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Transdanube.Pearls - Network for Sustainable Mobility along the Danube



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| WP4.2/Elaboration of Sustainable Regional Tourism Mobility Plan (SRTMP) |
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| Vlatko Radović/Development Agency Vukovar Ltd. |
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Transdanube.Pearls - Network for Sustainable Mobility along the Danube -Regional Tourism and Mobility Plan

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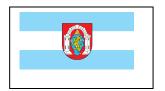
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More information about TRANSDANUBE.PEARLS and the project activities &results are available on: http://www.interreg-danube.eu/approved-projects/transdanubepearls









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Transdanube.Pearls - Network for Sustainable Mobility along the Danube - Susta Regional Tourism and Mobility Plan

1. Executive Summary

This Sustainable Regional Tourism Mobility Plan (SRTMP) is made for the future Pearl of Vukovar which should include the following cities' territories: Vukovar, Osijek, Vinkovci, llok and the territory of municipalities Nijemci and Bilje (all in the Republic of Croatia) and the territory of the municipality of Bačka Palanka in Serbia.

The intention of this SRTMP is to give guidance and prescribe measures recommending how to improve mobility in the planned Pearl's territory with a focus on cyclists, public transportation use of buses, trains and vessels and commuting of the visitors and residents.

The Plan proposes nine measures, of which 3 are mandatory and will be financed through the Transdanube.Pearls project. These are:

- -Introduction of bike carriages on bus lines
- -Extension of rental bike system
- -Establishment of Regional Mobility Centre in Vukovar

The remaining 6 measures are recommendable and contingent. All measures are intended to contribute to cost internalization, i.e. to reduce environmental pollution and stimulate the efficient use of the available existing public transport infrastructure.

During the elaboration and analysis of this Plan, the three measures were considered, but were not proposed to be included in it because they did not meet the necessary standard of cost internalization or do not fit into the current low level of tourism or transport dynamism in the region.

The main objective of this document is to provide information to the Strategic Management of the Pearl or the regional and local representatives of the cities and municipalities within the Pearl about the options how to improve the connectivity of different locations or points of interest, how to make the journey of the visitors or residents more convenient, safer, more environmentally friendly and more interesting.

As the final objective, after their implementations, these measures should promote the future Pearl as an environmentally friendly and accessible destination with higher standards of mobility with sustainable means of transport.



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2. Preamble

"Following the "Common Vision for Sustainable Mobility in Tourism" adopted by the partnership of TRANSDANUBE, the main objective of Transdanube. Pearls is to contribute to the development of a Danube region, which provides socially fair, economically viable, environmentally friendly and health promoting mobility for visitors and inhabitants of the region by developing climate friendly, low-carbon and low-emission, multimodal and efficient transport systems and sustainable tourism services. By improving the possibilities to move along the Danube with environmentally friendly means of transport the project will counteract the ongoing popularity of private car usage and its negative impact on the environment. By better linking the different modes of transport the project will not only contribute to sustainable regional and local mobility but also support the connectivity between the regions, leading to a more balanced accessibility within the Danube regions.

These ambitious goals will be achieved by introducing the main innovation of the project – the Sustainable Regional Tourism and Mobility Plan (SRTMP). After the implementation of SRTMP in each partner region, the project will establish a network of destinations committed to sustainable mobility in tourism— the "Transdanube.Pearls". Being part of this network will increase the visibility of the participating destinations offering their visitors the unique possibility to travel the Danube with sustainable means of transport. The network will facilitate the cooperation of stakeholders from the mobility and tourism sector of different levels. Common standards and appropriate organizational structures secure the operation of the network beyond project lifetime."*

This Sustainable Regional Tourism and Mobility Plan is in accord with the Strategy for Traffic Development of the Republic of Croatia (2017-2030), Strategy for Tourism Development of Vukovar-Srijem County (2015-2020) and Strategy for Tourism Development of the Republic of Croatia until 2020. It follows their main objectives and proposed measures regarding development of sustainable tourism, efficient, environmentally friendly transport and commuting. In a development of this Plan, the principle of horizontal and vertical integration should be obeyed, as well as wider societal costs and benefits with the aim of "cost internalization".

* GUIDELINES FOR SRTMP DEVELOPMENT



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3. Elaboration of regional state-of-the-art (SoA) analysis

The geographic area that was included in the State-of-the-Art analysis was Osijek-Baranja and Vukovar-Srijem County in Croatia and South-Backa District in Serbia. The Analysis was made before elaboration of this document (May 2017) and it has shown that there are numerous points for improvements which also represent the basis for future development potential of the Pearl.

Key statistical data and information gathered in the Analysis are the following:

- South-Backa District (SBD) is an administrative unit with the most overnight stays in 2015 (371.495), followed by the Osijek-Baranja County (OBC) (158.226) and Vukovar-Srijem County (VSC) (111.036 in 2016.); whereas the City of Novi Sad counts most of the overnight stays (297.097) in SBD
- SBD and the City of Novi Sad have the largest share of foreign guest (54,68% and 61,90% respectively) whereas Vukovar-Srijem County has the lowest ratio of foreign guest in the overall overnight stays (28,21%), which is the result of large share of domestic visitors coming to the City of Vukovar which had a well-known role in the Homeland War in 1991
- City of Vukovar has the largest number of cruiser dockings in Croatia, counting 27.122 travellers in 2016, whereas City of Novi Sad counted 36.604 visitors from cruisers in 2016
- In Vukovar-Srijem County the biggest percentage among the foreign guests' overnight stays in 2016 was from Germany (12% of foreign visitors) followed by those from Bosnia and Herzegovina, whereas in 2015 the largest group by origin in Osijek-Baranja County were Germans (4.8%).

The main obstacles of the Pearl are the non-existence of constructed cycling pathways on most of the EuroVelo6 route and non-existence of bus and railway connections on a Croatian-Hungarian border.

Train connection Budapest-Osijek-Sarajevo has been interrupted in December 2012 due to the lack of economic viability and when the migrant crises unfolded in 2015 the



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shorter, cross-border lines have been suspended as well. Some bus lines were temporarily introduced but since June 30th 2017, there are no bus connections between Hungarian and Croatian territory in the Osijek-Baranja County. For the area of Osijek-Baranja County, the closest railway connection to Hungary is in Koprivnica (connection Zagreb-Budapest) but such a journey from Osijek towards Koprivnica and later to Hungary/Budapest does not represent an efficient or suitable way of commuting.

These are serious obstacles for local authorities in Osijek-Baranja and Vukovar-Srijem County who want to develop continental tourism, as well as for cyclists, who expect pleasant and carefree journey on the bike, or options to use public transportation with a bike carriage during bad weather conditions, overly demanding routes, time constraints or for a route which does not have constructed bike paths on all sections of the route.

The complete SoA analysis is provided in the Annex I.



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4. Defining the scope of the SRTMP

The future Pearl should be an area encompassing the cities of Osijek, Vukovar, Vinkovci, Ilok (located in Croatia), as well as municipalities of Bilje and Nijemci (Croatia) and Bačka Palanka (Serbia). The city of Osijek and city of Vinkovci should be international hubs for tourist arrivals and the centre of the Pearl is located in Vukovar – administrative centre of the Vukovar-Srijem County.

Municipality of Bilje and City of Osijek are located in the Osijek-Baranja County in Croatia, Municipality of Backa Palanka is in Serbia and all other cities (Vukovar, Vinkovci and Ilok) and municipality of Nijemci are located in the Vukovar-Srijem County.

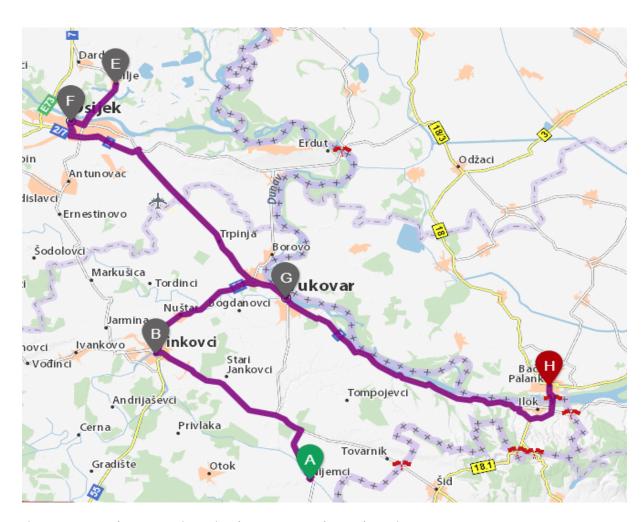


Figure 1: Road connections in the proposed Pearl territory



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Marks on the map: E (Nature Park Kopački rit/municipality of Bilje), F (City of Osijek), G (City of Vukovar), B (City of Vinkovci), A (Municipality of Nijemci), H (cities of Ilok and Backa Palanka).

4.1 International connectivity of the Pearl

The centre of the Pearl is located in the city of Vukovar, Vukovar-Srijem County, Republic of Croatia. The City is located on the right bank of the river Danube and is the largest city on Danube having the largest river port in Croatia. Another city on Danube in Croatia which is also the only second city on Danube is the city of Ilok.

The railway connection in Vinkovci connects the eastern part of Croatia with Zagreb. The city of Osijek is also connected with the railway, but its significance is smaller when compared with the Vinkovci railway station. The railway junction in Vinkovci is part of a Pan-European Corridor X which connects Salzburg with Zagreb, Belgrade and Thessaloniki in Greece. The international train Zürich-Belgrade-Zürich operates daily on this route and represents a potential for tourist arrivals with the train. The international train Munich-Zagreb is also a good starting route for tourist wishing to come to Vinkovci/Vukovar from Zagreb.

The city of Osijek is also connected with railway, but the connections towards Hungary and Bosnia (Budapest-Osijek-Sarajevo) have been suspended. However, the city of Osijek is located on the Corridor V, which connects Budapest-Osijek-Sarajevo-Ploče by road.



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Figure 2: Overview of the Pearl's international road and route connections

Most of the visitors arrive either from northern Hungarian territory (Budapest or Pecs) or from the west side (from Zagreb), via highway Zagreb-Belgrade or by the train Zagreb-Vinkovci. Therefore, the incoming arrivals could be separated on the northern and eastern ones, with a majority tourists arriving from the north and moving south-east. The northern route is very important because it is situated along the EuroVelo6 route, and many visitors arrive on their bikes, travelling through Croatia in a direction of Serbia (Novi Sad/Belgrade). Currently, there is no bus or train connection connecting Croatia with Hungary (in Osijek-Baranja County, i.e. along the EuroVelo 6 route) so the only travel options are either a car or bike.

Train or bus connections Zagreb-Vinkovci-Vukovar are options for travellers who want to use the sustainable modes of transport. However, the train connection doesn't comply with contemporary and efficient travelling standards, i.e. speed of the train is low and its duration high (minimum of 4 hours and 51 minute).

Osijek Airport is located in Klisa, 20 km north-west of Vukovar and 20 km south-east from Osijek. It is an international airport with flight connections to Basel (CH) and Stuttgart (DE) as well as to Croatian capital (Zagreb) and other destinations (Rijeka, Pula, Split and Dubrovnik). Even though the Transdanube.Pearls project doesn't support the use of airplanes as the mode of transportation, the Osijek Airport could play an



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important role in the tourism development in the future. Its passenger numbers steadily rise over the last several years, and even though they can't be compared with larger airports, the Osijek Airport can play an important regional role in tourist transport.

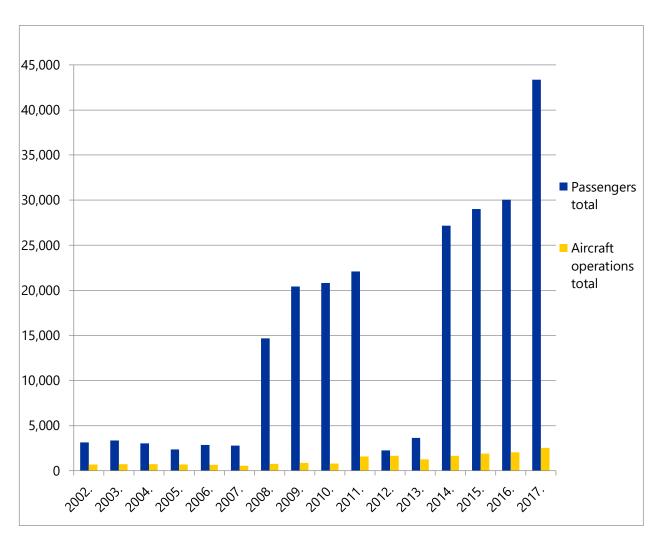


Figure 3: Traffic in Osijek Airport from 2002 until 2017 Source: Airport Osijek



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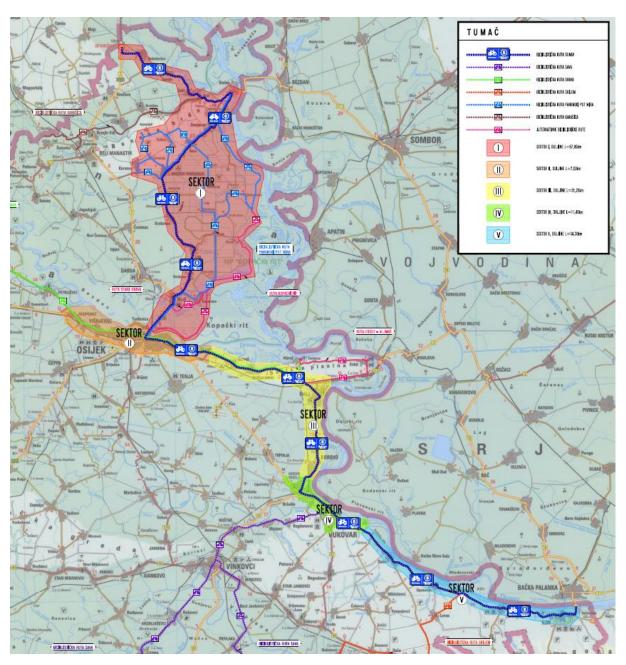


Figure 4: EuroVelo6 route in the Croatian territory

EuroVelo6 route on the Croatian territory stretches from Duboševica on the north (Hungarian border), going through the nature park Kopački rit, connecting the city of Osijek as well as the cities of Vukovar and Ilok further south. In Ilok, the route on Croatian territory ends and the very next settlement is the city of Backa Palanka in



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Serbia. The sectors on the map's legend represent different sections of the route and their lengths (Sector 1=57.8 km, Sector 2=7 km, Sector 3=31.2 km, Sector 4=11.4 km, Sector 5= 34.3 km). The total route length, based on the five sectors on the previous map on Croatian territory equals 141.7 km. It is worth mentioning that EuroVelo6 route stretches on Croatian and Serbian territory, i.e. it's mapped on both banks of the Danube, dividing in Hungary and stretching on Croatian *and* Serbian side. Two routes unite again in Serbian, in Backa Palanka.

| direction | mode of linkage | minutes | km | connection |
|----------------------------|----------------------------|-------------|------|---------------|
| Pecs-Donji Miholjac-Osijek | road 58 (HU) & D34 (CRO) | 90 (car) | 92,4 | international |
| Mohács-Osijek | road 56 (HU) & E73 (CRO) | 55 (car) | 65 | international |
| Zagreb-Vinkovci | highway E70, D55 & railway | 210 (train) | 272 | domestic |
| Osijek-Vukovar | road D2 | 45 (bus) | 38 | domestic |
| Vinkovci-Vukovar | road D55 & railway | 35 (bus) | 20 | domestic |
| Vinkovci-Nijemci | road D46 & D57 | 30 (bus) | 27 | domestic |
| Vukovar-Nijemci | road D57 | 23 (car) | 26 | domestic |
| Vukovar-Ilok | road D2 | 50 (bus) | 37 | domestic |
| Ilok-Backa Palanka | road D2 (CRO) & 119 (SRB) | 5 (bus) | 6 | international |
| Backa Palanka-Novi Sad | road 12 (SRB) | 60 (bus) | 40 | domestic |
| Osijek-Novi Sad | road D2 (CRO) & 12 (SRB) | 165 (bus) | 118 | international |
| Vinkovci-Belgrade | railway | 170 (train) | 147 | international |
| Zagreb Airport-Osijek | airplane | 45 | 276 | domestic |
| Rijeka Airport-Osijek | airplane | 65 | 438 | domestic |
| Basel-Osijek | airplane | 110 | 1246 | international |
| Stuttgart-Osijek | airplane | 100 | 1062 | international |

Table 1: Overview of the main transport connections of the Pearl

In this overview we did not provide linkages of the cross-border train connections connecting Croatia and Hungary due to their suspensions. The first crossing of the Danube occurs on the bridge between Ilok (HR) and Backa Palanka (SRB) and the second bridge over Danube is between Erdut (HR) and Bogojevo (SRB).



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The railway connection Zagreb-Vinkovci is in the process of modernisation but it is expected that the whole route will not be finished in 5 or even more years. Unfortunately, at the moment, the minimum duration is 210 minutes, but many connections take around 4 and a half, or even five hours. Passengers from Zagreb travelling to Vukovar must change car in Vinkovci, and their journey lasts almost 5 hours, i.e. an approximate distance of 297 is completed with an average speed of 60 km/h.

Airport Osijek had previously international connections with London (UK), and the current lines connect Eastern Slavonia with Basel in Switzerland and Stuttgart in Germany.

| settlement | bus | train | ship | bike rental | importance |
|---------------|-----|-------|------|-------------|------------------------------------|
| Vukovar | yes | yes | yes | yes | Pearl centre |
| Vinkovci | yes | yes | no | yes | railway hub |
| llok | yes | no | yes | yes | wine region, border crossing |
| Osijek | yes | yes | no | yes | largest city in Eastern Croatia |
| Nijemci | yes | no | yes | yes | Bird-watching Centre |
| Bilje | yes | no | no | yes | Wine roads |
| Kopački rit | no | no | yes | yes | Nature park |
| Bačka Palanka | yes | no | no | yes | Eurovelo6, border-crossing, bridge |
| Erdut | yes | yes | no | no | Wine roads, cross-border bridges |
| Bogojevo | yes | yes | no | no | Cross-border bridges (train, road) |

Table 2: infrastructure and modes of transportation in the Pearl and its vicinity



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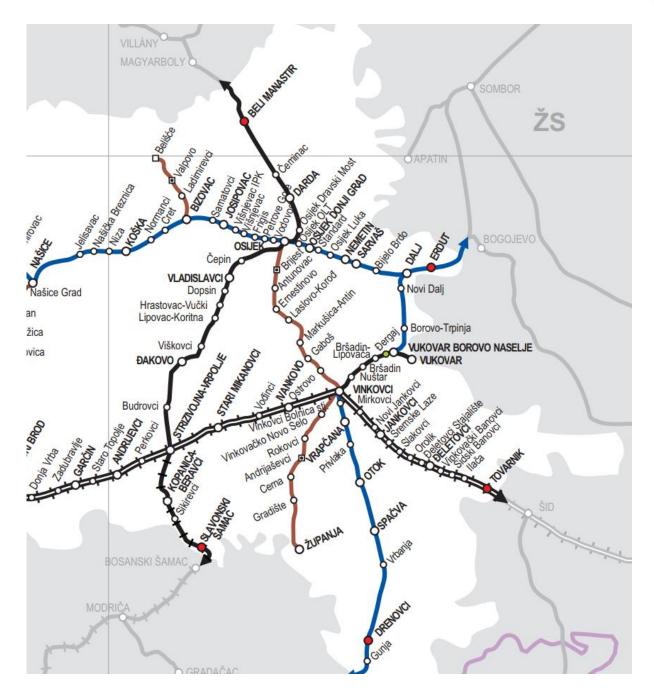


Figure 5: Overview of the railway network in Eastern Slavonia



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In figure 6, we can see that the Danube has a railway bridge connecting Erdut (HR) and Bogojevo (SRB). In its vicinity there is also a road bridge for cars, trucks, pedestrians and bicyclists who cross Danube. The second bridge across the Danube on the Croatian-Serbian border is located on a route Ilok-Backa Palanka, and it's only a road bridge, i.e. there is no additional railway bridge.

One train connection alternative for the non-existence of railway connection between Croatia and Hungary could be the train route Osijek-Erdut-Bogojevo-Sombor-Subotica-Budapest. But such a route doesn't follow the EuroVelo6, it avoids the northern Pecs-Mohacs pearl, prolongs the journey time and the current timetable doesn't enable the journey in one day, because the Bogojevo-Erdut is connected only once per day (early in the morning) and the traveller coming from Budapest can't reach destination in Croatia, i.e. in the Pearl of Vukovar in one day. Therefore, it is suitable only to those travellers who plan to spend one day on the left bank of the Danube in Serbia (after arriving from Budapest) and to catch the early train for Erdut/Osijek the next day.

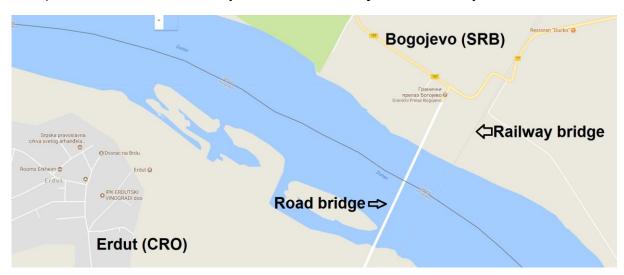


Figure 6: Bridges at border crossing Erdut-Bogojevo



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4.2. Stakeholders and competencies

Stakeholder in the future pearl are the following:

- City of Vukovar local government
- Regional governments and municipalities in the Pearl's territory
- Tourist Board of the City of Vukovar
- Tourist Board of the Vukovar-Srijem County
- Tourist Board of the City of Ilok
- Tourist Board of the Municipality of Bačka Palanka
- Tourist Board of the City of Osijek
- Tourist Board of the Municipality of Bilje
- Tourist Board of the Municipality of Nijemci
- Bus and railway operators
- Destination Management Company of the City of Vukovar

Each stakeholder should have competencies in the field of tourism and/or transport, and they should all cooperate together and have mutual benefits arising from the cooperation. Once the Pearl is formed, joint cooperation of each stakeholder should benefit the whole Pearl, because it is expected that with a good marketing and visibility cooperation, an increase of tourists and tourist demand will follow suit.

Destination Management Company should play a key role in coordination of marketing activities, among others activities.

The bus operators are vital because they will have a role in connecting different cities and municipalities within the pearl area, as well as in connecting of the pearl with other two neighbouring pearls or with Novi Sad/Belgrade tourist hotspots. Their role is to enable the cyclists to travel with their bikes, using the bike carriage service on their buses for routes which are not connected with a physical infrastructure – bike paths, or during the bad weather conditions, thereby smoothing the journey obstacles.



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5. Centre of the Pearl – city of Vukovar

The city of Vukovar should be the centre of Pearl. The city of Vukovar is the seat of the Vukovar-Srijem County, a regional administrative, educational and economic centre, with approximately 27.000 inhabitants (2011 census). The city has a bus station with international connections towards Serbia and Bosnia and Herzegovina and a railway connection with Vinkovci.



Figure 7: Centre of the Vukovar

The river Vuka mouths in Danube, and very close to its delta there is a landing stage where international river cruisers dock and disembark their passengers/guests. The Tourist Board of the City of Vukovar is located in the very centre of the town, just across the main hotel "Lav" and near the House of Nobel Prize winner in chemistry Lavoslav Ružička. In the very centre of the city there is a walking pedestrian zone. The EuroVelo 6 route is going through the city centre and the bike path is constructed from the Borovo settlement throughout the delta of Vuka in Danube.



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Figure: 8: Bike path along the river Danube pointing in direction towards the city centre Source: City of Vukovar image database



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The Pearl of Vukovar should be the area where visitors can expect a certain level of service and infrastructure, developed sustainable mobility standards and options for travelling and experiencing the Pearl, it's attractions and all its locations, as well as possibility to travel to the next pearls with sustainable means of transport.

Furthermore, the Pearl of Vukovar should become a centre of the cycling tourism in the eastern Croatia and an international hub for cyclists travelling from the north/north-west of Vukovar towards the south/south-east regions. The city of Vukovar should brand itself as a cycle-friendly city providing infrastructure for cyclists including the cycle maintenance options (bike repair shops), offering qualitative and affordable accommodation. In addition, the Pearl should be recognisable for its culinary offers (fish dishes, "kulen" of Baranja county and other) and a significant aspect in promoting this destination and attracting tourists and cyclists should be the culinary offers. Cycling tourism, the region's cuisine, river Danube, EuroVelo6 route as well as the cultural heritage should all be combined in the future branding process of the Pearl.

The common vision is fully in accord with the common vision agreed in the TRANSDANUBE project:

"The common vision and aim is to develop a Danube region, which provides socially fair, economically viable, environmentally friendly and health promoting mobility and tourism for citizens and guests of the region by developing of climate friendly, low-carbon and low-emission, multimodal and efficient transport systems and sustainable tourism services based on renewable energy sources, saving energy and resources, preserving natural and cultural heritage and taking care of the sensitive Danube ecosystems and landscapes while at the same time ensuring sustainable regional development and offering new chances for green economy and green jobs in the region.

To this end we will strengthen our endeavours, dedicate resources and develop further our collaborations to promote the practical implementation of our common vision."



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7. Main goals and objectives of the SRTMP

Based on a consultation with the Tourist Board of the City of Vukovar, Head of Department for Culture and Tourism in the City of Vukovar administration, as well as upon a discussion with different stakeholders in tourism and transport sector, the following main goals and objectives are determined for this Sustainable Regional Tourism Mobility Plan:

- 1. Promotion of safe, carefree and enjoyable cycling travelling to the Pearl, within the Pearl and towards next Pearl
- 2. Reduction of air pollution caused by cars used for travelling for the tourism purposes (cars that use conventional fuels such as gasoline or diesel fuel)
- 3. Promotion of better business integration of tourist attractions, offers and packages in the neighbouring Pearls in Hungary and Serbia with those in the Vukovar Pearl
- 4. Increase of tourist arrivals, overnight stays, duration of the stay and overall increase of spending per visitor in the Pearl area

These goals and objectives are in accord with all national, regional or local strategic documents, strategies and guidelines in the Republic of Croatia (mentioned in the Preamble) and should be a starting point when developing or working on measures which will aim to achieve these goals.

The EuroVelo6 route is not physically constructed on most part passing through Croatian territory and therefore, the objective No. 1 is of utmost importance. However, the Pearl area has a rich cultural and historical heritage, a nature park, gastronomy tradition and offers as well as sufficient hospitality infrastructure which are not used at its full capacity or a capacity that enables better economic efficiency which could generate higher and more stable incomes in the tourism sector for the local population. In order to reach that position, it is necessary that a Pearl has a better marketing promotion and better dissemination of information to visitors. This will be possible in particular with help of the new Regional Mobility Centre, Pearl's management and a new Transdanube.Pearls network, as well as if other measures developed in this document are introduced, become implemented or are continuously supported by the stakeholders and political representatives.



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8. Elaboration of the SRTMP - Selection of the measures

After the main goals and objectives of the SRTMP have been determined, it was necessary to select the measures which will support and help in achieving of these higher goals. Their selection is a result of an in-depth analysis of what should have the greatest impact on the predefined goals set in this Plan in a sector of tourism, transport and mobility. Furthermore, the 1st Regional Workshop was organized on November 7th 2017 in Vukovar with a numerous stakeholders coming from the tourism and transport sector. They have commented proposed or added their own new measures. All their comments, as well as all other inputs and advices have been taken into account when determining the complete list of measures.

After the period of extensive consultations and discussion has ended, the final list of measures is comprised and elaborated, and they are the following:

- 1. Introduction of bike carriages on bus lines
- 2. Extension of rental bike system
- 3. Establishment of **Regional Mobility Centre** in Vukovar
- 4. Modernization of railway route Zagreb-Vinkovci-Vukovar
- 5. **Construction of a landing stage for E-boat** shuttle service (Vukovar-Vučedol)
- 6. Support of e-car infrastructure development
- 7. **Promotion of the use of small electric vehicles**, watercrafts and small boats in tourists offers
- 8. **Support of reintroduction of railway and bus connections** on a route Croatia-Hungary
- 9. **Support of construction of the bike path** along the EuroVelo 6 route

The selected measures are divided on mandatory and other (optional, contingent or secondary) measures. Mandatory measures must be and will be implemented during the Transdanube.Pearls project timeframe. All other measures fall in the category "contingent" or optional, recommendable, advisable. They either do not require financing because they are soft measures (such as promoting, promotion or support) or their investments are so large that they could never be financed or implemented by the local or regional administrations (such as modernization of railway route Zagreb-Vinkovci-Vukovar). Therefore, there are no financing plans for them because they are



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either complimentary or belong to the government jurisdiction and their financing plans or feasibility studies are beyond the scope of this project.

The word "support" in three secondary measures entails administrative, logistical or political support (in terms of lobbying) of the local or regional governments.

The mandatory measures (No.1, No.2 and No.3) have a secured financing within the project Transdanube.Pearls for the area of the city of Vukovar. Other municipalities or cities which are planned to join the Pearl territory or its network are advised to find their own financing options for each selected measure. They also have the option to invite and support private companies in the tourism sector to invest their own funds or to seek support from the EU, government, regional or local administrations grants for their investments and projects.

In their future optional investing or applications for funding (grants) they should and they can base their business plans on the feasibility studies which are supposed to be elaborated in this project (bike rental and bike carriages), in which they should probably focus their attention on the feasibility study for bike renting ventures, since the number of operators on the international bus lines is quite limited or will be included in the pilot actions within this project. Therefore, probably there will be no need for additional investments in bike carriages, which are usually smaller investments for bus carriers, which is not the case with smaller entrepreneur starting the renting of bikes as their core/main or additional business activity).

During the elaboration of this plan, the three measures that have been analyzed and considered but were *not* accepted and selected are:

- Introduction of passenger-only ferry boat for commuting along the Danube mostly on the route Vukovar-Osijek-Vukovar
- Introduction of the bus shuttle line
- Introduction of a car-sharing system.

After a more detailed analysis, it was determined that a vessel with a capacity of 56 passengers consumes 135 liters of diesel fuel per hour with a speed of 40 km/h* (data obtained from the company DAMEN SHIPYARDS GORINCHEM, Netherlands, 2017). Such a fuel economy is not competitive with buses and therefore it was not included as a proposed measure which should have in mind the "cost internalization" principle.



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However, with the evolution of battery and electricity-powered vessels, it is recommendable, for the future of this document updating, to carry out a secondary analysis, having in mind the achievements of this new technology. The current standards enable the speed of electricity-powered ferry-boats (catamarans) of up to 30 km/h. However, the initial costs for purchasing vessels with such technology are very high. Therefore, such an investment is highly risky because the battery cost or costs of the solar and electricity-powered engines drop significantly in a relatively short period of time. Having that in mind, now it is recommendable to avoid investments in this type of technology due to very high costs of the long-term assets and the ongoing evolution of new technologies, i.e. decrease of their price. Consequently, this measure – Introduction of passenger-only ferry boat for commuting along the Danube, i.e. water transport of passengers on a frequent route Vukovar-Osijek-Vukovar - has not been recommended as a measure, but should be reconsidered and reevaluated in the future, in accord with the technology improvements and affordability of such investments.

The second measure – **Introduction of the bus shuttle** – was also not recommended. The planned route of the shuttle could be Airport Osijek-city of Osijek, Airport Osijek-hotel "Lav" in Vukovar or city of Vukovar (centre)-Vučedol Culture Museum. The reason why this measure is not recommended is the low number of passengers in Airport Osijek/tourists in Vukovar. If the passenger or visitor number would increase in the near future, in the process of updating of this document, this measure could and should be reconsidered and reevaluated.

The third measure that was analyzed but not recommended - **Introduction of a car-sharing system** - is not a viable option for smaller municipalities and cities. The city of Osijek could potentially be a destination suitable for car-sharing and with the expansion of this service and a business model, this measure could also be adopted in the updating process of this document in the future.

Upon the review of the State-of-the-Art Analysis of the Vukovar-Srijem County, Osijek-Baranja County and South-Backa District, as well as upon the consultation with the major stakeholders from the envisaged Pearl-area, the following nine measures have been selected and proposed (in order to achieve the main goals and objectives of this



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document) for the centre of the Pearl, i.e. city of Vukovar, as well as for other cities or municipalities that should belong in the Pearl of Vukovar:

| Measure No. 1 | Introduction of bike carriages on bus lines |
|----------------------------|--|
| Short description of the | Should be installed on international bus connections |
| measures | Vukovar-Novi Sad / Vukovar-Belgrade and any potential |
| | future bus connections Croatia-Hungary |
| Estimated impact of the | Increased travel safety, better mobility options, increased |
| measure and | attractiveness of a destination |
| contribution to the | |
| overall objective | |
| Estimated cost in EUR of | 1600-3000 EUR |
| implementation including | |
| the information and | |
| promotion | |
| Financing options | Via current Transdanube.Pearls project or any other public, |
| | communal or private funding |
| Realization horizon | 3-12 months |
| Responsible | Lines included are Vukovar-Novi Sad-Vukovar and Vukovar- |
| organizations to be | Belgrade-Vukovar. In case the new lines open connecting |
| involved in the next steps | Croatia and Hungary, funding should be provided either by |
| of the process | a bus company or local/regional authorities, having in mind |
| | that these investments are not very costly (approximately |
| | less than 1000 EUR per bus). |
| | City of Vukovar and all other cities and municipalities within |
| | the Pearl |
| Responsible organization | Responsibility organization to be involved is City of Vukovar |
| of implementation | and all other cities and municipalities within the Pearl. Bus |
| | operators will have the responsibility for implementation of |
| | this measure/ Bus operator Čazmatrans Vukovar d.o.o. |
| Priority | Mandatory |
| Status | ongoing |



| Туре | of | integration | Horizontal |
|----------|----|-------------|---|
| principl | е | | |
| Locatio | n | | Bus station in Vukovar/bus operators operating on the |
| | | | international routes Osijek-Vukovar-Novi Sad/Belgrade |



Figure 9: Installed bike carriage on the bus Source: https://www.elines.cz/en/transportation-of-bicycles



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Figure 10: Bus Station Vukovar Source: City of Vukovar image database



| Measure No. 2 | Extension of rental bike system |
|----------------------------|--|
| Short description of the | Installation and running of businesses offering renting of |
| measures | bikes to tourists and residents |
| Estimated impact of the | better mobility, increased attractiveness of a destination |
| measure and | |
| contribution to the | |
| overall objective | |
| Estimated cost in EUR of | 2000-3400 EUR |
| implementation including | |
| the information and | |
| promotion | |
| Financing options | Via current Transdanube.Pearls project or any other public, |
| | communal or private funding |
| Realization horizon | 1-12 months |
| | |
| Responsible | Besides the City of Vukovar, which has already implemented |
| organizations to be | this measure, other cities and municipalities within the Pearl |
| involved in the next steps | should aim to implement the same measure and to find |
| of the process | available public financing (EU, Ministry of tourism etc.) or |
| | they have an option to support private companies who will |
| | purchase bicycles for renting with their own capital/funds. |
| Responsible organization | Responsible organization to be involved in the |
| of implementation | implementation of this measure is City of Vukovar and all |
| | other cities and municipalities within the Pearl. Private |
| | companies will have the responsibility for implementation of |
| | this measure. |
| Priority | Mandatory |
| Status | Implemented in the city of Vukovar; expected to be |
| | implemented in all other municipalities/cities in the Pearl |
| Type of integration | Vertical |
| principle | |
| Location | city of Vukovar and other municipalities/cities in the Pearl |



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Figure 11: Installed bike rental system in the centre of Vukovar Source: City of Vukovar image database



Figure 12: Installed bike rental system in the centre of Vukovar Source: City of Vukovar image database



| Measure No. 3 | Establishment of Regional Mobility Centre in Vukovar |
|---|---|
| Short description of the measures | Should be opened in the city of Vukovar, renovated and adapted, providing extensive commuting and mobility information for the Pearl area. Newly decorated and renovated mobility centre should provide extensive commuting and mobility information for the Pearl area and for travelling to the northern and southern neighboring pearls. That means that the established management of the Centre should be able to provide timetables of local and international train connections and bus lines connecting Croatia with Serbia (and Hungary if there will be existing bus or train lines/connection). In addition to that, the Centre must provide information about sightseeing attractions of the two neighboring Pearls (northern and southern). It is expected that these two Pearls i.e. their mobility centers, will provide the same information for the Pearl of Vukovar. |
| Estimated impact of the measure and contribution to the overall objective | better information dissemination, tourist mobility, increased attractiveness of a destination |
| Estimated cost in EUR of implementation including the information and promotion | 22.000 EUR |
| Financing options | Via current Transdanube.Pearls project / It should be funded by the current Transdanube.Pearls project, i.e. EU and local administration funds (City of Vukovar). |
| Realization horizon | Beginning of 2018 |



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| Responsible organizations to be | City of Vukovar |
|-----------------------------------|---|
| involved in the next steps of the | |
| process | |
| Responsible organization of | Responsibility organization to be involved is |
| implementation | Tourist Board of the City of Vukovar. |
| Priority | Mandatory |
| Status | Implemented in the city of Vukovar |
| Type of integration principle | Vertical |
| Location | City of Vukovar, J.J. Strossmayera 15 |



Figure 13: Interior of the Regional Mobility Centre Source: City of Vukovar project documentation



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Figure 14: Exterior of the Regional Mobility Centre Source: City of Vukovar image database



| Measure No. 4 | Modernization of railway route Zagreb-Vinkovci- |
|-----------------------------------|--|
| | Vukovar |
| Short description of the measures | Modernization and improved standards on a |
| | railway route Zagreb-Vinkovci-Vukovar |
| Estimated impact of the measure | Increased safety and traveling speed, better |
| and contribution to the overall | international connectivity of the Pearl |
| objective | |
| Estimated cost in EUR of | Over 500 million EUR |
| implementation including the | |
| information and promotion | |
| Financing options | EU funds, Croatian national budget |
| | Funding of this selected measure mostly relies on |
| | public sector funding, i.e. EU and national public |
| Basil attached as | funds. |
| Realization horizon | 1-7 years |
| Responsible organizations to be | Responsible organizations to be involved in the |
| involved in the next steps of the | implementation of this measure are Croatian |
| process | Railways, Ministry of the sea, transport and |
| | infrastructure. |
| Responsible organization of | Construction companies |
| implementation | |
| Priority | High/contingent |
| Status | Started, ongoing |
| Type of integration principle | horizontal |
| Location | Railway route Zagreb-Vinkovci-Vukovar |



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Figure 15: Railway Zagreb-Vinkovci-Vukovar

Source: http://www.hzinfra.hr/



| Measure No. 5 | Construction of a landing stage for E-boat shuttle service (Vukovar-Vučedol) |
|---|---|
| Short description of the measures | Implementation of the shuttle service for distance Vukovar Centre-Vučedol dock (Vučedol Culture Museum). The E-boat providing the transfer service from the Centre of Vukovar to the Museum site. |
| Estimated impact of the measure and contribution to the overall objective | Better visitor mobility, better combination of touristic offer (Danube travel connected with Museum Visit), increased attractiveness of a destination, promotion of sustainable means of transport |
| Estimated cost in EUR of implementation including the information and promotion | None. This measure must only be organized, developed and introduced to the public. |
| Financing options | Local, regional, national or EU funds (necessary for the construction of a landing stage. It does not require additional funding since it will be financed by the EU funded project Archaeological park Vučedol. |
| Realization horizon | 2019 |
| Responsible organizations to be involved in the next steps of the process | Port Authority Vukovar. The City of Vukovar will foster its implementation and/or introduction of this service upon the construction of the landing stage near the Vučedol Culture Museum. |
| Responsible organization of implementation | Port Authority Vukovar. The Tourist Board will have the responsibility to inform the visitors about this mode of transport, in particular those visitors who would like to combine the museum visit with navigation on the Danube. |
| Priority | Medium/contingent |
| Status | ongoing |
| Type of integration | vertical |
| Location | Route centre of Vukovar-dock near the Vučedol Culture Museum |



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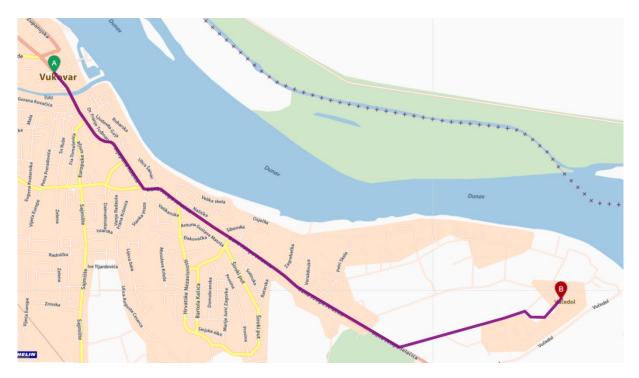


Figure 16: Road direction from the centre of Vukovar towards Vučedol Culture Museum



Figure 17: E-shuttle boat in the centre of Vukovar Source: City of Vukovar image database



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| Measure No. 6 | Support of e-car infrastructure development |
|---|--|
| Short description of the measures | The City of Vukovar will work with private companies and support them in their investments of stations for recharging the batteries of electric cars. There was a station for recharging of e-cars, but due to construction of the market-place it was temporarily displaced and the new location is sought with the HEP d.d. (Croatian Electrical/Electricity Provider) |
| Estimated impact of the measure | Vukovar, as a destination, will be open and |
| and contribution to the overall | supportive for electric vehicles i.e. the visitors |
| objective | coming with e-cars. Visitors will be able to stay and explore the destination, fill their batteries, plan and continue their journey towards their next destination or return home with a sustainable means of transport. |
| Estimated cost in EUR of implementation including the information and promotion | None. It does not require additional funding. This measure will be supported by the private companies, such as RWE, HEP (largest Croatian electricity company) or others. |
| Financing options | Private companies funding their own infrastructure. |
| Realization horizon | 1-5 years |
| Responsible organizations to be involved in the next steps of the process | The City of Vukovar will foster its implementation/introduction of this service via granting of building permits, license issuance, provision of land (if available), cooperation with private companies interested in this type of infrastructure investments etc. That will be made through the City's administrative department for municipal economy, construction and environment protection. |



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| Responsible organization | of | Private companies (RWE, HEP etc.) | | |
|--------------------------|----|---|--|--|
| implementation | | | | |
| Priority | | Medium/contingent | | |
| Status | | ongoing | | |
| Type of integration | | horizontal | | |
| Location | | city of Vukovar, city of Osijek & other Pearl | | |
| | | territory | | |



Figure 18: Charging station for E-cars

Source: http://www.croenergo.eu/hep-predstavio-elektricna-vozila-i-punionice-elen-25974.aspx



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Figure 19: Electric charging of the E-car

Source: http://www.gradonacelnik.hr/vijesti/i-novi-vinodolski-dobio-punionicu-za-elektricna-vozila



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| Measure No. 7 | Promotion of the use of small electric vehicles, | | | |
|--|---|--|--|--|
| Wedsale He. 7 | watercrafts and small boats in tourists offers | | | |
| Short description of the measures | Each city or municipality should promote the use and creation of tourist offers that include use or | | | |
| | | | | |
| | renting of small electric vehicles (small cars, | | | |
| | segways, quads, self-balancing scooters- | | | |
| | hoverboards, e-Scooters etc.), and watercrafts (barges, canoes, kayaks, rowing boats etc.) | | | |
| Estimated impact of the measure | Increased awareness of entrepreneurs for the | | | |
| and contribution to the overall | trends in tourism. Creation of tourist offers | | | |
| objective | including vehicles, vessels or | | | |
| | transportation/recreational transportation means. | | | |
| | Increased demand for the destination and | | | |
| | increase of duration spent by the average visitor. | | | |
| Estimated cost in EUR of | Up to 200 EUR per city/municipality within the | | | |
| implementation including the | | | | |
| information and promotion | the promotional activities. The cost of th | | | |
| | measure does not foresee the purchase of th | | | |
| | equipment but promotion of this tourist offers | | | |
| Financing options | Private companies funding their own tourist | | | |
| | products/EU funds for entrepreneurs in the | | | |
| | tourism sector. | | | |
| Realization horizon | 1-5 years | | | |
| Responsible organizations to be | Each municipality/city administration within the | | | |
| involved in the next steps of the | Pearl | | | |
| process | | | | |
| Responsible organization of implementation | Private companies in the tourism sector | | | |
| | Private companies funding their own tourist | | | |
| | products and offers should secure their own | | | |
| | funding. Additionally, they can apply for EU | | | |
| | funds/grants for entrepreneurs in the tourism | | | |
| | sector form state, regional or local tenders. | | | |



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| | Each municipality or city administration within the Pearl should be responsible for promotion of this measure through their local grants for the tourism sector or via supporting the entrepreneurs with the expertise of the local development agencies who are the consultant institutions for the EU/grant funding. | | |
|---------------------|--|--|--|
| Priority | Medium/contingent | | |
| Status | ongoing | | |
| Type of integration | vertical | | |
| Location | All Pearl members | | |



Figure 20: Electric car

Source: https://group.renault.com/en/company-vehicles/discover/renault-electric-vehicles/



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Figure 21: Canoe

Source: http://demo.powerfulpublications.com/news/40-demo-article-about-a-canoe



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| Measure No. 8 | Support of reintroduction of railway and bus connections on a route Croatia-Hungary | | |
|---|---|--|--|
| Short description of the measures | Each municipality or city (city of Osijek and Vukovar) should lobby and support the reintroduction of railway and bus connections on a route Croatia-Hungary. | | |
| Estimated impact of the measure and contribution to the overall objective | Increased awareness of the Republic of Croatia for the necessity of having train connections between Hungary and Croatia. Increased chances that the once-existing lines would be again in | | |
| Estimated cost in EUR of implementation including the information and promotion | operations None. | | |
| Financing options | Not necessary | | |
| Realization horizon | ongoing | | |
| Responsible organizations to be involved in the next steps of the process | City of Vukovar/City of Osijek, Croatian Railways | | |
| Responsible organization of implementation | Government and regional authorities. | | |
| | City of Vukovar, City of Osijek on the local level as well as Vukovar-Srijem County and Osijek-Baranja County administrations should lobby and support this measure. Responsible organization to be involved in the next steps of the process is Croatian Railways. The funding for this measure is not necessary. | | |
| Priority | High/contingent | | |
| Status | ongoing | | |
| Type of integration | horizontal | | |
| Location | Osijek-Baranja and Vukovar-Srijem County | | |



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Figure 22: Railway network of the Eastern Croatia Source: http://www.mppi.hr/default.aspx?id=9740



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| Measure No. 9 | Support of construction of the bike path along the EuroVelo 6 route |
|---|--|
| Short description of the measures | All municipalities within and nearby the Pearl should actively lobby, plan or start preparing financing options for the construction of the bike path for the EuroVelo 6 route. On the most of Croatian territory, there is no constructed bike path and this type of infrastructure is missing and is crucial for future development of cycling tourism and tourism in general. |
| Estimated impact of the measure and contribution to the overall objective | Increased awareness of the national or regional authorities for necessity of having a developed, constructed and in use bike path along the EuroVelo 6 route. If realized, the constructed infrastructure should be used and promoted for the overall tourism development. |
| Estimated cost in EUR of implementation including the information and promotion | None. This measure is free of charge; most of the promotion could be by the word of mouth, i.e. free or charge, via dissemination of information. |
| Financing options | Not necessary. The funding for the technical documentation should be secured in their local budgets or acquired elsewhere (from state fund for the preparation of the technical documentation or co-financing grants). |
| Realization horizon | 2-10 years |
| Responsible organizations to be involved in the next steps of the process | Each municipality/city administration within the Pearl |
| Responsible organization of implementation | Each municipality/city administration within the Pearl Each municipality or city administration within the Pearl should intensively work on preparation plans for the |
| | construction, lobbying, planning or starting the preparation |



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| | of financing options for the construction of the bike path |
|---------------------|--|
| | for the EuroVelo 6 route. |
| Priority | High/contingent |
| Status | ongoing |
| Type of integration | vertical |
| Location | All Pearl members |



Figure 23: Construction of the bike path in Vukovar-Borovo route Source: City of Vukovar image database



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9. Implementation aspects of the selected measures

Among the 9 selected measures, it is important to determine the level of importance for each one of them. The basic and the single criteria for their importance determination is their impact level on the preset and combined main goals and objectives defined in chapter 7. The following table ranks their importance in a descending order.

| Rank | Number and the name of the selected measure |
|------|---|
| 1 | No. 9. Support of construction of the bike path along the EuroVelo 6 route |
| 2 | No. 3. Establishment of Regional Mobility Centre in Vukovar |
| 3 | No. 4. Modernization of railway route Zagreb-Vinkovci-Vukovar |
| 4 | No. 8. Support of reintroduction of railway and bus connections on a route |
| | Croatia-Hungary |
| 5 | No. 1. Introduction of bike carriages on bus lines |
| 6 | No. 6. Support of e-car infrastructure development |
| 7 | No. 2. Extension of rental bike system |
| 8 | No. 7. Promotion of the use of small electric vehicles, watercrafts and small boats |
| | in tourists offers |
| 9 | No. 5. Construction of a landing stage for E-boat shuttle service (Vukovar- |
| | Vučedol) |

Table 3: Ranking of the measures' importance

For each measure, the monitoring and evaluation should be performed in order to secure the measures' implementation and to provide the analysis of the measures' effectiveness. The Pearl's management will take on these roles and its structure and leadership will be determined within/after the projects lifetime.

Support of construction of the bike path along the EuroVelo 6 route is the most important measure which is based on the lobbying for and the planning of construction of the physical bike path throughout the Osijek-Baranja and Vukovar-Srijem County. The construction itself depends on availability of funds in the regional, local, national or EU budgets and its completion is therefore very hard to estimate. In order that political leaders on national or regional level obtain insights about the tourism potential of this bike path, it is necessary to constantly inform them and lobby for its planning and



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financing. Each local government of the city or municipality located on the route territory should lobby with the regional government (county) for the necessity of the bike path construction. The political representatives, both from regional and local government should also lobby at national representatives for this project.

Establishment of Regional Mobility Centre in Vukovar is the second most important measure. Once the network of the pearls along the Danube is established, the Centre should have a key role for coordination of marketing activities and cooperation with other pearls. Also, its informational role is very important for visitors and for establishing and branding of the city of Vukovar as a hub for cyclist in Eastern Croatia, i.e. it is very important for getting closer to the Pearl's common vision - becoming a centre of the cycling tourism in the eastern Croatia and an international hub for cyclists. The basis for evaluation of this measure should be the annual statistics of tourists on the territory of the Pearl. The Evaluation should be conducted annually and the monitoring should be done by the Pearl's management.

Modernization of railway route Zagreb-Vinkovci-Vukovar is an ongoing national level project fully dependent on EU financing, national coordination and the contracting speed. Up to today, there have been many delays caused by contracting problems (appeals for awarded contracts, construction delays etc.). It is of high importance (3rd rank) because many potential visitors would use this route on their journey to Danube/EuroVelo6, coming from western Croatia, Slovenia, Austria, Italy or Germany by train. The full completion deadline is unknown and hard to estimate but the completion would have a compelling effect on sustainable tourist transport opportunities, economic and tourism development of Eastern Slavonia.

Support of reintroduction of railway and bus connections on a route Croatia-Hungary is the fourth most important measure. Its implementation, i.e. success, depends on political issues (migrant crises) as well as on economic viability. After the financial crises enfolded in 2009, national public finances of Hungary, Croatia and Bosnia and Herzegovina have encountered budget constraints and it is no surprise that the railway connection Budapest-Osijek-Sarajevo was terminated in 2012. Since the inception of the migrant crises (in 2015) and up to June 2017, two bus lines (Osijek-Pecs and Osijek-Harkány) have been introduced but were eventually discontinued due to lack of economic viability. It is useless to support or demand the introduction of the new railway or bus lines by the private bus & railway operators if these lines are not economically viable or profitable. Their profitability is certainly expected to increase



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when or if the tourist traffic strengthens or if we see stronger social and economic connections between the two regions/countries. These conditions should be continuously monitored, analyzed and the proper action is needed by all stakeholders (Osijek-Baranja, Vukovar-Srijem and Baranja County, Croatian and Hungarian Railways). The basis for analysis should be the annual and semi-annual statistics of tourists on the territory of the Pearl/Baranja County.

Introduction of bike carriages on bus lines is a measure which will be fully implemented during the Transdanube.Pearls project. This measure targets the goal and objective of safe cycle travelling, because it enables the cyclist to choose the public transportation in times of bad weather conditions or if they don't feel safe cycling on the bike route which does not have a full cycling infrastructure – bike paths. If potential tourists have the information about the existence of bike carriages in the Pearl, that information would definitively help them when choosing the destination and deciding on going to vacation. The basis for its evaluation should be the annual statistics of cyclists, i.e. cycle tourism on the territory of the Pearl. The Evaluation should be conducted annually and the monitoring should be done by the Pearl's management.

Support of e-car infrastructure development, is the sixth measure by importance. Due to the fact that the current number of e-cars is still very low in Western Europe at the moment, the importance rank is not very high. However, with the evolution of this trend in technology as well as in lifestyle, environment protection and awareness, a developed infrastructure for e-cars could play a significant role in tourism development. This measure should stipulate the e-car infrastructure and in such a way it would ultimately have a positive impact on a decision of the e-car owners to visit the Pearl and its

Analysis of trends, number of electric vehicles and eco-cars should be done by Pearl's management. The Evaluation should be conducted annually and the monitoring should be done by the Pearl's management.

Extension of rental bike system measure, just as Establishment of Regional Mobility Centre in Vukovar and Introduction of bike carriages on bus lines measures, is a measure which has secured funding and will be fully implemented during the project Transdanube.Pearls. Each potential visitor wants to know that there is bike renting possibility and he or she will more easily make a decision if the rental bike system exists in the potential destination. The Evaluation should be conducted annually and the monitoring should be done by the Pearl's management. The basis for analysis and



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evaluation should be the annual and semi-annual statistics of tourists/cycling tourists on the territory of the Pearl.

Promotion of the use of small electric vehicles, watercrafts and small boats in tourist offers, by its significance is ranked eight. If this measure accomplishes its purpose, i.e. new tourist offers with watercrafts, small boats or small electric vehicles emerge, the attractiveness of the destination will be increased. These tourist offers will be a reason for some visitors in deciding to come to the Pearl. For others, it will be a great surprise and a reason to recommend this destination to their friends or to stay longer. The investments in such offers, i.e. in the equipment do not require a lot of capital and can be rewarding for the business owners as well as for the destination itself. The evaluation should be conducted annually and the monitoring should be done by the Pearl's management. The basis for analysis and evaluation should be the annual statistics of tourists on the territory of the Pearl and a clear distinction should be made for year without and with those offers.

Construction of a landing stage for E-boat shuttle service (Vukovar-Vučedol) is the last measure which will have a small local impact on the tourist offers and experience of the navigation on the Danube in the vicinity of Vukovar. It will enable a great mix of travelling on the river Danube and historical Vučedol Culture Museum. This measure should increase the number of passengers using the E-Boat as well as the number of visits to the Museum. The reason for that is that this could be marketed as a package containing two products, perhaps with a lower price compared to the situation if these two products were sold separately. The Evaluation should be conducted annually and the monitoring should be done by the Pearl's management. The basis for analysis will be number of dockings of boats and the number of passengers disembarking/embarking at the landing stage.



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The ratio of tourism in overall economic activity in the proposed Pearl area is not at a high level and it can't be compared with tourism numbers on the Adriatic Sea, i.e. Croatian coast. However, many of its natural beauties represent a solid base for a future development and increase of domestic and foreign tourist arrivals. The Strategy of Tourism Development supports the development of continental tourism which should be based on special forms of tourism such as cycling tourism.

Trends in health conditions of general population require change in their physical activity patterns and more exercising. In such conditions, cycling and cycling tourism is and can be an expanding niche in the overall economy.

The regional or local administrative units in the proposed Pearl area are advised to implement all mandatory and contingent measures in this Plan, in order to fulfill the common standards prescribed in the Transdanube.Pearls project, as well as to increase and improve the attractiveness, visibility and image of the future Pearl-destination.

The proposed measures will and can improve connectivity with the sustainable means of transport. However, the major obstacle in this Pearl is the nonexistence of public transport on a Croatian-Hungary border and the nonexistence of constructed bike paths. This bottleneck represents a major issue for the speed as well for the safety of travelling of cyclists and the measures proposed in this Plan to solve these issues can be just the starting point.

Therefore, the main priority of this plan should be the three mandatory measures as well as the measure number 9 - Support of construction of the bike path along the EuroVelo 6 route— which could to some degree, alleviate the problem of no public transport connections at the border. This measure, and potentially its full realization, should be one of the major instruments of the tourism development in the continental part of Eastern Slavonia, i.e. in the Osijek-Baranja and Vukovar-Srijem County as well as in South-Backa District. Therefore, on its implementation should jointly work and collaborate all relevant stakeholders in Hungary, Croatia and Serbia.





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Annex I:

13. SoA analysis – City of Vukovar (as of May 2017)

Structural data of the region



The examined area encompasses Vukovar-Srijem County (VSC) and Osijek-Baranja County (OBC) in Republic of Croatia and South Backa District (SBD) in Republic of Serbia.



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Table 1: General statistics for Vukovar-Srijem County, Osijek-Baranja County and South Backa District

| | VSC | OBC | SBD |
|---------------------------------------|---------|---------|----------|
| area in km2 | 2.454 | 4.155 | 4026 |
| population | 179.521 | 305.032 | 615.371 |
| Number of cities/municipalities | 5 | 7 | 13 |
| population density per m ² | 73,15 | 73,41 | 152,85 |
| number of employed persons | 39.037 | 83.624 | 195.684 |
| capital city | Vukovar | Osijek | Novi Sad |
| capital's population | 27.683 | 108.048 | 341.625 |
| passenger vehicle number | 44.444 | 79.400 | 151.190 |
| agricultural land surface (ha) | 149.703 | 212.095 | 327.713 |
| forest surface (ha) | 70.026 | 122.476 | 18.741 |

POINTS OF INTEREST

Kopački rit

Kopački rit Nature Park, also called the European Amazon, is situated in the central part of the Danube floodplain, between two important European rivers, the Drava and the Danube. It became a protected area in 1967 due to its values as a rare ecosystem, its rich biodiversity and important ecological values. The whole surface of the Park lies on 23.891 ha of which 7.143 ha are under higher protection being a Special Zoological Reserve. In 2012, the Park was declared as part of the Mura-Drava-Danube Biosphere Reserve under UNESCO. The main ecological significance of Kopački rit is comprised by flood dynamics, therefore, the Park is always different. The tame natural resources of this area enable you to discover the rich fauna, from small birds to large wild animals, like deer. Here the visitors can enjoy the gifts of nature, awakened by the scent of wild flowers, birds singing or by walking through oak forests that are extremely rare today.



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City of Osijek - Tvrdja complex, Baroque military buildings, Franciscan monastery, Zoo garden and Museum of Slavonia.

City of Vukovar – Museum of the City of Vukovar (Castle Eltz), Vučedol Culture Museum, ship "Bajadera", park-forest "Adica", Ada picnic site, Water tower, Homeland war memorial sites

City of Ilok – Museum of the City of Ilok (Castle Odeschalchi), Ilok medieval fortress, Church of St. John Capistrano, Iločki podrumi (Wine Cellars of Ilok), Principovac Castle; wine and gastronomy

Municipality of Nijemci - Center for bird-watching, St. Catherine boat, rivers Bosut and Spačva

City of Novi Sad/South Backa district - Liberty Square, Dunavska Street, Dunavski Park, Zmaj Jovina Street, Theatre Square, EXIT festival, The Strand city beach, Petrovaradin Fortress, National park "Fruška Gora"

The most important sectors of the economy in Vukovar-Srijem and Osijek-Baranja County are processing industry, distribution of electricity and gas, wholesale and retail, agriculture and forestry. SBD has also similar economic structure, the only difference in the landscape is that is has much smaller area covered with woods and a larger proportion of agricultural land in its total area.

Tourism does not play an important part in the business activities in all three administrative units. There are 16 hotels in OBC with 1098 beds, and other accommodation facilities provide additional 1000 beds, thereby the current total accommodation potential of the County counts more than 2000 beds, whereas VSC disposes with more than 1600 beds.

In SBD in 2012 worked 195.684 persons, VSC at the end of 2016 had 39.037 employees and OBC 83.624 employed persons. In the SBD, the city of Novi Sad had 80% of overnight stays and is therefore the major destination in District, whereas VSC and OBC have territorially more spread tourist arrivals across their territory.



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Nodes/directions of the EUROVELO6 route:

State road D212 from Batina (at Croatian-Hungarian border)-Kneževi Vinogradi,

Kneževi Vinogradi-Lug-Vardarac-Bilje-Osijek

State road D213 Osijek-Bijelo Brdo-Dalj

State road D519 Dalj- Vukovar

State road D2 Vukovar- Ilok

State road D2 connects Osijek with Vukovar and Ilok. From Vukovar it stretches through settlements like Mohovo, Šarengrad. State road D57 connects Vukovar with Municipality of Nijemci.



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Figure 1: Overview of the EUROVELO6 route:

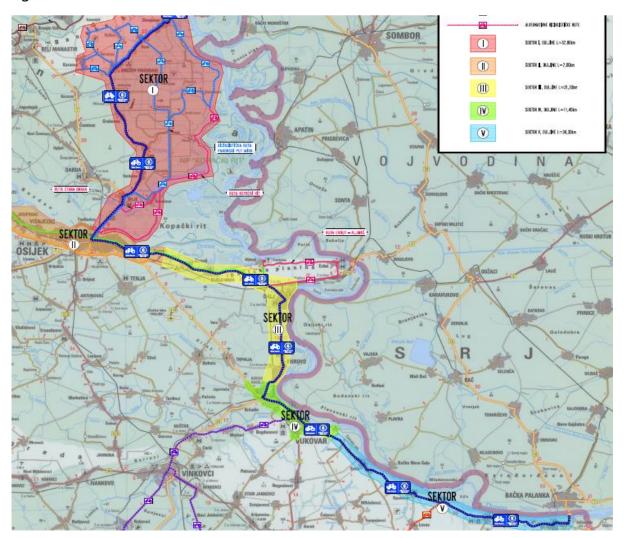
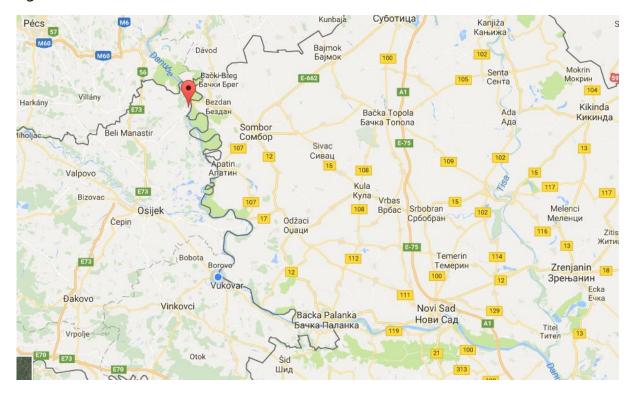






Figure 2: Overview of the EUROVELO6 route:





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Tourism data

Tourism hotspots in the area comprised in this report are Kopački rit, City of Osijek, City of Vukovar, City of Ilok, Municipality of Nijemci, City of Novi Sad which are located in Osijek-Baranja and Vukovar-Srijem County (Republic of Croatia) and South-Backa District (Republic of Serbia).

Table 2: Data on tourist statistics for period from 2008 until 2016. for Vukovar-Srijem County

| Vaar | TOTA | L VSC | VUKO | VAR | ILO | K | VINK | OVCI | NIJEI | MCI | ŽUPA | NJA |
|-------|----------|--------|----------|-------|----------|------|----------|-------|----------|------|----------|------|
| Year | arrivals | o.s.* | arrivals | o.s.* | arrivals | o.s. | arrivals | o.s. | arrivals | o.s. | arrivals | o.s. |
| 2008. | 41688 | 87369 | 9048 | 24948 | 1848 | 2303 | 22738 | 49859 | 6120 | 6575 | 1368 | 2606 |
| 2009. | 34406 | 80109 | 8187 | 21961 | 1976 | 2640 | 21932 | 50941 | 117 | 158 | 1543 | 3434 |
| 2010. | 40459 | 73005 | 7490 | 17813 | 4223 | 5196 | 26768 | 47010 | 84 | 114 | 1242 | 1988 |
| 2011. | 39145 | 66090 | 6107 | 9512 | 5537 | 6959 | 22357 | 41767 | 3292 | 3693 | 1364 | 3406 |
| 2012. | 37611 | 65859 | 6353 | 10301 | 4226 | 5792 | 19594 | 38623 | 5914 | 7495 | 856 | 1511 |
| 2013. | 46039 | 82517 | 9217 | 18665 | 4599 | 6991 | 24703 | 46447 | 6491 | 7815 | 650 | 1621 |
| 2014. | 50690 | 93702 | 7016 | 11913 | 4448 | 6068 | 31128 | 58420 | 5908 | 6904 | 1420 | 8026 |
| 2015. | 60570 | 110513 | 17877 | 28215 | 5020 | 7794 | 29919 | 62930 | 5895 | 6643 | 1274 | 3811 |
| 2016. | 71424 | 111036 | 34881 | 47427 | 4513 | 6543 | 23233 | 43761 | 6331 | 7361 | 1534 | 3700 |

^{*}overnight stays/ Source: VSC



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Table 3: Data about tourist statistics for period from 2008 until 2016: Osijek-Baranja County and Kopački rit

| Year | | 2008. | 2009. | 2010. | 2011. | 2012. | 2013. | 2014. | 2015. | 2016. |
|----------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| OBC | arrivals | | | | | | | | 79588 | 87430 |
| | O.S. | 188926 | 187422 | 159261 | 173892 | 168122 | 169952 | 174531 | 198473 | 176419 |
| KOPAČKI RIT | arrivals | 36700 | 36000 | 33000 | 33000 | 28756 | 27000 | 26800 | 29836 | |
| | O.S. | NA |

Source: OBC

In a total structure of overnight stays, 66.64% is accounted for city of Osijek and Bizovac (Bizovac Spas). Baranja accounts for 14.07% of overnight stays and 16.58% of overnight stays is realized in other larger cities: Đakovo, Našice, Valpovo and the rest (2.71%) in a city of Belišće, Donji Miholjac and Municipality of Erdud.

For data of Vukovar-Srijem County we can see that arrivals in Vukovar-Srijem County have increased significantly, whereas there is a lack of data for Osijek-Baranja County for arrivals, but from the overnight stays, we could conclude that tourism in Osijek-Baranja County stagnated in the last 9 years. That trend can be noticed in particular in arrivals in the nature park Kopački rit, where its data indicates even negative trend.

In South-Backa District there are positive trends in arrivals (rise of 41% in 2015 compared to 2012) as well as in overnight stays. Foreign tourist make up a much larger share in overnight stays than the domestic ones, and there are almost 50% more foreign arrivals compared to than domestic.



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Table 4: South-Back District & Novi Sad – arrivals and overnight stays of tourists

| year | | arrivals | | Overnight stays | | | |
|--------------------|--------|----------|---------|-----------------|----------|---------|--|
| year | Total | domestic | foreign | total | Domestic | foreign | |
| 2012 | 127077 | 57960 | 69117 | 262992 | 102947 | 160045 | |
| 2013 | 143933 | 60820 | 83113 | 310603 | 125013 | 185590 | |
| 2014 | 167044 | 71572 | 95472 | 361658 | 157649 | 204009 | |
| 2015 | 179323 | 80526 | 98797 | 371495 | 168361 | 203134 | |
| Novi Sad (2015) | 151372 | 61489 | 89883 | 297097 | 113205 | 183892 | |

Source: Statistical Office of the Republic of Serbia

Table 5: Statistics of domestic and foreign visitors' nights in OBC, VSC, SBD and Novi Sad in 2015

| | OBC | VSC | SBD | Novi Sad |
|--------------------------|--------|--------|--------|----------|
| overnight stays total | 158226 | 111036 | 371495 | 297097 |
| domestic | 103181 | 79712 | 168361 | 113205 |
| foreign | 55045 | 31324 | 203134 | 183892 |
| foreign/total | 34,79% | 28,21% | 54,68% | 61,90% |

Source: VSC, OBC, Statistical Office of the Republic of Serbia, Croatian Bureau of Statistics

If we observe the structure of tourist's origin, we can see that VSC has the lowest proportion (28.21%) of foreign overnight stays, whereas Novi Sad the biggest proportion of foreign tourists (61.9%). One of the reason for such a statistic could be Homeland war and a large number of visitors for commemoration of war victims and anniversaries by domestic and memorial tourists, or the short stay of foreign visitors in



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VSC due to fact that their destination could be the city of Novi Sad or Belgrade so they don't spend much time in VSC and head for Novi Sad instead, as their major tourist attraction.

Table 6: Statistics of domestic and foreign visitors' nights across Vukovar-Srijem County

| | overnights total | foreign | domestic | Share of foreign guests |
|-----------|------------------|---------|----------|-------------------------|
| Vukovar | 47.427 | 6.297 | 41.130 | 13,28% |
| llok | 6.543 | 1.425 | 5.118 | 21,78% |
| VSC total | 111.036 | 31.324 | 79.712 | 28,21% |
| Vinkovci | 43.761 | 14.333 | 29.428 | 32,75% |
| Županja | 3.700 | 1.500 | 2.200 | 40,54% |
| Nijemci | 7.361 | 6.860 | 501 | 93,19% |

Source: VSC

Similar information is obtained from the analysis of the ratio of foreign guests across the Vukovar-Srijem County. We can see that the city of Vukovar has the smallest ratio of foreign guest (just 13%) and the reason for that is the large number of domestic visitors connected with memorial tourism and Homeland war. In Nijemci, however, we have the opposite situation. More than 9 visitors out of 10 come from abroad, attracted by the bird habitat, which is not very interesting or known by local inhabitants and the foreigners travel hundreds of miles just to enjoy in this specific natural beauty.

The city of Vukovar, as a seat of the county and due to the fact that it lies on a Danube river, it has the greatest number of overnight stays.



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Table 7: Overnight stays in VSC and cities in VSC by guest's origin in 2016

| | DE | BA | IT | SI | RS | AT | СН | RO | BG | FR | PL |
|----------|------|------|------|------|------|------|------|------|------|------|------|
| VSC | 3998 | 2708 | 2644 | 2511 | 1897 | 1878 | 1801 | 1365 | 1086 | 1048 | 1008 |
| VSC | 12% | 9% | 8% | 8% | 6% | 5% | 5% | 4% | 3% | 3% | 3% |
| | 844 | 745 | 783 | 365 | 169 | 523 | 159 | 84 | 94 | 142 | 175 |
| Vukovar | 21% | 27% | 29% | 14% | 8% | 27% | 8% | 6% | 8% | 13% | 17% |
| | 1652 | 1670 | 1366 | 1863 | 866 | 927 | 613 | 699 | 149 | 346 | 269 |
| Vinkovci | 41% | 61% | 51% | 51% | 45% | 49% | 34% | 51% | 13% | 33% | 26% |
| | 253 | 93 | 86 | 76 | 85 | 152 | 59 | 25 | 18 | 60 | 51 |
| llok | 6% | 3% | 4% | 3% | 4% | 8% | 3% | 1% | 1% | 5% | 5% |
| | 256 | 71 | 75 | 51 | 106 | 61 | 62 | 125 | 105 | 35 | 204 |
| Županja | 6% | 2% | 2% | 2% | 5% | 3% | 3% | 9% | 9% | 3% | 20% |
| | 925 | 70 | 326 | 109 | 612 | 198 | 898 | 266 | 677 | 455 | 12 |
| Nijemci | 23% | 2% | 12% | 4% | 32% | 10% | 49% | 19% | 62% | 43% | 1% |

Source: Tourist Board of VSC – Projects and activities of Tourist Board of VSC

The greatest number of tourist in VSC came from Germany in 2016, followed by citizens of Bosnia and Herzegovina and Italy. Analyzed by the cities in VSC, Italians count as the largest overnight guests in city of Vukovar, whereas citizens of Bosnia and Herzegovina are the most frequent guests in the city of Vinkovci.



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Table 8: Guests' structure by origin in 2015. in OBC, in percentage, including domestic and foreign

| Croatia | 61,50 |
|------------------------|-------|
| Germany | 4,80 |
| USA | 2,70 |
| Slovenia | 2,70 |
| Bosnia and Herzegovina | 2,50 |
| Serbia | 2,40 |
| Austria | 2,30 |
| Hungary | 2,30 |
| Italy | 2,10 |
| other | 16,70 |

Source: Osijek-Baranja County

Table 9: Statistics on number of tourists from river cruisers in OBC and VSC

| Port | Number of cruisers disembarking | Number of travelers – visitors |
|-----------------------|---------------------------------|---------------------------------|
| Batina (2015), 2016 | (36), 41 | (4.485), 4.710 |
| Osijek (2015), 2016 | (34), 34 | (3.293), 4.180 |
| Vukovar (2015), 2016 | (221),224 | (29.207), 27.122 |
| llok (2015), 2016 | (22), 31 | (2.822), 4.168 |
| Novi Sad (2015), 2016 | (290), 306 | (35.314), 36.604 |

Source: OBC, Port Authority Vukovar, Port Authority Osijek, Port Authority Novi Sad

Most of the tourists in VSC and OBC are domestic tourists which is opposite of tourism statistics for the tourism on the coast/Adriatic sea, where most of the visitors are foreign nationals. Geographic position plays a great part in that, besides large memorial tourism and the fact that Osijek or Vukovar are not large urban centers which could attract



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foreign visitors such as the city of Zagreb, Novi Sad or Belgrade. Key stakeholders in tourism development are the Ministry of Tourism, counties and local tourist boards, private companies, and visitors as a target group.

Table 10: Information about Tourist boards in the Pearl

| Tourist board/organization of | available languages | website | County |
|--------------------------------|---------------------|------------------------------|--------|
| Vukovar-Srijem County | CRO, DE, ENG | www.visitvukovar-srijem.com | VSC |
| City of Vukovar | CRO, DE, ENG | www.turizamvukovar.hr | VSC |
| City of Vinkovci | CRO, DE, ENG | www.tz-vinkovci.hr | VSC |
| City of Ilok | CRO, DE, ENG | www.turizamilok.hr | VSC |
| Municipality of Nijemci | CRO | www.tz-opcinanijemci.hr/ | VSC |
| Osijek-Baranja County | CRO, DE, ENG, HU | www.tzosbarzup.hr/ | OBC |
| City of Osijek | CRO | www.tzosijek.hr/ | OBC |
| Baranja (Beli Manastir) | CRO, ENG, HU | www.tzbaranje.hr/ | OBC |
| City of Belišće | CRO | www.tzbelisce.net/ | OBC |
| Municipality of Draž | CRO | www.tz-draz.hr/ | OBC |
| City of Našice | CRO, DE, ENG, ITA | www.tznasice.hr/ | OBC |
| City of Đakovo | CRO, DE, ENG | www.tzdjakovo.eu/ | OBC |
| City of Donji Miholjac | CRO | www.tz-donjimiholjac.hr/ | OBC |
| Municipality of Bilje | CRO, HU, DE, ENG | www.tzo-bilje.hr/ | OBC |
| Municipality of Bizovac | none | none | OBC |
| Municipality of Erdut | NA | www.erdut.hr | OBC |
| City of Valpovo | NA | http://www.tz-valpovo.com | OBC |
| City of Novi Sad | SER, RUS, ENG, DE | http://novisad.travel | SBD |
| Municipality of Backi Petrovac | SER, SI, ENG | www.turizambackipetrovac.rs/ | SBD |
| Municipality Backa Palanka | SER | www.toobap.rs/ | SBD |

Source: web domains of the tourist organizations



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Unfortunately, some important tourist boards do not have website content in foreign languages (City of Osijek, a very important city of Eastern Croatia, with a nearby nature park Kopački rit, as well as Municipality of Nijemci with a large proportion of foreign visitors). Therefore, we hope the situation will change soon. There are many private companies – tourist agencies operating in this area, so we could not single out any particular one due to fairness towards others, their competitors.

Each tourist organization provides information about their local site, and there is a lack of knowledge and information of each organization about the neighboring organizations.

Regional sustainable transport situation

The public transport infrastructure for Vukovar-Srijem County, Osijek-Baranja County and South-Backa District is based mostly on bus connections. There is no railway connection Osijek-Vukovar. Vukovar is in its own county connected with city of Vinkovci by train and bus. Dominant means of transport within these three administrative units is a personal car, i.e. usage of roads, but strong bus connections are reliable and affordable for those who don't have a car or want to visit this area. In Osijek-Baranja County there is an airport in Klisa, which has a new good connection with Stuttgart and Basel. It is basically the only regional passenger airport (population of Novi Sad tends to use the airport in Belgrade, which is only 80 km away from Novi Sad). The river Danube serves as a pathway for large cargo loads, with ports in Vukovar, Novi Sad, Apatin, Bogojevo, Backa Palanka. Another river port is the Port Osijek on the river Drava, which is a tributary to Danube and passes through the city of Osijek. Besides cargo transport on the rivers, the tourist cruisers along the Danube are becoming important tourism, i.e. economic potential.



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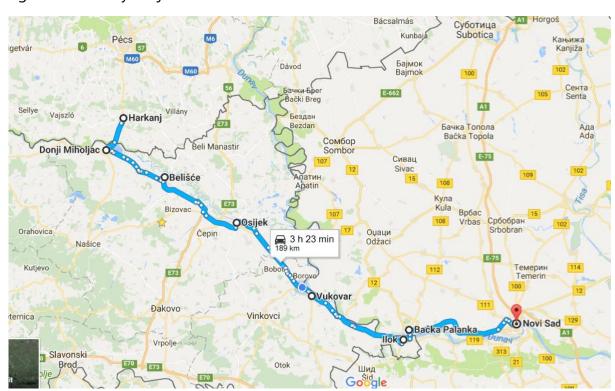


Figure 3: Harkány-Osijek-Vukovar-Ilok-Backa Palanka-Novi Sad bus connection

The bus connection on route Osijek-Vukovar-Ilok-Novi Sad runs every day (Panturist d.d., Čazmatrans Vukovar d.o.o., SP Lasta). There are no trains from Vukovar towards Novi Sad. However, there is a daily train connection from Vinkovci to Novi Sad via Šid and Stara Pazova (changing train) but such journey lasts more than 8 hours (approximate distance of 200 km) and is not recommendable at all, considering the fact that the bus connections towards Novi Sad are running from Osijek and Vukovar every day and have a normal and acceptable duration and route (Osijek-Vukovar-Ilok-Bačka Palanka-Novi Sad).

Very good alternative train connection is Vinkovci-Belgrade-Vinkovci (journey duration of only 2 hours and 50 minutes) which runs every day (Departure in Vinkovci @14:47, arrival in Belgrade @17:37-international train Zürich-Belgrade-Zürich) and is a good option for those who want to get to Serbian capital, instead of Novi Sad. This is also a good option for travelers who want to visit Belgrade and Novi Sad (as their last destination), travelling first to Belgrade and then perhaps returning to Novi Sad which is



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very well connected by train (13 train connections per day, average travel journey duration 90 minutes) and buses.

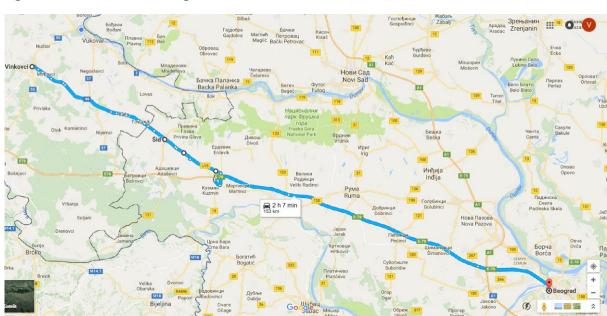


Figure 4: Vinkovci-Šid-Belgrade train connection

Due to the migrant crises, there are no trains connecting Osijek (Croatia) with Hungary. Before the migrant crises, the train connection Osijek-Beli Manastir-Villany/Pecs was possible but this line is at the moment of writing this report (end of March 2017) out of service until further notice. Therefore, the only available public transport connection between Croatia and Hungary is the bus line Osijek-Harkány-Osijek (bus company APP – Auto prijevoznik Požega) with odd time schedule for departing Osijek (21:25h). In the city of Harkány there is no train station stop (just railway track©) so the bus is the only alternative for reaching cities Mohacs or Pecs, but due to late arrival @22.56h in Harkány, the overnight stay is highly recommended in a city which is well-known for its spa resort and tourism.



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Table 11: Overview of bus and train connections within and between the Pearl – City of Vukovar

| Departure | Arrival | minutes | connections | mode of transport |
|-------------------------|---------------------------|---------|-------------|----------------------|
| Belgrade | Novi Sad | 90 | 13 | train |
| Beli Manastir | Osijek | 28 | 10 | train |
| Osijek-Beli Manastir | Villany/Pecs/Mohacs (HU)* | NA | NA | train |
| Osijek | Harkány (HU)** | 91 | 1 | bus |
| Novi Sad | Budapest | 390 | 3 | train |
| Osijek- Vukovar-Ilok | Novi Sad | 165 | several | bus |
| Vinkovci*** | Belgrade | 170 | 1 | train |

^{*}suspended due to migrant crises until further notice

Source: timetables of bus and railways companies

The EuroVelo6 bike route that passes Croatian territory starts on Croatian-Hungary border in Duboševica and stretches in south-east direction towards Osijek, Vukovar and Ilok. After Ilok, in Serbian city Bačka Palanka the Croatian and Serbian parts of the EuroVelo 6 route connect and the route goes all the way towards the city of Novi Sad.

^{**}Osijek departure @21:25, Harkány departure @11:30, no railway connection to Pecs, just bus connection

^{***}departure from Vinkovci @14:47, departure at Belgrade @10:55; Zürich-Belgrade-Zürich international train



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Nantes

Besançon
Basel
SCHWEIZ
SUISSE
SVIZZERA
OSIJEK
Novi Sad
Bucureşti
HRVATSKA
OSIJEK
Novi Sad
Bucureşti

Figure 5: EuroVelo 6 route from Nanters, Croatia, Serbia, up to Constanza

Most of the EuroVelo 6 route within the Croatian territory does not have bicycle pathways, but only signposted and marked route signs on the public roads. However, in the major cities (Osijek, Vukovar, Novi Sad) there are constructed bicycles pathways which can be used for exploring the city and visiting nearby city attractions (city of Osijek has 40 km of constructed bicycles pathways).

Besides the EuroVelo 6 route, there are some additional routes such as Bike route Drava, Pannonian peace trail, Bike route Karašica, Bike route Sava and other alternative routes.

On our territory which is the subject of this analysis and report, there are many bike-friendly hotels and hostels. In Osijek there are 2 or more locations where you can rent a bike, in Vukovar there is one location. In the City of Novi Sad there are several bikerenting companies, offering bike renting for less than a €1 per day (with a €40 returnable security deposit for foreign citizens).



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Public transport on the local level s is often partially funded, subsidized and/or operated by the local authorities. The City of Osijek has its own transport company (GPP), Novi Sad as well, and the City of Vukovar has a concession with the bus company up to 2018. The City of Vukovar provides their citizens older than 65 years with complimentary public transport service on the city's territory. The operating company is not in the ownership of the City of Vukovar but the company receives co-financing from the City of Vukovar and the national authorities for pupils of elementary and secondary education for the inter and intra-city transport as well as students travelling to Osijek-Baranja County (city of Osijek) or city of Vinkovci.

The regional bus transport is fully commercial-based, with an exemption for example that students or pupils obtain full or partial funding for the cost of the monthly tickets by local, regional or national level. All bus companies connecting two different cities or Vukovar-Srijem with Osijek-Baranja County are in the private ownership.

Due to the fact that development of railway infrastructure is financed with more than EUR 300 million in the budget for 2017 in Republic of Croatia, as well as the fact that the Serbian national budget expense for railway company Srbija voz was EUR 74 million in 2015, we can state that the railway sector is significantly funded with public money. Such a subsidy system in Croatia must follow stricter EU rules and procedures, in contrast to Serbia, which is not an EU member state. The railway companies in Croatia and Serbia are in the government/public ownership. The public state and regional roads are also built or maintained by the public funding, i.e. companies for road maintenance which are supported with government guarantees for their credit liabilities, so we could also say that the road infrastructure is public in a same way as the railway infrastructure. The only difference is in the ownership of bus companies operating on a regional, national or international terrain, which are fully privatized, i.e. in a private ownership.



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Table 12: Overview of the transport operators and other info

| Name | type | web-site | type of payment | language | info number |
|------------------|--------------|-------------------------------|------------------------|--------------------------|------------------|
| Panturist d.d. | bus | www.panturist.hr | credit cards/online | ENG, CRO | 0800 23 35 |
| Čazmatrans | bus | www.cazmatrans.hr | credit cards/online | ENG, CRO | 032/442- 064 |
| Lasta | bus | www.lasta.rs | credit cards/online | SRB, ENG, DE et.al | 0800 334- 334 |
| HŽPP | train | www.prodaja.hzpp.hr/hr/Ticket | credit cards/online | ENG, CRO | 060 333 444 |
| JGSP Novi Sad | bus | www.gspns.co.rs | cash/offline | ENG, SER | 021/527- 399 |
| GPP Osijek | bus/ tram | www.gpp-osijek.com/ | cash/offline | CRO | 0800 7555 |

Most of the public transport system have internet sale options (except the city transport in Novi Sad and Osijek) so the travelers can buy tickets in advance online. When buying the tickets offline, i.e. at the site, there are no vending machines which are the most common payment outlet for city, local or regional transport in western countries. Important obstacle in such a system is that the visitor sometimes can't use their credit card, i.e. he or she must change money first into the local currency or stay in the line for the ticket counter. Therefore, we could conclude that the bus or railway offline ticket sale doesn't comply with modern standards and makes the journey somewhat complicated.



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Existing plans and projects

Results of previous projects in the field of transport and mobility in tourism areas

Project "Cycling Danube"

Objective: development of recreational tourism in cross-border region, which as one of the forms of selective tourism, has grown in recent years. The project is focused on the development of cycling tourism, raising awareness of cycling as an environmentally friendly mean of transportation, and promoting the Danube bicycle region and the international EuroVelo 6 cycling route that stretches from the Atlantic to the Black Sea. Project activities included:

- 1.1. Organization of partner meetings
- 1.2. Employment of 2 persons for the provision of technical assistance (cycling experts)
- 2.1. Establishment of association for promotion and development of cycling
- 2.2. Employment of 2 project assistants (who are employed in the established Association and in the project 2
- 3.1. Development of "Study Analysis of the Current Condition of the Danube Route"
- 3.2. Workshop "Traffic Safety"
- 4.1. Organizing workshops for tourism stakeholders
- 5.1. Study trip to Austria
- 5.2. Participation at the EUROBIKE fair in Germany
- 5.3. Promotional conference
- 5.4. Set up information resources
- 5.5. Organization of the event "Cycle-event"
- 5.6. Final conference

Failure: lack of funding and sustainability for the Association for promotion and development of cycling, work based on voluntary basis

Success: good promotion of the route, stipulation of all stakeholders for physical development of the cycling tracks/pathways



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Existing systems of planning aims/action plans/mobility concepts

The Strategy for Development of Tourism in Vukovar-Srijem County states that development of cycling infrastructure: cycling routes and pathways should be build. The County must have an initiative and coordination responsibility for this and a deadline for achieving such goal is from 2015-2018.

Transit tourism, Info-contact points- are also stated in this strategy for the 2015-2016 program.

Development Strategy of Osijek-Baranja County has several programs which stipulate the tourism development such as program for development of wine roads, development of rural tourism etc. but doesn't mention specifically mobility concepts or action plans, but a general development projects such as the abovementioned projects.

Cycling tourism forms a very important part in the **Development Strategy for Tourism up to 2020 of Republic of Croatia**. Measure 18 describes a Program for cycling tourism development. A faster development of major cycling routes is planned and EuroVelo 6 route is mentioned in particular, stating that this route should be "established in a way which enables tourists to move without compromising their security and significant distraction of motor road traffic (especially on those places where there are no alternative routes)". Responsible authority for implementing this program is Croatian Ministry of Tourism in cooperation with Ministry of the Sea, Transport and Infrastructure.



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SWOT-analysis

Strengths

- -rich cultural and historical heritage
- -unpolluted nature, biodiversity, nature park
- -rich and healthy unique and geographic gastronomy offers
- 3 counties, 2 Countries, 1 language?
- Airport in Klisa (Osijek), connection with Stuttgart, Basel, other Croatian cities; proximity of Osijek, Vukovar and Kopački rit nature park
- proximity of Danube and Drava rivers
- -"Bike-friendly" hotels and hostels
- bike renting possibilities in the Pearl
- -reliable bus connections of Osijek Novi Sad (SBD)
- -built cycling pathways in Osijek, Vukovar, Novi Sad
- -unique "memorial tourism" for city of Vukovar
- -no language barrier for Croatian and Serbian hospitality and travel agency companies

Weaknesses

- -there is no fully developed cycling infrastructure/cycling pathways -travel safety
- -tourism does not play an important part in the business activities in all three administrative units
- -greater tourism revenues only in bigger cities
- -There is no railway connection of Osijek and Vukovar
- -no train connection Vukovar Novi Sad
- -weak Croatia-Hungary bus connection
- -no current Croatia-Hungary train connection
- -no combined tourist offers for the whole Pearl territory
- -geographically distant from Adriatic sea/Croatian capital city – lack of tourist demand
- -low purchasing power of local population, emigration, negative demographic trends -lack of economic and social cross-border
- cooperation and interconnections between people from Croatian, Serbian and Bosnian territory
- -region plagued by war memories
- -deficit of skilled tourism training and language skills for hospitality workers/bad educational standards



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Opportunities

- potential of cruisers on the Danube
- good train connection Vinkovci-Belgrade
- Besides EuroVelo 6 route, there are some additional alternative bike routes
- development of rural tourism and wine roads
- EU funding for development of rural tourism
- Tourism does not play an important part in the business activities in all three administrative units
- -no combined tourist offers for the whole Pearl territory
- -better and joint marketing promotion for the region (Pearl) and creation of joint tourist offers
- increase of demand due to unfair competition (AirBnB etc.) for private persons

Threats

- -migrant crises and potential border closure
- -lack of demand due to unfair competition (AirBnB etc.) for established hospitality companies
- -terrorism and tourism/travel demand reduction
- -political tensions between Croatia and Serbia
- -sudden termination of cooperation with low-cost airlines with Airport Osijek (like the sudden Ryan Air flight connection to London abruption) endangering development of tourist potentials



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14. Project Partners

| AGENCY AUSTRIA umwelt bundesamt [®] | LP Environment Agency Austria | EAA | AUSTRIA |
|--|--|--------|----------|
| donau.büro ulm | ERDF PP1 Danube Office Ulm/Neu-Ulm | DOULM | GERMANY |
| DONAU | ERDF PP2 WGD Danube Upper Austria Tourism Ltd. | WGDOOE | AUSTRIA |
| RNB Rejensions appropriate Codes | ERDF PP3 Regionalmanagement Burgenland Ltd. | RMB | AUSTRIA |
| BRATISLAVA REGION | ERDF PP4 Bratislava Self-Governing Region | BSGR | SLOVAKIA |
| westpannon | ERDF PP5 West Pannon Regional and Economic Development Public Nonprofit Ltd. | WESTPA | HUNGARY |
| | ERDF PP7 City of Vukovar | CIVUK | CROATIA |
| RASY RAZYOJNA AGENCIJA SINERGIJA DEVELOPMENT AGENCY | ERDF PP8 Development agency Sinergija | RASIN | SLOVENIA |
| | ERDF PP9 Regional Administration of Vidin Region | VIDIN | BULGARIA |
| Club Sustainable Development of Civil Society | ERDF PP10 Club "Sustainable Development of Civil Society" | CSDCS | BULGARIA |



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| | ERDF PP11 | NIRDT | ROMANIA |
|---|---|-------|---------|
| TON | National Institute for Research and Development in Tourism | | |
| ABŞ | ERDF PP12 | SERDA | ROMANIA |
| | The South-East Regional Development Agency | | |
| BARATYA MEGYEL ONAORIANYAN | ERDF PP13 | | HUNGARY |
| | Government of Baranya County | | |
| | IPA PP1 | DCC | SERBIA |
| d CC danube competence center | Danube Competence Center | | |
| R. A. R. J. S. Replantic appendix to receip instance Stables Regional Development Agency Exchange Stables | IPA PP2 | RARIS | SERBIA |
| | Regional Development Agency Eastern Serbia | | |

Table 1: List of Project Partners



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Furthermore, Transdanube.Pearls is supported by the following Associated Strategic Partners (ASP).

| ASP1 | Austrian Federal Ministry for Agriculture, Forestry, Environment and Water Management | BMLFUW | AUSTRIA |
|-------|--|--------|----------|
| ASP2 | Federal Ministry for Transport, Innovation and Technology | BMVIT | AUSTRIA |
| ASP3 | Neusiedler See Tourism Ltd. | NTG | AUSTRIA |
| ASP4 | Regional Government of Burgenland | BGLD | AUSTRIA |
| ASP5 | Rail Tours Touristik Ltd. | RTA | AUSTRIA |
| ASP6 | Destination Marketing Association German Danube | DMAGD | GERMANY |
| ASP7 | Supreme Building Authority – Part of the Bavarian State Ministry of the Interior, for Building and Transport | STMI | GERMANY |
| ASP8 | Panonsko more d.o.o. / Panonian sea Ltd. | PANON | CROATIA |
| ASP9 | Győr-Sopron-Ebenfurt Railway Corp. | GYSEV | HUNGARY |
| ASP10 | Government of Baranya County | BARCO | HUNGARY |
| ASP11 | Association of Szigetköz Tourism | SZTDM | HUNGARY |
| ASP12 | Association of Tourism Development in Moldova | ADTM | MOLDOVA |
| ASP13 | National Authority for Tourism | NAT | ROMANIA |
| ASP14 | Administrative Territorial Unit Tulcea County | TULC | ROMANIA |
| ASP15 | Railways of the Slovak republic | ZSR | SLOVAKIA |
| ASP16 | Ministry of Transport, Construction and Regional Development of the Slovak Republic | MINDOP | SLOVAKIA |
| ASP17 | Bratislava City - Capital of Slovak Republic | ВА | SLOVAKIA |
| ASP18 | Pomurje Tourist Association | PTA | SLOVENIA |
| ASP19 | Ministry of Agriculture and Environmental Protection | MAEP | SERBIA |
| ASP20 | Development Agency of Serbia | DAS | SERBIA |
| ASP21 | Municipality of Kladovo | MKLAD | SERBIA |
| ASP22 | Ministry of Tourism | BMT | BULGARIA |
| ASP23 | Association of Danube River Municipalities "Danube" | ADRM | BULGARIA |
| ASP24 | Municipality of Ruse | RUSE | BULGARIA |
| | | | |