



**Interreg**

**Austria-Hungary**

European Union – European Regional Development Fund



**VELOREGIO**

# Thematic Cycling Route Development Handbook

## A Professional Methodological Guide



Interreg V-A Austria-Hungary Programme

**VELOREGIO ATHU064**

Material related to the concept of “Strategic Study for the Preparation of Future, Sustainable  
Bilateral Cycle Paths and Hiking Trails”

Commissioned for the Vas County Local Government Office by

Hungary NEXT – Gábor Bódis

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## Introduction

### Background

This handbook was created in connection with the concept of “Strategic Study for the Preparation of Future, Sustainable Bilateral Bicycle Routes and Hiking Trails”. The preparation of the Strategic Study provides a summary material for the long-term development of sustainable, economically viable bilateral cycle paths and cycling offers, taking into account the international qualification process of cycle paths.

### Objectives and Framework

In line with the Study, our Thematic Route Development Guide discusses the criteria for designating sustainable cycling routes (see points A) and their efficient operation (see points B) in order to provide professional guidance to local and regional actors in future regional development, bilateral bike paths and bike offers. The handbook is structured according to a dual purpose (designation and operation). In line with the Interreg Europe ThreeT Action Plan (Action 1/B), the aim is to provide guidance not only in cycling but also in other thematic route planning tasks, including the IH-guide for TOP+ bids. In a separate chapter, we discuss the aspects of hiking and water tours, taking into account the different characteristics and the possibilities of combination (multimodality).

## How to use the manual

### How should we approach thematic route planning?

Upon receipt of this manual, we recommend to review the **flowchart** on page 2, and right after completing the steps, mark them on the **checklist** on the right hand side.

It is important to see clearly at the earliest possible design stage that the work is divided into two important phases: the **designation** (marked A) and the **operational** (marked B) phases. In the planning phase, two sets of criteria must apply: knowledge of the context of the **directives** and recommendations, and the process of **alignment**, which means adaption, interconnection, or integration with existing systems. The content structure of the manual can be followed logically along these principles.

The initial step in the **thematic planning** of cycling routes is to identify the different **target groups** (A.1-A.2) and to explore motivational needs. The first half of the handbook, highlighted in blue (A), provides tables, points and examples of **good practice**. Knowledge of the **conditions**, starting with the ownership, natural and social conditions, then moving on to the topics of movement dynamics and qualification procedures, we also provide insight into the innovative and environmentally friendly **development directions** of tourism by summarizing the relevant **methodological background materials** and providing their contact details.

The steps for operation are given in the sections (B) marked in red. In addition to the **infrastructural** aspects (B.1), we also go around the so-called soft elements (B.2), i.e. the **interconnection** of attractions and the **coordination** of transport options, in order to create **thematic contents** (see page 22) and to create offers like the ones you can read about in the marketing chapter (B.3). Finally, we draw attention to **signposting, orientation and route planning systems** and applications.

## Conceptual Flowchart and Checklist (Contents\*)

	Planning phase	Alignment phase	Case study	„ThreeT” best practice	Methodology sources	Check list
<b>Designation</b> A.0 (3-16)	<b>Directives</b> A.A					<input type="checkbox"/>
		<b>Connections</b> A.B				<input type="checkbox"/>
<b>Target Groups</b> A.1 (4-11)	<b>MTB</b> A.1.1 (5-6)	Motivations, Route planning	<b>Volcanic Ribbon</b> (5)	<b>Transylvanian Highlands</b> (6)		
	<b>TREK</b> A.1.2 (7-8)	Motivations, Route planning	<b>Tuchola Forest</b> (7)	<b>Alvar Aalto Roads</b> (8)		<input type="checkbox"/>
	<b>RACE</b> A.1.3 (9-10)	Motivations, Route planning	<b>Rijn-Waalpad</b> (9)	<b>Lahn Valley</b> (10)		
<b>Other Target Groups</b> A.2 (11)		Motivations, Chain of Values, Foot tourists			<b>Tourismology, Innovative development</b>	<input type="checkbox"/>
<b>Condition Systems</b> A.3 (12-14)	Ownership / Legal Terms Natural, Social Conditions	Shared Use, <b>Safety,</b> <b>Cohesion</b> (13), <b>Heritage Protection</b> (14)		<b>Valletta / Birgu</b> (14)	<b>Workflow planning</b> (14)	<input type="checkbox"/>
				<b>Parks di Val di Cornia</b> (14)	<b>Sustainable, eco-friendly design</b> (14)	<input type="checkbox"/>
<b>Framework Systems</b> A.4 (15)	Motion Dynamic, Physical	Mental: Degrees of Difficulty			<b>Road regulations, EuroVelo, Hiking trails</b> (15)	<input type="checkbox"/>
<b>Qualifying and Rating Systems</b> A.5 (16)			<b>ADFC and Fiets-platform</b> (16)			<input type="checkbox"/>
<b>Operation</b> B.0 (17-26)	<b>Maintenance</b> B.A				<b>Maintenance management</b> (17)	<input type="checkbox"/>
		<b>Systems</b> B.B			<b>Cycling Tourism, EuroVelo</b> (17)	<input type="checkbox"/>
<b>Infrastructural Services</b> B.1 (18)	Rest B.1.1, Emergency Rest B.1.2	<b>Parking, Stopping, Rest areas, Service points</b> (18)			<b>Must haves, Good to haves lists</b> (18)	<input type="checkbox"/>
<b>Connective Services</b> B.2 (19-21)	<b>Inter- / Multi-modality</b> B.2.1 (19)	Integration into other systems, <b>Bike Rentals</b> (19)	<b>Trout Circle</b> (20)	<b>Volcanic Ribbon</b> (5)	<b>Must haves, Good to haves lists</b> (19)	<input type="checkbox"/>
	<b>One Stop Shop</b> B.2.3 (20)	<b>Package Offers</b> (20), <b>Legal Background</b> (20-21)			<b>Contracting, Offer, Conditions</b> (21)	<input type="checkbox"/>
<b>Marketing</b> B.3 (22-26)	<b>Service Marketing</b> B.3.1 (22)	<b>Themed Routes and Trails</b> (22)	<b>Donauradweg</b> (22)		<b>Theme-specific topics and links</b> (22)	<input type="checkbox"/>
	<b>Tourism Services</b> B.3.2 (23)	<b>Lodging places, Hospitality</b> (23)			<b>Services, Points of Criteria, Suggestions</b> (23)	<input type="checkbox"/>
	<b>Board Signage</b> B.3.3 (24)	Psychology (23), Route Direction, Smart Route (24)	<b>Groningen fietsstad</b> (24)		<b>EuroVelo signage and image manuals,</b>	<input type="checkbox"/>
	<b>Orientation Systems</b> B.3.4 (25)	Overview Maps, Totem Piles (25)			<b>Walkable Hungary image manual,</b>	<input type="checkbox"/>
	<b>Route Planning</b> B.3.5 (26)	Barometers / Traffic counters, websites, apps	<b>Bolzano, Szombat-hely</b> (26)		<b>Signage systems for pilgrimages</b> (26)	<input type="checkbox"/>

\*Numbers in brackets indicate page numbers.

## A.0 Designation

### A.A Planning

European Union Directives [ec.europa.eu/regional\\_policy/en/2021\\_2027/](https://ec.europa.eu/regional_policy/en/2021_2027/)

It is worthwhile to know the objectives of the European Union directives (upto 2027 partnership agreements) in the planning phases concerning the designation of routes. In line with Policy Objective 2, which means a "greener, low-carbon transitioning towards a net zero carbon economy", the **creation and improvement of alternative modes of transport, cycling and cycling** is a relevant sub-heading. Policy Objective 3 names "a more connected Europe by enhancing mobility", including **improving road safety and building missing networking links**. "Europe closer to citizens by fostering the sustainable and integrated development of all types of territories" is policy objective 5. It sets out the goal of **integrated social, economic and environmental development, the development of cultural heritage and tourist attractions in both urban and rural areas**. The Natura 2000 ecological network, which forms the backbone of the European Union's nature conservation policy, has a huge extent in the Hungarian, Austrian and other border areas. The relevant rules and maps are available after registration at the following link: [http://gis.teir.hu/teirgis\\_termeszetvedelem/](http://gis.teir.hu/teirgis_termeszetvedelem/)

### A.B Alignment

#### Connection Points

**Environmental Awareness.** Informing and managing tourists is a key element in shaping an environmentally conscious attitude. In order to become conscious hikers in the terrain they want to explore, they need to be aware of the correct path to the experiences available and livable to them, as well as the rules, restrictions, and penalties for violating them. A previously published code of behaviour for 'organizations' developing cycling tourism offerings (Study on the Concept of the Bilateral Nature Conservation Guidelines for Cycling, September 2018) provides guidance to ensure that nature enthusiasts have the least impact on their environment during their leisure activities, and be aware of the most basic nature conservation rules. The Strava Heat Map provides an interesting addition to the instinctive use of routes by hikers and cyclists, even in 3D view. <https://www.strava.com/heatmap#10.01/17.05661/46.67384/hot/ride>

**Networking Mindset.** It is important to indicate the levels at which our route to be designated or already designated is connected to certain local, regional, national core networks (e.g. OTrT in Hungary), the EuroVelo network, and walking routes (e.g. National Blue Tour in Hungary). The ongoing study of county cycling core network design has supportive power at a number of points. For example: <https://www.vasmegye.hu/wp-content/uploads/2021/08/Vas-Megye-Kerekparforgalmi-Fohalozati-Terve.pdf>

**Thematic Development.** Preliminary and on-site availability or on-demand description of other tourist routes and attractions enhances the cooperative competitive advantage, visibility and marketing communication of each area. The already operating service providers or institutions, which provide additions, curiosities and sights to the story of a longer route, should be involved into the planning phases of route designations. The first step in this could be a value identification and exploration workshop in which each theme and narrative is developed. In the border areas, bilingualism and possibly multilingualism are also important aspects: we should try to display the rules valid in the affected areas in a simple, preferably linguistically independent way, with the usage of pictograms.

## A.1 Target Groups

The target groups of cycling tourists are defined in terms of the vehicles they used, their technical parameters, the setting of motivational objectives, taking into account their orientation habits, and the identification of the terrain. The names and the clear differentiation of the target groups is also necessary when we are planning routes, linking attractions to provide alternatives that can be used at varying speeds, and can have multiple entry and exit points. Detailed aspects of these are described in the Infrastructure Framework in Sections A.3 and B.1 of the Manual. The target groups can be distinguished in many different ways, either on the basis of motivation, type of accommodation or interest (see also B.3.2). Tourists who are not primarily cyclists will be covered as target groups at the end of this chapter.

### Mountain bikers / A.1.1 MTB

Vehicle type technical aspects	Goals motivational background	Target group demographic background	Information orientation habits	Area terrain geographical nature
<ul style="list-style-type: none"> <li>• durable tube / fork frame</li> <li>• special equipment</li> <li>• slopes and inclines</li> </ul>	<ul style="list-style-type: none"> <li>• sports purpose</li> <li>• nature lovers</li> <li>• challenge seekers</li> <li>• <b>EXPLORERS</b></li> </ul>	<ul style="list-style-type: none"> <li>• youngsters</li> <li>• young adults</li> <li>• friends</li> <li>• extreme athletes</li> </ul>	<ul style="list-style-type: none"> <li>• digital orientation options</li> <li>• often moving off the beaten route</li> </ul>	<ul style="list-style-type: none"> <li>• uneven terrain</li> <li>• dirt roads</li> <li>• trails</li> <li>• different obstacles</li> </ul>

### Touring cyclists / A.1.2 TREK

Vehicle type technical aspects	Goals motivational background	Target group demographic background	Information orientation habits	Area terrain geographical nature
<ul style="list-style-type: none"> <li>• comfortable tube / fork frame</li> <li>• placing larger packages (racks)</li> </ul>	<ul style="list-style-type: none"> <li>• trip</li> <li>• visiting attractions</li> <li>• community experiences</li> <li>• maintaining health</li> </ul>	<ul style="list-style-type: none"> <li>• miscellaneous</li> <li>• <b>CLASSICS</b></li> <li>• family tours</li> <li>• middle-aged</li> <li>• more in the longer haul</li> <li>• for several days</li> </ul>	<ul style="list-style-type: none"> <li>• predictability</li> <li>• high quality information systems</li> <li>• infrastructure</li> <li>• quality services</li> </ul>	<ul style="list-style-type: none"> <li>• mostly paved roads</li> <li>• possibly dirt or gravel roads</li> </ul>

### Road cyclists / A.1.3 RACE

Vehicle type technical aspects	Goals motivational background	Target group demographic background	Information orientation habits	Area terrain geographical nature
<ul style="list-style-type: none"> <li>• large diameter wheels</li> <li>• thin tires</li> <li>• minimal weight</li> <li>• for fast progress</li> </ul>	<ul style="list-style-type: none"> <li>• doing sports</li> <li>• cultural heritage</li> <li>• natural values accessible on asphalt roads</li> <li>• performance</li> </ul>	<ul style="list-style-type: none"> <li>• cycling is integrated into their way of life</li> <li>• extreme athletes</li> <li>• <b>TRENDY</b> communities</li> </ul>	<ul style="list-style-type: none"> <li>• advance and thorough planning</li> <li>• high demands towards the quality of roads</li> </ul>	<ul style="list-style-type: none"> <li>• having the least capability of using natural wandering routes</li> <li>• good quality asphalt</li> </ul>

## A.1.1 MTB Mountain Bikers



Motivational factors (Holzhauer, 2015)

### DISCOVERY & MOVEMENT

1. Natural environment, 2. Freedom, 3. Fun, 4. Balance, 5. Escape from the city

Route planning requirements (European Committee, 2021)

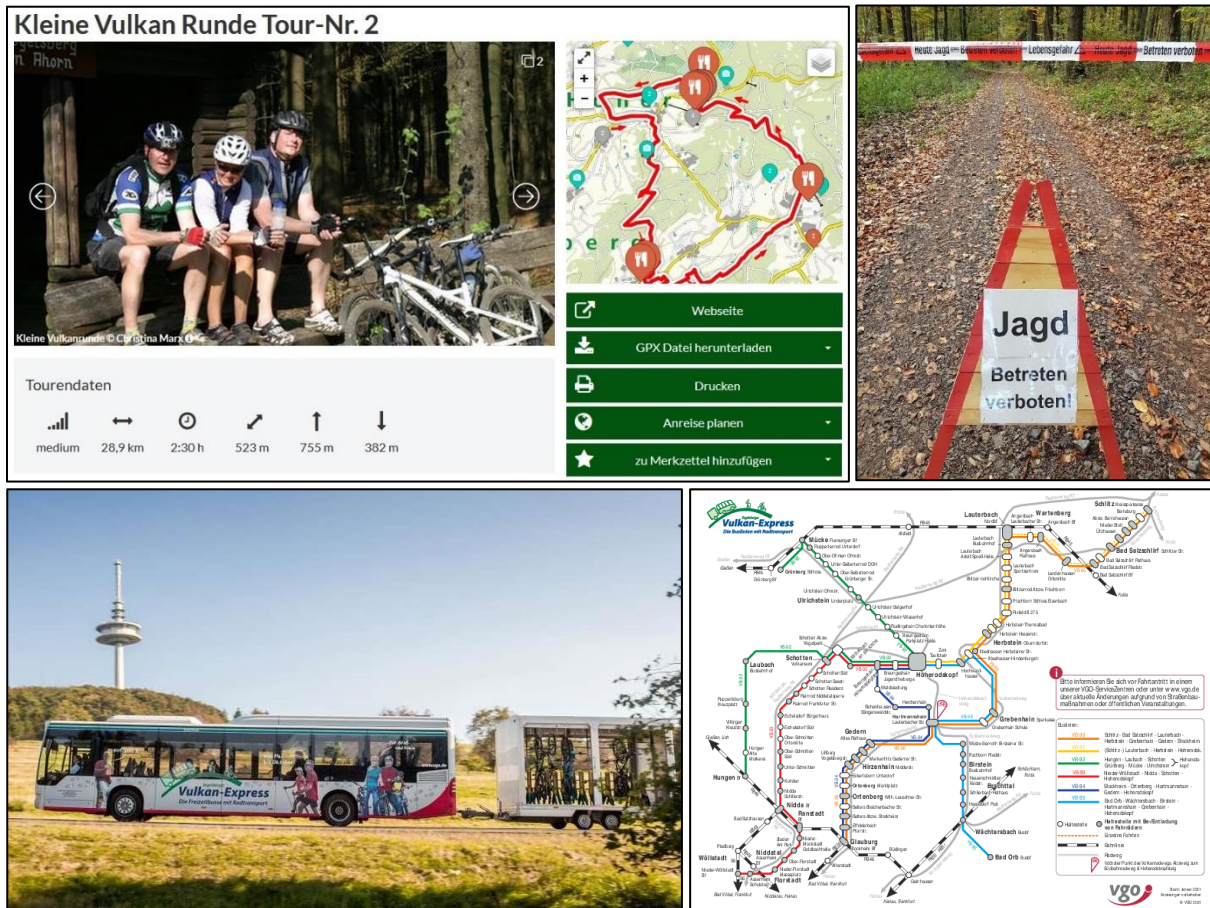
<b>Segregation</b>	Drive the route away from car roads or highways, do not level-cross them, if it is necessary to follow the road, make a distance from it with a wide green stripe.
<b>Buffer zone</b>	Leave a distance due to the movement of vehicles and their passengers parked in the vicinity of an attraction, on the edge of the road leading to it, or near it.
<b>Width</b>	The bike path should be wide enough for those who ride on it to move, to overtake, and to pass in a pleasant and comfortable manner.
<b>Information</b>	Markings must be clearly visible, recognizable and identifiable, from all directions. It is important to maintain the signposts and the signals. <i>See case study.</i>
<b>Crossing</b>	Avoid crossing solutions because of longer braking distances due to poor visibility, due to high speed and due to rougher ground conditions.
<b>Barriers</b>	All obstacles that cannot be removed should be marked with a special prismatic, reflective sign, and well in advance, either on a danger or speed limit board.
<b>Restrictions</b>	Recommend mountain hiking trails for the summer, possibly spring and autumn. The information sheet should include the difficulty, distance, level difference, etc.

Case Study (Vulkanregion, Vegelsberg, Germany, No. 2 Kleine Vulkan Runde)

**Topic: Volcanic ribbon: getting to know the geology and natural peculiarities of the area, from the beginning of April to the end of October**

The Vogelsberg - in the heart of Hesse - is the largest volcanic complex in Central Europe, with an area of about 2,500 km<sup>2</sup> and a diameter of about 65 km. Vogelsberg is also part of the entire range of volcanic centres. Its uniqueness is its diversity: volcanic activity took place in several phases with intermittent breaks, different eruption sites and types, and different meltings. One of the most spectacular ways to explore it is mountain biking. The Short Volcanic Round is a beautiful tour, 29 km long, with moderate slopes and a level difference of 660 meters. After reading the details of the tour, which also shows a cross-section of the level-difference, the website highlights the starting point (Taufsteinhütte Hoherodskopf) and the arrival point (Taufsteinhütte Hoherodskopf), which are displayed on a zoomable thematic map, the a product of KOMPASS-Karten GmbH. By moving the mouse over each pin, the options open in a fan-like way, and show eating and other possibilities, refreshment points, or photo points. Parking and weather information can also be found on the website, as well as relevant links. We can start with a wonderful view of Hoherodskopf. This is followed by a varied series of steep passages, meadows, forest pathways. The Bilstein Rock Tower is fabulous, and the gateway over the Herchenhainer Höhe offers fantastic views. From May to October, the Vogelsberger Vulkan-Express coach runs on Saturdays, Sundays and public holidays. It is a bus network of six routes. All vehicles are equipped with bicycle transport. There is no extra charge for transporting bicycles. Three of the six bus routes run along the Vulkanradweg. The route can be printed directly from the website and shared via e-mail or the most popular social media platforms. The route can be evaluated on a scale from 1 to 5 in terms of both condition and appearance.

[https://www.vogelsberg-touristik.de/aktiv/radfahren/mountainbike.html#/de/vogelsberg-touristik/default/detail/Tour/t\\_100161129/kleine-vulkan-runde-tour-nr-2](https://www.vogelsberg-touristik.de/aktiv/radfahren/mountainbike.html#/de/vogelsberg-touristik/default/detail/Tour/t_100161129/kleine-vulkan-runde-tour-nr-2)



Up-to-date information: website, on-site warning, bike bus and network map, source: Region Vogelsberg Touristik GmbH, 2021

**ThreeT Best Practice (Transylvanian Highlands Hiking and Cycling Network, Romania) eco-romania.ro**

**Topic: Extensive network of mountain hiking and biking trails that connect the attractions**

One of the main attractions of the Transylvanian Highlands, famous for its wonderful natural values and its villages boasting fortified churches: this is a unique phenomenon in Europe. Since 2015, when the first hiking trails opened for public use, the number of cyclists and hikers has increased significantly year by year. It is mostly visited by active travellers who want to spend at least 2-3 days and use related services (accommodation, equipment, directions, locally made products) from local entrepreneurs. There has been a significant increase in the number of visitors coming for mountain biking and/or hiking, especially during the summer. Since 2013, two NGOs have been implementing various projects to create hiking and cycling infrastructure: approx. 100 km of stone paving, approx. 500 km of cycling and hiking trails with the designation of existing trails used by locals and the placement of 150 information boards.



On the website of the routes you will get an overview of the options and you can also select the categories that interest us, source: www.eco-romania.ro/en/map-eco-romania, 2021

<https://www.interreurope.eu/policylearning/good-practices/item/3769/the-network-of-hiking-and-biking-trails-in-transylvanian-highlands/>

## A.1.2 TREK Touring Cyclists



Motivational factors (Holzhauer, 2015)

### CLASSIC ACTIVE REST

1. Natural environment, 2. Recreation, 3. Landscape, 4. Freedom, 5. Health

Route planning requirements (European Committee, 2021)

<b>Segregation</b>	Drive the route away from car roads, do not level-cross them, if necessary to follow the road, make a distance from it with a green stripe. <i>See case study.</i>
<b>Integration</b>	If you want to lead the cycling route to a less busy but mixed-use road, significantly reduce the speed of cars and other vehicles and paint the signs.
<b>Altitudes</b>	Pay attention to the level differences, knowing that this segment is the least homogeneous, avoiding possible conflict points in parallel traffic or movement.
<b>Buffer zone</b>	Leave a distance due to the movement of vehicles and their passengers parked in the vicinity of an attraction, on the edge of the road leading to it, or near it.
<b>Width</b>	The bike path should be wide enough for those who ride on it to move, to overtake, and to pass in a pleasant and comfortable manner.
<b>Markings</b>	Signposts must be clearly visible, recognizable and identifiable, from all directions. It is important to maintain the signposts and the signals.
<b>Crossing</b>	Avoid crossover solutions. If you still need to cross other routes, have enough distance for visibility and possibility to slow down.
<b>Barriers</b>	All obstacles that cannot be removed should be marked with a special prismatic, reflective sign, and well in advance, either on a danger or speed limit board.
<b>Use</b>	The space requirements of e-bikes and wide, heavier bikes and trailers are different. Make place for standing aside. Install service and charging points.
<b>Restrictions</b>	In built-up areas, where pedestrians, dogs and small children may move on the road, indicate with a ban sign that the bicycle can only be moved by pushing.

Case Study (Tuchola Forest, Kashubian Tour, Poland)

### Topic: Untouched intercultural delicacies

The hiking trail is located to the west of Gdańsk, at the mouth of the River Vistula, inhabited by members of the Kashubian ethnic group. The more than 160-kilometer-long bike path leads along the beautiful Bory Tucholskie, on specially designed routes, with many stops and rest areas. Pedestrian bridges and other bridges, including the impressive pedestrian and bicycle bridge over the Brda River in Męcikała. This is what they call the Kashubian route - undoubtedly a very good place for a cycling weekend in Poland, even for a cold, extended weekend in November near Chojnice. This project is so thoughtful that is worth reviewing when planning any biking or hiking trail development. Perhaps its biggest advantage is keeping bike paths away from car roads. An unusual place to get to is a cone extractor in Klosnów, a few kilometres from the road in Brusy-Chojnice, which runs along the Kashubian route. Not only can we learn a lot about the work of foresters, which we may not be at all aware of, but also we can see a completely unique – and today still working - diesel engine from 1913 that has been driving mining machines for years. Józef Chełmowski called himself Leonardo da Vinci from Kashubia, and indeed, some of his installations evoke the works of the famous Italian. One of the most famous trends in Chełmowski's creativity was the so-called beehive. They are in his former garden of colourful works carved into the trunk of trees, or transformed from the usual beehive shapes.

<https://www.znajkraj.pl/kaszubska-marszruta-bory-tucholskie-na-rowerze>



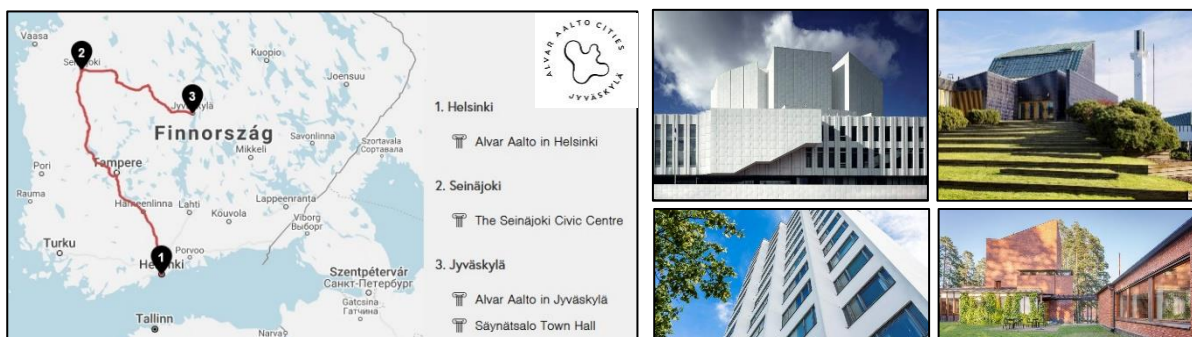


Distance keeping and thematic value chain: distance from motorway, bicycle bridge, cultural added value, source: Szymon Nitka, 2003-2021

**ThreeT Best Practice (Alvar Aalto Roads, Jyväskylä Region, Finland) [visitjyvaskyla.fi/en/alvaraalto](https://visitjyvaskyla.fi/en/alvaraalto)**

**Topic: Connected cultural values involving different modes of mobility**

Alvar Aalto’s routes mark variable packages, hikes and hiking trails that can be travelled on foot or in a man-powered manner on flat terrain. Alvar Aalto, a world-renowned architect and academic, is the inner, natural strength of the Jyväskylä Region. Here are most of the buildings in the world that he designed. The portfolio of 29 venues includes the Alvar Aalto Museum, the Muurame Church and Säynätsalo Town Hall, which is considered one of Aalto’s most beautiful works. The concept makes Alvar Aalto’s relationship to nature visible. The concept of Alvar Aalto routes is introduced and maintained by Visit Jyväskylä. One of the popular offers is the so-called “Pearls of Aalto Architecture in Helsinki, Jyväskylä and Seinäjoki” package.



Map and locations of one of the thematic routes, source: Alvar Aalto Foundation, 2021

<https://www.interregueurope.eu/policylearning/good-practices/item/4342/alvar-aalto-routes-in-jyvaesskylae-region-the-capital-city-of-alvar-aalto-s-architecture/>

## A.1.3 RACE Road Cyclists



### Motivational factors (Holzhauer, 2015)

#### TRENDINESS & PERFORMANCE

1. Freedom, 2. Natural environment, 3. Balance, 4. Escape from the city, 5. Rest

### Route planning requirements (European Committee, 2021)

<b>Warning</b>	If possible, the bike lane should be painted. Signs for vehicle drivers should be applied to indicate the fact and volume of bicycle traffic.
<b>Markings</b>	Signposts must be visible, recognizable and identifiable and larger than the average. Continuous maintenance of the boards is essential.
<b>Crossing</b>	If we need to cross other routes, have enough distance for visibility and deceleration. Intersections should also be illuminated or lit up.
<b>Pavement</b>	Always keep it clean and even, we should also indicate at the entry points that cycling traffic is expected.
<b>Priority</b>	If this is possible, even with a traffic light, let motorists know that high-speed cycling is a priority.
<b>Expressway</b>	High-speed cycling can be provided with “highway”-type routing and infrastructure. We provide a <b>case study</b> for this solution.

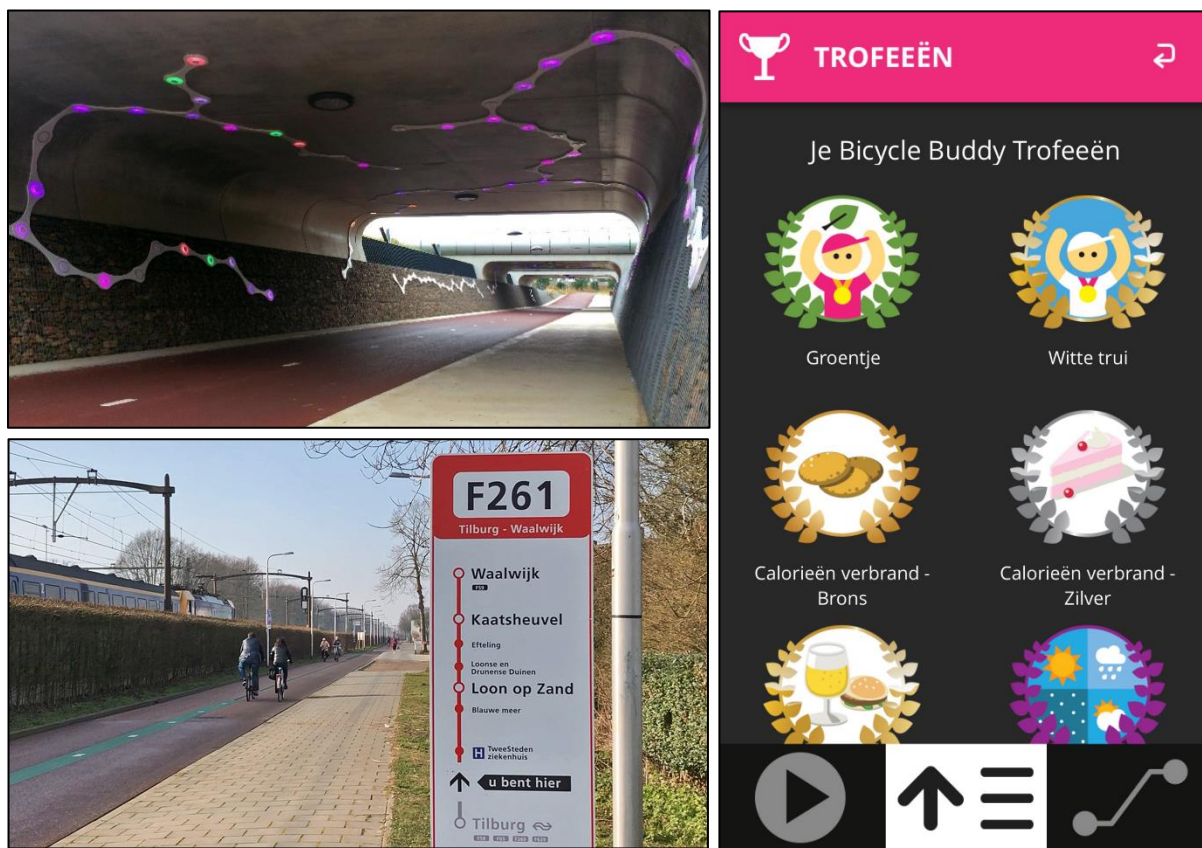
### Case Study (RijnWaalpad, Hollandia)

#### **Topic: Acquiring cycling culture by collecting trophies in a routine, everyday, even commuter cycling aspect**

The 17 km long fast bike path between RijnWaalpad Arnhem and Nijmegen, also known as RijnWaalpad, offers an alternative for motorists on this route. National and provincial governments, city and regional authorities, local authorities, as well as nearby educational institutions and large employers were involved in the project. The route connects the two big cities and the smaller towns and villages between them. Infrastructure adjustments have been made to ensure a high quality, fast cycling route. Its construction cost 17 million Euros. During the development of RijnWaalpad and the construction of the infrastructure itself, they sought of marketing, communication and innovation. In the design phase, a competition was announced to name the bike path. They have also developed a Bicycle Buddy app that allows cyclists to orient themselves and get trophies for “good behaviour”. Cyclists have priorities over motorists and pedestrians at the intersections. Where there are rivers and railways, underpasses and overpasses have been built. It was important that the slopes up and down are not too steep. The width of the road allows two people to cycle side by side, which increases the safety and attractiveness of the route. There is good lighting along the route, including one of the tunnels where lights, of which colours the users can change via an app, have been added. Safety is also aided by regular maintenance, including winter de-icing. The number of cyclists shows an increase between 5% and 35% on weekdays, ranging from 45% to 135% on weekends. The data were given in comparison with traffic data measured on previous routes (<https://rwsduurzamemobiliteit.nl>).

<https://rwsenvironment.eu/subjects/sustainable-mobility/toolbox-smart-mobility-management/bicycle/map/case-study-bicycle-infrastructure-rijnwaalpad/>

<https://www.youtube.com/watch?v=FqaCJyx6NJI>



RijnWaalpad information platforms and the promise of experience, source: www.snelfietsroutes Gelderland.nl, 2021

**ThreeT Best Practice (Lahntal, Lahn Valley: Lahn River Trails, Germany) [daslahntal.de](http://daslahntal.de)**

**Topic: Connected natural and cultural values involving different modes of mobility**

The Lahn trail runs for 295 km through mountains and valleys, forests and meadows, towns and villages, from the source to the mouth of the Rhine (opened in 2012). The Canoe-Lahn River: provides water tours on the Lahn River for 165 km, with about 40 entry and exit points and rest areas.



The aim is to connect bustling, culturally rich cities and unique natural sites in order to provide visitors with an active, attractive and interesting experience along the Lahn River on cycling, walking and water routes, in combination with rail if needed. The Lahn cycle path is largely car-free and leads on mostly asphalt roads along the flat river.

Lahn cycling route between Limburg and Koblenz, source: www.alltrails.com, 2021

<https://www.interreurope.eu/policylearning/good-practices/item/4108/river-lahn-trails-hiking-cycling-water-hiking/>

## A.2 Other Target Groups

### Motivations

The route network, cycling, hiking, water, or any combination of these, can target all levels of the motivational pyramid\*, so in the initial steps of selection, consider the overlap and coincidence of the demands of each target group. Assessing the motivation of visitors is a marketing issue, but at the same time, guests arriving with related motivations, not just cyclists, can add content that can be exploited at many points.

- **Physiology:** relaxation, healthy environment, exercise;
- **Safety:** the design of routes, the role of environmental factors;
- **Love and relationships:** a trip together, shared experiences;
- **Appreciation:** performance tours;
- **Cognitive:** study paths, interpretive tools, historical sites;
- **Aesthetics:** experience of landscape and nature, nice views, various attractions;
- **Self-actualisation:** challenging routes, adventure tourism; spirituality.

Enriching all this with additional aspects, placing it in the dimensions of individual-community-social and physical-mental-responsibility, we can also discuss it in the system of adventure tourism\*\*. This also reveals significant connections with the motivations of the sustainable tourism\*\*\* and slow tourism\*\*\*\* segments.

### Chain of Values (See B.2.1)

The designated network of public, recreational and tourist routes, consisting of hiking trails, educational trails, greenways, pilgrimages and other thematic routes, can in itself be a unique attraction and resource, some basic infrastructure. The network is embedded in complex systems, with direct stakeholders from hiking and other NGOs, forestry, national park directorates, municipalities, road managers and land users, but also other indirect actors such as private companies or transport companies. System-level thinking also requires a multi-disciplinary approach to achieve multimodality.

### Marking Systems for Hiking Trails [era-ewv-ferp.org/recommends/lqt/](http://era-ewv-ferp.org/recommends/lqt/)

The most basic European guidelines for the placement of signs are contained in the ERA-EWV-FERP. The guidelines also address the role and significance of indications and the expression and recognition of large-scale volunteering in their maintenance. The basic visitor-centred principles of foot tourist signs apply to both cyclists and worth using in river systems, for instance.

<b>Topographic layout</b>	visitor mental map creation, visibility, planning
<b>Approach signs</b>	preliminary information, start signs, danger signals
<b>Direction signs</b>	orientation signs at junctions, confirmation signs
<b>Related services</b>	presentation of accessible attractions, alternative modes of transport
<b>Route and road length</b>	usually in km and hours/minutes, taking the terrain into account
<b>Degree of difficulty</b>	categories, (easy-medium-difficult), taking the obstacles into account
<b>Platform consistency</b>	in paper-based and digital maps, applications, planning systems
<b>Striving for integration</b>	with existing systems (educational, cycling, urban trails, etc.)

\* Michalkó G. (2012): Turizmológia. Akadémiai Kiadó, Budapest. \*\* Bódis G. (2019): Kalandturizmus. Irimiás A. – Jászberényi M. – Michalkó G. (2019): Turisztikai termékek innovatív fejlesztése. Akadémiai Kiadó, Budapest, pp. 100-114. \*\*\* Hegedüs S. – Lontai-Szilágyi Zs. (2019): Fenntartható turizmusfejlesztés. Irimiás A. – Jászberényi M. – Michalkó G. (2019): Turisztikai termékek innovatív fejlesztése. Akadémiai Kiadó, Budapest, pp. 157-170. \*\*\*\* Pécsék B. (2019): Lassú turizmus: A fenntartható fejlesztési alternatíva. Irimiás A. – Jászberényi M. – Michalkó G. (2019): Turisztikai termékek innovatív fejlesztése. Akadémiai Kiadó, Budapest, pp. 171-181.

## A.3 Condition Systems

Design guidelines and standards for cycling infrastructure have already been developed in many EU member states and are used in local government systems. However, there are also member states that do not have this type of knowledge source. This manual can also be useful for them. The principles and recommendations presented here supplement, do not replace the existing guidelines and/or standards. A number of basic design principles must be followed when designing and implementing cycling infrastructure. The most important of these are **safety, coherence, attractiveness and comfort**. These can also be used as criteria to assess the quality of cycling infrastructure. Where the infrastructure meets these criteria, it is more likely to increase the use of bicycles.

### A.3.1 Ownership / Legal Terms

#### Ownership

In a state-owned forest, anyone can **walk or stay on foot at their own risk**, on a forest road that is part of the forest exploration network, or on horse-drawn vehicles for sports or tourism purposes, unless there is a statutory restriction in the area (Sections 91-93 of Act XXXVII of 2009). In a privately owned forest, **cycling may be restricted or prohibited by the forest manager** in an area that is not part of the forest exploration network, if the ownership of the area and the restriction or prohibition in the area are duly indicated.

In the initial phase of route planning, **for consultation**, it is essential to **contact each of the institutions involved**. Such institutions are the owners of forestry, the national park, the museum conducting archeological excavations, the municipality and the private land owners.

#### Shared Use – Cycling on Designated Hiking Trails

It is possible to cycle in the forest on the marked hiking trail if the possibility of **joint use has been marked** on the specific hiking trail or cycling road.

A detailed collection of legislation is available here: <https://net.jogtar.hu/jogszabaly?docid=98400020.kmb>

### A.3.2 Natural Conditions

#### [International Nature Conservation fna.hu/sites/default/files/Egyezmenyek\\_kornyezet.pdf](https://fna.hu/sites/default/files/Egyezmenyek_kornyezet.pdf)

Eliminating the negative effects of increasing tourism on the natural and cultural heritage and values is necessary for the development of the offer in an environmentally friendly way. The protection of natural and cultural values can be ensured by knowing, adhering to, and enforcing the current legislation that can be related to cycling tourism. The first step in the planning phase is to learn about the relevant points in the following conventions.

- Wetlands, Especially as Waterfowl Habitat (Ramsar - 1971)
- Protection of the World Cultural and Natural Heritage (Paris - 1972)
- Trade in Endangered Species of Wild Fauna and Flora (Washington - 1973)
- Conservation of Migratory Species (Bonn - 1979)
- Conservation of European Wildlife and Natural Habitats (Bern - 1979)
- Biodiversity (Rio de Janeiro - 1992)

## EU Nature Protection

In accordance with the international nature conservation conventions adopted since the 1970s, nature protection guidelines have been drawn up throughout Europe .

- Birds Directive **2009/147/EC** (2009)
- Habitats Directive **92/43/EEC** (1992)

The Habitats Directive, in close connection with the Birds Directive, is still the cornerstone of EU nature policy and a key pillar of the Union's Natura 2000 network of protected areas. **It is therefore forbidden, and this is particularly important to draw attention to the following:**

1. Intentional capture or killing of specimens of wild animals;
2. Intentional disturbance of species, in particular during mating, rearing, overwintering and migration;
3. Deliberate destruction or collection of wild eggs;
4. Damage to or destruction of mating, breeding or rest places;
5. Intentional tearing, collection, cutting, uprooting or destruction of wild specimens of plant species in their natural range.

If the forest area is under nature protection, the rules for visiting the forest will be supplemented by the rules in force in the nature reserve, and the stricter regulations will become mandatory. Useful link to identify Natura 2000 sites: <https://termesztvedelem.hu/kereso/natura-2000/>

### A.3.3 Social Conditions

#### Safety

Safety is a basic requirement for any cycling infrastructure, although safety considerations are sometimes a major barrier to cycling. Cyclists often feel vulnerable when moving in the same place as the car traffic due to speed, vehicle size, and traffic volume.

1. **Limit the number of conflict points** between cycling target groups, pedestrians or motorists by driving them on different routes.
2. **Reduce vehicle traffic and speeds around cyclists**, especially when road users are mixed.
3. **Ensure that intersections are clearly visible** so that users are aware of the risks and can change their behaviour appropriately. When approaching intersections, every effort should be made to ensure that cyclists are clearly visible to motorists.
4. **Make sure the bike facilities are well lit.**
5. **Ensure proper maintenance of cycling infrastructure.**

#### Cohesion

Routes must be coherent and accessible, allowing cyclists to travel easily between their point of departure and their destination.

1. Design a **well-recognized, cohesive network.**
2. **Ensure intermodality with other networks /** modes of transport.
3. **Ensure well-located and safe bicycle storage.**

### ThreeT Best Practice (Valletta/Birgu, Malta) Cohesion

Coordinated system providing alternative and integrated modes of transport between the cities of the Grand Harbour. The aim of the project was to create a formalized coordinated system that provides environmentally friendly modes of public transport between the cities of Valletta and Birgu, taking advantage of and overcoming the challenges posed by the geographical features of the area. Another goal was to reduce the large number of vehicles arriving in Valletta, which led to congestion and deterioration in air quality and caused a negative aesthetic effect. The solution was to create a port ferry service taking the passengers to the feet of the bastions. The city's highest point can be reached from here by a panoramic lift that opens into a garden with stunning views of Grand Harbour. Using their single tickets, visitors can access both services. A further innovation is the tour guides moving in electric golf carts.

<https://www.interreurope.eu/policylearning/good-practices/item/3881/coordinated-access-to-valletta-birgu/>

### Heritage Protection

Cultural storytelling is an important aspect, as the sights and narratives of the area arouse interest and, beyond that, can have a strong impact on the social spheres of environmental awareness. The **steps of the value exploration work** are: contacting the local and regional treasury committees, reviewing the existing attraction inventories, involvement of local NGOs, involvement of tour guides who are well acquainted with the area. The specific values are filtered along the main topic and/or taking the visitor segments into account, they are combined in terms of logic and content, suggesting possible alternatives if the number of points of interest is high.

### ThreeT Best Practice (Parks di Val di Cornia, Tuscany, Italy) Storytelling

The Val di Cornia, the southernmost part of the Etruscan coast in the province of Livorno, is opposite a strip of land behind the island of Elba, behind the town of Piombino. Over the last century, its development has almost exclusively been tied to the iron and steel industry. The industrial crisis of the 1990s required the rapid diversification of the region's economy. The archaeological and natural heritage was at that time considered a "resource" to sustain the development of non-invasive tourism. In addition to the legal concepts of cultural and landscape heritage, the coordinated urban development plans defined the areas to be protected, crossing the administrative boundaries and interpreting the natural and cultural endowments of the area as a single common asset. This area, which was largely taken from its last-century-characteristic lakes and swamps at its shores, today is a preserved area with an extraordinary environmental and cultural heritage making this area an attractive alternative destination, called "Tuscany Minor". The merger of the park and museum systems has increased the attractiveness and quality of the services offered due to a complex storytelling practice.

<https://www.interreurope.eu/policylearning/good-practices/item/3965/parks-and-museums-without-barriers-in-val-di-cornia-tuscany/>

### Additional methodological source materials

Workflow planning: [http://www.interreg-danube.eu/uploads/media/approved\\_project\\_output/0001/43/03a9c568bd7454b31ae8f396cd20fee76c63f854.pdf](http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/43/03a9c568bd7454b31ae8f396cd20fee76c63f854.pdf)

Sustainable, eco-friendly design: [http://www.interreg-danube.eu/uploads/media/approved\\_project\\_output/0001/45/f1fd73b967c9ed62e087f62a9564ac0916a365e2.pdf](http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/45/f1fd73b967c9ed62e087f62a9564ac0916a365e2.pdf)

## A.4 Framework Systems

### A.4.1 Motion Dynamics System

Dynamic Kinetic Bubble (Department for Transport, UK, 2020)

The **single cyclist** in motion also moves sideways to maintain balance, especially in a low speed range. A typical cyclist is about **0.8 m wide** at his or her shoulders (or handlebars) and needs at least an **additional 0.2 m** to maintain a straight line when moving at speeds above 7 km/h. This gives a generally valid space with a profile of around 1.0 m. Tricycles, quadricycles, and bicycle trailers typically have a larger axle width while having a narrower lateral oscillation. On steeper slopes, the oscillation can be much greater, so more space and a definite separation from faster vehicles is a must. Cyclists riding **next to each other** (on the same level of surface) require a straight space of **at least 1.0 m each, plus a distance of 0.5 m** between them. An additional width should be calculated on uneven surfaces and at ditches and channels providing rainwater drainage. Cyclists require a **minimum of 2.4 m in terms of head height** in underpasses and tunnels. The height should be increased to at least 2.7 m if a tunnel is longer than 23.0 m to ease foresight.

### A.4.2 Physical System

Trail Width (Department for Transport, UK, 2020)

1-way	Rush hour traffic	Desired width	2-way	Rush hour traffic	Desired width
	below 200 people	2.0 metres		below 300 people	3.0 metres
200-800 people	2.2 metres	300-1000 people	3.5 metres		
over 800 people	2.5 metres	over 1000 people	4.0 metres		

### A.4.3 Mental System

Degrees of Difficulty (VELOREGIO ATHU064, 2018)

Most route planning systems distinguish three levels of difficulty, but online route planners and option-narrowing platforms can have up to five. The structure of the triple articulation in terms of communication is: **1 - easy** (easy to walk, easy terrain), **2 - medium** (longer, more difficult terrain); **3 - difficult** (longer distance, changing terrain - hikes can be divided into two days). Five-point scales use the Very Easy — Easy — Medium — Difficult — Very Difficult categories. There are a websites where longer routes are recommended for racing cyclists, and they are indicated separately.

Additional methodological source materials

Detailed rules of road and technical regulations in Austria: <http://www.fsv.at/>

In Hungary: <https://ume.kozut.hu/statusz/ervenben-levo-utugyi-muszaki-eloirasok>

Design of cycle paths: <https://ume.kozut.hu/dokumentum/84>

Road safety aspects and criteria system of EuroVelo and other cycling road marking standards: <https://eurovelo.com/download/document/ECS-quality-criteria-2021.pdf>

Criteria systems for walking hiking trails: <https://www.era-ewv-ferp.org/recommends/lqt/>  
[https://www.wanderwege.schweizer-wanderwege.ch/download.php?id=26207\\_e8de367d](https://www.wanderwege.schweizer-wanderwege.ch/download.php?id=26207_e8de367d)



## A.5 Qualifying and Rating Systems, Certification

### The German Rating System (ADFC, Allgemeiner Deutscher Fahrrad-Club, since 1979) [adfc.de](http://adfc.de)

Continuous evaluation of individual cycle paths or related trail networks can provide a good and practical basis for future developments. On the one hand, the aspects of the analysis are **general** (start and end points; environment and route line; technical characteristics and solutions). By narrowing down to the **condition** of the bike routes, additional aspects can be obtained making the areas comparable (pavement quality; dangerous points or sections; information transfer en route, signage; public transport connections, other connections. The **touristic potential** is also worth classifying (interesting sights, cultural attractions, excursion destinations, rest areas, refreshment points, accommodation, bicycle-friendly service providers). The cycle path assessment methodology developed by the ADFC evaluates routes longer than 100 km, of which more than 230 exist in Germany. These are all marked regional bike paths with names. The cycle paths are divided into 50 km units, which are then evaluated in every km, supplemented with photo documentation. As a result, all bike paths receive a rating between 0 and 5 stars. The 5-star cycle paths become the so-called premium bike paths that represent significant marketing value in the tourism market, and cyclists prefer these routes during planning. EuroVelo has a similar rating system (see link on page 15). The most important aspects are the following:

<b>Cycling features</b>	width	obstacles	dangers
<b>Cover quality</b>	smooth	comfortable	discontinuous
<b>Signage system</b>	perceptibility	deficiency / lack of	irregular
<b>Routing</b>	degree of pollution	level differences	diversity
<b>Motor vehicle traffic</b>	traffic amount	protective infrastructure	crossing points
<b>Tourism</b>	accommodation	gastronomy	other services
<b>Transport connections</b>	railways	buses	other suppliers
<b>Marketing</b>	information sources	package offers	rent a bike

### The Dutch Rating System (Fietsplatform, since 1987) [fietsplatform.nl](http://fietsplatform.nl)

In the Netherlands, the cycling umbrella organization Fietsplatform has developed a methodology for evaluating the cycle path network. On this basis, the very extensive Dutch cycle path network of around 4,500 km, including regional cycle paths, was surveyed in 2012. Thereafter, a survey, a status report, and a review were conducted each year. Already in 2019-2021, a partial certification\* took place, focusing on the organization and management of regional route networks. A new quality control will be launched in 2022, which will also focus on the quality of the background infrastructure. The most important aspects of the system are listed here:

\*<https://www.fietsplatform.nl/fietsrecreatiemonitor/kwaliteitsmonitor>

<b>Landscape</b>	natural assets	nature conservation	attractions
<b>Accessibility</b>	bicycle route number	traffic separation	linkage and mixture
<b>Network quality</b>	standard compliance	connectivity	thematic content
<b>Comfort</b>	rest areas	service points	cafes, restaurants
<b>Tourism</b>	average number of lodging places per 100 kilometres		
<b>Maintenance</b>	strategies, policies	responsibility scopes	updated
<b>Signage system</b>	complaint handling bodies	cases of complaints	complaint handling time
<b>Digitization</b>	GIS database update	flow of information between handling bodies	

## B.0 Operation

### B.A Planning

#### Efficiency Directive (see A.A.)

The strategic study and this related manual worked out in the framework of the VELOREGIO project aim to facilitate efficient operation, including marketing. The maintenance and care of cycling and other hiking trails requires planning, too. The key **areas** and **organizations** that can be involved are summarized below:

Maintenance tasks	Maintenance organizations and their scopes
Roads, pavements	Magyar Közút NZrt. (in Hungary): bicycle routes existing within the national cycle path core network and outside the residential area parallel to the main roads and in the case of sections outside built-up areas, otherwise the competent municipality
Stops, Rest points, Signage system	
Service points	Municipal city management department, private enterprises
Information system	Publically procured company, private company, organization, NGO, DMO, DMC, cycling association
Marketing system	

#### Additional methodological source materials

Government Decree 355/2017 (XI. 29.) on the designation of the maintenance and the management of certain elements of the national cycle path core network and of sections of cycle paths parallel to the main roads outside built-up areas. <https://net.jogtar.hu/jogszabaly?docid=a1700355.kor>

### B.B Alignment

#### Connection Directive (See A.B, B.2, B.3)

The EU main guideline of VELOREGIO is the strengthening of connections and connection points, their utilization. To achieve it, this handbook addresses intermodality and community marketing, too. The following areas will certainly support coordinated operation:

- Integrated and **standardized development** of directional and information signage systems;
- **Coordinated development** of tourism and cycling services;
- **Integration** of cycling into other transport systems;
- Mutual and proactive **marketing** activities: joint positioning, complex product sales, well-structured, target group-oriented communication;
- Participation in other possible **promotional programmes** (PR, events, merchandizing and distribution of branded products, organization of study tours, audio guides.

#### Additional methodological source materials

Government Decree 355/2017 (XI. 29.) on the designation of the maintenance and the management of certain elements of the national cycle path core network and of sections of cycle paths parallel to the main roads outside built-up areas. <https://net.jogtar.hu/jogszabaly?docid=a1700355.kor>

Cycling tourism development strategy: [http://www.terport.hu/webfm\\_send/248](http://www.terport.hu/webfm_send/248)

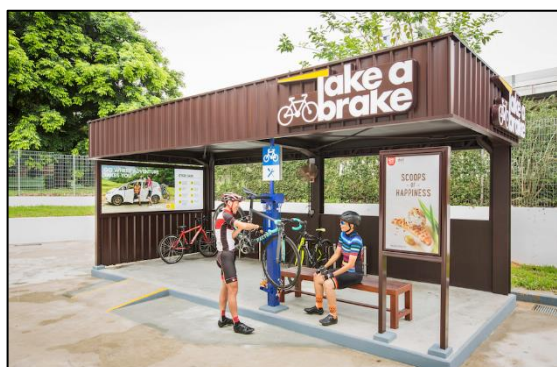
EuroVelo Certification Manual: [https://eurovelo.com/download/document/ECS-Manual-2018\\_04\\_16.pdf](https://eurovelo.com/download/document/ECS-Manual-2018_04_16.pdf)

## B.1 Infrastructural Services

### B.1.1 Rest Areas

Storage rooms, Stopping points, Parking spaces and Rest areas (Interreg, EcoVeloTour, 2019)

In places where cyclists stay for more than two hours, their **parking places** should be roofed to protect equipment. Equipping **lockers** allows tourists to visit nearby city centres without taking all their belongings with them. Cyclists have high expectations for overnight parking at their accommodations. Because bikes are expensive, cyclists don't want to lock their bikes in an open, easily accessible place, they prefer a lockable room with bike racks.



Simply-equipped rest areas and service stations, source: TopGear, Horry County Government, 2021

Must haves	Good to haves
anti-theft locking points	lockable boxes
one by one accessibility	step-free accessibility
easy handling and closing / opening	covered roof (for more than 2 hours)
installation close to attractions	e-bike charging station
sufficient number of parking spaces	oversized, special vehicle storage capacity
convenient lockers and racks	repair point with tools and pump
covered stop every 10 kilometres	covered stops with a denser distribution
rest area every 20 kilometres	rest area every 10 kilometres
trash can, emergency phone number	benches and tables, first aid equipment
map, information board with QR code	drinking water, free wi-fi, dressing room at the rest area
bench, at least a mobile toilet	solar cell mobile phone charger

### B.1.2 Emergency Rest Areas

Service points and E-bike charging points (Interreg, EcoVeloTour, 2019)

Service points should allow cyclists to perform minor repairs on their own or to repair their bike enough to reach the nearest workshop.

Must haves	Good to haves
service point every 20 kilometres	service point every 10 kilometres
pump, hanger, toolbox	workbench, lighting, tyre repair kit
charging point every 30-40 kilometres	charging points in a denser distribution

## B.2 Connective Services

### B.2.1 Intermodality, multimodality

#### Public Transportation Connections (Interreg, EcoVeloTour, 2019)

Cyclists may also need other means of transport - **public transport** - to get to the starting point, to leave the end point, or to return. The route may be closed due to the massive number of people, technical reasons, or bad weather conditions. Transport, bicycle taxis, luggage services, etc. can be **transport solutions that respond more flexibly** to demand. Local private tourism stake-holders, or even municipalities, can organize these services to fill the gaps where public transportation is not available. **Intermodality** can be an important consideration for a region to form a sustainable value chain. We recommend consulting with public transport providers and the regulatory authority. The main aspects of the negotiations are the facilitation of access to roads, including information, the possibility of skipping certain sections, the possibility of transporting bicycles by train or even by bus.

#### Integrating Cycling into Other Transportation Systems

Creating the **possibility of combined transport** makes areas accessible to target groups that would not be accessible safely and freely by bicycle anyway. Improving the accessibility of railway stations requires the development of bicycle-friendly connections so that they allow cyclists to travel safely and without obstacles until they board the train. In the area of high-traffic railway stations, the establishment of a bicycle service centre is also reasonable, which, in addition to meeting the needs of everyday cyclists and commuters, may also serve cycling tourists (bicycle service and rental, information, etc.). If the combined transport needs cannot be met in any other way, the approach by cars along the cycling routes can be improved by providing the possibility of longer-term car parking (e.g. by combining car parks and bicycle rentals). Cycling tourism should be harmonized with motorized water transport systems, and **cycling-friendly transport links** between ports should be established.

### B.2.2 Bike Rentals

#### Traditional Rentals (Interreg, EcoVeloTour, 2019)

If someone does not have a bike or does not want to transport their own bike (or canoe, kayak, scooter, etc.), he or she will need a rental option for their bike tour. Staffed bike rentals are usually set up over a large area, at intermodal junctions, or in larger cities. In order to meet the high demand on biking trails, a tight co-operation is needed between bicycle rental providers, the local/regional transport system and regional/national destination management organizations (DMOs, NTOs). There are self-service and bike-share systems, too. Bike-share systems are not covered in present handbook.

Must haves	Good to haves
booking system at the rental stations	online booking system on the Internet
emergency phone number	operators capable of communicating in foreign languages
pick-up and drop-off points installed	online route planning system with rental points

## Case Study (Trout Circle, Szigetköz, Hungary) [pizstrangkor.hu/eng/](http://pizstrangkor.hu/eng/)

### **Topic: Intermodality in cycling and water touring programmes**

The cycling-and-canoe hop-on hop-off tour implemented in Szigetköz, Hungary, is accompanied by a rental fleet and a special trailer service capable of transporting both devices. The inland delta of the Danube, the almost 1000 km-long water system of Szigetköz and Csallóköz, offers numerous canoe trips. The eco-mobile fleet project was launched in 2012, consisting of a canoe-and-bike trailer with the transportation capacity of 100 trekking bikes and 46 canoes and kayaks at a time. A total of 15 eco-mobile tours have been designated. The tours were ranked according to their lengths and difficulty levels. Accommodation and meals can be arranged for a multi-day tour, as well.



Means of transport for eco-mobile tours and some experience photos of the tour, source: Trout Circle Waldorf Conservation and Hiking Association, 2021

<http://www.pizstrangkor.hu/hun/oko-mobil-turak.html> See the Case Study described on page 5.

### B.2.3 One Stop Shop

#### Package Offers

The idea of a one-stop shop is for the cyclist is to buy a **full trip** at a single point or shop (online or at a service counter). Such sales include the organization of a full tour and include package elements, like train tickets, a sleeping car, a bicycle reservation, local transportation, transport on demand, etc. An online search engine can also help customers collect alternative offers.

#### Legal Regulatory Background

Travel agency activity is regulated in Hungary by the Government Resolution 2094/2017 (XII. 28.).

**Purchasing and Contracting:** When a customer, prospective guest or passenger purchases a package and/or a bunch of travel services, EU consumer protection rules provide him or her with a high level of protection. If they purchase a travel package, they have clearly defined rights before and during the booking procedure, and until the end of the trip. For example, they have the right to be properly informed about the services and the terms of conditions before signing a contract.

The tour operator is responsible for the proper performance of all travel services included in the package and must ensure that its customers are protected against insolvency. These rights apply to travellers on all organized trips, regardless of whether they purchase the travel package online, or at a store, travel agency, tour operator or any other retailer acting as a package tour organiser.

**Package Offer and Travel Package:** The rules on package deals do not apply to stand-alone travel services (such as individually booked programmes or accommodation). They do not apply to certain types of business trips either, to occasional and non-profit travel packages for a limited number of travellers under a framework agreement. They nor apply to travel packages of a shorter duration than 24 hours a day, unless the latter one includes overnight accommodation. When an interested customer purchases a travel package, they purchase a combination of two or more different types of travel services as elements of the same trip or vacation. This includes passenger transport, accommodation, bicycle rental or, under certain conditions, any other tourist services. The travel package can consist of services pre-arranged by the tour operator or travel agency, but can also be a personalized one. In the latter case, the passenger chooses the services that make up the package before concluding the contract. EU rules on travel packages apply in both cases, depending on how they are bought. If there is a travel service combined with another service (e.g. guided tour, concert ticket, sports ticket or rental of sports equipment), it can be considered as a package. The requirements in this case are: the value of the additional service should represent at least 25% of the total value of the journey, or the additional service should be an essential element of the journey.

**Bunch of Travel Services:** This is two or more travel services that the customer purchases from different merchants under different contracts but which are related to each other. A bunch of travel services is created if one of the service providers facilitates the booking of related services and the customer purchases them for a single trip or holiday.

**Conditions for the Creation of a Travel Package:** In order to call it a travel package, a further condition is that a specific contractor puts together the travel services included in the package and concludes one single contract for the services included in the package. When a customer goes into a travel agency and chooses one of the packages they advertise, and concludes a contract for it (or although he or she does not necessarily have a single contract that includes everything), or they contract for travel services at a single point of sale, this is the so-called travel “package”. In the second case, the consumer selects the services before concluding them, pays a single amount for the services included. This also covers the case when ordering travel services and concluding contracts as part of an online booking process, where the traveller’s personal data provided is passed on to the other service providers by the entrepreneur whom he or she first entered into a contract. In other words, the customer does not look for the independent service providers who organize the trip, accommodation and programmes separately, but there is an entrepreneur who puts it all together and the trip is organized as an online booking process.

#### Additional methodological source materials

Legal regulation of travel packages in Hungary:

<https://net.jogtar.hu/jogszabaly?docid=a1700472.kor>

[https://www.parlament.hu/documents/10181/1202209/Infojegyzet\\_2017\\_81\\_utazasi\\_csomagok.pdf/d75520c8-6f65-4338-8d74-a0e849caa9d0](https://www.parlament.hu/documents/10181/1202209/Infojegyzet_2017_81_utazasi_csomagok.pdf/d75520c8-6f65-4338-8d74-a0e849caa9d0)

<https://www.magyarefk.hu/hu/hasznos-tudnivalok/utazasi-szerzodesek.html>

## B.3 Marketing

### B.3.1 Added Values

#### Service Marketing

Cyclists can find many places of interest, aside from rest areas (infrastructure services, point B.1), such as points with scenic views, sights, ruins and castles. Other places of interest are cultural sites such as museums, theatres, religious buildings, historic city centres. Shops, repair services, public transport stops and stations, and transfer points (see Connective Services, point B.2), public spaces for which the marketing work is carried out by their own management or by the destination management organization, accommodation and restaurants and other services, are also attractive.

#### Themed Biking or Hiking Trails (Interreg, EcoVeloTour, 2019)

The designation and operation of thematic routes can connect local economies, small businesses and manufacturers of typical handicrafts with cyclists as customers through marketing activities, including branding. **Theme design and branding can effectively differentiate** each region from other cycling destinations.

<b>Historical</b>	Iron Curtain Tour EuroVelo 13, Styrian Castle Tour, Via Claudia Augusta, Via Romea EuroVelo 5, Amber Route EuroVelo 9, Railway themed routes on unused tracks <a href="https://en.eurovelo.com/ev13">https://en.eurovelo.com/ev13</a>
<b>Gastro</b>	wine routes, e.g. several circular paths marked with the names of grape varieties in the Austrian Weinviertel region, cheese tours <a href="https://www.weinviertel.at/en/cycling">https://www.weinviertel.at/en/cycling</a>
<b>Natural</b>	presentation of fauna and flora, e.g. in addition to birds, famous animals or special flowers or trees, along unique geographical phenomena, e.g. in the Austrian region Weinviertel, Cherry Blossom Cycle Path, Burgenland, riverbanks and waterways <a href="https://www.alltrails.com/trail/austria/burgenland/kirschblutenweg-ab-jois">https://www.alltrails.com/trail/austria/burgenland/kirschblutenweg-ab-jois</a>
<b>Cultural</b>	famous personalities, e.g. Mozart's bike tour of Salzburg, museums, or the region's arts, whether local tales or myths <a href="http://www.mozartradweg.com/en/stages/">http://www.mozartradweg.com/en/stages/</a>
<b>Sportive</b>	on the trail of a famous bike race, tourists are looking for excitement to ride there; mountain passes or mountain crossings, e.g. Trans Alp mean challenges for them <a href="https://www.komoot.com/discover/transalp-mtb">https://www.komoot.com/discover/transalp-mtb</a>
<b>Wellness</b>	roads connecting thermal baths, spas, hot springs, e.g. Thermal Spring Circuit, Styria, Idaho Hot Springs MTB Route, Vas County Thermal Cycling Route <a href="https://www.adventurecycling.org/routes-and-maps/adventure-cycling-route-network/idaho-hot-springs-mountain-bike-route/">https://www.adventurecycling.org/routes-and-maps/adventure-cycling-route-network/idaho-hot-springs-mountain-bike-route/</a> <a href="https://www.termalkerekparut.hu/">https://www.termalkerekparut.hu/</a>

If the region in question to be developed already has a strong brand name, it is recommended to extend the existing brand and its branding to bicycle routes. In the Wachau region of Lower Austria, apricot growing sites have been linked to historical sites, so that apricot products (e.g. jam, cakes, liqueurs, etc.) can also be purchased there.

<https://donauradweg-passau-wien.at/en/apricot-blossom-in-the-wachau/>

### B.3.2 Related Tourism Services

#### Development of Touristic and Cycling Services

Cycling or cycling tourism cannot be interpreted as an independent product for most of the target groups, but in connection with other tourism product groups, it can form a complex, diverse tourism product even in the case of a longer stay. Below, we summarized the relevant recommendations.

Services	Points of Criteria
Lodging places	along the route, in every 20-30 km, within 0-2.5 km distance from the route varied composition, flexible capacity, flexible opening hours 1 night reservation, B&B, tourist and youth category, storage
Restaurants	along the route, every 20-30 km nutritious menu, regional dishes, family- and kid-friendly menus, flexible capacity, flexible opening hours, secure bicycle parking

The most popular programmes for cycling tourists and hikers during cycling trips are: sightseeing, monuments, cultural heritage, swimming, aquaparks, ecotourism programmes, gastronomic programmes, wine tasting, cycling events, competitions, spa visits. Thus, the **cycling routes can also be interpreted as thematic tourism product packages**, as these result in the physical connection of the otherwise isolated, point-like sights and supply elements, formulating a single tourism package (see page 20).

Tasks	Task descriptions, recommendations
Joint product development	integration of cultural attractions into cycling, hiking or other hiking trails unified systems
Route development	bike-friendly connection and integration of the various natural, cultural, artistic and historical sights
Thematic development	e.g. creation of a network of bicycle routes weaving through the wine regions (connecting sights, wineries, educational trails)
Calendar of events	creating a combined calendar of events, e.g. in addition to culture, cycling events, other sports, e.g. display of the 5 Trial Movement
Mutual promotion	common positioning, sales as a complex product, well-structured, target group-oriented communication, fairs, websites, travel agencies

#### Psychological Background (Cycle Infrastructure Design, Department for Transport, Norwich, 2020)

The existence of a signed route creates a kind of quality expectation in the hiker or biker that the route provides a certain level of service. A signage system designed or not maintained and kept up to date with poor and low quality standards undermines **trust** in the entire network. As a designer, pay attention to the **quality** of the boards as well as the **expectations** of the users. Inadequate **maintenance** deters cyclists. If the boards are twisted, rotated, or missing, it can lead to incorrect navigation. This kind of judgment or impression applies to all information transfer systems, including those that are designed for overview orientation. Route numbers and colours alone, without printed or online maps, are less effective means of providing quick information. Make more information **available online and offline** (websites, interactive and printed maps, guidebooks, booklets). Display the individual attractions and services in a clear and legible way.

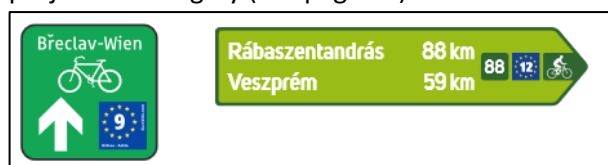


### B.3.3 Board Signage and Wayfinding Systems

Specific elements of the cycling tourism infrastructure system are the clear, comprehensible and reliable directional and information signage systems. In time and location, their development can be separated from some development of any built infrastructure, but is definitely recommended to be realized in parallel with the construction. The signage systems are grouped as follows: **A. Conventional** Systems; **B. Thematic** Section Designations; **C. Public** Transport Connections (railway stations, bus stations, port); **D. Children's** Cycling Board Systems on routes preferred by families.

#### Route Direction Information Systems (European Cyclists' Federation, 2021)

The route signage information system is **one of the most important marketing tools** in itself. For this reason, the signage systems for cross-border routes involving several countries must be standardized so that they will comply with national regulations, too. If a uniform marking standard is not available or feasible for all countries concerned, use other recognizable branding for EuroVelo routes and combine it with the existing national signage systems (see links on page 26). Signboards for cycling routes should be easy to understand, with all the necessary information such as the name(s) and distance(s) of the next destination(s) and the route number/ID. Signposts should be placed at each intersection or major junction or at points where the route direction changes. Nearby tourist attractions should also be included in the system. On longer sections where there are no intersections, additional so-called reinforcement logos or route emblems (either painted on wood or asphalt) should be placed and repeated. Follow the signage and marking recommendations of the AÖFK for domestic projects in Hungary (see page 26).



Basic case for marking EuroVelo bike trails in Austria and Hungary, source: EuroVelo Corporate Design Manual, 2021

The signs should preferably be placed **on existing support surfaces** (columns, other scaffoldings, etc.) to reduce the number of additional disturbing columns. Where the trail is on the roadway, the signals should be integrated into the general motorist's traffic sign system.

<b>Distance</b>	the direction signs must be at least 1.0 m from the right side of the road
<b>Height</b>	the boards are placed at a height of 1.0 m to 2.0 m
<b>Surface</b>	reflective, distinguishable base colour, matching the route system
<b>Maintenance</b>	the undergrowth around pillars and any bending branches must be cut regularly
<b>Difference</b>	the signage system must be different from the ones of other modes of transport
<b>Quality</b>	the quality of the board system cannot be worse than that of the car system
<b>Pavement</b>	if the trail is placed on an asphalt surface, a pavement signage can be used

#### Smart Routes (We Are Groningen Cycling City, The Netherlands, 2015-2025)

Congestion and safety have become a priority on the cycle path to the University of Groningen. Therefore, a campaign was launched to promote alternative "smart routes". Part of the marketing strategy was the use of **clear road signs and pavement signs for smart routes**. The evaluation of the campaign showed that at least 4% of cyclists switched to the alternative routes.

[https://groningenfietsstad.nl/friksbeheer/wp-content/uploads/2016/05/Groningen\\_CycleCity\\_Strategy\\_2015-2025.pdf](https://groningenfietsstad.nl/friksbeheer/wp-content/uploads/2016/05/Groningen_CycleCity_Strategy_2015-2025.pdf)

### B.3.4 Orientation Systems

#### Overview Maps

These maps provide an **overview** of the trails and the location of tourist attractions, but it is also important to provide **contact information** for various services and in the event of an **emergency**. The QR code is also useful as the bikers do not have to bother with typing. Maps, even in a schematic way, give an overview of the area, especially for those who travel longer distances, but their local knowledge is negligible. Maps also help bikers plan distances and time intervals to understand the **thematic routes** and their contents.

#### Totem Poles

Maps and map sketches are also on the surface of the information totems. Their standing-out installation and placement is recommended at easily accessible entry points of rental shops, e-bike docks, larger bike parks and rest areas. It is recommended to use them even when we are at a major junction. The requirements for the contents of the totem poles are as follows:

<b>Orientation</b>	overview and detailed maps should be oriented in real direction, not to the North
<b>Content</b>	orienting geological formations and buildings with pictures should be marked
<b>Planning</b>	the distance between each point in km and time is should be indicated
<b>Branding</b>	the totem pole should fit into the visual (brand) system of the area and the route



Overview map, totem pole (with QR-code), route markers and dashboards with local logos, source: EuroVelo Corporate Design Manual, 2021

### B.3.5 Route Planning Systems

#### Barometers / Traffic flow counters (Ökoinstitut Südtirol/Alto Adige, Bolzano)

Bolzano was one of the first European cities to operate a so-called installed barometer. This instrument helps to raise the awareness of cycling, a kind of sensitizing element. The barometer uses a special sensor to count cyclists passing in both directions. The display shows the total number of bicycles per day as well as the number of by-passers. Within the framework of the VELOREGIO project, in Szombathely 1, and in Austria 5 traffic counters were installed. Not only are these spectacular traffic counters important for **motivational** purposes, but they also provide data for statistical **measurements** and **analytics**, contributing to the success of future developments.



Displays for bicycle traffic counters, source: Comune di Bolzano, Hungarian Cycling Club, 2021

#### Websites, Applications (Veloregio, 2018)

Web interfaces are able to provide significantly more information than whiteboards and paper-based publications. They provide assistance in the preliminary **selection** of destinations, route **planning** and during the trip. The QR-codes (using web applications) placed on the boards and in the publications provide an opportunity to **expand the information content of the information surfaces** placed in the field. Web maps provide the best service with a well-detailed topographic base maps and GPS coordinates. The advantage of web interfaces over boards and publications is that they also allow the users to update the displayable information. They provide **links** to related websites on similar topics.

#### Route Planning Apps treadbikely.com

These apps show many similarities to tracking and training apps (such as Ride With GPS), however, they are primarily designed to help bikers and hikers plan their routes and then navigate. The best known are: Komoot, Bikemap, Bike Citizens, Cyclers Navigation, Bicycle Route Navigator, BikeMaps.org. The great advantage of GPS-based planners is that they place people in the space. The applications need to be updated by users from time to time.

#### Additional methodological source materials

EuroVelo signage manual: [https://pro.eurovelo.com/download/document/EuroVelo-CDM2021\\_online.pdf](https://pro.eurovelo.com/download/document/EuroVelo-CDM2021_online.pdf)

Walkable Hungary (Bejárható Magyarország) Image Manual: <https://docplayer.hu/211634425-Bejarhato-magyarorszag-arculati-alapvetes.html>

Signage systems for pilgrimages (St. Martin's Road is also a good practice): <https://vandorbot.hu/turistajelzesek-rendszerre>