

Cross-border bike
„Cycling tourism in the Hungary-Croatia border area”
Summary report on the workshop series

Client:

Pécs Urban Development Nonprofit Plc.

Prepared by:

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0. Foreword

The South Transdanubian Regional Development Agency has got the assignment from the Pécs Urban Development Nonprofit Plc. at the end of February 2014 to organise series of cycling tourism workshops within the „Cross-border bike” project. The Agency has got the relevant experience in related field: it coordinated the establishment of the Three Rivers Bicycle Route in 2006-2007 and the elaboration of the feasibility study for the missing sections; contributed to the preparation of the project connecting the border area into the transnational cycle route EuroVelo 13; recently acts as partner in the Iron Curtain Trail project which aims at the definition of the itinerary of the EuroVelo 13 in the Southeast European area. Besides these the Agency was involved in the preparation of several cross-border bicycle infrastructure development projects, matching the activities, now provides external expertise assistance to the their implementation.

Tasks to be performed in this assignment were detailed in terms of reference that describes the aims, target groups of the single events, just like the thematic of the presentations: from the health effects of cycling through to the promotion of cross-border cycling tourism. Workshops were organised roughly on a monthly basis, forthcoming events were announced on previous meetings, indicating date and venue. Among participants a core group of people has been formed, those who have participated the most often, contributed with questions, comments in order to foster cross-border exchange of experiences and laying down the foundations of a common understanding about the issue.

When elaborating the present study, we were guided by the following twofold objective: on one hand – based on the terms of reference – providing an overview on the tasks performed, presenting the results. On the other hand we aimed to deliver a study that provides a summary overview on the possibilities laying in cross-border cycling tourism, including results and definition of future steps. We hope that we could fulfil both intentions and the document actively contributes to the successful preparation and implementation of cross-border tourism project in the 2014-2020 programming period.

Dr. SITÁNYI László
CEO, STRDA Nonprofit Ltd.

1. Presentation of the series of workshops

1.1. Objectives of the workshop series

Main objective of the „Cross-border bike” project (the project that involved the series of workshops) was to establish a cross-border cycling route between Pécs and Osijek (moreover, continuing that further to the south towards Antunovac—Ivanovac): definition of the itinerary, placing signposts, implementation of various promotional activities. Project partners – having a complex approach – wanted to pay attention, besides infrastructure and promotion, to awareness raising as well. This made possible to organise the series of workshops that composed 5+1 events.

When organising the events the Agency considered the following objectives:

- Raising awareness about cycling tourism, as a developing tourism product among regional stakeholders. Beside infrastructure (whose conditions are being continuously improved) special emphasis was put on the significance of services development and the promotion.
- Connecting the players of cycling tourism in the border area. Along with Cross-border bike project several operations are under way in the area, whose involved partners don't always communicate with each other, synergy is lacking between the single projects. Series of workshops provided an excellent opportunity to bring together the players and foster a joint learning process about the key issues.
- Making the general public of the region as much as possible acknowledged with the EuroVelo 13 (Iron Curtain Trail). EuroVelo 13 turns the undeveloped border area to an important corridor of international cycling tourism that may bring considerably higher number of western cycling people to the area, compared to previous years.

1.2. Experts involved in the workshops

The Agency first of all – based on its experiences in management of grant schemes and bicycle infrastructure projects – relied on its own expertise capacities, but that has been enhanced with involvement of external experts.

Experts contributing to the event from Agency staff:

- PÁMER Zoltán: coordinator of the operation, head of the Agency' foreign relations unit, expert of cross-border cooperation, manager of several international tourism-focused projects, has been involved in several projects having a cycling tourism profile.
- BOJCSEV András: senior planning manager of the Agency, his expertise fields include transport infrastructure development and tourism. He used to be involved in the preparation of daily cycling infrastructure and tourism projects, evaluation of the project proposals and kept track with the project's implementation as well.
- MOLNÁR Ákos: head of the Agency's unit for preparation of decisions, expert of transport infrastructure development, coordinated the preparation of cycling infrastructure related grant schemes within the South Transdanubia Operational Programme (STOP), assessor of projects.

Invited external experts (in order of appearance at the workshops):

- BENOVICES Gábor: executive of Helian NaTour Ltd., tourism manager, organised of cycle tours and tourguide, experts in several projects of cycling tourism.
- Dinko PEŠIĆ: fellow of the NGO Green Osijek (Zeleni Osijek), coordinator of the definition of the itinerary of the Pécs—Osijek route on the Croatian side.
- SZŐLLŐSSY Balázs: fellow of the NGO Hungarian Cycling Alliance. The Alliance is coordinator of several projects, including the action "Cycle to work" and the initiative "Cycle-friendly workplace".
- NÉMETH Zsolt: vice president of the NGO Hungarian Cycling Alliance, head of the Balaton Cycling Tourism Association, manager of the "Balaton Bringa Circuit".

- SZABÓ Kornél: creative director of SundS Communications Ltd., involved in communication of several cycling events and cycling tourist projects.
- Ivan PODRAZA: head of the Osijek based NGO “Bike My Day”, a focal point of urban cycling movement in the City of Osijek, civil activist and organised of various events.
- HOFFBAUER Márk: marketing manager of the Pécs Urban Development Nonprofit Plc., manager of several cycling-related projects, including the Cross-border Bike project..
- MOSONYI Zoltán: vice head of department at the South Transdanubian Water Management Directorate (DDVIZIG), coordinator of cycling infrastructure development projects of the organisation.
- Ljerka VUČKOVIĆ: vice mayor of the Croatian town of Belišće. The town is involved in several cycling infrastructure development projects.

Since the events were organised as “workshops”, our intention was to generate discussion on the topics of the presentations. After each presentation a short panel discussion was organised. After the questions raised by the moderator to the members of the panel the audience could also ask the panellists. This approach often led to an intensive discussion on issues that may contribute to the development of cross-border cooperation, thus may lead to the establishment of a joint cross-border tourist area.

Besides the speakers the following experts were asked to contribute to the panel discussions (in order of appearance):

- BORBÁS László: head of traffic technique management at the Barany County Directorate of the Magyar Közút (Hungarian Public Roads) Nonprofit Plc. The role of Magyar Közút is of key importance concerning the maintenance of signposted cycle routes on public roads infrastructure, just like in securing safety of cycling traffic by means of traffic technique solutions.
- Maja BRAČUN: volunteer of Zeleni Osijek, tourism manger, organiser of programs and tours.
- GIDA Attila: head of department at the Traffic Inspection of the Baranya County Government Office, responsible – among others – for authorisation of separate bicycle traffic facilities.

- Kornelija PACANOVIĆ ZVEČEVAC: head of investment department at the local government of the Town of Beli Manastir, Croatia. She is coordinator of eco-tourism investments, including the BICBC project that promotes the development of several sections of the EuroVelo 6 and 13 routes.
- Ivana JURIĆ: fellow of the Regional Development Agency of Slavonia and Baranja. She is manager of several tourism projects in Osijek-Baranja, her expertise focuses first of all on service development and promotion.
- LÁDONYI Ákos: executive of Ládonyi Mérnöki Kft. (Ládonyi Engineering Ltd.), designer of numerous bicycle traffic facilities in Pécs and Baranja.

1.3. The target groups

Target groups of the single events were made up of the following bodies and persons:

- Representatives of local government units along the various tourist cycling routes;
- Cycling associations and organisations;
- Experts dealing with regional development, transport infrastructure development, cross-border cooperation;
- Tourism service providers, tour operators, tourism workers on the supply side;
- Demand side of the tourism business: (potential) tourists.

The single workshops were intended to be thematically focused towards the specific target groups, however they were significantly overlapping: among members of cycling associations many tour operators, tourism service providers, regional development professionals were represented who often use bicycle in their spare time, in fact they are tourists as well. Therefore a “core” group of attendees has been formed already in the very beginning, who participated several times, participated as contributing experts or panellists, thus personally promoted exchange of experiences.

1.4. Methodological issues

Apart from the first and the closing event the meetings were implemented with the same methodological approach.

The first workshop („Health effects of cycling” – March) could be considered as a sort of kick-off event, providing several shorter presentations, giving floor to the partner of the Cross-border bike project to present elements of the project and promoting cycling tourism in general.

The next four events (April, June, July and August) targeted one specific topic:

- Economic and social impacts of cycling tourism, including the revealed effects discussed by scholars and various studies (April);
- Potentials lying in cross-border bicycle routes – with special attention to EuroVelo 13 – the Iron Curtain Trail and other already operating cycling tourism products in Hungary (June);
- Promotion of cycling tourism – presenting the specific target areas and modern promotional tools (July);
- Exchange of experiences on urban cycling, through examples of Pécs and Osijek (August);

Backbone of the workshops was made by the three 20-20 minutes long presentations, each of them was followed by a panel discussion among the speakers and invited external experts. Besides questions raised by the moderator, the audience had the chance as well to ask or comment the issues presented.

The first three events took place in Pécs, at the conference room of the Pécs Urban Development Plc., the fourth event was held in Osijek, the fifth in Antunovac. Antunovac is the focal point of the Cross-border Bike project on the Croatian side: the project co-financed the construction of the bicycle path Osijek—Antunovac—Ivanovac. The new route – besides tourism – serves daily cycling needs as well since the two connected settlements are part of the Osijek agglomeration where many people use bicycles for commuting on a daily basis.

The final event was held in Pécs again where a different methodological approach was used. Presentations were organised around two topics. The first part was devoted to infrastructure development: besides summarizing the issues raised on previous

workshops a detailed presentation was given about the activities of an organisation having a key role in infrastructure development (South Transdanubian Water Management Directorate – DDVIZIG) that are having relevance to cross-border cycling tourism development as well. The second part focused on service development and promotion: besides the overview of information provided on previous workshops, an external speaker was asked to show example of using modern technology in promotion activities in their project.

2. Economic and social impacts of cycling tourism

Cycling started in England of the 19th century as leisure activity of the noble class, later became everyday traffic tool of the poor all around the world. Nowadays cycling is one of the fastest developing products in tourism that has its deep economic and social roots in Eastern Central Europe, however in terms of level of development it lags behind Western Europe. On the other hand it is full of potentials.

The role of cycling in transport may be highlighted by several data – dominantly based on appraisals. On basis of this information Hungary has a very favourable position among countries of the European Union regarding cycling as main mode of transport: Hungary follow the Netherlands and Denmark (Figure 1). On the other hand there is no data available on passenger kilometres on bike. Unfortunately there is no data about Croatia, however we may suppose that a big number of people from the flatlands of Podravina and Slavonia use their bikes on a daily basis. In case of the town of Koprivnica – that is pioneering in bicycle infrastructure development – the share of biking is estimated at around 15-22% out of daily traffic (DAN, 2013).

Cycling tourism started around the 1930s: when the first multi-stage tours taking several days had been first organized. After World War II – due to car ownership becoming a general phenomenon – cycling tourism fell back. Organisation of cycling tours started to rise in the 1980s, parallel spending of cycling tourists showed considerable growth as well.

Among economic impacts of cycling the following ones are to be mentioned:

- Stimulating economy: cycling may be an attraction in areas where no considerable attractions are available that would serve as basis for mass tourism. Good environmental conditions, beautiful landscapes, low population density may all be motivators for tourists to pay a visit.
- Increase of cycling in the modal split results a decrease in road development and maintenance costs. This is caused by the lower level of axle load on public roads, thus less maintenance is needed; also maintenance of bicycle paths costs less than those in case of public roads.
- Energy consumption tends to decrease, reducing carbon dioxide emission.

- Cycling contributes to conservation of buildings: on one hand vibration is reduced due to decrease of noise pollution, on the other hand deposit dust drops as well.

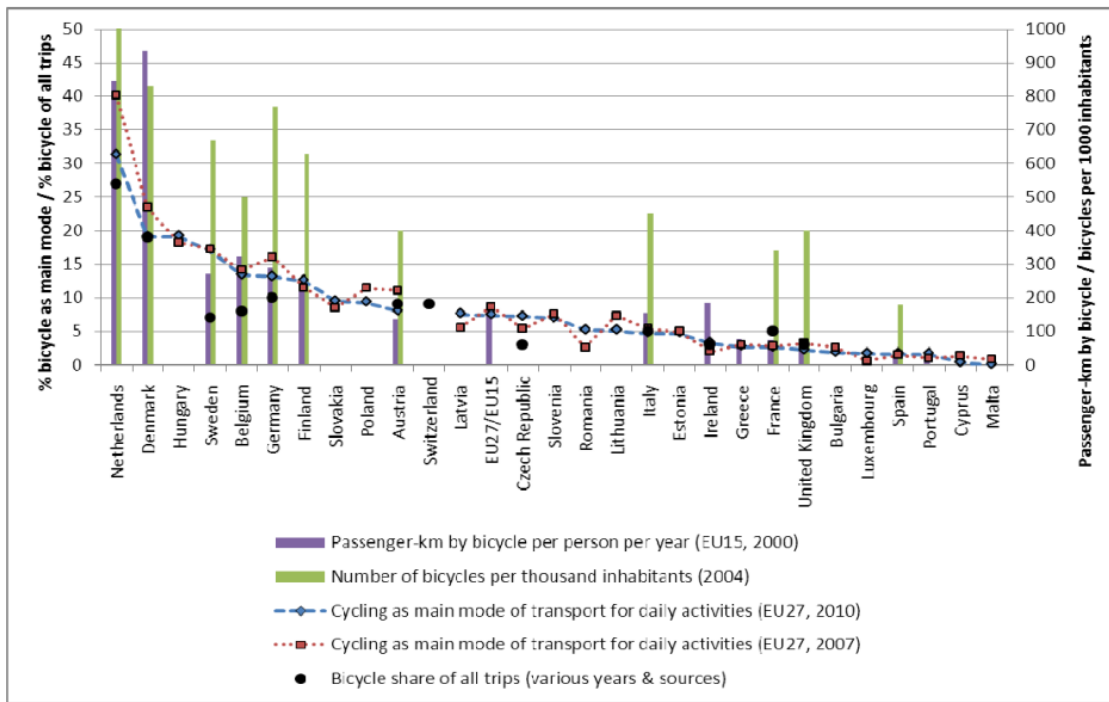


Figure 1: The role of cycling in transport in the member states of the European Union.

Source: EP (2012), p. 22.

Beyond materialised economic benefits the following social benefits are to be considered:

- Stronger social relationships.
- Opportunities of travelling get wider: bicycle is more available to most of the people than expensive cars or flights.
- Decrease in number of accidents, also they become less sever – due to a limited speed level.
- Improvement of health conditions of the society.
- More sustainable land use, lower ratio of built-up areas.

Out of environmental impacts we may pick the following:

- Lower level of vehicle emissions;
- Lessened noise pollution;
- Decrease in environmental damages.

As cycling infrastructure requires less space from nature, lower intensity of land use makes lower impacts of erosion: flooding rains may have lower impact. Promotion of cycling in cities leads to more liveable public places that make social relationship of people stronger.

As regards classifying form of cycling several versions appear in different scholars and papers. In order to give a general overview the following categories will be distinguished:

- Daily cyclists: their activities are not relevant from tourism point of view, however their preferences are decisive when developing transport infrastructure – very often tourism routes involve sections of bicycle infrastructure built for daily cyclists.
- Cycling holiday: several days of tourist activity when cycling is the core element. These may be expedition-like tours (long, often cross-border, with full equipment); bikepacking tours that are combined with hiking and mountaineering; tours that are supported with motor vehicle carriage (dominantly organised); and various thematic tours. This category amounts to 2-4% of all holidays, their share is likely to rise in the following years.
- Holiday cycling: several days of tourist activity when participants cycle, or part of the trip is completed by bicycles. This kind of holiday tends to come to front. In some Western European countries 25% of tourists incorporate some cycling in their holiday program.
- Cycling day excursions, day trips: cycling tends to become part of recreational activities, however this category is not always considered relevant from tourism point of view, since no overnight stay is generated, also average spending lags behind other forms. Usually dominant in recreational areas around large urban centres.
- Sportive cycling: usually carried out with high quality and value equipment, lasting one or two days. From tourism aspect they are significant only in specific

cases (e.g. mountainous areas, locations of world competitions). Racing cyclists stay usually for a short period of time (or not at all) on the location, they don't make (or only very limited) demand on local services

Keys for development of cycling tourism are attractive, safe and comfortable cycling routes, adequate services – tailor made for cyclists and efficient promotion. About spending of cycle tourists several estimations were made that base on surveying German and Swiss tourists. Accordingly to them the following statement may be made (EP, 2012):

- Based on a study in 2009 in that year 2 795 million bike tours were carried out, amounting to 54 million Euros.
- During cycling holidays tourists spend on the average 1.5 times more than in case of other types of holidays.
- Participants of cycling holidays spend more than those doing holiday cycling. Tourists doing holiday cycling spend more than participants of cycling day trips.

An analysis has also been done for the Iron Curtain Trail route which is currently under development: accordingly to these estimations 1 million holiday trips, 5.3 million day trips and 521 million Euros of revenues are foreseen annually (EP, 2012; p. 14).

3. The cycling infrastructure

3.1. Resources for development

3.1.1. Developments carried out from mainstream programmes

Development of cycling infrastructure in Hungary started with the political regime change: at the beginning of the 1990s local governments established bicycle routes along heavy traffic road arteries, usually with reconstruction of pavements. The process had really taken off at the middle of the 2000s, in the beginning by national public funding, later replaced by European Union assistance.

From the national budget for road development 4.5 billion forints were spent for development of the infrastructure between 2006 and 2008. General aim was to develop the missing sections of the EuroVelo and improvement of traffic safety on sections intensively used by cyclists. Altogether 182 km were developed. Co-financing amounted to 77.6%. By the increase of the share of EU assistance – especially from the beginning of the 2007-2013 programming period – national resources have been replaced by European Union funds (Figure 3).

In the shortened period of 2004-2006 resources of the Regional Operational Programme (ROP) were made available for such developments, also new tools of cross-border cooperation have appeared – such as the INTERREG IIIA Slovenia-Hungary-Croatia Neighbourhood Programme – that funded investments as well, for instance the Three Rivers Bicycle Route and the newly built bicycle path and signposted sections between Villány and Bóly.



Figure 2: Logos of the Three Rivers Bicycle Route and the INTERREG IIIA Slovenia-Hungary-Croatia Neighbourhood Programme.

The programming period of 2007-2013 revealed new opportunities for the improvement of infrastructural conditions of cycling. ROP has been replaced by the South Transdanubia Operational Programme (STOP), also the Transport Development Operational Programme (TDOP) provided resources directly for transport infrastructure developments. From 2004 until 2012 altogether 708 km of bicycle routes have been constructed, in an amount of 41.7 billion HUF.

TDOP provided an assistance of 9 billion forints, beneficiaries of projects included national public bodies and local governments. The programme supported segregated bicycle paths along main roads outside settlements. On the other hand the STOP concentrated on developments along link roads just as along transit sections of main roads. By means of three calls for proposals altogether 20 projects were selected for co-financing, in an amount of 25.6 billion forints. Territorial distribution of the financed projects is shown on Figure 4. Besides projects of daily cycling facilities, STOP co-financed several tourism projects as well that often included shorter sections of bicycle infrastructure.

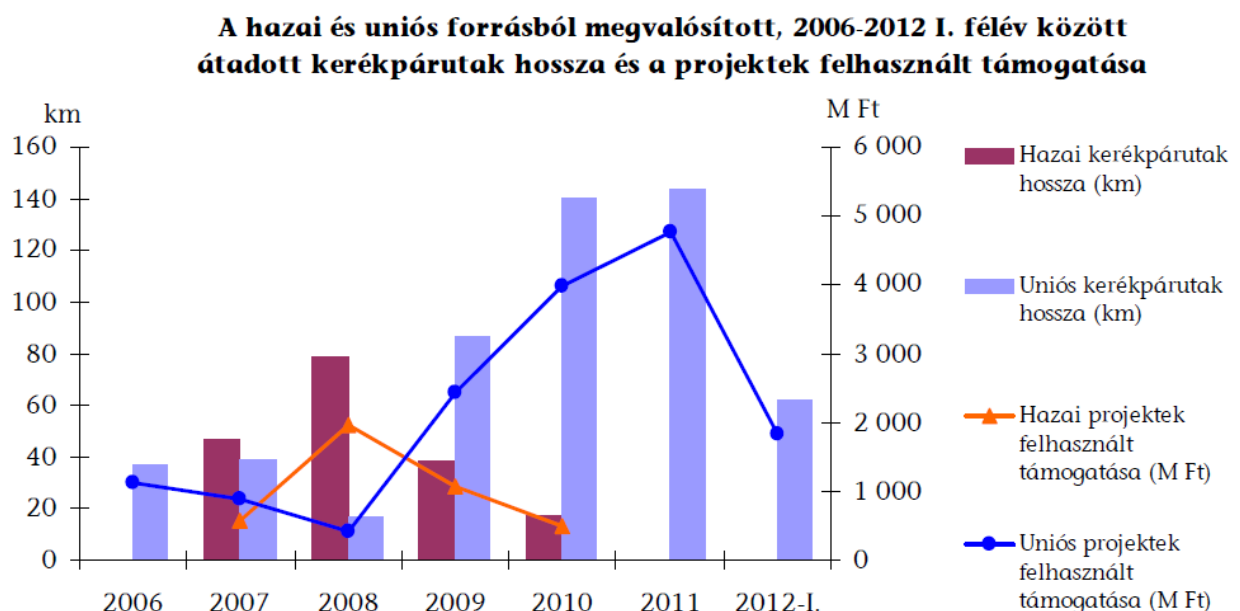


Figure 3: Lengths constructed and funding assistance provided for bicycle routes from national and EU assistance between 2006 and 2012, Q1.

Source: ÁSZ (2013).

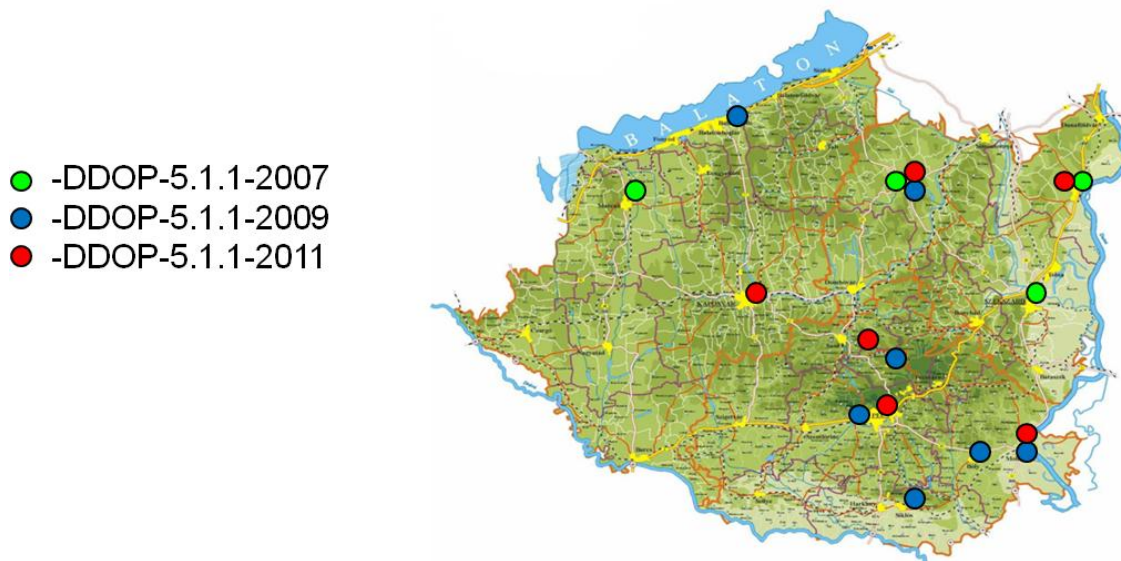


Figure 4: Territorial distribution of daily cycling infrastructure development projects funded from the STOP.

Source: own compilation upon IMIR data.

During implementation of the TDOP and STOP several problems occurred that may be considered typical for cycle infrastructure development projects. Developments were not always harmonised: the single municipalities decided on projects upon their own preferences and available co-financing. Although as beneficiaries local government units were defined, in many cases the involved sections of road infrastructure was maintained by other bodies than local governments. Later a governmental decree had been issued in order to define which governmental bodies are entitled to participate in projects concerning development of national public road infrastructure (Hungarian Public Roads Nonprofit Plc., National Infrastructure Development Plc.).

Another difficulty was the following of changes of Technical Instructions for Road Infrastructure (ÚME), the lack of co-financing – mainly on local level, and the ignorance of maintenance costs during project preparation. Due to these reasons many bicycle paths built from different schemes are currently in neglected or run-down situation since former project beneficiaries don't pay enough attention for maintenance.

Besides the specifically targeted cycling infrastructure schemes it worth to mention the flood prevention schemes of the Environment and Energy Operational Programme (EEOP) that promoted asphaltting of existing flood prevention dikes that may be used for cycling traffic – first of all in tourism terms. Out of these projects the newly

asphalted section of the Danube dike between Felső-Dunasor and Béda-Karapanca should be mentioned, just like the section on the Drava dike between Drávaszabolcs and Matty (Eperjespuszta). These sections operate as good quality, signposted cycling routes.

In spite of all these difficulties several developments worth to be mentioned that provided good examples of strategic approach and coordination:

- The Town of Tamási developed its cycling infrastructure upon a well-thought strategy, concentrating on the routes connecting nearby sleeping villages and the town centre. This resulted a step-by-step development of cycling route system network the whole surrounding area.
- The Town of Mohács could make available various resources in order to connect all parts of the town with the town centre by bicycle routes. Neighbourhoods include the Vineyards' hill, the Danube dike to Kölked, then further to towards Béda-Karapanca.
- Several sections from various projects have become parts of EuroVelo 6 and 13. One example is the Ancient Drava bicycle route between Szaporca and Drávaszabolcs, the Nagyharsány—Villány section, the Danube dike between the Mohács ferry port and Béda-Karapanca. Besides another development is under way between Kisharsány and Nagyharsány that is to be finished until 30 June 2015.

3.1.2. The Ancient Drava Programme

The Ancient Drava (“Ős-Dráva”) Programme represents a complex, conceptual programme that concerns natural, social and economic issues. Its main objective is to set up the conditions for the sustainable development of the Ormánság area –one of Hungary’s most undeveloped subregions. The programme itself is being implemented accordingly to a complex strategy, carried out by members of the Ancient Drava Consortium. The Consortium is led by the Baranya County Government; members include the South Transdanubian Water Management Directorate, the Danube-Drava National Park Directorate, the Baranya County Government Office and the Foundation for South Baranya.

The programme has been adopted by the Government in July 2012 in form of a governmental resolution, allocating altogether 25 billion forints for the objectives of the programme. Funding is composed by sources of the 2007-2013 and 2014-2020 programming period, by means of various sectoral and regional programmes.



5. Figure: Logotypes of the Ancient Drava Programme and the New Széchenyi Plan.

Considering projects of cycling infrastructure relevance, it worth to pick out the Ancient Drava bicycle route project that has been financed by assistance of the EEOP. The new infrastructure connects Drávaszabolcs and future Ancient Drava Ecotourism Visitors' and Interpretation Centre in Cún-Szaporca by mean of a newly built cycle path on the dike of the Drava and the Fekete-víz waterflow (Figure 6). As continuation of the project another Ancient Drava cycle route project is currently under implementations by means of the STOP. Activities include the completion of the cycle path between the north gate of Drávaszabolcs and the Drava dike. Another element is the complete signposting of the Ancient Drava bicycle route in a distance of 125 km, including elements of the Three Rivers Bicycle Route and linkages to the most populous settlements of the area (Sellye, Vajszló, Kémes). Besides road developments pedelec rental facilities are to be established in Sellye, Vajszló, Kémes, Vejti and Harkány.



Figure 6: The Ancient Drava bike route under construction.

Source: Ancient Drava Programme Office.

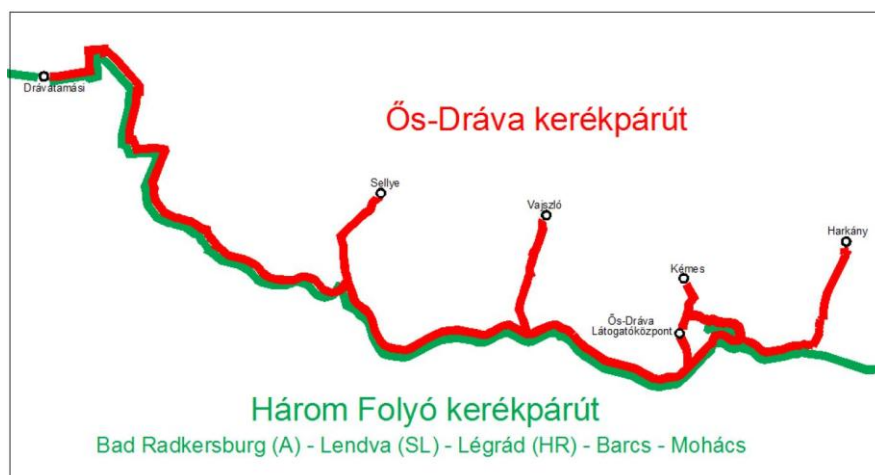


Figure 7: Schematic overview map the Ancient Drava bicycle route.

Source: Baranya County Government.

3.1.3. Results of cross-border cooperation

For the cycling infrastructure development of the border area the Hungary-Croatia IPA Cross-border Cooperation (CBC) Programme is of utmost importance. A Regional Tourism Product Plan has been prepared by the Programme's first call for proposals (2009) that mentions cycling infrastructure development as a distinguished objective, the area targeted is the 40 km zone from the border and the line of the Drava river. The call for proposals of 2011 allocated 8.46 million Euros for bicycle infrastructure projects. Although these projects are still under implementation, the following ones are important to be mentioned:

- „Bicycle route along the Drava” (South Transdanubian Water Management Directorate, Croatian Waters): asphaltting of the Drava dike between Tótújfalu—Szentborbás—Felsőszentmárton (as an alternative route of the Three Rivers Route), on the Croatian side between Terezino polje and Noskovci on several shorter distances construction works and signposting (EV 13).
- „Cycling across cultures” (Towns of Harkány and Belišće): construction of cycling paths within Harkány and at the western entrance to the Town of Belišće (EV 13).
- „Cross-border Bike Project” (Municipality of Antunovac, Pécs Urban Development Plc., Geoscience Nonprofit Ltd., Green Osijek): signposting of tourist cycling route between Pécs and Osijek, construction of cycling path between Osijek—Ivanovac—Antunovac.
- „Cycling by the river” (Croatian Waters, South Transdanubian Water Management Directorate): reconstruction of the cycling path between Felsőszentmárton and Drávasztára that has originally been built in 1999 (EV 13); on the Croatian side construction of cycling path on the Danube dike between the state border and Draž, and on the Danube-Drava floodland area of Kopački rit (EV 6).
- „BICBC” (Towns of Mohács, Beli Manastir, Belišće, Osijek-Baranya County, Croatian Waters): construction of segregated cycling path between Mohács and Sátorhely along the main road no. 56 (EV 6 and 13), linking the town centre and nearby recreational areas by cycling in Beli Manastir, establishment of cycling path between Belišće and Baranjsko Petrovo Selo (EV 13), and cycling path on the Drava dike between Osijek and the suburban settlement of Višnjevac.

- „Drava & Danube ecotourism growth” (Croatian Waters, South Transdanubian Water Management Directorate, Kopački rit Natural Park): construction of cycling path on the Danube dike in the Béda-Karapanca (Beda-Karapanča) area towards the state border; on the Croatian side between Zmajevac and Kopačevo (EV 6).



Figure 8: Logotypes of the Hungary-Croatia (IPA) Cross-border Cooperation Programme.

Source: www.hu-hr-ipa.com.

Although should not be considered as a strictly cross-border type of project, worth to mention the “Iron Curtain Trail” project. Its main objective is to identify the itinerary of the transnational cycling route along the border of the former Western and Eastern Block, the EuroVelo 13 – including the border section of Hungary and Croatia.

Initiator of the project is Michael Cramer, Member of the European Parliament (EP) from Germany. The EP has adopted a communication in 2009 that along the former Iron Curtain a transcontinental cycling route shall be established, in a length of more than 10 thousand kilometres, crossing 20 countries. Considering the length and the diversity of the route the itinerary shall be identified in several projects co-financed by the European Union. The southeast European part of the itinerary is investigated within the Iron Curtain Trail (ICT) project financed under the Southeast Europe Transnational Cooperation Programme (SEE) where the South Transdanubian Regional Development Agency acts as project partner. During the project the optimal itinerary of the EuroVelo 13 shall be defined from the border of Czech Republic, Slovakia and Austria through to the Black Sea; additionally proposals for public transport development, tourism offer packages shall be drafted and different promotional tools shall be applied.



Figure 9: Official logotypes of the Southeast Europe Programme, the Iron Curtain Trail project and the EuroVelo 13 route.

Source: www.southeast-europe.net, www.ict13.eu.

3.1.4. Summary

Although not much coordination took place or it was done informally, it may be stated that the different national, later EU funded resources considerably contributed to lay down the foundations of cycling infrastructure in the region. An important step towards better coordination was the launch of the Ancient Drava Programme with its area-based and network-oriented approach focused on critical missing sections. Another tool towards concentration was the tourism infrastructure development call of the Hungary-Croatia CBC Programme that gave preference to the direct border zone and expected an intensive cooperation between the Hungarian and the Croatia side.

3.2. *Cycling traffic facilities: types and functions*

3.2.1. Ways of development

The rising interest towards cycling infrastructure development may be justified on one hand by tourism trends, but also there is a significant changing process in terms of urban and spatial development paradigm. Since the 1950s urban planning was dominated by the effort to improve conditions of motorized traffic: public transportation, pedestrian and cycling traffic were forced to use the infrastructure set up for motor vehicles, their routes were defined in order to adapt to car traffic. Based on examples of some European cities a new approach has started to develop in the

2000s that considered users of public transport, walking and cycling equal to car drivers. The best known example is Copenhagen that is considered a role model of cycling cities (Figures 10-11).

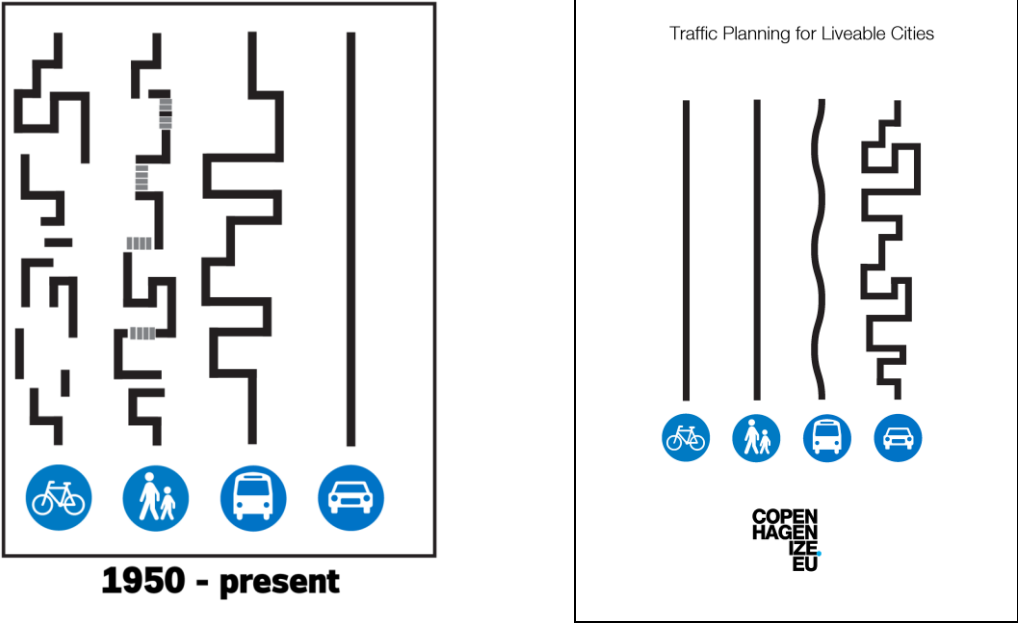


Figure 10: Paradigm of the 1950s and the modern approach in urban planning.

Source: <http://copenhagenize.eu/> (26 March 2014).

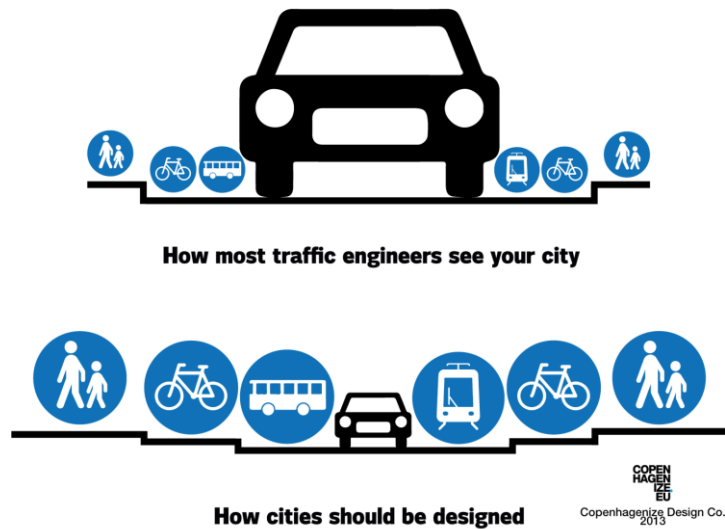


Figure 11: The car-focused traffic planning and the integrated urban transport development approach.

Source: <http://copenhagenize.eu/> (26 March 2014).

In Hungary Technical Instructions for Road Infrastructure (ÚME – MÚT, 2010) have undergone serious changes in the recent years. Although ÚME is not considered as legally binding, its observation is necessary since grant schemes for infrastructure development required the conformity with the ÚME.

Cycling traffic facilities may serve both daily traffic (commuting) and leisure (tourism) purposes. When defining technical parameters these preferences should be considered. When designing elements of infrastructure the aim is to set up a network that is made of different types of facilities – depending on the actual traffic intensity. In accordance with the integrated approach elements of the network are traffic technique solutions storage facilities, resting areas etc.

3.2.2. Separate cycling traffic facilities

If cycling traffic takes place along intensive motor vehicle traffic, cycling traffic needs to get separated from the motorised one. These solutions may be implemented by separate cycling traffic facilities. (Pej et al, 2010):

- a) Bicycle lane: a part of the traffic lane separated for cycling traffic;

- b) Segregated bicycle road/path along public road: one-way or two-ways (Figure 12);
- c) Segregated pedestrian and cycling path;
- d) Non-segregated pedestrian and cycling path.

These elements are all common both in case of routes for daily or tourism related cycling. Since their establishment is usually more expensive than those of non-separate cycling facilities, they are abundant in urban or suburban areas with heavy motorised traffic where segregation of car traffic from cycling is essential.



Figure 12: Two-ways segregated cycling path along public road near Nagyharsány.

Source: STRDA.

When designing road structure of the infrastructure element, traffic intensity should be taken into consideration: asphalt coating is recommended, in areas of historic monuments paving stones are having preference (Figure 13) that should be closed with embankment. Carrying capacity should be in accordance with expected traffic intensity (e.g. in case of flood protection dikes, forest roads, agricultural roads). In case of asphalt pavement a layer thickness of 6-8 cm is required, in minimally 2 layers.



Figure 13: Bicycle path in downtown Siklós paved with pavement stone.

Source: Adrian Rădulescu.

3.2.3. Non-separate cycling traffic facilities

If motorised traffic does not reach the level that would threaten the safety of cyclists or speed of car traffic is low, cycling traffic is sufficient to be regulated by various traffic technique solutions. These are the various non-separate cycling traffic facilities that are marked on road pavements (Pej et al, 2010):

- a) Marked cycleway (soft lane);
- b) Open cycle lane;
- c) Wide traffic lane;
- d) Traffic lane for buses;
- e) Traffic calming zone;
- f) Contraflow in one-way streets, if allowed by traffic sign;
- g) Partly or completely paved hard shoulders;

- h) Low traffic street;
- i) Parallel service road;
- j) Flood protection dike;
- k) Forestry road;
- l) Agricultural road.

Within this category special attention should be devoted to roads on flood protection dikes, especially in South Transdanubia and Osijek-Baranja county. Traces of flood protection dikes are not always in line with cycle tourist routes, however – if placement is of adequate quality – it provides an excellent and safe facility for cycling. Entry of cars is usually banned by barrier, cyclists are allowed. Its main disadvantage is that in event of floods works it may be closed, then alternative routes should be taken that often need considerable detours. Several sections of EuroVelo 13 and the Three Rivers Bicycle Route are signposted on flood protection dikes (Figures 14-15) due to the preference given to routes in direct vicinity of nature and the border.



Figure 14: Asphalt paved flood protection dike, as bicycle path between Felsőszentmárton and Drávasztára.

Source: STRDA.



Figure 15: Cycling route signposted on non-paved flood protection dike near Drávaszabolcs.

Source: STRDA.

3.3. Route infrastructure requirements of EuroVelo

The EuroVelo is the network of transcontinental bicycle tourism routes that is managed by the European Cyclists' Federation (ECF). The Hungary-Croatia border area is concerned in two routes: the EV 6 (Atlantic Ocean – Black Sea) that takes the right side of the Danube only between Mohács and the state border. Another route is the EV 13 (Iron Curtain Trail) that goes along the border line of the former Western and Eastern bloc, including the whole Hungary-Croatia border zone.



Figure 16: The EuroVelo network.

Source: ECF.

The EuroVelo does not make requirements in form of detailed technical specifications about road infrastructure, sets out only principles. Main requirements about the routes are the following:

- attractive: the route should be sufficiently attractive for cycling tourists;
- safe: the route should avoid public road sections with high traffic intensity, preferring safe roads;
- comfortable: the route should be defined by avoiding high gradients and good quality pavement options should be preferred.

For road infrastructure parameters basically national standards should be respected. Apart from segregated bicycle paths, public roads may be used with maximally carrying a traffic of 2000 vehicle units per day (in case of 30 km/h speed limitations up to 4000 vehicle units). Bicycle lanes, asphalted shoulders may be used up to 10 thousand vehicle units per day. Beyond these facilities agricultural, forestry, water management roads (dikes), greenways may be used (ECF, 2011).

Higher gradients than 10% are to be avoided. If such situations appear, it has to be replaced by public transportation means. Precondition for signposting is the adequate and consistent signage, using the EuroVelo logo.

In connection with EuroVelo 13 – due to the special characteristics of the route – several further aspects had to be investigated:

- The itinerary has to be defined as close as possible to the border, possibly within the 15 km belt;
- It has to be continuous alongside the border, without loops and alternative routes;
- Providing as many as possible border crossing options.
- The route has to connect the visible remains of the former Iron Curtain (barbwires, bunkers, watchtowers etc.).
- In sections of river border – just like in case of other EuroVelo routes – it is possible to signpost the route on both sides of the river.

In case of the Hungary-Croatia border area the above mentioned principles were not always possible to adequately apply. Although finding an itinerary near the border didn't mean a difficulty, the number of border crossings is low (average distance is 52 km, in case of a section two neighbouring crossings are located in a distance of 72 km). Due to the dominance of river border from the West until the area of Matty-Keselyősfapuszta it is possible to define a parallel route – in fact up to the border crossing of Beremend / Baranjsko Petrovo Selo.

Significance of development projects presented in the previous sub-chapter from the aspect of EuroVelo 13 is demonstrated by the maps in the Appendix.

4. The cycle tourism product

4.1. Definition of the cycling tourism product

Development of tourism may be efficient if infrastructure and provided services are developed hand in hand. In this case we can talk about a cycling tourism product.

Cycling tourism does not have a general definition. When relying on relevant literature definition provided by the ECF may be quoted: "Cycle tourism refers specifically to travel between places by bicycle for leisure purposes. Cycling is an integral part of the tourist experience" (EP, 2012; p. 7). The National Cycling Concept of the National Transport Strategy refers to a travelling activity between two places, when spare time is spent with tourism purpose. (KKK, 2013; p. 5). Common element of the two definitions that cycling is integral part of the travelling activity.

Accordingly to the definition of the Hungarian Tourism Plc. (Magyar Turizmus Zrt.) cycling tourism is a form of active tourism. „Active tourism is a form of tourism where motivation for travelling is practicing leisure or sport activities requiring some physical effort” (MT, no year indicated; p. 1). Elements of active tourism are shown on Figure 17.



Figure 17: Forms of active tourism according to the tourism product structure of the Hungarian Tourism Plc.

Source: MT (no year indicated; p. 1).

4.2. Demand and supply

Demand side of cycling tourism may be described by the following characteristics – upon synthesis of various literature and scholars:

- Age of 40-55 (secondarily age of 20-29);
- Travel in pairs or small groups;
- Trips are dominantly self-organised, often without reservation of accommodation;
- Spendings minimally match other general tourists' spendings, or may be higher;
- Factors of motivation: healthy lifestyle, relaxation, attractive rural landscape.

Typology of the national cycling tourism strategy created for the 2010-2015 period is shown in Table 1.

Target groups	Families	Silver aged people with Western lifestyle	Young adults without children	Youngsters	Fanatics/sportsmen
<i>Organisation of tours</i>					
Individual tour		+	+		
Organised small groups		+	+	+	
Organised, big groups	+	+		+	+
<i>Age (yr)</i>	25-50	50+	25-35	16-26	25-50
<i>Spending</i>	Medium (high quality of services is important)	High	High (high quality of services is important)	Low (don't afford accommodation against payment)	Top quality equipment, low demand for service (expect accommodation)
<i>Equipment</i>	Good	Top quality	Good	Cheap	Maximal
<i>Toughness</i>	Good condition isn't typical, drawn back by children	Good. Motivated to demonstrate their fitness.	Good	Good (due to age)	Maximal
<i>Interests / Motivation</i>	Nature, water, culture (dominantly)	Various programs (cultural, spa, eco)	Nature, relaxation, programs	Party and/or performance record	Performance record, sport
<i>Sending area</i>	Generally capitol or big cities	Abroad, Hungarian big cities	Hungarian big cities	Hungary	Generally capitol or big cities
<i>Type of tour</i>	Multi-day tour or day trips from one starting point	Organised multi-day tours	Multi-day tour or day trips from one starting point	Dominantly multi-day tour	Multi-day tour
<i>Length of tour (km/day)</i>	50	30-50	50	50+	100+
<i>Days of stay</i>	3-5	7-10	2-4	various	not typical
<i>Company</i>	Family, family friends	Acquaintance of similar age or groups of people	With partner or small group of friends	Group of friends	Alone or in group with other sportsmen
<i>Related tourism branches</i>	Rural, eco, water, (cycling) events, adventure and wellness spa	Cultural, thermal, health, eco	Festivals, wine, eco, health, water tourism	Festival tourism	Participation at cycling events

Table 1: Characteristics of the single target groups of cycling tourism upon age and family life cycle.

Source: ÖM (2010; p. 31).

In terms of cycling tourism the following years are expected to bring continuous growth. Strategy from the year 2010 mentions the following trends (ÖM, 2010):

- Cycling holidays make out 2-4% of all holidays; this ratio is likely to rise in the following ten years.
- Holiday cycling is a growing market: in some countries 25% of tourists do some cycling during holiday.
- In line with the general trends in tourism: holidays tend to be shorter and more frequent.

- Competition is getting more intensive: growing significance of attractive products.
- Growing interest towards cross-border routes, especially to countries of the former Eastern Bloc.

Supply side of cycling tourism is made of the following elements:

- Infrastructure: in line with the criterion of “good” route, relevant tourism services should be connected into one long thematic route, with special focus on requirements of cyclists: attractive, comfortable, coherent and direct (without unnecessary detours).
- Parts of infrastructure include other facilities such as resting areas, stalls, signposts, informational boards.
- Important element of the supply side is the quality of infrastructure maintenance.
- Existence of cyclist-friendly services: facilities for accommodation, catering, transfer etc. It is important to highlight those which directly target cyclists (“cyclist-friendly services).
- Tools of sales and promotion.

As regards accommodation, cycling tourists have special requirements: usually spend only one night on one place. Accommodation service provider should not reject guest arriving for only one night. On the other hand it worth to establish cooperation with other accommodation services, in form of mutual offers that make organisation easier for the cycling tourist. Majority of guest need lockable bicycle storage facilities. It worth to have a first aid box available for eventual injuries, just like repair kits for fixing technical problems. Employees of accommodation services should have sufficient knowledge on available local services: timetable of railway connections, opening hours of shops, different programs and events, transfer services, availability of bike repair services etc. Advantages may be generated in competition by various additional services such as bike rental, luggage carriage, tour guidance, laundry and drying service, sleeping bag rental, lunch pack, offering accommodation options etc. Especially for foodstuff: important to offer non-alcoholic beverages, packaged food for takeaway rich in carbohydrates.

4.3. Criteria set out by EuroVelo

Just like in case of infrastructure, several criteria are set by the ECF out for quality and quantity of services along the EuroVelo routes (ECF, 2011):

- Availability of public transport connection at intervals no greater than 150 km (usually railway capable for bicycle carriage) that is bookable in advance, travel conditions must be transparent for all users. Problematic sections with high gradients (1000 m/day) are compulsory to be replaced by public transport. Public transportation nodes (railway stations) should provide safe bicycle storage facilities.
- Basic accommodation facilities at intervals no greater than 90 km, preferably 30 km.
- Availability of food and drinks at every 45 km, in a better case at every 15 km.
- Resting areas should be equipped at an adequate density.
- Bike repairs stations at every 150 km.
- Other optional services such as information centres, helpline, bike rental options, pedelec charging stations.

4.4. Examples of mature and developing cycle tourism products

4.4.1. The Donauradweg (EuroVelo 6)

The most successful bike tourism product of Central Europe that is part of the EuroVelo 6 (Atlantic Ocean – Black Sea), its best equipped and most visited section. The current route is result of a 30 years development process, currently being Europe's No. 1 cycling tourism route



Figure 18: The Donauradweg.

Source: www.radtouren.at (9 October 2014).

The route between Passau and the foot of the New Bridge of Bratislava is 330 km long, the most popular Passau—Vienna section amounts to 280 km. The whole tour takes at average 6.9 days, tourist cycle at average 70 km a day. Half of the tours are organised by the tourists themselves, another half is organised by different agencies. Motivations include quality of landscape, the family-oriented nature of the route and the opportunities for shorter sightseeing breaks to nearby cities and towns. Most of the tourist overnights are spent in Linz and Vienna, most of the tourists prefer smaller – maximum three-star – inns, pensions. Average daily spending in case of cycling tourists is at 73 Euros, while day trippers 25 Euros. In 2010 the route was used by 437 thousand tourists, generating an income of 71.8 million Euros. One third of the users are tourists, another third of excursionist day-trippers, while one third uses for daily cycling (commuting, shopping) (ARGE Donau, 2011).

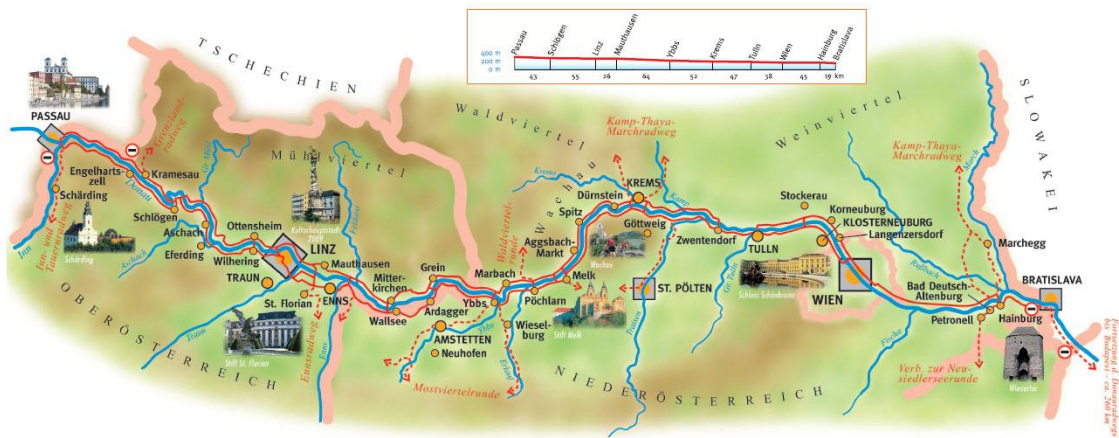


Figure 19: The Donauradweg between Passau and Bratislava.

Source: <http://www.cyklistikakrnov.com/Cyklotrasy/Dunajska/mapa-donaurodweg-kreslena-2007.jpg> (9 October 2014).

4.4.2. A developing product from Hungary: the Balaton

Construction and signposting of the Balaton Bike Circuit had been started in 1993. Nowadays the route – except of some shorter missing sections – completely encompasses the lake. The first Balaton round tour was organised in 2000, since then several such events are organised yearly. The Balaton is one of the best known tourism destinations in Hungary that is currently being discovered by the cycling tourists: biking around the Balaton has been intensively developed in the past few years.

The bike circuit passes through the most beautiful landscapes from Hungary. The total route of 204 km may be a leisure activity of many days, including bathing, visiting events, sightseeing local natural and built heritage. By means of railway it is possible to carry bicycles, also the Balaton ferry is allowed to enter by bike.

Besides cycling the whole route the single Balaton sub-areas may provide further options to pay a visit: getting an insight about local life and history.

Although the route is constantly constructed and developing, its unattended nature represents a serious problem since local governments – not having the needed resources – are not able to maintain the infrastructure. Although steps have been taken, local entrepreneurs have not yet realised the opportunities lying in cycling

tourism. Even if cycling events around the Balaton are very popular, organised tours are currently rare, just like competitive package offers. It would be essential to foster the cooperation of accommodation service providers in order to set up a service chain, to develop the attractions, to enhance the activities of cycling associations and service providers, to strengthen promotion.

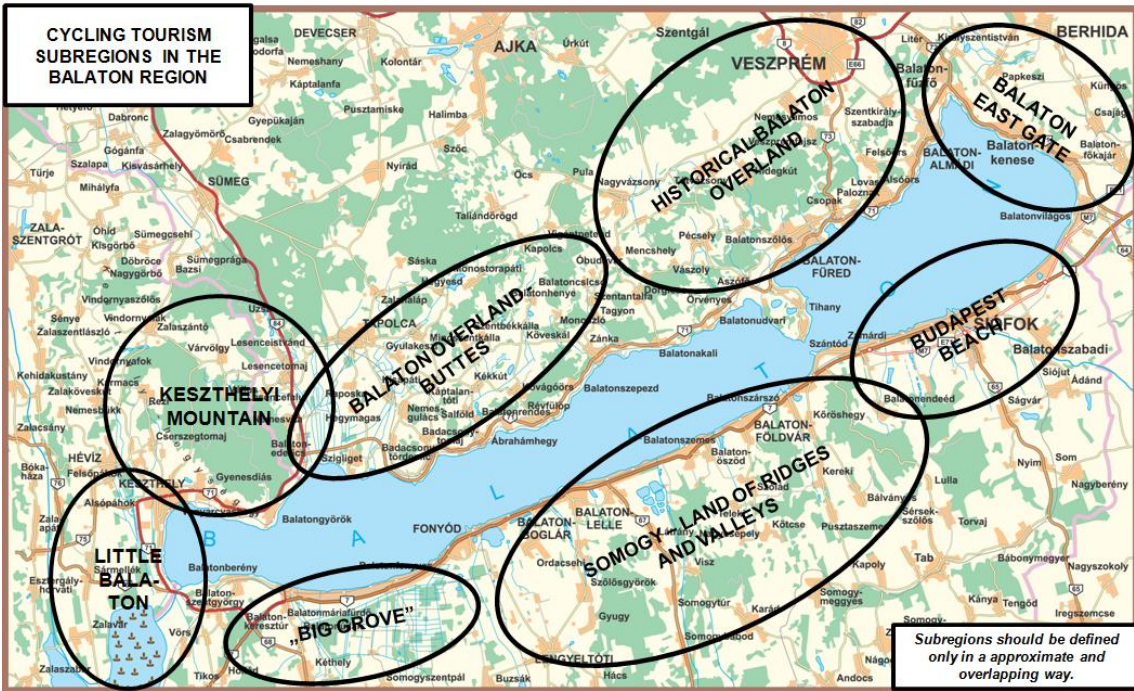


Figure 20: Tourist sub-areas around the Balaton.

Source: Zsolt Németh, Balaton Bicycle Tourism Association.

4.5. The promotion of cycling tourism

4.5.1. Nationally coordinated tools

Draft of the National Tourism Development Concept – that defines the set of products to be developed on national level until 2024 – has got the subtitle “Hungary gives you Power”. This indication gives the impression of emphasizing healthy way of life in tourism. The concept mentions the development of EuroVelo routes, the

diversification of supply, including the need of developing cyclist-friendly services. Proposes the establishment of a cyclist-friendly certification scheme, the need of cooperation in maintenance of the routes, the importance of awareness raising and the necessity of promotion.

The concept highlights the development of the following thematic destinations:

- The Fertő/Neusiedler Lake area: having excellent connection to both EuroVelo 6 and 13, the proximity of Austria where cycling tourism may have a positive effect on the development of the Hungarian side.
- Balaton: a rise could be observed in cycling tourism around the Balaton in the past years. The Government intends to strengthen it, also to connect Budapest and the Balaton.
- In this context the Velence Lake is another area to be developed.
- Alongside the EuroVelo 6 at the Danube riverside cycling tourism is a distinctive development objective.
- The Tisza Lake, as part of EuroVelo 11, is a further destination that is separately mentioned by the Concept.

Even though the concept clearly mentions the EuroVelo routes, the Drava riverside as target area is not highlighted.

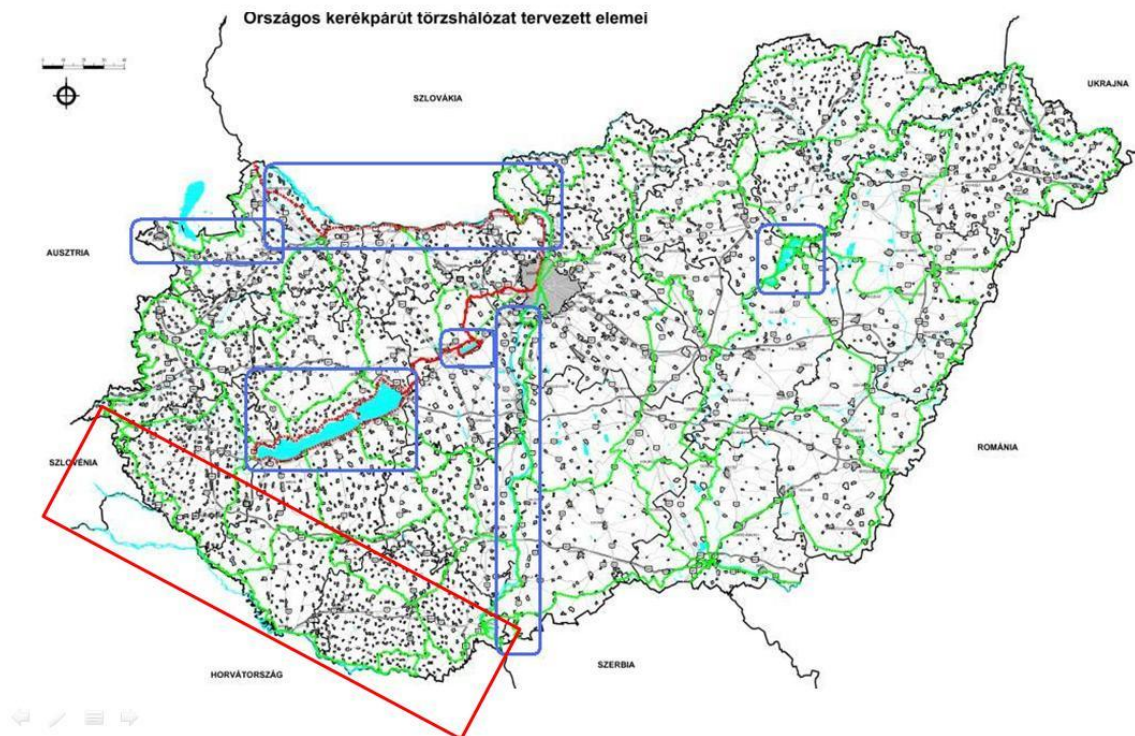


Figure 21: The national core network of bicycle routes and the target areas of cycling tourism defined by the National Tourism Development Concept (blue: mentioned by the Concept, red: not named Drava riverside).

Source: Own compilation upon National Spatial Development Plan and NGM-NTH (2013).

4.5.2. Modern tools of communication

The cycling tourism product is to be considered as a complex tourism product: it is a batch of services demanded by the tourists. Uniqueness of the products depends on the uniqueness of the single elements it is made of.

Cycling, as mean of transport, is capable to fulfil dreams by means of motion. Combining a usual tourism product with cycling provides an added value if new quality, new content, new experience is produced, in a harmonic way.

Cycling tourism has emerged partially from the development and popularisation of the cycling subculture. Cycling tourism – although it tends to be a mass phenomenon – has kept many of its subcultural characteristics, therefore besides traditional channels,

unique, innovative ones are necessary to be used. Traditional channels of communication in the cyclists' subculture include word-of-mouth marketing, personal sharing of information. This kind of informal information exchange by development of technology is done through modern communication tools, through the internet, dominantly by means of social media. This new kind of communication makes feedbacks possible quicker, more tailor-made and instantly global – due to the internet.

The website operated by the General German Cycling Club (Allgemeiner Deutscher Fahrrad-Club – ADFC – www.adfc.de) and the accompanied mobile phone application contains a detailed database on routes and cyclist-friendly services. The single route options may be rated, experiences may be shared through the app. When rating the routes and accommodation services a strict set of criteria is applied by the ADFC: the database may enter routes that were personally cycled, accommodations that were personally used by the volunteer activities of the ADFC, rating is done by 1-5 stars. Hungarian accommodations are not rated so far, from Croatia three accommodations are listed in Istria (2 Poreč, 1 Rabac).

A similar system is operated by www.biketours.com. The website recommends “overseas” tours for American tourists, including excursions along the Danube. As the Hungary-Croatia border zone lies close to the countries located in the core area of European cycling tourism, including the already developed Danube river – to which the area is physically linked – getting entry to these systems an efficient communication channel could be developed.



Figure 22: Tourism website of the ADFC.

Source: www.adfc-tourenportal.de (5 October 2014).

The STRAVA application is made for the sharing of cycling experiences and adventures. It is a GPS-based social communication tool: route tracking, speed measurement, route planner and many more useful functions are available. It is possible to follow other users' performance and share photos.

The Hungarian www.vinociped.hu might be treated as a special innovative tourism product. This small start-up company made of few Hungarian youngsters organise bike tours into wine growing areas, exclusively through the internet. They don't use any traditional promotion tool, only word-of-mouth. A similar product in South Transdanubia and the neighbouring Croatian territory – which are exceptionally rich in wine growing areas – may boost the picture of the region as a unique destination.

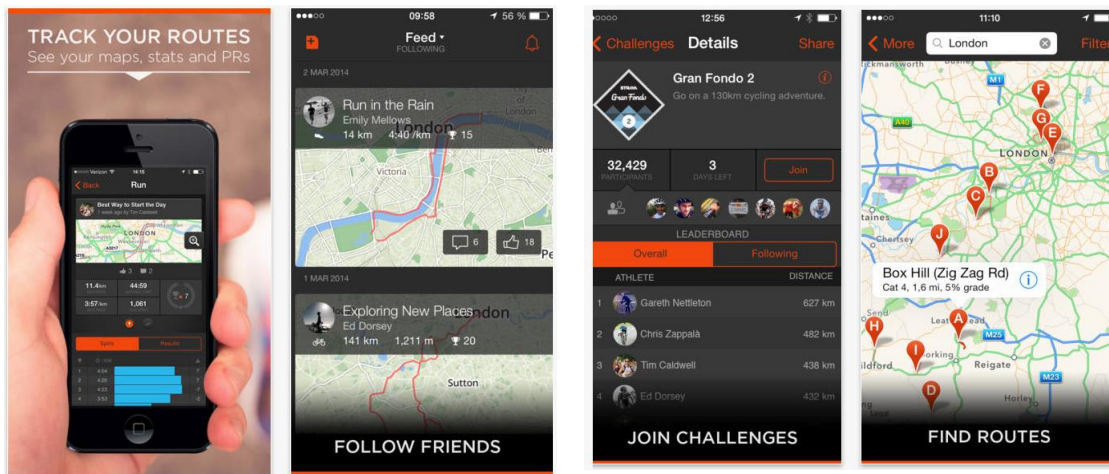


Figure 23: The STRAVA mobile application.

A few of the currently ongoing cross-border cycling tourism projects include elements of similar communication tool developments:

- The smart phone application to be developed within the Cross-border bike project shall provide an opportunity for the user to test and rate cycle routes in the area of Pécs, sharing information about temporary traffic regulations, bottlenecks, also to convert personal cycling performances into social adventure.
- The project „Cycling across cultures from Harkány to Belišće” produced an app and a database about route options, sights to be visited, in three languages. Besides cycling tourism content, the system will contain information on archaeological, sacral and wine tourism as well (Figure 24).



Figure 24: The mobile app developed by the project “Cycling across cultures”.

Source: Ljerka Vučković, Town of Belišće.

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6. Appendix: Detailed map on the developments of EuroVelo 13 (Iron Curtain Trail) between Barcs and Mohács

