

JOINT SPATIAL PLANNING IN KOMÁRNO AND KOMÁROM

CASE STUDY
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ABSTRACT

The Slovak-Hungarian border area has nurtured many cross-border initiatives in the past twenty years, due to the relatively small size of the two countries, their intertwined past and rich ethnic diversity. Many bonds have been tied within the framework of PHARE since 1994 and the Hungarian-Slovak Cross-border Cooperation Programme (HU-SK) since 2007.

The harmonisation of planning documents of Komárom and Komárno is one of the greatest results that has been brought to life between the two bordering countries. The neighbouring towns are bound together by names of the same origin, centuries of common history, and by constructing the second bridge across the River Danube in the framework of harmonising planning documents, they face a common future as well. Aspires to integrate the towns' spatial planning directions have been strong since the turn of the century, the idea of a new bridge proved to be an appropriate occasion.

The aim for unfolding this planning document along with its targeted region is to make integration process easier to understand between bordering cities and regions. This research unfolds one of these documents, on a specific location then guides the reader from initiative to implementation. Planning in cross-border environments is even more complex than in inland regions, since stakeholders, policies and political shifts in two countries have to be considered.

Regarding the evaluation of the planning document worked out for the Komárom-Komárno urban influencing zone, the following questions are sought to be answered:

- In what way does this document help the integration of the border region?
- What does this document mean in spatial matters? How do its goals become reality?
- What obstacles need to be tackled in a cross-border environment as opposed to inland cities?
- In what way are twin-cities unique as opposed to inland cities?
- How is this uniqueness reflected in their planning documents?
- Which stakeholder is this strategy beneficial for? Cooperation how, between whom?
- What does this planning document mean for the future development of the area?

To find the answers, it is first of all essential to fully comprehend the reasons behind the necessity of the The Joint Spatial Development Document of 2012. By studying the characteristics of Komárom and Komárno as one urban structure, it is possible to find out how their unique geographical and historical position sets them apart from other towns in the inlands. Opportunities and strengths are pointed out that the two cities can embrace; qualities that separate this twin-city from their 'conventionally' positioned rivals. The Joint Spatial Development Document is then evaluated based on these findings.

The following chapter, 'Strategy to reality' is devoted to explaining how a goal becomes a physical plan in cross-border environments, what kind of obstacles arise on the way from initiative to physical plans and presents ongoing projects that were enabled by this document.

The final chapter of the case study is dedicated to provide suggestions for further development in cross-border planning through working examples and practices. A cross-border cooperation is chosen from between the Netherlands and Germany that might guide the future development of cooperation between Komárom and Komárno as well as other cities that share the same border. Project-specific suggestions are provided for unique issues that Komárno and Komárom face regarding their joint spatial planning to make their twin-city competitive and resilient to future threats.

1. INTRODUCTION TO THE RESEARCH AREA

The towns of Komárno and Komárom are located along the Slovak-Hungarian national borderline, in the same general distance from the two capitals Budapest and Bratislava, at the confluence of the Danube and the river Váh. The Danube sets an organic barrier between the towns connected by the Elisabeth Bridge and the Elisabeth island. While Komárno and its agglomeration has a structure of central orientation, the townscape of Komárom and its surrounding settlements (Szóny, Koppánymonostor, Almásfüzitő) is led by the linear axis of the Danube. The general altitude of the area is around 110-114 metres above sea level on a fertile plain formed by the river.

This chapter summarises all relevant data necessary for the better understanding of the two towns' present condition and the new Joint Spatial Development Plan elaborated in 2012: the two towns' recent history, their demographic, economic and functional attributes including an overview of villages and small settlements in their catchment areas,

a presentation of infrastructural and transport characteristics that connect Komárom and Komárno with bigger settlements in the two countries.

In the final part, the urban structure of Komárom and Komárno is examined in detail.

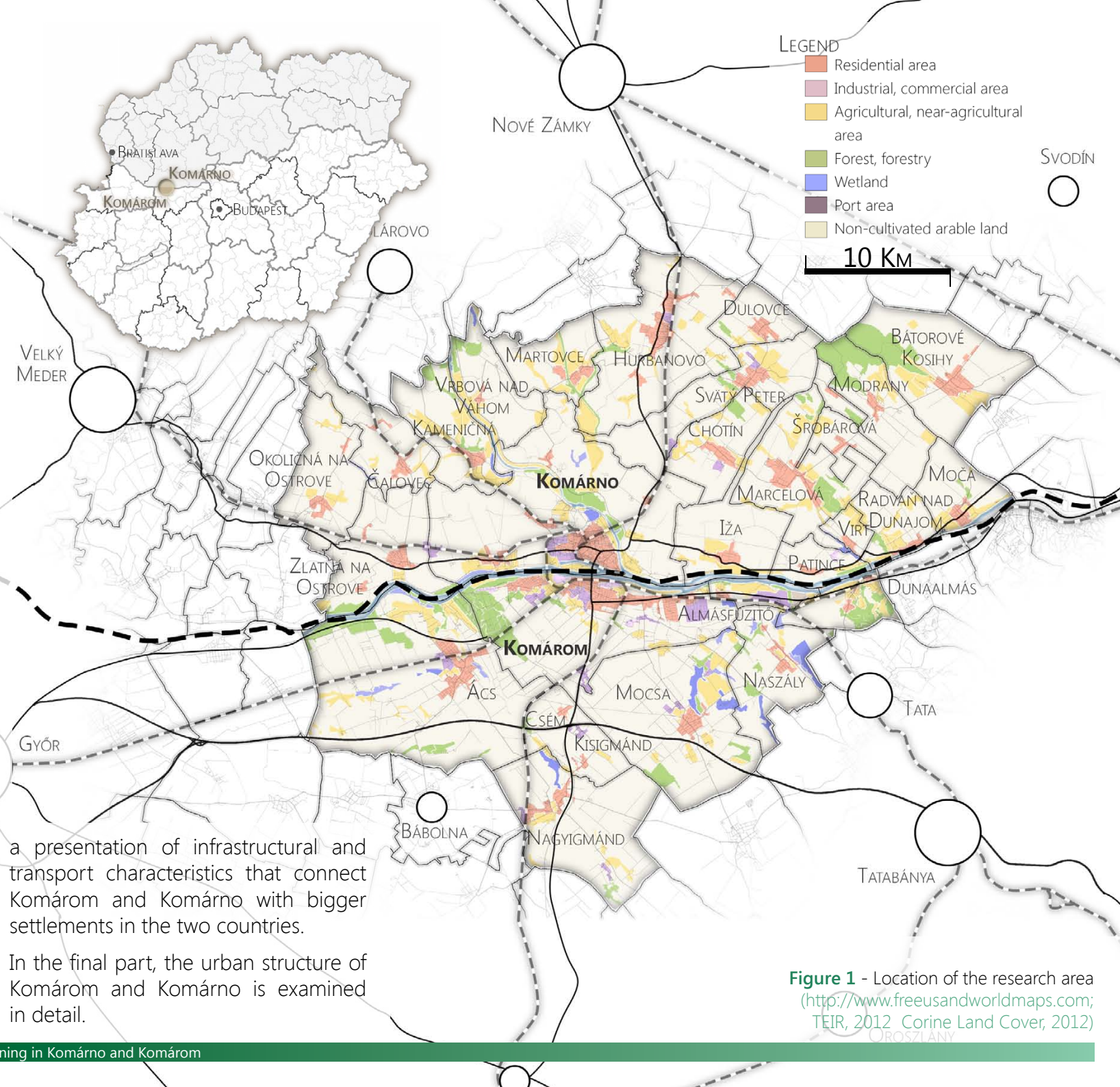


Figure 1 - Location of the research area (<http://www.freeusandworldmaps.com/>; TEIR, 2012 Corine Land Cover, 2012)

1.1. THE TWO SETTLEMENTS IN THE 20TH CENTURY

Sources: Mesto Komárno, n.d.

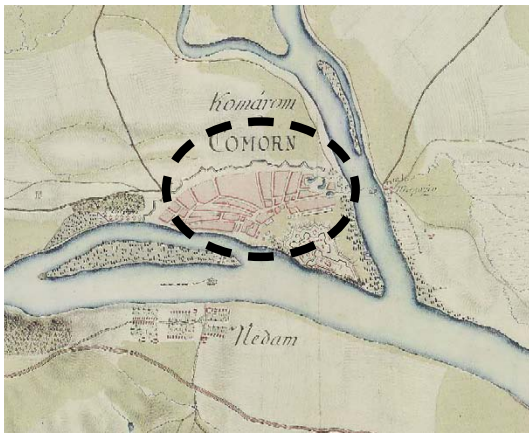


Figure 2 - Komárom on the 1st Military Survey (1780-1784) (TEIR, 2012)

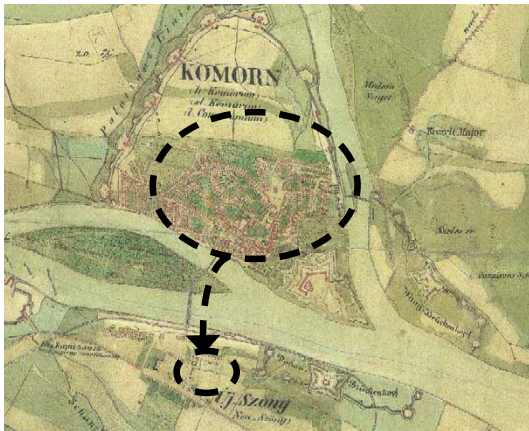


Figure 3 - Komárom and Újszőny on the 2nd Military Survey (1806-1869) (TEIR, 2012)

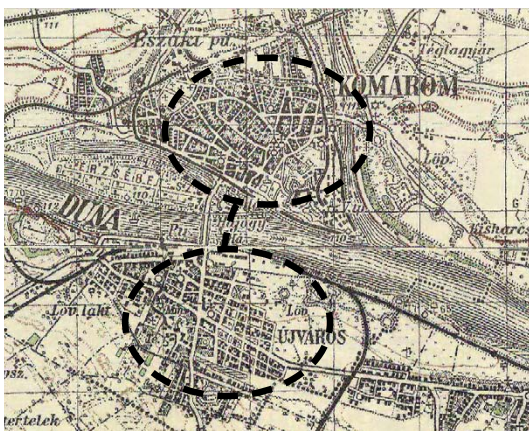


Figure 4 - Komárom on the 4th Military Survey (1896-1904) (TEIR, 2012)

The history of the two settlements begins with the formation of the presently Slovak Komárno (previously known as Komárom), one of the oldest towns in Slovakia (Figure 2). Its location has always been and still is geographically and strategically fortunate: peak of the confluence of the rivers Váh and the Danube. Its twin settlement on the southern bank of the Danube, Újszőny was established later (Figure 3), around the port of the ferry line connecting each side.

Industrialisation arrived first to Újszőny (Figure 4) along with the train in 1856, which resulted in prosperity and created a demand from Komárom to strengthen connections. The two settlements were separate units until the construction of the Elisabeth Bridge in 1892; soon afterwards in 1896, they were officially united with the name Komárom.

Railway on the northern side of the Danube was constructed in the beginning of the 20th century. Until WWI, several other railroads were built to connect other regions in the country, along with other bridges over the Váh and the Danube. It was an era of harmonised development for both sides, industrial improvement, however, primarily affected the former Újszőny (Simon, 2011).

The town was separated by the new border of Czechoslovakia and Hungary

in 1919, which designated different, individual paths of development for each side in the middle of the continent's industrial booming period. The old town of Komárom was renamed Komárno, and became the cultural centre of the Hungarian minority in Czechoslovakia. The loss of half of its territory resulted in a major setback (Simon, 2011), but being a port town, it soon awakened the interest of new Czech and Slovak businesses, workers and representatives.

In the next years, cultural and municipal institutions, a port and a shipyard were built, while several industries and factories also settled in Komárno.

As for the southern part, it has kept the name Komárom and became the centre of the remaining half of Komárom County. Institutional and technical infrastructure that was no longer available due to the separation from the core town was soon established. In 1938, the two sides were once again united until the end of WWII under Hungarian governance.

1945 brought the end of this short joint existence along with even more severe restrictions, due to which crossing the border was essentially impossible until 1960. Many Hungarians in the newly named Komárno were forced to leave, making the southern part of Komárom a refugee town (Bottoni,

2008). The two parts continued to grow apart. The southern parts lacked cultural and sporting institutions while the northern parts were derived from industrial facilities and workplaces. Visa requirements were abolished between Czechoslovakia and Hungary which made crossing somewhat easier. By 1963, Komárno-Komárom became one of the busiest border crossings for locals (Bottoni, 2008).

Besides the obvious disabilities caused by the separation, the border location also had its benefits. The bridge between Komárom and Komárno secured their position as border-crossing points, which attracted investments and created a bicultural environment. These factors became more and more influential with the loosening of borderline regimes, and with the accession of Hungary and Slovakia to the European Union in 2004, related possibilities have multiplied.

The different phasing and time period of development also sets the two towns apart visually. Komárno's organic road network indicates roots to a medieval era with a rich cultural heritage, while Komárom has the functionalist gridline-structure. Their roles are also different: Komárno is the cultural hub, while Komárom has a strong industrial identity (Kovács, Szabó, 2008).

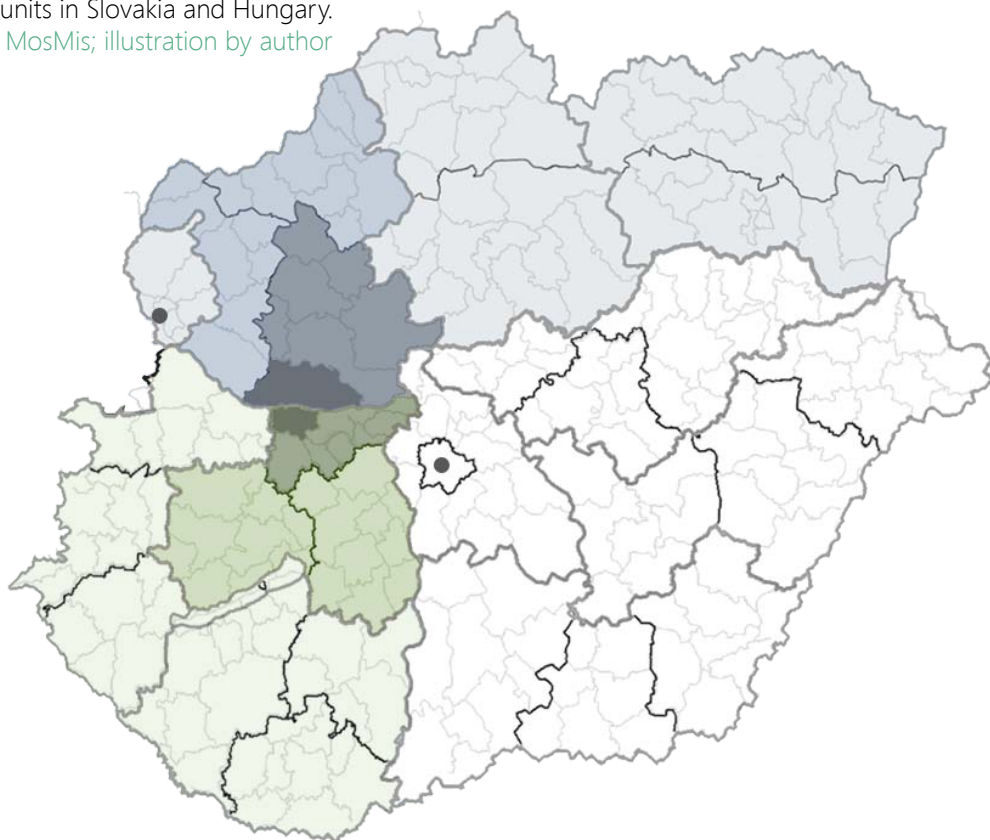
1.2. PRESENT STATE OF TOWNS AND THEIR VICINITIES









METHODOLOGY

During the survey of statistical data available on the project area, there were several resources used (KSH, WebStatistics, MosMis 2012). Comparing data between Slovak and Hungarian databases is often inapplicable, since the same type of data might be available regarding a different date.

Additionally, administrative categories often mismatch in size of population or area. To this extent, data was considered regarding oblast (NUTS2) kraj (NUTS3), okres (LAU1) and obce (LAU2) levels on the Slovak side, and of planning and statistical region (NUTS2), megye (NUTS3), járás (LAU1) and település (LAU2) levels on the Hungarian side (Figure 5). During the survey on the settlements, towns and villages were selected in Komárom's and Komárno's urban hinterland zones (Figure 1) that are influenced by the new Joint Spatial Development Strategy of 2012 and are mentioned as such in the regarding documents. Several times relevant data was only available on one side of the border. (Sources: KSH, WebStatistics, MosMis 2012).

Figure 5 - Administrational units in Slovakia and Hungary.
Sources: KSH, WebStatistics, MosMis; illustration by author based on Google Maps



COUNTRY  <i>Republic of Slovakia</i>	NUTS1	STATISTICAL REGION  <i>Dunántúl</i>
OBLAST  <i>Západné Slovensko</i>	NUTS2	PLANNING AND STATISTICAL REGION  <i>Közép-Dunántúl</i>
REGION =Kraj  <i>Nitriansky kraj</i>	NUTS3	COUNTY =Megye  <i>Komárom-Esztergom megye</i>
DISTRICT =Okres  <i>Okres Komárno</i>	LAU1	SUB-REGION =Járás  <i>Komáromi járás</i>
SETTLEMENT =Obce <i>Komárno</i>	LAU2	SETTLEMENT =Település <i>Komárom</i>

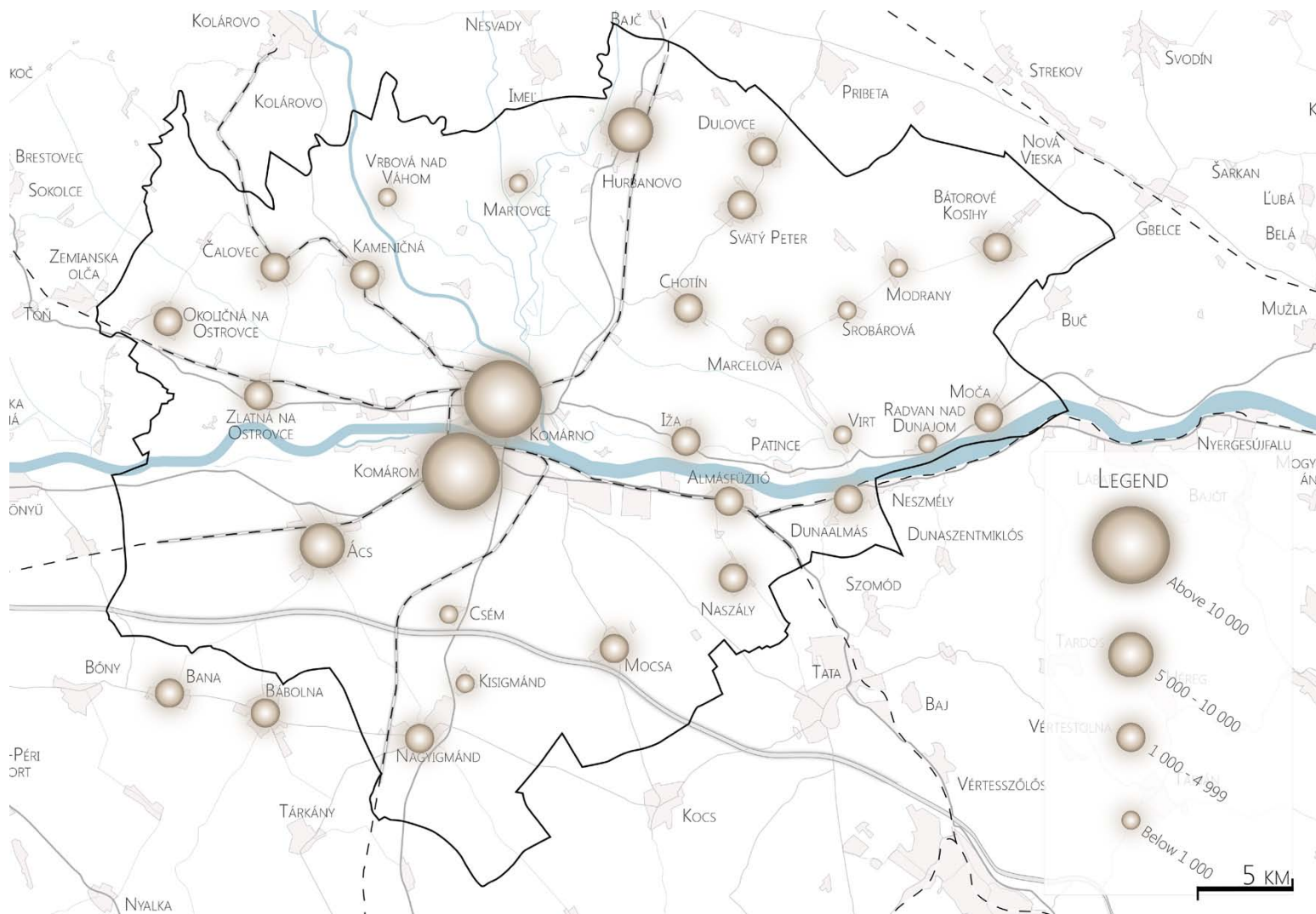


Figure 6 - Settlements according to size in the catchment of Komárno and Komárom, 2015.

Sources: KSH, WebStatistics, MosMis; illustration by author based on Google Maps

DEMOGRAPHY

The agglomeration of Komárom and Komárno present themselves as complementing parts.

Surrounding towns and villages have relatively similar sizes, distances and distributions. During the analysis of the neighbouring area, a total of nine settlements were evaluated on the Hungarian side and twenty-one on the Slovak side. This research area was selected based on the Reilly's law of Retail Gravitation (Reilly, 1931) regarding influencing zones (Jaschitz, 2012), taking into account their differences in size, general distances, the availability of facilities and their position in the regional urban structure (Figure 2).

Considering the two settlements as separate entities, Komárno's hinterland is remarkably bigger than Komárom's. Besides the above mentioned factors, the separated history of the two settlements is also of influence.

Regarding urban structure, there is a notable difference between the two sides of the border. The number of smaller settlements (below 1000) is higher in Komárno's hinterland that creates a denser, more frequently inhabited landscape. In Komárom's influencing area, villages are generally above 1000 inhabitants, and their structure leaves the landscape more open.

General information about the area and population are presented on Figure 7.

Figure 7 - Demographic data of selected area

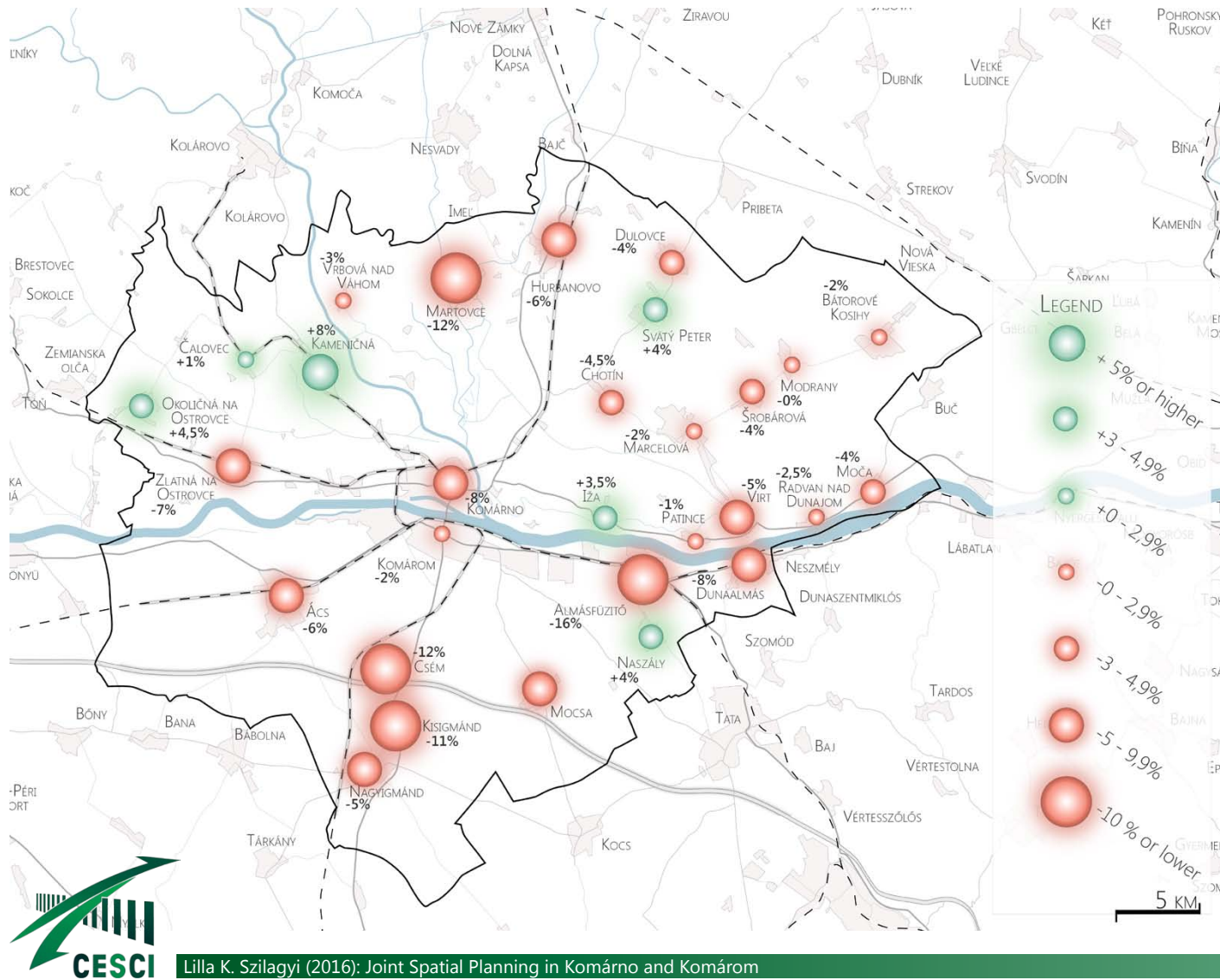
Sources: KSH, WebStatistics, MosMis

	Komárom catchment	Komárno catchment
Area (km ²)	364	590
Population in 2012	39 559	63 081
Population density (people/km ²)	109	80,5
Change of population, 2001-2012(%)	-6,8	-2,2

Growth of population

As for the growth of population (Figure 8), the indicators of the area are in line with national averages. Population changes in the influencing zone of Komárno have demonstrated a greater diversity. Just like Svätý Peter, several other villages grew in population size over the past decade. Small villages however tend to show a pattern of greater population loss. Towns and bigger villages have lost about 4-5% of their population between 2001 and 2012.

Figure 8 - Changes of population in settlements in the catchment area 2001.2012
Sources: KSH, WebStatistics, MosMis; illustration by author based on Google Maps.



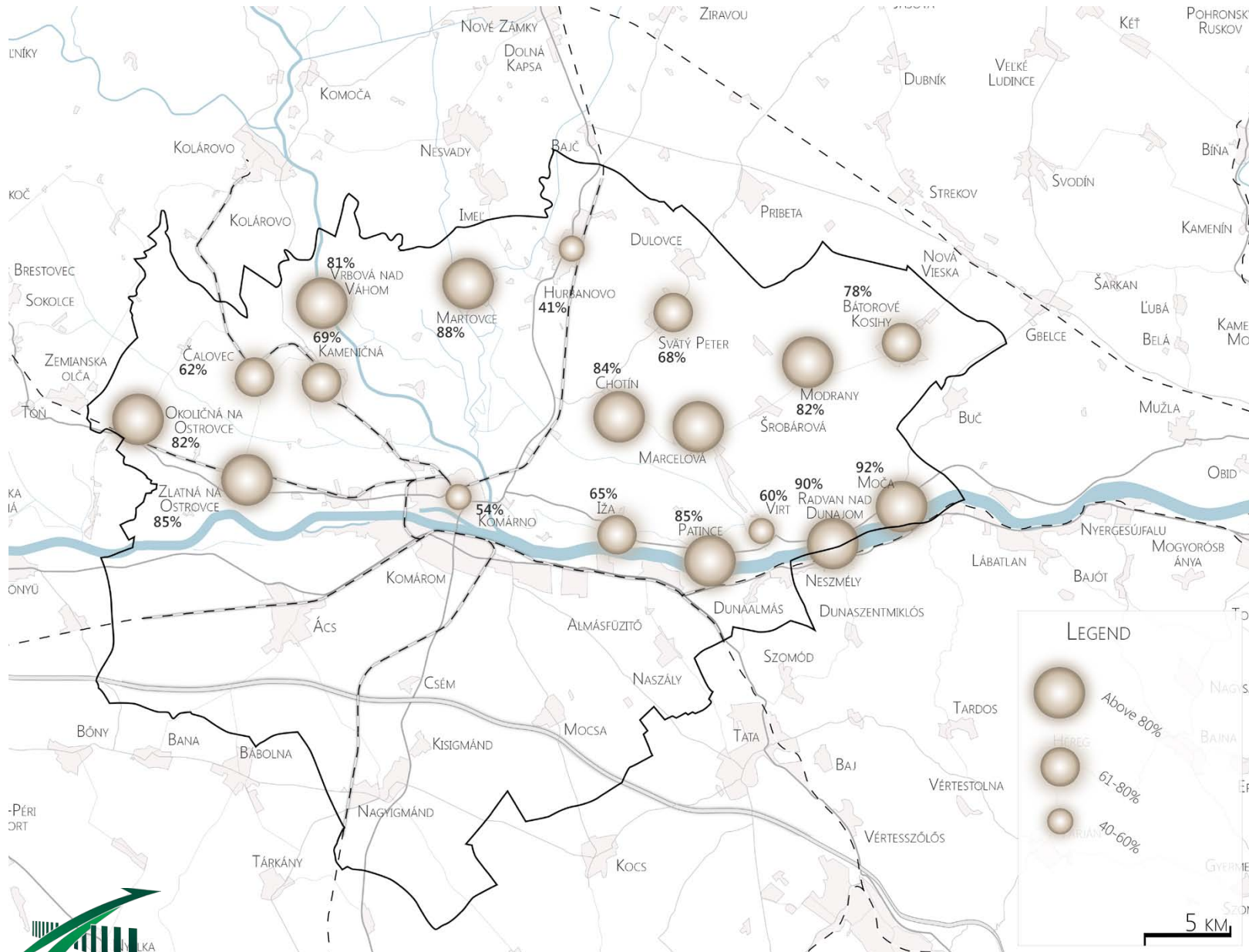
The reason behind this shrinking of population has the same root: due to the lack of facilities and jobs, many decide to move from villages to towns, from towns to bigger cities.

- Foreign migration from Komárno district (LAU1) is not relevant, a total of 18 citizens left the country in 2012. Immigrants from other countries added up to a total of 358 people to the Komárno district.
- The total migration rate is positive for both Komárno District (LAU1) and Nitra Region (NUTS3). On the Hungarian side, foreign immigration is positive as well in Komárom-Esztergom County (NUTS3).

In both countries, negative numbers define data regarding internal migration in the districts/sub-regions (LAU1) as well as the bigger NUTS3 areas. While in Komárno District this means a total of four persons, in Hungary a number of 217 migrants left to another part of the country from Komárom, Kisdér and Oroszlány Districts (an area of similar size as Komárno District). Internal migration is notably more significant on the Hungarian side.

There is a significant amount of Hungarian minority living in the Slovakian settlements, which also means that Hungarian language is widely spoken. This is a great yet not fully exploited opportunity in the region, since it facilitates and enables the possibility of functional cooperation and social coherence among locals and stakeholders.

Figure 9 - Significant percentages of each others' nationalities (above 40%) 2011.
 Sources: KSH, WebStatistics, MosMis; illustration by author based on Google Maps.



Minorities

Figure 9 presents settlements with a significant Hungarian minority (over 40%). In bigger settlements such as Komárno and Hurbanovo, the population is more mixed, balanced than in smaller villages especially along the border.

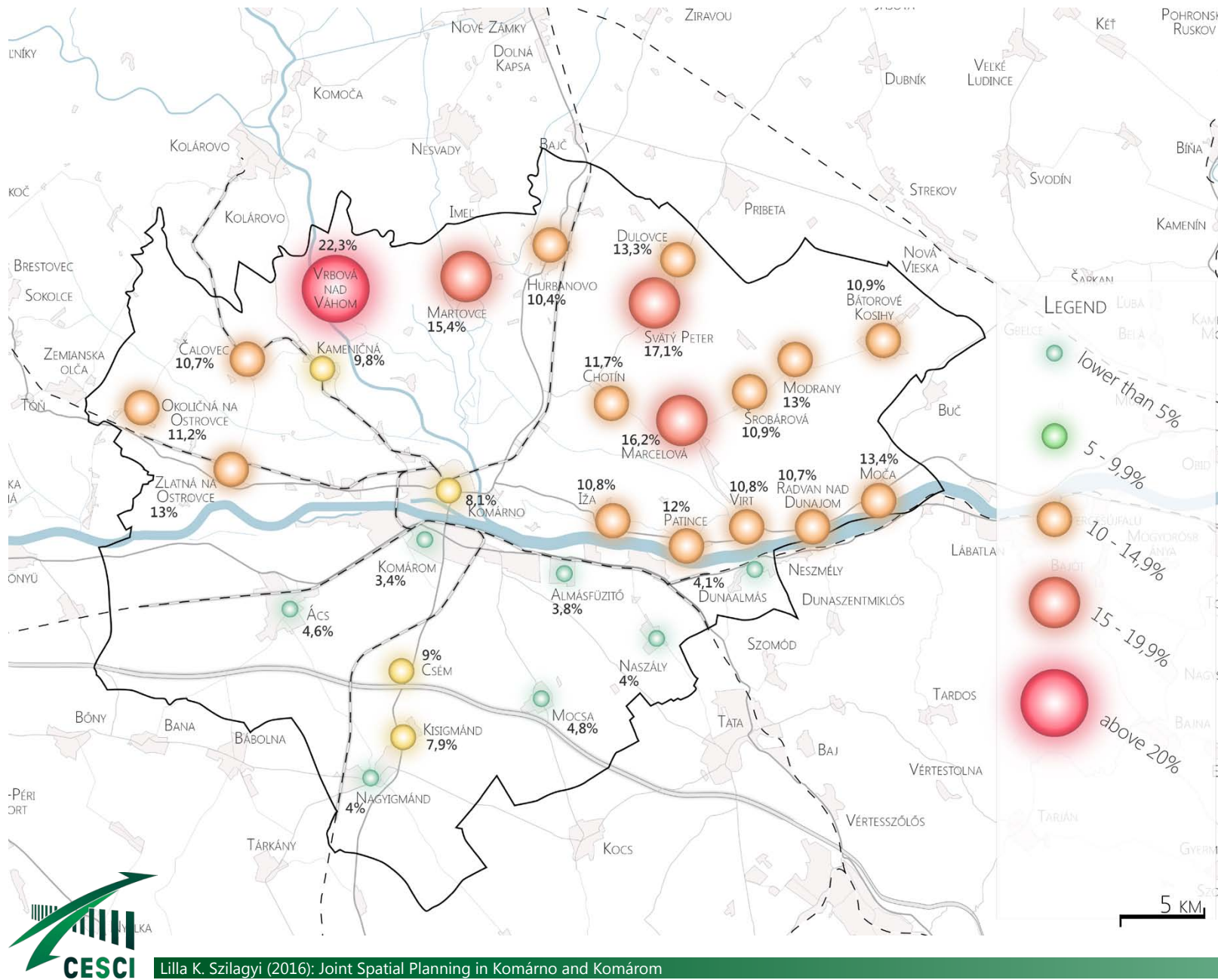
Slovaks on the Hungarian side are present in much smaller numbers in larger border located towns like Komárom and Esztergom, where Slovaks add up to about 0.5% of the population; there is essentially no Slovak minority in smaller towns and villages. The total amount of minorities in Komárom-Esztergom County (NUTS3) is 6.1%.

It is also notable to mention that due to the presence of a higher education facility, University J. Selyeho in Komárno since 2004 (Selye János Egyetem, n.d.), the population of the city varies greatly between academic year and the summer period. Furthermore, the number of enrolled students increases each year by hundreds of students (Sikos, 2007).

On the Slovak side of the hinterland, unemployment is on a concerning level of 12.5% according to the sources from 2012 (KSH, WebStatistics, MosMis), this rate is less than half, 5.1% in the hinterland in Hungary.

Figure 10 - Unemployment rates in the catchment area, 2012.

Sources: KSH, WebStatistics, MosMis; illustration by author based on Google Maps.



Unemployment

In comparison to the rather homogenous data of the other fields this indicator shows striking differences. Data on settlements is shown by Figure 10. The lack of employment possibilities can be derived from the fact that the northern side of the Danube is somewhat cut off from the mainstream line of M1, Hungary's busiest highway. The nearest Slovakian regional centre, Nitra is about twice as far as the nearby city of Győr. Unemployment rates were considered the highest on the Slovak side until the accession to Schengen made it possible for workers on the Slovak side to commute south (Kovács & Szabó, 2008). The village with the largest unemployment rate on the Slovak side is Vrbová nad Váhom with 22.3%, whereas on the Hungarian side, the highest rate is only 9% in the village of Csém.

ECONOMY

Comparable data is available regarding the number of SMEs and bigger enterprises in the chosen settlements. Big enterprises are naturally located in bigger settlements such as Komárom, Ács, Bábolna, Komárno and Hurbanovo. In smaller settlements, the number of SMEs varies from 50 to 600 in accordance with population size on both sides.

Further economic data is only available on a non-comparable level. The town of Komárom has the biggest number of large companies that provide specialised working opportunities. These include R&D companies such as FIH, logistic companies such as DHL besides several international enterprises from the tertiary sector.

The NOKIA Komárom Kft. telephone production plant was the main provider of jobs in the area since 2000. After Microsoft purchased the branch it was finally moved out of Komárom's industrial park in October 2014.

This setback affected 1620 active workers (approx. 70% Hungarian and 30% Slovak nationalities) besides many service companies. According to the article of HVG, unemployment rates were unaffected, since 1296 workers found new jobs by the end of November 2014. Komárno currently accommodates factories of Peugeot and KIA according to the Joint Urban Development Plan, and by 2017 the Polish Alumetal will foreseeably open its plant, offering 150 jobs (Index, 2014).

Due to reasons found in history, Komárom has developed a stronger manufacturing, industrial identity than its northern neighbour. The NOKIA plant made the industrial park of Komárom attractive to other industries, almost all of the specializing in serving the phone company. The region, being highly dependent on NOKIA and its service companies is very vulnerable (Kovács & Szabó, 2008).

Figure 11 - Availability of facilities in the vicinity of Komárno and Komárom, 2015.

Sources: KSH, WebStatistics, MosMis; illustration by author based on Google Maps.

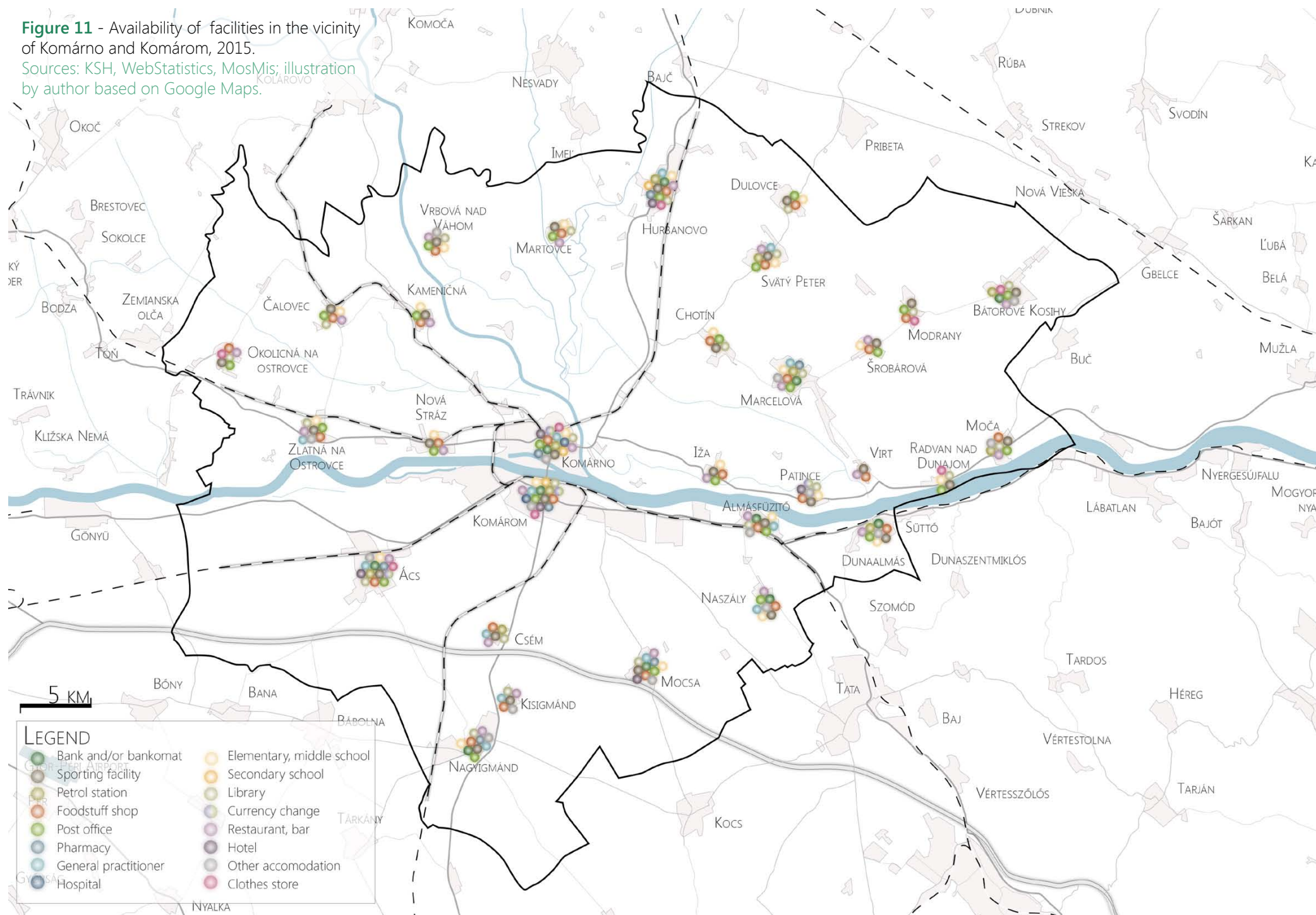
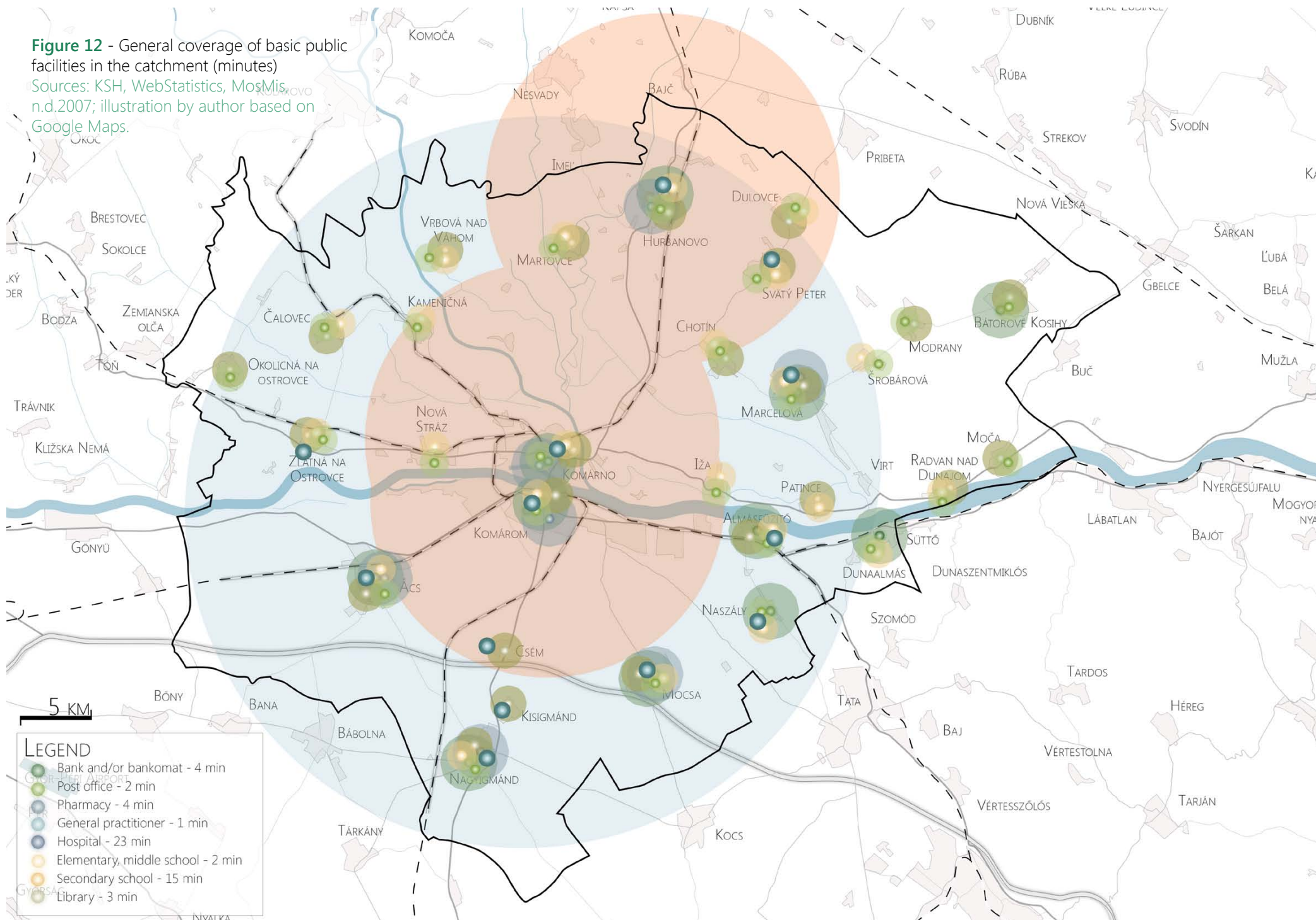


Figure 12 - General coverage of basic public facilities in the catchment (minutes)

Sources: KSH, WebStatistics, MoMIS, n.d.2007; illustration by author based on Google Maps.



FUNCTIONAL DISTRIBUTION, POSITION IN URBAN STRUCTURE

Functional distribution

According to the availability of services, Komárom and Komárno together have a role similar to any other county seat (NUTS3) in Hungary and have gained importance on a regional level as well. To mention the highest level of services, both towns have hospitals, theatres, registration offices, police stations and court houses, while Komárno is equipped with an institution of higher education as well, despite the fact that towns of bigger size often lack this function. This university, Univerzita J.Seyeho is especially outstanding and valuable due to its bilingual (Slovak and Hungarian) educational offer. Relevant types of facilities available in settlements of the vicinity are demonstrated on Figure 11 and Figure 12. The subsidies that finance the accredited operation of the first Slovak-Hungarian university is provided by both countries. Unfortunately uncertainties about these funds arise almost annually due to Hungary's or Slovakia's inability to allocate the needed amount from the national annual budget (erdély.ma, 2007; MTI, 2013; bumm.sk, 2015).

Regarding the most basic public services, Komárno and Komárom provide a double coverage of functions such as hospitals, secondary schools and libraries. Cities with a similar size (Kaposvár, Tatabánya, Poprad - all have 1 hospital) of Komárno and Komárom united usually have one of each facility, in our case, both cities provide the same services separately for their side of the border. The presence of such fine-grained soft infrastructural grid holds many opportunities. Due to the unfortunate past, the cities have become much more equipped than they otherwise would have.

According to a study (Žilinská, 2008), locals of Komárno and its vicinity tend to commute to the southern side significantly more often than those commuting from Komárom to the Slovak side (Figure 13). Most northerners target Komárom's industrial parks (with around 15 000 employees) and other job opportunities.

Another reason for the North to South flow is shopping tourism. A field survey (Alžbeta, 2009) shows a similar balance regarding border crossing for shopping purposes: Surveyed citizens of Komárom only buy 0-5% of their necessities in Slovakia, while locals from Slovakia cross the border to acquire 20-30% of their belongings. Accordingly, people of Komárom visit the other side less than once a month, and when they do, their target is more likely to be Nové Zámky and Dunajská Streda than Komárno. Locals of Komárno cross over significantly more regularly, at least once, usually twice a month. Besides Komárom, their destinations also include Esztergom, Győr and even the more remote Budapest to buy mainly groceries, clothes and cosmetics. 90% of cross-border shoppers travel by car (111 out of 124 interviewees), about 7% choose public transport (bus), whereas the amount of pedestrian travellers and bicyclists is only 3% (Figure 14).

The overall analysis points out many opportunities, weaknesses and even more questions. Generally summarized, inhabitants of the Slovak side (presumably the Hungarian minority) prefers to remain living in Slovakia, even though they work and shop in Hungary, while the same services and facilities are available in Komárno as well. This may be affected by the fact that the Slovak government does not give out dual citizenships (Jaschitz, 2016).

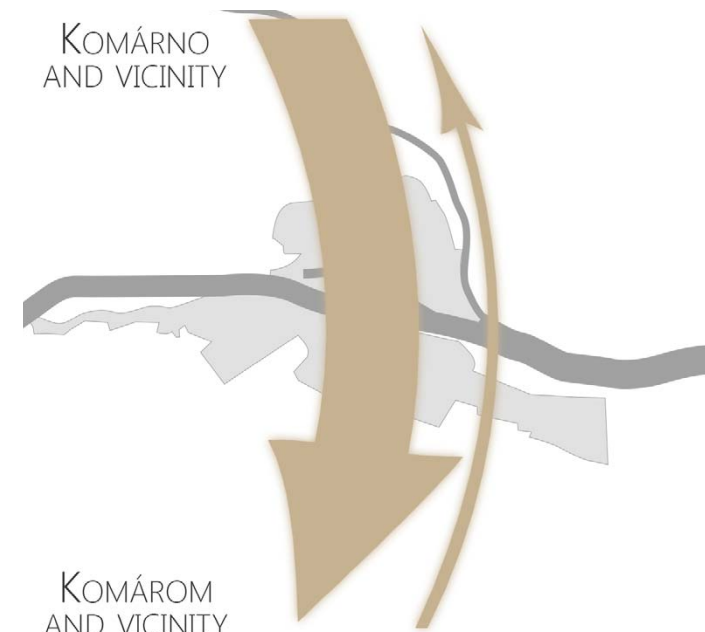


Figure 13 - Work-related commuting according to directions and size

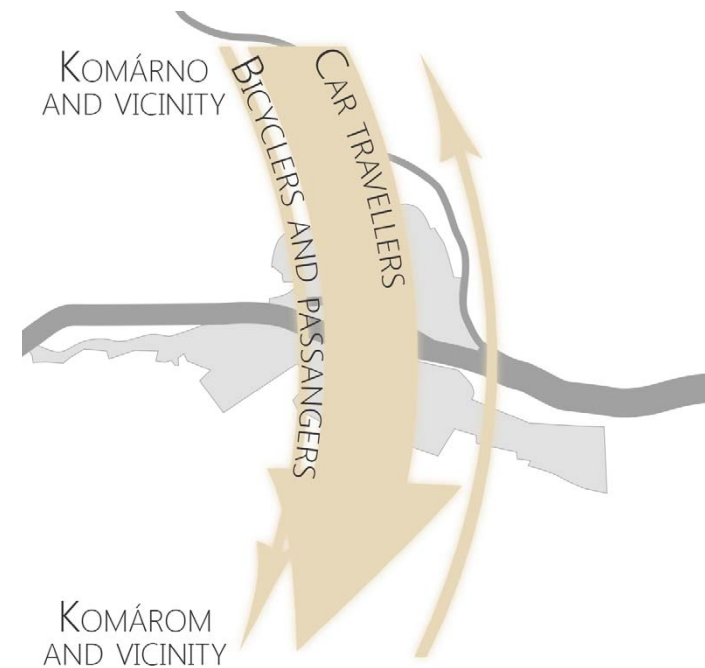
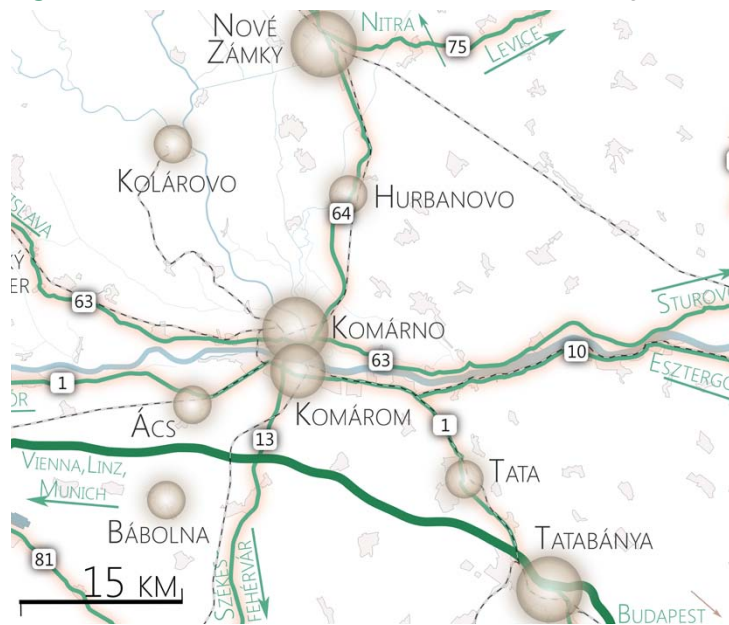


Figure 14 - Shopping-related commuting according to directions, size and means of transport

Figure 15 - Distribution and distance of towns in the region



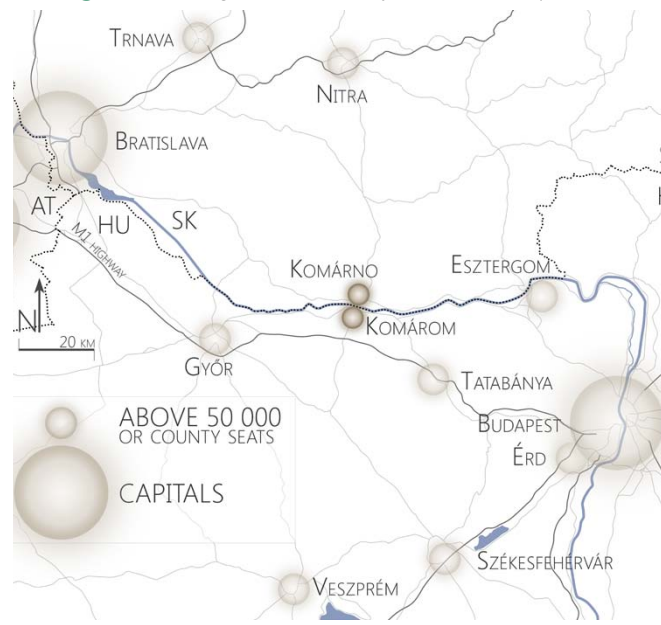
Placing Komárno and Komárom in its surroundings

Komárno and Komárom together have a total of 53 838 inhabitants (2012). On the Slovak side, the nearest town of similar importance is Nové Zámky (39 373) 31 kilometres away and Nitra (78 607) 68 kilometres away.

The capital, Bratislava is 130 kilometres away. On the Hungarian side, nearby towns of relevance are Tatabánya (67 406, 35 km away), Győr (128 567, 45 km away), and the twincity of Esztergom-Štúrovo (39 584, 51.2 km away) services of national importance are available in a distance of 93 kilometres in Budapest.

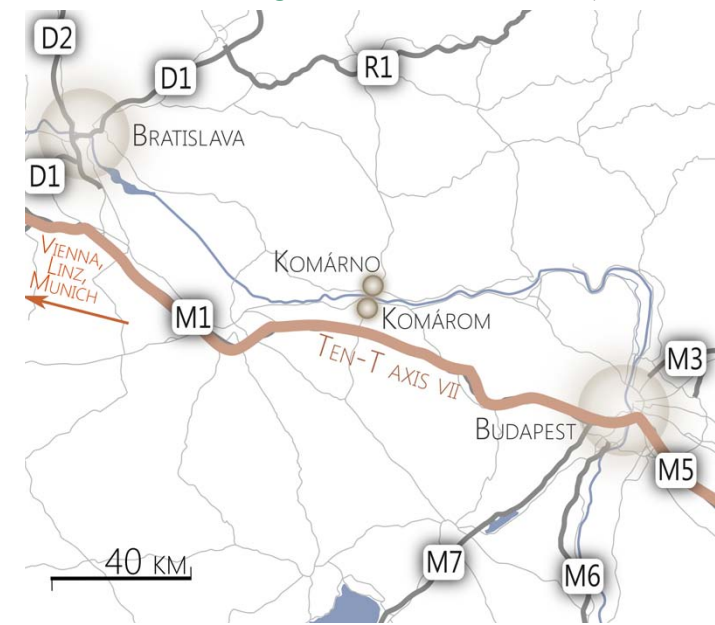
Figure 16 summarises and also explains the differences of size between Komárno and Komárom, the southern side of the area is richer in bigger towns and facilities, while Komárno has acquired a bigger importance in its region due to the substantial lack of other rivals within the borders of Slovakia. On this basis, Komárom and

Figure 16 - Big towns, county seats and capitals



Komárno are located on the geometrical centre point of the Győr - Nové Zámky - Tatabánya triangle. The average distance between county seats or towns of similar importance in Hungary is usually between 60-80 kilometres (Figure 16). In Slovakia big towns are scarcer due to its mountainous topography, their internal distances are around 70-80 kilometres. Towns with a population above 50 000 are concentrated on the western side of the country. On the Slovak side, towns with a population of 10 000-30 000 are present in larger numbers (compared to the countries' sizes) than in Hungary.

Figure 17 - International transport routes



Road network

Structure of local roads is practically symmetric on the axis of the Danube: Roads are headed west, north and east from Komárno and west, south and east from Komárom. This gives local road network excellent connections and routes headed to six different directions (Figure 15).

The southern side of the area has a significant advantage, the M1 highway. This is the most relevant route of Hungary connecting Vienna to Budapest, its interstate entrance is a 30 minute, 45 km drive away from Komárom. From a wider point of view, the towns also lay along the Trans-European transport axis VII, and are in the general direction of the West-East Stuttgart - Ulm - Munich - Salzburg - Linz - Vienna - Bratislava - Budapest - Belgrade corridor (Figure 17). While there is an abundance of routes along the East-West axis, links to cities lying South (Veszprém, Székesfehérvár) or North (Trnava, Levice) to Komárno-Komárom leave room for development (Jaschitz, 2016).

Local public transport

The public transportation network of both Komárno and Komárom is in an inseparable connection with the transportation of their surrounding settlements. Both towns are well connected to the urban structure, as mentioned and presented before.

The two towns are accessible from many locations, but neither connection is a cross-border one; both have their separate railway stations and bus stations. From Komárno train station, tracks leave in the direction of Komárom (use rate: 36%), Nové Zámky and Nitra (use rate: 36%), Kolárovo (11 passenger trains/day), and Bratislava (use rate: 65%) which is the most important track leaving Komárno.

Trains have six direct directions; in addition to the above, it is also possible to travel to Dunajská Streda and Veľký Meder (Véřtes Volán Zrt., 2010).

From Komárom, tracks leave in the direction of Komárno (only cargo), Budapest, Győr and Székesfehérvár. With passenger trains, it is possible to travel to nine different locations without having to change trains; these are presented on Figure 18. There is one local bus line commuting between Komárno and Komárom, bus No. 228 (details: page 18). There is no possibility to travel to different towns across the border without having to change lines.

Bus connections are also presented on Figure 18. There are 8 local bus lines connecting Komárno and Komárom with its vicinity that also links the centre of the town with outer parts. Bus stops are within 10 minutes walking distance. Besides local (district level) lines, Komárno has 14 direct bus connections with other bigger towns and cities, 7 of which travel hourly or more often. These towns include only Slovak settlements, whereas buses from Komárom only leave to Hungarian destinations presented in the table.

There are two bicycle paths worth mentioning, the internationally connected Danube Cycle Path to Austria and Bratislava, the other one connects Komárno with Štúrovo.

A survey (Sikos, 2007) on the trespassers of the bridge on an average Saturday afternoon shows that there are two mayor types of vehicles, 70% are cars (493 vehicles/hour) and about 15-20% are bicycles. This alarming overflow of car travellers is due to the lack of alternative infrastructure between the two towns. The only connection, Elisabeth Bridge is narrow and usually heavy with car and freight traffic. There are no ferries commuting between the banks of Danube either. The small amount of pedestrian crossers (75/hour) is explainable by the length of the bridge (1 km from one bridgehead to another, approximately 13 minutes), which is an optimal distance for bike travellers. According to directions, the dominant bridge crossers are headed from Slovakia to Hungary (77%). This survey does not make a difference between Slovaks and Hungarians living in Slovakia.

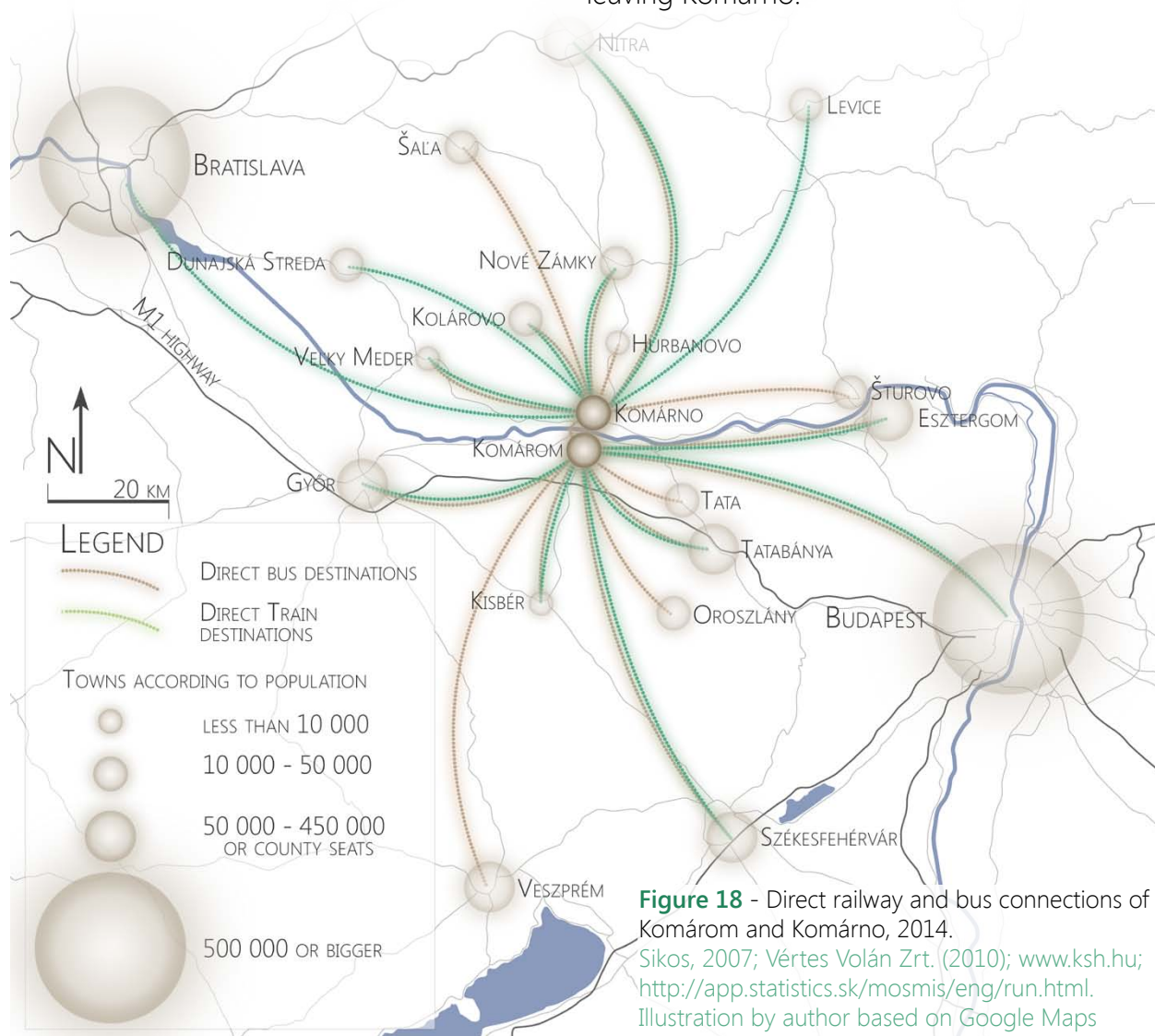


Figure 18 - Direct railway and bus connections of Komárom and Komárno, 2014. Sikos, 2007; Véřtes Volán Zrt. (2010); www.ksh.hu; <http://app.statistics.sk/mosmis/eng/run.html>. Illustration by author based on Google Maps

URBAN STRUCTURE OF KOMÁRNO AND KOMÁROM

Figure 19 - General land use conditions of Komárno and Komárom, 2014.
Illustration by author based on Google Maps and CORINE Land cover (2012).

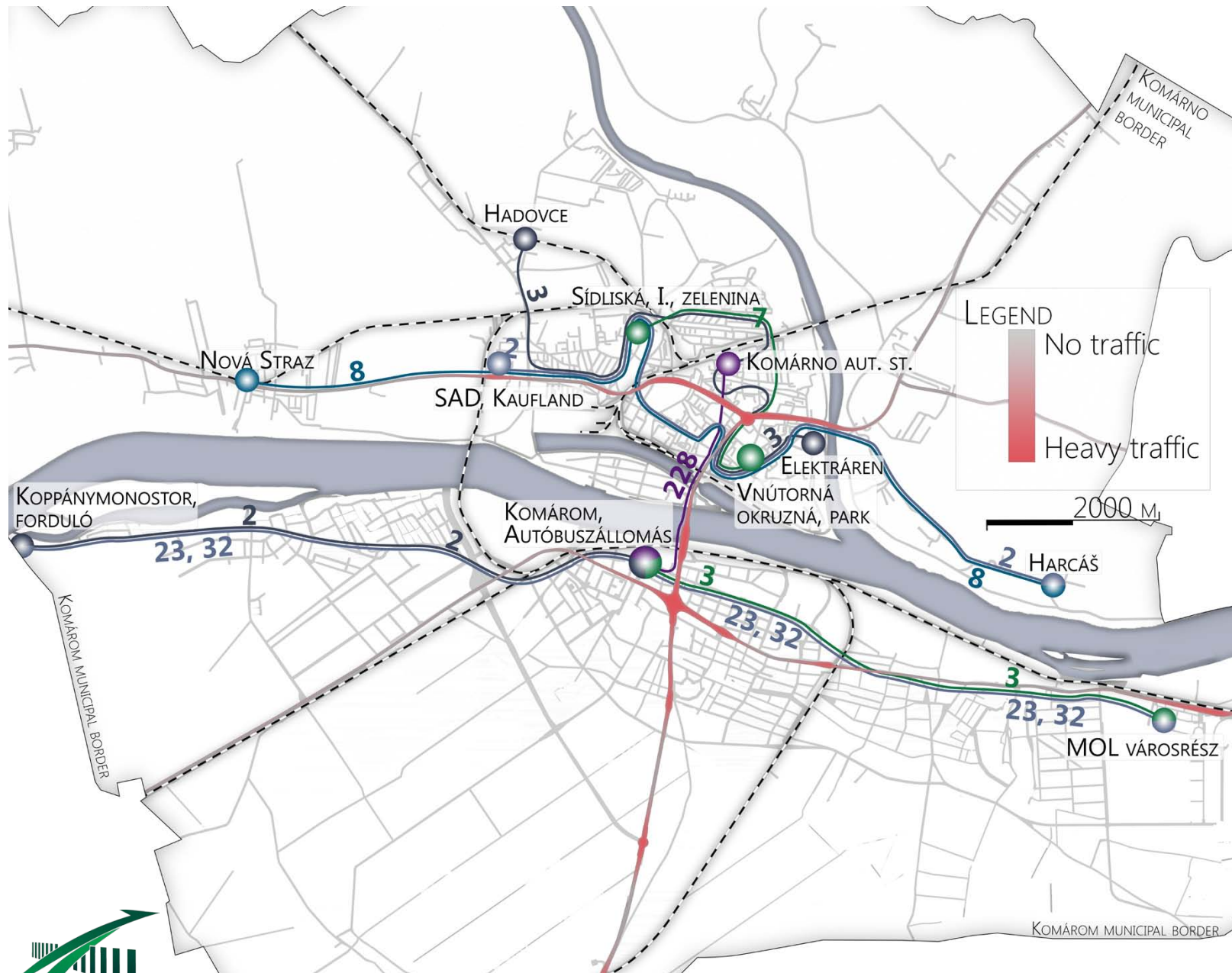


Land use

Figure 19 presents the generalised land use distribution of the examined towns. As shown, Komárno has a compact, rather organic residential area in the centre, whereas industrial and commercial zones are located in the outskirts. The only exception is Elisabeth island, the artificial peninsula between the two towns is mainly occupied with weekend houses and small orchards, but residential houses can also be found on its Eastern parts.

Komárom however has a decentralised residential block with commercial, industrial and even agricultural fragments scattered within its structure. Extensive areas of the riverbank belong to the Hungarian railway company, MÁV Zrt. and are covered by railway tracks and storage buildings. According to Corine Land Cover data from 2000-2012, there has been one significant conversion in land use within the area of Komárom. Areas previously categorised as forests became industrial, commercial areas in the southwest outskirts of town (Figure 19). The area of 87.6 ha has been transformed into the Industrial Park of Komárom in 2003, which is now of regional importance (Mesto Komárno, n.d.).

Figure 20 - Approximate route of local bus lines and traffic conditions in Komárno and Komárom, 2014.
 Source: Mesto Komárno, n.d., Vértés Volán Zrt, 2010; Illustration by author based on Google Maps.



Infrastructure, public transport

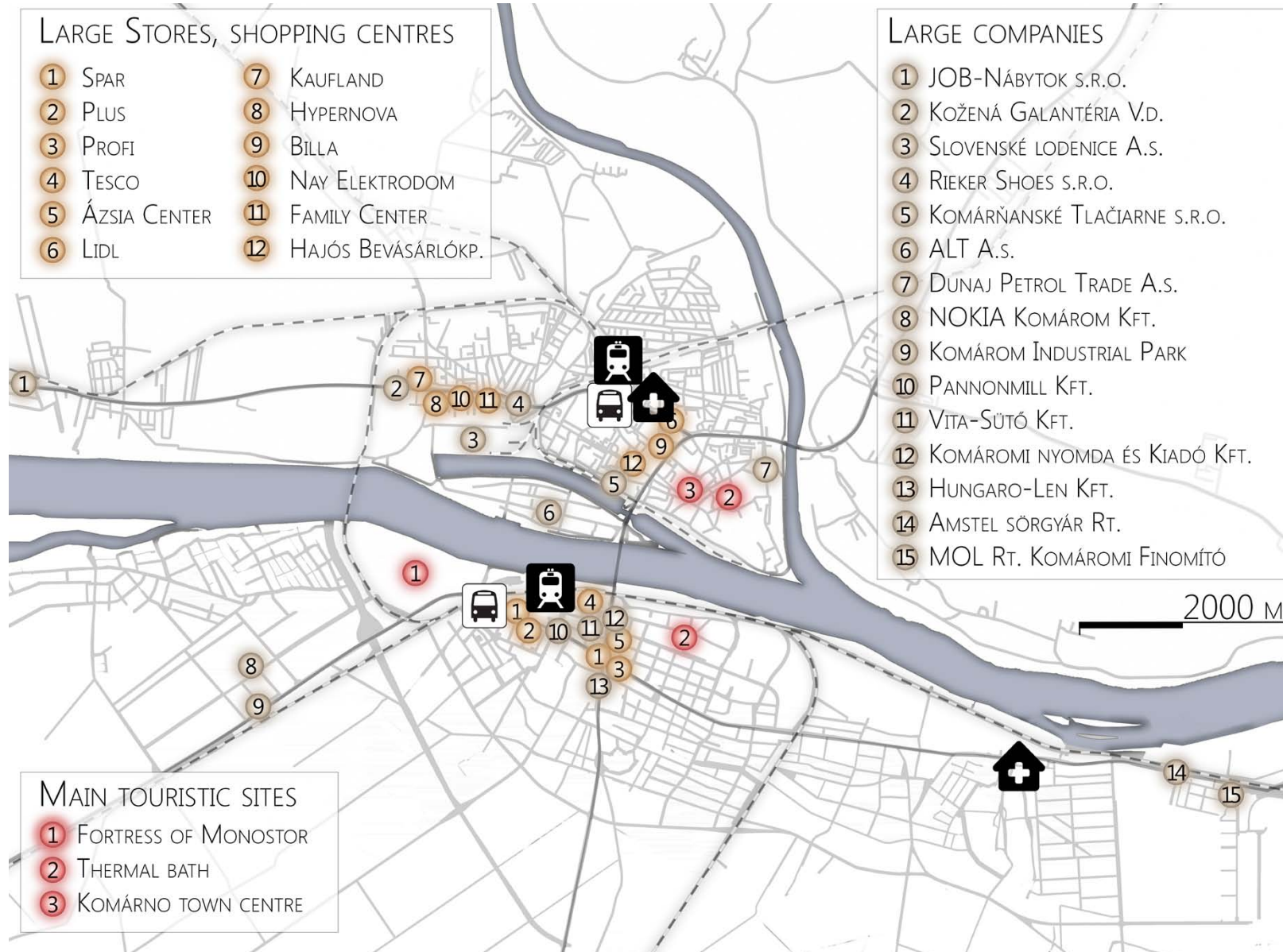
Figure 20 presents the approximate routes of local public transport lines. Four buses operate in each town by different companies, and another international line (228) connects Komárom's bus station with Komárno's. This bus line is a strong example for cross-border cooperation, launched in 2010. While most buses only operate on weekdays, bus 228 commutes six times every day from early morning till early evening.

Most buses in Komárno commute every 60 to 90 minutes on weekdays, from early morning till mid-afternoon. Despite the fact that Komárom is nearly half the size of Komárno, its public transport services are better. Buses generally commute from early morning till evening hours, with the last bus leaving at 22:40. Besides local buses, it is also possible for inhabitants to use several long distance lines as part of their daily routine.

Traffic conditions are also indicated on the map, with information based on an average weekday morning according to Google Maps. Both town centres have a heavy traffic in the morning hours, but it becomes tolerable during the rest of the day and weekends. There is no concerning level of traffic in other parts of the towns, except around the many railway crossings.

Figure 21 - Main shopping and work-related destinations and main attractions, 2014.

Source: Vörösová, 2009; Žilinská, 2008; illustration by author based on Google Maps



Main destinations

The third important group of aspects in a town's structure is its main destinations. Figure 21 presents destinations that attract a large number of locals and tourists: bigger stores and shopping centres, large companies and major touristic sites. The distribution of shopping facilities is very uneven: they are either located in the centre or in groups in the outskirts designed for customers travelling by car. On Komárom's side, all large stores are located right in the centre, which, besides the advantage of accessibility, also has negative visual effects.

Location also groups companies in two categories, the ones in industrial parks outside towns and within the centre.

Notable tourist destinations are the recently rehabilitated Fortress of Monostor, the thermal baths and the historic centre of Komárno encompassing many attractions of architecture and art (Vörösová, 2009; Žilinská, 2008).

CONCLUSIONS

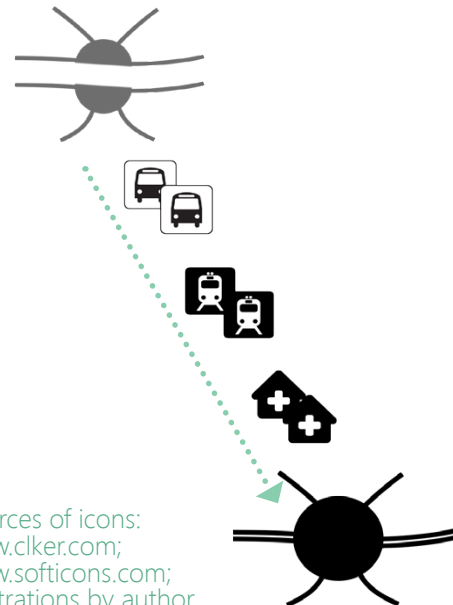
In all topics of the analysis it becomes clear that the long years of historic separation inadvertently led to a robust urban structure. Without this separation there would be no reason for the twin-city to have two hospitals, two train stations, two industrial strongpoints and such a symmetric and well-developed road and railway structure that many cities of similar proportions aim to achieve in their long-term development plans. The cities need to realize that their uniqueness comes not only from their geographical and historical position. Stakeholders and municipalities need to embrace all the outcomes that make the twin-city so well-developed in many aspects.

Making a city stand on many legs is the aspiration of many cities in Western-Europe. "Conventional" cities are often faced with similar problems: everything is centralised, therefore if the provider of a function (hospital, city centre, drinking water source, etc.) fails or becomes inaccessible, the whole system fails. Komárom and Komárno have to become aware that by becoming one entity, they manage to skip a step in development towards a multi-central network that is believed to be one of the solutions to economic, social and environmental sustainability.

Besides the two shared fundamental strengths, such as the Danube-Váh

confluence as a natural asset of transportation and the fort-network that creates an invisible bond across the border, there are many other facts that – due to the separation that caused many hardships in the past – are perhaps not yet regarded as something that future joint development can be based on. It is important for the two cities to declare that their border position requires unique, more refined and advanced development strategies and plans.

If observed as two separate cities, they are both regarded as 3rd level (LAU1) local centres but if improved as one whole, they have the ability to become more competitive than most NUTS3 (county seats, regional centres) level cities.



Sources of icons:
www.clker.com;
www.softicons.com;
illustrations by author

Learning to work with these multi-node networks, using them to turn the two cities' weaknesses into strengths is a priority task of the cities' urbanists. Their weaknesses are shared problems of the entire Eastern side of the continent: high unemployment rates, decreasing amount of large companies in the area, lack of local economy, the lack of alternative travel options, low quality public space.

Besides having one of each, the two sides have their own identities. Being the historic core of the two cities, Komárno has stronger cultural, educational and touristic aspects. Komárom has its strengths in economy, industry and its connections to fast infrastructures. It is the functional, dynamic part of the twin-city.

The hinterland of Komárno is a richly urbanised, finely patterned landscape while the looser network of settlements in the surroundings of Komárom provides a great open landscape. These aspects need to be embraced separately on a local scale while considering their future contribution to the region as a whole.

If looking at the accessibility of Komárno's influencing zone, one fact becomes obvious. The whole district is best connected to the rest of Europe via Hungarian transport

lines. Looking at either the fastest road connection, or the cheapest public transport options, travellers have to pass through Hungarian nodes. Considering unemployment rates, the lack of businesses, the popularity of shopping in the Hungarian side, Komárno's hinterland reveals itself as a somewhat forgotten area in the context of Slovakia as a whole.

Another question group in need of addressing is the following: How can an area with an average of 80% Hungarian minority and strong Hungarian roots be become an integral part of a Slovakia as part of the EU? Now that the borders have begun to disappear, how does the relation of Slovakia and Hungary affect this region?

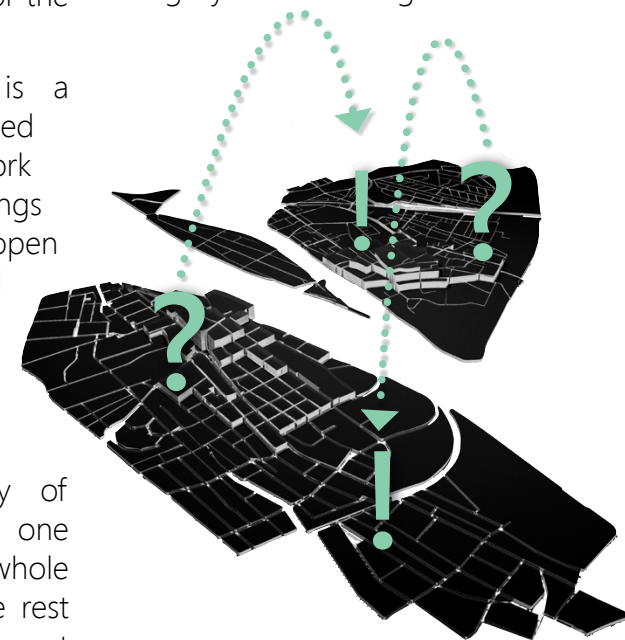
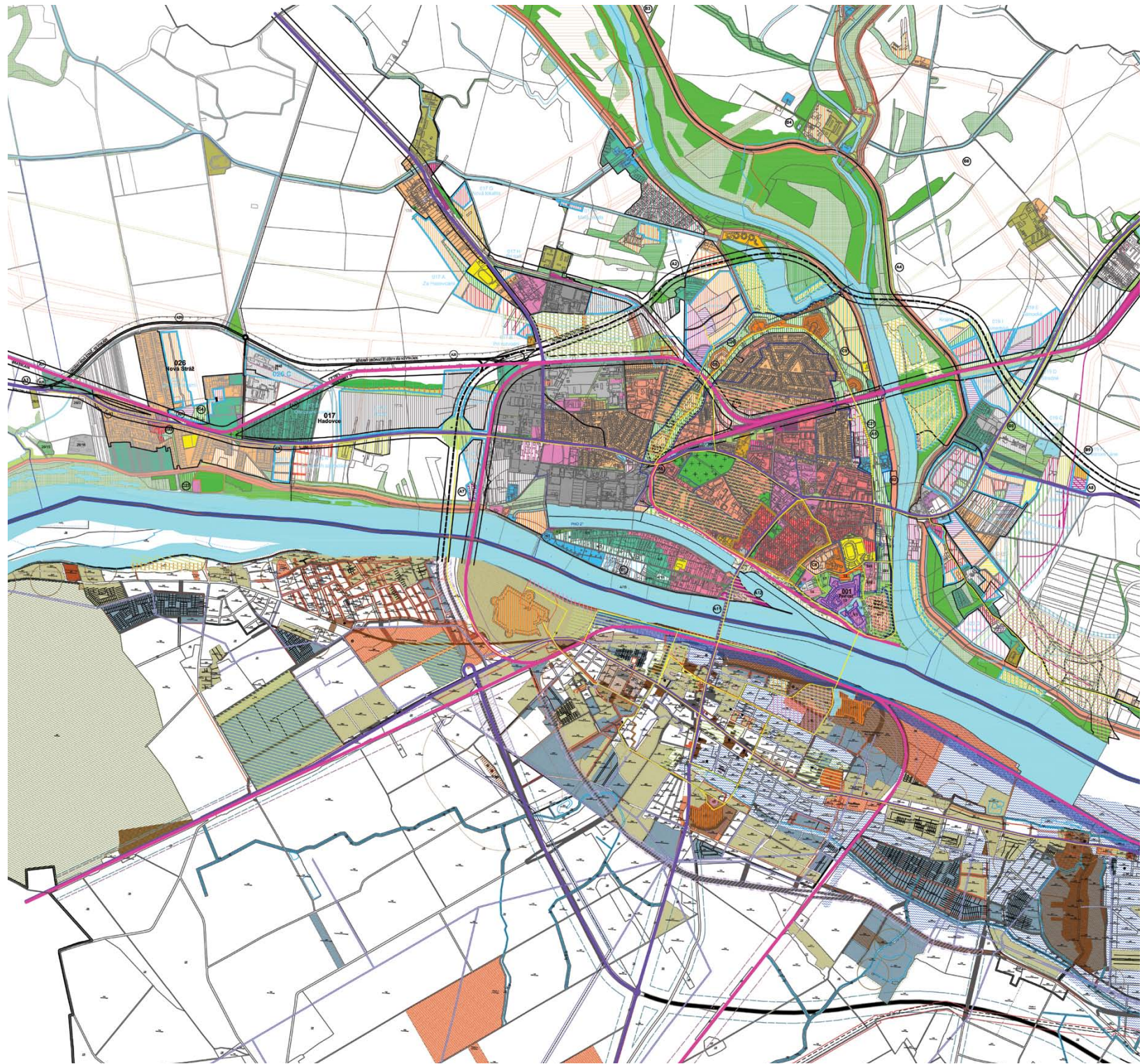


Figure 22 - Graphic projection of harmonisation, supplement "B" of The Joint Spatial Development Document, 2012

2. THE JOINT SPATIAL DEVELOPMENT DOCUMENT 2012

Literature review

This chapter is an extract of the written part of The Joint Spatial Development Plan (Zelina Architektonická Kancelária s.r.o., 2012). The presentation of actions leading to the birth of the cooperation is followed by the description of the document's main contents, goals, general and detailed concepts and suggestions. The document made it possible for both parties to provide ideas and possible solutions to problems of the other side. This is one of the many great assets of this document that enabled the planning authorities of the two sides to gain a new perspective of thinking, and a certain united responsibility for the plans of both sides.



2.1. THE PATH TO COOPERATION

The first cooperation agreement between Komárom and Komárno after the change of regimes was signed in 1993. This sister town agreement was the first to mention the two towns as 'Northern' and 'Southern' Komárom after 1990 and was created with the goal to harmonise the towns' development plans.

After the two countries joined the EU in 2004, the legal framework to this goal could also be established, and more detailed planning could begin. In 2006, studies and visualizations of the new Danube-bridge were presented as a proof of enthusiasm and willingness towards cooperation between the two parties. Two years later a project called "*Két oldalt partot érni...*" (literal translation: Docking on both banks. Source: Mesto Komárno, n.d.) aimed to extend the idea of a new bridge into a more complex joint plan. A series of brainstorm workshops were organized to collect ideas of other joint projects between the two sides. These workshops were crucial to finding out the priority topics the joint development plan would focus on.

To create the legal grounds of joint spatial development on a regional scale, the Pons Danubii EGTC (European Grouping of Territorial Cooperation) was founded including 5 other towns besides the two Komároms. The EGTC is the instrument that enables stakeholders across borders to set up a legal personality, and thus be able to make ratified decisions without a separate international agreement between national parliaments. This EGTC, formed in 2010, is determined to create equal opportunities for inhabitants, businesses, and all local stakeholders on both sides of the border. It also aims to guide member municipalities towards economic prosperity with the EU's financial help.

The EGTC has its headquarters in Komárno. One of its biggest achievements is the establishment of a bilingual cross-border TV channel. The broadcasted programmes draw attention to local cultural and social events, renewable energy and environmental consciousness in general.

The Municipality of Komárno has applied for and won a funding of 99 600 EUR for the tender submitted as "*Harmonisation of planning documents*" (HUSK/0901/1.5.1/0005) within the Hungary-Slovakia Cross-border Co-operation Programme 2007-2013. The Municipality of Komárom, as 'foreign partner', received an additional 37 300 EUR funding, which made a total of 136 900 EUR.

Coordinator of the project was the Hungarian VÁTI Magyar Regionális Fejlesztési és Urbanisztikai Nonprofit Kft., a regional and urban planning company, and all common planning documentation was elaborated by a Slovak architecture and urban planning company, ZELINA Architektonická Kanc. s.r.o.

The project was launched in July 2011 with the aim to harmonise economic, infrastructural and investment plans and ideas of the two towns and to enable the establishment of mutually used institutions and facilities. Besides creating the general, town-wide long term concept, the documentation was also intended to focus on local development concepts in each field separately. The project was finalised in May 2012.

Besides the implementation of the project, workshops, conferences, and consultations were also organised between the stakeholders of the cooperation before, during and after the completion of this document.

The timeline of cooperation is presented by Figure 23.

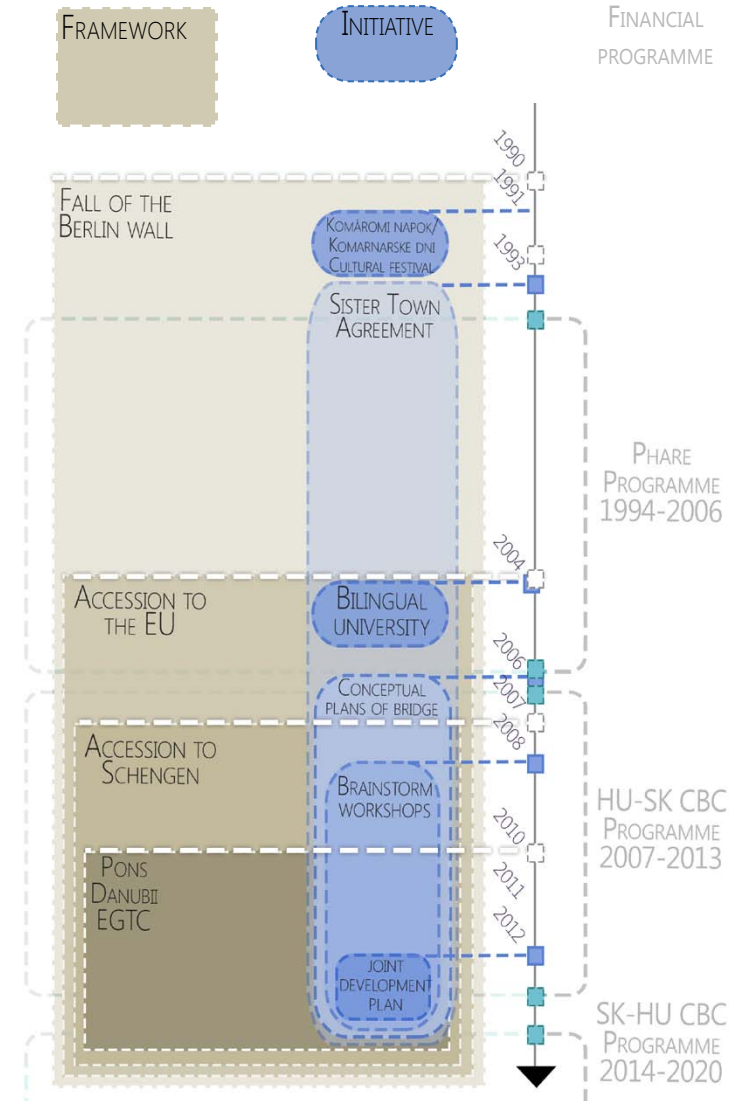


Figure 23 - Timeline of cooperation in Komárom and Komárno. Sources: ec.europa.eu, www.ponsdanubii.eu, palyazat.gov.hu www.husk-cbc.eu; illustration by author

2.3. ACCORDANCE WITH HIGHER LEVEL PLANS

Figure 24 presents the county level plans of Nitra County (Aurex, 2012) and Komárom-Esztergom County (Város-Teampannon Kft., 2011). Survey of these plans points out differences and similarities of general directions in national spatial planning.

Objectives that are presented on both sides are very likely to be realised in the future. There are two intersections that are essential to be familiar with. The first enlargement presents county level plans in Komárom and Komárno. The proposed western bridge is clearly present on both plans; construction works have already begun on the Hungarian side. Even though Komárom also projected a slight possibility of a third bridge in the east, this intention – yet – did not receive county level approval, and therefore the line of the eastern bridge disappears on the border.

Plans of a North-South interstate are being discussed in the area, the location of this bridge and the track of the highway are yet to be decided. The second enlargement shows another concept of the same category that is present on both plans. According to the Komárom-Esztergom County's plan, M11 would connect Garam-valley with highway M1, through Esztergom. This proposed route is only one out of the many possible options (west to Komárno and Komárom, between Győr-Moson-Sopron County, and Trnavský Region (NUTS3 levels)). This interstate construction would be a national level infrastructural investment on both sides that is likely to be decided upon in the further future.

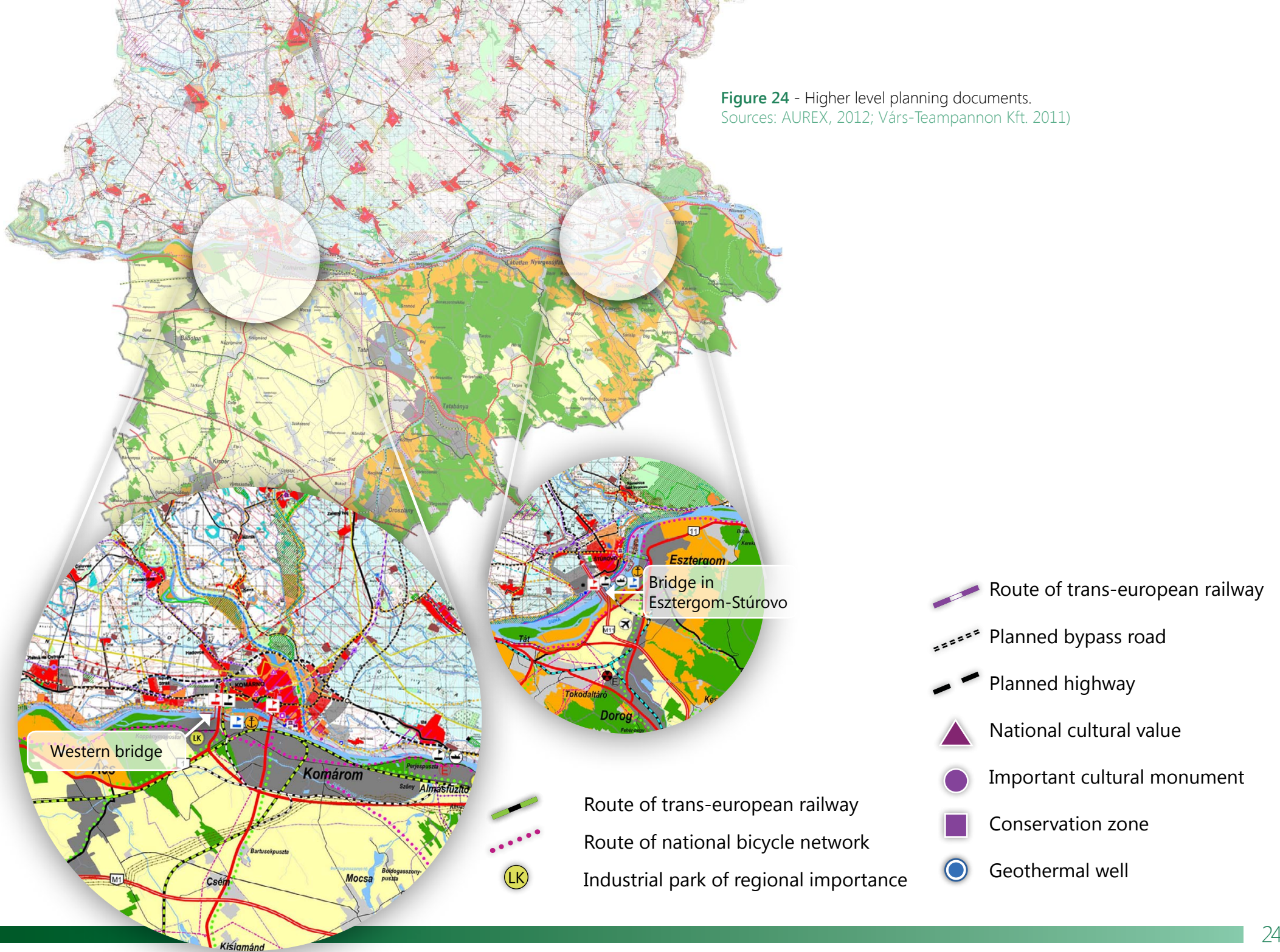
The map of Komárom-Esztergom also presents Komárom's railways as routes of trans-European importance, and its industrial park to be of regional importance. The track of a national bicycle route is also indicated on the map.

The plan of Nitra County also presents the location of important cultural values, areas of conservation and thermal springs besides trans-European railway and highway routes.

Regarding higher level cross-border frameworks, Komárom and Komárno are both founding members of the Pons-Danubii European Grouping of Territorial Cooperation. This is a grouping of 7 municipalities around the border (Komárno, Kolárovo, Hurbanovo, Komárom, Tata, Kisbér, Oroszlány). The regional cooperation has running projects in four topics. An online media platform has been established to inform inhabitants about events, useful data about their region, and – in integration with another project – a database was created to provide work opportunities in the region. A cross-border bicycle lane has been constructed, and the organisation of a joint cultural event has been put in the agenda.

The EGTC has also set the goal of a cohesive regional strategy which is currently being prepared. This strategy will greatly contribute to a harmonious development of the area; however, due to the lack of workforce, emphasis is put on the realisation of individual projects, as it is believed that tangible outcomes will place trust and enthusiasm towards cooperation (Pons-Danubii, n.d.)

Figure 24 - Higher level planning documents.
Sources: AUREX, 2012; Várs-Teampannon Kft. 2011)



2.3. REVIEW OF THE DOCUMENT

The Joint Spatial Development Strategy between the two neighbouring settlements was based on the Land Use Plan of Komárom made in 2010, the Urban Land Use Plan of Komárno accepted in 2004, and the Land Use Plan of Komárno approved in 2005, modified in 2011.

Its main goal was to exploit all comparative advantages of each side with the implementation of a balanced development plan and to create optimal working and recreational conditions for all citizens.

Although the territory of the project was restricted to the administrative boundaries of the two towns including the area of Nová Stráž (which altogether adds up to a total of 104.8 square kilometres), the scope of planning was expanded to a much larger radius during the harmonisation of the spatial planning documents.

The settlements' wider relations, international connections and functional interdependences were also taken into consideration to create an integrated,

synthesized plan that benefits the entire region. On the Slovak side, it has been integrated into the regional planning document of Nitra Region (NUTS3), and to the regional planning document of Komárom-Esztergom County (NUTS3) on the Hungarian side.

The Joint Spatial Development Plan is divided into two major parts:

- Part A is the joint development document for the towns of Komárno and Komárom. This part sets relevant development areas with directions of future development in each field (infrastructure, environment, etc.). After presenting the mainstream objectives, the document provides detailed suggestions for the two towns to evaluate. These suggestions are made on both an urban and an object scale.
- Part B is a response to Part A by the two municipalities reflecting mainly on the feasibility of the suggestions stated in Part A. This feasibility was bound by the national provisions that each municipality is obliged to follow, and the assessment of possible benefits related to cost and sacrifice from a divided settlement perspective.

The document is supplemented by two maps, one that visualizes the problem statement (map A) and one that presents the elements of the strategy in space (map B).

Section A was elaborated by ZELINA Architektonická kancelária, s.r.o., a Slovak-Hungarian architecture bureau, selected through public tendering by the Municipality of Komárno.

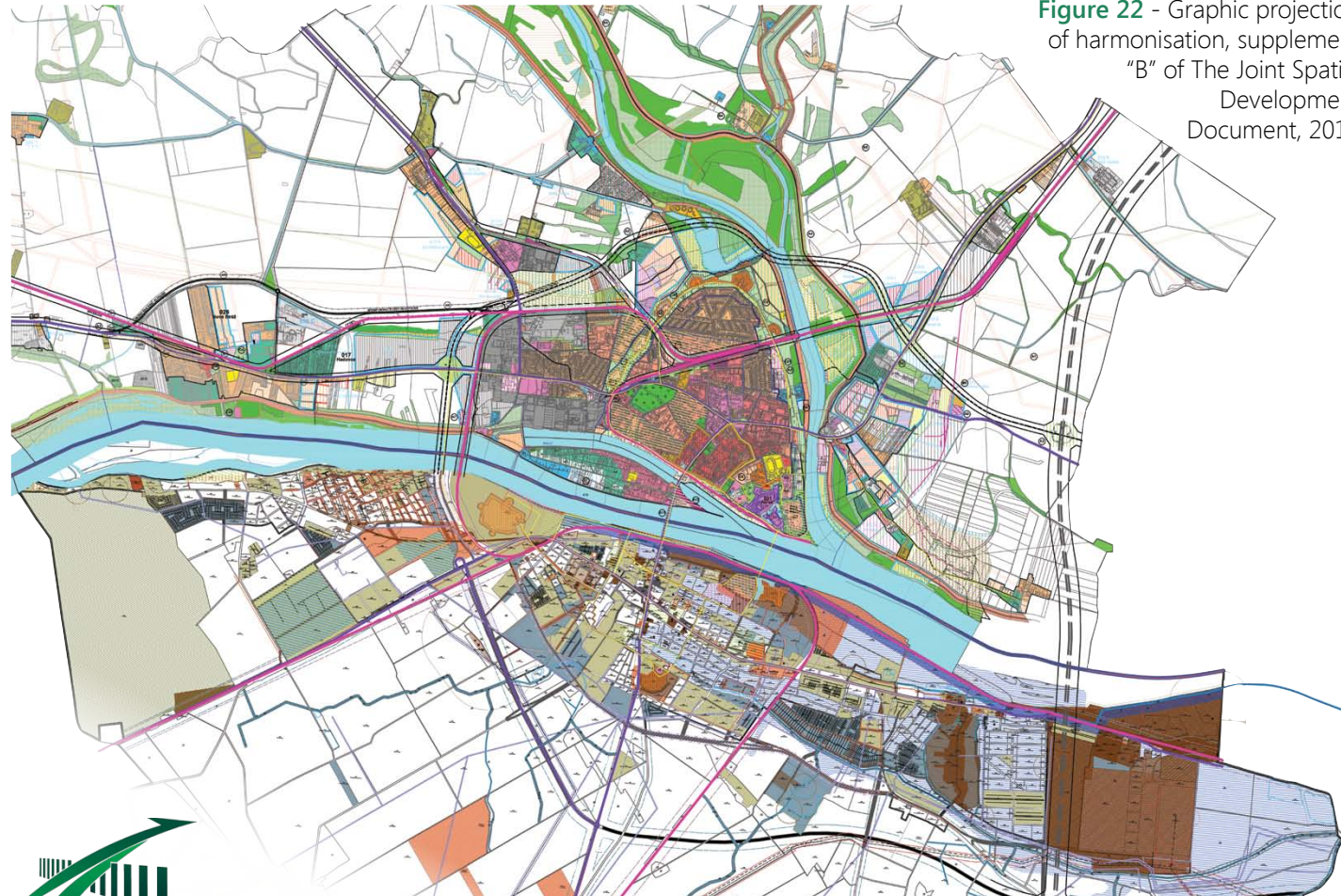


Figure 22 - Graphic projection of harmonisation, supplement "B" of The Joint Spatial Development Document, 2012

REVIEW OF THE DOCUMENT'S METHODOLOGY

In order to evaluate this document it is important to define its position in the line of planning documents. The document refers to itself as a 'strategy' several times; however, it goes into much deeper details, zooming from a regional problem statement through an urban scale goal to a street-level scale plan sometimes within one paragraph.

The introduction named 'Basic information' consists of three main sections:

- Goals and problems;
- Evaluation of previous plans, and data needed to turn actions to spatial solutions.

The first section, however, mentions neither goals nor problems. It can be regarded as an abstract of the entire document that introduces the framework in which this document was written, its different parts and their methodologies. It also lists all the laws and regulations to which the document has to be harmonised to on Slovak and Hungarian sides.

In its second section, the towns' previous planning documents are listed by number and year of production, enacting and modification. No evaluation is given on the characteristics or main aims of these plans. A strategic goal is presented in this chapter: development based on enhancing existing qualities.

The third section of the introduction ('Data needed to turn actions to spatial solutions') lists all previous documents to which the new Joint Spatial Planning Strategy has been harmonised to.

The body is named 'Solving the towns' spatial plan'. It consists of the following topics that can be divided into two main sections

Section 1:

- Designation of the design area;
- Accordance to regional plans;
- Fundamental demographic, social and economic preconditions;
- Broader relations;
- Urban concept to spatial orientation.

Section 2:

- Proposals to functional designation of space;
- Proposal to housing and social issues;
- Designation of built-in areas;
- Designation of protection zones and protected zones;
- Proposals for public, fire and flood safety;
- Proposal for nature and landscape protection;
- Proposal for public transport;
- Proposal for public utilities;
- Concept of environmental management and care;
- Designation of research and mining areas;
- Designation of priority areas in terms of safety and protection
- Evaluation of soil in terms of agricultural use prospects.

Section 1 of the body can be interpreted as a very complex problem statement. It first explains already existing qualities and characteristics that the two towns share, the historic ties that justify and give a base foundation for further cooperation. This opening is then followed by a presentation of the missing links, the fields where intervention needs to be taken in order to realise this cooperation. These problems are listed in sectoral division within the topic 'urban concept to spatial orientation'. Within the same topic several actions are determined as 'priorities' that are to be given special attention during the realisation of the document.

REVIEW OF CONTENT

Problem fields

The second part of the body contains sectoral proposals followed by specific locations and specific solutions. This section also sets a time frame to actions that are suggested to be realized by 2031.

As final part of the document, entitled 'Supplementary information', specific spatial/programmatic suggestions are provided to both cities separately.

The strategic elements of the document can be found in the first part of the body. The chapter 'Urban concept to spatial orientation' is a core part of this document listing several problems the new spatial development plan will have to face and eliminate.

These problems can be grouped into four major categories:

Infrastructure:

- Dense traffic and inadequate infrastructural conditions in the central area;
- Increasing freight transport;
- Absence of an outer bypass;
- Lack of bicycle roads, bicycle/walking bridge;
- Barrier effect of railroads on both sides;
- Unutilised potentials in the transportation use of waterways of the Danube and Váh rivers.

Viability:

- Unequal distribution of functions;
- Lack of green surfaces, inappropriately placed functions in the central areas;
- Lack of connections to the Danube in terms of tourism and recreation;
- Low appreciation for cultural heritage and landmarks;
- Lack of areas providing recreational activities;
- Elisabeth island: gardening opportunities for locals, bay for sailing.

Environmental issues of the greater area:

- Inappropriate use of agricultural land results in flood and erosion risks;
- Deforestation;
- Required revitalisation of land along the Danube;
- Presence of the border, environmental conditions and administration as barriers of joint development.

Actions of priority

The chapter named 'urban concept to spatial orientation' contains several goals and actions that were set out as priorities by the Joint Spatial Development Document that can be categorised in four main topics:

- Increasing the importance of Komárom and Komárno in a regional and international context: support for the development of key functions and job creating facilities: industrial parks, exhibition and shopping centres, logistic centres for intermodal transportation;
- Institutional development: establishment of cross-border health care, synchronisation of education with industry: education of shipbuilding and logistics management;
- Urban structure development: development of a complex touristic and historic site network, revitalisation of brownfield areas, riverbank revitalisation, public transportation development evolving around the central areas, reorientation of land use on Elisabeth island to mixed residential and recreational use, development of bicycle network;
- Cultural and touristic development: renovation of the fort system

Sectoral propositions

The last part of the body gives an extensive overview of possible actions to be taken divided to all sectors of urban development. In this part, the document becomes very explicit, suggesting locations and specific actions. As so, it can be regarded as the written version of map B, the spatial development map supplement.

Land use

The document sets the general principles and provisions for the changes in land use planning, with a special emphasis on creating functions and amenities along with the establishment of new residential, mixed, and recreational, touristic areas. The document plans ahead until 2021 and 2031. Greenfield revitalisation and brownfield investments, harmonisation of basic planning principles within similar land use categories, creation of a joint centre, connecting civil facilities, demolition of cargo areas on both sides near the centre and creation of a promenade, bicycle paths, beach, a new expressway connecting the two sides with bridges in the outer parts of the towns, housing investments to improve the social and age structure of the population are all ideas of ways to improve land use. There are significant plans to increase the number of dwellings on various locations in the middle-far term future to enhance population growth. These housing investments would take place on internal, brownfield areas and constructed in a way to fit into the small town atmosphere of the two towns. Investments in housing are directly related to job creating investments, these two factors are to be developed simultaneously and accordingly.

Housing

There is still a lot to be done regarding the large housing blocks built in the socialist era. These areas lack functions and facilities, the housing conditions are inadequate, and in need of renovation. By 2031, the population is projected to increase up to 46 000 people, which calls for the establishment of functions serving a bigger crowd, as well as multilingual functions that provide for a larger network of surrounding settlements on both sides. These proposals are broken down to plans for increasing the number of local amenities equally in the area of the towns, large town-wide municipal facilities, and specialised stores. Integrated social development is expected to be implemented in the field of health care, culture, education and tourism.

Tourism

The renovation of the fort system is repeatedly highlighted for its exceptional value. Tourism development includes the creation of accommodation on a big spectrum, thermal spas and the revitalisation of the Danube banks.

Economy

The shipbuilding industry is an important stimulator of the economy, therefore the rehabilitation and sustainable modernisation of this function is desirable. There are no major investment plans until the end of the crisis, except for the port renovation and the construction of a transnational logistics centre integrating water, railway and road transport.

Recreation

A great emphasis is put on connecting Komárom and Komárno with the international cycle routes and on creating all sorts of indoor and outdoor sporting opportunities in every part of the settlements, for both winter and summer. New commercial functions to the fort system as well as medieval representational activities are planned to be added.

Environment

The two towns already manage flood protection together; the left dyke on the Danube is the responsibility of the Slovak side, the right one is for the Hungarian side to maintain. Both Komárno and Komárom are rich in nature preserves and have an outstanding biodiversity compared to surrounding areas. Komárno has even elaborated a plan for ecological sustainability. An entire chapter is dedicated to environmental protection, with special attention on creating green corridors to the wetlands, river bank protection, designation of new urban green areas, and a green belt around both towns. The two towns have mutual interests in environmental protection, especially in the field of flood protection, but as far as the joint spatial planning document indicates, there is no demand for joint planning regarding this area. There are no other joint nature preserves of any sort, but the Danube and its bank are stated as an asset to be valued on both sides. Within the towns, this deserves special attention since the bank of the river is neglected and misused. The removal of spatial barriers is mentioned as a task in Slovak regional planning documents. The Danube and the Váh are both parts of corridors of regional significance in terms of environmental protection. The joint spatial plan suggests the creation of a framework to revitalise these corridors, to limit emissions, develop parks for recreational activities, create a balanced urban environment and to protect values together.

Public transport, road infrastructure

One of the biggest achievements of cooperation between the two municipalities is the decision to build a new bridge across the Danube that would connect the southern and northern bypasses, and relieve the town centre from heavy traffic that is the key to solving many other problems.

The reason Komárno proposes a third, eastern bridge is the belief that the western bridge will increase freight transport in the direction of Komárno centre, since the north-south transportation corridor will continue to traverse through the centre regardless of the infrastructural changes (Besse, 2013). The third bridge is proposed to be located east to Komárno, covering areas of the neighbouring settlement of Iza. It would lead from the Slovak route of I/64 connecting Komárno and Kolárovo, to the M1 highway in Hungary, connecting Budapest and Vienna. In Komárom, the completion of an internal ring road is also planned. The document also mentions an insufficient amount of parking space, which they aim to solve by creating more car and truck parks in cooperation. For freight transport, two car parks are available in the two towns. There are more planned to be built in parallel to the logistics centre construction.

Komárno is the biggest cargo port in Slovakia, and its enlargement is probable due to the fact that the waterway use of Váh is currently being planned. There is a cargo port on the Komárom side as well, called Rákóczi Port. A civil port is planned on the tip of Elisabeth island and below the Fort Monostori on the Hungarian side. For the creation of the civil ports, it is necessary to eliminate flood threats by improving the maintenance of existing flood protection dams and dykes; the most vulnerable part is between Komárom and Szin.

Suggestions for each town by the document

The final chapter also includes a summary of the above mentioned sectoral propositions. Besides general goals affecting both towns, town-specific local recommendations are also listed. (Part B is the reflection of the two municipalities to these ideas.)

- Emphasis on environmental protection and renewal;
- Ecological stability, biodiversity, balance, sustainable agriculture;
- Protection of parks, greenery, landscape, designation of new ones;
- Joint use of geothermal energy.

Recommended changes for Komárno

- Construction of the Eastern Danube bridge;
- Transcontinental logistics centre with companion facilities and services;
- Civil use of water, civil port construction.
- Development of Elisabeth island (touristic, greenery, residential);
- Increasing intensity of waterway transport according to the Danube Strategy;
- New technology park of biotechnologies, electronics, geothermal technology, etc. in cooperation with the University;
- Fort system rehabilitation;
- Construction of a new landmark with a view on the Island from where the whole fort system can be seen;
- Pedestrian and bicycle links between the two centres;
- Complete the internal ring road in Komárno;
- Gradual relocation of the cargo port – brown field investment, cafés etc.;
- Humanisation of housing estates;
- Protection of reserved areas;
- Renovation of customs post centre to sports facility;
- Bicycle paths, this is emphasized;
- New tourism centre.

Recommended changes for Komárom

- Construction of the Eastern Danube bridge;
- New communications – business – social centre in Razsped with public transport and pedestrian conditions;
- Spas, sport centres;
- Revitalisation of Danube bank and the dead branch.
- New pedestrian axis from thermal spa to the stations; new North-South pedestrian – bicycle axis from Fort Csillag to Fort Igmándi;
- New centre for cultural, tourism and trade development;
- Humanisation of housing estates;
- Development of centre, facilities, entertainment, civil infrastructure;
- Bike routes along the Danube;
- Transformation of water tower to lookout terrace;
- New civil port next to Fort Monostori;
- Gradual elimination of cargo port, railway on the bank of Danube.

CONCLUSIONS - ASSESSMENT OF THE DOCUMENT

ASSESSMENT OF METHODOLOGY

At first glance, there are some striking observations about the structure of the document. It has a very complicated story-line. Perhaps due to changes in translation, but chapter titles often have no interaction with their content which makes it very difficult to get a cohesive idea of the overall message of the document.

Another technical observation is about visualisation. The chosen elements are presented in one supplement map, however, with different colours, styles and legends on each side of the border. This makes reading the map time-consuming, the concept behind the paper gets lost. Putting all plans on one map is a big step for two cities from different countries. The next step in visualisation is to find ways on how to create one uniform and cohesive map (or a separate, schematic one). Illustrations and explanatory drawings also greatly influence the way a document is interpreted and helps in convincing less insightful stakeholders.

Aside these physical characteristics, the document's inner structure is also very complex. It seems to be harmonising all of the two towns' planning documents; strategic elements are mixed with the actions and design proposals of a spatial plan and even a land use plan. If assessed as the written record of a spatial plan, the document is very thorough concerning the description of different design locations, stakeholders and relevant regulations.



Overall, the document gives the impression that the developers aim to enhance a project-based, bottom up way of transformation. Each suggested action would lead towards the integration of the two sides in a yet unknown manner. Since this cooperation has no modern history, its direction could also go many ways depending on which suggested action, intervention gets the most enthusiasm or funding. It is a very open toolbox that aims to give suggestions within every aspect of urban planning. There is no theme, chosen strategic direction yet; it seems to be expected to be formed by a combination of projects.

These top-down decisions, however, are essential regarding a fruitful cooperation on the long run. It is certain that the two sides are willing to cooperate and it is also obvious from the proactivity of stakeholders and the availability of funding that this cooperation has a realistic possibility of a successful future. This stated it is highly necessary to provide a direction, a cohesive strategy for the long term.

If assessed as such strategy, this document can be upgraded with many fundamental elements, such as a concrete development direction, phasing of actions on a timeline, the reasoning behind each suggested action, or the interaction between these actions. The following questions are yet to be answered: What

does this strategy want Komárom and Komárno to look like in 20, 30, 50 years? (In which aspect do they aim to stand out from other cities? Is it tourism, industry, commerce, sustainability or viability?) How do planners want these actions to transform the two cities together and independently?

The document gives a very explicit list of possible and suggested actions of each problematic field. It makes no explanation, however, of why these actions are important, what they will result in, how they will affect other actions, or the present situation of the towns as a whole. There is no difference given between actions that are necessary to solve a threat, or merely possibilities that derive from the loosening of borders.

There is no explanation given on how priorities were selected, why are they crucial in order to achieve their goal. This goal, the main reason and direction of planning is also left – perhaps intentionally – vague.

Testing actions in different scenarios according to major variables enhances flexibility. This is an extremely important attribute in the case of Komárno and Komárom. Besides possible causes of climate change and economic situations, international political changes also determine the line of development not from one, but two sides.

ASSESSMENT OF CONTENT - THE DOCUMENT AS A REFLECTION OF THE REGION

Regarding content, the document is highly detailed, taking into consideration all sectors of urban development. Priorities are set, besides other possible actions in each field of development. Developers of this plan seem to have a deep knowledge and insight to the workings of the two towns and their legal frameworks separately. Great emphasis was given to fitting the development plan to the two countries' existing development frameworks. The thoroughness of the plan in this regard is very convincing to those who are equally familiar with both towns.

Results from the document's analysis show that Komárom and Komárno have unique characteristics compared to other towns of similar size: Together, they have double the facilities. This finding does not appear in the development document as something to emphasize or evolve. As an example, how do they imagine having two hospitals in the future? Should they merge, or specialise? How can they share each other's expertise and equipment in providing for a suddenly larger number of inhabitants and hinterland? The processes to harmonise, integrate these fine, fragile networks of facilities with each other are to be handled with careful long term planning and therefore deserve a place in a strategic document.

The document could put greater emphasis on the special spatial attributes of its 'research area'. It is stated that the plan is made for the integration of two cities but most of its suggestions could be given to any other town in Hungary or Slovakia. Taking the suggestion of enhancing the shipbuilding industry in Komárno (SK), it is not stated how Komárom (HU) could contribute, benefit from this action. How could this idea be combined with the fact that the shipbuilding factory is right on the border? How would its enhancement affect migration, sightlines, or the lives of Komárom's inhabitants? Is there a matching facility on the Hungarian side that could be combined with this action? Or an opposite one that would give complementing characteristics the Hungarian and the Slovak bank?

Another topic missing from the document is about the two train stations. These facilities are key elements in the urban structure, connecting the town with its region. Railways however fragment space and therefore are undesirable in the urban fabric. It is interesting to investigate whether it is necessary to have two stations? How far in the future could one of them be transformed, even eliminated? Could they divide function? Train tracks fragment space while the station in Hungary cuts the entire town off from the

water bank. In a non-border located town, a solution would be to relocate the train station at a great cost and difficulty, while Komárom, extremely speaking, has just been 'given' another station.

Another great opportunity regards renovation, construction periods. In the lack of funding, projects may take a long while, which, in other cities cause delays, lack of a function, limitations and therefore unhappy inhabitants. Komárom and Komárno, with reliance on each other's facilities would not have this problem.

There are countless similar questions highly interesting from an urbanistic viewpoint. A joint strategy could provide grounds to start explorative brainstorming, open creative discussions about the great opportunities hidden in a joint, long term future.



3. STRATEGY TO REALITY - CHALLENGES OF PLANNING AND IMPLEMENTATION IN CROSS-BORDER ENVIRONMENTS

Besides challenges in correlating available data that often regards different administrative units or different times, regulations and practices also greatly affect the possibilities of planning in a cross-border environment. These regulations and laws have to be followed by each planning or strategic document – regardless if they slow down cooperation or go against logic in unique environments along borders.

Another obstacle to tackle is the differences in local aspirations. After receiving the final version of The Joint Spatial Development Plan, Komárom and Komárno were given the choice to adopt or decline the proposed suggestions (Besse, 2014). Besides evaluating suggestions of smaller, local scales (rehabilitation of certain areas, buildings, monuments, etc.) the planning authorities have also given voice to their opinion on the probably most important segment of the document: the concept of the new bridge.

Concerning the better unification of the two towns, two problematic aspects have to be highlighted from the many others mentioned in The Joint Spatial Development Plan. Reasons for the selection were the following barriers (Németh, 2012):

- Limited accessibility (transport and infrastructural connections) – the lack of physical bonds is the biggest and most obvious barrier of commuting between the two towns;
- The geometrical centre, the area where the two towns are the closest to each other are occupied by vast, impermeable private industrial areas on basically the entire length of the town's riverbanks. This generates two conflicts:
- The railroads, shipyards and industrial buildings stand in the way of any possible visual connection. As the proverb "Out of sight, out of mind" explains, locals would be more aware of the other side if they had a possibility of seeing it;
- These private areas are not used accordingly to their central locations, they occupy perfectly adapted areas for recreation, sports or mixed use commercial areas.

The chapter explains these issues in detail.

3.1. DIFFERENCES IN NATIONAL LEGAL FRAMEWORKS OF SPATIAL PLANNING

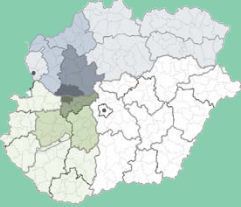
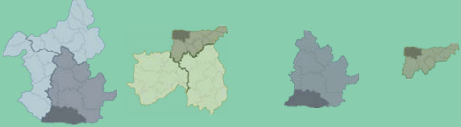

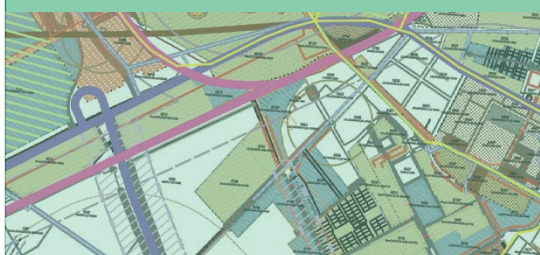
Level	Hungary	Slovakia
NUTS1 - National 	Law 1996. XXI., Government Regulation 218/2009. Regulatory plan and conceptual strategy	Law 50/1976, Regulation 55/2001. Conceptual strategy
NUTS2/3 - Regional/County level 	Government Regulation 218/2009. Regulatory plan and conceptual strategy	Law 50/1976. Regulatory plan
LAU2 - Urban level 	Law 1997. LXXVIII., Government Regulation 314/2012., Government Regulation 253/1997. Regulatory plan and conceptual strategy	Law 50/1976, Regulation 321/2011. Regulatory plan
Local level 	Law 1997. LXXVIII., Government Regulation 314/2012., Government Regulation 253/1997. Regulatory plan	Regulatory plan

Figure 25 - Legal frameworks by hierarchy in Hungary and Slovakia (Móricz, 2014)

Based on the research of Orsolya Móricz (2014), there are two major differences that need to be considered regarding planning documentations and their regulations between the two countries, presented in the table below.

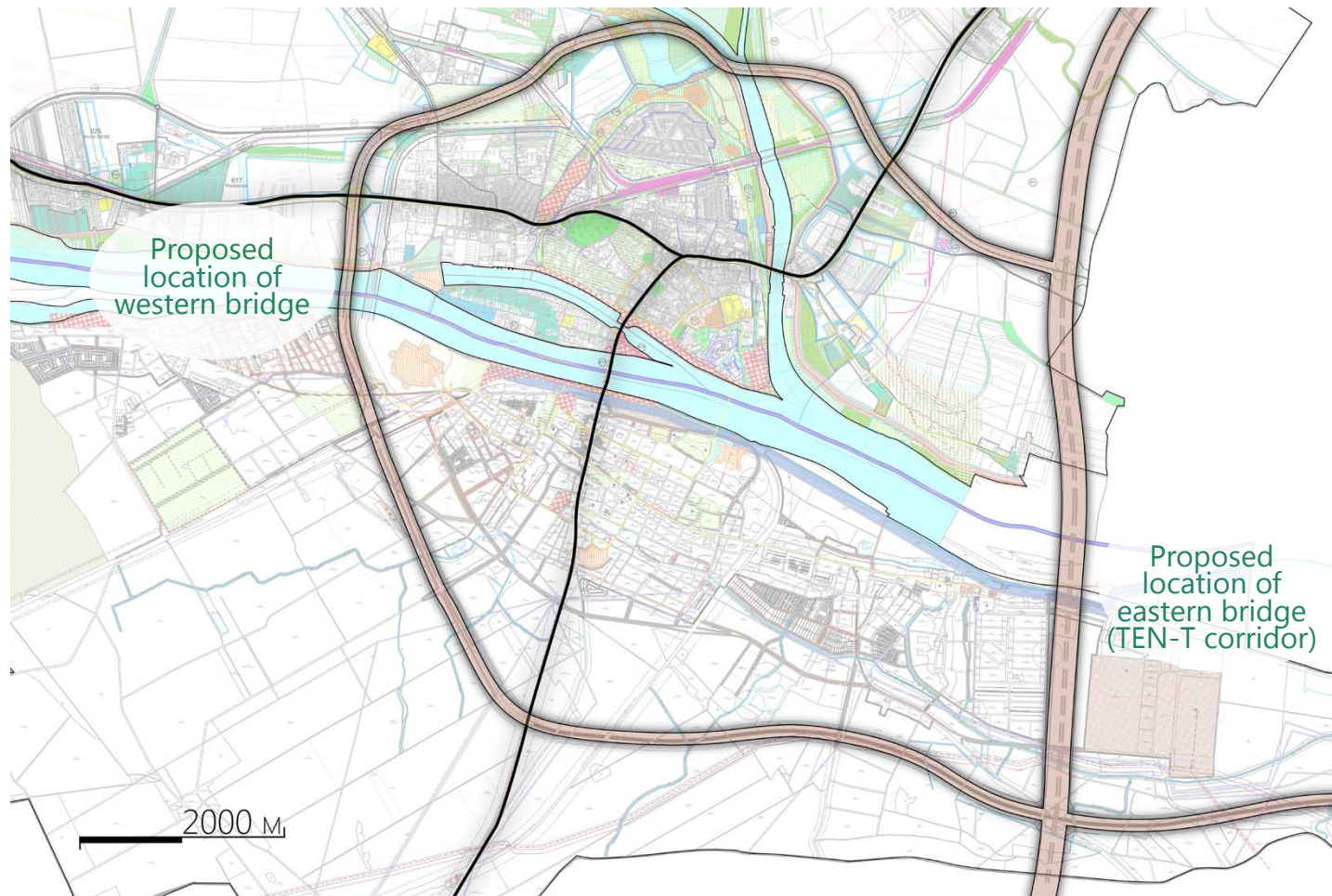
While strategic and regulatory planning has its own document on every territorial level in Hungary, the two topics are elaborated in one document in Slovakia. The other difference is regarding regulation: there are separate laws on regional and urban planning in Hungary, whereas in Slovakia, there is one law that enforces planning on all administrative units.

Another important difference when it comes to planning in the greater area of the cities is that while on the Hungarian side each settlement has its own municipal boundary and leading body, it is not always the case in Slovakia. Some smaller settlements might exist within the municipality of a bigger settlement. In the municipality of Komárno for example, there are several other settlements, such as Nová Stráž, Káva and Harčáš.

3.2. OPPOSING INTERESTS OF MUNICIPALITIES

The municipalities evaluated and rated recommendations provided by the Joint Spatial Development Document separately. Komárno accepted all of the changes; however Komárom revealed several obstacles regarding the position of the second Danube bridge. Reasons why the Hungarian side could not accept this plan were complex. Since every spatial planning document has to follow larger scale national documents, Komárom was not able to follow through with plans that were not included in higher scale plans (Németh, 2012).

Figure 26 - Location of proposed ring and Danube bridges. Base map: Zelina Architektonická Kancelária s.r.o., 2012.



The National Land Use Plan positioned the future bridge to another location west to town, whereas the joint document suggested one in the eastern parts. The location suggested by the Hungarian national plan also fitted the infrastructural and economic interests of Komárom, therefore the town accepted and supported the second version, and provided seven alternative solutions for Komárno to choose from. Even if less beneficial to Komárno, they accepted the new location of the bridge, and suggested to build a third bridge on the original location further in the future.

Following the negotiations, and the procurement of building permissions, construction has commenced on the Hungarian bank of the Danube along with a bypass encircling the town from the south. Even though the eastern bridge would have better fitted the interests of Komárno (it would have lifted freight traffic from the historic centre), they acknowledged the decision of the southern site, but have not yet (2015) started its implementation.

According to Katalin Besse, representative of the town planning department of Komárno, the construction of a third bridge is a plan of the far future, since it could only be built as part of an international TEN-T corridor. This scale of investment is decided upon by regional and national stakeholders. The location and route of the proposed bypasses and bridges are demonstrated on Figure 26.

3.3. OPPOSING INTERESTS OF THE PRIVATE AND PUBLIC SECTOR

One of the biggest conflicts between the public and private sector regarding urban and spatial planning is most likely to be about property issues. This also applies to Komárno, where most of the land along the riverbank is owned by private industries, such as the old shipyard, an oil transfer facility, docklands and several other smaller factories. These functions occupy the entire northern bank of Danube in the historic core of town, setting an almost indestructible visual and physical barrier between Komárno and Komárom (Figure 27).

Spatial rehabilitation on Elisabeth island faces similar difficulties: The island was parcelled and sold to many private owners during the socialist era, at present about half of the island has become a residential area with 1-2 floor houses. Although the other half of the island's area is not yet built in, the lots are used by owners as gardens, many of them with small vacation houses.

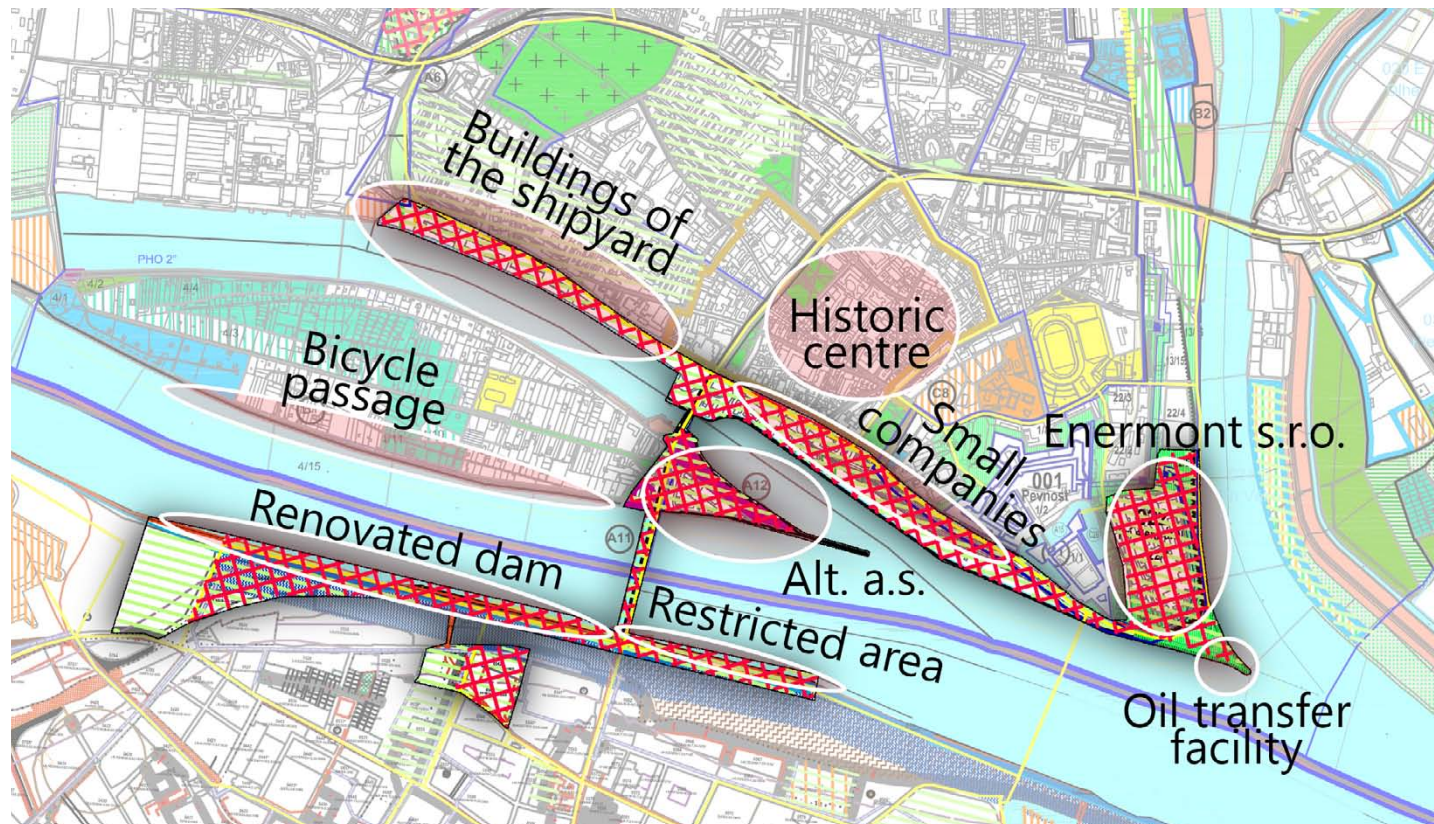
Both towns are struggling with private companies owning probably the most precious riverbank areas from both sides, creating a visually impenetrable barrier in between, besides stonewalling the Danube from the inhabitants. In Komárom, the riverbank is conquered by Hungary's railway company, MÁV Zrt., hence the entire length of the southern bank is covered by railroads, service tracks and dilapidated warehouses.

Crossing is only possible through Road Igmándy/Lehárova, which is a corridor to channel car and freight traffic across the border, hence is not suitable for pedestrians and bikers. The infrastructure and the dam along the southern bank have recently been restored and are in good technical condition. The road's southern side is occupied by small and battered residential buildings and buildings of the train station. The bank on the other side of the bridge is completely inaccessible for inhabitants since it is property of the Hungarian railway company.

The situation is slightly different on the bank of Komárno, where the river is relatively accessible. Along the southern side of Elisabeth island, the government owns a narrow band between the river and the residential area. This band provides space for a running and bicycle path; however, its poor condition and inadequate connections with the rest of the infrastructure call for renovation.

The Danube-Váh delta-bank is in the ownership of Enermont s.r.o., a middle-sized company that focuses on electric network construction, cable and electric equipment production. The tip of the delta is owned by an oil transfer facility.

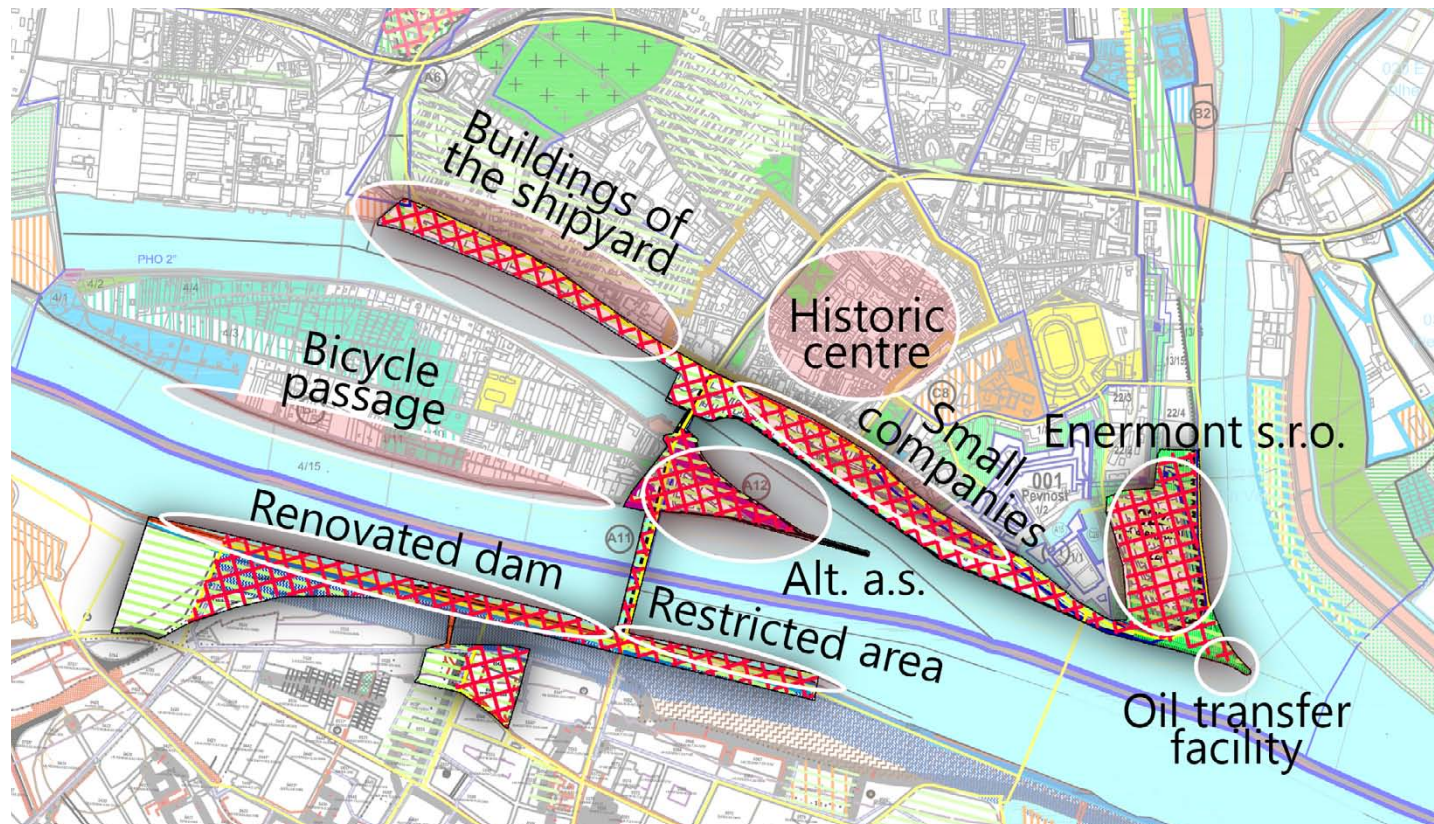
Figure 27 - Proposed areas of development in private ownership. Base map: Zelina Architektonická Kancelária s.r.o., 2012.



The area between the historic centre and the Danube is in the hands of the Slovakian SLKB a.s. shipyard, and used by several smaller companies located in old warehouses and newly built houses like KomBit Alarm s.r.o., an alarm system production and distribution company, ANTO s.r.o., a car rental company, a chirurgic ambulance, Mandau spol. s.r.o., a cosmetics distributor, PRO-HAND s.r.o., a protective equipment store, INSTALA s.r.o., a bathroom water installation store, ODEA s.r.o., a carwash facility, TONEX Plus s.r.o., a company producing floor heating and frost protection elements, Zalakerámia Rt., a ceramics and construction material store, etc (Source: Google Streetview, 2014).

Close to Elisabeth Bridge, two newly built office buildings await potential renters. In its direct vicinity, old and unused warehouses and small wooden installations with seemingly no utilization occupy of the riverbank within a restricted, guarded area owned by the shipyard. There are two tracks of service rail as well from the direction of the shipyard, laid all the way to the tip of the confluence.

Figure 27 - Proposed areas of development in private ownership. Base map: Zelina Architektonická Kancelária s.r.o., 2012.



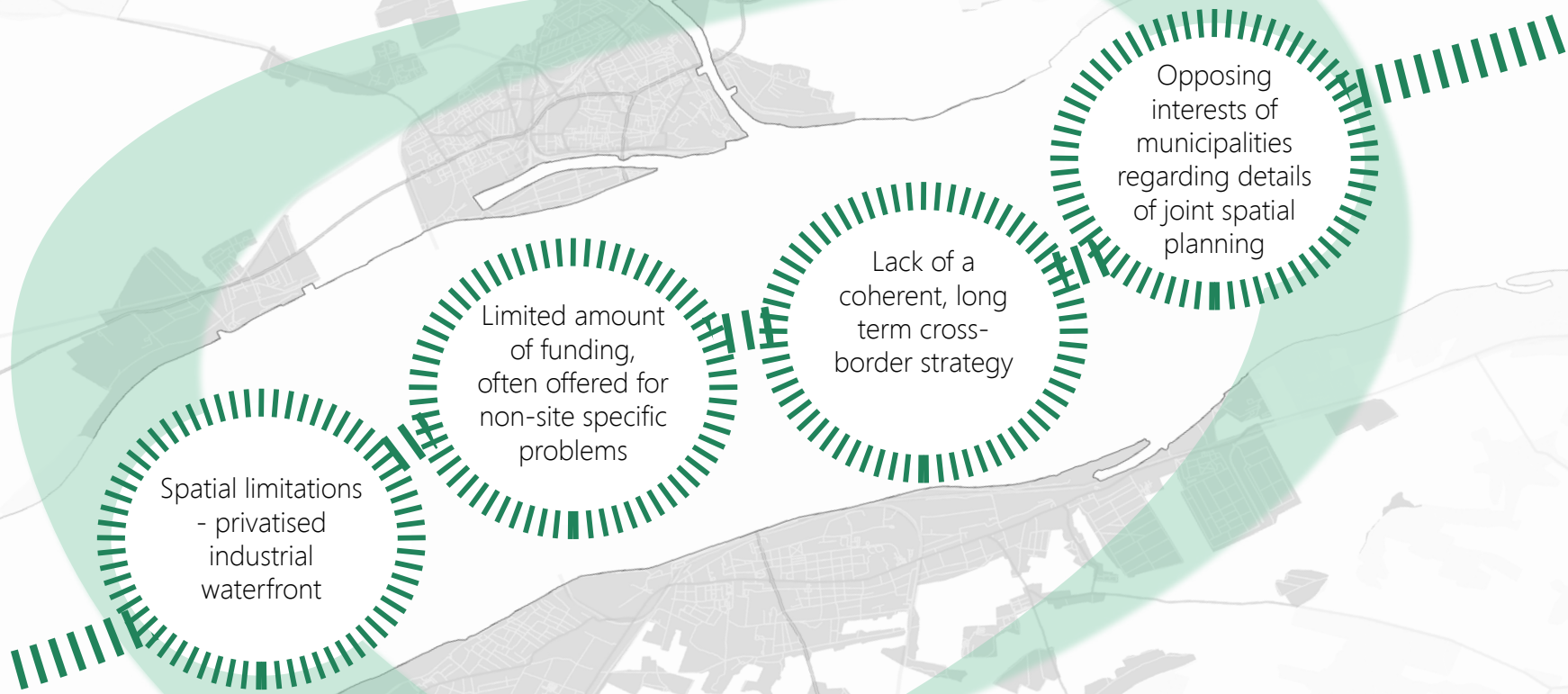
On the other side of the bridge, in the inner harbour lies the area of the shipyard and its connected facilities, like Prista Oil s.r.o., a Serbian oil product distributor, Donau Marine s.r.o., a small marine and yacht club for local owners. The shipyard still has shipbuilding functions. The government of Komárno wants to move the factory out of the harbour to the riverbank parts closer to the confluence, to the East of the historic centre.

The eastern tip of Elisabeth island is the property of ALT a.s., that focuses on constructing, selling and repairing small ships and is in a very dilapidated state.

These otherwise indisputably valuable areas could be rehabilitated with recreational and public functions if the municipalities reacquired them as public property so planning could begin. There are two traditional options to redeem the riverbank to municipal ownership. One of them is to buy the property back from their present owners, which is unlikely, due to the limited funds of the municipality, and the fact that these properties are not for sale at the moment. The other way is the expropriation of these properties, which is explained in detail in chapter **Expropriation**. Generally it is only possible in Slovakia, if the purpose of the expropriation is the construction of a new public road or other infrastructure element through the designated lot. This procedure also draws indemnification costs.

This conflict between private and public ownership is the biggest issue standing in the way of redevelopment of the central areas, and the solution has not yet been found.

CONCLUSION - THE CHALLENGES



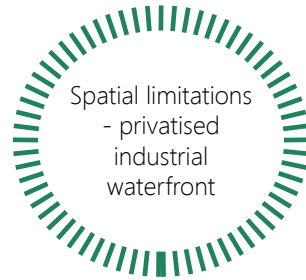
4. SUGGESTIONS AND WORKING EXAMPLES

To summarize all observations regarding the case of Komárom and Komárno, there are several challenges to be tackled on the road towards a well-functioning, integrated border region. There are differences in practices, customs, regulations and mentalities on the two sides, there are competing facilities and functions that keep the twin-cities separate entities. Some attributes prove to be qualities that need to be enhanced, while others have to be removed in order to give way to integration.

It is essential to discover future development possibilities by viewing working examples. For this reason, answers to questions raised by the analysis of joint planning in Komárno and Komárom are sought in a similar setting along the German-Dutch border.

Besides being familiar with the spectrum of possible actions and their consequences, financing is a lot more pressing issue. The chapter presents ways to finance selected actions to be taken, specifically focusing on the integration of Komárno and Komárom.

4.1. WAYS TO SOLVE SPATIAL AND FINANCIAL PROBLEMS



One of the biggest barriers of uniting centres is the privately owned areas that create a separation between both the two towns and between the locals and the Danube. Besides possibilities of expropriation, this chapter lists innovative ways this conflict can be solved in, ways that may be beneficial for the municipality and the private owner as well.

EXPROPRIATION

Regarding expropriation in Slovakia, Building Law 50/1976 Zb. (Stavebný zákon - Zákon č. 50/1976 Zb. - úplné znenie) §108 - §111 lists all regulations, provisions and possibilities. According to the paragraphs, it is possible to expropriate privately owned land for purposes of public interest, in case of health and environmental hazard, for creating accessibility of other buildings or areas, for creating environmental monitoring stations, the construction and management of highways, roads and local roads, the construction of water, gas, electricity or other plants and distribution networks, the extraction of minerals, the construction of military facilities and sites, for the proper conservation of historic monuments, to ensure the operation of railroads, airports, etc.

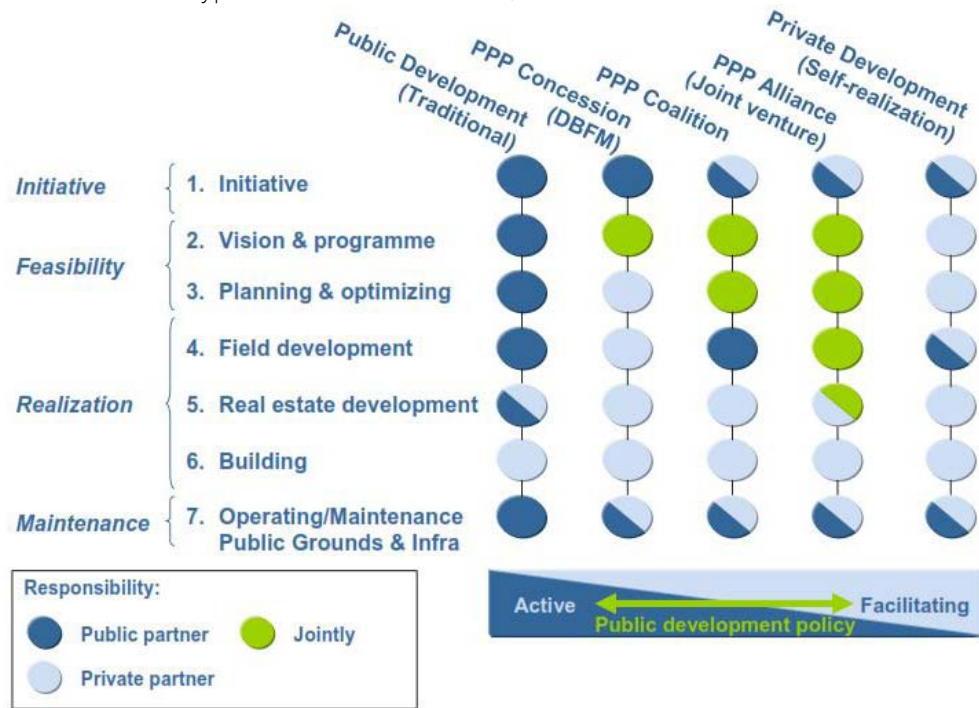
By expropriation, the authorities may limit or completely take ownership of given land for the above mentioned purposes, with very strict rules, supervision and compensation.

Hungarian expropriation laws are similar, determined by Law CXXIII. of the year 2007. It declares that expropriation is only possible for public purposes, in exceptional conditions, with immediate, complete and unconditional compensation in cases determined by law.

These cases include the placement of buildings or constructions regarding military, urban or regional planning, compulsory educational, health care and social facilities, maintenance of infrastructure, energy production and distribution, mining, electronic communication devices, protection of cultural and natural values, water management, protective forests, nature protection, sporting facilities and government facilities.

There are possibly many other, friendlier ways to transform the areas in question into places that both private and public actors can benefit from. The most suitable ones are presented below.

Figure 28 - Different types of PPPs. Source: Glaser, 2005.



PRIVATE PUBLIC PARTNERSHIPS (PPP)

This form of cooperation enables the realisation of public projects with private funding, which may refer to construction, maintenance and/or operation of public utility systems, infrastructure, housing development areas parks or other types of publicly used spaces (Glaser, 2005). Ideally, the cooperation is beneficial for both parties: the public institution succeeds to provide quality service for the community, with a low equity contribution and the private company receives certain rights and an income for the service provided.

There are several distinguished types of PPPs, depending on the roles the government and the private investor has which are presented on Figure 28.

In the case of Komárno and Komárom, the initiative, vision, and programme is definitely from the side of the government, while the participation of the private owner would be required regarding, reconstruction, the provision of space to the public, and maintenance.

In this view, PPP Coalition and PPP Alliance are the types most suitable from among the already existing practises, most widely used in the Netherlands. The main difference between the two is on grounds of responsibility. Ownership however, always belongs to the public sector, which makes the case of Komárno unique and calls for the invention of a new PPP practise. Types of PPPs are distinguished based on seven different aspects (Figure 29).

In a Coalition, the public sector bears the responsibilities of land exploitation since it is a public property, while the private party holds accountability for building and real estate-related matters. In an Alliance, all responsibilities, risks, benefits are shared on a 50-50 % basis. This also means that the private sector is drawn in at a very early stage of development, sometimes even before development plans are defined. This also allows the private party to influence the desired outcome of the project.

Figure 29 - Seven characteristics of PPPs. Source: Glaser, 2005.

PPP aspects
Parts of the project chaing (Design-Build-Finance-Maintain-Operate) that will be subcontracted to the private party
Operating responsibility after completion
Integration benefits due to lifecycle approach
Risk allocation
Level of certainty for the parnters involved
Influence level of the government involved
Attractiveness to financiers

REVIT PROJECT

The aim of the programme is to create viable urban environments by the revitalisation of deteriorated industrial sites, which is already in operation in many European cities and towns (Stuttgart, Nantes, Tilburg, etc.). The programme uses Public Private Partnerships combined with other new financing techniques to cover all related costs (Glaser, 2005).

In reference to Komárno's and Komárom's public owned property issue, the project of Tilburg (NL) is an outstanding example within the category of a PPP Coalition.

The land in question there is owned by three private real estate development companies that wished to revitalize industrial heritage buildings into residential areas with suitable living conditions. Even if the desired use of the area is different from Komárno's wishes – of establishing brownfield recreational areas and passages –, this project clearly demonstrates the possibility of successful private-public cooperation on privately owned land.

The implementation was financed from both parties.

Another feasible example is located in the town of Hengelo (NL), where ownership of lands of

old metal industry companies is shared between the government and private investors, making it almost obligatory for the two to work together. Just like Komárno and its shipbuilding tradition, the town of Hengelo was once famous for its metal industry. Hence buildings on site are part of the town's heritage, parts of which was preserved besides employing it with new functions.

This project is a living example of public and private parties being able to cooperate with shared ownership, the question is whether Komárom or Komárno has the option and the funds to purchase parts of brownfield land when the opportunity comes. This is where EU funds and subsidies could possibly be of great help to the government.

The government of Nantes (F) shares ownership of an island near the city centre, the Ile de Nantes with a number of private companies. As an important aspect of the revitalisation works, the island's buildings and edifices of once maritime and port functions are highlighted. As the result of this initiative, private owners and the government have decided on developing the area jointly. The operation is coordinated by an external joint occasional developer. The cooperation has a set duration of 20 years.

Suggestions for Komárom and Komárno regarding the REVIT Project

The REVIT Project is a suitable opportunity for the case of Komárno and even Komárom, since the name itself stands for brownfield *revitalisation*. The projects presented above all have different characteristics, ownership statuses and demands, which implies that the REVIT Project enables the establishment of tailor-made solutions. There are many areas in both towns where such solutions could be applied, which are presented on Figure 27.

In the case of Komárno, there are two locations desirable to be partially transformed into recreation areas. The first one is the area between the historic centre and the Danube, highlighted on Figure 27. The entire riverbank area is owned by the shipyard, SLKB a.s., but used by small companies in the marked area. There is also a pair of tracks connecting the shipyard with the oil transfer facility. These functions are desired to be removed from the central areas; however the government does not have the funds or the possibility to purchase ownership rights over the territory.

The opportunities provided by Private Public Partnerships may bring a friendlier solution. The land where the government has redevelopment and brownfield revitalisation plans are 100% owned by the private actor, but – as it becomes obvious from the amount of leased areas –, it is clearly underused. Based on the examples presented above, and with the help of an external financier, the government could have a possibility of renting, or even purchasing pieces of land from the shipyard that currently stand vacant.

The REVIT project published recommendations called the "*REVIT Selfguiding Trail*" that guides interested parties to cooperation. Recommendation packages regard main topics, the engagement of stakeholders, financial and marketing recommendations, heritage, sustainability, environmental techniques and natural assets management. For more detailed guidance, each government with a successful project can be contacted.



4.2. TOP-DOWN FINANCING

INTERREG V-A SLOVAKIA-HUNGARY COOPERATION PROGRAMME, 2014-2020

Since the project *“Harmonisation of planning documents”* (HUSK/0901/1.5.1/0005) that brought The Joint Spatial Development Plan to life was financed by the Hungary-Slovakian Cross-Border Cooperation Programme 2007-2013, the option of applying to the new period in the framework of the Programme’s successor, the INTERREG V-A Slovakia-Hungary Cooperation Programme for 2014-2020 is a new possibility. This new programme has been finalised in September 2015, there are five priority axes determined. These axes will determine the categories within which tenders can be submitted, below those axes the ones that have relevance for the two objectives mentioned in the Present and future challenges chapter are highlighted.

Priority axis 1: Nature and culture

This axis contains the most elements that a joint rehabilitation of cultural centres may fit in. Expected results of the winner projects are the following:

- “Better utilization of the regions endogenous natural and cultural potential in supporting the sustainable development of local economies;
- Further integration of originally cohesive landscapes by improving the accessibility of natural and cultural heritage sites;
- Increase in social, economic and territorial cohesion by supporting joint cultural and nature conservation activities;
- Increase in the number of visitors in the programme area”

If partial rehabilitation of the brownfield areas is carried out in the framework of the renewal of the two towns’ fort system, this axis may provide possibilities. Examples mentioned by the document include major cross-border cultural heritage site redevelopment, with the renewal of all additional facilities: “heritage renewal strategies, studies and plans, reconstruction, building of related infrastructure like car parking, to site signage, visitor centres, access roads, small bridges, etc.”

Among others, possible beneficiaries are municipalities, public and private institutions and EGTCs.

Priority axis 2: Enhancing cross-border mobility

This axis may be a solution to lift the heavy vehicle traffic of Elisabeth Bridge, either by its renewal or the construction of a new pedestrian bridge. This investment could also include the renewal of the bridgeheads.

The axis supports the following examples: “preparation of particular investments: elaboration of studies, analyses, feasibility studies, technical plans, purchase of permissions; construction of cross-border roads, bridges and ferries and related infrastructure.”

Only public institutions and municipalities are named as beneficiaries, therefore the financing of investments would be operated completely by the municipalities.

NATIONAL OPERATIONAL PROGRAMMES

Hungary

TOP - Regional and Urban Development Operational Programme, 2014-2020

This funding opportunity is offered by the Hungarian Government within the framework of the Operational Programme. Approximately 1 000 000 000 EUR is allocated to enhance economic development with sustainable spatial solutions.

The objective of the funding is principally the creation of job opportunities and optimal economic conditions for enterprises by the development and rehabilitation of environments.

Development initiatives are categorized to 7 priority axes, including the establishment of a "Development and renovation of business-friendly and population retaining urban environment" (TOP, 2014, p. 77).

This description fits the possible brownfield rehabilitation aspects of Komárom and Komárno (TOP subsidies however can only be applied for interventions on the Hungarian side). In its subsections, the following goals are determined:

- Establishment of a safe and functionally rich urban environment, including the multifunctional utilization of brownfield sites and their re-integration to the urban fabric;
- Improvement of urban environment (increasing green surfaces, improvement of existing ones, and related actions)

This programme aims to develop marginally positioned regions and towns that are usually left out of mainstream development axes.

Slovakia

Integrated Regional Operational Programme 2014-2020

The programme is managed by the Ministry of Agriculture and Rural Development of the Slovak Republic. Its main objective is to improve living conditions through development of transport and related facilities in rural regions and cities. There are 7 priority axes determined, including "*Strengthening of cultural potential of the regions and infrastructure of tourism*" (ROP, 2013, p. 133) which can be utilized to develop Komárno's forts, and "*Regeneration of settlements*" (ROP, 2013, p. 138), that includes brownfield regeneration and waterfront revitalisation.

Integrated Infrastructure 2014-2020³

This programme provides funding for the local realisation of European infrastructural projects, such as the TEN-T network, therefore providing funding for the eastern Danube bridge to be constructed. As a priority, it also aims to "*Developing and rehabilitating comprehensive, high quality and interoperable railway systems, and promoting noise-reduction measures*".

NEW TOOLS IN CROSS-BORDER FINANCING IN 2014-2020

The CECICN, Conference of European Cross-border and Interregional City Networks has investigated the viability of several options fit for cross-border funding, such as the Integrated Territorial Investment (ITI), the Community-Led Local Development (CLLD), and the Joint Action Plans (JAP). Conclusions were drawn from the first implementations of these tools, one of which might be a good fit to bring locals invested in the development of their own region. The tool can also be useful to ease the workload concerning joint planning.

ITI and CLLD (CECICN, 2013)

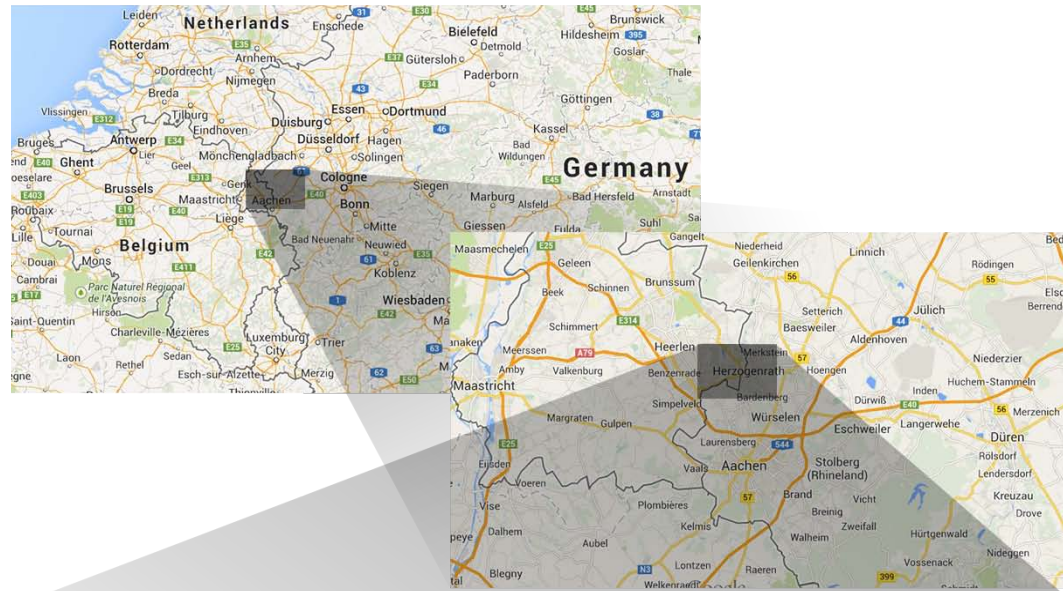
Integrated Territorial Investment (ITI) is a type of funding offered by the European Structural and Investment Funds (ESI Funds) within the 2014-2020 EU programming period in four different Funds (the European Regional Development Fund, the European Social Fund, the European Agricultural Fund for Rural Development, the European Maritime and Fisheries Fund). Both bottom-up and top-down initiatives can be subsidized by ITI, if they focus on solving site-specific territorial problems within given settlement or region. As described by the Cohesion Policy 2014-2020, "ITI is an instrument designed for a place-based approach to development that can assist in unlocking the under-utilised potential contained at local and regional levels".

Community-Led Local Development is another financing tool channelled through ESI Funds. It especially focuses on helping bottom-up development initiatives on sub-regional levels, ones that have strong site-specificity and focus on unique local needs. Local context is a key element, and in its methodology, the importance of building connections and cooperation is also present.

CLLD aims to involve locals to create coherent development strategies, to make locals imagine the future of their own region based on data gathered in the context region. The fund enables locals to act outside of the hierarchic, top-down frameworks of planning and give voice to their own needs based on deep knowledge of their home region (European Commission, 2014).

The problem with both financing opportunities is that cross-border regions cannot apply as one entity. If Komárno and Komárom wishes to use these funds to improve integration it must be done separately. Such interventions are to be identified that stand on their own, yet simultaneously they have an integrative effect. If communication between the planners of the two sides is fluent, separate interventions can be introduced in a way that it brings development to both sides as an added value.

Figure 30 - Location of Kerkrade and Herzogenrath
(Google Maps)



4.3. A CROSS-BORDER CONURBATION - EURODE

KERKRADE-HERZOGENRATH (NL, D), AN EXEMPLARY COOPERATION IN WESTERN EUROPE

The towns of Kerkrade (approx. pop. 47 000, NL) and Herzogenrath (approx. pop. 46 000, D) lay along the sides of the Dutch-German borderline (eurode.eu, 2015). They are situated in a highly urbanised, yet rural setting, their built up areas have grown together in several parts. If the visitor is not familiar with the slight differences between German and Dutch architecture it is impossible to determine where the border exactly is. Materials and street furniture are identical, so are the signs: they are bilingual in each town. The two towns alone make up about twice the size of Komárno-Komárom; however, since they are located within one of Europe's largest and most elaborate cross-border cooperation areas, learning from this level of integration is undoubtedly beneficial for the future development of Komárom and Komárno.

The two towns in fact belonged to the same rule before the borderline between Prussia and the Netherlands was drawn back in 1815. Just as in Komárno-Komárom, the border between Kerkrade and Herzogenrath has been shut down periodically in the 20th Century due to political differences. Up until the fall of the Berlin wall, inhabitants and the towns aimed to turn away from each other mentally and physically. A wall between the towns on the street Nieuwstraat was present until 1995, after which territorial and institutional unity could be established, along with a deeper sense of belonging among inhabitants. The two towns joined public bodies with the name 'Eurode' (Rode was the name of the realm in which the two parts were united for the last time) in 1998. Eurode is the first formal public body with members from two different countries.

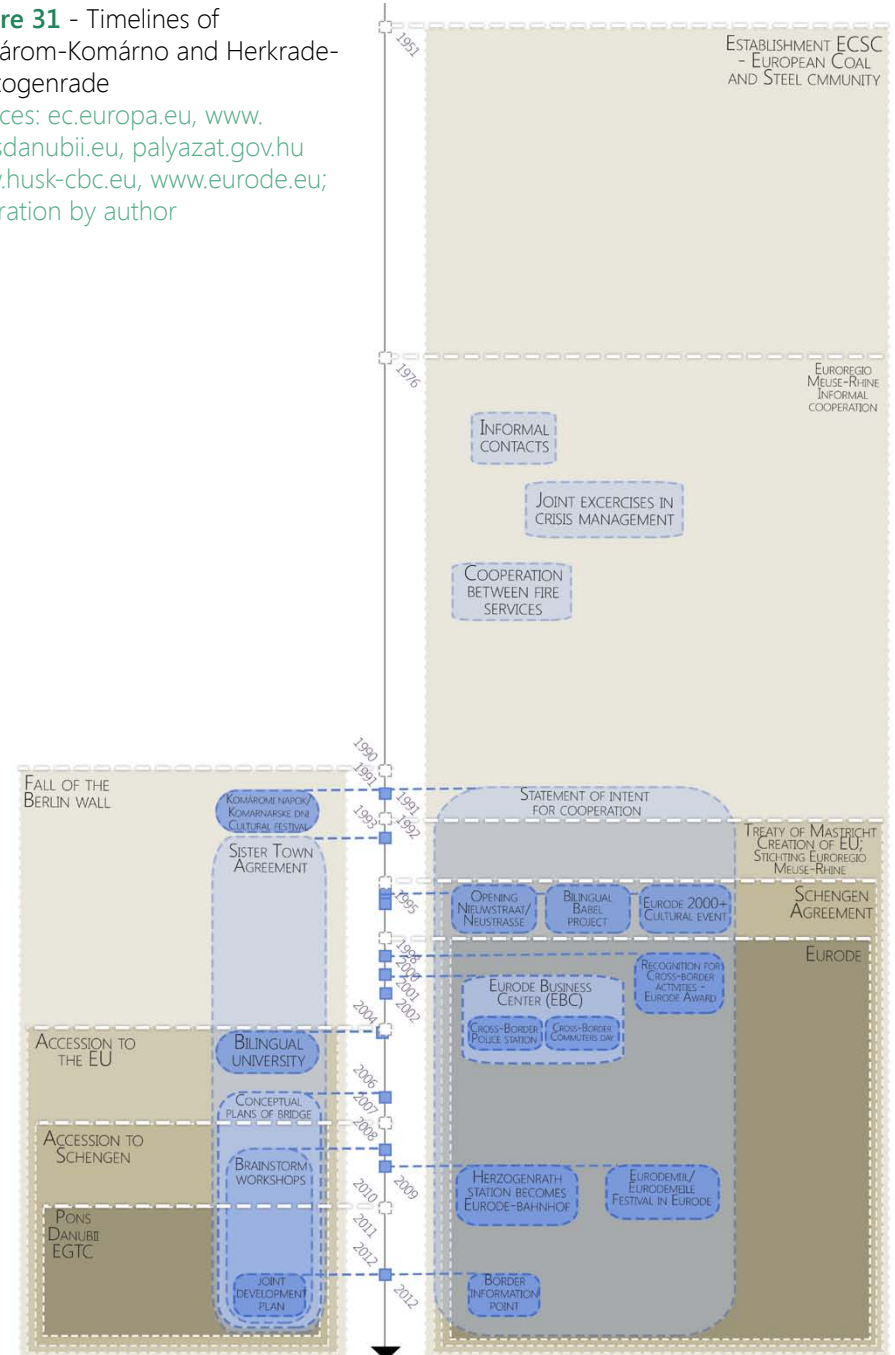
This cooperation is a great example of a successful cross-border cooperation based on practicality and logic. Putting aside historic differences, the sole focus of urban planning is on creating a beneficial environment for economic growth and a viable environment to live in.

As it can be observed on Figure 31, the theoretical framework (ESCS) predetermining cooperation exists for a much longer time in Western Europe than in the eastern parts due to political reasons. Aside from some small scale informal initiatives the real aspires to working together started with the Treaty of Maastricht (EU) soon after the wall of Berlin fell.

If regarding the time passed from framework to initiative, Komárom and Komárno were just as eager in recreating a common identity, starting a joint cultural event one year after the strictness of their shared border loosened up.

It is striking when looking at the development of cooperation in both cases is that as soon as some legal obstacles were removed, locals almost immediately reacted on it with an initiative. Development in cross-border environments is almost always project-based, where separate actions are realised before a cohesive strategy is provided. This is an organic way of urban development, since it is more the local stakeholders and less the leading authorities that feel responsible for their realisation. The role of urban planning in this environment is therefore to allow, legally enable and guide what locals have already thought of.

Figure 31 - Timelines of Komárom-Komárno and Herkrade-Herzogenrade
 Sources: ec.europa.eu, www.ponsdanubii.eu, palyazat.gov.hu, www.husk-cbc.eu, www.eurode.eu; illustration by author



HARMONIZATION OF PLANNING PROCESSES AND INTERESTS IN KERKRADE-HERZOGENRATH



In the case of Eurode, the goal of becoming a successful economic and living environment is regarded as the primary and most basic foundation to justify the efforts of creating a joint future (Eurode, 2015). The main and final intention of the upper management of the towns was the creation of a common identity of dual nationality, which automatically induced that the harmonisation of administration was a mere tool, not the result.

This opportunistic, rational mind-set helped shared issues be regarded as windows to bring the two sides to working together. The coal crisis in the 1960s was such catalyser of cooperation. Since both sides were hit with issues of the same kind and gravity, they were open-minded enough to realise the answer lied in joint planning in order to rehabilitate the economy and also stay in competition among other towns in the region. This was the impulse that launched the long term integrated cross-border cooperation. The need for further cooperation rose from the growing number of Germans settling in the Dutch town of Kerkrade. This resulted in housing shortages and integration problems that the municipalities attempted to

resolve with a complex plan. Large residential areas were constructed on the German side to ease housing problems. In-settling Germans created internal communities blocking out integration, therefore the cooperation decided to launch bilingual courses and establish bilingual and bicultural institutions under the name of 'Eurobabel' project. The incomers have also demanded the expansion of the labour market, a technology park and a cross-border business centre (EBC) was established. Migration has changed direction since: Dutch citizens choose to live in Germany in growing numbers (Eurode, 2015).

Just as it could be observed in the case of Komárom and Komárno, the need for cooperation was also demand-oriented, induced by organic processes shared by the two cities. In the Komároms, it was first the idea of a bridge – due to insufficiency of infrastructure – that turned authorities towards cooperation.

In Eurode, shared social and housing issues launched this cooperation that later evolved into joint governance. To provide the best possible services for locals, the two municipalities have formed the Public Body Eurode to act as a framework for cross-border cooperation initiatives, which provides different rules for insurance, taxation and other benefits to those with a registered residence in the municipalities participating in the regional cooperation EMR1 (Aken - Parkstad - DG Belgie). This initiative has been successful, there are many examples within the two towns where rules apply differently than national regulations do. Eurode itself has a mixed staff, 50-50% from both countries. Cross-border actions are also made possible for fire brigades, libraries, employment agencies and cultural institutions, besides some unique public safety and traffic regulations. The Eurode has two governing bodies,

the General Council and the Executive Committee. The chairman position of the council is filled by the mayor of each town alternately. It is important to mention that actions could only be initiated after defining comparable territorial units and administrative districts. To solve the issue of unavailability of data, the EMR has decided on making its own statistics. The municipalities are considered service providers not ruling authorities. The Public Body Eurode is mainly financed from European funds through the EU, but also the municipalities' own resources from taxation are invested (Hoever, 2015).

The Eurode train station is a great example of putting aside municipal interests. Both towns had their own train stations before the beginning of cooperation; however it was soon observed that inhabitants of Kerkrade chose to travel through the station in Herzogenrath due to its better connectivity. It became clear that for the inhabitants of both towns Herzogenrath is the better location in investing in the train transport, thus earning the name Eurode Bahnhof. The station in Kerkrade still exists with local connections. It is a project that seemingly had more benefits to one side of town but in fact, it made it stronger, more integrated as a whole.

The case of the Eurode is a demand-based development, based on strong historical and geographical connections besides an open-minded and flexible community. This example presents that, "once practices become institutionalised, people employ these frameworks in formulating their activities" (Ehlers, 2007). This thought can be continued, once it is made more beneficial for people to cross the border or to use the border space in between instead of staying on one side, they will most probably do so regardless of previous habits.



In cross-border environments it is extremely difficult to predict future situations due to the multitude of variables. In the Meuse-Rhine Euroregion there are three different countries whose political changes can completely turn development directions around (Eurode, 1991). To be able to face, react to or withstand these changes, cross-border bodies have to update each other constantly in order to have the flexibility and adaptivity in planning. This concludes that when thinking in the long term, it is always better to work in a bigger group, to create a certain cross-border niche where national influences are somewhat overruled by cross-border policies (Hoever, 2015).

Emphasis once again is not on making cooperation. It is on making much needed connections, opening blocked flows, and if that happens to be between Kerkrade and Aachen, that is where the problem is solved. Issues never arise only between two towns, this is the reason being in a bigger group is crucial. Within this regional group, municipalities are free to cooperate with whom it is most logical or necessary. There are more opportunities and therefore more adaptivity to change.

Even though it is hard to come up with a definite strategy it does not mean there should be none. The first published planning document of 1991 was similar to that of Komárom/Komárno. It contains a thorough analysis followed by several project proposals in all fields of urban planning. After the launch of many successful projects, the joint municipality decided to give a direction to joint planning in 2012. Workshops and field trips were organized to find out what could and should be improved regarding existing projects, what kind of new initiatives are possible or needed.

As an outcome of the investigations, a Toekomstvisie (Vision for the Future, Eurode, 2015) was published in 2015 that summarizes the overall goal of the Openbaar Lichaam Eurode (Public Body of Eurode) for future development. The document is structured in three parts.

The first one introduces four main focus points that were selected as priorities from among the many ideas, given that the Body had no capacity to carry all of them at the same time. This prioritisation took into consideration the urgency of each project, but also of the scope of their effects. Introducing the right interventions helps creating enthusiasm and willingness of stakeholders for others. This task-list determines actions for the next 3-5 years as a short term vision.

They are the following:

- Cross-border integration of spatial planning in local projects – more interaction between planning bodies (Urban planning departments);
- Focus on sustainability – construction of a solar park;
- Theatre exchange, joint use of sporting facilities with other towns;
- Bringing a win-win situation in work-related mobility – based on real-time data on surplus-demand.

The second section of the document gives an extended list of further possible and necessary actions in each field of urban management (including joint urban management itself as a topic, besides education, public order, fire safety, traffic and public transport, information sharing, mobility and work-market, sport and culture, and financing).

As opposed to the first section, its contents act as guidelines, toolboxes for the long term future. It is a flexible set of ideas that, based on changes in unpredictable variables of the future, can be altered. It aims on combining running projects with new ones in each selected field. In each field, a paragraph is dedicated to the general aims and directions, involved parties, followed by 2-3 pressure points, project-ideas that guide development toward the selected direction. This way, even if the future is uncertain, there is a list of concrete options, actions as a toolbox to choose from given the turn of unpredictable processes.

As a guiding theme, summary to the vision, a slogan has been chosen: “Think European, manage regionally, and act locally!” (Eurode, 2015). Strategic decisions are made as a group on a regional level which are then implemented as actions in Eurode and all participating municipalities.

CONCLUSIONS - LESSONS FOR KOMÁRNO AND KOMÁROM

Sources of icons:
www.ciker.com;
softicons.com;
illustrations by author

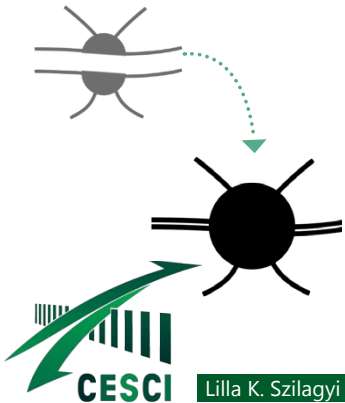


As Kerkrade and Herzogenrath presents, cross-border urban development has unconventional, almost organic ways. These cities, being pioneers in cross-border cooperation, had no examples, references as guidance for the future. Every step they took together out of necessity. They were faced with a demand and they discovered that together they can solve it. Cross-border locations are areas of innovation, where initiatives seldom have previous precedents. Steps have to be taken regardless of its uncertainty of success, and it has to be accepted that certain projects will fail.



Looking at the timelines of the two twin-cities, Komárom and Komárno are to take as many opportunities, launch as many projects as possible to create faith and reliance on the other side of town. These projects are the foundation to a more resilient cooperation; each successful project strengthens their inner bonds. Their management and strategic part comes afterwards, as some projects become strongpoints of the new conurbations and some others loose importance.

It has to be realised that the municipalities are partners; that one half is just as invested in the development of the whole region as the other. With the border gone, it is not a race of which side has more job opportunities or quality neighbourhoods. It has to be functional as a whole. Setting up a joint public body or committee that the two cities share is a good way to get impartial ideas about the joint future.

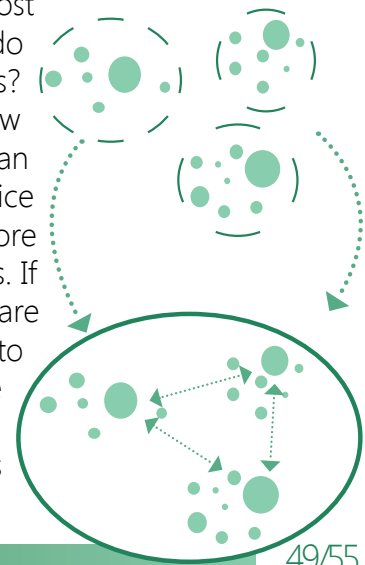


Another lesson to be learned from Eurode is their strong connectivity with the upper-level cross-border body they are in. Propositions, demands can arise from sudden political shifts or decisions, such as the introduction of a toll on the highways of one of the countries, changes in taxation, studying possibilities, etc. Against these changes, one town's request alone is not influential enough.

In these cases, Eurode is just as affected as the entire Euroregion, where legal frameworks are already set up to support or shield inhabitants. Residents of participating municipalities live in one unified transitional zone between three countries and are therefore exempt of many national rules, which was made possible due to the size and power of the Euroregion. The Pons-Danubii EGTC, the Arrabona EGTC, the Ister-Granum EGTC are all small groupings along the Slovak-Hungarian border with only a few participating towns. To facilitate the governments adjusting national frameworks and administration, it is easier to regard the entire border region as one coherent entity.

Having a higher level body increases influence, but also helps in creating a new side-layer in the hierarchy of administrative units. Within the grouping, committees can be set up to gather relevant statistic data for participants who wish to be up-to-date on what is happening on the other side, coherent and comparable data can be gathered from migration flows and habits. In the Meuse-Rhine Euroregion, monthly round-table discussions are also held where representatives of national governments and local stakeholders meet to exchange information and demands.

In Western-European mind-sets, creating a competitive, resilient and coherent region is the biggest goal, for which putting aside personal and national differences is an obvious step to make. This way of thinking is greatly fuelled by economic aspires. Regional strategies focus on the following questions: How can our region be the most prosperous? How can we invite innovative enterprises? What do our inhabitants want, and how can we increase their numbers? How can we improve the quality of life, and public health? How can we change their attitudes to live healthier? In essence, urban planners want to give inhabitants and businesses all the service they need (at a reasonable price/taxing) to be able to work more efficiently, without any disruptions or 'unnecessary' hardships. If goals hit some walls such as national borders, these borders are consciously and delicately cut through. Every stakeholder wants to be more prosperous, no matter the side of the border they are on. This reason, the value of prosperity, drives the overcoming of historic differences that are no longer relevant, to adjust laws that no longer serve the development of the region.



SUMMARY

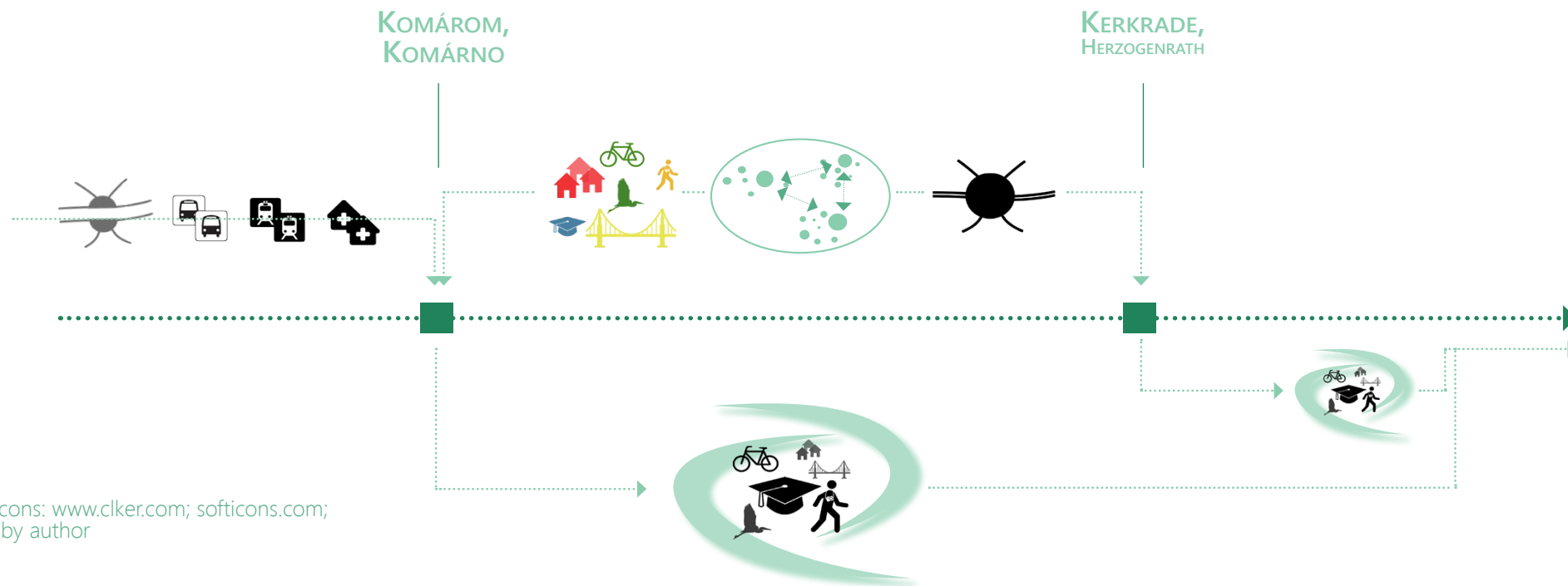
The barriers that formerly made it impossible to work, attend school or have a doctor's appointment on the other side of the border were rapidly breaking down all over the European Union until the summer of 2015. As mentioned several times in this paper, cross-border regions are a lot more exposed to political shifts than inner regions of countries. The development of border regions does not only depend on the relation of the two countries but also on the decisions made in Brussels, Strasbourg and events happening outside of Europe. The future of these border regions depends very directly and very sharply on the highest levels of international decisions.

This cannot be said for regions within one country as there are many national laws and local regulations that 'protect' smaller administrative units. As part of the EU's crisis management, cross-border bodies also need to elaborate defensive strategies for the occurrence of such unexpected events as the ones 2015 brought along to Europe. Stakeholders in border regions need to nurture mutual trust, communicate often and cooperate on all possible levels with the ones on the other side to maintain the process of integration. Even if physical border lines are temporarily established it is important to keep in mind that this challenge is shared equally on the two sides of the border, therefore solving it would require joint work as well.

In order to create a resilient yet flexible cross-border conurbation, being able to describe the ideal stage of cooperation, as a sort of end result to all initiatives can be very helpful when deciding on a reaction to an external factor.

In an ideal scenario, sudden changes can be interpreted with pre-set principles, historic differences and political aspirations can be overruled by development-oriented attitudes: sufficient amount of funding, a coherent regional strategy, open-minded attitudes towards the other nationality, a general willingness to cooperation and entrepreneurial spirit from inhabitants, profit-oriented attitude, sense of belonging.

Aside from the challenges of the present (2016), construction of inner control along borders of the otherwise open Schengen area), Komárom and Komárno were suddenly handed a great set of opportunities and along with each, a set of challenges to overcome, to which no solution is given by national policy makers. Their region is undergoing an experiment, which applies for the entire length of the Slovak-Hungarian border. Working together, sharing up-to-date information, data and ideas are keys to success, just as much as becoming a united entity facing both national governments.



Sources of icons: www.clker.com; softicons.com; illustrations by author

There are not many cross-border twin towns with such assets for cooperation as Komárno and Komárom: history, geographical proximity, location, structure, demographic, functional and economic indicators. The fact, that Komárom and Komárno have taken the leap to harmonise their planning documents right after the legal framework was established has proven their willingness to take the often harder measurements that cross-border planning draws along.

Besides the successes of this cooperation it is important to be aware of the many examples from Europe. They are proof to what more can be done while also providing already proven methods of how to do it. A big lesson to be learnt is that planners have to accept living with uncertainty. Relying on working practices is a safe way but not always site specific. Answers are written in the structure, processes, characteristics of the region which is the most reliable

source of ideas. Solutions to most problems therefore are usually very evident, contrary to the creativity and hard work necessary to finding the right legal and financing options. With the contribution of CESCO – Central-European Service for Cross-border Initiatives –, many possible solutions are collected in this study that might enable many suggestions of the Joint Spatial Development Plan to be brought into operation.

As stated in the analysis, there are some inequalities regarding employment opportunities, accessibility, population rates between the Slovak and Hungarian sides. The equalisation of these differences is beneficial for both sides, but is only possible together with other towns that share the problem. The Meuse-Rhine Euroregion has created its own borders in this sense. Rules apply differently there than in the inlands of the three countries.

Borderlines in Europe are becoming large transitional areas between inland provinces, counties or regions. These administrative units all have their long term strategies where certain attributes are more advanced than others. If cross-border regions are to be competitive, making such strategy can help directing development for the upcoming 30, 50 years.

Even though cross-border research and the following planning activities have only recently entered public consciousness, they are key elements in creating a unified Europe, and making previously neglected border regions functional and competitive entities. This is especially important during the times the EU's resilience and its ability to make coherent decisions is put to a test.

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