



EuroVelo 6 – Atlantic-Black Sea
Transdanube.Pearls

Route Assessment of EuroVelo 6 Atlantic-Black Sea

in Croatia, Serbia and Bulgaria
Final Report



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1 Background

EuroVelo 6 – Atlantic - Black Sea is a long-distance cycle route connecting Nantes in the west of France with the Black Sea. In the context of the Transdanube.Pearls project, the European Cyclists' Federation has been subcontracted by the project partners West Pannon Regional and Economic Development Public Nonprofit Ltd., Hungary, and the City of Vukovar, Croatia, to do a survey of the stretch of EuroVelo 6 along the Danube river. The purpose of this report is to present the results of this route assessment. The report is also available online at <https://tinyurl.com/ydc8625d>. Please refer to the digital version of this report to access the links.

Owing to contractual requirements, this report only covers the countries Croatia, Serbia and Bulgaria in the country chapters. A second report covers the remaining countries. Both reports are available online under the link above.

The Danube region is one of Europe's most promising tourism destinations. However, most of the trips in that region are still carried out by car, negatively affecting the environment and inhabitants. The Interreg/EU project Transdanube.Pearls wants to address these challenges by developing socially fair, economically viable, environmentally-friendly and health-promoting mobility services for the visitors of the Danube region.

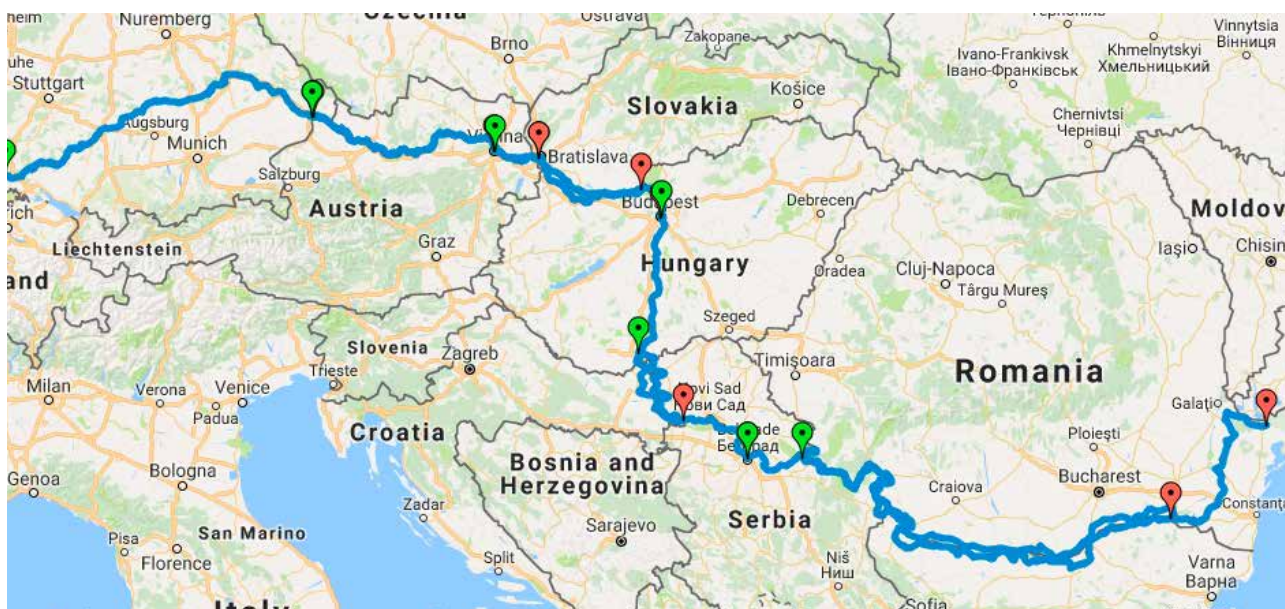
Cycling plays an important role in this context. It is an excellent means of sustainable mobility that meets all these challenges. Moreover, it allows the economy of the small and larger towns along the Danube to benefit from cycle tourism, while cyclists can enjoy the rich culture, food and nature that this region has to offer. EuroVelo 6, especially along the Danube, is one of the most popular routes in the EuroVelo network and it is little wonder why: coasts, rivers, castles, top-class infrastructure and a nice flat topography make the route every cycle tourists' dream journey.

This report will first set out to define the itinerary of the assessed route (chapter 2) and the sources of information and methodology (chapter 3), before summarizing the key findings of the route assessment (chapter 4). Chapter 5 will then contain recommendations for quality improvements per country for reaching the European Certification Standard, a methodology developed by the ECF to identify strengths and weaknesses of a route and to motivate decision-makers to invest in solutions to the identified problems or to promote the route. This is followed by a comparison of the route on the two river banks (chapter 6) and conclusions (chapter 7).



2 Itinerary

The itinerary of the route assessment has been established in consultation with the partners of the Transdanube.Pearls project. It can be viewed online at <https://tinyurl.com/y7l8rga2>. The evaluated route has a total length of 4,636 km, which is significantly longer than the Danube itself (2,850 km), as there is often a route on both banks of the river.



Itinerary of the surveyed route

Starting in Donaueschingen (Germany), the route first leads through Germany and then through Austria, Slovakia, Hungary, Croatia, Serbia, Bulgaria and Romania up to Tulcea (Romania). The route as it was surveyed and recorded by the route inspectors can also be viewed on Google Maps at <https://tinyurl.com/y8l4pfrn>. It includes diversions owing to construction sites and therefore differs slightly from the route shown above. It is based on the GPX tracks recorded during the survey (see further below).

2.1 Overview of sections

A total of 4,636 km, divided into 97 daily sections, have been surveyed:

Region	Start section	End section	Daily sections	km
Germany	1 22.1	14.1 22.1	14	630



Austria	14.2	29.1	15	744
Slovakia	29.2	32	4	171
Hungary	33	46.1	11	505
	51.1	51.1		
Croatia	46.2	48	3	169
Serbia	51.2	63.1	15	690
	87	90		
Romania	63.2	86	23	1,134
Bulgaria	91	103	12	593
Total			97	4,636

While a daily section is usually defined as a stretch of about 50–60 km, the ECF has divided the border sections into two sections that are sometimes significantly shorter to allow the partners in the project to have a complete and clear overview of their part of the route (please refer to the country chapters below). In cases of doubt, please refer to the itinerary online at <https://tinyurl.com/y8l4pfrn>.

Large parts of the route are available on both banks of the Danube:

- Passau - Linz - Vienna - Hainburg an der Donau
- Cunovo - Esztergom
- Mohács - Backa Palanka
- Stara Palanka/Bela Crvka - Drobeta-Turnu Severin - Giurgiu/Ruse – Silistra

The options are compared in chapter 6.

3 Sources of information and methodology

The ECF collected data on infrastructure, services and promotion between July and September 2018. When it was possible, the ECF has referred to existing data sources. When valid data has not been available, the ECF has conducted new research.



The field work and desktop research were based on methodology developed by the ECF. This methodology is described in the [European Certification Standard](#) (ECS), which was last updated in April 2018. This report includes methodological explanations for the most important elements of this standard.

The authors would like to highlight the need to verify the data collected in this report with other data sources, especially in the case of critical data such as high or very high traffic, insufficient width of cycle paths / painted cycle lanes, the lack of services etc. The route inspectors might have missed certain services along the route, or they counted the traffic at a particularly busy time. The public authorities in the respective regions might, for instance, be able to provide official traffic volume data from counters etc. Please note in this context the methodology for counting traffic explained further below and other methodological explanations for services etc. in the [long version of the ECS manual](#).

The route operators should also verify whether planned or ongoing construction works, which might have led to diversions of the route during the survey (see "Diversions" further below), will fix critical problems. The data in this report includes certain diversions, as the official route was in some instances not accessible because of construction works.

The basic units in this report are so-called minor sections, i.e. stretches of 1 km, and daily sections, i.e. stretches of about 50 km. A certain phenomenon on a minor section will be noted in the data if it appears on a continuous stretch of at least 200 m. If a minor section includes a few different infrastructural components or for example public roads with varying amounts and speeds of traffic, the route inspectors will have picked the one (at least 200 m in length) that is the most problematic or challenging for users. The data for infrastructure type, width, traffic volume and traffic speed for one minor section will then refer to the same infrastructure component, which can measure between 200 and 1,000 m in length on a minor section but can of course also continue on the following minor sections.



3.1 Distinction route survey / certification

It is important to note the difference between a route survey and the formal certification:

- Survey is the process of collecting and evaluating route data. A survey is always required for the certification of EuroVelo routes, but it can also be used outside the EuroVelo network or at an early development stage to identify investment needs.
- Certification is confirmation that the route meets at least the minimum criteria set in the ECS. Only EuroVelo routes in their entirety or their major sections (at least 300 km long and with clearly defined origins and destinations) can be certified.

3.2 Different user groups

The criteria laid down in the ECS vary according to the user groups. A distinction between Essential, Important and Additional criteria has been made to reflect the different needs of three different user groups. The basic assumptions are:

Essential criteria	Catering to <i>regular</i> cycle tourists.	Must be met along the <i>entire</i> route for certification.
Important criteria	Catering to <i>occasional</i> cycle tourists.	Must be met <i>along at least 70%</i> of the route for certification.
Additional criteria	Catering to <i>demanding</i> cycle tourists.	Meeting the criteria is optional and depends on the aspiration level. Can be used for promotion.

3.3 Data collection

The route has been divided into 97 daily sections, i.e. stretches of about 50-60 km each. For the field work, the route inspectors collected the data using an app developed by the ECF for this purpose. On each daily section, they stopped after each kilometre and entered the data into the app. The data was then uploaded to the ECF server and later analysed. The route inspectors also took photos during the field work. The collected data covered information such as:



- Infrastructure (traffic, surface, gradients, ...)
- Attractiveness, signing, public transport
- Services (accommodation, food, bike repair, ...)
- Marketing

[Route: 5 | Section: 0 | Km: 0]

Width

Less than 1m
 1m to 2m
 2m to 3m
 3m to 5m
 More than 5m

Direction

One way
 Two ways

Surface



This work was accompanied by desktop research, which also included information on services and promotion. The desktop research involved the use of all kinds of websites and online sources on the route, such as the [“danube.travel”](#) website, as well as printed material, such as the high-quality guides by the publishers Esterbauer ([Danube Bike Trail 1-5](#)) or Huber ([Basel-Budapest](#) and [Budapest-Black Sea](#)).

The data collected refers to the following fields for each kilometre of the surveyed route:

Field	Type
Route number	integer
Daily section number	integer
Kilometre	integer
Route component type	enumerated
Width	enumerated
Direction	enumerated
Surface type	enumerated
Surface quality	enumerated
Traffic volume	enumerated
Traffic speed	enumerated
National signing conformity	enumerated



Signing readability	enumerated
EV signing conformity	enumerated
Attractions: Highly attractive area / landscape	boolean
Attractions: Cultural natural attractions - points (Note)	boolean
Attractions: Noise dust and smell	boolean
Attractions: Crime infected / Wild dogs	boolean
Attractions: Monotonous / unattractive landscape - area	boolean
Attractions: Resting areas	boolean
Legal: riding prohibited?	boolean
Legal: obligation to dismount	boolean
Crossings: Very dangerous	boolean
Crossings: Dangerous	boolean
Route: High kerb single steps	boolean
Route: Multiple steps - easy	boolean
Route: Multiple steps - difficult	boolean
Barriers: Chicane pole etc. with <130 m	boolean
Barriers: Other obstacles	boolean
Content: Next main town/final destination name	boolean
Content: Direction confirmation	boolean
Content: Distances	boolean
Content: Attractions/Villages names	boolean
Signing: Missing sign	boolean
Signing: Wrong place	boolean
Tourist Information Centre	boolean
Tourist Information Panel	boolean
Public Transport: Bus	boolean
Public Transport: Ship ferry	boolean
Public Transport: Train	boolean
Service Food: Gourmet restaurant	boolean
Service Food: Standard restaurant/bar	boolean
Service Food: Budget restaurant/snack-bar/bar	boolean



Service Food: Cyclist friendly (certified)	boolean
Accommodation: Luxury or high-quality hotels	boolean
Accommodation: Medium and standard hotels	boolean
Accommodation: Budget (hostel youth hostel...)	boolean
Accommodation: Camping	boolean
Cyclist Friendly Accommodation: Cyclist friendly (certified)	boolean
Service Bike: Bike repair shop	boolean
Service Bike: Vending machine / self service station	boolean
Service Bike: Shop with spare parts	boolean
Service Bike: E-Bike charging facility	boolean
Service Bike: Bicycle pedelec rental	boolean
Service Bike: Helpline (signalized)	boolean
Note	text
Upload Date	date + time
Uploader	text
Device	text
Version	text
Latitude	float
Longitude	float
Pictures	JPG

3.4 GPX tracks

The cycled route was recorded in GPX tracks during the route assessment. This has been used to add or verify elevation data and to generate gradient-related data (cumulative elevation gain/change, average/maximum gradient, etc.) for the various sections. The recorded GPX tracks can be accessed at <https://tinyurl.com/yaayp49w>.

4 Key findings regarding the route as a whole

The surveyed part of EuroVelo 6 generally offers amazing nature, cultural highlights, plenty of accommodation in all price ranges, excellent food, good signing and panels as well as the opportunity to meet many other cyclists. This chapter will provide general observations about the entire route as well as key findings by country.



Deficiencies exist primarily when it comes to high traffic and sometimes inadequate surface. While there was a total of 12 km with very high traffic in Germany and Austria (1,374 km), there were 187 km with very high traffic in Slovakia, Hungary, Croatia, Serbia, Romania, Bulgaria (3,262 km).

If these findings lead to construction activities to improve the route, the ECF would like to encourage the authorities in question to consider installing counters for monitoring purposes as well. Counters or other monitoring tools are not required by the European Certification Standard, but they are useful to measure the number of cyclists and help estimate the economic impact of a route.

4.1 Existing route infrastructure

When assessing the survey data based on the ECS, the results show that 93.3% of the evaluated route meet the Essential criteria in terms of continuity, route components, surface and attractiveness. 84.3% also meet the Important criteria, while 55.1% already meet the Additional criteria, covering the needs of the most demanding users.

Existing EuroVelo 6 infrastructure varies greatly between the different countries and regions. For example, around 60% of the route already runs on dedicated cycle paths or greenways in Germany and Austria, while this share is just 2% in Romania and Bulgaria. In Germany and Austria, 99% of the route already meet all the Essential ECS criteria, while 97% (DE) and 96% (AT) also meet the Important criteria. By contrast, on daily section 66 between Orsova and Drobeta Turnu-Severin in Romania, the route meets the Essential criteria only on 17% of its length.

In this chapter, we will look at the route as a whole and examine its level of compliance with the ECS by criteria type.



4.2 Continuity

The basic aspect for any cycle route is the continuity of the ride. The route should not contain any legal or physical disruptions that make the route illegal or impossible to travel on. All natural (river, cliff etc.) or artificial (railway, motorway etc.) barriers should be crossed with adequate cycling infrastructure (bridge, ferry, subway etc.)

The legal disruptions identified on the route include one-way streets with no contraflow cycling allowed. These cases exist in Hungary, Bulgaria and Romania. In Germany and Austria there were some locations where cyclists were required to dismount.

Notable physical disruptions include:

- Stairs: The fittest cyclists, travelling with light luggage, can carry their bike up or down stairs, but for the majority of potential users, this is an important obstacle that might even be insurmountable. A total of three stairs were encountered during the route survey, including two in Germany and one in Croatia. However, these stairs were equipped with ramps, so they can be climbed with standard bikes.
- Chicanes and other bottlenecks with less than 1.3 m clearance: Such chicanes make it difficult to use the route with bicycles with trailers or with tandems, hand-bikes etc. They were encountered from time to time in most of the countries, slightly more often in Germany and Slovakia.
- Non-rideable surface (deep sand, mud, big rocks etc.) – this will be covered in the section on surface.






Maierhof, west of Passau, DE



Continuity disruptions by region:

Region	Entry for-bidden	Dismount	Stairs - difficult	Stairs - easy	Chicanes <1.3m
DE	0	2	1	1	16
AT	0	9	0	0	11
SK	0	0	0	0	3
HU	1	0	0	0	10
HR	0	0	1	1	1
RS	0	0	0	0	2
RO	1	0	0	0	17
BG	1	0	0	0	0
TOTAL	3	11	2	2	60

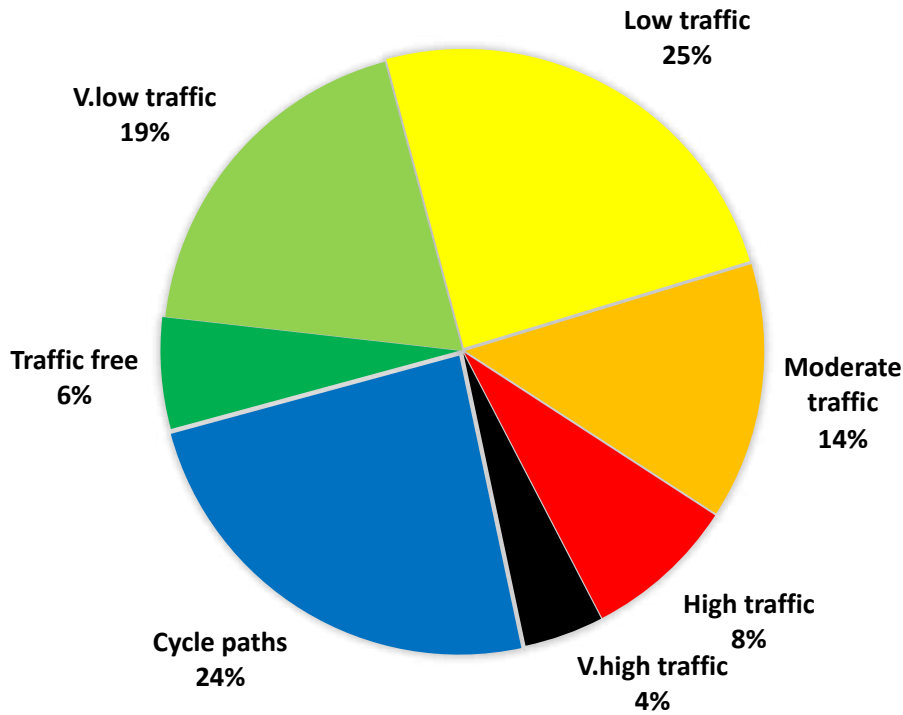
 = Doesn't meet essential criteria
  = Doesn't meet important criteria
  = Doesn't meet additional criteria

4.3 Route components

Different kinds of infrastructure components can be combined and integrated to form a continuous EuroVelo route. The survey process has been designed to monitor the share of different components on the route under assessment and to give veritable evidence of whether the chosen course is suitable for the assumed groups of users (again related to the three different levels of experience). Hence the occurrence of varying types of infrastructure components (e.g. public roads, cycle lanes, cycle paths) and relevant parameters (width, volume and speed of motorised traffic) that have been monitored down to the scale of a single kilometre. In addition, safety on crossings was evaluated as well. Note that the "Route components" criterion focuses on the risk of collision with motorised vehicles. Other elements of road safety are included in the Continuity, Surface and Width criteria, while social safety is considered as part of the Attractiveness criteria.



ROUTE COMPONENTS



24% of the surveyed distance run on dedicated cycle paths or greenways, and 6% on traffic-free roads (e.g. water management or forest roads). Another 44% lead over roads with very low to low traffic, also perfectly usable for cycle tourism. The focus in action planning should be on sections with very high (4%) or high traffic (8%). The highest share of those sections was identified in Romania and Croatia.



Traffic volume and speed

Traffic is categorised as a function of the volume of cars and speed. During the survey, the ECF has counted traffic units, i.e. four units for trucks and large busses, two units for vans and one unit per car or motorcycle.

The following table shows which shares of the route fall in which traffic category, depending on the different levels of traffic volume and speed. The traffic categories range from traffic-free/very low (green) to very high (black):

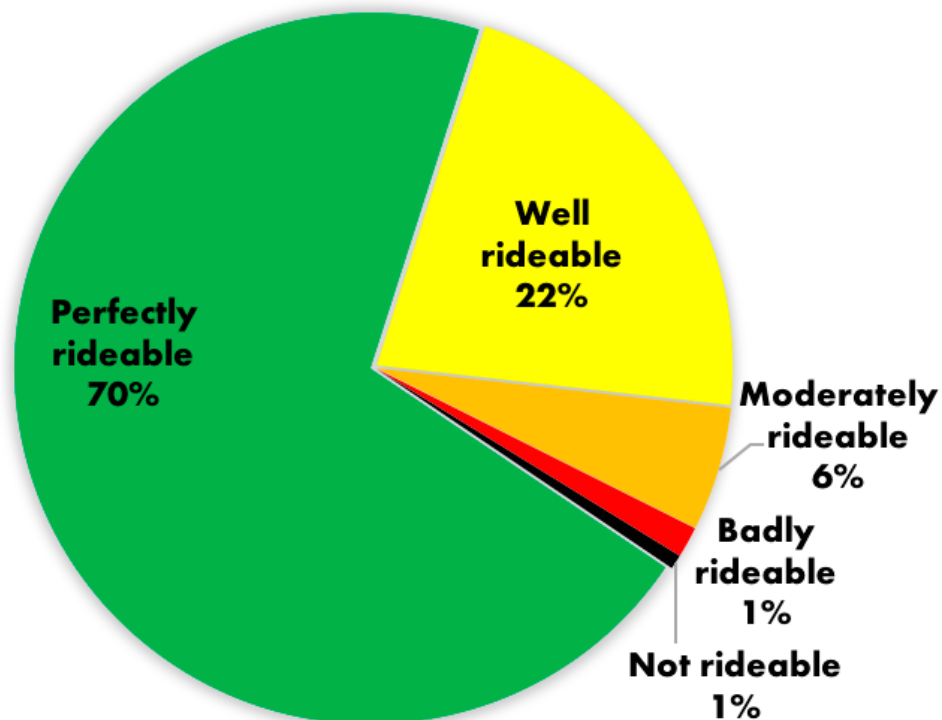
	30 km/h or lower	31 to 50 km/h	51 to 79 km/h	80 km/h or over
Traffic-free / cycle paths	30.1%			
1-500 units/day	5.7%	6.1%	5.7%	1.3%
501-2 000 units/day	1.5%	7.1%	15.9%	1.7%
2 001-4 000 units/day	0.2%	4.1%	7.9%	1.0%
4 001-10 000 units/day	0.2%	3.3%	3.9%	1.5%
>10 000 units/day	0.0%	1.3%	1.2%	0.3%

= traffic-free / very low traffic
 = low traffic
 = moderate traffic
 = high traffic
 = very high

In addition, two very dangerous and 56 dangerous crossings were identified by the route inspectors. Common challenges and safety hazards for cyclists on crossings included large roundabouts, conflicts with heavy traffic, limitations of visibility or cyclists having to turn left across several lanes of traffic to follow the route. Many of the them were registered in Austria, around the Slovakian/Hungarian border and in Romania.



SURFACE QUALITY



4.4 Surface

Road surfaces of EuroVelo routes under assessment have to be built according to the relevant (national / regional) technical standards and prescriptions. Considering that EuroVelo routes should play a major role within national cycle networks, certified EuroVelo routes should provide consolidated, high quality surfaces. The surface should be suitable for use by cyclists with any type of trekking or touring bike in normal weather conditions during the local cycling season. It should be smooth and solid enough to ride, so it should either be asphalted or paved with another resistant material. In exceptional circumstances loose material may be used but must be consolidated.

For each kilometre of the surveyed route, both surface material and quality were noted by the route inspectors.



Most of the route runs on perfectly (70%) or well rideable (22%) surfaces. 6% were classified as moderately rideable, and therefore acceptable for experienced users of touring bikes in most weather conditions but challenging for less experienced users, those with special needs, or in specific very dry or wet weather. The focus in action planning should be placed on sections that are badly rideable (1%) or not rideable at all (1%). The highest share of those sections was identified in Slovakia (west of Komarno), but there were also long badly or not rideable sections in Hungary (between Ráckeve and Harta) and Serbia (especially between Belgrade and Kovin).

4.5 Gradients

It is much harder to ascend vertically or to go uphill than to cycle on flat sections. The cumulative elevation gain or loss on any daily section should therefore not exceed 1,000 m, and in most sections, it should not exceed 500 m. No slopes should be too steep to ride for the target groups.

As the route follows the Danube river valley, the cumulative gains or losses on the daily sections are not excessive, except for some sections at the beginning of the route in Germany, as well as sections in Romania and Bulgaria. On these sections, both the cumulative elevation gain and cumulative elevation loss exceed 500 m, making the route too steep for occasional or demanding cycling tourists. In two instances (daily section 2: Fridingen-Scheer in Germany, and daily section 102: Tutrakan-Srebarna in Bulgaria) the route was even quite challenging for regular cycle tourists, with the cumulative elevation gain/loss exceeding 1000 m. While the rest of the route is relatively flat, some short sections can be too steep for some of the demanding users, e.g. families with children.

While it is not always possible to avoid 'ups and downs', this can be compensated with adequate service density, allowing cyclists to split the route into shorter daily sections, therefore making it feasible for a wider range of users.

4.6 Attractiveness

EuroVelo routes should offer a pleasant and interesting cycling experience. They should lead through attractive landscapes, connect important cultural and natural attractions, provide satisfactory social safety and not be exposed to nuisances such as excessive noise.



The Danube section of EuroVelo 6 leads through very attractive areas and has therefore a high potential for cycle tourism. Attractions on the route include eight UNESCO sites directly located on (or close to) the Danube river and **16 protected natural areas**.

The eight UNESCO sites along the river comprise:

- the **Frontiers of the Roman Empire** (DE),
- the **Old town of Regensburg with the Stadtamhof** (DE),
- the **Wachau Cultural Landscape** (AT),
- the **Historic Centre of Vienna** (AT),
- the **Srebarna Nature Reserve** (SK),
- **Budapest, including the Banks of the Danube** (HU),
- the **Rock-Hewn Churches of Ivanovo** (BG)
- and the **Danube Delta** (RO).

9.9% of the route were classified as highly attractive areas and 88.6% as attractive. Only 1.6% of the route were considered monotonous or unattractive.

Environmental nuisances (noise, dust or unpleasant smell) were encountered on 2.2% of the route.

An important aspect of attractiveness is social safety. Along the entire route, 11 km with social safety challenges were identified, all of them in Romania and almost exclusively related to wild or shepherd dogs behaving aggressively towards cyclists.

4.7 Signing

EuroVelo routes should be signed in line with national standards (if they exist) and EuroVelo guidelines (obligatory). No signs should be missing at major crossings or turning points. Ideally, there should be regular confirmation and distance signs.

The varying levels of coverage with signs often reflect varying levels of route development, but there are also sections where a well-developed route is missing EuroVelo signs and sections with very good signs and poor surfaces or high traffic.



It should also be noted that there are also cases where a lack of signage is related to a lack of relevant national legal frameworks (no legal basis for putting up the signs on public roads, no defined standards/regulations etc.) As far as we could determine, this applies to Romania, possibly also to Bulgaria and Croatia.

4.8 Public transport

It should be possible to access the route by public transport carrying bicycles. The route survey included the evaluation of:

- how often it is possible in terms of distance,
- how many connections are available in different locations,
- what is their capacity in terms of number of bicycles transported,
- what kinds of bicycles can be transported (e.g. tandems, handbikes, trailers...)

As it might be difficult to carry a touring bicycle with luggage up or down the stairs, the accessibility of public transport stops and stations was also considered (e.g. whether a platform on a train station is accessible only by stairs or also by ramps or lifts).

Almost all regional train connections along the Danube provide suitable services for cycle tourists. Transporting bikes to a specific location in long-distance trains is also possible, but limits apply more often in this case. More detailed information on public-transport options is available in the country chapters (chapter 5).

In the Balkan countries along the route, bicycle tourism is only starting to develop, and public transport companies have not yet defined clear policies towards transporting bicycles on trains or busses. The possibility to carry the bike can be dependent on the willingness of the bus driver or train conductor, which does not offer a desirable level of public transport reliability.



In addition to trains, long-distance bike transport is also offered by several bus companies across Europe. The most important include:

Company	Network	Bike transport – routes	No. of bikes per bus	Price (in €)	Registration / Reservation
Flixbus	Most of Europe	Many, but not during the whole year	Up to five	9	Directly via booking platform
Deinbus	Western Europe, Southern Europe	Many	?	9	Possible, via contact form
Czech-Transport	Germany, Czech Republic, Hungary, Poland, Netherlands, Belgium, France, Sweden, Italy, Austria, Switzerland	Many	Depending on capacity	?	Possible, via contact form; bike needs to be wrapped
Roaltassib	Germany, Romania	Many	Upon request	?	Possible, via contact form or per telephone via agency



Flixbus bike transport

4.9 Planned route infrastructure / Diversions

Several construction sites have led to diversions of the route:

Section	Country	Start (km)	End (km)	Location	Comment
1	DE	19	20	Between Hausen and Hintschingen	Bridge construction
4	DE	4	5	Rottenacker	Closed bridge
4	DE	28	29	Behind Ersingen	Construction works
7	DE	13	14	Behind Stepperg	Construction works
8	DE	38	40	Kehlheim	Route doesn't lead through Sittling because of construction works



11	DE	34	46	Behind Deggenau, up to Winzer	A3 - Diversion starting before bridge crossing A3. It's a long detour mostly on moderately rideable gravel, through the fields. The dam is being raised and reconstructed after a flood. Construction works scheduled to take until September 2019.
16	AT	2	3	Linz	Bridge construction
17	AT	38	39	Krummnussbaum	Cycle path construction
18	AT	40	45	Behind Krems to behind Theiss	5-km detour ahead of B304 because of dam reconstruction
20	AT	25	50	Between Schönau and Bad Deutsch-Altenburg	25-km detour because of cycle path construction along Danube; construction is scheduled to be finished in 2020
23	AT	54	54	Linz	Construction site at the beginning of this km. This situation is expected to continue until 2019.
24	AT	42	43	Umspannwerk Wallsee	Large electric transformation station. No passing, short detour signposted.
26	AT	60	61	Danube power plant Altenwörth, southern stretch	Going through HE power plant was not possible (gate closed), detour was signposted.
26	AT	64	64	Before Zwentendorf an der Donau	Marshland, detour is signposted.
28	AT	18	21	Orth	Narrow road on the dam to Orth is officially temporarily closed due to construction work, but is possible to ride. This will continue until 2020.
31	SK	42	47	Nová Stráz	Signposted (photos at next km) detour via the main road - the road on the dam is closed towards Komarno due to construction of a new bridge.
42	HU	17	19	Szigetszentmiklós	Part of the official route leads along a one-way street in the wrong direction.



Some of these diversions are linked to current cycle route improvements. This is especially true for a 25-km detour between Schönau and Bad Deutsch-Altenburg in Austria.

The data collected on these stretches represents the official detour and not the official EuroVelo 6 cycle path. This should be kept in mind when looking at the GPX tracks and potential route improvements.

4.10 Critical deficiencies

Weaknesses along the route are considered critical in this report if the route does not meet the essential or important criteria in these occasions:

- Between Grein and Sarmingstein on the northern bank of the river, the route runs on a road with significant heavy traffic and speeds exceeding 80 km/h. There are cycle lanes, but these are only moderately rideable and too narrow to guarantee a safe passing distance.
- 10 km of badly and non-rideable surface west of Komarno (Slovakia) on the northern side of the river: loose gravel, concrete plates with big gaps in between. This is followed by 3 km of public road with very high traffic.
- A total of 26 km of high traffic between Acs and Esztergom (Hungary).
- 53 km on busy roads with varying levels of traffic between Dalj and Backa Palanka (cross-border Croatian/Serbian section).
- 14 km of very high traffic and 5 km of high traffic between Surduk and Belgrade.
- 6 km of very high traffic, 7 km of high traffic and 15 km of badly/not rideable surface between Belgrade and Kovin.
- 24 km of very high traffic between Orsova and Drobeta-Turnu Severin in Romania, including 9 dangerous crossings.
- Another 14 km of very high traffic between Drobeta-Turnu Severin and Tiganasi.
- 21 km of very high traffic between Garla Mare and Calafat.
- 15 km of very high traffic and 9 km of heavy traffic between Bujoru and Daia. Also two dangerous crossings and a stretch of badly rideable surface.
- 37 km of high traffic between Cascioarele and Mânastirea.



- 4 km of very high traffic and 22 km of high traffic between Mânastirea and Silistra.
- 132 km on busy roads with varying levels of traffic between Traian and Tulcea. Also two locations that are not rideable.

4.11 Services

The opportunities for accommodation and food are extremely varied and rich along large parts of the route but there are some sections in Serbia, Romania and Bulgaria where they can be more difficult to find.

Repair shops are repeatedly missing on the various sections, except for Germany and Austria.

Please refer to the more detailed tables in the following country chapters for more information on services at the country and regional level.

4.12 Promotion

There is a good offer of promotional material on the route as a whole.

Websites providing general information about the route include:

- [EuroVelo.com](https://www.eurovelo.com)
- [Mobile application on EuroVelo 6](#)
- danube.travel
- [Open Street Map](#)
- Websites by individual users, such as [Crazyguyonabike](#)

The general printed material includes the high-quality and highly recommended guides by the publishers Esterbauer ([Danube Bike Trail 1-5](#)) and Huber ([Basel-Budapest](#) and [Budapest-Black Sea](#)).



Other guides:

- [DuMont Reise-Taschenbuch Reiseführer Donau](#), 2011 (in German)
- Cicerone Cycling Guides:
 - o [The Danube Cycleway Volume 1: From the source in the Black Forest to Budapest](#), 2014
 - o [“The Danube Cycleway Volume 2: From Budapest to the Black Sea”](#), 2016
- [Eurovelo 6 from Nantes to Budapest cycling guide](#), 2017 (in French)
- [EuroVélo 6 Atlantique-Mer Noire : de Bâle à Nevers](#), 2010 (in French)
- [Eurovelo 6 guides \(books 2 and 3\)](#), 2013
- [Danube Cycle Path from Passau to Bratislava](#), 2018 (e-book)

Maps:

- [EuroVelo 6, Set 1: Atlantic - Basel, Cartographie Huber](#)
- [EuroVelo 6, Set 3: Budapest - Black Sea Danube Cycletrail 1:100.000 \(8 Maps\), Cartographie Huber](#)
- [Eurovelo 6, Kartenset Rhein und Donauradweg 1:100 000: Basel - Budapest, by BVA Bielefelder Verlag GmbH](#) (in German)

For country-specific information on promotion and marketing, please refer to the following country chapters.

5 Key findings per country and recommendations

Route managers will have to look into the detailed per-km data provided by the ECF to identify the critical kilometres in question. This table is available at <https://tinyurl.com/y885xbde>.

The ECF also recommends to develop Action Plans based on these findings. Action Plans are a list of activities and measures aiming to improve the route, referring to the critical parts in particular. The ECF has provided a template including a list of possible actions and cost estimates. This Action Plan template, which should be discussed with national and regional authorities, is available at <https://tinyurl.com/y8vdydz7>.

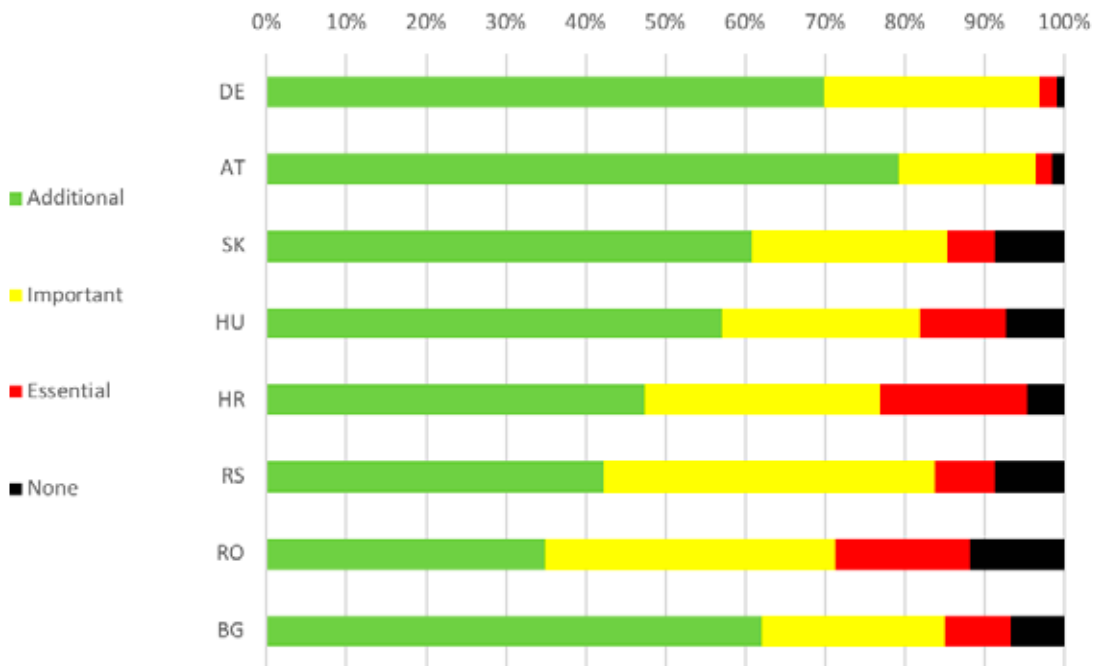


The order of the countries covered in this chapter is based on the flow of the Danube from east to west. Each country chapter includes both key findings and recommendations for quality improvements to meet the ECS. The focus lies on critical deficiencies where the route does not meet the essential or important criteria of the ECS.

5.1 Infrastructure criteria met by country

The following table shows the shares of the route in the various countries that meet or do not meet the Essential, Important and Additional criteria of the European Certification Standard.

Infrastructure criteria met by country

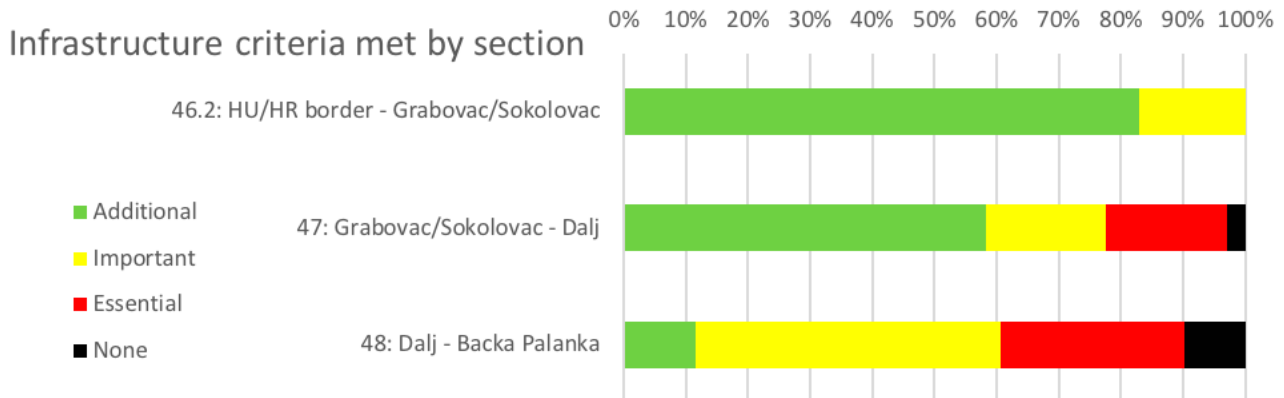


As an example, in Slovakia, the route meets the Essential criteria on 91% of its length, while 86% meet the Essential and the Important criteria and still 61% meet all the criteria, i.e. the Essential, Important and Additional criteria combined. Black-coloured parts show which share of the route does not meet any of the criteria, illustrating whether this part of the route does not fulfil the minimum requirements for certification (100% of the Essential criteria must be met). In this case, the Slovakian part does not meet the Essential criteria on 9% of its length.



5.2 Croatia

5.2.1 Infrastructure



This table shows the shares of Croatia’s three sections that meet or do not meet the essential, important and additional criteria of the European Certification Standard. For instance, section 48 (Dalj-Backa Palanka) meets the essential criteria on about 90% of its length, while 60% meet the essential and the important criteria and 11% meet all the criteria, i.e. the essential, important and additional criteria combined. Black-coloured parts of a section show which share does not meet any of the criteria, illustrating which sections do not fulfil the minimum requirements (100% of the essential criteria must be met). In this case, the section does not meet the essential criteria on 10% of its length.

The following table shows which shares of the route fall in which traffic category, depending on the different levels of traffic volume and speed. The traffic categories range from traffic-free/very low (green) to very high (black):



	30 km/h or lower	31 to 50 km/h	51 to 79 km/h	80 km/h or over
traffic free & cycle paths	8.3%			
1-500 units/day	1.8%	11.2%	8.9%	0.0%
501-2 000 units/day	0.0%	7.1%	16.0%	6.5%
2 001-4 000 units/day	0.0%	5.3%	14.8%	0.0%
4 001-10 000 units/day	0.0%	4.7%	10.7%	4.7%
>10 000 units/day	0.0%	0.0%	0.0%	0.0%

= traffic-free / very low traffic
 = low traffic
 = moderate traffic
 = high traffic
 = very high

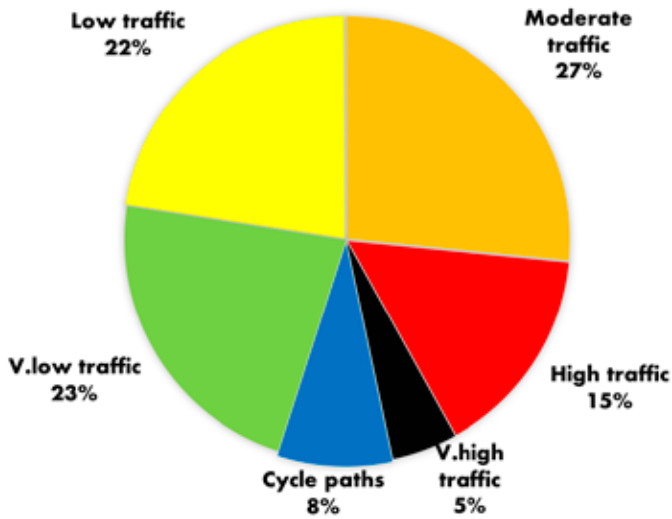
9% of the route is already composed of segregated cycle paths or similar traffic-free route segments, and another 23% consist of roads with very low traffic. However, there is still a 20% share of the route that features high or very high traffic, which should be targeted by action planning.

The following table combines the different traffic categories and surface qualities:

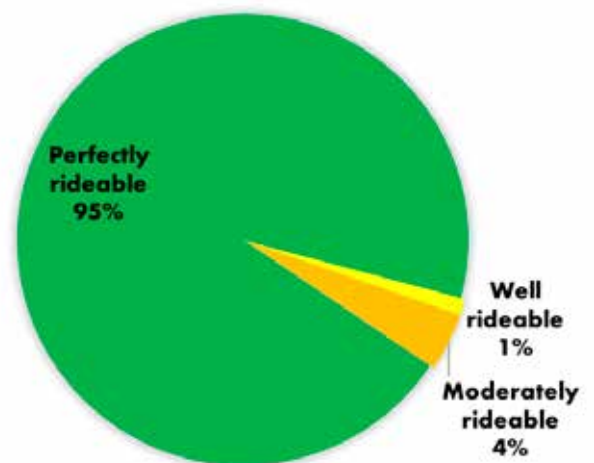
	perfectly rideable	well rideable	moderately rideable	badly or not rideable
cycle paths	6,5%	0,6%	1,2%	0.0%
very low traffic	21.9%	0.6%	0.0%	0.0%
low traffic	21.9%	0.0%	0.6%	0.0%
moderate traffic	24.3%	0.0%	2.4%	0.0%
high traffic	15.4%	0.0%	0.0%	0.0%
very high traffic	4.7%	0.0%	0.0%	0.0%



ROUTE COMPONENTS



SURFACE QUALITY



Most of the route (95%) consists of perfectly rideable stretches. There are no badly rideable or not-rideable stretches.



Overview of the Croatian part of EuroVelo 6 after crossing the border.



Croatian part of daily section 46 (from Hungarian border to Grabovac/Sokolovac) already meets the Essential and Important criteria in terms of route infrastructure.



Cycle path along Danube in Vukovar.



Public Transport

In **Croatia**, new trains, both regional and InterCity trains, offer plenty of space for bicycles. For older trains, the situation is different. HŽ Passenger transport offers the opportunity to transport bicycles in all trains as luggage. That requires the bicycles to be disassembled and packaged so they can be stored in the passenger's section or in a specially designated area for luggage. Bikes can be transported in certain trains which have a coach with a designated area for storing bicycles (up to 10 bicycles). A list of these trains is available at <https://tinyurl.com/ya8smcxb>. The bike transportation fee on all of the international routes is the equivalent of €5, and the tickets can be bought, just like train tickets, at the international ticket sale counter. The price of transporting a bicycle in Croatia is 15 kuna regardless of the distance covered in kilometres.

The transport of bikes on buses is possible as well, including Flixbus (www.flixbus.hr), Auto-trans Rijeka for transport to the island of Brač (www.autotrans.hr) and on the bus lines of ZET in the city of Zagreb (numbers: 102, 103 and 105) to Medvednica Nature Park and the top of Sljeme.

5.2.2 Services

Based on the survey data, the following services exist along the route:

Daily section	Accommodation					Food/ rest areas		Bike services			
	luxury	standard	budget	camping	cyclist-friendly	food on daily section	food/rest every 15 km	repair shops	self-service	spare parts	e-bike charging
46.2	1	2	3	2	0	6	No	0	0	0	0
47	0	1	12	1	0	14	No	0	1	0	0
48	1	2	8	0	0	17	Yes	1	2	1	0

■ = Doesn't meet essential criteria

■ = Doesn't meet important criteria

■ = Doesn't meet additional criteria



The table above shows weaknesses along a route in terms of services. Only the border section 46.2 from the border between Hungary and Croatia up to Grabovac/Sokolovac (41 km) lacks bike repair services (essential criterion). There is, however a bike workshop on the Hungarian side of the border (daily section 46.1).

5.2.3 Marketing / Promotion

Croatia's Cyclists' Union (Sindikata biciklista), an advocacy organisation that is also the National EuroVelo Coordination Centre in Croatia, has a [website](#) including information on EuroVelo and the different routes in Croatia. However, the EuroVelo 6 description just links to the general information on eurovelo.com.

Similarly, the website Croatia.hr by the Croatian National Tourism Board contains a section on [EuroVelo routes](#) that includes a description of the route and POIs. But there is no map and no information on signing. It also contains a search engine for [accommodation](#) in the area and general information on [how to get there](#) (not focusing on bike transport). There is a very [useful page](#) with information specifically for cycle tourists, including information on public transport and accommodation.

Existing promotional tools

Category	Promotional tool	Criteria met?	Comments	
Web	National/regional website, including information on:	Information on the route, including a detailed map	No	
		Info on signing	No	
		Info on accommodation	Yes	
		Info on PT connections	Yes	
		Interactive maps	No	
		POIs	Yes	
		Accommodation online databases	Yes	
		PT timetables	No	
		GPS track downloads	No	
	Overview info about the route on eurovelo.com	Yes		



Print	Guidebook	Yes	Esterbauer and Huber cover Croatia as well
	Detailed printed map	No	
Other	Information boards / centres on every daily section	Yes	




 = Doesn't meet essential criteria  = Doesn't meet important criteria

The following tourist information centres and panels exist, based on the route survey:

Tourist information centres / panels per section*

Daily section	info center	info panel
46.2	1	3
47	1	4
48	1	3

*Based on the route survey.

 = Doesn't meet essential criteria  = Doesn't meet important criteria  = Doesn't meet additional criteria

5.2.4 Critical deficiencies

- Out of the route's 169 km in Croatia, 34 km (20%) lead over roads with very high or high traffic:
 - Most of it is national road number 2 between Vukovar and Ilok (daily section 48); particularly bad between Vukovar and Sotin.
- Furthermore, in daily section 48, another 34 km lead over roads with moderate traffic, which is more than 50% of the daily section length.



- In Ilok, the route leads over stairs; most of the steps are relatively gentle and equipped with a channel, but the first 10-15 steps are very steep and might form a significant barrier for heavily loaded or multi-track bicycles.
- 35 junctions with missing or confusing signs have been identified on the route. Additionally:
 - Existing EuroVelo signs are not in line with EuroVelo guidelines (already included in the UNECE Consolidated Resolution on Road Signs and Signals R.E.2. from 31st July 2009).
 - As for now, there is no national signposting standard for Croatia, but the new one will probably be based on existing signs along EuroVelo 6.
- The border section 46.2 from the border between Hungary and Croatia up to Grabovac/Sokolovac (41 km) lacks bike repair services. There is, however a bike workshop on the Hungarian side of the border.
- The websites by the Cyclists' Union and the Croatian Tourism Office do not include a detailed map and no information on signing. There are no public-transportation timetables and no GPX tracks.



EuroVelo signs not in-line with EuroVelo signing guidelines.



Stairs in Ilok. To consider whether they should be a part of the EuroVelo route.

5.2.5 Proposed actions

To bring the route in line with the Essential and Important European Certification Standard criteria, the following issues need to be addressed:



1. Approximately 42 km of cycle path need to be constructed.
 - a. Most of these (27 km) are located in daily section 48: Dalj - Backa Palanka;
 - b. The remaining 15 km is a part of daily section 47: Grabovac/Sokolovac – Dalj;
 - c. For several kilometres alternative solutions can be considered, e.g. traffic calming on the old main road in the centre of Ilok (there is a ring-road for through traffic).
2. In Ilok, the route should be either redirected to public road (with signs directing to the attractions in the centre), or a new, gentle ramp should be built close to the stairs.
3. Missing signs should be added.
 - a. While existing signs are clear enough, new signs should be designed according to the **EuroVelo signing manual**. Existing signs should be gradually replaced with the new design as part of maintenance of signposting.
 - b. It might be reasonable to wait with the design and application of new signs until the adoption of a national standard for signing cycle routes.
4. In terms of services, preferably some form of bike repair service should be installed on the first 50 km behind the Hungarian border.
5. The online information on the route by the Cyclists' Union and/or the Croatian Tourism Office should include a detailed map (ideally interactive) and information on signing. Ideally, this website update should also include public-transportation timetables and GPX tracks.

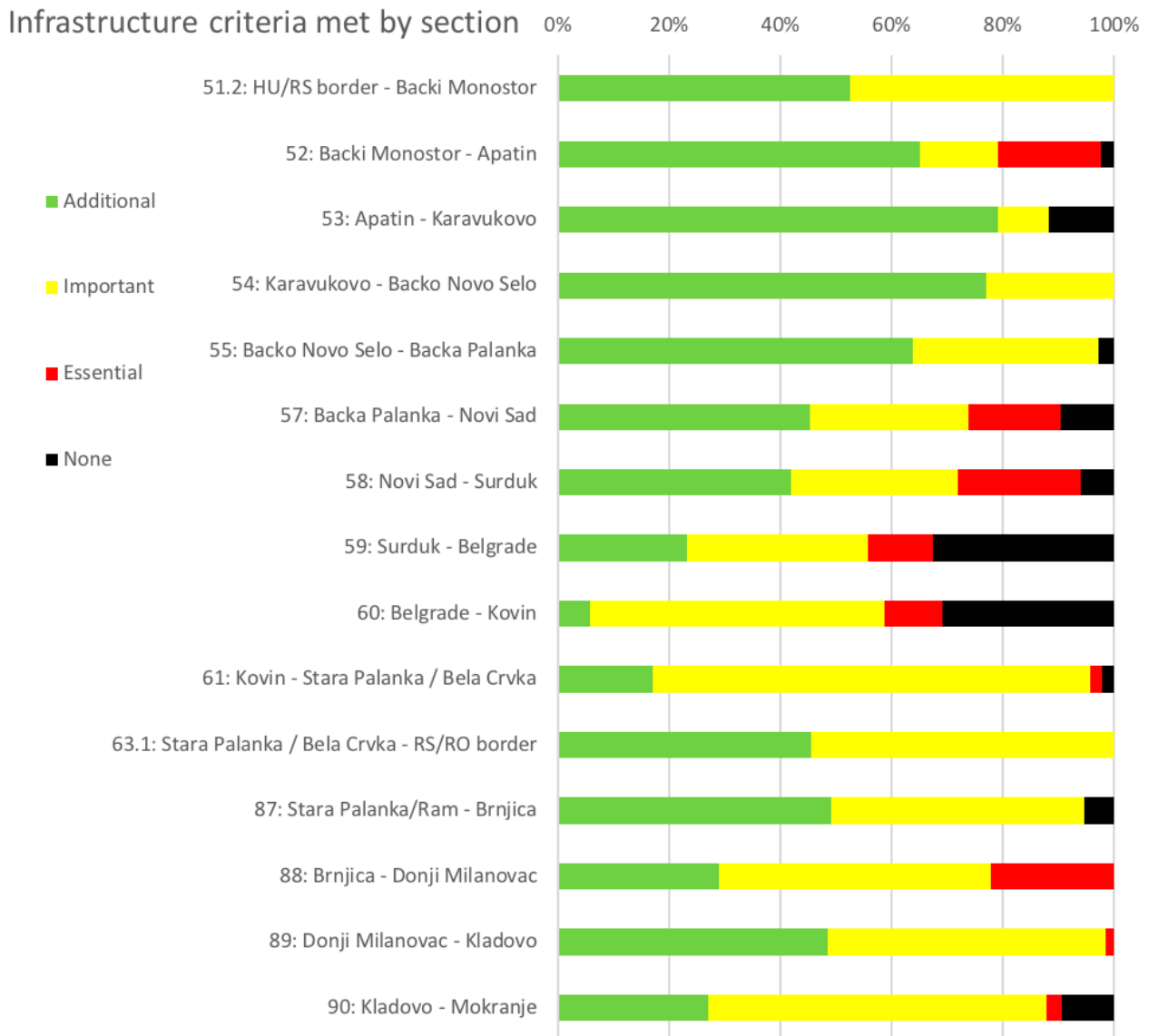


National road D2 near Vukovar. Construction of a safe cycling path would benefit not only tourists but also local inhabitants.



5.3 Serbia

5.3.1 Infrastructure



This table shows the shares of Serbia’s 15 sections that meet or do not meet the essential, important and additional criteria of the European Certification Standard. For instance, section 90 meets the essential criteria on 91% of its length, while 88% meet the essential and the important criteria and 27% meet all the criteria, i.e. the essential, important and additional criteria combined.



Black-coloured parts of a section show which share does not meet any of the criteria, illustrating which sections do not fulfil the minimum requirements (100% of the essential criteria must be met). In this case, the section does not meet the essential criteria on 9% of its length.

The following table shows which shares of the route fall in which traffic category, depending on the different levels of traffic volume and speed. The traffic categories range from traffic-free/very low (green) to very high (black):

	30 km/h or lower	31 to 50 km/h	51 to 79 km/h	80 km/h or over
traffic free & cycle paths	18.0%			
1-500 units/day	11.0%	3.3%	4.2%	0.0%
501-2 000 units/day	0.9%	9.0%	25.5%	0.0%
2 001-4 000 units/day	0.0%	3.9%	15.1%	0.0%
4 001-10 000 units/day	0.1%	3.5%	2.6%	0.0%
> 10 000 units/day	0.0%	2.0%	0.9%	0.0%

= traffic-free / very low traffic
 = low traffic
 = moderate traffic
 = high traffic
 = very high

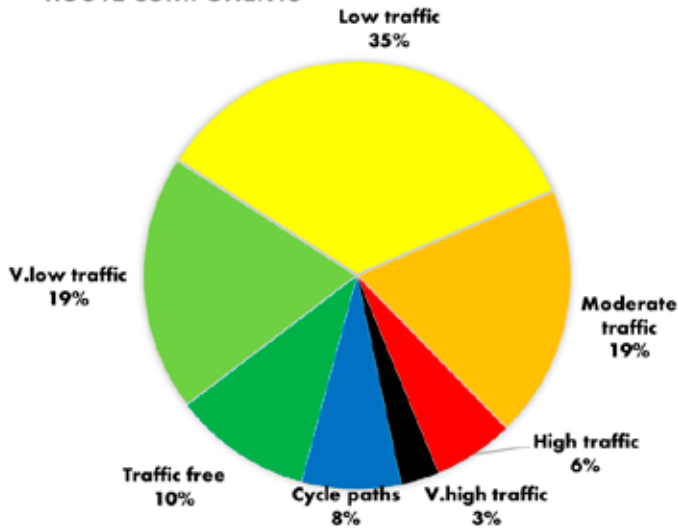
18% of the route is already composed of segregated cycle paths, greenways, or similar traffic-free route segments, and another 19% consist of roads with very low traffic. However, there is still a 9% share of the route that features high or very high traffic, which should be targeted by action planning.

The following table combines the different traffic categories and surface qualities:

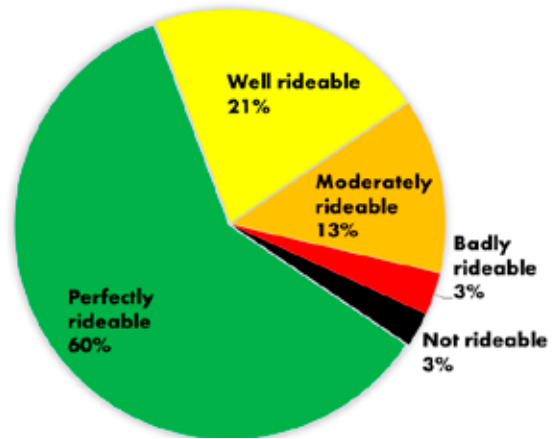
	perfectly rideable	well rideable	moderately rideable	badly or not rideable
traffic free & cycle paths	5.4%	3.3%	5.1%	1.6%
very low traffic	5.5%	8.7%	4.5%	0.7%
low traffic	26.2%	4.5%	2.9%	0.9%
moderate traffic	13.9%	4.6%	0.6%	
high traffic	5.9%		0.1%	
very high traffic	2.9%			



ROUTE COMPONENTS



SURFACE QUALITY



Most of the route (60%) consists of perfectly rideable stretches, while another 21% are well rideable. However, there is also a 6% share of the route that was assessed as badly rideable or not rideable at all and another 13% that are moderately rideable.



A large part of EuroVelo 6 in Serbia already comprises quiet local roads with good surfacing. The challenge is to connect them to form a consistent route. Photo: section 54 near Kamariste.



Very good but slightly worn out signs.



Section 57: high quality cycle path near Futog.



Section 59: end of a cycle path in Zemun.



Section 89: Donji Milanovac-Kladovo.



Public Transport

Almost all of the trains in **Serbia** admit bicycles, although usually only two bikes can be officially transported per train and there is often **not enough storage space**.

A bus providing regular service along the Danube between Belgrade and Kladovo (with stops in Veliko Gradište, Golubac and Donji Milanovac) has been available since 2017. It is equipped with a rack for five bicycles at the rear. The bus leaves Belgrade early in the morning, arriving in Kladovo at about 1 pm, and heads back to Belgrade at 4 pm. This is the first regular bus line in Serbia offering this kind of service, and it is also free of charge for bikes (cyclists pay just the regular ticket price).



New bus service between Belgrade and Kladovo, with bike rack.



5.3.2 Services

Based on the survey data, the following services exist along the route:

Daily section	Accommodation					Food/ rest areas			Bike services		
	luxury	standard	budget	camping	cyclist-friendly	food on daily section	food/rest every 15 km	repair shops	self-service	spare parts	e-bike charging
51.2	0	0	3	0	0	4	Yes	0	0	0	0
52	1	1	4	3	1	12	No	2	0	2	0
53	0	1	2	1	0	5	No	1	0	1	0
54	0	1	1	0	0	3	No	0	0	0	0
55	0	3	1	0	0	5	No	3	0	0	0
57	1	3	6	0	0	17	Yes	3	0	1	0
58	1	0	6	1	0	20	Yes	3	0	0	0
59	0	5	9	1	0	24	Yes	5	0	5	1
60	0	2	1	2	0	17	No	1	0	1	0
61	0	2	5	3	0	9	No	1	0	0	0
63.1	0	0	0	0	0	3	Yes	0	0	0	0
87	0	2	8	2	0	15	Yes	1	0	1	0
88	0	1	5	2	0	4	No	0	0	0	0
89	0	1	7	1	0	10	No	0	1	0	0
90	0	1	8	3	0	13	No	1	0	1	1

■ = Doesn't meet essential criteria
 ■ = Doesn't meet important criteria
 ■ = Doesn't meet additional criteria

The table above shows weaknesses along a route in terms of services. Not counting the border sections, there are two sections with a lack of bike repair services (daily sections 54 and 88).



5.3.3 Marketing / Promotion

There is no official national website promoting EuroVelo 6 in Serbia.

There is a publication by Serbia's National Tourism Organisation called "Discover the Danube in Serbia". It is available [online](#) and contains many points of interest, but there is no focus on bikes. The National Tourism Organisation has also published a nice [general tourism website](#). Moreover, a website by [visitserbia.com](#) provides information on accommodation along the Danube in Serbia.

The Danube Competence Center in Belgrade has published a "Bed & Bike - Bicycle touring guide through Serbia" (printed). It lists accommodation capacities for cyclists along the Danube cycling route only. It can be found [online](#) as well, but it is necessary to locate the title on the home page and then click on "Take a look".

Existing promotional tools

Bike services	Promotional tool	Criteria met?	Comments
Web	National/ regional website, including information on:	Information on the route, including a detailed map	No
		Info on signing	No
		Info on accommodation	Yes
		Info on PT connections	No
		Interactive maps	No
		POIs	Yes
		Accommodation online databases	No
		PT timetables	No
	GPS track downloads	No	
Overview info about the route on eurovelo.com		Yes	



Print	Guidebook	Yes	Esterbauer and Huber cover Serbia as well
	Detailed printed map	No	
Other	Information boards / centres on every daily section	Yes	Not counting border sections

■ = Doesn't meet essential criteria **■** = Doesn't meet important criteria

The following tourist information centres and panels exist, based on the route survey:

Tourist information centres / panels per section*

Daily section	info center	info panel
51.2	0	1
52	1	2
53	1	0
54	0	1
55	0	1
57	0	1
58	0	1
59	0	2
60	0	1
61	1	0
63.1	0	0
87	1	0
88	1	5
89	0	5
90	0	1

*Based on the route survey.

■ = Doesn't meet essential criteria **■** = Doesn't meet important criteria **■** = Doesn't meet additional criteria

Basic information about the signposting system in Serbia is integrated into the system itself. Large welcome boards (2x1.5m) mounted on all border crossings along the Danube in Serbia and in Novi Sad, Belgrade, Veliko Gradiste and Donji Milanovac, contain signing explanations:



5.3.4 Critical deficiencies

- Out of the route's 690 km in Serbia, 62 km (9%) lead over roads with very high or high traffic:
 - The longest and busiest stretches are located on the daily sections just before and after Belgrade: section 59 (14 km of very high traffic, 5 km of high traffic) and section 60 (6 km of very high traffic, 7 km of high traffic).
 - The highest volumes of traffic were counted on the Pančevački bridge (estimated 50,000 vehicles/day) and Dunavska street (23,000 vehicles/day), both in Belgrade.



- 40 km (6%) of the route have been classified as comprising badly or not rideable surface:
 - Most of the not rideable kilometres are located in section 60: Belgrade-Kovin (11 km not rideable at all, another 4 km badly rideable).
 - Shorter stretches of 1-7 km are spread over eight different daily sections.
- No significant cultural or natural attractions were identified in daily sections 52-55, 61, 63, 90. This needs to be verified by the project partners.
- 16 junctions with missing or confusing signs have been identified on the route.
- Bike repair workshops, shops with spare parts or self-service stations could not be identified on two daily sections (54: Karavukovo - Backo Novo Selo, and 88: Brnjica - Donji Milanovac), not counting the border sections.
- There is no official national website promoting EuroVelo 6 in Serbia.



Public road with high traffic and no cycle facilities between Zemun and Belgrade.



Badly rideable stretch between Belgrade and Kovin.



Gravel surface on roads shared with motorised traffic can also create environmental challenges. Photo from section 61: Kovin - Stara Palanka / Bela Crvka



5.3.5 Planned route improvements

- In section 87 a new cycling path is under construction between Veliko Gradiste and Golubac. This is not addressing any critical deficiencies, as the alternative route leads on roads with low traffic, but it will improve the attractiveness of this section. Finish of the works can be expected in 2019 or 2020.

5.3.6 Proposed actions

To bring the route in line with the Essential and Important European Certification Standard criteria, the following issues need to be addressed:

1. Approximately 102 km of cycle paths need to be constructed.
 - a. Most of these (74 km) are located on a critical part of the route between Backa Palanka and Stara Palanka (daily sections 55-61), which in the currently defined EuroVelo 6 itinerary does not have any alternative.
 - b. Many of the stretches where cycle paths are missing are located within a range of 10-20 km from large cities (Novi Sad, Belgrade). This means that significant synergies with commuting cycling can be realised, and there is a possibility to not only develop tourism but also address congestion, especially when considering the growing popularity of e-bikes.
 - c. In some locations, a cycle path could be constructed not directly along the main road, but closer to the river. This would create a route that is more attractive, provides more opportunities to enjoy nature and less exposure to noise from motorised traffic. This means that the total length of cycle path to build can be different (either longer or shorter, depending on the section).



2. Probably the biggest challenge would be the adaptation of “Pančevački most” in Belgrade to find space for a cycling path. But making the bridge more cycle friendly would also be important for commuter cyclists:
 - a. On the bridge itself there is a pedestrian sidewalk at both sides of it, which is narrow but wide enough to ride a loaded bicycle. Considering low amount of pedestrians on the bridge, the sidewalks after resurfacing (currently badly rideable) could serve as provisional one-way cycle paths. The real problem are extremely crowded approach streets, and especially the last 400 m before entering the bridge, with no sidewalk even for pedestrians. Construction of cycling paths on/along the approach streets would already significantly improve the situation.
 - b. As a quick and partial improvement, boat transport from the Sava mouth area where there is a cycling path (daily section 59 km 42) to the Pancevo side of the bridge, could be considered at least in high season. There are already quite a lot of cruising rides at that time – it might be possible to upgrade them into regular tourist/passenger service.
3. In terms of services, cyclists would benefit from the installation of self-service stations, spare-part stations or even repair shops / helplines on the two daily sections 54 and 88.
4. The promotion of the route should be improved by creating a website promoting EuroVelo 6 in Serbia.

Additional actions to consider:

5. A cycling and pedestrian bridge over the river Nera (and new local border crossing to Romania) between Banatska Palanka and Socol would save 40 km of cycling on public roads and could be an attractive landmark on the northern bank (similar to Bicycle Freedom Bridge on the border between Austria and Slovakia).
6. A separated cycle path (below the road) on the stretch with tunnels in the Iron Gates on the southern (right) bank of the river could also be a great attraction. The tunnels are quite short and with low traffic, but they are also unlit, and tourists often perceive them as unsafe.



Currently badly rideable, but potentially attractive part of daily section 53: Apatin-Karavukovo.

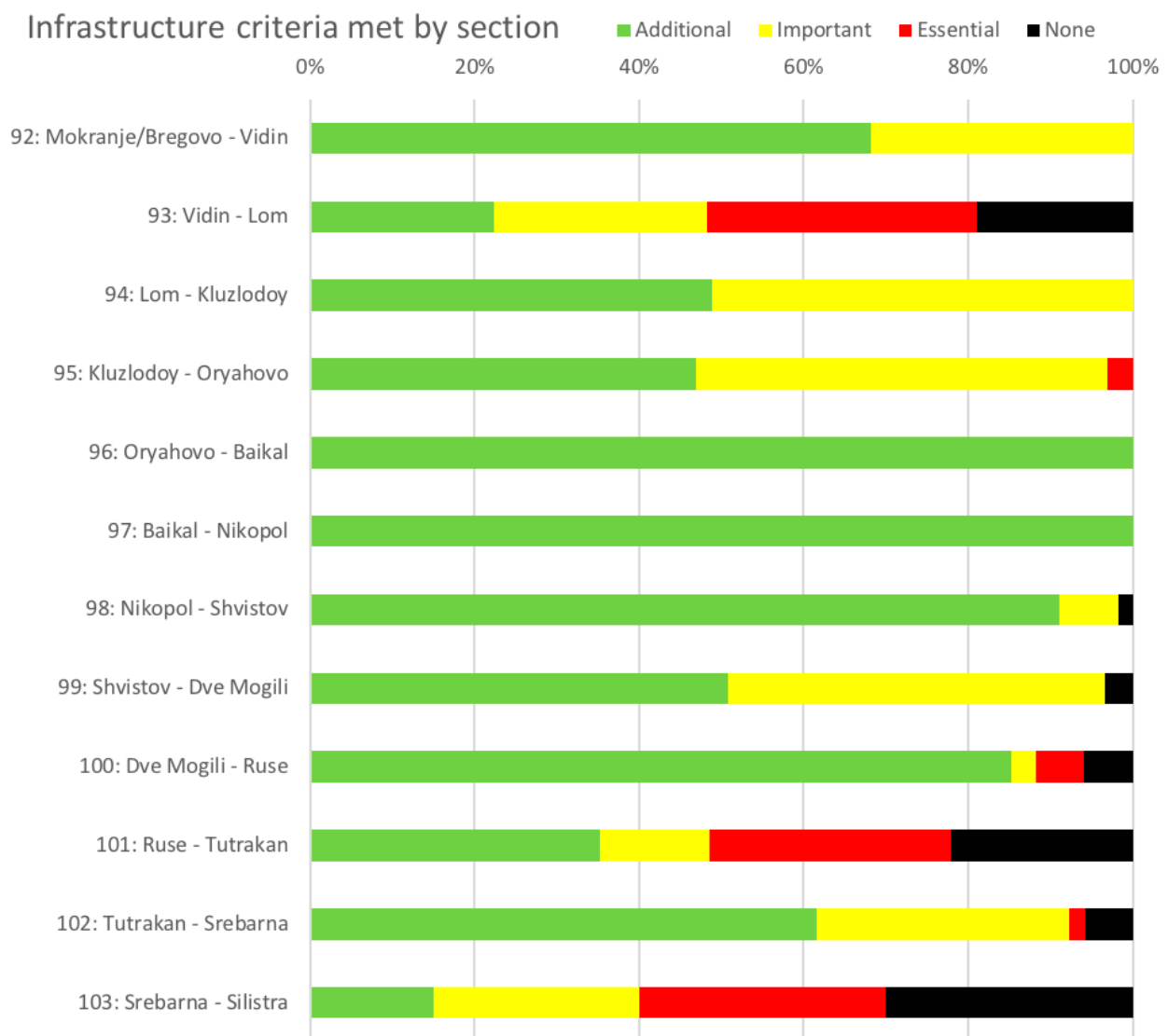


Bridge in Belgrade, probably the biggest challenge to solve.



5.4 Bulgaria

5.4.1 Infrastructure



This table shows the shares of Bulgaria's 12 sections that meet or do not meet the essential, important and additional criteria of the European Certification Standard. For instance, section 101 meets the essential criteria on 78% of its length, while 48% meet the essential and the important criteria and 35% meet all the criteria, i.e. the essential, important and additional criteria combined. Black-coloured parts of a section show which share does not meet



any of the criteria, illustrating which sections do not fulfil the minimum requirements (100% of the essential criteria must be met). In this case, the section does not meet the essential criteria on 22% of its length. Sections 96 and 97 already meet the infrastructure criteria at all levels (but have a shortage of services – see below).

The following table shows which shares of the route fall in which traffic category, depending on the different levels of traffic volume and speed. The traffic categories range from traffic-free/very low (green) to very high (black):

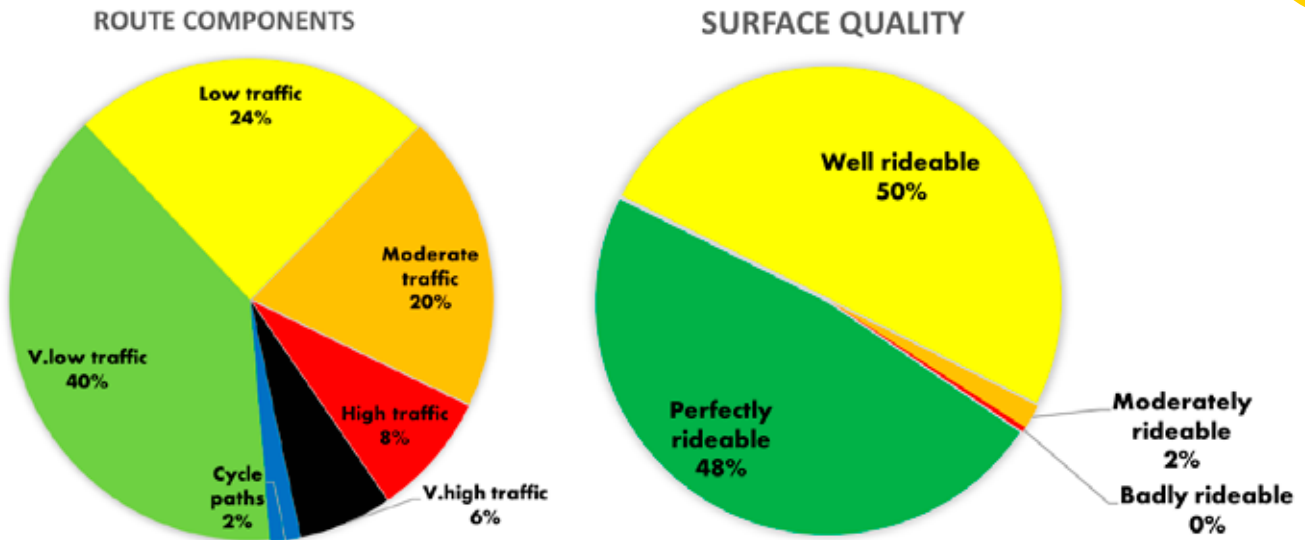
	30 km/h or lower	31 to 50 km/h	51 to 79 km/h	80 km/h or over
traffic free & cycle paths	2.0%			
1-500 units/day	0.2%	19.1%	19.9%	9.8%
501-2 000 units/day	0.2%	5.6%	8.9%	9.1%
2 001-4 000 units/day	0.0%	4.6%	6.1%	4.7%
4 001-10 000 units/day	0.2%	1.2%	2.4%	5.7%
>10 000 units/day	0.0%	0.3%	0.0%	0.2%

 = traffic-free / very low traffic
  = low traffic
  = moderate traffic
  = high traffic
  = very high

Only 2% of the route comprise segregated cycle paths or similar traffic-free route segments, but nearly 40% follow public roads with very low traffic, and another 24% feature low traffic. However, there is also a nearly 15% share of the route with high or very high traffic, which should be targeted by action planning. It is worth noting that traffic speeds are generally high in Bulgaria – nearly 30% of the route leads over roads with speed limit of 80 km/h or higher, and 30 km/h zones are virtually non-existent.

The following table combines the different traffic categories and surface qualities:

	perfectly rideable	well rideable	moderately rideable	badly rideable
cycle paths	1.5%	0.5%		
very low traffic	6.1%	33.1%	0.2%	
low traffic	14.7%	7.9%	1.3%	0.3%
moderate traffic	12.0%	7.8%	0.2%	
high traffic	7.8%	0.5%		
very high traffic	5.9%	0.3%		



Most of the route (98%) consists of perfectly or well rideable stretches. Only two minor segments were assessed as badly rideable.

Public Transport

In Bulgaria, bikes can be transported on all trains at cheap prices. This applies to both the modern trains, where there is more empty space for bicycles, and to the older ones. Normal train tickets come at very competitive prices in Bulgaria as well.



Attractive landscape with view over Danube in daily section 92.



5.4.2 Services

Based on the survey data, the following services exist along the route:

Daily section	Accommodation					Food/ rest areas			Bike services		
	luxury	standard	budget	camping	cyclist-friendly	food on daily section	food/rest every 15 km	repair shops	self-service	spare parts	e-bike charging
92	1	2	1	0	0	8	No	1	0	1	0
93	1	7	0	0	0	13	No	0	0	1	0
94	0	0	2	0	0	9	No	0	0	0	0
95	0	2	1	0	0	7	No	0	0	0	0
96	0	1	1	0	0	6	No	0	0	0	0
97	0	0	1	0	0	13	Yes	0	0	0	0
98	0	0	3	0	0	8	No	1	0	0	0
99	0	0	2	0	0	10	No	0	0	0	0
100	1	1	5	0	0	6	Yes	0	0	0	0
101	2	4	3	0	0	14	Yes	2	0	1	0
102	0	3	5	0	0	6	No	0	0	0	0
103	1	5	4	0	0	7	Yes	1	0	1	0

= Doesn't meet essential criteria
 = Doesn't meet important criteria
 = Doesn't meet additional criteria

The table above shows weaknesses along a route in terms of services. There is a lack of bike services on seven sections, and four sections only offer very basic accommodation.

5.4.3 Marketing / Promotion

The website [danube-bike.eu](http://www.danube-bike.eu) provides plenty of useful information for tourists cycling along the Danube in Bulgaria. It offers information on accommodation, food, POIs, activities and other useful links for the 12 main towns along the route. Moreover, there are interactive maps for the whole route, divided in seven stages, and more information material. The website only lacks some information on signing and public-transport connections. Moreover, it does not mention EuroVelo, and the starting page [danube-bike.eu](http://www.danube-bike.eu) leads nowhere. Visitors have to know the link <http://www.danube-bike.eu/bul/en/> to get the information.



A [Facebook page](#) on EuroVelo 6 in Bulgaria has not been updated in a while.

Existing promotional tools

Category	Promotional tool	Criteria met?	Comments	
Web	National/ regional website, including information on:	Information on the route, including a detailed map	Yes	
		Info on signing	No	
		Info on accommodation	Yes	
		Info on PT connections	No	
		Interactive maps	Yes	
		POIs	Yes	
		Accommodation online databases	Yes	
		PT timetables	No	
		GPS track downloads	Yes	
	Overview info about the route on eurovelo.com	Yes		
Print	Guidebook	Yes	Esterbauer and Huber cover Bulgaria as well	
	Detailed printed map	Yes		
Other	Information boards / centres on every daily section	No		

 = Doesn't meet essential criteria
  = Doesn't meet important criteria

The following tourist information centres and panels exist, based on the route survey:



Tourist information centres / panels per section*

Daily section	info center	info panel
92	1	0
93	2	0
94	0	0
95	0	0
96	0	0
97	0	0
98	2	0
99	1	2
100	1	3
101	1	4
102	0	1
103	1	1

*Based on the route survey.

 = Doesn't meet essential criteria  = Doesn't meet important criteria  = Doesn't meet additional criteria



Information boards near Baikal (daily section 96/97) in Bulgarian and English.



5.4.4 Critical deficiencies

- Out of the route's 593 km in Bulgaria, 86 km (15%) lead over roads with very high or high traffic:
 - 30 km in daily section 93: Vidin-Lom (heaviest traffic until Dobri dol); it seems that since the construction of the Vidin-Calafat bridge, road numbers 1 and 11 have been frequented much more by heavy traffic (transit from Turkey);
 - 35 km in daily section 101: Ruse-Tutrakan (parts of the route along road number 21);
 - 12 km in daily section 103: Srebarna-Silistra (roads number 21 and 213);
 - Shorter stretches – between 1 and 4 km – in daily sections 95, 99, 100, 102.
- 2 km (0.3% of the route) in daily section 102: Tutrakan-Srebarna have been classified as comprising badly or not rideable surface (mud between Popina and Vetren).
- Legal continuity of the route is disrupted in Shvistov (at the end of daily section 98) – part of Il. The Makariopolski street is signed as a one-way street, without provisions for contraflow cycling.
- Most of the required signs are missing – it is not clear whether the route is signed at all. The route inspector was told that (most of) the signs were removed by traffic authorities with an explanation that their blue colour confuses drivers who may think that they represent signage for motorised traffic. 86 km (15%) of the Bulgarian route lead over roads with very high or high traffic, often with heavy trucks.
- There is a lack of bike services on seven sections, and four sections only offer very basic accommodation.
- The website promoting the Danube bike trail in Bulgaria lacks some information on signing and public-transport connections. It does not mention EuroVelo, and the starting page "danube-bike.eu" needs to be updated.



86 km (15%) of the Bulgarian route lead over roads with very high or high traffic, often with heavy trucks.



To clarify with partners: are these signs legal in Bulgaria? One of the route inspectors reported that the road authority started to take them away as confusing for drivers because of the blue colour.



5.4.5 Proposed actions

To bring the route in line with the Essential and Important European Certification Standard criteria, the following issues need to be addressed:

1. Approximately 88 km of cycle path need to be constructed:
 - Most of this development need is located on daily section 93: Vidin-Lom (30 km), daily section 101: Ruse-Tutrakan; and daily section 103: Srebarna-Silistra (12 km).
 - In these sections the route currently follows busy roads, with the numbers 1, 11, 21 and 213. As an alternative to constructing a cycle path along the roads, a possibility to construct a cycle path or agricultural/water management road closer to the Danube should be considered, e.g. on the first 12-15 km after Vidin; between Sandrowo and Ryahovo; between Ryahovo and Tutrakan, etc. This might affect the total length of cycle paths to be constructed.
 - On up to 37 km of the route, the high traffic category can be improved by lowering the speed limits (roads with 2,000-4,000 vehicles per day and speed limit 80 km/h or higher, roads with more than 4,000 vehicles per day and speed limit 40-50 km/h). However, it should be carefully considered whether the new limits would be respected by the drivers and feasible to enforce.
2. To further improve safety, traffic-calming measures could also be considered on another 172 km of the route with low or moderate traffic (roads with less than 2,000 vehicles per day and speed limit 80 km/h or higher, roads with 500-4,000 vehicles per day and speed limit 40-50 km/h).
3. A simple contraflow cycling lane on the one-way section of "Il. Makariopolski" street in Shvistov would eliminate the legal disruption of route continuity. There appears to be the space to do this. The alternative is to sign the route along the main road 52 (as is proposed in the latest Esterbauer guide) but this is a less attractive option.
4. In terms of services, cyclists would benefit from the installation of self-service stations, spare-part stations or even repair shops / helplines on the seven sections whether these services are missing. Moreover, options for standard accommodation should be available on the four sections 94, 97, 98 and 99.



- The promotion of the route should be improved by updating the website www.danube-bike.eu with information on signing and public-transport connections and an improved home page. Moreover, EuroVelo 6 in Bulgaria could be better promoted by installing tourist information boards on the sections 94-97.



Sandrowo-Tutrakan on daily section 101: The red line shows the existing route with very high traffic. The blue line represents an existing route with low/moderate traffic. The green line could be considered as a potential cycle path corridor closer to the Danube.

6 Comparison of river banks

The following table presents a comparison of critical deficiencies along the route on parts where EuroVelo 6 officially covers both sides of the river. As it is not always possible or easy to cross the Danube, for each pair of rows, several subsequent daily sections have been grouped together. For example, between Passau and Linz, the route on the northern side already meets all the Essential and Important criteria of the European Certification Standard, while on the southern side, 4 km of high or very high traffic would need to be addressed.



Side	Daily Sections		City			Missing infrastructure					Missing services	
	From	To	From	To	Km	Very high traffic	High traffic	Moderate traffic > 50%	Badly/not rideable surface	Total km to fix	Accommodation	Bike Services
N	14.1	15	Passau	Linz	92	0	0	0	0	0	0	0
S	22.1	23	Passau	Linz	104	1	3	0	0	4	0	0
N	16	17	Linz	Emmersdorf (Melk)	108	5	5	0	0	10	0	0
S	24	25	Linz	Melk	110	0	0	0	2	2	0	0
N	18	19	Emmersdorf (Melk)	Vienna	122	0	2	0	0	2	0	0
S	26	27	Melk	Vienna	121	0	1	0	0	1	0	0
N	20	20	Vienna	Hainburg an der Donau	52	1	5w	0	0	6	0	0
S	28	28	Vienna	Hainburg an der Donau	49	0	0	0	2	2	0	0
N	30	32	Cunovo	Esztergom	148	3	10	0	12	25	0	1
S	33	38	Cunovo	Esztergom	166	0	29	0	0	29	0	0
S	46.1	48	Mohács	Backa Palanka	188	8	27	4	0	39	2	2
N	51.1	55	Mohács	Backa Palanka	212	0	8	0	7	15	3	5
N	63.1	69	Stara Palanka / Bela Crvka	Calafat	347	60	32	0	0	92	4	8
S	87	92	Stara Palanka/ Ram	Vidin	306	0	3	10	7	20	0	2



N	70	71	Calafat	Bechet	95	0	18	0	0	18	1	2
S	93	95	Vidin	Oryahovo	133	11	20	0	0	31	1	3
N	72	78	Bechet	Silistra	350	20	85	17	1	123	0	6
S	96	103	Oryahovo	Silistra	394	26	29	0	2	57	3	5

 = Doesn't meet essential criteria
  = Doesn't meet important criteria

The comparison could serve as a starting point for a strategic discussion between project partners on the possibility of focusing the short- and medium-term efforts in development and promotion of the route on one side of the river. Please note that the total length of missing infrastructure does not have to be always proportional to the cost of necessary investments, as it does not take into account land availability, the kind of terrain, necessary bridges/tunnels and other factors that can significantly affect the unit price.

The data could also be used to communicate the difference between the left and right bank of the river to tourists.

7 Conclusions

- The survey covered 4,636 km, significantly exceeding the length of the Danube (2,850 km), as there is often a route on both banks of the river.
- In terms of continuity, route components (road safety), surface and attractiveness, 93.3% of the surveyed route already meet the Essential requirements of the European Certification Standard.
- The recurring critical issues are high or very high traffic on busy roads. In addition, more than 50 dangerous or very dangerous crossings were identified by route inspectors.
- Only 95 km of the surveyed route do not meet the minimum quality requirements for surface.
- The route only includes four sets of stairs.
- The route comprises 384 km where the width is not sufficient.
- There were more than 450 missing or wrong signs along the route, including missing EuroVelo signs or indications of the route itinerary.

- 26 daily sections already meet all Essential and Important criteria. 71 sections need improvements in this respect.
- The critical sections with the lowest level of conformance with the European Certification Standard are daily sections number 66: Orsova - Drobeta-Turnu Severin (17% of conformance) and 69: Garla Mare – Calafat (60% of conformance), both in Romania.
- Significant investments in route infrastructure are already planned in Germany, Austria and Slovakia, partially resolving the critical problems.
- There is a good level of services all along the route, although it can be more difficult to find standard accommodation or bike services in Romania and Bulgaria.
- All the daily sections can easily be reached by train.
- There is a good amount of sometimes excellent websites, printed maps, etc. available, but EuroVelo 6 marketing can still be strengthened in Slovakia, Hungary, Croatia, Serbia, Romania, Bulgaria.

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Further information on the project and activities are available here:
<http://www.interreg-danube.eu/approved-projects/transdanube-pearls>