative change in local population structures, particularly in the inner neighbourhoods of cities (Haase et al, 2003), urban renewal (Bernt, 2009) or middle-class housing change and gentrification (Bridge, 2006). In the post-socialist countries, reurbanisation is very much expressed as a suburbanisation (Ouředníček & Šimon, 2015), while the process of deconcentration and decentralisation is clearly generated by the political, economic and societal changes occurred after 1990 (Stan, 2015).

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. The overlapping of

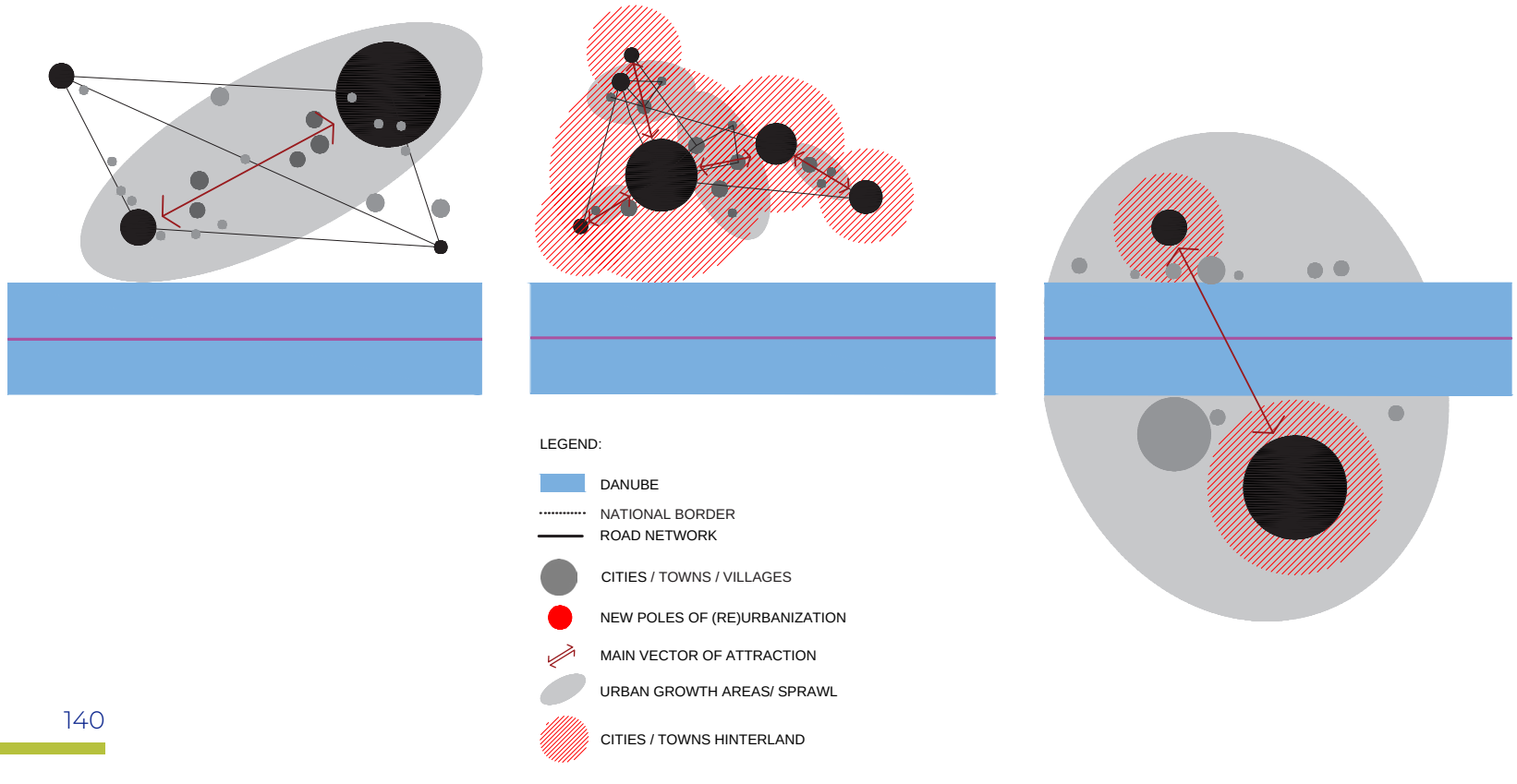

Fig. 210 / Schemes of the three new poles of reurbanisation in the Danube Region: left – Transportation-driven pole; middle – Capital-driven pole; right – Twin-cities-driven pole (Author: A. Stan, 2021).

new residential areas or of various economic activities over the pre-existing rural zones determines a spat-functional reconsideration and often the former hearths of the villages become new representational centralities.

Regarding the third force, it should be emphasised that although often the border on the Danube separates cities, it also generates a development force, especially when it is crossed by bridge. The twin cities are the clearest expression of this centrality generated by both the border and the bridge. Even if they have developed very differently, becoming more and more separated because of the political and socio-economic contexts, the Danube twin cities have kept prominent internal similarities. The border becomes a centre by potentiating the twin cities developed simultaneously and in similar conditions (Szabo et al, 2019).

It should be also noted that shrinkage is not just a statistical trend, but a qualitative phenomenon of a daily life whose physical and social features have been neglected. Therefore, its essential that reurbanisation starts exactly from that point (Stan, 2019).

R

- Bernt, M. (2009). Partnerships for demolition: The governance of urban renewal in East Germany's shrinking cities. International Journal of Urban and Regional Research, 33(3), 754–769. DOI: 10.1111/j.1468-2427.2009.00856.x
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3.7.1 CASE STUDY 1 // KOMÁRNO, SLOVAKIA

Ľubica Vitková & Andrea Šeligová

POPULATION:
1990: 37,346
2000: 37,600
2010: 35,688
2016: 34,228

The new pole of (re)development in Komárno, as in most Slovak cities, is the area of large-capacity trade facilities on the outskirts of the city in the former warehouse-industrial zone. The problem of the new pole of development represents its monofunctionality and dependence on automobile transport. However, more sustainable development poles are mainly areas of unused cultural heritage, such as a fortification system, old industrial areas and a port, or functionally underused albeit well-maintained old city core (Fig. 211).

A special potential has the industrial heritage represented by the area of ammunition plants, the port, the Old and New Shipyards (Fig. 212). Due to their location and the connections to the city centre and the rivers Váh and Danube, these areas fulfil an important prerequisite for a successful transformation. The decisive role is also played by the construction and technical condition of the buildings, the variability of their disposition, as well as the degree of preservation of the urban-architectural character of the localities. All the mentioned areas are extensive. Therefore, a conceptual approach involving many actors is necessary in their transformation. The framework concept of the transformation, as well as the functional and spatial solutions for the mentioned areas, are includ-

Fig. 211 / Komárno – well-maintained albeit functionally underused historic city core (Author: L. Vitková).

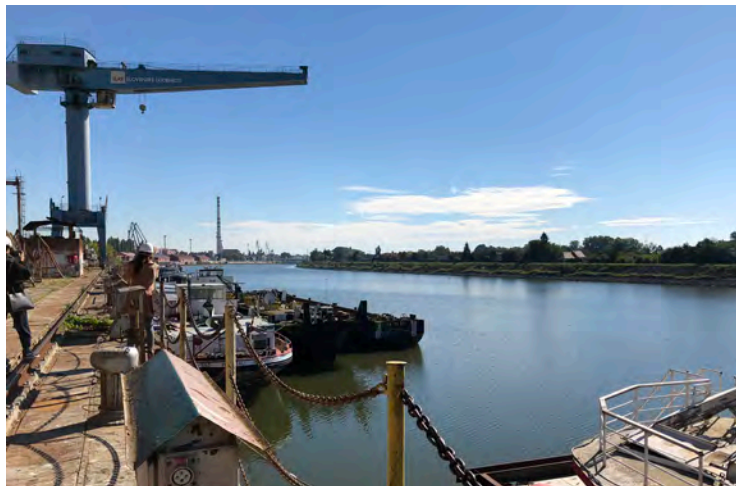

Fig. 212 / Komárno – Potential for rehabilitation of waterfront (Author: L. Vitková).

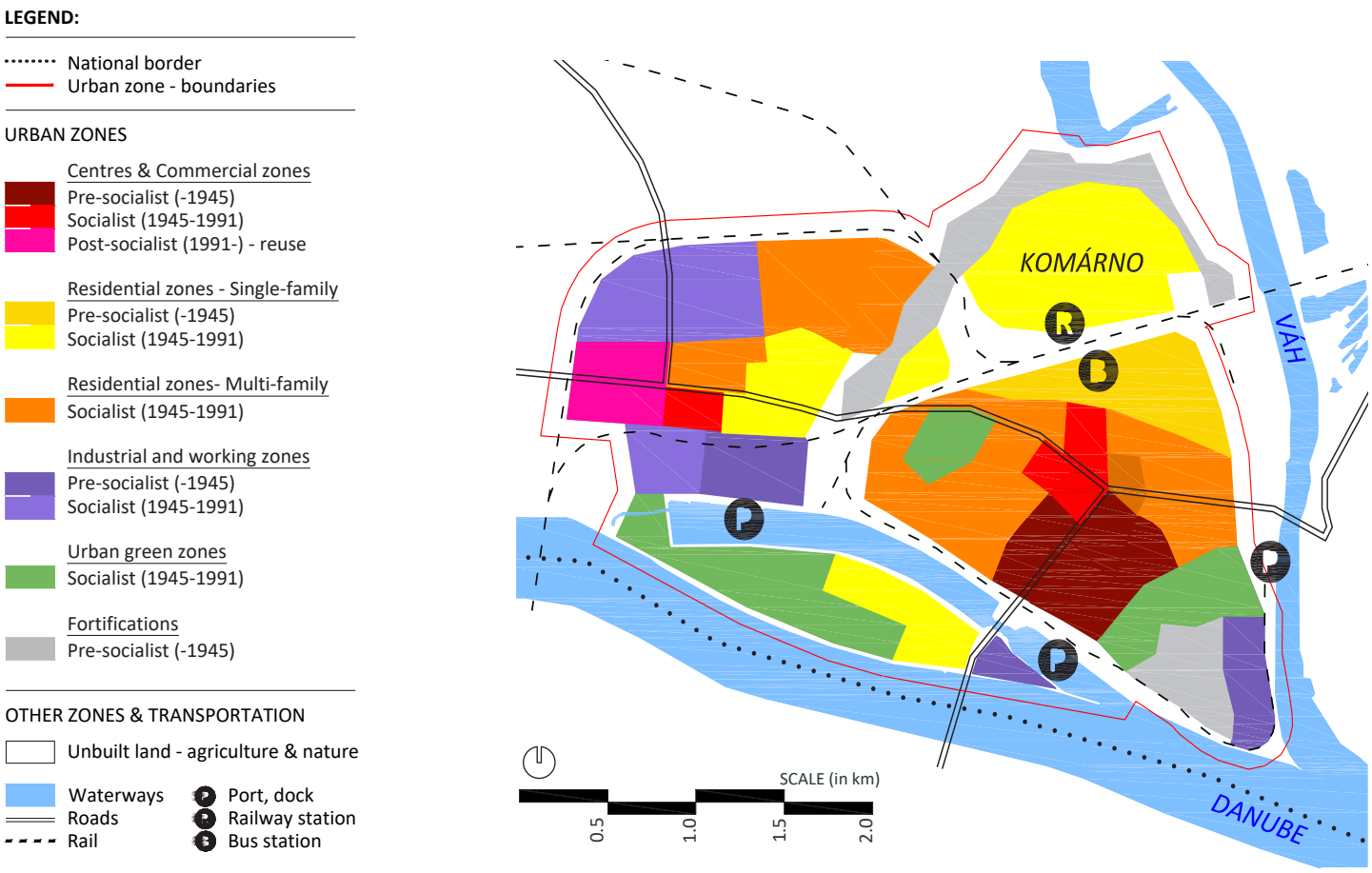

Fig. 214 / Zoning plan of Komárno in 2020 (Author: A. Šeligová).

ed in the Spatial Plan of the City of Komárno (Chudík, 2018). However, this plan also envisages a new economic development pole around the newly created port, which seems too ambitious and in conflict with the sustainable development of the city (Fig. 213).

Considering this situation, the essential elements of any future redevelopment strategy should be a functional flexibility, phasing, simple regulation and, especially, the application of sustainability principles (environmental, economic, social and cultural). In this context, multifunctional urban zones are a priority (Fig. 214). Moreover, all strategic projects have to take the Danube in account; for example, a promenade along the Danube and Váh embankments.

Fig. 213 / The possible poles of the redevelopment of Komárno: violet circles and lines imply indoor facilities, while green circles and lines imply outdoor/ green places and corridors (Author: D. Podešva, 2021).

R

- Chudík, M. (2018). Územný plán mesta Komárno: koncept riešenia / Territorial Plan of the City of Komárno: Solution Concept. Bratislava: AUREX.

3.7.2 CASE STUDY 2 // RÁCKEVE, HUNGARY

Árpád Szabó

POPULATION:
1990: 8,091
2001: 8,674
2011: 9,755
2016: 10,605

At the southern tip of the Csepel-Island, a 45 km long, natural island on the Danube, Ráckeve is at the internal periphery of Hungary. The town is connected by a bridge within the mainland on its east side (Fig. 215), while only a ferry at Lórév Village provides a vehicular connection towards the west (Fig. 216).

The city's origin traces back to the early middle ages (1212), but its first boom started with the settlement of Serbs fleeing the Ottoman-Turkish troops from the Lower Danube region (1440). Ráckeve developed into an important centre of wine, fruits and industry organized into guilds in the 15th century. From the 18th century, catholic Germans, Calvinist Hungarians, and Greek Orthodox Serbs comprised the population, with a strong service industry based on agriculture and merchant activities. The built environment includes a significant number of protected buildings, with Serb Orthodox Church (1487) and Savoyai Castle (1702-1750) having particular importance. The Serb Orthodox Church (Fig. 217) is the only medieval orthodox church built in a gothic style all over the world.

Nowadays, the gradually developing innovative heritage identity and the leisure and service economy also strengthen the local identity. New touristic and leisure attractions, e.g., Boat Market, Ship Mill (Fig. 218), boat archaeology, invite more and more visitors to the city. Nevertheless, due to its unfavourable

Fig. 215/ Ráckeve from the eastern side of the Danube (Author: G. Török, 2018).

Fig. 218 / Refurbished boat mill in Ráckeve (Author: P. Wolf).

Fig. 217 / The Serb Orthodox Church in Ráckeve is the only medieval orthodox church built in a gothic style all over the world (Author: P. Wolf).

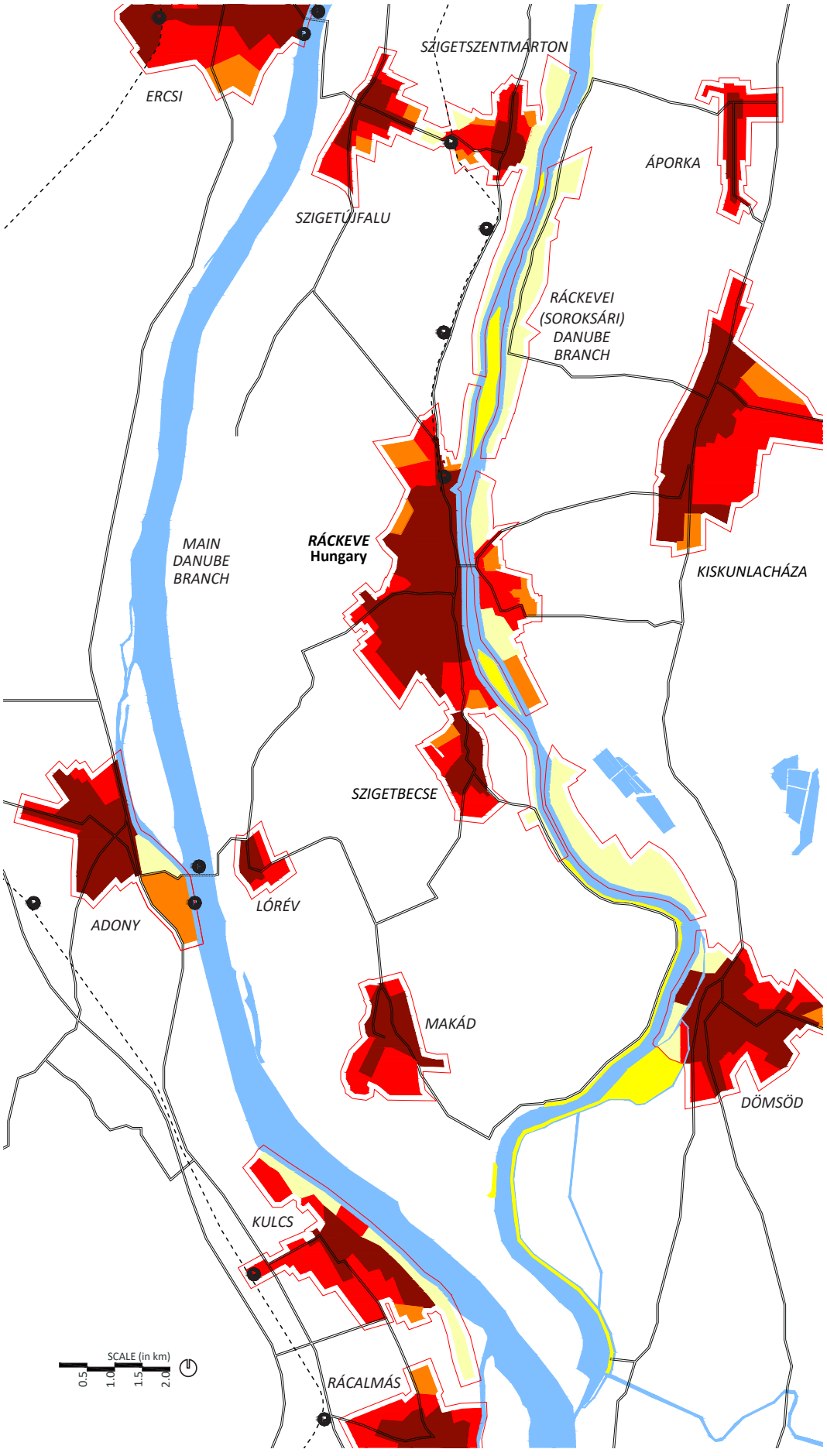

Fig. 216 / Szigetzug Region and Ráckeve – the recent spatial development (Author: A. Szabo, 2021).

location, Ráckeve could preserve its attractive status. Nevertheless, with the improved suburban railway line connecting to Budapest, its relative accessibility is good today, while real estate prices are still low. Since the early 2000s, the population has been permanently growing because of the internal migration from the capital and other Hungarian regions. Hence, the town's pleasant environment, natural features, cultural heritage and waterfront location make it attractive for families and the elderly alike.

3.7.3

CASE STUDY 3 // GOLUBAC, SERBIA

Nikola Mitrović

POPULATION:
1991: 3,082
2002: 2,821
2011: 2,581

** Golubac Urban Area includes four settlements: Golubac, Radoševac, Usije and Vinci*

The post-socialist period in the case of the Federal Republic of Yugoslavia (1992-2006) encompasses the Yugoslavian Crisis in the 1990s. This challenging period included international isolation and embargo for the country, which reflected deeply on urban development. In the case of the Town of Golubac, its peripheral position to Romania and the downturn of relatively small local industry made a strong negative impact on the local socio-demographic trends. Moreover, local tourist demand, very important during the late socialism, crushed with the sudden decline of the middle class in Serbia. The urban area started to depopulate. Consequently, Golubac lost 1/6 of population during the period 1991-2011.

Fig. 220 / New pedestrian-cyclist path along the Danube in Golubac Centre (Author: B. Antonić, 2018).

Fig. 219/ Golubac Fortress during reconstruction in 2017 (Author: B. Antonić, 2017).

The winds of changes began in the late 2000s, with the rise of the awareness about local cultural heritage and the potentials of (cultural) tourism at the national level. First, Golubac Municipality was supported by national and international organisations to develop planning and strategic base for new plans and projects, which were enacted in the forthcoming years (Djukić at al, 2018). The critical element was the reconstruction of Golubac Fortress, the national monument of culture of an extraordinary significance, completed in 2019 (Fig. 219). The fortress has recently become a 'tourist magnet' for both local and international visitors.

Golubac Town has got several other important investments, such as a 4-km long pedestrian-cyclist path along the Danube Riverside (Fig. 220) or the redesign of the main town square (Vukmirović et al, 2018). Many old houses in the town historic centre have been refurbished during the last years, as well as newer houses in nearby weekend zones. The most of them were transformed into new facilities for fast developing tourism: cafes, restaurants or guesthouses. Some projects are in progress or planned for the near future, such as new town marina and a new big hotel. Interestingly, the urban area has not grown significantly – it seems that this revitalisation of Golubac was mainly focused on urban regeneration and urban reuse as an additional quality of this development (Fig. 221).

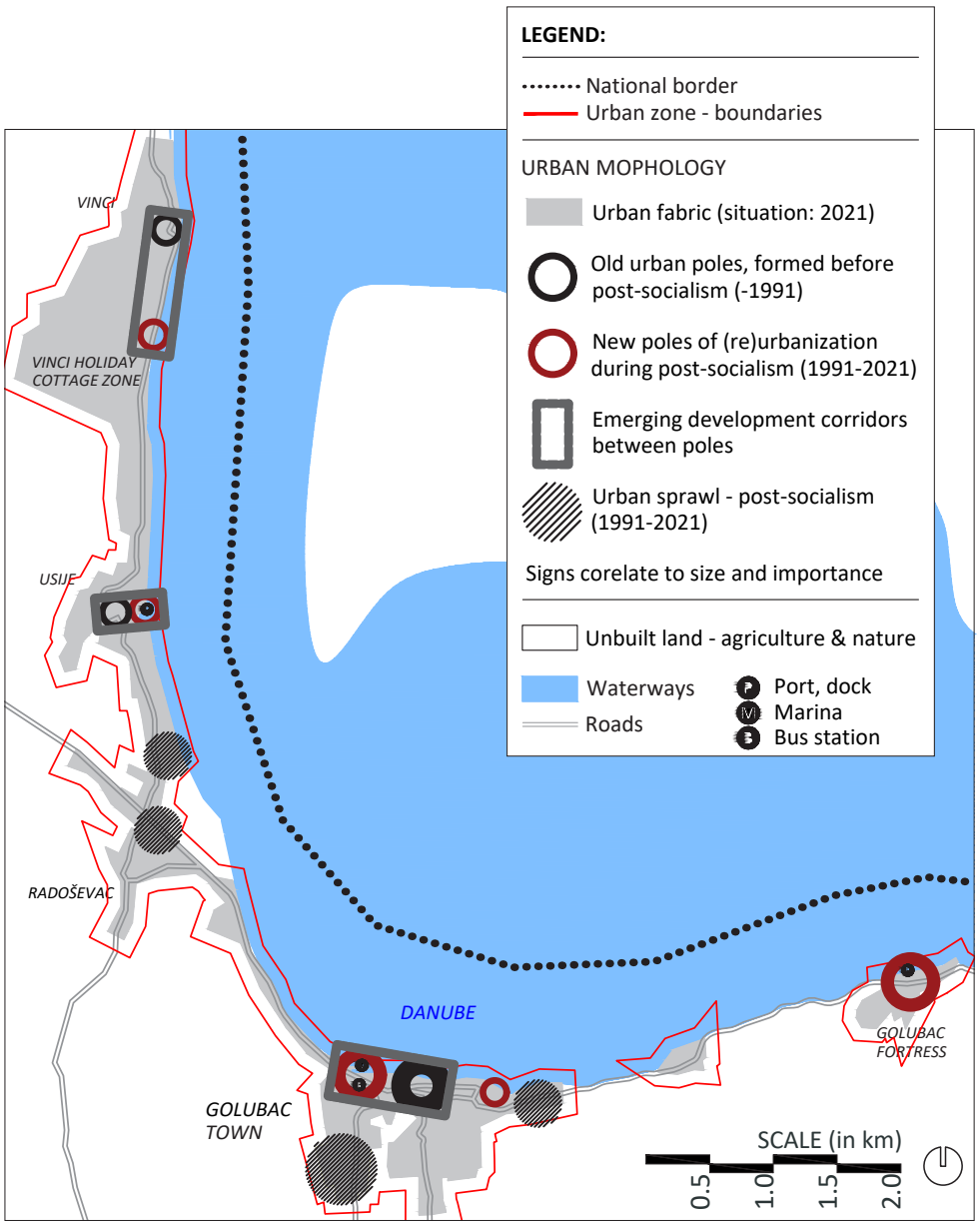

Fig. 221 / Golubac Urban Area today: Situation in 2021 (Author: N.Mitrović).

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3.7.4

CASE STUDY 4 // DROBETA TURNU SEVERIN, ROMANIA

Mihai Danciu

POPULATION:
1992: 115,259
2002: 104,557
2011: 92,617

Although Drobeta Turnu Severin has the ancient and medieval historical layers of exceptional value, the history of the current city begins in 1833 with the opening of trade relations on the Danube following the Adrianople Pact (1829). The formation of the modern city in the first half of the 19th century followed a precedent set in time a century ago, when this territory was to be regulated by the Habsburg Empire.

The early 20th century was the period of the highest cultural flourishing, the intense industrialisation and urbanisation of Drobeta Turnu Severin. The industrialisation and urbanisation of the city continued during the socialist period with the extension of an orthogonal street network through new neighbourhoods and the concentration of the compact industrial and port areas along the river. In fact, the 20th century managed to implement the street plot, planned by Xavier Villacrosse and Moritz von Ott – at the command of General Pavel Kiseleff a century ago, and develop it to north, towards the areas with the best opportunities for development.

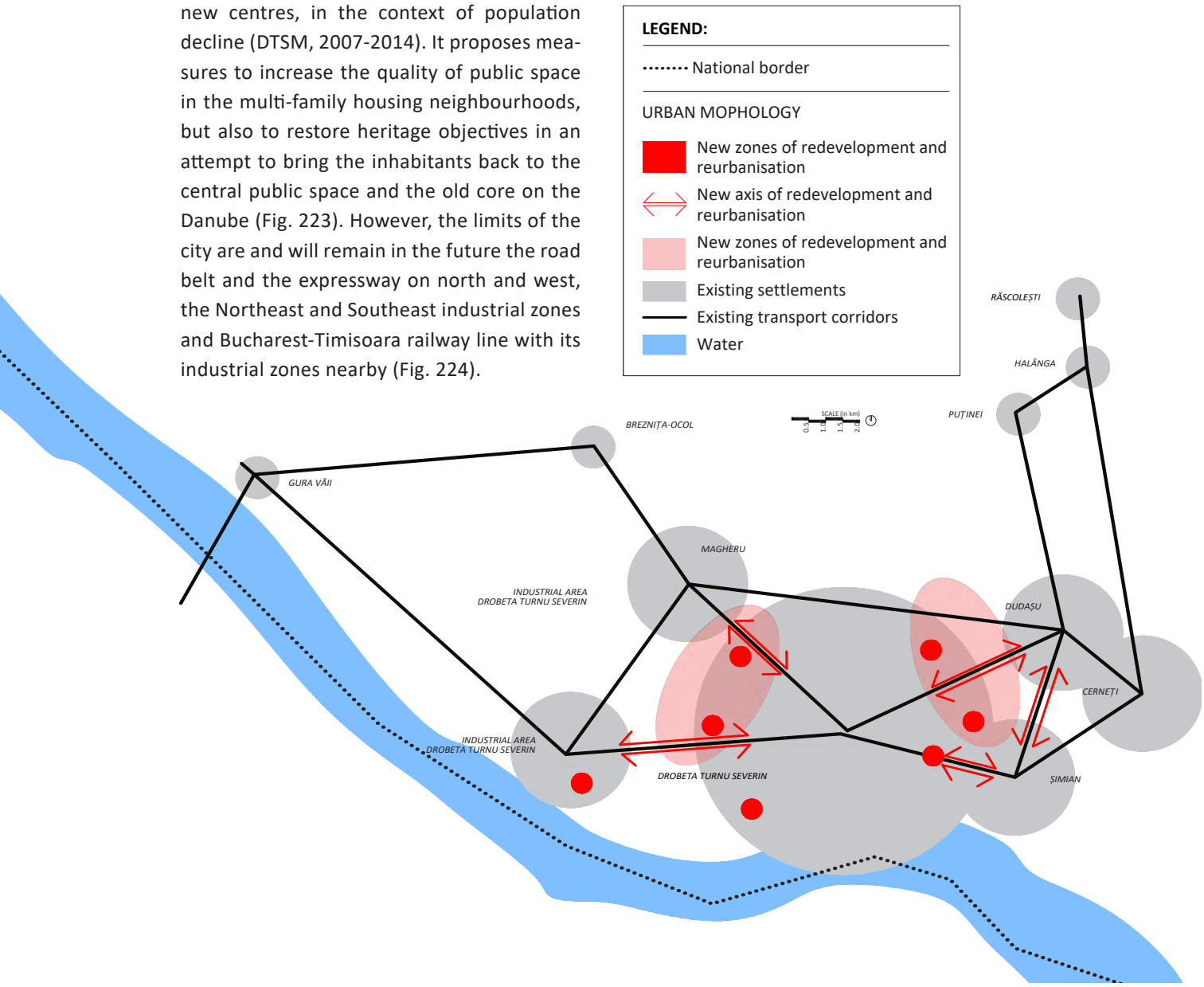
Contrary to declining demographic indicators and the degradation of the city centre (Fig. 222), the sprawl of peri-urban areas in all possible directions has appeared after 1990. This suburbanisation has led to the imbalance of areas of interest, especially the south-north axis in city centre. The main criterion for this expansion is the accessibility to the main road corridor DN6 through the city or Craiova-Timisoara Express Road.

Fig. 222 / Two historic layers in degradation: pre-war townhouse and the socialist "Traian" Hotel (Author: M. Danciu, 2021).

Fig. 223 / View on the historic core of Drobeta Turnu Severin (Author: A. Radulescu, 2022).

The sustainable development strategies of Drobeta Turnu Severin, drawn up after 2007, highlight this paradox of expansion without new centres, in the context of population decline (DTSM, 2007-2014). It proposes measures to increase the quality of public space in the multi-family housing neighbourhoods, but also to restore heritage objectives in an attempt to bring the inhabitants back to the central public space and the old core on the Danube (Fig. 223). However, the limits of the city are and will remain in the future the road belt and the expressway on north and west, the Northeast and Southeast industrial zones and Bucharest-Timisoara railway line with its industrial zones nearby (Fig. 224).

Fig. 224 / Drobeta Turnu Severin: polycentric development today (Author: M. Danciu, 2022).



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3.7.5 CASE STUDY 5 // GIURGIU, ROMANIA

Angelica Stan & Sorin Manea

1992: 74,191
2002: 69,345
2011: 61,353
2021: 55,700

The post-socialist development of Giurgiu is not based on major restructuring or revitalisation projects, but has followed a gradual evolution through small interventions within the urban fabric and few new insertions related to local industry, retail and small residential areas. After 1990, the rapid process of economic restructuring begins with the emergence of private sector, by decreasing the heavy industry and increasing of services and small production. The service economy is dominant today, supplanting production sector – heavy industries which are depleted and the large industrial areas in the city west and south outskirts remains abandoned.

Most part of new constructions are the private ones. Public investments from local or external funds are rare and oriented on some key city issues: infrastructure, public facilities, green and leisure spaces. Furthermore, not all of the designed public projects have been implemented. The interventions that stand out to be the most necessary from the point of view of population and urban planners are those related to the historic heritage under the threat to be lost. The large part of central Giurgiu is listed as a protected architectural-heritage site with monuments of different degree of importance, archaeological areas, including Mircea cel Batran Fortress (Fig. 225).

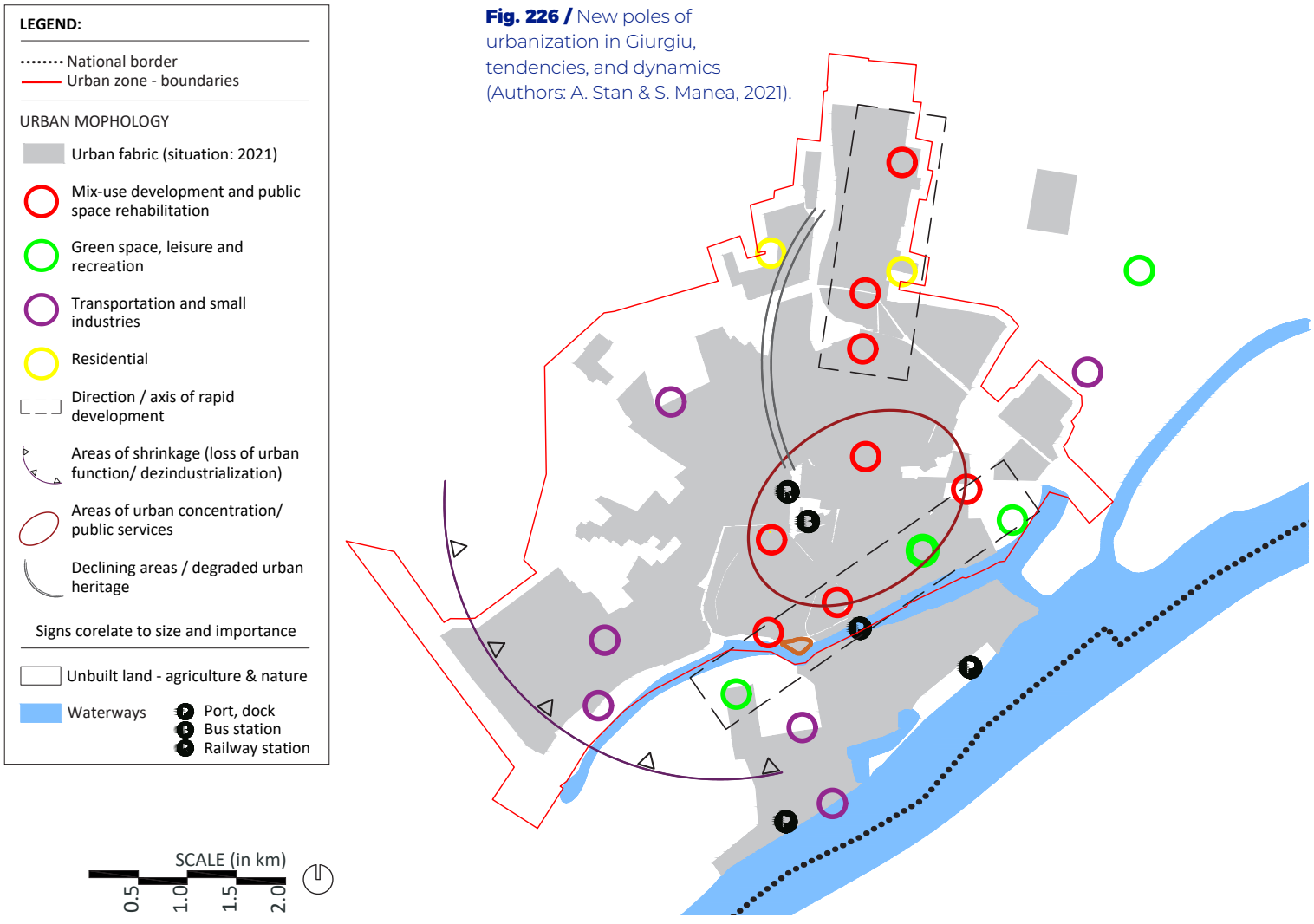
Fig. 227 / North railway station in Giurgiu – abandoned heritage (Author: C. Vărzaru)

Fig. 228 / Interior of North railway station in Giurgiu – abandoned heritage (Author: C. Vărzaru)

Fig. 225 / Archaeological site of Mircea cel Batran Fortress in Giurgiu (Author: C. Vărzaru)

Another aspect reported by the population and put on the agenda of the local authorities is the development for leisure, walking, sports of riverfront area, especially in the south and east part of the city, related to Danube Ostroves and Cama canals (Fig. 226). Besides disaffected industrial sites and unused railroads and railway stations (Fig. 227-228) with a real conversion/regeneration potential, there are also sites which are susceptible to new developments, with real-estate potential: places where the community develops specific local activities, such as fishing, spontaneous leisure or fairs, then, unused private land inside of some big former industrial estates, as well as not finished or abandoned built structures.

Fig. 226 / New poles of urbanization in Giurgiu, tendencies, and dynamics (Authors: A. Stan & S. Manea, 2021).



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3.8 RE-EVALUATING URBAN MORPHOLOGY OF DANUBIAN CITIES AS A DIRECTION FOR THE URBAN FUTURE

Angelica Stan

MACRO-MORPHOLOGICAL TRAITS OF THE DANUBE URBAN TERRITORY. The Danube's space seems inextricably linked to the diversity of the communities that define it, as result of a remarkable historical evolution and other subsequent factors, as the economic changes, the demographic dynamics, the political aspects and social tranformations. Each of the cities involved in this study had distilled in its singural way the conditions imposed by the different regimes, the rise and fall of Roman, Austro-Hungarian, Ottoman, Slavic empires, or the Iron Curtain.

The periphery is linked to a disruptive limit in relation to a context of a certain homogeneity. In the case of the Danube Region, the periphery is understood especially in terms of the relationship with the spatial and geo-political structure of the EU, the centrality of the Danube as territory being assimilated to the European centrality (Fig. 229). Regarding the Lower, Central and Western Danube there are clear differences between cities of similar size, regarding the quality of spaces and facilities, and at the overall economic and societal level. A primary cause of these disparities is the infrastructure density, and the presence of borders between geo-political systems (Smętkowski, 2018). From a spatial point of view, it is important to understand the mechanisms of shrinking and peripheries in Danube cities and towns. Based on various criteria we declined the following typologies for the entire range of the Danubian small and medium cities. We propose the following three scale levels with specific criteria of evaluation for each of them: (1) The regional (macro-) scale level; (2) The city (mezzo-) scale level; and (3) The local urban fabric (micro-) scale level. In this chapter, we will o talk about the first two scales levels of morphological approach to the cities from the Danube area – the macro-level and the intermediate one.

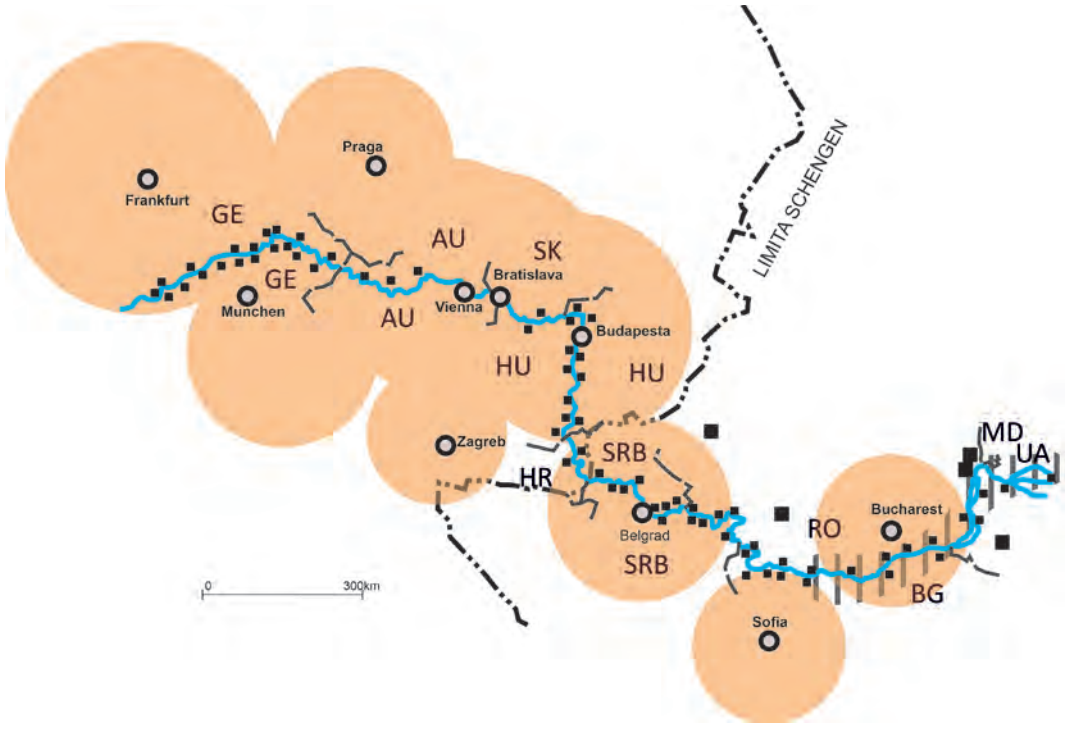

Fig. 229 / The macro-morphological map of the Danube Region indicating the presence of main centralities and peripheral areas due to strong and disruptive limits (Author: A. Stan).

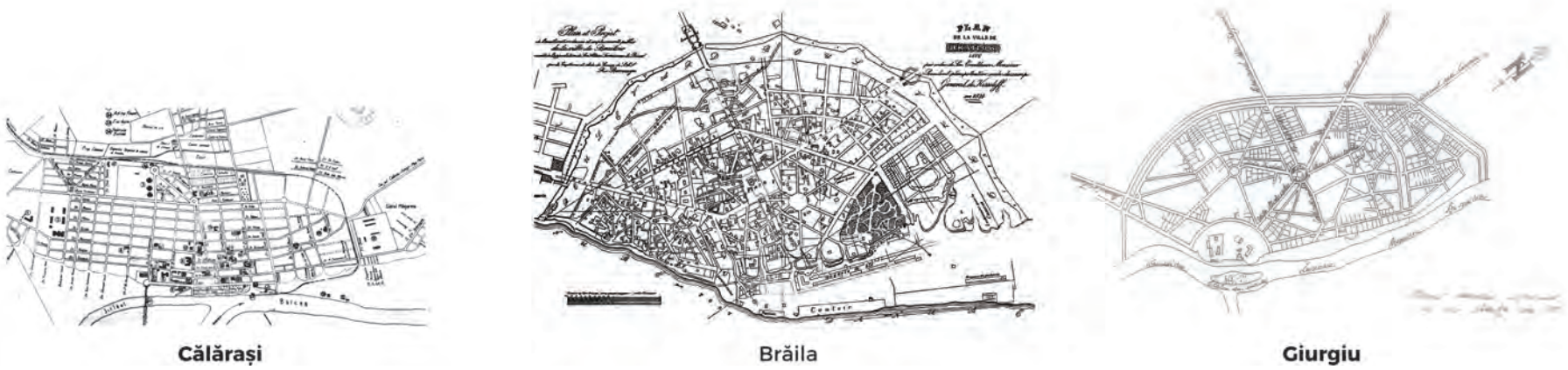

Fig. 230 / Three main type of cities on Danube: planned, regulated and irregular, from the point of view of the main urban structure historically defined (Source: A. Stan).

URBAN GROWTH PATTERNS AND EVOLUTIVE TYPOLOGIES OF DANUBE CITIES

The growth patterns of Danubian cities are influenced by several elements: (1) the river geo-morphological features, (2) landscape and hydrography, (3) the state borders, (4) the settlements system density, and (5) the accessibility of the main European and Eurasian transport corridors. The first division in cities and towns is related to difference between planned, regulated and irregular urban settlements, regarding the morphological elements: streets and block matrix, width of streets, shape of main squares, urban front etc. (Fig. 230). Many planned cities from the socialist era are suffering a peripheralisation from the inside centre to the outskirts, because of the abandonment of land and equipment.

Among the cities studied, there are cities whose growth is insignificant or none, as they were designed to respond to a certain function, i.e., industrial cities such as Drobeta Turnu Severin in Romania. The morphology of the Danube cities highlights the relationship between the diversity of spatial patterns and the creativity of communities and local resources (Oliveira, 2016). The resilience of these cities is connected to the vitality and translated into the energetic and imaginative way of processing the spatial identity (Stan & Ionita, 2014). Therefore, to reveal the urban morphology often means to reveal the quality of space – "a sense of wholeness, spirit, or grace, that while of varying form, is precise and empirically verifiable" (Alexander et al, 1977). Looking at the urban tissues of urban and rural communities, we can observe strong common 'genetic' traits based on collective cultural patterns.

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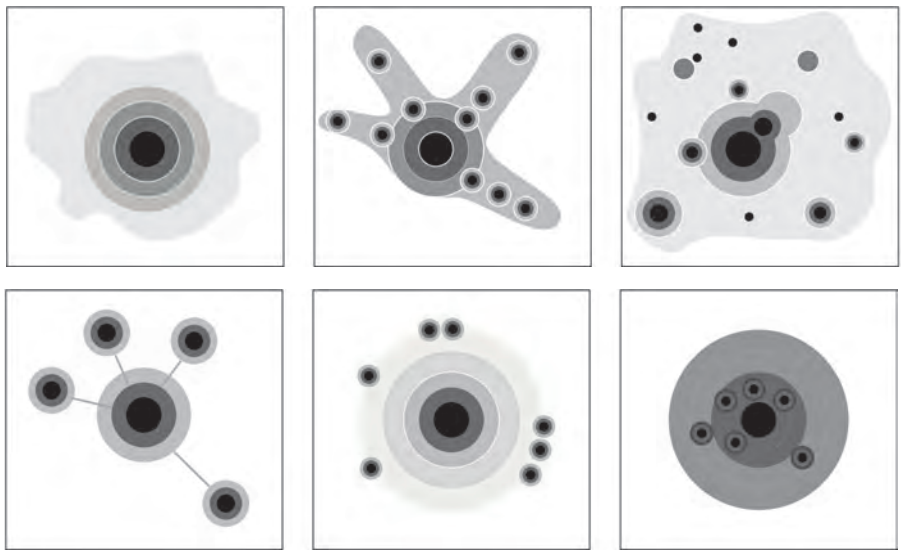

Fig. 231 / Growth patterns – extensive or intensive, taking in consideration changes of urban form in relation to hinterland and peripheries, and the urban fabric densities and specialization in centres of different ranges. 1- Extensive- semiradial pattern; 2- extensive – tentacular pattern; 3- urban sprawl; 4- extensive growth pattern – satellite; 5- extensive growth pattern- edge developments; 6- intensive growth pattern-densification (central/semi-central) (Author: A. Stan).

Comparing the process of urban growth of Western and Eastern Europe between 1950 and 1990 (Cattan, 1993) the urban growth was two to three times higher in Eastern Europe than in Western Europe; while Western cities grew significantly until 1970, urban growth in Eastern Europe lasted until the early 1980s. In Eastern Europe, the growth of large cities was politically controlled and remained lower than that of medium-sized and small towns.

Analysing the growth macro-patterns of small and medium-sized cities on the Danube in the period of the last 30-50 years, we notice the prevalence of several types visible especially at the level of street networks, centre position, relation to hinterland and to the Danube (Fig. 231):

a) The (semi-)radial growth pattern: Adony, Bačka Palanka, Braila, Dunaföldvár, Dunaújváros, Giurgiu, Mosonmagyaróvár, Paks, Ráckeve, Veliko Gradište, Vidin;

b) The tentacular growth pattern: Golubac, Sombor;

c) The satellite growth pattern: Belgrade, Giurgiu, Komarno, Komarom, Krems; and

d) The extensive sprawl pattern, especially appeared after the 1990 in the cities of the former socialist countries.

Among small and medium-sized cities located on the Danube, the largest share is the cities with extensive tentacular growth, followed at a short distance by those on the concentric radial pattern that follow the plan in crowns or sectors, then there are the cities that have expanded through uncontrolled sprawl type formations, in a similar proportion to those that grew through the formation of an urban system consisting of centre and satellites.

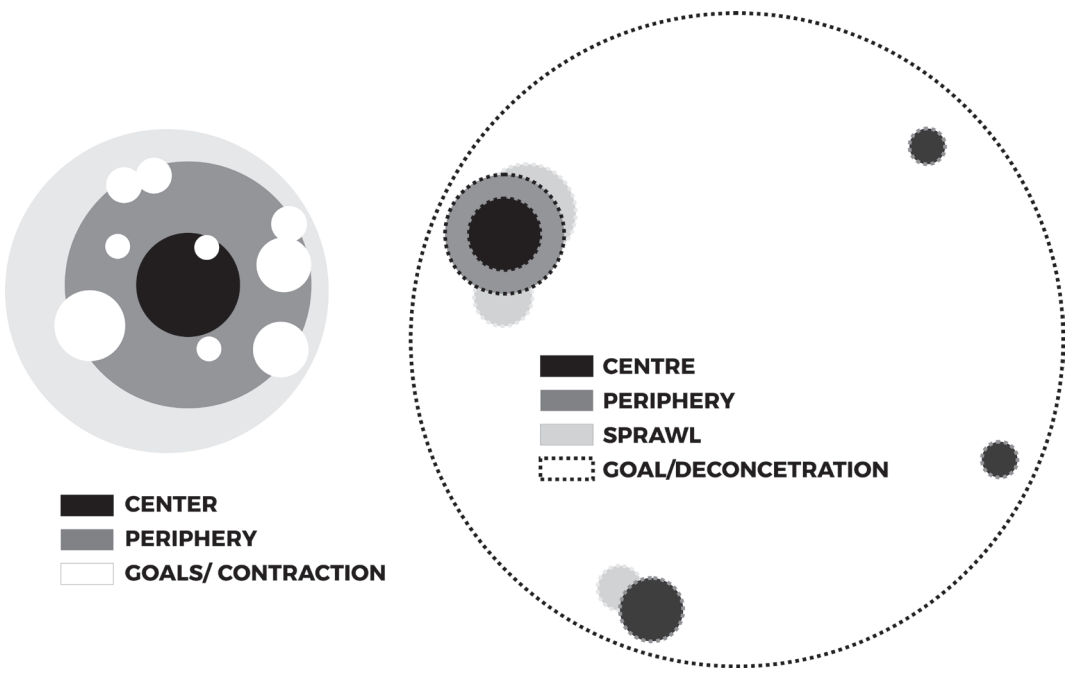

Fig. 232 / Two types of the way in which shrinking process impact the cities (Author: A. Stan, 2021).

SHRINKING PATTERNS OF DANUBIAN CITIES AND TOWNS

We can recognise the four main categories of shrinking cities in the Danubian region (Fig. 232):

1) GROWTH-ORIENTED CITIES: the Danube capital cities (Vienna, Budapest, Bratislava, Belgrade) + cities whose development in recent decades influences the Danube area, although they are not on the Danube (Bucharest);

2) NATURAL SHRINKING CITIES: cities which, following the boost of industrialisation, had an unnatural growth leap in the years of socialism and which, after 1990, began to depopulate. These cities still have enough resources for recovery and have a strong identity;

3) RISKY SHRINKING CITIES: former mono-industrial cities, or new cities created exclusively on the socialist logic of territorial development, cities without a historically validated identity and with the constant decrease in the overall population; and

4) CITIES IN FALSE SHRINKING: cities in socio-economic stagnation with small demographic decline, with an aging population strongly linked to a traditional way of life.

From another point of view, we differentiate two opposite types of shrinking cities: (1) by de-industrialisation for the former industrial cities in which shrinkage is mainly due to the loss of industry/loss of identity, demographic exodus; and (2) by disconnection, mostly in non-industrial cities and towns, when shrinkage is mainly due to the loss of gravitation zones or changing the centralities.

Another spatial typology which can be connected to the shrinkage processes uses specific criteria in the domain of planning policies, protected area regulation and legislative social measures (Fig. 233): (1) shrinkage by "doughnut effect", based on depopulation and loss of economic strength of the inner city comparing to the suburbs (Wiechmann & Pallagst, 2012); (2) shrinkage by "peripherialization", connected to the industrial development, or semi-rural marginal areas (Martinez-Fernandez et al, 2013); (3) shrinkage based on perforation (Hollander et al, 2009) both at centre and at peripheries, characterised by the presence of abandoned lands.

Fig. 233 / A - Shrinkage by "doughnut effect"; B - Shrinkage by "peripheralisation"; and C - Shrinkage by inner "perforation" (Author: A. Stan, 2021).

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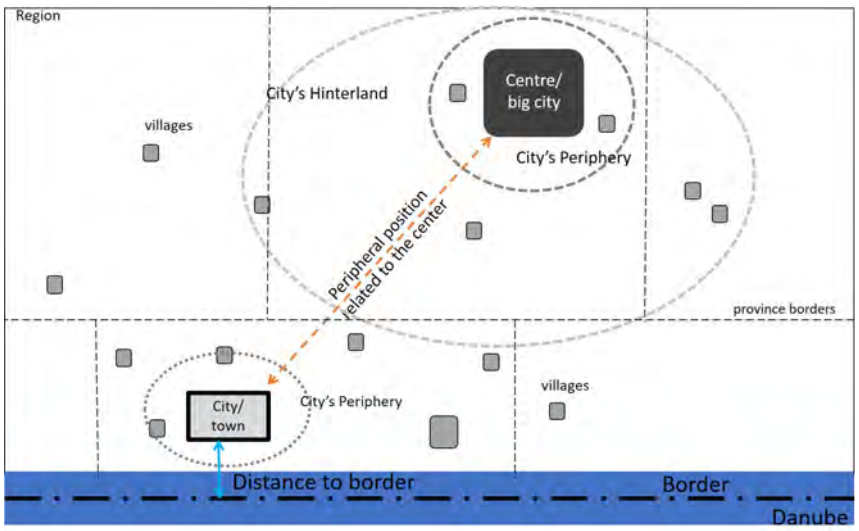
CENTRE-PERIPHERY MORPHOLOGICAL RELATIONSHIP WITHIN THE DANUBE CITIES

Beyond the main cause of the shrinkage itself, a region, city or a town can be considered peripheral due to several specific factors: relation to centres in big cities and capitals within the regional settlement matrix, the administrative aspects, the accessibility and connectivity in relation to the main European transport corridors, the socio-economic regional and local aspects, major changes in land use and activities and other socio-economic aspects: migration, scarcity, presence of ghetto, rising of violence, etc.



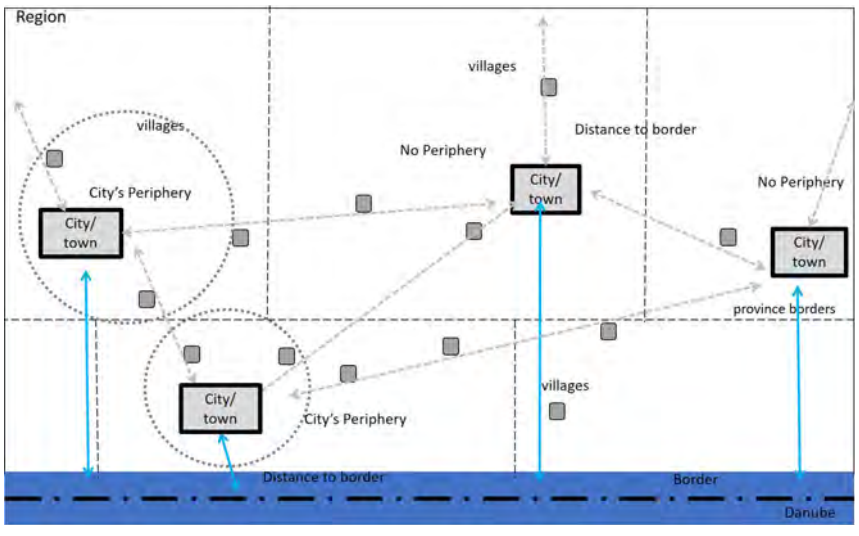


Fig. 234 / The two main urban territorial systems within Danube Region: (1) the strongly hierarchical one, dominated by a centre; (2) the hierarchical one, with a development field created between cities of similar size and importance (Author: A. Stan, 2021).

Usually, urban shrinkage is studied in well-organised, compact urban areas or metropolitan systems, and less so in marginal areas or outer suburbs, which is linked to an entire local and national context, as in the case of Serbia (Antonić & Djukić, 2018). From the territorial aspects, the periphery is correlated to configuration of urban networks, dominated by the presence of large centres. In the case of the Danube, there are two main territorial systems: (1) the strongly hierarchical one, dominated by a centre – large city or a capital; or (2) the hierarchical one, with a development field created between cities of similar size and importance (Fig. 234).

The centre-periphery relationship within the Danube cities is visible and understandable regarding the density in relation to the urban structures (Alexandru, 2020). The Danube acts as a barrier, while the marginal areas were developed on the border form the new clusters of urbanisation (Fig. 235) The landscapes of Danubian cities, their configuration of centres, port, industrial zone, bridge, and green spaces gradually emerged and overlapped with the natural landscape. However, in many cases, and especially in the case of cities industrialised during the communist period, the Danube was no longer a centre of the city, it was rather a periphery, judging by the abandoned lands, discontinuous and uncalibrated street network, lack of public spaces, lack of urban life etc (Fig. 236).

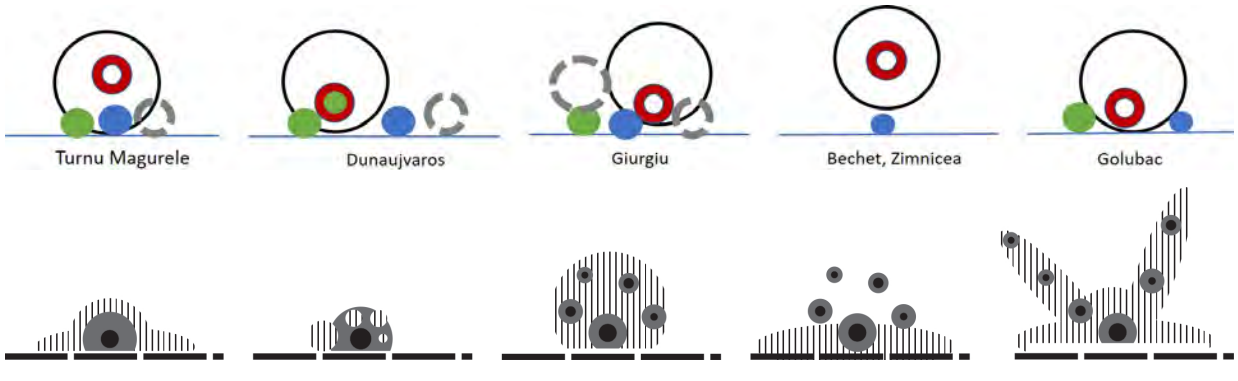


Fig. 236 / The different types of spatial-functional positioning of the centres in relation to the Danube. (Author: A. Stan, 2021; after: I. Păun Constantinescu, 2017).

Fig. 235 / The centre-periphery is a matter of built density distribution within the urban structure, attractors on Danube and on the main roads (Author: A. Stan, 2021).

BLUE INFRASTRUCTURE MORPHOLOGY IN RELATION TO CITIES AND TOWNS

The Danube blue infrastructure is approached from two major directions. First, it is a TRANSPORT CORRIDOR (Rhine-Main-Danube), which offers a wide fluvial route connecting central Europe and Black Sea Region (Fig. 237). Second, the river is also important in an ECOLOGICAL ASPECT, considering the biodiversity and ecological services (Fig. 238). It could be said that the infrastructure of the Danube is a matrix of both the harmony and the conflict: the cities positive development and progressive growth is proved by their heritage, but also by their resilience. However, it is not the antagonism that dominates the character of the Danube's blue infrastructure, but rather its vital force in relation to future development potential (Bašová et al, 2021).

Fig. 237 / The Danube is important transport corridor – a ship near Vidin, Bulgaria (Bulgarian Guide, 2021).

Fig. 238 / The Danube as an important ecological habitat – Zálesie natural area in the Little Danube Region in Slovakia (Author: K. Vandová, 2021).

There are two different conceptual models for the usage of the Danube floodplain (Stan & Harmanescu, 2021): (1) the non-submersible damming, proposed by Anghel Saligny, and (2) the submersible damming, supported by Grigore Antipa, both proposed in 1910, while only the first one is implemented by the communist regime. G. Antipa, the polymath biologist and ecologist proposed the natural flood regime and flood-plain features in order to protect the initial Danube's landscape. The other model of famous engineer A. Saligny, has been prevailed and implemented after 1960, through extensive embankments and drainage (Bondar, 2008).

For decades, these two models were perceived as antagonistic, one prevailing over the nature and the other over the economy. Today, we are at a level of maturity in which societies have realised that the two cannot function at opposite poles, each fighting for supremacy, but on the contrary, anthropic systems are obliged to reconcile economic and environmental objectives. Paradoxically, the small and medium-sized cities on the Danube are about to demonstrate exactly this principle of a mature reconciliation between nature and economy, an increasingly urgent need of our days (Fig. 239).

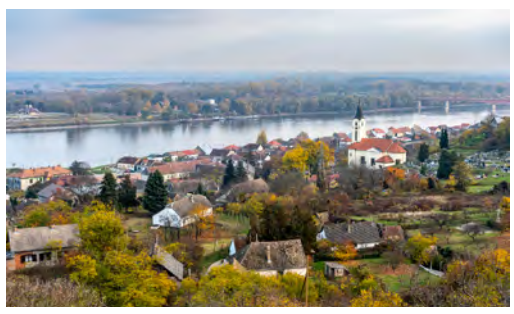


Fig. 239 / Reconciliation between nature and economy – the Danube between the built-up environment and local economy of Batina, Croatia, and the natural landscape of Bezdan, Serbia, in background (Author: A. Radulescu, 2021).

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DISTINCT TYPOLOGIES: TWIN-CITIES AND BORDER CITIES

The twin cities located on both sides of the Danube are a special type of settlements arising from geographical, historic, political, and administrative conditions. The twin cities have the specific typologies that are influenced by their mutual cooperation. According to Clarke, "twin towns or sister cities are a form of legal or social agreement between towns, cities, counties, oblasts, prefectures, provinces, regions, states, and even countries in geographically and politically distinct areas to promote cultural and commercial ties" (Clarke, 2011). The essence of the twin cities takes into consideration only the cities which contain a common pattern of morphological co-evolution, and are historically related to the Danube.

The core of the 'twining condition' is having the similar genetic traits related to the Danube, as the main matrix element. Regarding the urban structures, there are the traces of common elements such as orientation of centres and axes, street patterns and visual landmarks. According to the previous studies (Stan et al, 2019), the criteria used for analysing the twin cities morphology were separated into two categories: (a) the historic and geo-morphological common conditions; and (b) the characteristics of urban tissue and the visual relationship of the city with the Danube. As for the aforementioned analysis of twin cities, taking into the consideration the overall context, there are several detailed criteria such as the presence of a bridge or a water crossing path connecting the banks, and the similarity of the size of the cities. An interesting relationship in twin cities systems is based on the urban structure orientation towards the Danube, the dialogue across the water and openness of the cities (Fig. 240).

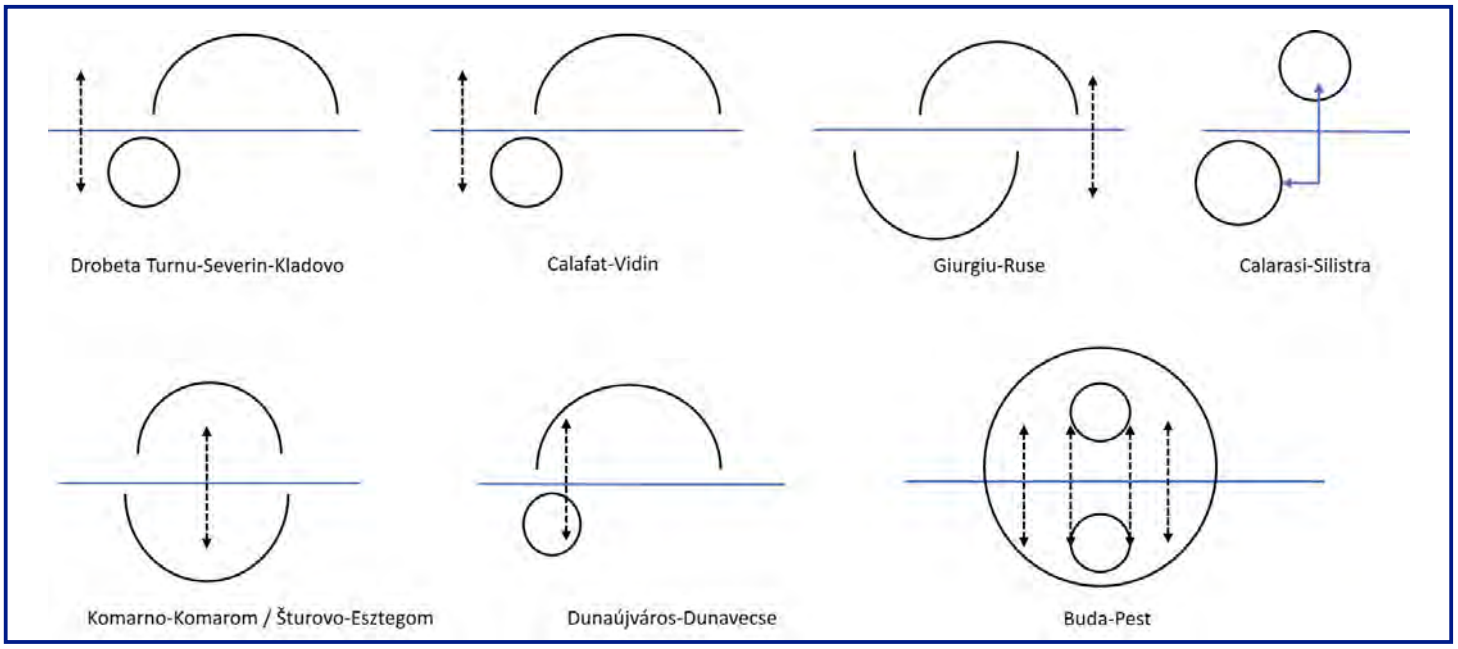

Fig. 240 / The size and openness of the urban structure, along with the presence of the bridge or ferry transport are elements which structure the twin cities systems along the Danube (Author. A. Stan, 2021).

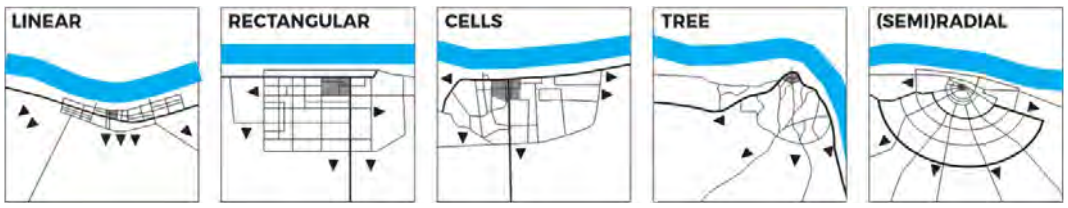

Fig. 242 / Five main types of street networks oriented to the Danube in the original frames of Danube cities (Author: A. Stan, 2021).

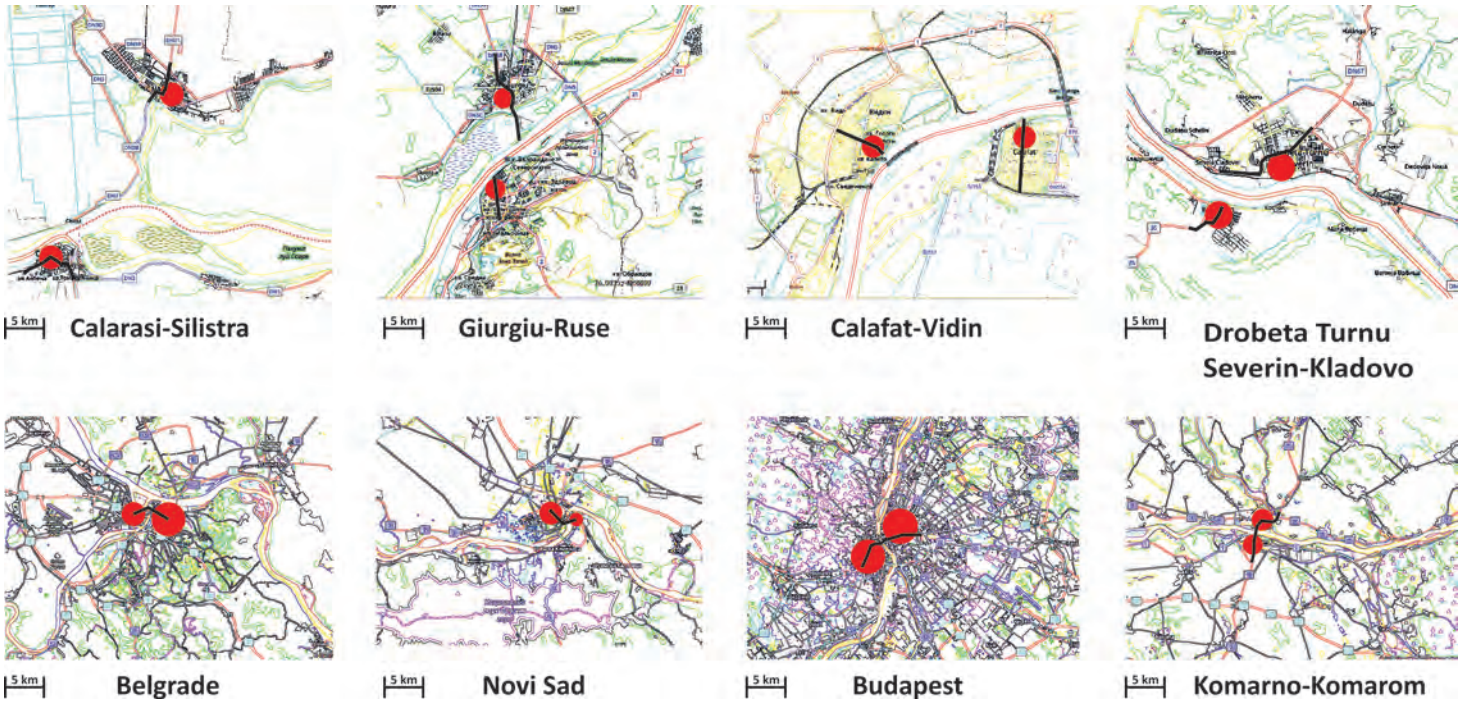

Fig. 241 / Călărași, Romania – the city clearly oriented towards water/the Danube (Author: F. Radulescu, 2022).

PATTERN TYPOLOGIES OF STREET NETWORKS

Considering the urban matrix of the Danube cities, there is a limited variety of patterns and street structures in the original paths, clearly oriented towards the water (Fig. 241). In many cases, these street networks are protected and represent significant historic value (Fig. 242). Both in the case of historic cities and the planned cities, the street network reflects the umbilical connection of city life with water. The socialist period in the industrialised cities partially distorted this connection, introducing the civic squares as centres of power, very rarely connected to the Danube. On the contrary, the cities beyond the re-configuration with built structures, have found their axial connection with water, such as pedestrian zones and leisure spaces (Fig. 243).

Peripheral areas have a peculiarity regarding the structure of street networks. In the shrinking phase, the peripheral spots can have both dispersion and a minimum concentration of urban activities. According to the position and shape of the peripheral developments in relation to the main urban area, we can identify a series of characteristic types of the historically established cities and modern ones in the Danube Region.

Fig. 243 / Historical centre and main street orientation toward the Danube waters (Author: A. Stan)

R

- Clarke, N. (2011). Globalising care? Town twinning in Britain since 1945. Geoforum, 42(1), 115-125. DOI: 10.1016/j.geoforum.2010.10.006.
- Stan, A., Szabo, J., Smatanova, J. & Simion, A. (2019). Danube's Twin Cities. In: M. Benko, P. Gregor & L. Vitkova (Eds.), Book on the unexplored cultural heritage in communities by the Danube (pp. 65-69). Prague: Gasset.

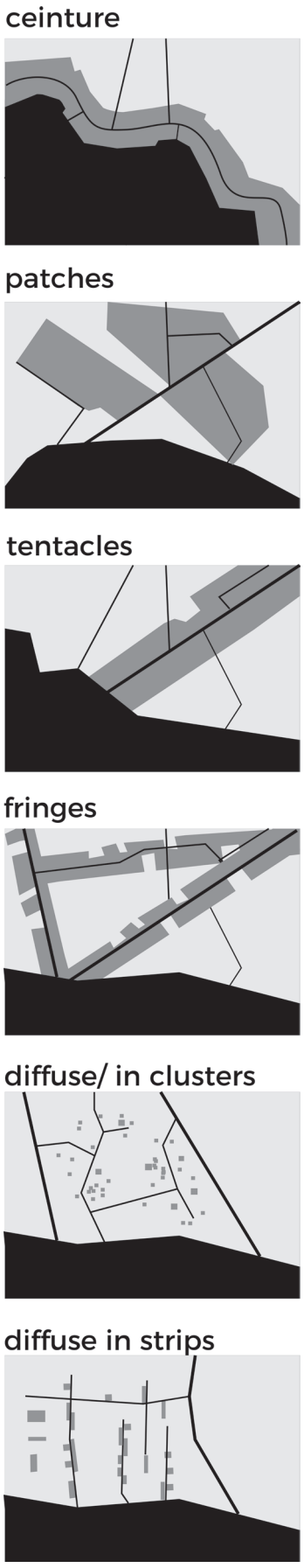

Fig. 245 / The position of peripheral zones/new developments in relation to city and street network (Author: A. Stan, 2021).

TYPOLOGIES OF CITY-WATER RELATIONSHIP

The connection between the Danube cities and the water was made through a 'buffer zone', with the individual pace and form of development. The public promenade area seems to be a necessity for all cities with on the Danube. Regarding the typology, two large categories can be distinguished according to the slope of the land; (1) those with low or zero slope, easily connected with the quay area, and (2) those with medium or high slope, whose fabric-water connection required embankment works, stairs, ramps (Fig. 244).

Another differentiation criterion for the city-Danube relationship is the tissue's tangent to the water (Stan, 2014). There are cases of cities that are at a certain distance from the quay, so that the promenade area was developed on a tributary canal of the Danube. Călărași and Giurgiu are such examples. The other cases of cities directly connected to the Danube shore have developed public promenade areas, leisure spaces, trying to highlight the natural landscape and historic remains, such as Smederevo or Golubac (Fig. 245).

Fig. 246 / Tulcea, Romania: the Danube cliff, built during the communist period with a series of compact block of flats, stopping the visual relation between the hilly landscape of the city and the water (Author: A. Radulescu, 2022).

URBAN LANDSCAPES AS VISUAL ELEMENT OF URBAN MORPHOLOGY

Danubian cities form a complex system, fractally composed of multiple regional, sub-regional, counties, municipal, local and intra-local sub-systems. (Nagy, 2022). The Danube is dotted with thousands of local landmarks, places with strong images, which remain in people's memory and carry their identity throughout the generations. Many of the landmarks are associated with the cities themselves and topography, history or tourist offer, others come from older history or extensive infrastructure and others are landmarks of the nature itself, impressive by its ecological vitality and specific way of life – for example, the Danube Delta. The morphology of the built environment should focus on the territory characteristics – topography, hydrography, biodiversity and respect the natural conditions. However, many of the Danubian cities have suffered severe transformations, due to the uninspired or abusive interventions that destroyed their original landscape character (Fig. 246).

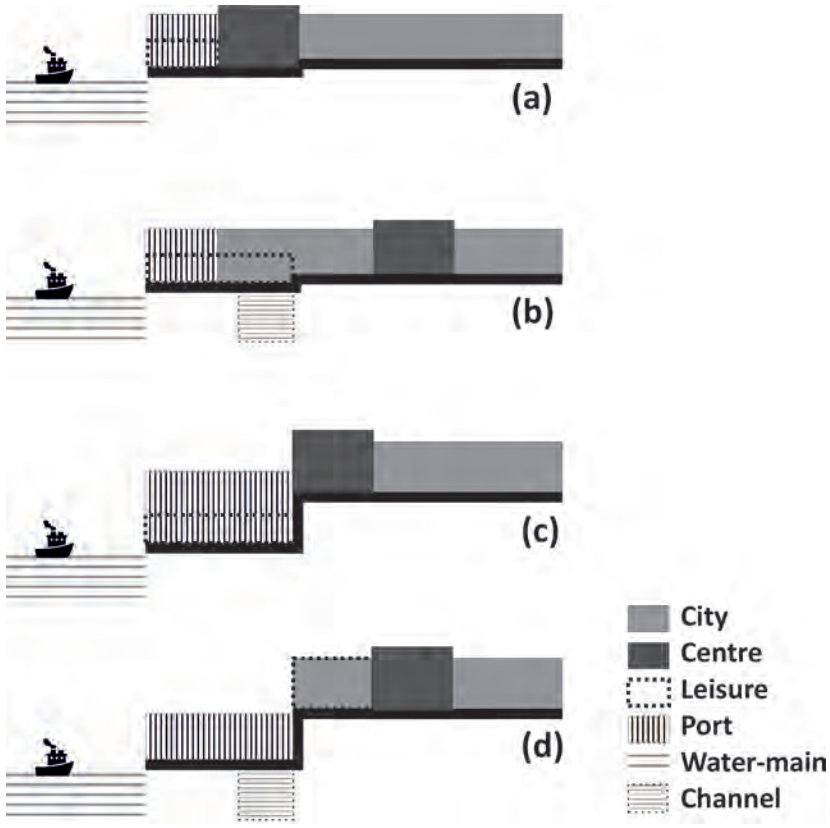

Fig. 244 / Typology starting from the two main cases: flat situation – low or zero slope (a, b), and with medium or high slope (c, d) (Author: A. Stan, 2021).

CONCLUSIONS

The morpho-typological approach of the urbanised region of the Danube helps to understand the evolutionary character of human settlements. More than a method, urban morphology is considered a means of commenting on urbanity itself, in the sense given by Françoise Choay, of the "mutual adjustment of a form of an urban fabric and/with a form of conviviality". In this chapter the relationship between cities and water in the context of both urban growth and shrinkage are carefully discussed, from a morphological perspective. In addition to the morphological elements at the macro-territorial scale presented, the chapter also includes elements for understanding future configuration trends.

The current morphology studies actually seek to highlight this often-hidden value of cities: the heritage of the urban fabric in itself, with its coherent or less coherent parts. For the cities of the Danube, morphology is a level of authenticity, not used often in their promotion. The future of the form of the Danube cities is encapsulated in the very forms of their present and past, all found in the fabric of the city; they just have to be (re)discovered.

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- Nagy, D. (2022). Challenges of sustainable transport in Danube navigation. In: E. Stojić Karanović & K. Ristić (Eds.), Perspectives of sustainable development and security: globally and locally: Thematic compendium (pp. 39-55). Belgrade: Danube – River of Cooperation.
- Stan, A. (2014). The landscape of the urban peripheries – an alternative therapy. In: M. Bostenaru & C. Craciun (Eds.), Planning the landscape – Conservation and Intervention (pp. 117-126). Cham, UK: Springer. DOI: 10.1007/978-94-017-8536-5_9.

Visions for Tomorrow

D+ Atlas

4.1 CONCEPTUALISING THE NETWORKS OF SHRINKING CITIES IN THE DANUBE REGION

Branislav Antonić
Aleksandra Djukić

THE PROSPECTS of small and medium-sized cities and towns in the Danube Region is not just related to their internal potential, such as their socio-economic capital, preserved cultural diversity, cultural and natural heritage, urban fabric and rising tourism. Their development is also related to their networking, clustering, transport connectivity, relation to the nearest bigger cities and the permeability of nearby national borders settled on the river. Only considering both groups of the mentioned factors – external and internal ones – the future of the region and its urban settlements can be adequately planned and directed for both local people and prospective visitors.

Fig. 247 / Hard borders along the Danube are especially problematic for twin cities, such as Bačka Palanka in Serbia (background) and Ilok in Croatia (a tower on the right) (Author: B. Antonić, 2018).

Fig. 248 / Burgenland Region in the Upper-Middle Danube was politically divided between Austria, Slovakia and Hungary after the World War I. Its towns, including pictured Eisenstadt, have witnessed the redevelopment after the recent softening national borders. (Author: A. Szabo, 2021).

National borders have a significant impact on cities and towns in the Middle and Lower Danube Region, as 50% of the river flow is a national border at the same time. In the most of cases, these borders are so-called "hard" ones, with strict border control and slower permeability thereof. Such hard borders significantly fuel urban shrinkage (Haase et al, 2014; Antonić et al, 2020), as affected cities usually have smaller gravitation zones and their connectivity is disrupted (Bruneckiene & Sinkiene, 2015). Perhaps, this is particularly evident in the case of twin cities, as they are even physically interconnected (Fig. 247). The change of border regime from "hard" to "soft" one can significantly improve local urban conditions. A good example are recently revived towns in Burgenland Region, politically divided between Austria, Slovakia and Hungary (Fig. 248).

In these considerations, borderland and border cities/towns should be differentiated. The European Union uses 25-km distance to nearest national border as a threshold to define a borderland region and cities (ESO, 2018). Border-cities and towns are those ones which cadastral territories touch national borders. Such cities and towns are numerous in the Danube Region, as it was underlined that the river is often a national border, too (Fig. 249). Among 89 research cities and towns, more than half (45 or 51%) are border cities, while even more are located in borderland regions – 70 (79%).

In contrast to the aforementioned negative effects of the proximity to national borders, proximity to national capitals brings positive impact on small cities and towns. This is especially important in the countries which aspires to get for-

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- Antonić, B., Djukić, A. & Marić, J. (2020). Borderland Shrinking Cities: "Uncharted Territory" in International Research of Urban Shrinkage. In: V. Georgiev & I. Stoynova (Eds.), VSU'2020 Conference Proceedings – Volume II (pp. 29-34). Sofia: USEA "Lyuben Karavelov".
- Bruneckiene, J. & Sinkiene, J. (2015). The economic competitiveness of Lithuanian-Polish border region's cities: the specific of urban shrinkage. Equilibrium. Quarterly Journal of Economics and Economic Policy, 10(4), 133-149. DOI: 10.12775/EQUIL.2015.039.
- European Statistical Office. Glossary: Border region. Eurostat, Brussels, 2018. Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Border_region.
- Haase, A., Rink, D., Grossmann, K., Bernt, M. & Mykhenko, V. (2014). Conceptualizing urban shrinkage. Environment and Planning A, 46(7), 1519-1534. DOI: 10.1068/a46269.

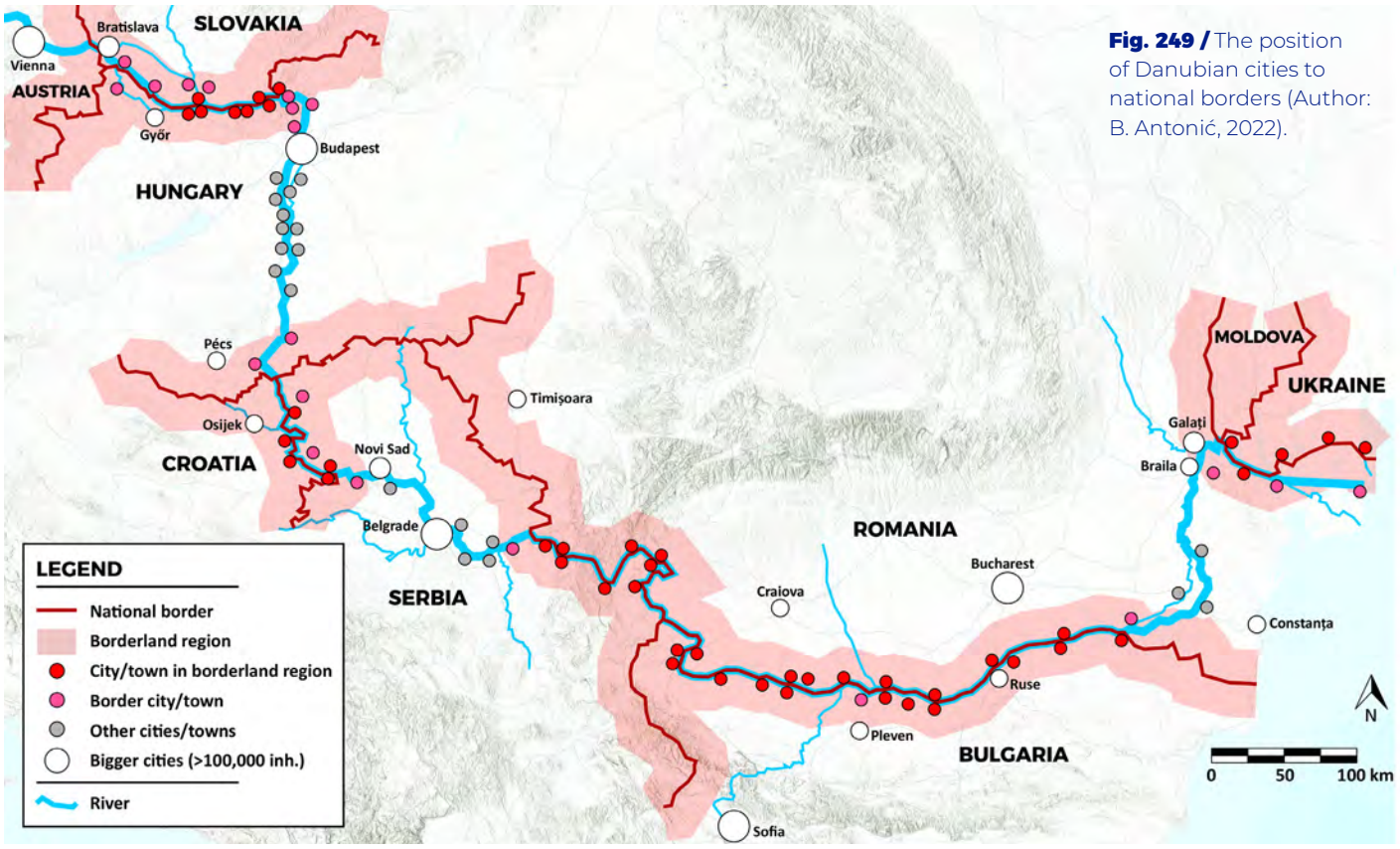

Fig. 249 / The position of Danubian cities to national borders (Author: B. Antonić, 2022).

eign investments, where many East-European countries belong. Simply speaking, proximity to the national capital cities enables better contacts and higher exchange regarding to knowledge and technology (Hutzschenreuter & Harhoff, 2019).

This can be applied to the Danube Region, too. The Danube flows through ten European countries, but only five national capitals can be labelled as "Danubian" ones: Vienna, Bratislava, Budapest, Belgrade and, with a less degree, Bucharest, which is not od the river, but is close enough to have mutual influences (Fig. 250). In the other side, Vienna and Bratislava are also specific, as they are the closest capitals in the continent, with just 50 km in between. Thus, they form a two-capital region (Fig. 251).

In line with the previous observations, middle-sized and small cities and towns in the Middle Danube Region are better positioned if more capital cities are located in their vicinity (Fig. 251). The Lower Danube Region is with one capital (Bucharest) only, which left a huge void in many parts of this region.

Fig. 250 / Although Bucharest is 60 km far away from the Danube, its strong influence is visible on many cities in the Lower Danube (Author: B. Antonić, 2018)

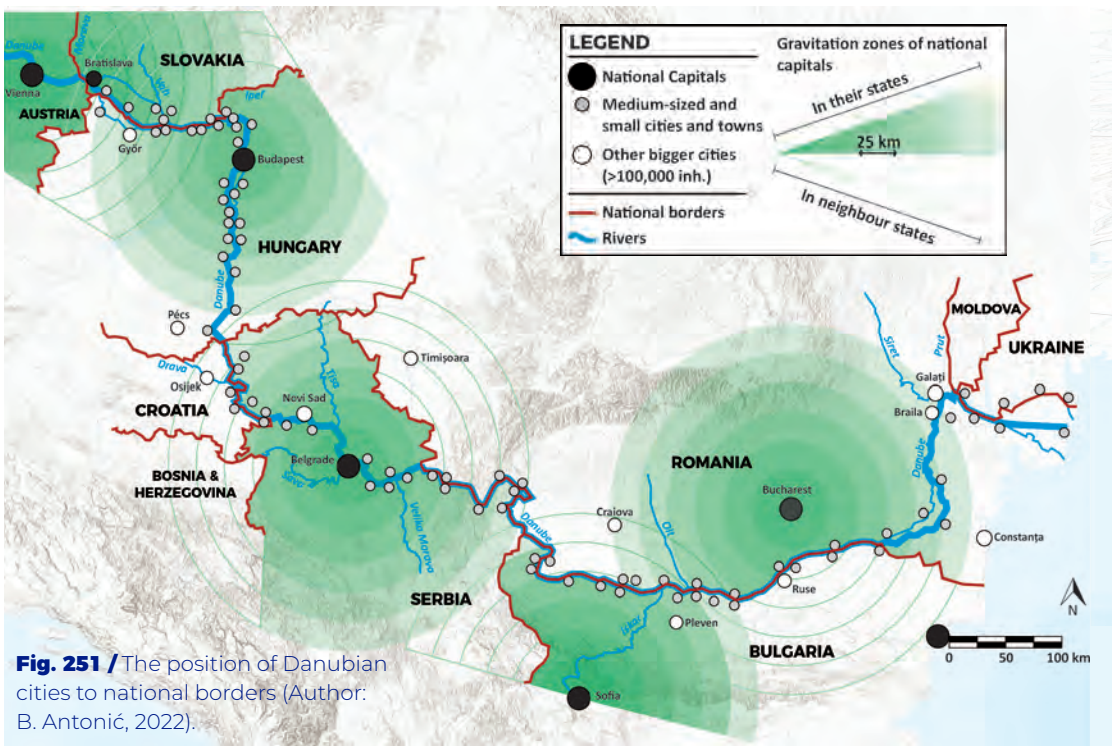

Fig. 251 / The position of Danubian cities to national borders (Author: B. Antonić, 2022).

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· Hutzschenreuter, T. & Harhoff, P-L. (2019). The Effect of Geographic Proximity to the National Capital City at Inception on the Speed of Subsequent Investments in Emerging and Advanced Economies. In S. Taneja (Ed.), Academy of Management Proceedings. DOI: 10.5465/AMBPP.2019.13236.

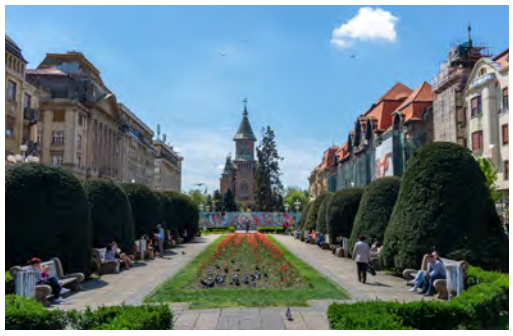

Fig. 252 / Timișoara is the main regional centre of Western Romania. Therefore, its influence can be identified in all towns in the western section of the Danube Region in this country despite the city is 150 km far away from the Danube (Author: A. Radulescu, 2022).

Apart from the contrasting effects of proximity to national capitals and national borders, medium-sized and small cities and towns are also under the strong influence of regional centres, especially in the regions far away from national capitals (Fig. 252). The role of a regional level has emerged as important recently across the European Union, where its territorial cohesion is actually equalised with regional policy, based on minimising regional disparities across the EU space. This is especially evident in the EU support to Euro-regions, i.e., cross-border region between sovereign EU states (EC, 2021).

The significance of regional centres is especially important in the cases where this is combined with the elements of regional autonomy, such as the case of the City of Novi Sad as the administrative seat of the Autonomous Province of Vojvodina in northern Serbia (Fig. 253). This city has had

Fig. 253 / Petrovaradin Fortress above the Danube in Novi Sad, the regional centre of northern Serbia and the administrative seat of the Autonomous Province of Vojvodina (Author: P. Morgenstein, 2021).

the faster demographic growth than Belgrade as a national capital during the post-socialist transition (Djukić et al, 2017).

This means that proximity to the centres of regional importance, regardless they are national capitals or not, also plays a signification impact on the socio-economic prospects of Danubian medium-sized and small cities and towns (Fig. 254). Regional centres are considered all cities which are the main urban settlements in NUTS 2 regions. All of them have more then 100,000 inhabitants.

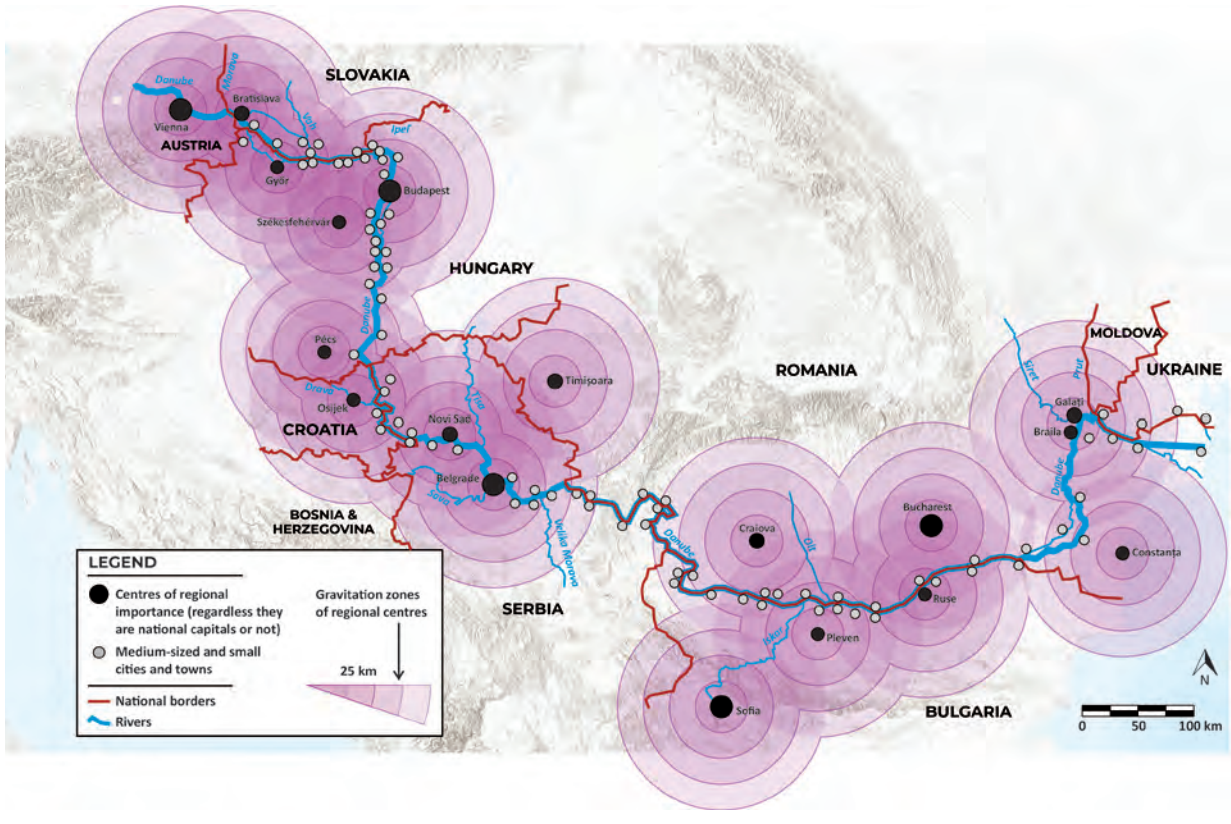

Fig. 254 / The accessibility of Danubian cities to regional centres (Author: B. Antonić, 2022)

- Djukić, A., Antonić, B. & Vujičić, T. (2017). Urban Shrinkage in a 'Shrinking' Serbia – The Approach to a Global Phenomenon in a Local Context. Geodetski Vestnik, 61(4), 614-629. DOI: 10.15292/geodetski-vestnik.2017.04.614-629.
- European Commission – EC (2021). Territorial Agenda 2030 - A future for all places. Brussels: EC. Retrieved from https://ec.europa.eu/regional_policy/sources/docgener/brochure/territorial_agenda_2030_en.pdf.

An important factor for the connectiveness and networking of medium-sized and small cities and towns in along the Danube is modern transport corridors. Poor transport connections, combined with a small size and distance from major cities, often led to the contested model of "single city", i.e., a small and remote city especially prone to rapid urban shrinkage. Such examples are widespread among cities in post-socialist Europe (Restrepo Cadavid et al, 2017). Hence, advanced transport network is a prerequisite to establish developed urban network.

All states in the region of the Middle and Lower Danube have invested significant resources since the beginnings of post-socialist transition to improve their accessibility. This usually means the development of modern roads, highways and 4-line motorways, as road transport dominates in the region. Railway system lost their primate after the World War II, whereas waterways – the Danube and its tributaries and canals – at the end of 19th century. However, the recent projects have tried to make a balance between the different modes of transport. A good example is a "New Europe" Bridge across the Danube between Vidin, Bulgaria, and Calafat, Romania, which combines road and railway (Fig. 255).

Fig. 255 / "New Europe" Bridge across the Danube bridge between Vidin, Bulgaria, and Calafat, Romania, combines road and railway (Author: Bulgarian Guide, 2022).

Speaking about transport connections, both connections that are parallel to or pass the Danube are important for the future development. The second type is more challenging for development, as it implies the construction of a link across the Danube, which is a pretty wide river in most sections downstream Vienna. These links are long bridges or dams with road connection, such as Gabčikovo Dam in Slovakia (Fig. 256) or two Iron Gates dams between Romania and Serbia. In this study, both types of road connections are analysed (Fig. 257).

Fig. 256 / Gabčikovo Dam in Slovakia is also an important transport link across the Danube (Author: A. Radulescu, 2021).

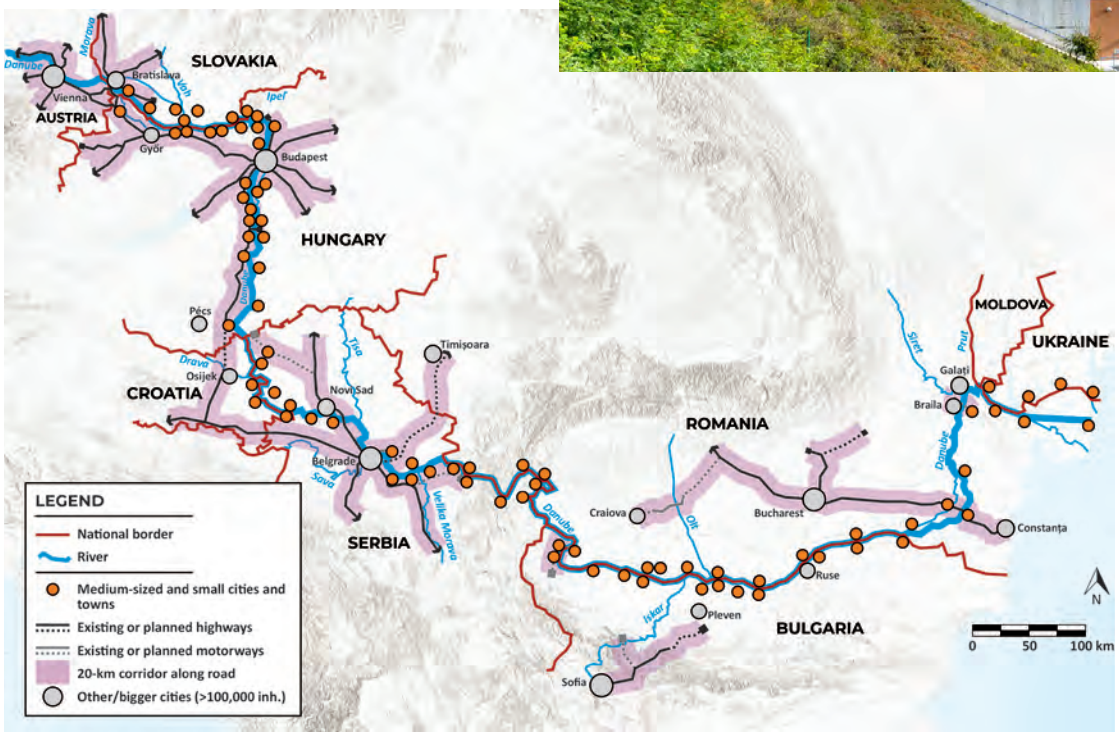

Fig. 257 / The accessibility of Danubian cities to modern roads (Author: B. Antonić, 2022)

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- Restrepo Cadavid, P., Zhukova, S., Cineas, G. & Quintero, L. (2017). Cities in Europe and Central Asia: A Shifting Story of Urban Growth and Decline. Washington, DC: World Bank.

Fig. 259 / The rectorate building of "Selye János" University in Hungarian language in Komarno, Slovakia. Komarno is the smallest city in the state with a public university as the city is the centre of Hungarian minority in Slovakia (Author: A. Radulescu, 2021).

Fig. 260 / Dunaujvaros was modelled as a socialist city with heavy industry during socialist era. The city dependence to industry, without significant administative status, has caused severe urban shrinkage after the fall of socialism (Author: P. Wolf, 2022).

The next factor which can significantly enhance the potentials of cities and towns in the Danube Region is their (higher) position in national political-administrative hierarchy (Fig. 258). It is already mentioned that the regional centres that are the seats of regional government at the same time have better conditions for the overall development and external completeness. This can be applied to smaller cities and towns, too. The status of an administrative seat brings higher urban functions (Servillo et al, 2017). For instance, for larger administrative system, such cities usually have additional institutions, such as a district hospital, theatre, the variety of secondary schools, one or two research and development institutes or faculties or even a small university (Fig. 259). The afore mentioned facilities belong to the tertiary and quaternary sectors of the economy, which bring the significant number of high-educated jobs in smaller cities, which is becoming a prerequisite for their urban development in the present-day globalised world.

However, the most of smaller cities and towns are in an opposite situation in the Danube Region, as they face the lack of these economic fields and high-quality jobs, shrinking as a consequence. The example of Dunaujvaros (Fig. 260), a model-socialist city with heavy industry and one of the largest cities in Hungary without a country seat; the city has been among the fastest shrinking medium-sized Hungarian cities. This is not a new problem. After the collapse of the former Habsburg Empire in 1918, several cities with higher administrative functions, such as Komarno in Slovakia, Esztergom in Hungary and Sombor in Serbia (Fig. 261), lost this status and stalled during interwar years.

Fig. 261 / "Županija" (District Court) in Sombor is one of the largest historic administative buildings in Serbia. Its shows the former glory of Sombor as the seat of large Bacs-Bodrog Country in the Kingdom of Hungary. With its abolishment after the World War I, Sombor stagnated for several decades (Author: M. Đurđević, 2022).

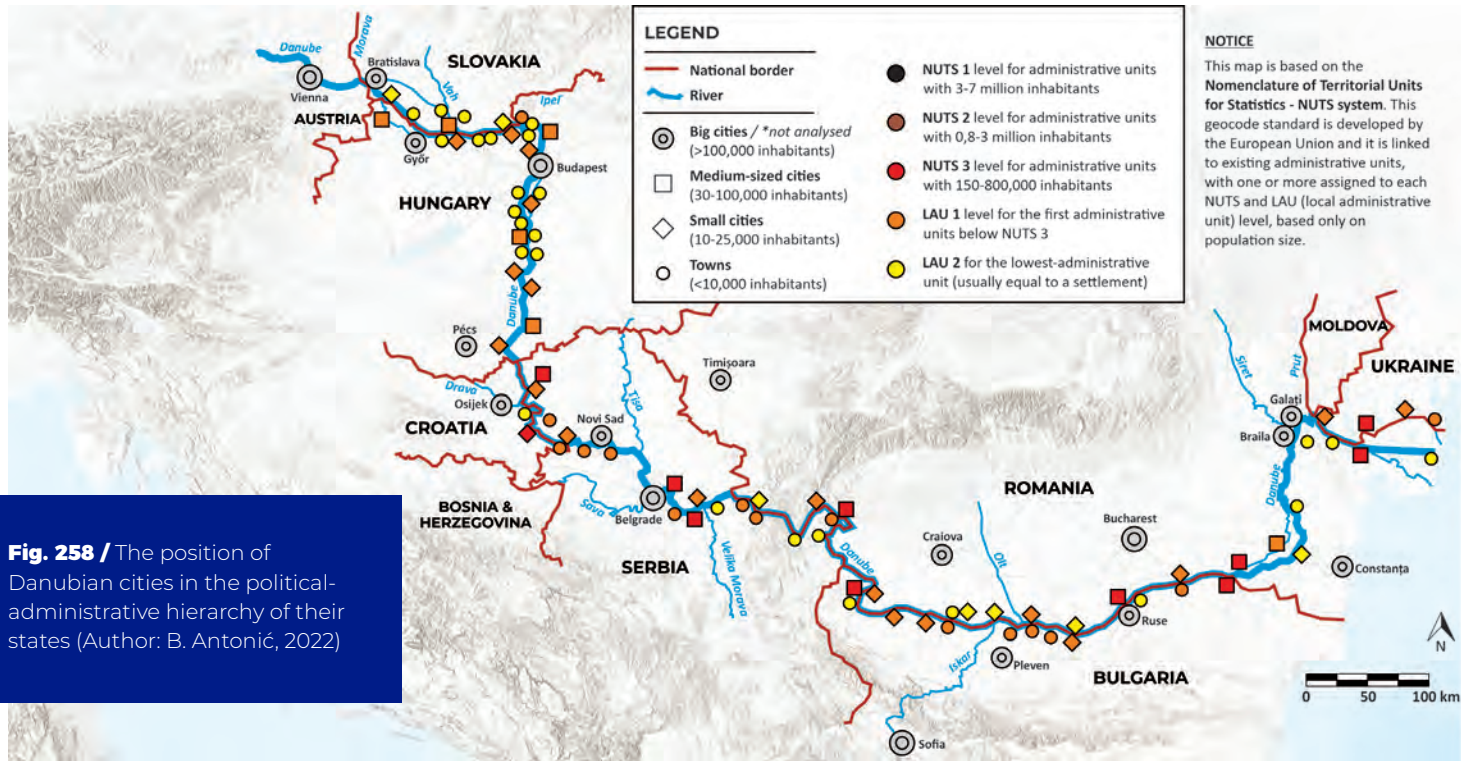

Fig. 258 / The position of Danubian cities in the political-administrative hierarchy of their states (Author: B. Antonić, 2022)

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- Servillo, L., Atkinson, R. & Hamdouch, A. (2017). Small and Medium-Sized Towns in Europe: Conceptual, Methodological and Policy Issues. Tijdschrift voor economische en sociale geografie (Journal of Economic and Social Geography), 108(4), 365–379. DOI: 10.1111/tesg.12252.

The last factor to be included into consideration on how medium-sized and small cities and towns along the Danube can cooperate and network is their specialisation and thematisation, i.e., having special characteristics which has influenced their uniqueness comparing to the other Danubian cities (Fig. 262). It is already identified that cities and towns with the higher degree of specialisation are more prone to be extremes from economic and productivity perspective, both in positive or negative way (Wolff & Wiechmann, 2018). Basically, the "special" character of a city or town is very important for shrinking urban communities as it is related to their attractiveness and showing a 'positive image', which is a precondition to attract external interest and investments (Wang et al, 2021).

The regions of the Middle and Lower Danube belong to less developed ones in Europe, so intensive industrialisation has omitted many small cities and towns in these regions. Consequently, many of them have retained many historic and traditional features, both tangible and intangible. The recent rise of cultural tourism along the Danube has been a driving force of the revitalisation of these cities, such as Esztergom in Hungary, Ilok in Croatia or Golubac in Serbia (Fig. 263). The other specialised cities and towns have more challenging situation. This is especially visible in new settlements developed during socialism, which industrial base has collapsed with the post-socialist transition – for instance, Moldova Noua in West Romania (Fig. 264). At the end, there are a few very specific cases of specialised towns, established completely due to the Danube, such as Romanian Sulina as the lowest town on the river, developed to control always difficult navigation through the Danube Delta (Fig. 265).

Fig. 263-264 / Danubian twin towns in the Iron Gates Region with specialisation, but with opposite development trajectories, too; Golubac in Serbia (up) is a historic town recently revived by cultural tourism along the Danube (Author: D. Miletić, 2022), while Moldova Noua in Romania (down) is a new, socialist town with development problems due to the post-socialist collapse of key mining activities (Author: A. Szabo, 2022).

Fig. 265 / Sulina in Romania, the lowest town on the Danube, is a special urban settlement developed to control navigation through the Danube Delta (author: A. Radulescu, 2021).

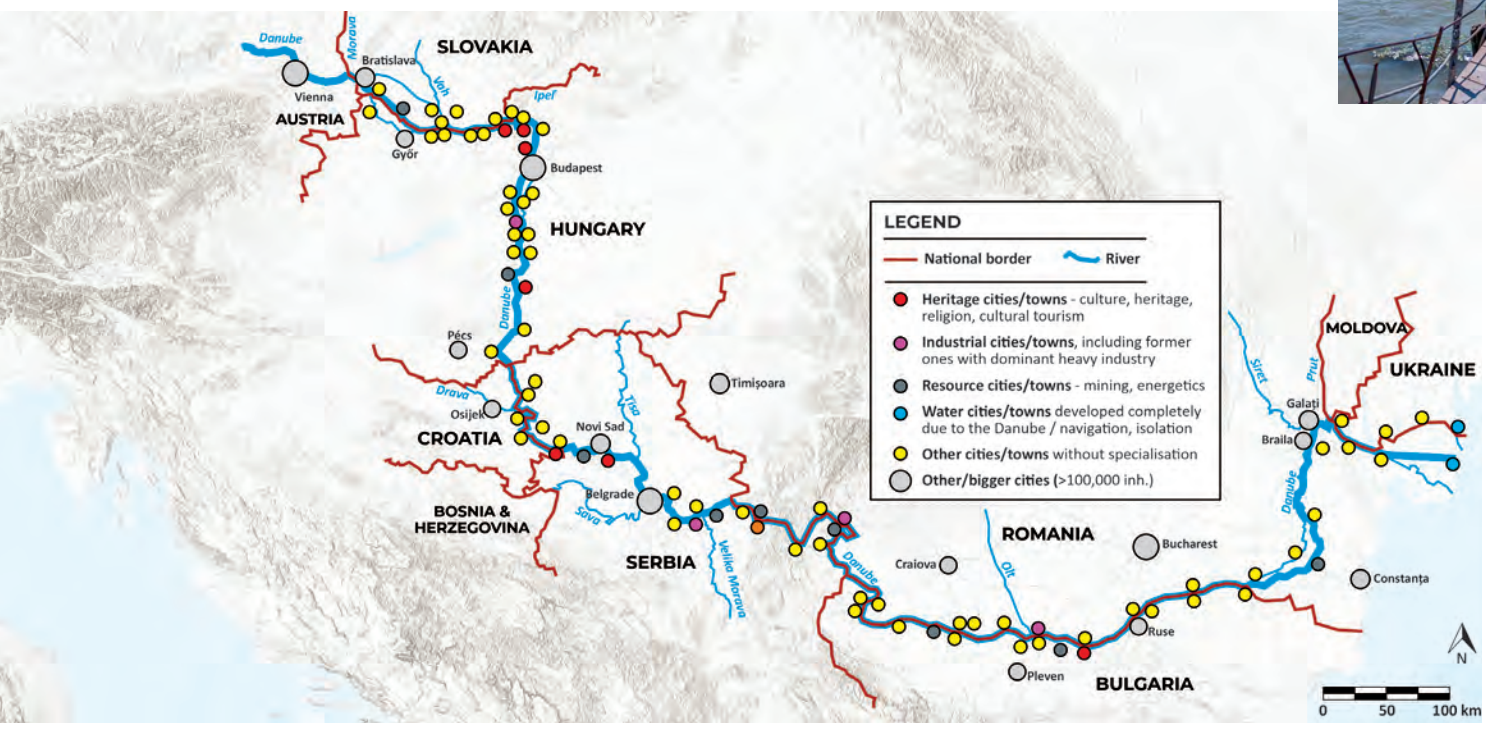

Fig. 262 / Map: Danubian medium-sized and small cities and towns with special characteristics (Author: B. Antonić, 2022)

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- Wang Y., Lin, M., Gao, J. & Zhou, Z. (2021). Fading Attraction of the Shrinking City: An Empirical Study from an Urban Resource Perspective. an Urban Resource Perspective. Sustainability, 13, 11550. DOI: 10.3390/su132011550.
- Wolff, M. & Wiechmann, T. (2018). Urban growth and decline: Europe's shrinking cities in a comparative perspective 1990-2010. European Urban and Regional Studies, 25(2), 122-139, DOI: 10.1177/0969776417694680.

The Danube as the second longest European river and the most international river passing through ten European states, has been both a huge potential and huge obstacle for cooperation during history. With transition in transport from waterways to rail and then roads in the late 19th and 20th centuries the importance of Danube was noticeably reduced (Dávid & Madudová, 2019). This was just jeopardised by many new national borders and frequent political disturbances in the Danube Region during the 20th century.

Since the 2010, urban population has prevailed across the World. Hence, forming urban clusters and networks is a critical element in a general socio-economic development. This can be applied for cities and towns in the Danube Region, especially smaller ones, which cannot independently function in present-day globalised society. Their mutual cooperation and partnership through the creation of clusters and networking within them is a key potential to prevent their overshadow by major cities and national capitals today (Fig. 266).

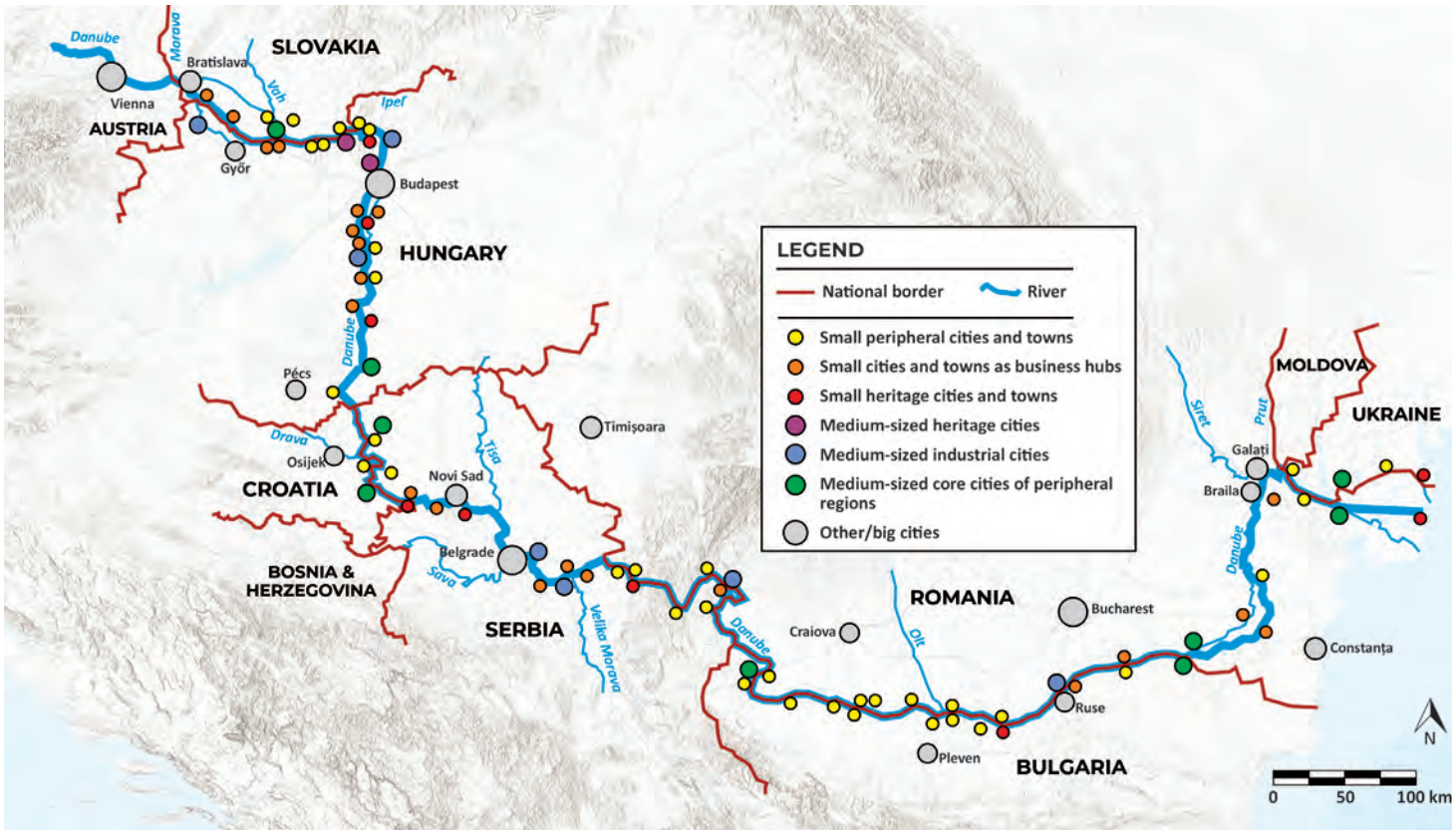

Fig. 266 / Map: Clusters and networks of Danubian medium-sized and small cities and towns (Author: B. Antonić, 2022)

CLUSTER 1: SMALL PERIPHERAL CITIES AND TOWNS (Fig. 267)

This is the cluster where the largest number of Danubian small cities and towns belongs (43%). They are on the Danube sections which are national borders, too. However, some of them are located in "internal peripheries". Their future development is related to a balance between their rural-natural hinterlands and better connectivity through nearby border and/or to nearest major cities.

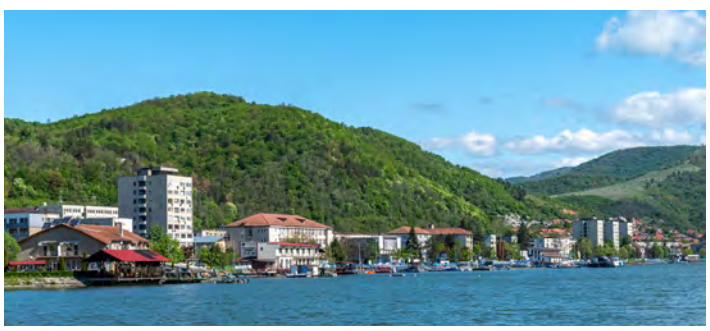

Fig. 267 / Example of Cluster 1: Orșova, Romania (Author: A. Radulescu, 2022)

CLUSTER 2: SMALL CITIES AND TOWNS AS BUSINESS HUBS (Fig. 268)

The most of small cities and towns along the Danube that are located along highways and in proximity to the largest cities in the region are in this cluster (25%). Many of them have relatively strong economic base: light industry, energetics, logistics and transportation. Their future is more pertained to the development of central and leisure-related activities, to improve local urban life.

Fig. 268 / Example of Cluster 2: Šamorin, Slovakia (Author: M. Danciu, 2022)

CLUSTER 3: SMALL HERITAGE CITIES AND TOWNS (Fig. 269)

The cities and towns that belong to this smaller cluster (11%) are those ones recognisable by already present rich cultural and natural heritage, preserved traditional urban elements and religious legacy. Therefore, these cities and towns are usually unique at regional level. Their future is the sustainable tourism development regarding to the prevalent heritage activities and facilities, with a special respect to local population and their needs.

Fig. 269 / Example of Cluster 3: Ilok, Croatia
(Source: Tourist Office of Ilok, 2022)

CLUSTER 5: MEDIUM-SIZED INDUSTRIAL CITIES (Fig. 271)

Several Danubian cities (8%) fits to this cluster. All these cities have had an advanced (heavy) industrial capital, they are located on the main international roads, which reduced their peripherality. These characteristics had to be preserved in the further development of these cities, adding the quality of local life and better service sector as necessity in their future prospects.

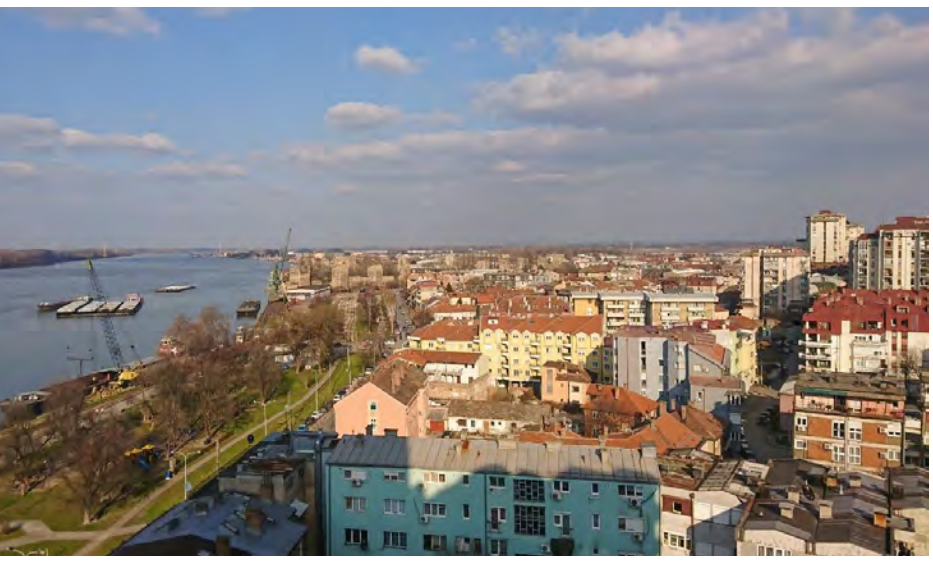

Fig. 271 / Example of Cluster 3: Ilok, Croatia
(Source: Tourist Office of Ilok, 2022)

Fig. 270 / Example of Cluster 4: Esztergom, Hungary
(Author: B. Antonić, 2019)

CLUSTER 4: MEDIUM-SIZED HERITAGE CITIES (Fig. 270)

Just two cities – Esztergom and Szentendre in the vicinity of Budapest – make this 'rarest' cluster (2%). These cities are in the shadow of a national capital, but their cultural and religious significance has secured their important role in national urban system. The future of these cities is the similar to the small heritage cities and towns – the sustainable development of cultural tourism – but linked with the development of other urban functions, such light industry, service economy and local administration.

Fig. 272 / Example of Cluster 3: Ilok, Croatia
(Source: Tourist Office of Ilok, 2022)

CLUSTER 6: MEDIUM-SIZED CORE CITIES OF PERIPHERAL REGIONS (Fig. 272)

The cities in this cluster (11%) are typical medium-sized European cities which district seats with the even share of light industry, services, culture, administration, and education. Their location in peripheral regions brings both pros and cons, as they are not under the strong influence of major cities, but far away from the transport corridors and capital investments, too. Their future is connected to the support of upper levels (national, European, regional) to enhance their position. This includes the formation business and technology hubs and the improvements of local education sector.

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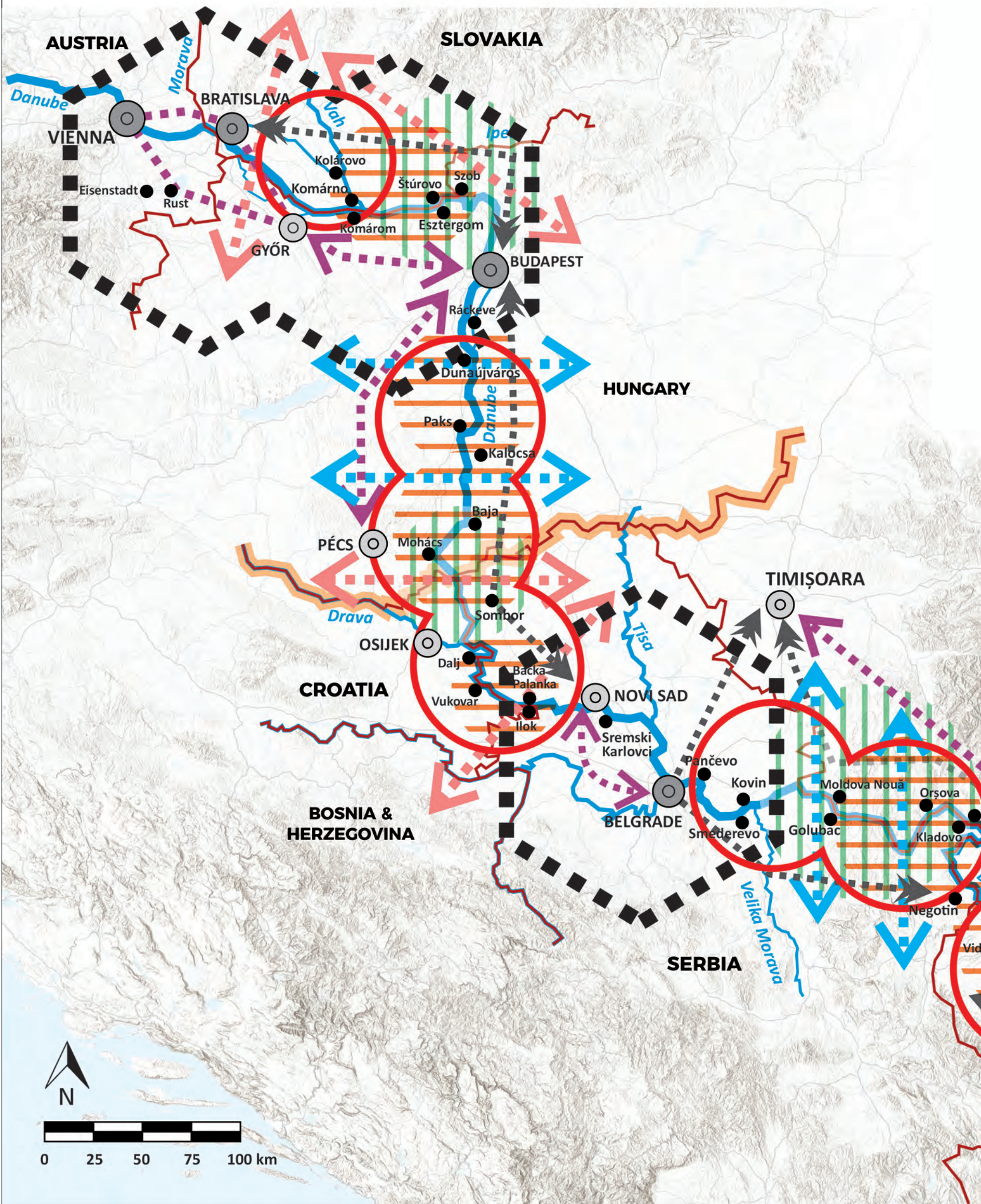
- Dávid, A. & Madudová, E. (2019). The Danube River and its importance on the Danube countries in cargo transport. In J. Bujňák & M. Guagliano (Eds.), Transportation Research Procedia 40 (pp. 1010-1016). DOI: 10.1016/j.trpro.2019.07.141.

MAP **4.2**

CENTRE-PERIPHERY-BORDERLAND RELATIONS ALL ALLONG THE DANUBE _ POINTS OF INTERVENTIONS

__ For a More Balanced Danubian Spatial System __



LEGEND

STATE BORDERS

LIMITS OF SHENGHEN AREA

CITIES & TOWNS

Capital cities

Big cities (>100,000 inh.) - Regional development poles

Small and medium-sized cities and towns (<100,000 inh.) - Focus cities & associated strategic partners in DANUrB+ Project

RIVERS:
Danube + tributaries

Intervention prior to cross-border multiple connectivity (car/train/velo)

Interventions prior to regional connectivity

Interventions prior to logitudinal connectivity

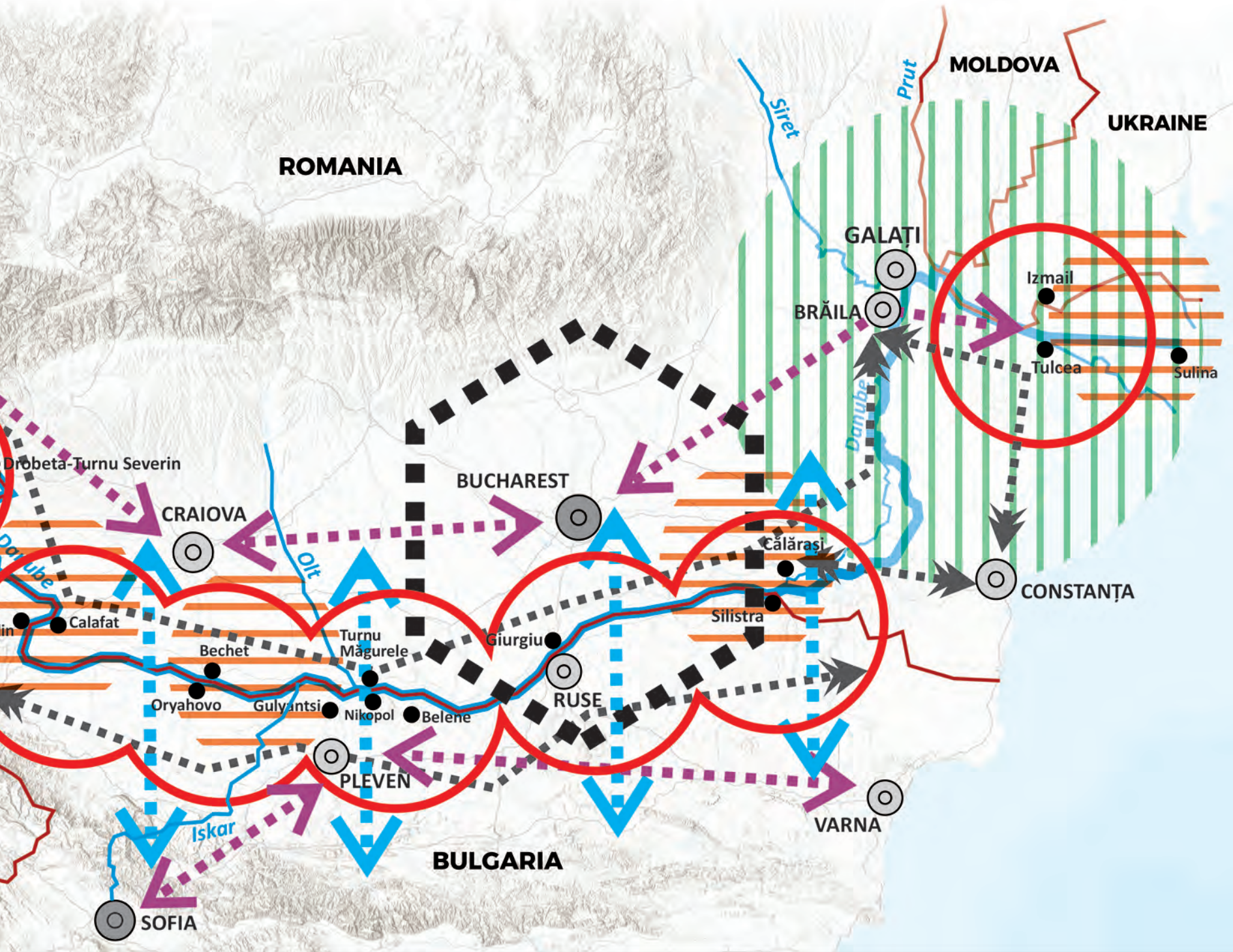
Interventions prior to economic boost / re-functionalisation

Interventions prior to cultural concentration (tourist hubs)

Interventions prior to social design / demographic measures

Interventions prior to ecological and biodiversity enhancement

Interventions prior to inter-cultural and inclusivity enhancement



4.3 NEW POSSIBILITIES IN THE VISITOR ECONOMY FOR SHRINKING CITIES BY THE DANUBE

Bálint Kádár

NO EUROPEAN STRATEGY foresees the fast integration of the peripheral regions along the Danube into the major transport networks, like TEN-T or highway corridors, therefore the small and medium cities along the river have no promise to become central industrial and business hubs in medium term. The Danube River as a major transport corridor has little relevance for industries, except for the tourism industry, the only sector that promises relevant growth in revenues and employment.

Today, only cruise ships have international relevance in tourism passing all peripheral regions by the Danube, but these do not stop in smaller destinations and generate no spendings to the local entrepreneurs. The visitor economy has to be managed in a much more diversified and inclusive way in order to be beneficial for these communities. A variety of offers are available for domestic tourism, but projects like DANUrB identified potentials for a more diverse tourism infrastructure, which can be able to give attractive lifestyle and business opportunities to locals, helping to stop the population shrinkage.

Fig. 273 / A new cycling-pedestrian path along the Danube riverfront in Golubac, Serbia, developed as a part of Eurovelo 6 Route (Author: Tourist Organisation of Golubac, 2021).

Fig. 274 / A ritual bread, honey, and spices performed the Katsa Matsa ritual “Katsa Matsa” ritual in Milkovitsa Village, Gulyantsi Municipality in north Bulgaria (Author: BlueLink, 2022).

- BICYCLE TOURISM. The development of the Eurovelo 6 transnational bicycle route has the potential to upscale local tourism offers to an international audience (Fig. 273). Regions in Germany or Austria like Wachau could build around half of their tourism revenues on cyclists by developing an adequate infrastructure. This form of tourism is sustainable in every aspect and generates income for local products, local service providers and accommodations.

- LOCAL GASTRONOMIC OFFER. The peripheric rural regions along the Danube have still a stabile reputation for authentic gastronomical offers, some tied to the Danube (fish soup), some to the specific agricultural regions and diverse nationalities along the river (Fig. 274). Moreover, wine production and local fruit spirits also have a strong culture in every section of the river, and many emerging wineries have developed quality hospitality services for visitors.

- DIVERSE WATERSIDE EXPERIENCES. The Danube, its flood lands and tributaries offer a very diverse way to enjoy natural waters. Ample

Fig. 275 / Cultural heritage directly on the Danube – a water mill in Baja, Hungary (Author: P. Wolf, 2022).

Fig. 276 / Eibenthal Village in the Iron Gates Region as one of "pioneers" for slow tourism in west Romania (Author: A. Radulescu, 2022).

beaches, rowing and motor-boating, fishing and birdwatching opportunities are completed with a rich cultural heritage (watermills) (Fig. 275).

- SLOW TOURISM. The Danube offers excellent opportunities for a slowing down for vacationers, all previous tourism forms fit into a series of relaxing experiences. The relative isolation, natural settings and small towns and villages in the regions have a great opportunity to build on contrasting with the urbanized life in large cities (Fig. 276).

- SECOND HOMES. Tourism statistics does not count with the large number of second homes and weekend houses along the Danube, while the economic and cultural potential is immense. After the Covid-19 pandemics the role of such second homes increased, the urban population spends more time in rural locations, especially if they can afford to own a suitable house. The depopulation of Danube's settlements does not mean most homes became abandoned, instead a seasonal usage became the norm (Fig. 277). Local economies should build on these temporary inhabitants, offering better digital connectivity for prolonged stay and better services for gastronomy and shopping, but also for cultural sights to visit.

- LOCAL EVENTS AND ACTIVE LOCAL CITIZENS. Tourism can only be developed in a sustainable way based on authentic and living local offers, traditions and entrepreneurship (Fig. 278). If locals are proud to their living traditions, festivals and gastronomy, they are ready to build a visitor economy. Tourists will only be interested in long term to places and services already valorised by locals.

Fig. 277 / Ilok in east Croatia targets visitors for their potential longer stay in the town (Tourist Board of Ilok, 2022).

Fig. 278 / Local events based on tradition and authenticity – a wine festival in Komárno, Slovakia (Pons Danubii, 2022).

4.4

PLANNING URBAN SHRINKAGE ALONG THE DANUBE – A PARADOX OR A NEW NORMALITY?
// INTRODUCTION

Jelena Marić &
Biserka Mitrović

COULD MACRO-LEVEL URBAN PLANNING be an effective solution to the issue of the shrinkage of many low-income cities in post-socialist countries in the eastern half of Europe? Although urban shrinkage is a rather complicated and often irreversible process, different global and local planning strategies are developed to overcome its consequences (Neill & Schlappa, 2016), which is often the subject of a "top-down" political regulation. These intentions have opened new perspective for traditional urban planning, embracing different novelties.

Fig. 279 / The new building of the Gallery of Lower Austria is the flagship project of the Danubian city of Krems an der Donau, in Austria. The building was built as the city entered reurbanisation phase in the late 2010s (Author: Bwag, 2019; Source: Wikipedia Commons).

In general, there are two basic approaches to the topic of urban shrinkage from the aspect of urban planning, which are developed on concrete goals and different perceptions of this phenomenon (Rink et al, 2011; Hospers, 2014). The first potential goal is to return the population to its pre-decline state, while the second approach is based on accepting the current state and adapting to it. A possible planning solution to retrieving the population is to increase the city's attractiveness (Fig. 279), make them more appealing for new investments, and influence the quality of life through creative urban renewal and regeneration methods. The second approach is based on the understanding that a declining city must adapt in situ while focusing on preventing further urban decline and strengthening its socio-economic base (Fig. 280).

However, both approaches aim to increase urban densities as one of the major imperatives. While the first approach particularly targets to increase "simple" population density through housing renewal, the other one is more focused on the increase of the use of underused urban space without implying housing densification, i.e., through the urban regeneration of open public space or cultural, retail and tourist places. In all shrinking towns, this means that urban-planning profession had to cope with and to create plans for abandoned places, forgotten cultural heritage, brownfield locations, unused infrastructure and the capacities of city public services.

In this section, the good practice of "macro solutions" to the issue of urban shrinkage are presented on the example of small and medium-sized cities along the Danube.

Fig. 280 / Ráckeve, Hungary: farmers' markets are traditional outdoor gatherings, important for socialisation and community proud in many Danubian communities (Source: P. Wolf, 2022).

R

- Hospers, G-J. (2014). Urban Shrinkage in the EU. In H. Richardson & C. Woon Nam (Eds.), Shrinking Cities: A Global Perspective (pp. 47-57). London: Routledge.
- Neill, W. & Schlappa, H. (Eds.). (2016). Future Directions for the European Shrinking City. New York: Routledge.
- Rink, D., Haase, A., Bernt, M. ... & Calza Bini, P. (2011). How shrinkage and local governance are interrelated across urban Europe: a comparative view. D12 Discussion paper on governance responses. Leipzig: Helmholtz Centre for Environmental Research – UFZ. Retrieved from https://www.ufz.de/export/ data/400/39028_Shrink_Smart_WP6_D12_FINAL.pdf.

4.4.1

CASE STUDY 1
DANUBE REGION IN SLOVAKIA

Ľubica Vitková & Katarína Smatanová

The actions aimed at raising shrinking cities and regions are heterogeneous in the Danube Region in Slovakia. Most of them are realised on a green meadow mainly as sports and recreational facilities, financed mainly by the private sector. Examples are: the Danubiana Gallery – the museum of modern art (Fig. 281), golf resorts in Báč and Sedín (Fig. 282), sports and recreational complex X-BIONIC® Sphere near Šamorín, Slovak Ring and MALKIA Park near Orechová Potôň. The existing areas of thermal swimming pools in Štúrovo, Patince, Komárno, Veľký Meder and Dunajská Streda are improved, or the sites of monument heritage (manors, water mills, fortresses) are being restored. These realisations are increasing the level of recreation and tourism in the region (Fig 283).

A generous investment is the sport and relax complex X-BIONIC® Sphere near Šamorín, which is a multifunctional resort (Fig. 284-285). It combines the top equipment of the professional sports centre with a wide range of facilities for sports and relaxation for the public, but offers also other services (conferences, workshops) or occasional cultural and social events. The complex consists of several parts and separate areas focused on various sports. It includes an athletic, a swimming, an equestrian complex, with both indoor and outdoor facilities. The complex of this size naturally has an extensive technical background and accommodation capacity. Its restaurant facilities are also the social point of the wider area. The complex presents also an entrance to the area of Danube, as the complex lies directly on the riverbanks. The sports complex is an exceptional achievement in Slovakia in terms of size, its complexity, operational and landscape solution. Olympians have already found the area not only from Slovakia, but also from abroad, as well as ordinary visitors. It is an example of a combination of day and weekend recreation and facilities for professional athletes and a venue for domestic and international sport events.

Fig. 283 / New significant recreation and tourism projects in the Danube Region in Slovakia (Author: Ľ. Vitková & A. Šeligova, 2022).

Fig. 281 / Danubiana Gallery – an island of culture on the Danube (Author: Ľ. Vitková).

Fig. 282 / Sedín Golf Resort by the Small Danube (Author: Ľ. Vitková).

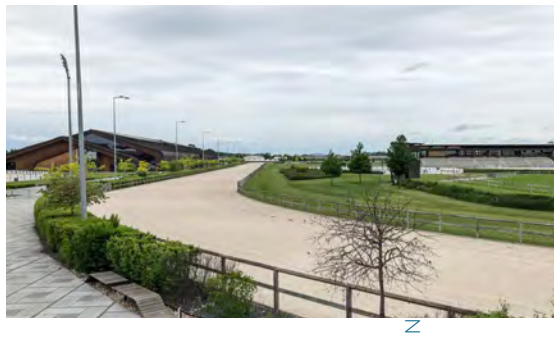


Fig. 284-285 / New generous sports and recreation area X-Bionic Sphere – Central area (left); riding area (right) (Author: Ľ. Vitková, 2021).

R

- Kissfazekas, K., Krklješ M., Stan A. & Vitková, Ľ. (2019). Changes in waterfront land use along the river Danube in the state-socialist era. In: M. Benko, P. Gregor & Ľ. Vitková, (Eds), Book on the unexplored cultural heritage in communities by the Danube: DANUrB 2017-2019 (pp. 70-77). Prague: Gasset.
- Lemak, O. & Vitková, Ľ. (2021). Transformation of the Danube recreational areas. In M. Benko (Ed.), DOCONF 2021: Facing Post-Socialist Urban Heritage – Proceedings (pp. 228-239). Budapest: BME.

4.4.2 CASE STUDY 2 // SMEDEREVO, SERBIA

Jelena Marić

Fig. 286 / "Godominsko polje" Industrial zone next to the famous Smederevo Fortress and the Danube – seen from the fortress (B. Antonić, 2018).

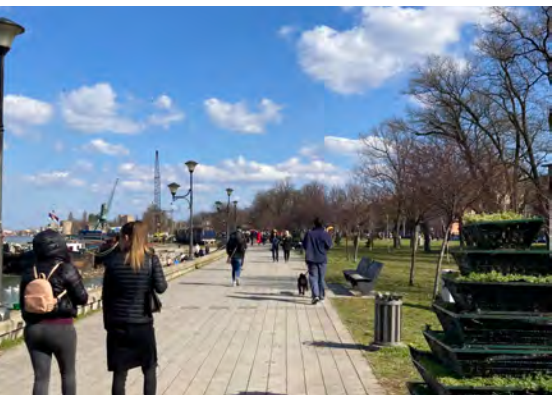
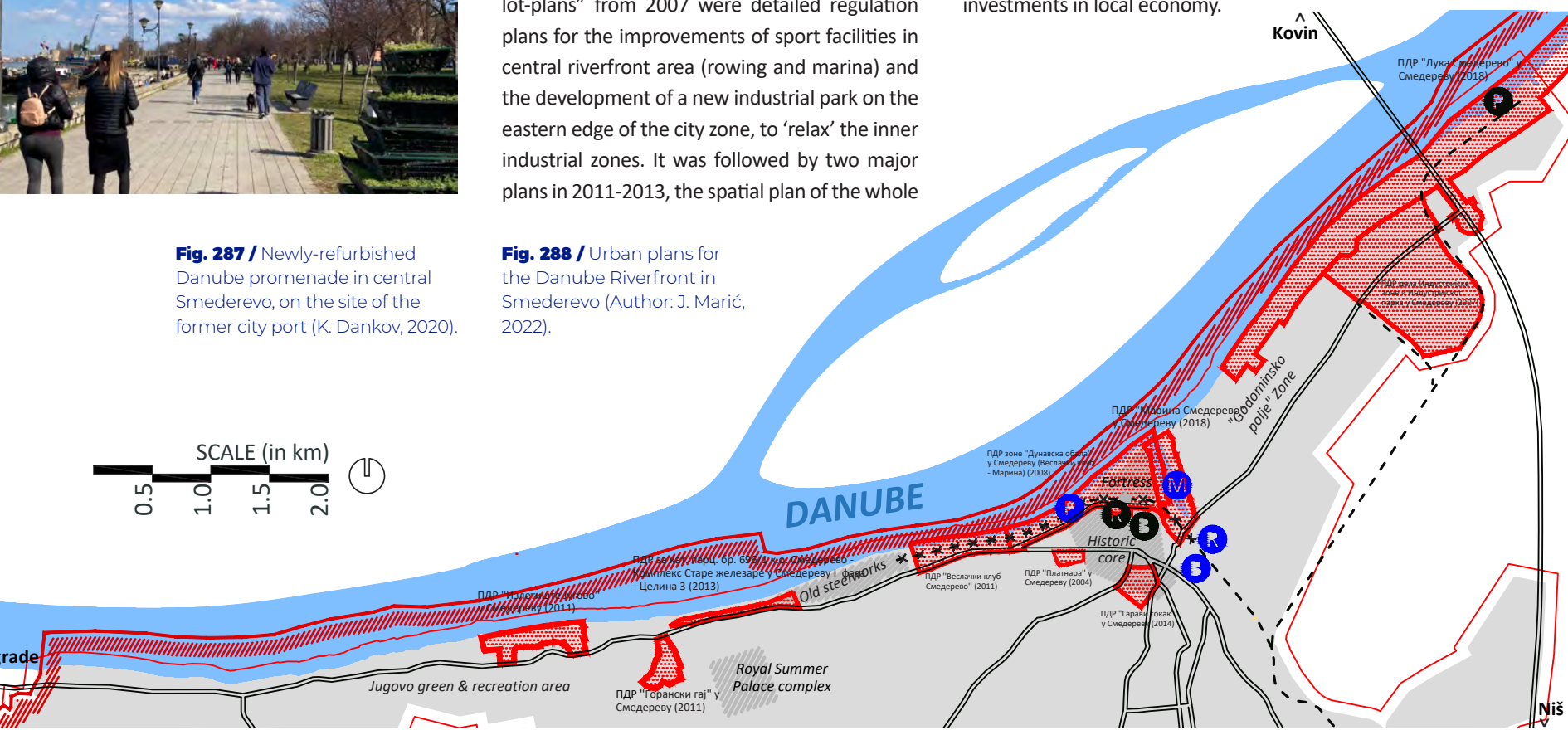


Fig. 287 / Newly-refurbished Danube promenade in central Smederevo, on the site of the former city port (K. Dankov, 2020).

Smederevo in central Serbia was a typical industrial city on the Danube in 20th century, spanning from all modern periods, from early industrialisation and port development before the World War I until the complete built-up of an important urban centre of heavy industry after the World War II, in the socialist Yugoslavia (Pavlović, 1980). At the end of this long-term urban transformation in the 1980s, the Danube Riverfront become a place of industrial estates and transport facilities (Fig. 286).

The post-socialist transition brought the collapse of many industries in Smederevo in the 1990s, but also gave a new impulse to city retail and service sector. Aware of new conditions, the city authorities have initiated a new cycle of urban plans, to address and direct the regeneration of the Danube Riverfront (Fig. 287). Two first "pilot-plans" from 2007 were detailed regulation plans for the improvements of sport facilities in central riverfront area (rowing and marina) and the development of a new industrial park on the eastern edge of the city zone, to 'relax' the inner industrial zones. It was followed by two major plans in 2011-2013, the spatial plan of the whole city area and the urban area, which settled the main planning goals and measures for the riverfront, including (1) the gradual transformation of inner industrial zones into business and retail parks, the (2) formation of new urban riverfront next to Smederevo historic core by abolishing the industrial railway and relocating the port and railway station outside the city centre and (3) the regeneration of already existing green and recreation zones in the western riverfront (Fig. 288). These goals and measures have been the cornerstones for the recent urban plans for capital investments, designed for a new city marina, a new "Godominsko polje" business-retail brownfield zone, a new port-business zone and a "Jugovo" recreation area. The overall goal of urban-planning process in Smederevo is to bridge aspirations to make the city liveable for both locals and the tourists and to bring the further investments in local economy.

Fig. 288 / Urban plans for the Danube Riverfront in Smederevo (Author: J. Marić, 2022).



· Pavlović, L. (1980). Istorija Smedereva u reci i slici / History of Smederevo in a Word and Image. Smederevo: National Museum.

4.4.3

CASE STUDY 3 // **BERZASCA, ROMANIA**

Mihai Danciu

Berzasca in Caraș-Severin County is the most active of all the municipalities located in the Romanian Iron Gates Gorge, being in a continuous process of revitalisation and post-industrial transformation. This process follows the natural course of the periodic reconfiguration of the socio-economic profile of the towns in 'Clisura Dunării', a local name for the Iron Gates. The most recent stage of unitary evolution for Berzasca took place between 1830 and 2004 and is characterised by the mining activities that left behind an ensemble of industrial buildings in the Cozla Area (Fig. 289).

Over time, the local administration has identified several revitalisation possibilities by establishing new functions in place of the former mine located on the banks of the Danube; first as an industrial and business park, then as a tourist destination. Therefore, the area was planned in the recent General Urban Plan as one of the green spaces, leisure, and sports, with the possibility of building lake houses in specific areas (Fig. 290). The plan has been applied up to the solution study level. At the same time, investors are being sought to enter into partnerships with the local authority to start investments in accommodation units, restaurants, and places for relaxation (Fig. 291-292).

Another process that deserves to be highlighted is the attention of local authorities to generate projects to increase the quality of life of residents and tourists by setting up public spaces in specific areas of the traditional fabric: in intersections or adjacent to secondary streets and green spaces (Fig. 293). All aforementioned steps were rewarded with the municipality's certification as a tourist resort of national interest, thus creating the possibility of applying for external financing to implement the projects listed above and, therefore, responsibly addressing the issue of shrinkage of built-up areas.

Fig. 289 / Former Cozla mine in Berzasca, nowadays a brownfield (Author: M. Danciu, 2022).

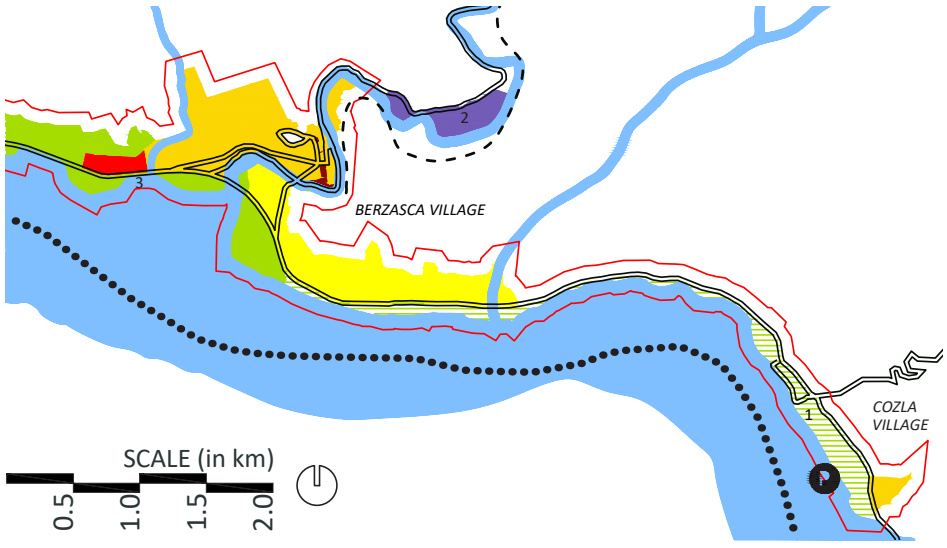


Fig. 290 / Planning for shrinkage in Berzasca. Public spaces in the centre and the former Cozla industrial site (Author: M. Danciu, 2022).

LEGEND:

National border
Urban zone - boundaries

URBAN ZONES

Centres & Commercial zones
Pre-socialist (-1945)
Socialist (1945-1991)

Residential zones
Pre-socialist (-1945)
Socialist (1945-1991)

Industrial and working zones
Pre-socialist (-1945)

Urban green zones
Industrial zones proposed for reconversion in leisure
Proposed leisure areas

OTHER ZONES & TRANSPORTATION

Unbuilt land - agriculture & nature
Waterways
Port, dock
Roads
Rail

1 Cozla industrial platform
2 Berzasca industrial platform
3 Egreta lake houses complex

R

- _ ADNBA (2010). Rehabilitation of an industrial site, Cozla Village, Romania. Retrieved from https://www.adnba.ro/project/unbuilt.
- _ ADNBA (2013). Public spaces Berzasca, Romania. Retrieved from https://www.adnba.ro/project/unbuilt.
- _ Gheorghiu, T. O. (2011). Studiu istoric pentru un fragment din "Clisura Dunării" – Berzasca / Historic Study for a Fragment of the "Danube Gorge" – Berzasca. Buletinul Comisiei Monumentelor Istorice, 22(1-2), 16-33. Retrieved from https://patrimoniu.ro/images/BCMI/BCMI_2011.pdf.
- _ Lotreanu, I. (1935). Monografia Banatului / Banat Monograph. Timişoara: "Ţara" Institute for Graphic Arts.

Fig. 291 / Former Cozla mine in Berzasca, planned as a green sports and recreation area in the General Urban Plan (Source: Capitel Proiect srl, 2007).

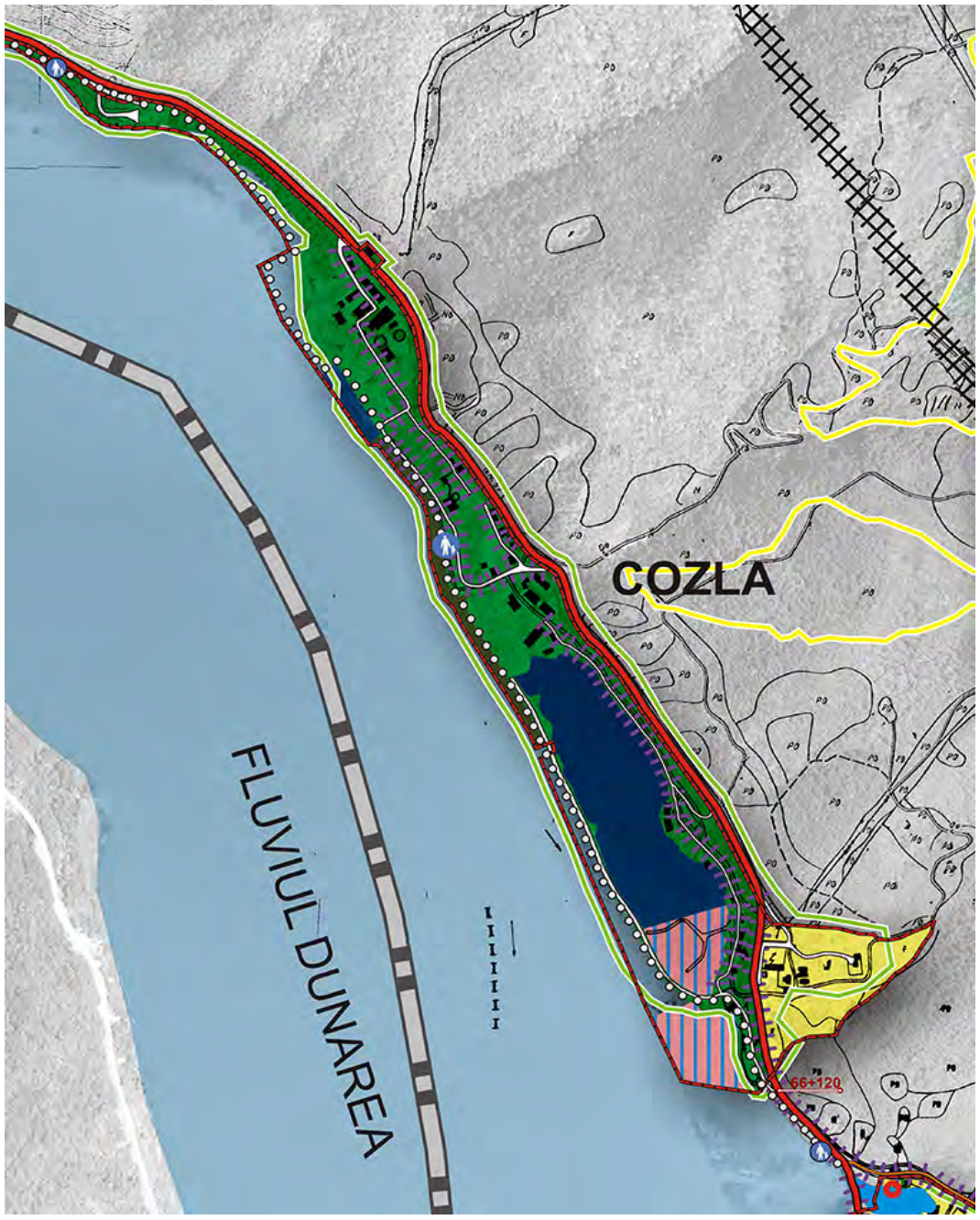


Fig. 292 / Former Cozla mine in Berzasca, rehabilitation and redevelopment of an industrial site for offices, hotels and leisure (Source: AND BA srl, 2010).

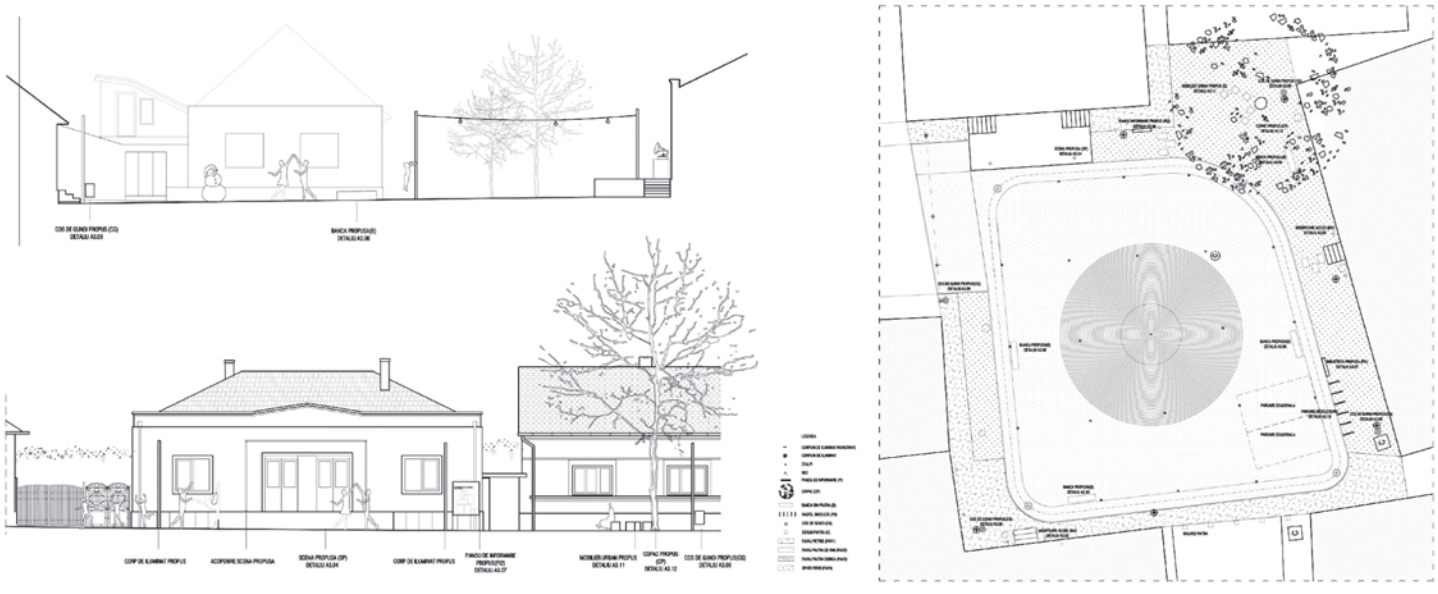


Fig. 293 / Public spaces in Berzasca. Park rehabilitation & public space for temporary market. Source: AND BA srl (2010)

4.4.4

CASE STUDY 4 // **VIDIN, BULGARIA**

Georgi Georgiev

Vidin inherited a significant built stock during socialism – public service areas doubled by area, retail and regional trade sites tripled, while sports and leisure zones territorially increased nearly four times. However, since the beginning of the post-socialist transition, the population significantly contracted, from 63,000 inhabitants in 1992 to just 40,000 in 2021. Thus, the city infrastructure has become a problem for maintenance and revitalisation.

In this inevitable situation, the city authorities refocused from a traditional industrial city image to culture-driven tourism based on visitors along the Danube Route and rich cultural heritage – Vidin historic centre along the river and with an ancient Baba Vida fortress. The main problem in this approach has been the necessity of the proper renewal and resource-demanding regeneration of Vidin central spaces, both physically and functionally.

To address this gap, the Vidin government adopted an essential general urban plan in 2008, which determined the main objectives of further development. Two main development corridors were planned: along the beltroad of the city and the riverfront (LSP, 2008). The first corridor targets the aforementioned industrial-business (re)development (Fig. 294). The main objectives were revitalizing the city brownfields at the southern and western peripheries and a new free business zone at the north-eastern edge of the urban zone, towards the New Europe Bridge and Romania, completed in 2013.

Fig. 295 / The refurbishment of Vidin synagogue on the Danube riverfront historic promenade (Author: G. Georgiev)

The second development corridor is directly related to the renewal of the Vidin centre and riverfront area through culture, tourism, and supplement leisure services (Fig. 404_41). Aside from the main square as a traditional and the most vibrant urban node, three new nodes were proposed for this new development – the main node is the Fortress on the Danube Riverfront, plus two other ones related to the contact positions between the historic centre and the rest of the city. The main heritage sites in the zone between these four nodes have been refurbished last few years, such as the Vidin synagogue (Fig. 295) or old city walls with gates (Fig. 296). Aside from these key projects, the other smaller ones have been implemented: new pedestrian walkways, innovative urban furniture, lighting fixtures, etc.

Fig. 296 / The restored zone of the walls of Vidin medieval fortress (Author: G. Georgiev)

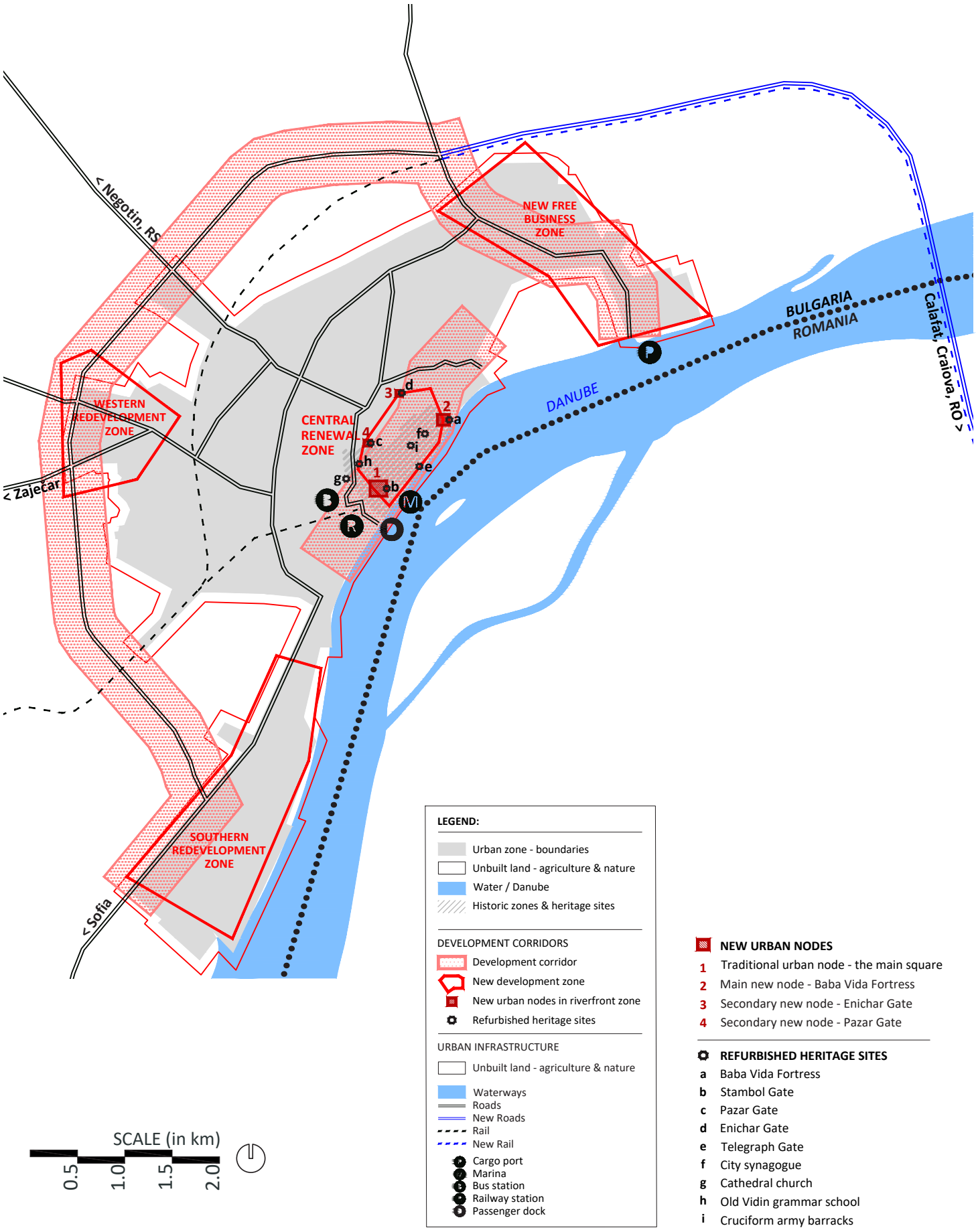


Fig. 294 / The development map of the City of Vidin (Author: G. Georgiev)

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- Landscapeproject – LSP (2008). Общ устройствен план, град Видин / General Urban Plan, City of Vidin. Retrieved from https://landscapeproject.eu/portfolio/ustroistven-plan-vidin/.

4.4.5

CASE STUDY 5 // GIURGIU & CĂLĂRAȘI, ROMANIA

Mihaela Negulescu

One of the factors that triggered the shrinking process of many peripheral small cities is the poor quality of their connectivity within the regional and national territory. That made these cities less accessible than the bigger ones, polarizing their economic performance and migration patterns. Hence, better transportation connections are critical in stopping and reversing urban shrinkage in these cases.

The Danubian cities of Giurgiu and Călărași in south Romania are examples – they have the opportunity to improve their connectivity through the high-speed roads and railway transportation planned by the National General Transport Master Plan, adopted in 2016 (Fig. 295). As a result, these two cities will gain improved accessibility and attractivity in the region, within an average of one-hour distance-time from Bucharest, the Capital City and its area of influence with a population of about 2,7 million inhabitants (WB, 2017; Negulescu, 2018). This is a primary prerequisite for Giurgiu and Călărași to become "gate-cities" to the Danube. These attractive leisure destinations capitalise on both cultural heritage and on the unique landscape resource that is the green-blue corridor of the Danube (DANUrB, 2019).

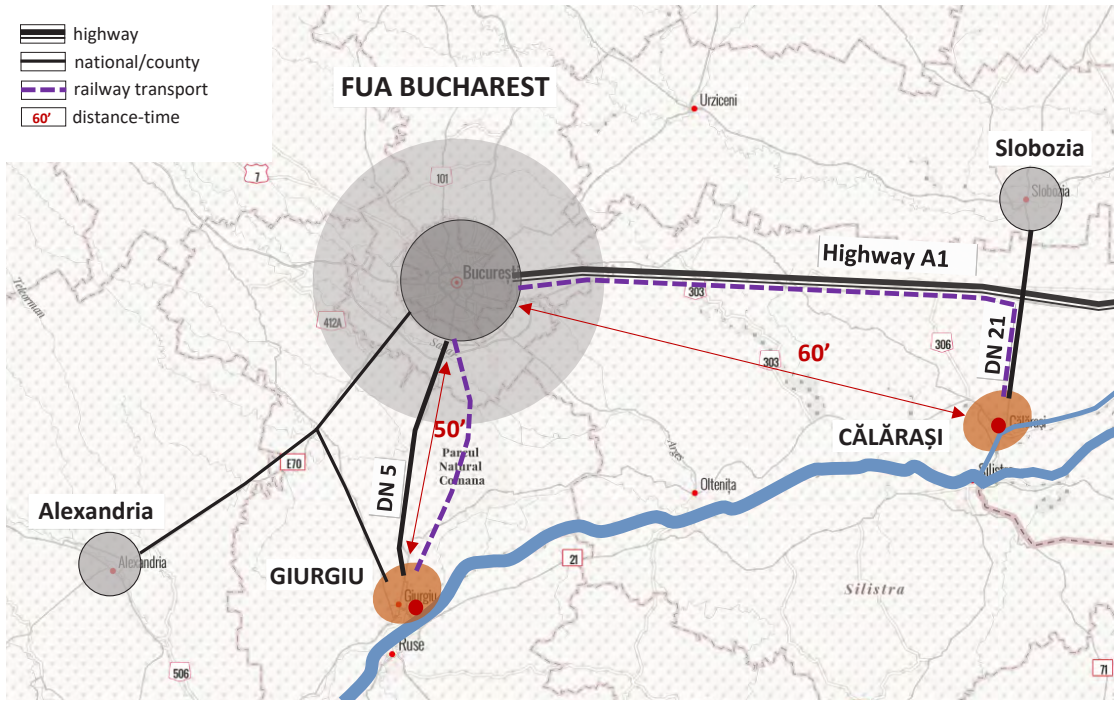

Fig. 295 / Giurgiu and Călărași as "gate-to-Danube" cities, 0-60-minute distance from Bucharest (Author: M. Negulescu).

The opportunity and effectiveness of the strategic connectivity and accessibility improvement are already confirmed by the recent developments in Călărași, in which the contemporary arrangement of two beaches on the Borcea Branch of the Danube River – Samskara and Pod4 beaches – has led to growing leisure tourism, especially from Bucharest (Fig. 296).

Fig. 296 / Samskara Beach on the Borcea Branch of the Danube, in Călărași, Romania (Author: F. Radulescu).

R

- DANUrB – Danube Urban Brand (2019). DANURB CLOSING CONFERENCE. INTERREG Danube Programme. Retrieved from http://www.interreg-danube.eu/news-and-events/newsletters/4534.
- Negulescu M. H. (2018), Considerations on the Management of Accessibility Improvement Impact on Land-Use. Journal of Urban and Landscape Planning, 3, 37-50. DOI: 10.54508/JULP.03.04.
- World Bank – WB (2017). Magnet Cities: Migration and Commuting in Romania. Washington: World Bank.

4.5 DESIGNING SHRINKING DANUBIAN CITIES // INTRODUCTION

Marius Găman

MANY CITIES ALONG THE DANUBE RIVER are shrinking cities, which is also becoming a common pattern across Eastern and Central Europe. Of several possible reasons, e.g., low accessibility, the pull of nearby larger cities and low birth rates, the most important one is the deindustrialisation after the fall of communist systems, which led to the decrease of jobs and a mass migration (Hospers, 2014). The population decrease led to the degradation or disappearance of several public services and later the abandonment or underuse of buildings or large city areas (Păun Constantinescu, 2019).

Fig. 298 / Orşova, Romania: the Danube Riverfronts has been a location for many modernist regeneration projects (Author: UPT, 2022).

Fig. 297 / Zlín in East Czechia was developed as an industrial city. Today, many industrial-heritage buildings of the former "Bata" Factory has been reused for central urban functions, such as a government (Author: Ș. Badescu, 2022).

Considering the current condition of shrinking cities, it could be concluded that this method is no longer feasible, and it should be substituted with a 'tabula plena' approach (Roberts, 2016). Such an intervention implies the reuse of urban areas, re-building, recycling, regenerating brownfields and restoring local built heritage (Fig. 297). The local identity should be a cornerstone to all interventions, in most cases the Danube being a key feature.

The best way to recover this type of city can be done through medium-level urban interventions which can be achieved through public, private, or public-private partnerships investments. These types of developments can be a single intervention on a larger area of the city, or a series of small interventions coordinated under a unifying theme or forming a network. Either type of strategy recycles existing urban areas and buildings or is based on intangible heritage or valuable landscape features. The most common projects are urban regenerations of the historic urban tissue, usually on the Danube's banks, rehabilitation of the riverfront or public spaces along the shore (Fig. 298), designing green areas, parks or leisure areas near the Danube and in some cases, big infrastructure projects or industrial developments (Fig. 299).

Fig. 299 / Shrinking Danubian Cities with larger urban developments (Author: M. Găman).

R

- Hospers, G. J. (2014). Urban shrinkage in the EU. In: H. Richardson & C. W. Nam (Eds.), Shrinking Cities: A Global Perspective (pp. 47-57). London: Routledge.
- Păun Constantinescu, I. (2019). Orașe românești în declin / Shrinking Cities in Romania. Bucharest: DOM Publishers
- Roberts, B. (2016). Tabula Plena – Forms of urban preservation. Zurich: Lars Muller Publishers.

4.5.1

CASE STUDY 1 // KOMÁROM, HUNGARY

Daniel Balizs

Following the change of regime, the Komárom and Komárno approached each other slowly, and the accession of Hungary and Slovakia to the European Union in 2004 and to the Schengen Area in 2007 also facilitated co-operation. After lengthy preparations, the new Danube bridge connecting the two cities was handed over to traffic in the autumn of 2020. The other big-format projects have been also implemented in Komárom (Fig. 300).

In Komárom, the utilisation of the Danube bank is also characterised by a slow transformation. In order to connect the waterfront with the urban fabric, it is essential to invest in infrastructure, to reinterpret and develop the Danube bank as an attraction, and to make better use of the underutilised tourism potential located there. Progress has already been made on the latter, mainly through the renovation of the Csillag and Monostori fortresses (Fig. 301).

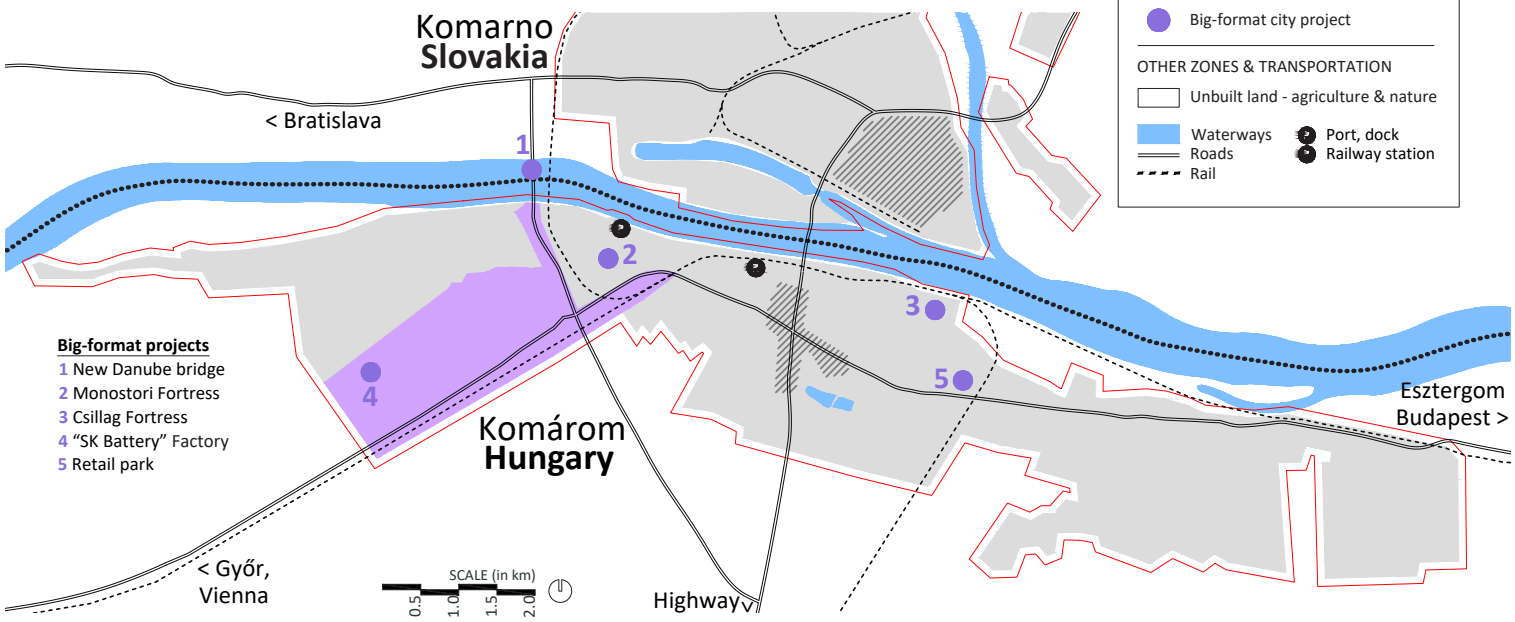

Fig. 300 / The built-up area of Komárom with the locations of recent big-format projects (Author: D. Balizs, 2021).

Fig. 301 / The Monostori Fortress, completed in 1877 and now home to many exhibitions and events, is included – along with other elements of the fortification system in Hungary and Slovakia – on the UNESCO World Heritage List (Author: D. Balizs).

However, these two attractions have not had a substantial Danube connection; although the Monostori Fortress has a harbour, it is used by very few ships. At the same time, we can consider the construction of the promenade to be contradictory: due to the unanimous design of the promenade running near the southern bridgehead of the downtown bridge and the poor placement of the rest areas, it does not live up to expectations.

Meanwhile, due to its favourable location and economic traditions, a strong (re)industrialisation process has started in Komárno started, first with "Nokia" and then, after its relocation, the South Korean "SK Battery", settled in the city industrial park, together with several other companies (Fig. 302).

Fig. 302 / South Korean-owned SK Battery, a company that began manufacturing batteries for electric cars in 2020 (Author: D. Balizs).

4.5.2 CASE STUDY 2 // VUKOVAR, CROATIA

Dina Stober

** Vukovar Urban Area includes four settlements: Grabovo, Lipovača, Sotin and Vukovar*

Vukovar follows the topographical disposition of the Danube waterside, created of terraces, plateaus and lowlands. Morphologically, the settlement is divided into a historical area of organic roads and irregular shape formed until the middle of the 16th century (southeast), New Vukovar, spread by planned transport network (northwest), and new residential settlements at the outskirt of the city.

The recent spatial interventions in Vukovar, which is a shrinking city, include the reconstruction of residential areas and the revitalisation of city historic and architectural symbols: the Museum of Vučedol Culture, Vukovar City Museum in the baroque classicist Eltz Castle, industrial brownfield reconstruction into Vukovar Water Tower Museum of Croatian Unity and "VukovArt" street murals that are spread all over the city. Punctual, but significant reconstructions, revitalisations and conversions in the functional and physical layers of the city have marked primarily the social life of its citizens and visitors (Fig. 303).

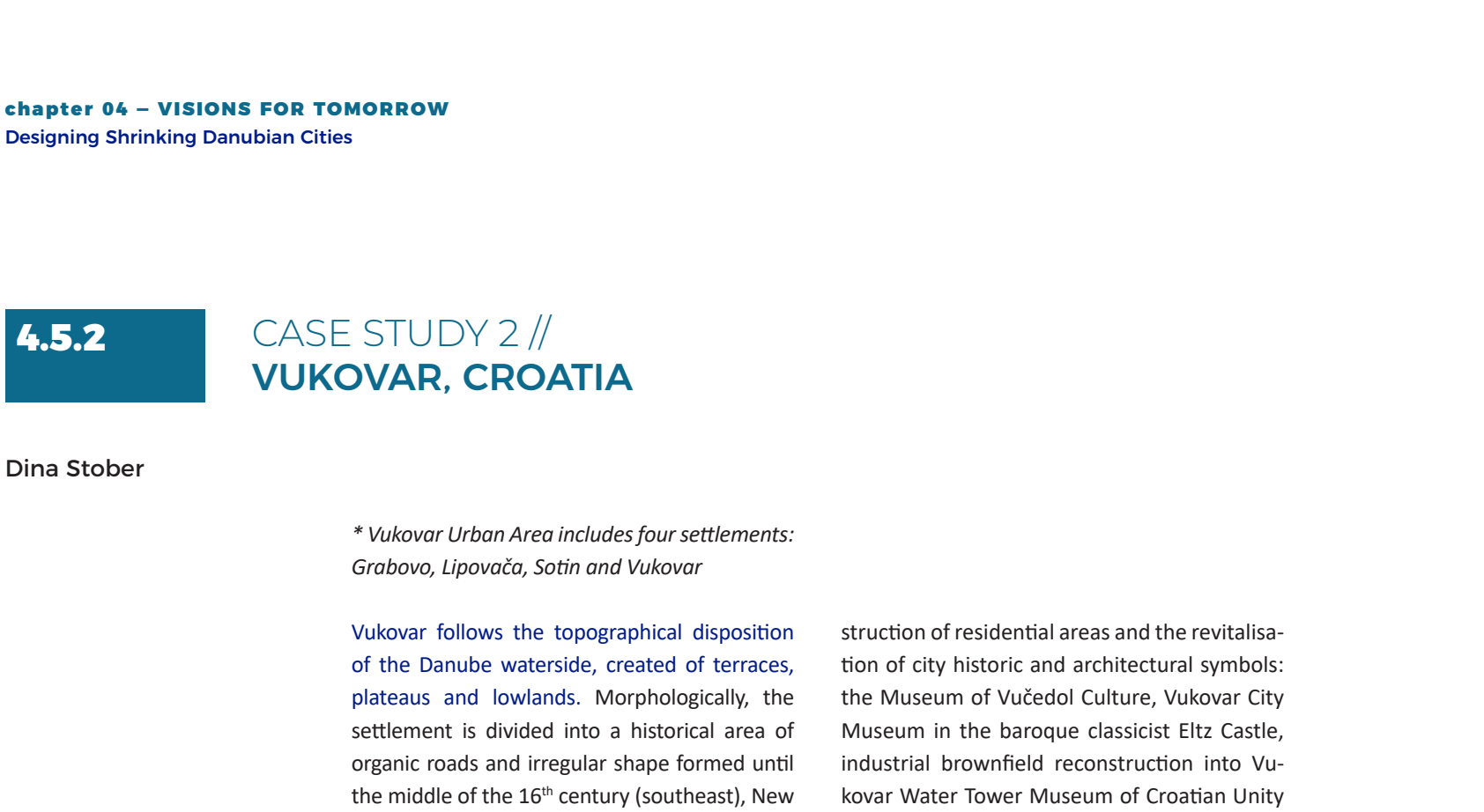

Fig. 303 / Vukovar urban area – historical areas and renewed punctual functions in the city (Author: D. Stober, 2022).

The archaeological site of Vučedol is located on the right bank of the Danube, 4 km downstream from Vukovar and is one of the most important archaeological sites in Europe (Fig. 304). This attractive location was first inhabited around 6000 BC during the time of the first European farmers, and it lasted more or less intensively throughout prehistory. Since 1938, archaeologists have been collecting findings in a collection of 708 artefacts, all presented in a museum in situ that was built in 2015, equipped with contemporary architectural concept and design, buried in a loess vertical plane that uses topography in architecture (Fig. 305).

Since 2016, the "VukovART", Vukovar Street Art festival, that take place each summer, is a host to artists from the region, who joined an effort to transform Vukovar into contemporary and inspiring city with big city murals at the gables of residential buildings (Fig. 306).

Fig. 304 / Aerial photo of the Museum of Vučedol Culture (Author: Radionica arhitekture + V. Ilić)

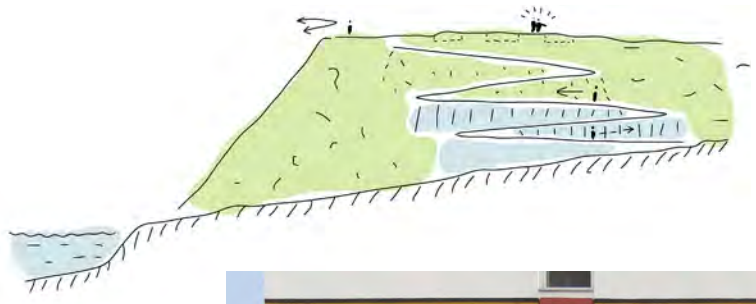

Fig. 305 / Author's sketch of the concept of the Museum of Vučedol Culture (Author: Radionica arhitekture + V. Ilić)

Fig. 306 / "VukovArt" street Mural Vera Bugatti-Abnegation dream (Author: VukovArt)

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- Karac, Z. (1994). Basic analysis of the urban and architectural development of Vukovar; Compendium of research to date. Prostor, 2(1-2(5-6)), 77-96. https://hrcak.srce.hr/30781.
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- ArchDaily (2013, November 12). Vucedol Archaeological Museum/Radionica Arhitekture. Accessed 10 June 2021. https://www.archdaily.com/447003/vucedol-archaeological-museum-radionica-arhitekture.

4.5.3 CASE STUDY 3 // GOLUBAC, SERBIA

Aleksandra Djukić

** Golubac Urban Area includes four settlements: Golubac, Radoševac, Usije and Vinci*

POPULATION:
1991: 3,082
2001: 2,821
2011: 2,581

Golubac is located at the entrance of the Iron Gate, the longest gorge of the Danube, surrounded with magnificent landscape and many endemic species. The entire area acquired the status of a national park in 1974. The fortress of Golubac is at the entrance of the national park and it is one of the best-preserved medieval fortresses in Serbia and along the Danube (Fig. 307).

Fig. 307 / Recently reconstructed Golubac Fortress (Author: A. Djukić, 2021).

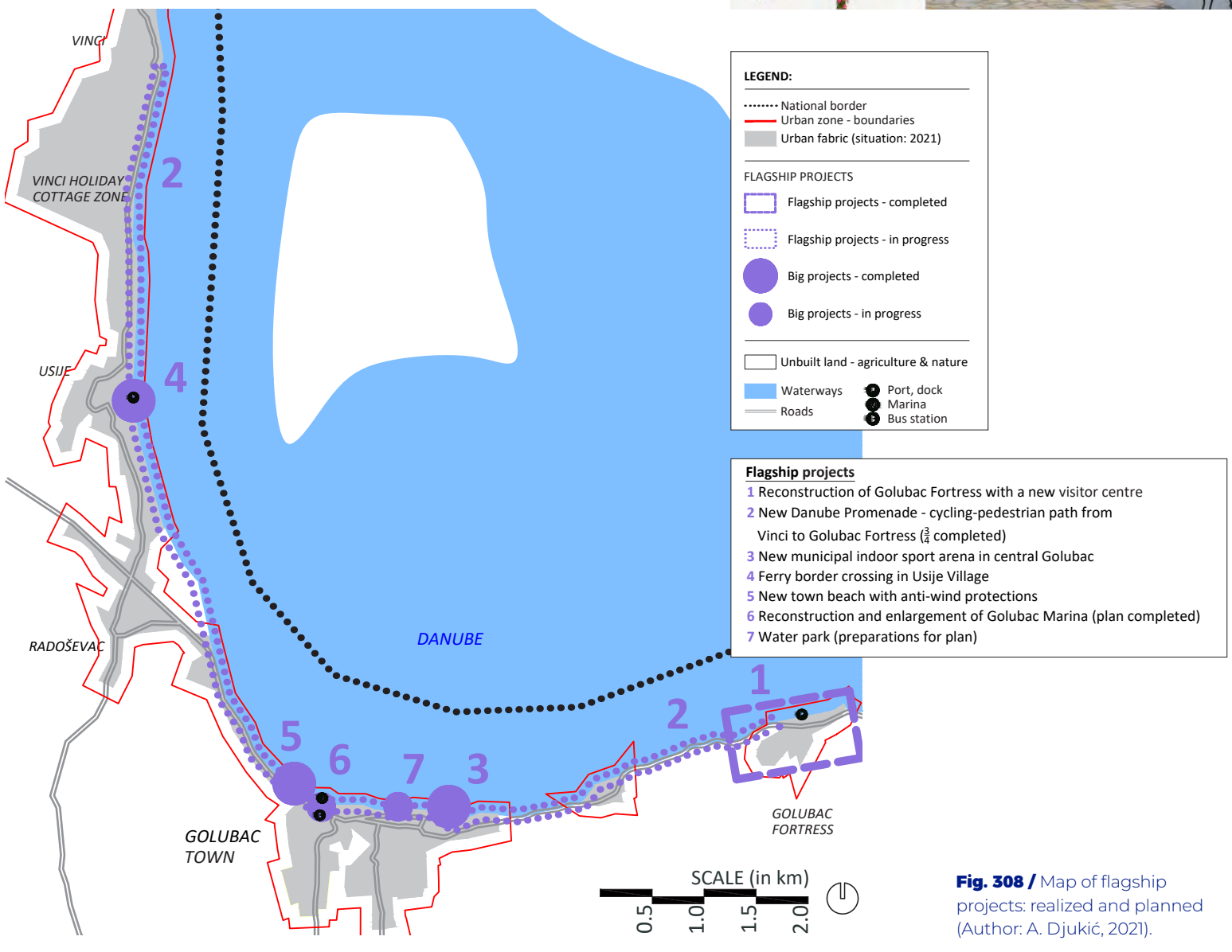

Fig. 308 / Map of flagship projects: realized and planned (Author: A. Djukić, 2021).

However, economic performance of the town has been in a very bad state for decades. During the 2000s, Golubac was among 20% of the most endangered municipalities in Serbia, with the level of general development below 50% of the national average (MRDRS, 2009-15). Furthermore, the Municipality of Golubac lost more than 55% of its population during the period 1948-2011, 17% during the last three decades (SORS, 2011).

Since 2010, the several projects of good practices are realised that can significantly improve the quality of life in Golubac, tourist offer and solve the problems of urban shrinkage (Fig. 308):

• Projects that highlight tangible heritage – the reconstruction of Golubac Fortress with new visitor centre, which is a flagship project for the town (Fig. 307). It is reconstructed with EU funds, and it is planned to be connected with the town with a new Danube promenade.

• Project that enhances the Danube – new Danube promenade – bicycle and pedestrian path along the riverbank that stretches from Vinci cottage area to Golubac Fortress (Fig. 309). The initial motive was the promotion of the Eurovelo 6 cycling route along the Danube and later widened to include the main tourist and cultural assets along the urban part of the riverside;

Fig. 310 / New town beach (Author: TO Golubac, 2022).

• Infrastructure project – a ferry link for cars, pedestrians, bicycles between Serbia and Romania in Usije Village, established in 2020;

• Neighbourhood-scale projects that should raise the quality of life in town: new municipal indoor sport arena in city centre, outdoor playground next to the riverbank and new town beach with anti-wind protection (Fig. 310).

Fig. 309 / Pedestrian and bicycle path along the Danube riverfront (Author: A. Djukić, 2021).

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- Djukić, A., Djokić, V. & Antonić, B. (2018). Chapter 6: Territorial Planning as a Creative Tool for the Upgrading of Cultural Tourism in Golubac, Serbia. In: T. Ohnmacht, J. Priskin & J. Stettler (Eds.), Contemporary Challenges of Climate Change, Sustainable Tourism Consumption, and Destination Competitiveness (pp. 101-122). Howard House, UK: Emerald Group.
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4.5.4 CASE STUDY 4 // DROBETA-TURNU SEVERIN, ROMANIA

Marius Găman

In recent years, in the city of Drobeta-Turnu Severin, a series of projects have been carried out to highlight the most important elements of the built heritage. Located on the banks of the Danube they emphasise the history of the city and the relationship with the most important natural element that led to its development – the river (Fig. 311).

The main project was the rehabilitation and restoration of the Museum of the Iron Gates Region and the adjacent archaeological park. This project involved the rehabilitation and restoration of the Roman camp and baths (Fig. 312), the historic building from the early 20th century (Fig. 313) and the construction of a new multifunctional pavilion (Fig. 314).

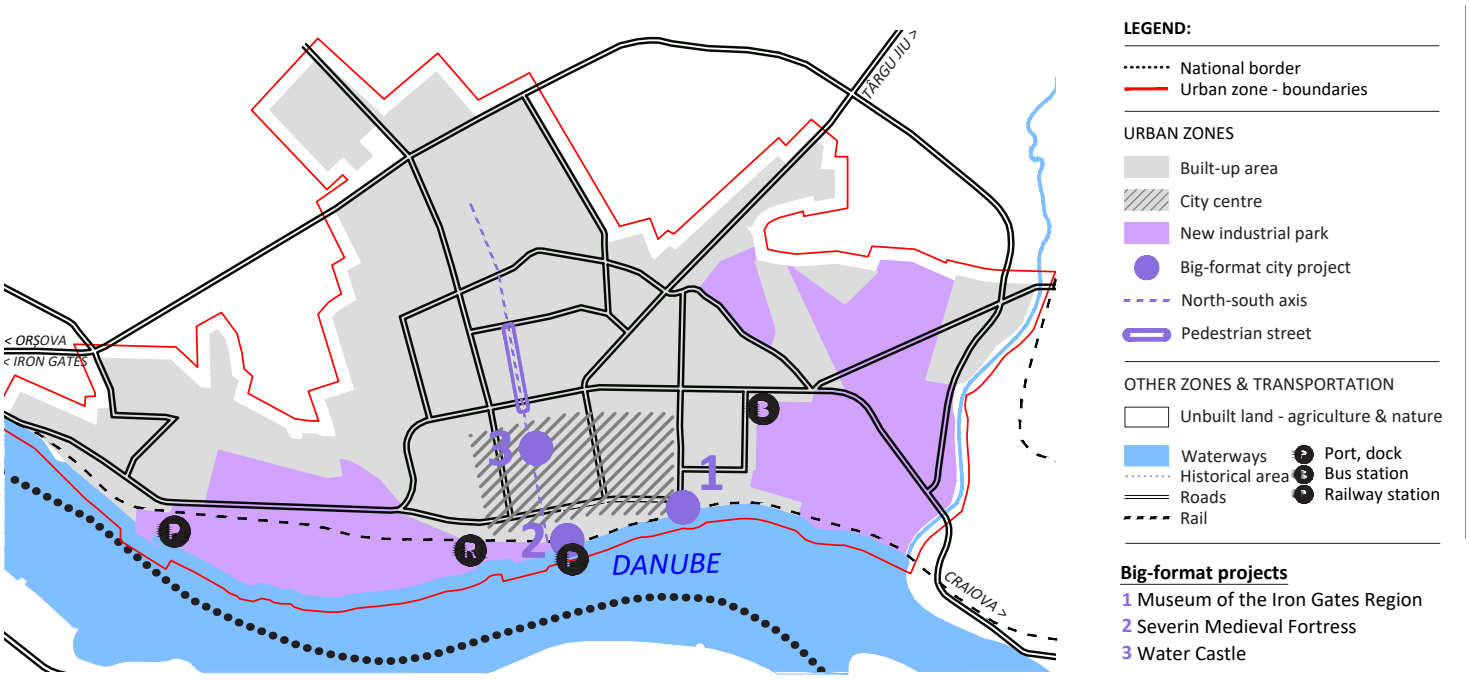


Fig. 311 / Map: three main projects in Drobeta-Turnu Severin (Author: M. Găman, 2021).

Fig. 312 / Roman camp and baths (Author: M. Găman, 2021).

Fig. 313 / Restored main museum building (Author: M. Găman, 2021).

Fig. 314 / The Roman amphitheatre and the new multifunctional pavilion (Author: M. Găman, 2021).

Additionally, a railway overpass (Fig. 315) was built to reach the ruins of a pier of Trajan's Bridge, built by Apollodorus of Damascus. As a part of this complex rehabilitation project, a Roman amphitheatre was discovered between the Roman baths and the camp. The rehabilitation and restoration of the ruins of the Severin Medieval Fortress was another important intervention that represented an attraction on the riverbank (Fig. 316). Through this project, the fortress was made accessible to the public and a new building was erected to house the artifacts discovered during the excavations.

Fig. 315 / The railway overpass to the pier of Trajan's Bridge (Author: M. Găman, 2021).

Improvements have also been made to the main north-south city axis, which also represents the axis of symmetry of the old city and connects the denser built area in the north of the city with the historical area and the Danube in the south. It was partially transformed into a pedestrian street, with refurbished Water Castle, the city landmark, into a cultural and tourist info-centre (Fig. 317).

Fig. 316 / Rehabilitated ruins of the Severin Medieval Fortress (Author: M. Găman, 2021).

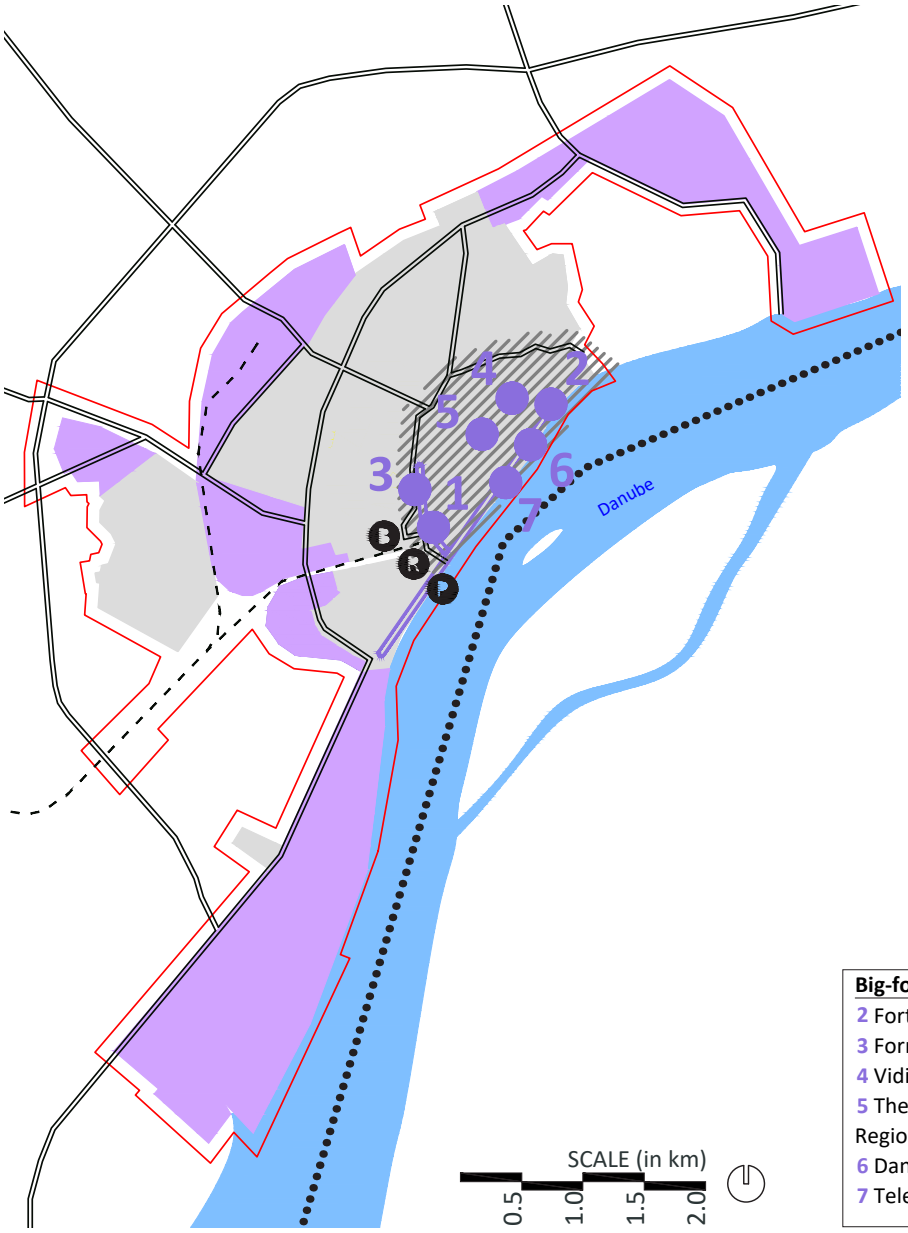
Fig. 317 / The Water Castle (Author: M. Găman, 2021).

4.5.5 CASE STUDY 5 // VIDIN, BULGARIA

Miriana Yordanova

In recent years, Vidin has gone through a more acute crisis period than the rest of Bulgaria. The city has recently undertaken a more proactive approach – the integrated development of Vidin plan includes several key projects for the protection of cultural heritage, which are located in the old historical part of the Danube town (CV, 2013). These projects aim to express the history of the city and its connection with a natural phenomenon – the Danube River that led to its development (Fig. 318).

Fig. 318 / Map: Vidin land use map and main projects (Author: Bulgarian Guide, 2022).



Big-format projects
2 Fortress Bononia / Bdin / Vidin (folklore called "Baba Vida")
3 Former Military club, today art gallery "Nikola Petrov"
4 Vidin Synagogue under reconstruction
5 The Cross Barracks (1801), part of the structure of the Regional Museum in Vidin
6 Danube Park of Vidin
7 Telegraph Gate. Danube Park of Vidin

Fortress Bononia / Bdin / Vidin (locally known as "Baba Vida") is the only surviving Bulgarian medieval fortress (Fig. 319) with the foundations in the ancient Roman Fortress. The recent revitalisation of the fortress with surroundings preserved its authentic atmosphere.

Fig. 319 / Recently revitalised Fortress Bononia / Bdin / Vidin, locally known as "Baba Vida" (Author: G. Jordanov, 2021).

The other flagship projects that are realised ain Vidin are: the reconstruction of the central pedestrian zone, the rehabilitation of the historic building of the former Ottoman konak and the current "Konaka" Historical Museum (17th century), the rehabilitation of the building of the former Military Club (1892), today Art Gallery "Nikola Petrov", built on the foundations of one of the front gates of the Medieval Vidin Fortress, "Vida" Municipal Drama Theatre, the restoration and adaptation of the Vidin Synagogue to "Jules Pascin" Cultural Centre (Fig. 320). Cross Barracks (1801) are part of the structure of the Regional Museum in Vidin. In this all-stone two-storey building with remarkable architecture and a plan in the shape of an isosceles cross, ethnographic collections are most often exhibited (Fig. 321).

All these landmarks are located on the main compositional axis, parallel to the riverbank, part of which is the Danube Park of Vidin (Fig. 322), founded in 1878-1899. In harmony with the bosquet baroque forms of vegetation, the preserved monuments of architecture and culture, located in the Danube Park and in its immediate vicinity represent an attractive and beautiful place on the Danube Riverbank.

Fig. 320 / Vidin Synagogue under the first phase of reconstruction (Author: M. Iordanova, 2021).

Fig. 321/ The Cross Barracks (1801), part of the structure of the Regional Museum in Vidin (Author: M. Iordanova, 2021).

Fig. 322 / Danube Park of Vidin (Author: Bulgarian Guide, 2022).

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- City of Vidin – CV (2008). Общ устройствен план на Видин / General Development Plan of Vidin. Retrieved from http://old.vidin.bg/wp-content/uploads/2016/04/OUP%20gr.%20Vidin.pdf.
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4.5.6 CASE STUDY 6 // GIURGIU, ROMANIA

Angelica Stan & Sorin Manea

In the last thirty years, the urban development of Giurgiu has experienced a slow transition process from the industrial profile – imposed by the socialist state – to tertiary activities and a small-format production. The city authorities try to reconsider the natural values and architectural and urban heritage, initialising and undertaking urban regeneration programmes and projects, both at the city and district level.

The difficult communist legacy also meant a total neglection of the potential to capitalise on the tourism based on the great natural resources of the Danube – forested shores, beaches, channels, islands (Fig. 323). Local residents acutely feel the lack of leisure facilities and landscaped green spaces, along with the deficiencies in urban traffic, the poor quality of open public spaces, the abandonment of mainstream values of historic identity, or the absence of the city green connections with the Danube banks (GM, 2009, p. 56).

Starting with 2012, Giurgiu Municipality has launched a series of public projects for urban regeneration and restructuring (Fig. 324): (1) Giurgiu Fortress Area – delimitation, protection and public accessibility; (2) Plant Alley – Ceinture Road Area – urban connection and spatio-functional reconfiguration; (3) Cama Chanel Area – development of the recreation area related to the water banks; (4) Mihai Viteazu Zone – development of the public space; (5) Marina Port-Plant Basin-Mocănașul Area – development of spaces for boats and leisure, recreation on the shore water; (6) Central area – historic monuments protection and public valorisation; (7) Delta of Plants – landscape project for wetland bio park; and (8) The Ash Lake – leisure and recreational area, landscape restauration project. These projects are not yet fully implemented, but they represent a framework for subsequent operations to harmonise public interests with the private ones. Some of these projects are already or in the different phases of submitting for accessing EU funding. Aside of these physical projects, many cultural projects and events are also realised as functional catalysers in urban regeneration process (Fig. 325).

Fig. 323 / The natural resources of the Danube near Giurgiu – view from the Bizet Bridge (Author: C. Vărzaru, 2021).

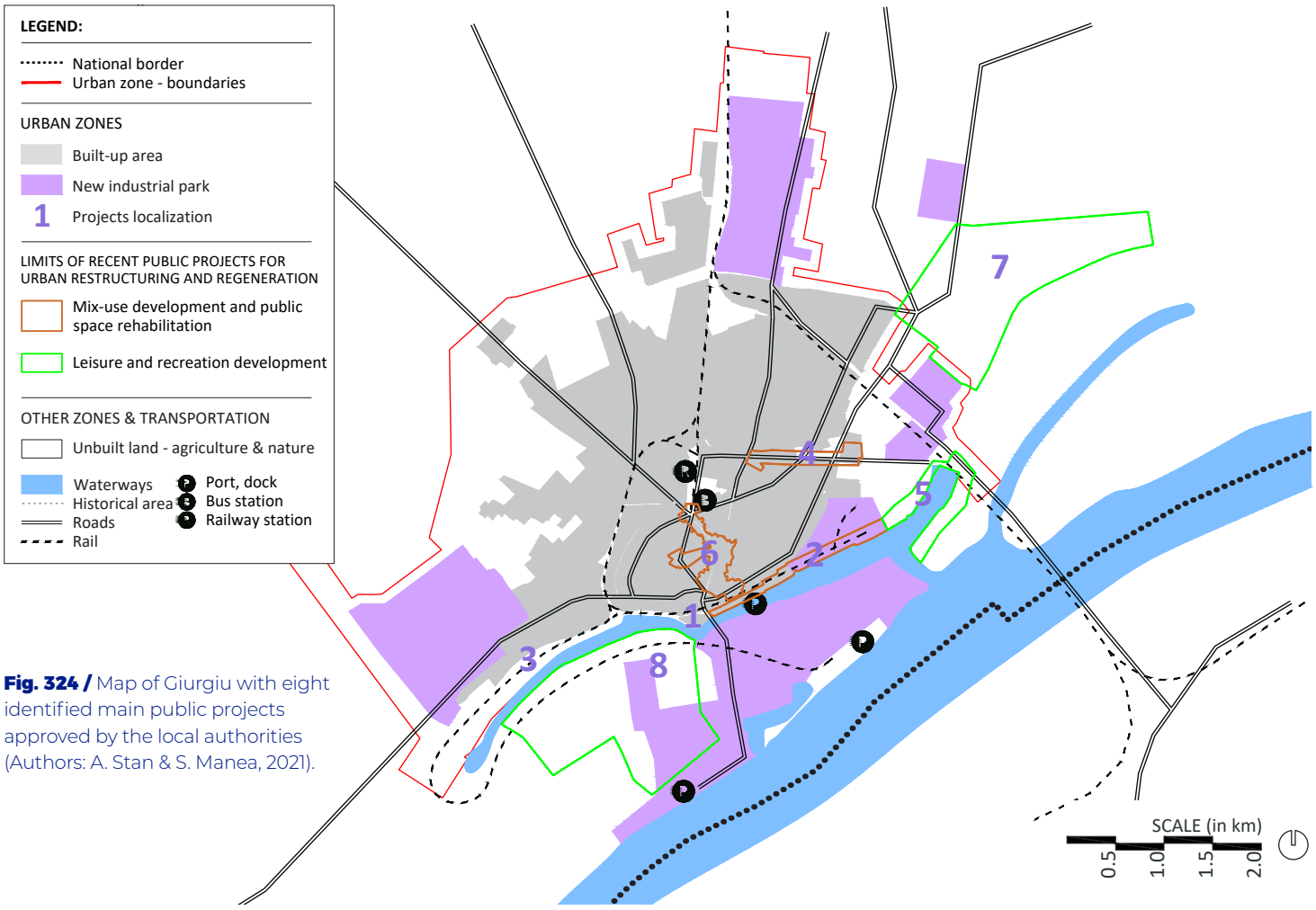

Fig. 324 / Map of Giurgiu with eight identified main public projects approved by the local authorities (Authors: A. Stan & S. Manea, 2021).

Projects localization

1 Giurgiu Fortreess Area
2 Plant Alley - Ceinture Road Area- urban connection and spatio-functional reconfiguration
3 Cama Chanel Area - development of the recreation area related to the water banks
4 Mihai Viteazu Area - public space development
5 Marina Port - Plant Basin - Mocănașul Area - leisure & water recreation development
6 Central area - hystoric monuments protection and public valorization,
7 Plants Delta - landscape project for wetland bio park
8 "Cenusa" Lake - leisure area/ thematic park develo

Fig. 325 / March band in Sugar Factory Park – new outdoor cultural events as a catalyser for the revitalisation of open public spaces in Giurgiu (Author: C. Vărzaru, 2021).

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- Giurgiu Municipality – GM (2009). Plan urbanistic general Municipiul Giurgiu / General Urban Plan of Giurgiu. Retrieved from http://www.primariagiurgiu.ro/portal/giurgiu/primarie/portal.nsf/0/A1AB333C3D93A81A42257AB600332F0E/$FILE/RLU%20final.pdf.
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4.6 ACTIVATING SHRINKING DANUBIAN CITIES WITH URBAN ACUPUNCTURE INTERVENTIONS
// INTRODUCTION

Bálint Kádár

IT IS OBVIOUS, that large infrastructure interventions and development projects can improve the peripheral situation of disadvantageous communities if planned according to appropriate strategies. However, deprived communities often cannot wait for large investments and central interventions, as their demographic and economic shrinkage needs fast changes and local action, activating the energies of those local stakeholders who are still willing to act in place for their own communities. Without large development funds the framework for local action is often limited, and it becomes essential to use the limited resources in the most impactful way.

But this discourse can be also reversed: local action in specific smaller interventions can have a positive effect for the whole community, and the good practices of singular stakeholders can many times become so successful to put the whole community on the map. All these local good practice initiatives can be defined as urban acupuncture interventions, as these act locally also in space, developing only one specific point of a town or region, but have a healing effect on the wider area (Lerner, 2014).

Urban acupuncture is a tool already successfully used in peripheral situations, even in projects like CULBURB in Central Europe (Bugarič, 2018). The DANUrB Project collected good practices from all along the river Danube (Benkő et al, 2019) and found some common features in successful acupuncture interventions in these shrinking regions (Fig. 326). These show clearly which are the potentials along this river to make a change with small locally initiated projects. First, successful interventions were always initiated by local stakeholders or actors who specifically care for the given locality. Many times, a productive form of local cooperation was needed to make the interventions possible (Frame & Taylor, 2005). Second, these always built on the resources already present in the landscape: local traditions, local heritage or the river itself. Instead of bringing some new product or service into the community, these interventions often re-valorised previously existing values, giving new forms of usage to traditional places or

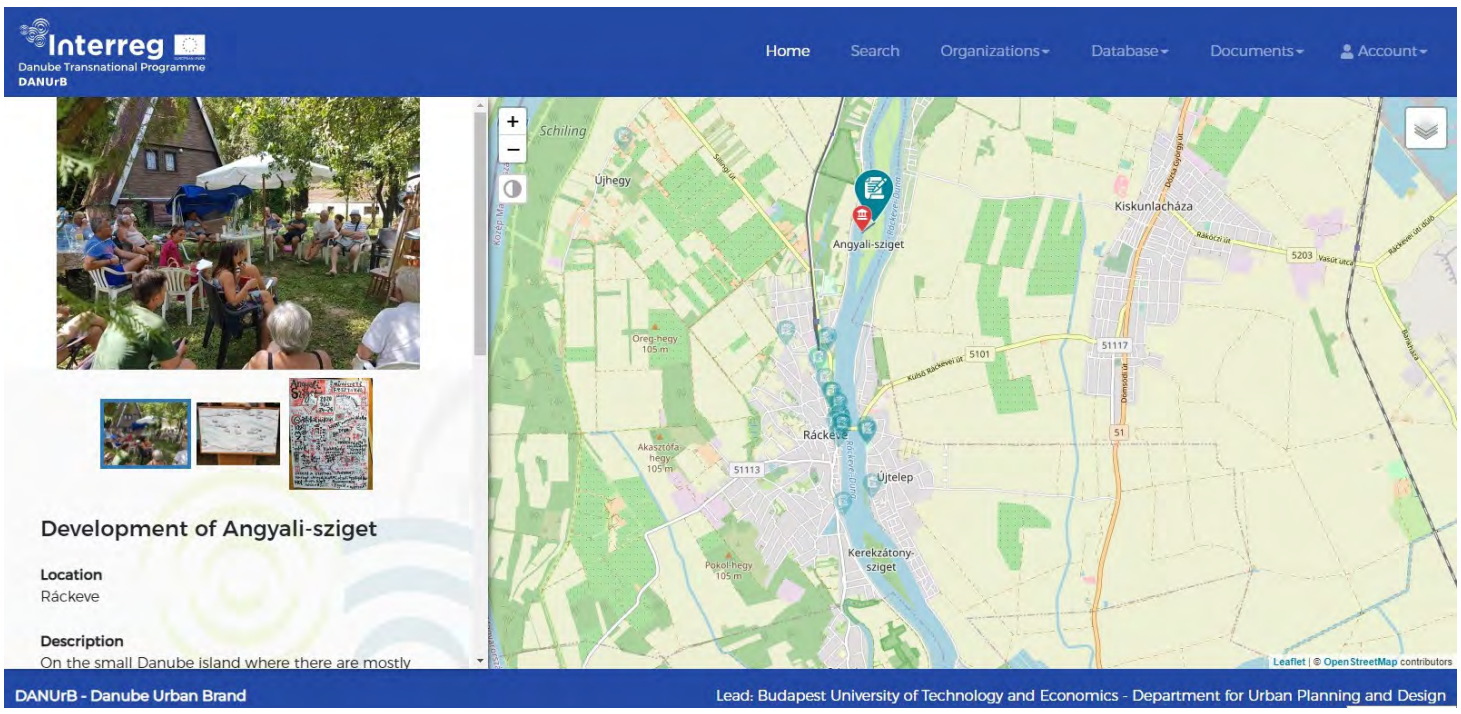

Fig. 326 / Good practices along the Danube according to the DANUrB Platform – Showcase project: the development of Angyali-sziget in Ráckeve, Hungary (www.danurb.eu/#).

assets (Cerisola, 2019). Third, these interventions were rarely outstanding as architectural objects (Enia & Martella, 2019), but they always fit well into the traditional cultural landscapes and townscapes, often involving the valorisation of an architectural space which was abandoned previously.

These three common features were always essential to make a change in Danube's shrinking towns. Local human and economic resources were needed to initiate these projects, as not much external economic interest could be moved to valorise local heritage or values in such peripheral economic situations. But locals had to rely on already sparse resources, therefore innovation, re-use of existing structures and resources, cooperation and concentration of the project to one specific site was needed, as well as the relying on local produces, heritage or potentials. In many cases, the abundance of space and human labour, common assets in shrinking cities also helped, as the realization of projects were made more economical by these (Burkholder, 2012). Nevertheless, the results show that all the constraints given by the disadvantageous situations could became advantages for the projects, as authentic initiatives and places emerged by the Danube, building on local traditions and heritage, making these very attractive even for visitors from far-away centres. As these good practices valorised local produces, potentials or heritage successfully, the whole shrinking region got a chance to build new economies based on the valorised assets, becoming well known because of these successful acupuncture projects (Fig. 327).

Fig. 327 / New outdoor furniture in Szob, Hungary – an urban-acupuncture intervention done by the students and their instructors of the Budapest University of Technology and Economics (Author: BME, 2021).

R

- Benkő, M, Gregor, P., Kádár B. & Vitkova, L. (2019). Book on the unexplored cultural heritage in communities by the Danube. Praha: Gasset.
- Bugarič, B. (2018). Urban acupuncture treatment: Implementing communication tools with youth in Ljubljana suburbs. Urbani izziv, 29, 95-108. DOI: 10.5379/urbani-izziv-en-2018-29-supplement-006.
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4.6.1 CASE STUDY 1 // WOODEN MICRO-PROJECTS, DANUBE REGION IN SLOVAKIA

Ľubica Vitková &
Katarína Smatanová

In shrinking cities, even smaller investments and small improvements are the impetus for more fundamental change. The activities that support the culture, sport, recreation or traditional economy of the region play an important role. They are the "starters" of and an "inspiration" for a more fundamental development of the city or locality. Such realisations in the Danube Region in Slovakia are, for example, the Duna bird observatory on the banks of the Danube near Hamuliakovo, the reconstruction of the synagogue in Šamorín, or new sculptures of public spaces in Gabčíkovo. Valuable impulses are also farmers' markets, restaurants with local gastronomy or the sale of flowers and products along the main roads. Particularly valuable smaller investments are the reconstructions of water mills in Kolárovo, Dunajský Klátov, Jahodná, Tomašíkovo, Jelka, or new projects that follow the tradition of architecture, such as wooden bridges, piers or other wooden structures on the Small Danube (Fig. 328-329).

Fig. 328 / Small wooden interventions on the Little Danube: Lookout Tower in Malinovo (Authors: Ľ. Vitková & K. Smatanová).

The most interesting act, which caused the extraordinary popularity among the inhabitants and the attention of the professional public, is the implementation of Korzo Zálesie Project (Fig. 330), which represents the revitalisation of the Little Danube Embankment for leisure activities in Zálesie Village (Fig. 331-332). It is a multi-year project, which gradually transforms the neglected river embankment into a lively local centre and promenade for social, cultural and educational activities. It offers facilities for paddlers, tourists and cyclists, but, above all, it is intended for its inhabitants. The revitalisation of the waterfront was carried out by the civic association "Naše Zálesíčko" and with the support of the INTERREG project. The project was awarded the prize of the Slovak Chamber of Architects CEZAAR.

Fig. 329/ Small wooden interventions on the Little Danube: Wooden footbridge in Dunajský Klátov (Authors: Ľ. Vitková & K. Smatanová).

Fig. 331-332 / "Korzo Zálesie" – Zálesie Promenade, as a centre of social life of the village and its surroundings (Author: A. Radulescu, 2021).

Fig. 330 / Map of urban-acupuncture interventions on the Little Danube in Zálesie Area in Slovakia (Author: A. Šeligova, 2022).

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- Naše Zálesíčko (2014). Korzo Zálesie. Príbeh znovuobjavenia rieky Malý Dunaj v Zálesí / Korzo Zálesie. The story of the Rediscovery of the Little Danube River in Zálesie. Retrieved from https://www.nasezalesicko.sk/korzo-zalesie/.
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4.6.2 CASE STUDY 2 // PONTIPOLY PONTOON BRIDGE & SZOB MICRO-INTERVENTIONS, HUNGARY

Réka Zsófia Artner & Béla Zsolt Gergely

Fig. 333 / PONTIpoly micro-intervention – the construction of a pontoon bridge on the Ipoly River (Author: BME, 2021).

Fig. 334-335 / PONTIpoly micro-intervention – pedestrians on a pontoon bridge on the Ipoly River during its 'one-day life' (Author: BME, 2021).

The 2001 destruction of the concrete bridge spanning the Ipoly River (Slovak: Ipeľ), linking Ipolydamásd, Hungary, to Chľaba, Slovakia (Hungarian: Helemba), weakened a physical connection between the two settlements. This was a motive for PONTIpoly micro-intervention in DANUrB+ Project – a pontoon bridge built in July 2021, aiming to briefly connect the two sides of Ipoly again before the January 2023 inauguration of a new permanent bridge between these two settlements.

45 students of architecture and their instructors from the Department of Urban Planning and Design of the Budapest University of Technology and Economics built the floating footbridge following a six-month planning process. Canoes placed in a row across the river and covered by a series of cross planks formed a continuous deck for pedestrians and connected two river shores (Fig. 333). Although the installation of the bridge stood only for one day, it became so popular locally, that it saw tremendous foot traffic (Fig. 334-335).

Fig. 336 / PONTIpoly micro-intervention – the transport of the material of the pontoon bridge to Szob to use it for urban furniture (Author: BME, 2021).

The following day the pontoon was taken apart and its lumber was transported downstream to Szob, Hungary, by way of the very canoes used for supporting it (Fig. 336). In Szob, the lumber was given new life by the students who crafted the planks into outdoor furniture and wooden playground structures and installations. Through an Adopt-A-Bench programme, each piece of furniture was placed in the care of various local public and private entities. They not only provide a long-lasting beautification to the public spaces of Szob, but also honour the memory of the pontoon bridge and symbolise the cohesion of the community (Fig. 337-338).

Fig. 337-338 / PONTIpoly micro-intervention – the 'new life' of the bridge material for outdoor furniture in Szob, Hungary (Author: BME, 2021).

4.6.3

CASE STUDY 3 // MICRO-MUSEUM QUARTER IN SOMBOR, SERBIA

Milorad Obradović

After the fall of socialism in the former Yugoslavia, Sombor has become even more a border city, with the establishment of a new border to Croatia on the Danube. The city has faced many economic problems and they have been visible through the recent demographic decline and building deterioration.

The micro-museum district in Sombor is a local project with the aim of the renewal of old cultural and protected heritage sites in the western part of the historic core of Sombor, known as a "Venac" (Eng. *Coronet*). The historic core is encircled by the ring of four boulevards and contains buildings and open public spaces, some of them older than 250 years (Fig. 339). Hence, it is protected as a "spatial cultural-historical unit" by national legislation, which corresponds to a definition of a protected historic centre by UNESCO (UNESCO, 1996).

Additional incentives for the renewal of the Sombor core emerged with a new urban plan with stricter rules for sustainable development. This included the refurbishment and reuse of old public buildings for cultural activities in a new micro-museum quarter (Fig. 340). Some good local examples represent Grašalković Pal-

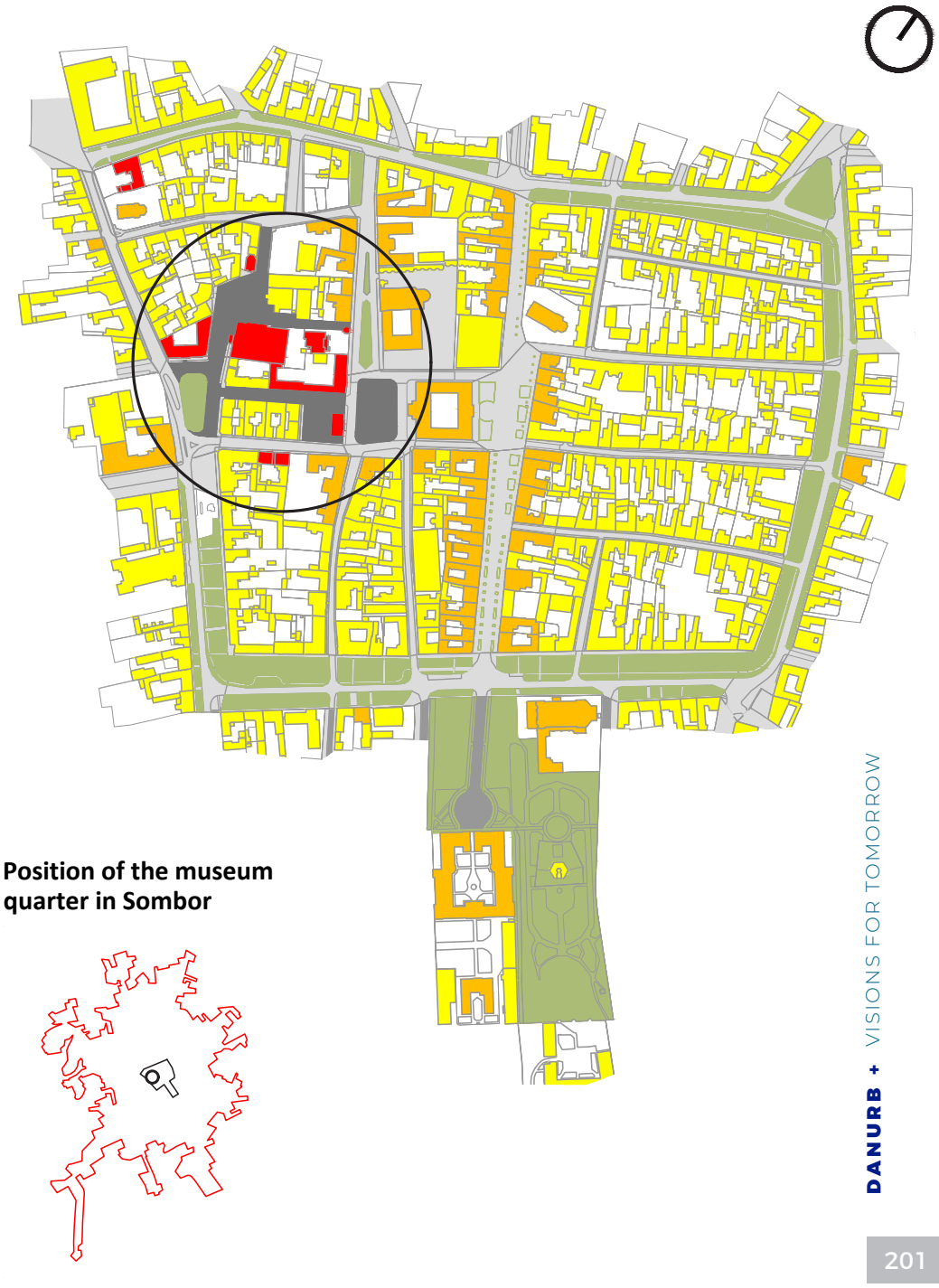

Fig. 339 / Location of the micro-museum quarter in the protected historic core of Sombor (Author: M. Obradović, 2022).

ace, which houses the new Museum of Danubian Germans in Serbia, with ongoing plans to establish a creative hub for young people, a completely refurbished Lutheran Church (Fig. 341), or the "Laza Kostić" Cultural Centre which was reconstructed and modernised as well. Open public space in this city zone was reconstructed and pedestrianised in order to become the connective element of the quarter. The open spaces were designed in a combination of a traditional tone and modern look, altogether striving with a new identity in the city (Fig. 342). Museum quarter was also dedicated to both religious and cultural purposes, such as the small concerts of classical music or other cultural activities. It has been accepted by locals as a good urban practice applicable in different environments.

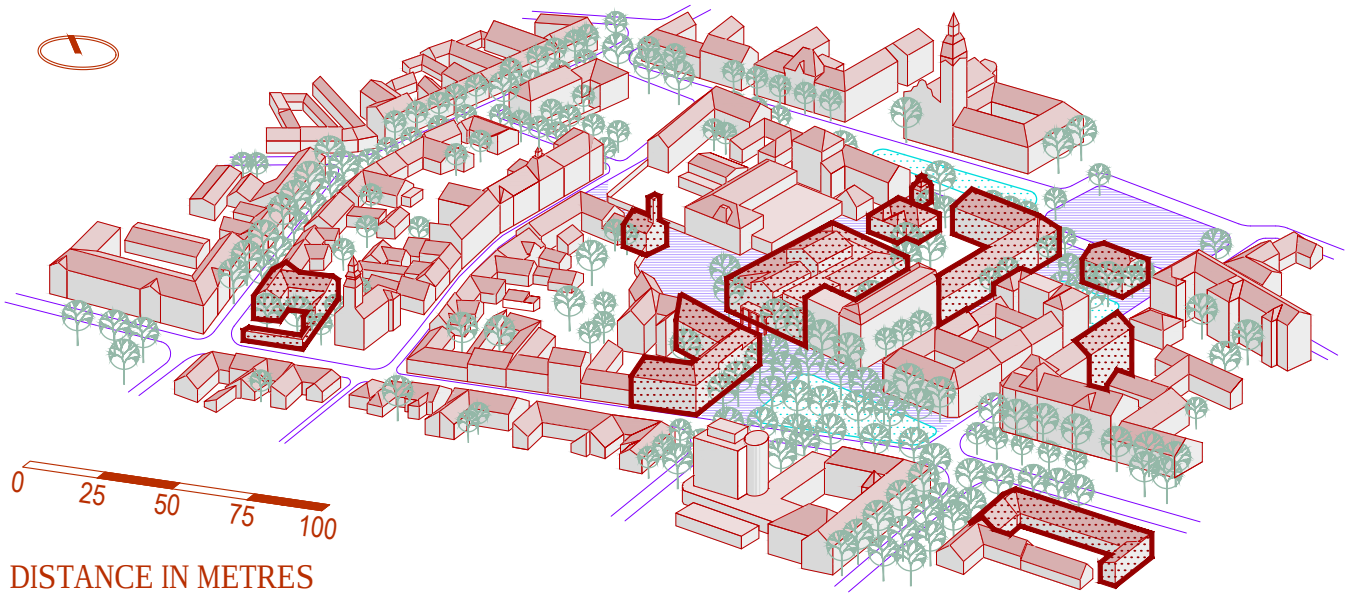

Fig. 340 / Key buildings and open public space in Sombor micro-museum quarter (Author: B. Antonić, 2021).

Fig. 341 / Recently refurbished Lutheran Church and new square in the front of it are the centre of a new micro-museum quarter in Sombor (Author: Dragana Siljanović Kozoderović, 2021).

Fig. 342 / New elements in the micro-museum quarter in Sombor are striving with a new identity in the city. (Author: Dragana Siljanović Kozoderović, 2022).

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4.6.4

CASE STUDY 4 // **EGRETA COMPLEX IN BERZASCA, ROMANIA**

Marius Găman

The dramatic population decline in the Iron Gates Gorge after the collapse of socialism led to a fall in land value and an undeniably sublime landscape. However, this situation has recently triggered the construction of a very large number of hotels, bed & breakfast and holiday homes. Although the landscape is the most important element, the relationship with new constructions or the lack thereof is a major problem. The reason is that most of the owners of these tourist facilities are interested in maximising their profit by erecting large buildings with as many rooms as possible for renting. Many of them were built on the plots located between the national road and the Danube, blocking the visual link between the public space and the river (Fig. 343).

The Egreta Complex is a good insertion example that not only uses the landscape as a high-quality visual element but tries to integrate itself in a natural way (Fig. 344-345). The complex is positioned on the western edge of Berzasca Village (Fig. 346-347), above the water and on pillars, thus making the most of the main attraction, the river itself. At the same time, this gesture does not block the view to the Danube (Fig. 347). The investment was carried out with funds from the European Union and consists of a small building for reception and bar, 15 separate accommodation units that are connected to each other and to the shore by a pontoon. Each accommodation unit is treated as a single house providing a human scale, common to the traditional architecture of this area. In addition to the accommodation, the pontoon also has the role of facilitating interactions within the community and can be used as a fishing area or a platform for diving and swimming.

Fig. 343 / Many of new tourist accommodations in the Romanian Iron Gates Region block a visual link between the road (public space) and the Danube River (Author: A. Radulescu, 2022).

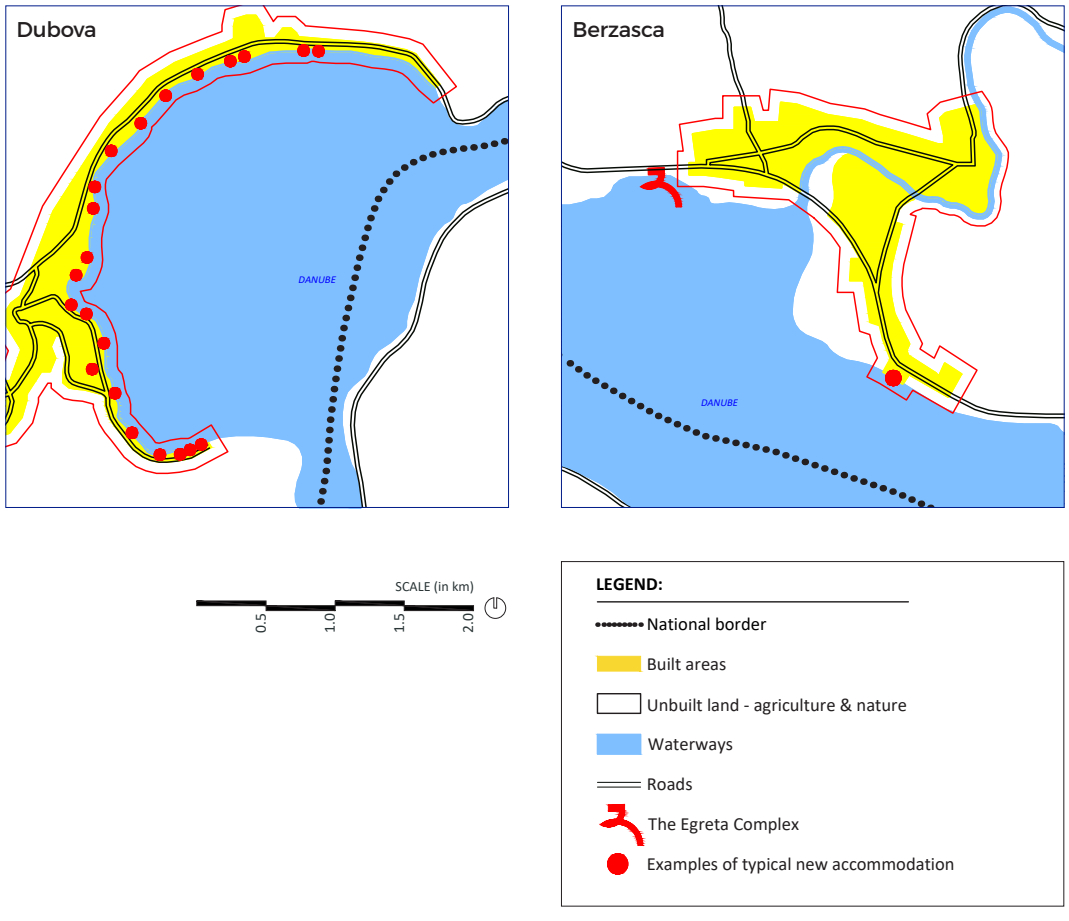

Fig. 344 / Comparative maps of the recent tourist development in Dubova (left) and Berzasca (right). In Dubova, new tourist accommodation obstructs the view of the Danube (Author: M. Găman, 2022).

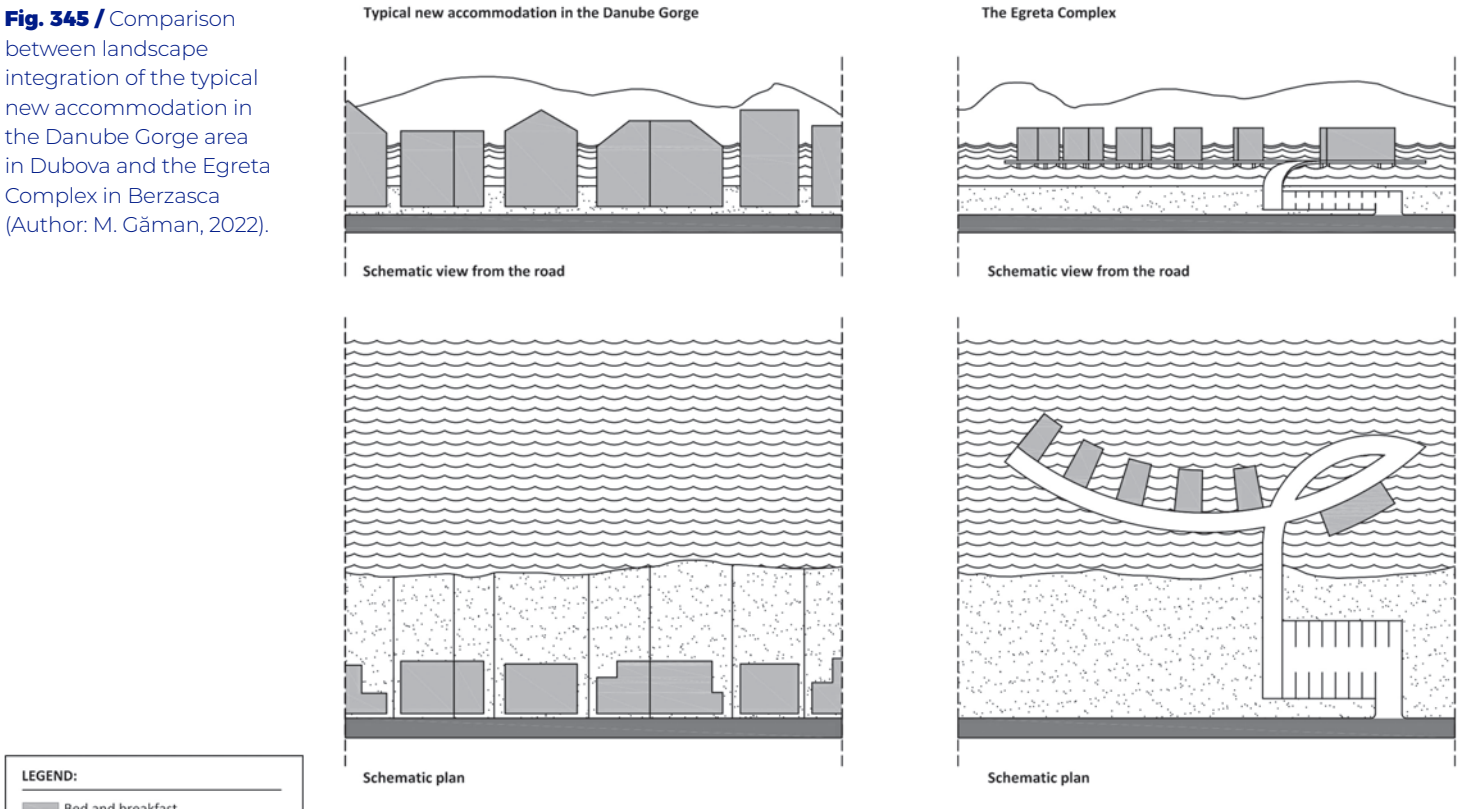

Fig. 345 / Comparison between landscape integration of the typical new accommodation in the Danube Gorge area in Dubova and the Egreta Complex in Berzasca (Author: M. Găman, 2022).

Fig. 346 / Aerial photo of Egreta Complex (Source: complex-egreta.ro).

Fig. 347 / Photo of Egreta Complex from the national road (Source: complex-egreta.ro).

4.6.5

CASE STUDY 5 // **URBAN-ACUPUNCTURE PROJECTS IN DANUBIAN CITIES IN BULGARIA**

Miryana Yordanova & Georgi Georgiev

Urban Acupuncture is an interconnected architectural influence of the collective intellect of the city, in which citizens are encouraged to join the process of creative planning (Casagrande, 2019). Basically, it refers to the urban changes that revitalise the inactive built environment by "needling" urban interventions (ParCitypatory, 2021). It is believed that even small urban change can "cure" entire neighbourhoods or even a city. Such interventions are: reconstruction of abandoned riverbeds, the restoration of community centres and cinemas, the creation of thematic cafes or light, music or colour decoration.

There have been many of the urban-acupuncture projects in Danubian Cities in Bulgaria. "Selfie Alley" Intervention was created in the Danube Park in Silistra (Fig. 348). It was formed as the echo of the "Umbrella Sky" Project, which aimed to promote certain places bathed in colours that fill residents and guests with positive emotions (Georgieva, 2021). Similar project has been implemented in Vidin for several years in a row; one hundred colourful umbrellas have created a mood in Rova Park in the city centre, making a positive impression on local people (Pavlova, 2018). Then, "Dragon Alley" becomes a magnet every year in the "Night of the Harry Potter Books", organized by the Regional Library "Mihalaki Georgiev" in Vidin (RV, 2021). In addition to the transformation of the street space, this event also prepares programme with entertaining games for participants. In Ruse, "Poeziomat", the so-called jukebox for poetry (Fig. 349), an art installation designed by Ondrej Kobza, "recites" poems by European authors and creates a unique touch to fiction in the urban environment (24Ruse.com, 2018).

Fig. 348 / "Selfie Alley" in Silistra, Bulgaria (source: Municipality of Silistra).

Fig. 349 / "Poeziomat" in Ruse, Bulgaria (source: 24ruse.com).

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4.6.6 CASE STUDY 6 // SUGAR FACTORY PARK IN GIURGIU, ROMANIA

Ana Opriș &
Angelica Stan

Sugar Factory Park is a part of the industrial historical heritage of a sugar factory, built in 1920, in the old Smârda Neighbourhood in Giurgiu, near the channelled arm of the Danube. It is a small residential complex built for factory workers. The complex was enhanced with a park and outdoor recreation area, with a wooden stage for outdoor performances, a booth for a wooden cinema, a tennis court, and a fanfare music kiosk.

As the factory was liquidated after 1990, houses around the park became private property, while the Sugar Factory Park is currently under the municipality's public domain administration. The park is not a part of a coherent system of green spaces within Giurgiu. During last decades, the architectural-landscape ensemble was inadequately valorised and inhabitants lost their attachment to this green space planned for spending leisure time and socialisation.

The participatory community project started in 2018, when "AICI Architecture Studio" from Bucharest obtained support from The National Cultural Fund for the Programme "Sugar Factory Park – participatory community recoveries through parametric modelling". After a cleaning operation carried out by municipality and residents from the park's vicinity (Fig. 350), partnership was signed with "Ion Mincu" University of Architecture and Urban Planning, and the team of specialists got involved and developed together with the local community two joint workshops and s summer school programme. The first part, "Sugar Factory Park Reactivation", included the construction of a multifunctional pavilion for cultural and recreational activities (Fig. 351), coordinated by architect Ruxandra Iancu Bratosin and engineer Alessandro Mattoccia, on behalf of the "Basics studio" in Madrid. The second programme took place soon after the first one, entitled "Connection through urban design". It completed the construction of the pavilion through fitting furniture, as well through the landscaping of several park areas, fulfilling the intention of the municipality to commence a comprehensive park rehabilitation project. The working team was composed of a new group of urban and landscape students, coordinated by urbanist Ana Opriş, PhD, and architect Adrian Moleavin, from UAUIM, landscape architect Alexandru Gheorghe and architect Valentina Puzderca from "Poteca Studio" (Fig. 352). All interventions have been designed by students and accomplished with the help of the neighbourhood residents and in cooperation with Giurgiu representatives. The promotion of these interventions has set an example for other projects undertaken in sub-standard functioning areas.

Fig. 350 / July 2018: cleaning action with the team of experts of the project, the team employees of the city hall of Giurgiu (including the Mayor and the Chief Architect) and the residents of the neighbourhood (Source: AICI).

Fig. 351 / August 2018: the first educational activity (with architect students) – the construction of the pavilion (Source: AICI).

Fig. 352 / October 2018: 3D simulations within the landscape design project (Source: A. Opriş).

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D+ Atlas

ANNEXES

COUNTRY	OFFICIAL STATUS	ENACTED LAW NO.	DEFINED BY	EXCLUSIONS	NUMBER OF CITIES
SLOVAKIA	Yes	369/1990	Size (>5,000 inhabitants)	Yes, if a settlement has a function of a local centre	141
HUNGARY	Yes	96/2011	Only by law (based on size and character)		346
CROATIA	Yes	19/2013	County seat size (>10,000 inhabitants)	Yes, based on historic, economic or geographic reasons	128
SERBIA	Yes	129/2007	Only by law (prior 1981, based on size and the share of non-agrarian population)		169
ROMANIA	Yes	351/2001	Only by law (based on size and character)		319
BULGARIA	Yes	1/2009	Size (>3,500 inhabitants)	Yes, tourist and historic places with >1,000 inhabitants	257
MOLDOVA	Yes	764/2001	Only by law (based on size and character)		70
UKRAINE	Yes	10/2012	Only by law (based on size and character)		459

COUNTRY	NUMBER OF CITIES (A)	URBAN POPULATION (B)	AVERAGE SIZE OF CITY (B/A)
SLOVAKIA	141	2,937,067	20,830
HUNGARY	346	7,129,806	20,606
CROATIA	128	3,016,137	3,564
SERBIA	169	4,271,872	25,277
ROMANIA	319	12,546,212	39,330
BULGARIA	257	5,338,261	20,771
MOLDOVA	70	1,144,428	19,074
UKRAINE	459	32,090,378	69,914

COUNTRY	NUTS 2 (NAME)	NUTS 2 (SIZE OF SEATS*)	NUTS 3 (NAME)	NUTS 3 (SIZE OF SEATS)	LAU 1 (NAME*)	LAU 1 (SIZE OF SEATS)
SLOVAKIA	Oblasť	80-450	Kraj	Mainly 60-90	Okres	Mainly 10-35
HUNGARY	Régió	100-1,750	Megye	Mainly 40-110	Kistérség	Mainly 10-25
CROATIA	Region	90-800	Županija	Mainly 25-70	Same as NUTS 3	
SERBIA	Regija / Регија	150-1,200	Okrug / Округ	Mainly 40-100	Opština / Општина	Mainly 5-20
ROMANIA	Regiun	250-1,800	Județ	Mainly 50-100	Same as NUTS 3	
BULGARIA	Rayon / Район	100-1,200	Oblast / Област	Mainly 40-100	Obshtina / Община	Mainly 5-15
UKRAINE **	Oblast / Област	220-3,000	Raion / Район	Mainly 20-100	Hromada / Громада	Mainly 5-20

NOTICE:

* In some cases, these are principal cities. The size of cities is given in the thousands of inhabitants.

** Ukraine is not organised by the NUTS system – reconstruction by comparison to other states.

Annex _ 01 _ No Cities

TABLE 1 / The status of an urban settlement in the countries of the Middle and Lower Danube Region (Author: B. Antonić, 2021; Data: Official statistical offices of enlisted countries)

Annex _ 02 _ City Size

TABLE 2 / The average size of an urban settlement per country in the Middle and Lower Danube Region (Author: B. Antonić, 2021; Data: Official statistical offices of enlisted countries)

Annex _ 03 _ City _ Division

TABLE 3 / The possible division of urban settlements – cities and towns – in Middle and Lower Danube Region by NUTS EU territorial organisation (Author: B. Antonić, 2021; Data: Official statistical offices of enlisted countries)

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Municipality of Dunaújváros, Hungary
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Golubac Municipality, Serbia
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Municipality of Drobeta-Turnu Severin, Romania
Municipality of Calafat, Romania
Giurgiu Municipality, Romania
National Company Danube River Ports, Giurgiu, Romania
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