



AtlanticOnBike Project extension, Work Package 6

# Economic, Environmental and Touristic Evaluation Report

European Cyclists' Federation

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# 1. Introduction

## 1.1 Introduction to the project

The extension of the original [AtlanticOnBike project](#), a partnership has been put together to cover the whole area of [EuroVelo 1 - Atlantic Coast Route](#) in 6 countries, but with a reduced number of partners to maximise the efficiency of the EU grant. The project extension covering the whole route, it has helped to develop integral tools and to ensure a common identity for the route from Norway to Portugal.

AtlanticOnBike responds to the common challenge of enhancing and exploiting the amazing natural and cultural assets along EuroVelo 1 - Atlantic Coast Route across the Atlantic Area, in order to make this route a well-known and attractive touristic destination in Europe. The original AtlanticOnBike project developed a sustainable European touristic destination based on the transnational Atlantic Coast Route. Through a methodology developed in the frame of the original project, in 2020 it was estimated that there are around 10.5 million cyclists per year, with those cycle tourists on the route contributing at least 198 million euros of economic impact.

Following the end of the project, a [long-term management agreement](#) (LTMA) was signed to ensure the sustainability of some of the project outputs and to develop the route further on the transnational level. The follow-up project provides an opportunity to undertake additional activities to those included in the original project - and now the LTMA - and thereby further exploit the outputs and results, particularly following the impact of the pandemic on the tourism sector. EuroVelo 1 is well placed to benefit from the increasing popularity of cycling tourism in Europe.

Based on 6 Work Packages, the major outputs and activities of the project extension have been:

- Supporting the coordination of the route on the transnational and national levels in the medium to long term, particularly in those areas that were not covered by the original partnership.
- Developing attractive new promotional tools to market the route to key tourist markets following the touristic marketing strategy developed in the original project.
- Surveying those sections of the route not covered by the original project partnership and tracking improvements on the other sections to ensure up-to-date information is available to communicate to users and identify priorities for investments.
- Encouraging destinations to invest in measures to support cycling tourism by providing expert guidance on route development, particularly related to current trends and innovative measures..
- Performing pilot actions to help encourage further investments along the route.
- Organising events to disseminate the tools developed in the original project, and information about EuroVelo 1 generally, to public and private stakeholders on the transnational, national and regional levels.
- Improving the common methodology for evaluating the users of EuroVelo 1 and their economic impact and collecting updated data through an improved transnational platform for data (quantitative and qualitative) sharing.

For the partnership, the project has ensured the capitalisation of all the best practices and has built on the training program for the partners established during the original project.

A new partnership has been proposed for this extension to ensure that it is focused, easy to manage and quickly operational. The project consortium consists of 8 partners from 7 different countries:



- [Statens vegvesen](#), Norway
- [Sustrans](#), UK
- [Department of Transport](#), Ireland
- [La Véloodyssée](#), France
- [Conseil départemental des Pyrénées-Atlantiques](#), France
- [Conbici](#), Spain
- [FPCUB](#), Portugal
- [European Cyclists' Federation](#), Belgium

## 1.2 Usage monitoring for cycle tourism

Improving conditions for cycling tourism across Europe requires investments in new infrastructure and the regular maintenance of existing facilities, but also the launch of an eco-system of services along the routes (like bicycle hire and repair, cycle-friendly accommodation, or restaurants and cafés close to the route to name just a few), good public transport connections, and promotional activities. There is a clear need to evaluate the costs and benefits of such investments and initiatives in order to improve their effectiveness; to justify the expense; and to convince stakeholders and the public of their value.

By monitoring the usage of touristic cycle routes through counting and surveying, the bodies investing in infrastructures, services, and promotion can for example identify:

- which parts of the route attract more cyclists than others;
- how many people use the route for leisure purposes vs. daily mobility;
- how much leisure cyclists spend in the local economy.

All of this information can be used to further improve the route and the offer of touristic services, but also to improve daily mobility for inhabitants. By calculating cost-benefit ratios, investments made can be justified ex-post, and informed decisions can be taken about future investments. Last but not least, in the case of public investments, usage monitoring and the calculation of economic benefits is also an important tool in order to inform tax-payers where their money went.

## 2. Methodological approach

The activities in the field of monitoring and evaluation in the AtlanticOnBike follow-up project were based on the original project. In the framework of this project, a methodology closely based on the one developed in France was used for estimating the economic impact of the route, which in its turn is based directly on the EuroVelo method developed in 2006 as part of the 'Eurovéloroute des fleuves' programme. This project brought together 18 French, Swiss and German partners and was led by the Centre-Val de Loire region. Since then, this observation method has been deployed in France on many routes. Nearly 35,000 surveys were carried out between 2009 and 2018 on the Tour de Bourgogne, the Canal des Deux Mers, the Voies Vertes de Bretagne (2013 and 2018), Alsace à Vélo (EuroVelo 5 and EuroVelo 15), La Loire à Vélo (EuroVelo 6, in 2010 and 2015), the ViaRhôna (EuroVelo 17), the Méditerranée à vélo (EuroVelo 8), the Via Venaissia, the Véloodyssée (2018) and the Pyrenean mountain passes (2018). In the framework of the original AtlanticOnBike project, the method was further developed and refined, and a comprehensive methodological guide for cycling tourism development was produced by the French project partner Vélo & Territoires – [the EVA VELO method](#).



The monitoring and evaluation method according to EVA VELO is based on the implementation of four types of closely related observations conducted at the same locations:

- **Automatic counting** of cyclists provides real-time information on the number of bicycle passages at the various counting points. To rationalise costs, depending on the routes and loop networks, EVA VELO suggests the implementation of permanent, periodic (for several months per year) or spot (for several weeks per year) counts.
- **Manual counts** allow a visual and exhaustive differentiation of the types of cyclist (tourer, sport, leisure and utility) over several survey days and adjustment of the survey data.
- **Short interviews** supplement manual counts on determining variables, such as the segmentation of tourists/day-trippers.
- **In-depth surveys** provide a better understanding of the clientele, their behaviour and expectations, and their spending. These surveys are to be carried out at a selection of points that are representative of the cycle network that is to be observed. Their timing should provide a sample of the days and seasons of the year. On average, 2 to 6 survey days are expected per point.

In the original project, 112 automatic counters on the EuroVelo 1 – Atlantic Coast Route were used, and a total of 6,021 surveys carried out, representing 13,396 cyclists. The survey period was from April to November 2018 in France, and from April to October 2019 for the rest of the route. The action was implemented in all countries, but with a different level of involvement. Using the adapted methodology, it was found that the route was frequented by around 10.5 million cyclists per year, and produced at least 198 million euros of economic impact annually.

Building on the experiences from the original project, the current project also includes monitoring and evaluation activities. The challenges with implementing a unified approach in the original project and the different levels of involvement of different partners/regions, and the fact that the survey component of the original methodology would have produced data very much influenced by temporary changes due to the COVID-19 crisis during the runtime of the project, led to a reevaluation of the methodology. It was therefore decided to implement one centralised component of the work package on monitoring and evaluation, which was carried out in the form of an analysis of traffic on the route using data from automatic counters, and one decentralised component, which was carried out in the form of individual analyses of usage and the linked economic, environmental and touristic impacts carried out by the local project partners. This report summarises the findings from the second, decentralised component.

## 3. Country reports

### 3.1 Norway

#### 3.1.1 Methodology used

The Norwegian partners carried out an online survey using the questionnaire from the original project, adjusted it to fit the Norwegian destinations and used snowballing on social media as dissemination method. They also printed flyers with a QR code leading to the questionnaire. The flyers were sent to the destinations of Tromsø, Senja and Alta to be disseminated among places for accommodation. The approximate time it took to answer the questionnaire was 12 minutes, after the adjustments and shortening.

It was also decided to test a new concept, Cyclist Corner, where cyclists are invited to a dedicated space with chairs, table, free coffee, flyers, and a Cyclist Diary where they can leave their thoughts about their experiences. The idea of a Cyclist Diary is taken from a Norwegian tradition, “hyttebok” (Cabin book). Users of cabins leave a report of what they have been doing, the weather conditions during their stay and a greeting to the owners. Two Cyclist Corners were put up, one in Joker Skaland (grocery shop), Senja and one in the Visitor Centre at The North Cape. Inside the diaries, some suggestions for questions to answer were given.

#### 3.1.2 Results



For the online survey, 16 responses were received. Data from the survey and the Cyclist Diaries show that most cyclist are on a ride for several days. They ride their own bikes and are experienced cyclists. In average they ride 68 km a day and ride a different path for the return trip or use another means of transportation either from or back from starting point. Boat is the most used means of transportation to come or leave the Atlantic Coast Route. More than half of the cyclists responding to the survey ride alone, followed by riding with a partner or with friends. They visit activities like natural areas, museums, heritage sites, towns, and villages as a part of their outing. Smartphones and GPS are the most used tools for preparing and navigating the outing; however, during the outing, directional signs are also important for 50% of the respondents. The average amount of days of their trip is 29 days and they are covering an average distance of 1496 km on their entire trip (data from online survey only). The mode of accommodation is firstly tents, then bed and breakfasts. The report of spendings during outing differ a lot, but using the data available, respondents report an average spending of 1047 Euro on their outing.

In the Cyclist Diaries, amongst others the following feedback and suggestions for the route were recorded:

- More charging points for electronic devices
- More space for cyclists on bridges
- Offering reflective vests for cycling through tunnels; caution buttons for cyclists in tunnels to warn car drivers are a good idea (when they work)
- More signage
- More bike parking at relevant stopping points
- More separated cycling infrastructure would contribute to more subjective safety for cyclists
- More sheltered rest areas

### 3.1.3 Lessons learnt

The Norwegian partners found it hard to undertake the survey along the route linked with the online questionnaire. Reasons could be lack of enough good channels to snowball the link to the questionnaire, especially for targeting international cyclists. Our society is overloaded with requests of giving feedback, reviews and responding to surveys in all sorts of areas. It might be leading to a form of tiredness to contribute. In addition, they found the questionnaire to be extensive with perhaps too many questions, and suggest to shorten it.

They were more positive about the experience with the Cyclists Diaries. Even though only few respondents followed the suggested questions, they still found that they received a lot of feedback about the route. Their impression was that cyclists have appreciated having a dedicated spot for them along their journey. Cyclist Corner had a form of welcoming role at the destinations and the cyclists got a channel to give feedback and mark their accomplishment. They feel that the Cyclist Corners have been a success and it would be great to further develop the concept.

In the process of working together with the Scandic North Cape hotel, the Norwegian partners inquired if they registered the number of cyclists coming there yearly. They don't, and they do not have a counter there, but the CEO estimated approximately 3000 cyclist a year. They would be happy about the installation of an automatic counter, and they are interested in looking in to dedicated and safe parking spots for bicycles.

## 3.2 United Kingdom

### 3.2.1 Methodology used

For their impact evaluation activities, the project partners from the United Kingdom (Sustrans) decided to compare the methodology from the original project with a methodology developed by themselves using economic impact tools and also based on automatic counting and surveys. They explored how the tools differ and illustrate their strengths and weaknesses.

In its own methodology, Sustrans uses its whole National Cycle Network (NCN) usage estimate (WNUE) and data from route-user intercept surveys (RUIS) to model the inputs to their 'Leisure Cycling Expenditure



Model' (LCEM) for each small section of EuroVelo 1, the sum of which gives overall leisure cycling expenditure.

The WNUE models usage on 1km (or smaller) sections of the network, the sum of which gives the whole network usage estimate. Usage on sections of the NCN without automatic counters is inferred based on local factors (local population and proportion of that population cycling to work). The relationship of these factors to usage is calculated using data from automatic cycle counters (for traffic free sections) and manual counts (for on-road sections). Sustrans identified the sections of the NCN which are also part of EuroVelo 1 and summed the usage estimate on these sections. The EuroVelo 1 route is 1719km long in the UK and overlaps 100% with the NCN.

Sustrans also identified survey data from so-called route-intercept survey (RUIS). Twenty-four RUIS locations were identified on the EuroVelo 1 route. All sites had at least one survey conducted since 2017, some had more. In total, 37 surveys had been conducted between 2017 and 2022. Through the surveys, leisure users were identified and separated from utilitarian users.

Of the 37 surveys conducted at these sites since 2017, a weighting value had been calculated for 20 surveys. These values weight the responses of route users who stopped to engage with the surveyor to be more representative of the population of route users at the survey site in respect of age, gender, activity (ie walking or cycling), which are recorded as part of a simultaneous manual count of passing users, and day type (e.g. weekday/weekend, school holiday/term time). The 17 'unweighted' surveys had not had these weights calculated, typically because of a small number of survey respondents. A weighting value for these 'unweighted' surveys was calculated from the 'weighted' surveys – simply the mean weight used for the same type of user from the 'weighted' dataset. The survey data were then aggregated by survey site – ie all iterations at the same location were combined. This prevents the results being biased towards sites with more survey iterations.

The LCEM was then applied with the following inputs:

- The proportion of trips for leisure purposes (as defined by LCEM)
- The proportion of those leisure trips that originate from home or from a holiday base (trip origin)
- The proportion of trips that are short (< 3 hours), either round trip or out and back (trip type)
- The average trip distance
- The average group size

To calculate the inputs for the LCEM, route usage on un-surveyed sections of EuroVelo 1 was modelled on the basis of RUIS responses, manual counts, and population data from the UK census. Since the proportion of leisure trips was found to be strongly (negatively) correlated with population gravity, the leisure proportion on each small section of EuroVelo 1 could be modelled using population gravity as the predictor variable. Other than the proportion of leisure users on each section of EuroVelo 1, Sustrans found no evidence to support any approach other than holding all the inputs to the LCEM as fixed for the whole of EuroVelo 1.

### 3.2.2 Results

Sustrans estimates that EuroVelo 1 in the UK saw 14.8 million trips (for all purposes) in total in 2021. Of these, 11.1 million, or 75% of the total usage, were leisure trips (compared to the estimate of 2.7 million leisure trips with the original Atlantic on Bike methodology).

Total leisure spending on EuroVelo 1 was estimated by Sustrans to be £59.5 million (ca. €67.6 million in May 2023). In comparison, the original Atlantic on Bike methodology gives an estimated annual spend, by leisure cyclists on EuroVelo 1, of €55.3 million. Using a different model for estimating average spending per cyclist in the different seasons, the original methodology gives a more generous overall spend figures of €82.1 million.

### 3.2.3 Lessons learnt





Sustrans found that modelling expenditure on a single route of the scale of EuroVelo 1 creates various challenges. These fall into two main areas, within which the two approaches laid out here diverge:

- **Estimating the number of leisure trips (either directly or by estimating the total route usage and the proportion of leisure users within that).** The Sustrans approach is based on a sophisticated estimate of total route usage (i.e., both functional and leisure trips) using a more comprehensive counter dataset than was available to AoB. It estimates approximately four times as many leisure journeys on EuroVelo 1 in the UK as the AoB approach. Sustrans recognises that their survey approach is likely to create an overestimate of the proportion users who are on a leisure trip, as they are more likely to be willing to stop and answer a survey than people on utility trips, especially commuting trips. Unlike the AoB approach, where cyclists' clothes and equipment was examined to infer their journey type, the manual counts used by Sustrans do not visually classify users with regard to journey type, so they do not provide a means of corroborating the leisure cyclist proportion calculated from survey responses.
- **Estimating the expenditure to apply to leisure users, which requires modelling the level of spend and the proportion of leisure trips that involve expenditure.** The AoB model assumes that all trips involve expenditure, yet only 8% of leisure trips in Sustrans' model are classed as 'spending' trips (23% of groups making trips >3hrs), and these are discounted even further into 'spending groups' based on average group size.

Despite these areas of divergence, the two approaches produce a similar estimate of leisure cycling expenditure of €55.3 million (equivalent to £48.6 million in May 2023) for the AoB model and £59.5 million for the Sustrans LCEM. A mixed model based on Sustrans usage estimate and assumption of spending only for trips of > 3 hours but otherwise using AoB per-trip median spending figures returns a leisure cycling expenditure estimate of €80.2 million (equivalent to £70.6 million in May 2023). This result, again, does not vary excessively from the original estimates.

Applying different assumptions to the modelling could generate higher expenditure figures, for example, by assuming that all 11.1 million leisure cycling trips estimated by Sustrans result in spending. Given the limitations in the approaches noted they feel this approach cannot be justified and the more conservative approaches reported above give the best estimate of the value of EuroVelo 1 in the UK.

## 3.3 Ireland

### 3.3.1 Methodology used

To establish a baseline for the usage of EuroVelo 1 route across Ireland, temporary data collection was undertaken by Arup, in collaboration with Nationwide Data Collection (NDC), at 16 locations across the route between September 17th and September 25th, 2022, for both active and vehicular modes.

Two types of data were collected as a part of the project:

- **Quantitative data - automatic counts** using video cameras (13 sites), between September 17th and September 25th, 2022. At each location, one main camera and one backup camera were installed to capture the volume and mode of travel on a continuous basis, 24-hours a day, over the nine-day period. The video collected from these locations were manually processed afterwards and the data collected was summarised in 15-minute intervals for each mode.
- **Qualitative data - intercept surveys** using a combination of paper questionnaires and short interview questions (13 sites of the automatic counts + 3 additional sites), for two days between September 17th and September 25th, 2022. Two methods of data collection were used to collect qualitative information for active travel users at each location – full survey questionnaire as the primary method of data collection and short interview questions as a secondary method. At each location, two interviewers were posted for two eight-hour periods over the two days, with a preference for weekends over weekdays. To encourage responses, small incentives were provided in the form of nutrition bars, fruits, mineral waters, and hot drinks to respondents. Locations such as





cafes, benches, trailheads, and other amenities were also targeted to maximise respondent/interviewee engagement.

The **full survey questionnaire**, adopted from the survey carried out in the original project provided by the European Cyclists' Federation (ECF). However, based on the input from stakeholders such as the Department of Transport and Sport Ireland, the original survey was modified to match the local context and the final survey contains 47 questions and covers the following areas:

- Section A – User Spend and Economic (14 questions)
- Section B – User Profile and Demographics (5 questions)
- Section C – User Perception (19 questions)
- Section D – Trip Purpose (9 questions)

For active travel users who are either not able to or not interested in completing the full questionnaire, **short interview questions** were used by interviewers to gather additional information. The interview template, provided by ECF, is made up of two components:

- Visual Observations – User Type and Mode of Travel
- Interview Questions – User Profile and Trip Purpose (4 questions)

### 3.3.2 Results

Regarding the **quantitative data collection from the automatic counts**, the counting locations in County Kerry and County Clare had the highest volumes of active travel users over the nine days, with 7,120 and 7,481 users counted at each location, respectively. The locations in County Mayo, and County Sligo had the lowest volumes of active travel users over the nine days, with 113 and 93 users counted at each location, respectively. Overall, 19,604 active travel trips were counted over the nine days, including a total of 3,431 bicycle trips, 16,103 pedestrian trips, 56 e-scooter trips, and 14 trips made by other modes.

The locations in County Wexford, County Clare and County Donegal had the highest percentages of active travel mode share, with active modes making up of around 33%, 25%, and 44% of the total trips counted, respectively, over the nine days. The locations in County Sligo and County Donegal had the lowest percentages of active travel mode share, with active modes both making up of around 2% of the total trips counted over the nine days. Due to its location along the Tralee Canal and being closed to vehicular traffic, the location in County Kerry had an 100% active mode share. On the other hand, due to the high traffic volume and lack of sidewalk facilities, only one pedestrian was observed at the location in County Galway over the nine days.

Regarding the **qualitative data collection** through the surveys and short interviews, 572 full questionnaire responses and 283 short interview responses were collected across the 16 locations over the survey period. At one location, one additional day of data collection was undertaken at an alternative location close by to collect additional survey responses.

130 **short interview** responses were collected from cyclists, with the following results:

- 77 respondents (59%) plan to stay at least one night away from their main home, the majority of these respondents (81%) advised that the purpose of their bicycle trip was recreational.
- Of these 77 respondents who were overnighiting away from their main home, 27 were UK based, 10 were based in Europe, Canada or USA and 40 were domestic visitors.
- Of these overnighiting respondents i.e., tourists – 71% were staying in a hotel or bed and breakfast accommodation (paid accommodation in a private residence).
- The highest number of respondents surveyed was at the Waterford Greenway site – 34%. A segregated cycle path/greenway is in place at this location.

337 **survey** questionnaires were completed by cyclists, with the following results:

- 10% of respondents recorded a duration of several days for their trip.
- Tourists (respondents spending an overnight stay at a place other than their home) reported spending of €73 per day per person on average. 67% of expenditure was related to accommodation and food.



- Day Trippers (respondents not spending an overnight stay at a place other than their home) reported spending of €10 per day per person on average. 64% of day trippers incurred expenditure.

### 3.3.3 Lessons learnt

Beyond the data collected, the onsite experience from the 2022 monitoring exercise also provided valuable opportunities for lessons learnt and additional considerations for future programmes. Some considerations include:

- Location of Data Collection – data collected from 2022 shows that certain locations selected were potentially too remote to provide a sufficient sample size for future analyses and posed additional challenges to the interviewers when undertaken intercept surveys.
- Time of the Year – future programmes should consider starting earlier in the year (July/August) to capture the peak tourist season in the summer and before school resumes.
- Day of the Week – future programmes should consider the potential impact of Sunday mass on survey response rates for intercept surveys. Where possible, collections on Saturday should be prioritised over Sundays.
- Interviewer Capacity and Survey Process Rate – future programmes should take into account both the length of the questionnaire and the targeted sample size when determining the optimum staffing arrangement for intercept surveys. For example, at an average length of 10 to 15 minutes per questionnaire, an interviewer can be expected to process approximately 3 to 4 respondents per hour, when accounting for both pre- and post-survey engagement times.

Overall, experience from 2022 shows a high response rate amongst local residents, signalling a significant sense of community pride. Future programming should consider opportunities to capitalise on this to help increase engagement.

Temporary data collection should be repeated after the rollout of the tourism campaign to quantify its impact on active travel usage, and on a biennial basis afterwards to provide longitudinal data and capture any potential changes in usage trends. Data gathered from the programme should also be analysed in conjunction with existing data from permanent counters to enhance coverage and maximize potential.

## 3.4 France

### 3.4.1 Methodology used

France is the country where the original economic impact evaluation methodology of the Atlantic on Bike project was developed and finetuned, and published in the form of the “EVA VELO” methodological guide. The last survey on the route was conducted in 2018 in the framework of the original project. It consisted of manual counts, brief interviews, and questionnaires, and was carried out on 29 survey sites during 75 days. In addition, a panel of 74 accommodation owners volunteered to count cycle tourists and cyclists among their guests. A total of 20,721 cyclists was identified and categorised on site the days of the surveys. 899 brief interviews, which is equivalent to 1,396 cyclists were carried out, and 4,682 questionnaires which is equivalent to 8,398 cyclists completed.

A new edition of the survey is currently underway for the cycle tourism season 2023. Its results, together with an updated economic impact analysis, are expected for 2024, so after the end of this project.

### 3.4.2 Results

The last survey and impact calculation showed that there were 3.6 million cyclists on the French part of EuroVelo 1 in 2018. The share of tourists was 65%, and there were a bit more than 202,000 cycle tourists (tourists cycling from accommodation to accommodation). 74% of tourists chose the destination because of the possibility to cycle. The direct economic impact of the route was estimated at €103.6 million in 2018.



While the results of the new survey undertaken during the cycle tourism season 2023 will only be available in 2024, there is already data available from the sample of automatic counters along the route. These data show a 16% increase in traffic on the French section of EuroVelo 1 in 2021 compared to 2019.

### 3.4.3 Lessons learnt

The French evaluation methodology can draw on many years of experiences, and had been applied 10 times at the time of the last survey. It provides comparable data for all routes in France. The questionnaire includes a wide range of subjects that can also be used for infrastructure improvement and strategy reflexion, therefore motivating all partners. The permanent monitoring system with automatic counters allows the main figures to be updated each year.

The weaknesses of the methodology as identified by the French partners lie in a lack of adaptation to the specifics of a littoral route. The calculations are complex, and managing the process needs good knowledge of the method and of the route. A lot of manual treatment is needed, which can be a source of error. The calculations also require a good quality of permanent counting data and survey data. All of this needs quite substantial resources and coordination over an extended period of time.

## 3.5 Spain

### 3.5.1 Methodology used

The Spanish partner ConBici chose to carry out a detailed analysis of data from automatic counters placed along the Spanish part of EuroVelo 1 and an online survey among users of the route.

The analysis of counting data involved collecting and analysing data from 8 data counters: Doneztebe (Navarra), Irurtzun (Navarra), Puente la Reina (Navarra), Fromista (Castilla y León), Hervás (Extremadura), Cáceres (Extremadura), Mérida (Extremadura) and Vía Verde de los Molinos - Valverde del Camino (Andalucía). The results include the daily average of all counters and additionally, yearly and seasonal evolution of activity compared to the base year of 2019, prior to the COVID-19 pandemic. At the same time, significant events were taken into account to explain the results of the analysis:

Year	Date	Event	Description
2019	04/01-13/01	Cold wave	Cold wave in 19 provinces.
	06/01	Bank holiday.	National bank holiday.
	19/03 (Tuesday)	Bank holiday	Bank holiday in 5 regions: Comunidad Valenciana, Galicia, Murcia, Navarra and País Vasco.
	18/04-22/04	Easter holidays	National holidays.
	01/05	Bank holiday	National bank holiday.
	20/07-25/07	Heat wave	Heat wave in 30 provinces.
	06/08-10/08	Heat wave	Heat wave in 11 provinces.
	01/11 (Friday)	Bank holiday	National bank holiday.
	06/12	Bank holiday	National bank holiday.
2020	25/12	Bank holiday	National bank holiday.
	01/01	Bank holiday	National bank holiday.
	06/01 (Monday)	Bank holiday	National bank holiday.
	05/01-18/01	Cold wave	Cold wave in all Spain.
	14/03-11/05	Lockdown	Lockdown due to the COVID-19 pandemic.
12/05	End of lockdown	People can travel in Spain with restrictions.	



	18/07-10/08	Heat wave	Heat wave in 27 provinces.
	12/10 (Monday)	Bank holiday	National bank holiday.
	25/10-09/05/21	Second State of alarm	Second state of alarm with travel restrictions.
2021	04/01-13/01	Cold wave	Cold wave in all of Spain.
	06/01	Bank holiday	National bank holiday
	21/07-23/07	Heat wave	Heat wave in 16 provinces.
	11/08-16/08	Heat wave	Heat wave in 36 provinces.
	12/10	Bank holiday	National bank holiday.
	01/11 (Monday)	Bank holiday	National bank holiday.
	06/12 (Monday)	Bank holiday	National bank holiday.
	08/12 (Wednesday)	Bank holiday	National bank holiday.
	2022	06/01	Bank holiday
14/04-18/04		Easter holidays	National holidays.
09/07-26/07		Heat wave	Heat wave in all of Spain
30/07-14/08		Heat wave	Heat wave in 33 provinces.
15/08		Bank holiday	National bank holiday.
12/10		Bank holiday	National bank holiday.
06/12-08/12		Bank holiday	National bank holiday.

The online user survey was designed on the basis of the questionnaire developed during the first part of the Atlantic on Bike project. The survey had 6 different blocks for online consultation:

- Block 1: related to the period of the year when the user cycled the route and to the sections cycled.
- Block 2: related to the rideability of the sections (Gradient, distance, type of road, type of surface, traffic volume). Answers graded from 1 (Very poor) to 5 (Very good).
- Block 3: related to the services quality and abundance. Answers graded from 1 (Very poor) to 5 (Very good).
- Block 4: related to the signage quality and abundance. Answers graded from 1 (Very poor) to 5 (Very good).
- Block 5: related to the details of the trip on the route: main purpose of the travel, number of overnight accommodations, start point, end point, duration of the rides, expenditures: quantity and types.
- Block 6: about the user: age, gender, living place, cycling habits

There was also the possibility to leave free comments on the route.

The survey was created in Google Forms and spread via ConBici's social media accounts and EuroVelo Spain's, the Spanish National EuroVelo Coordination Centre's, accounts.

### 3.5.2 Results

The analysis of the automatic counters data from counting sites along EuroVelo 1 in Spain produced the following main results:

- Mérida and Fromista are the two sites with the most significant seasonality. Spring is the most significant season for Mérida, while spring and summer are the most significant for Fromista.
- Fromista experienced the deepest impact of COVID restrictions on the spring seasons 2020 and 2021. The severe restrictions for travelling cut down the affluence of Saint James pilgrims. The activity didn't reach the previous level until 2022 with an important increase (+325% from spring 2021 to spring 2022 due to the removal of all travel restrictions).



- Bicycle activity increased suddenly after the COVID lockdown as the summer of 2020 had +19% more activity in comparison to 2019, and fall got +27%.
- Almost every season from 2020 to 2022 demonstrated significant growth in bike counts along the route when compared to the same season in 2019. The only exceptions are spring 2020, which was a severe lockdown period for all European countries and especially Spain (-28% in spring 2020 vs spring 2019), and summer 2022, when an extreme heat wave impacted most provinces of Spain- (-8% in 2022 vs Summer 2019).
- The weekly profiles illustrate that weekend usage is significantly greater than week usage, particularly on greenway sites like Hervás or Vía Verde de los Molinos, which suggests more leisure use. In urban or peri-urban areas like Doneztebe, Irurtzun and Mérida, weekday activity is more important, which suggests a higher share of utilitarian cyclists. There are no significant differences from 2019 to 2022 in weekly profiles.
- Average hourly counts by year show a clear difference between weekend activity (x2 and more) and weekday activity. The morning peak is significantly superior to the afternoon activity on weekends. Activity time is quite different in comparison with the North of Europe: High peak in the morning till 13:00, lower peak in the afternoon from 16:00 till 20:00.

For the online survey, only few responses were received, which should be taken into account when interpreting the results. This being said, the results show that:

- The average trip duration is around 6 days. Most of the answers show a preference for spring and fall trips, that is 55% and probably linked to the meteorologic circumstances in Spain. 27% of the trips have a duration of more than 10 days and are probably linked to cycle touring.
- On rideability of the route, the standard grade is 2.9/5. In general terms, rideability is noted quite well, with the following distinction between different sections of the route:
  - Good score of the sections on greenways.
  - Good score of the sections on national roads and good roads like in Extremadura.
  - Medium score of the sections on the Saint James way, mostly because of the degradation of the surface.
  - Improvable score of the Southern section in Castilla y León and Andalucía (From Nerva to Ayamonte).
- The average grade for services along the route is 3,05/5.
- The average grade for signing of the route is 2,7/5. The following regional distinctions can be made:
  - It must be taken in account that the whole sections in Andalucía are not signed yet (The works will be done in the framework of the Ciclosensur project).
  - In the region of La Rioja, the signage of EuroVelo routes 1 and 3 is not yet in place as it is pending execution of a complete refurbishment of the Saint James way. The routes will be signed after the end of the works.
  - In Navarra, the signage is quite well noted as it is placed on the greenways signs, clear and well maintained.
  - In Castilla y León, the signage is well noted. It is bi-directional, very well maintained and frequent enough to avoid getting lost.
- The survey also gives information on the general profile of cyclists on the route (although the low number of responses should be taken into account when interpreting these data):
  - The gender distribution of respondents is  $\frac{2}{3}$  men and  $\frac{1}{3}$  women.
  - The average age is 50 years for men and 47 years for women.
  - They spend around €31 a day for accommodation, €27 a day for food, and €18 a day for visits.

### 3.5.3 Lessons learnt

For the online survey, it was noted by the Spanish partner that despite the promotion of the survey in social media, repeating posts and announcements, only very few responses were collected, which is problematic for the representativity of the results.



## 3.6 Portugal

### 3.6.1 Methodology used

The Portuguese project partner FPCUB did not carry out a survey themselves, as the national tourism agency Turismo de Portugal is currently carrying out a larger study on the impact of cycle tourism in the country, with results expected for the end of this year. What FPCUB did instead is summarising results from existing studies through desk research.

### 3.6.2 Results

Although systematic information on the level and impact of cycle tourism is not available in Portugal yet, several studies shed light on the rising importance of this activity as well to its externalities regarding health and environmental impact.

In 2018 Sebastião da Costa Gomes completed a thesis dissertation on “Cicloturismo em Portugal”, as part of his Master in International Economics and European Studies, in ISEG, University of Lisbon. He collected data from 258 hotels, rural accommodations and other hosting institutions. The share of bike tourists ranged from zero to over 60%. For about 3% of accommodations, over 30% of their clients were bike tourists. The age range of bike tourists was 21% younger than 30, 17% between 30 and 40, a larger group in their 40's, 39% and 23% older than 50. The list of most significant source countries was as follows:

- Portugal – 32.6%
- Netherlands – 15.5%
- Germany – 11.4%
- Spain – 10.2%
- France – 9.1%
- UK – 6%
- Belgium – 4.2%
- US – 3.4%

This ranking differs significantly from the overall origin of tourists from abroad, where the UK, Spain, France, Germany and Brazil provided most visitors, by that order, in 2019. Unsurprisingly, tourists from the Netherlands are the most prone to being cycling tourists. Another interesting finding of this study is that spring is the most important season with 54% of all visits by bike tourists, while summer accounts for only 36%, the other seasons being residual. This is interesting in an activity that is sharply seasonal, with summer being high season for general tourism.

The health and environmental impact of cycling tourism is huge as compared with car-based tourism – it leads to substantial reduction in carbon emissions, to the conservation of natural resources and to community engagement on the conservation of landscapes, ecosystems and wildlife habitats. Several municipalities, farmers and other citizens are committed to preserve and support biodiversity with the incentive of attracting nature sensitive visitors.

A recent study on “The Economic Value of the Bicycle at the Local Level”<sup>1</sup> estimated that a 2% increase of the modal share of the bicycle in all Portuguese municipalities, would bring annual cost reductions of more than 1.1 million euros in CO2 emissions, almost 25 million euros in fuel consumption and 500 thousand euros in air quality. As for the health benefits, the reduction in mortality associated with physical activity and the reduction of air pollution represent a potential positive economic impact of more than 140 million euros in 10 years for Portugal.

Tourism is one of the most important economic activities in Portugal. The 2022 revenue of €22 billion represented about 9% of the Portuguese GDP. This activity is not entirely sustainable even if a rising

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<sup>1</sup> Ferreira, J., C. Isidro, F. Sá e J. Mota (2022) “O Valor Económico da Bicicleta à Escala Local”, Finisterra, LVII (119), pp. 87-107





attention is given to lower water and energy consumption. Golf courses, for instance, put a strong pressure on water reserves and rainfall has been scarce, especially in the South. Eco-tourism with a focus on nature has been rising and provided an important mitigation to the human desertification taking place in the interior of the country.

Estimating the size of cycling tourism in Portugal is no easy task. Sebastião Gomes' study found that bike tourism represents slightly less than 5% of total guests registered by the studied host organisations. Using the target value of 2% for bike usage in Portugal as suggested by Ferreira et al (2022) we obtain about €440 million in tourist revenues, a conservative estimate. Adding the environmental, health and community benefits from cycling tourism substantially increases the total value of this activity which, furthermore contributes to reduce the acute problems of seasonality and concentration in overcrowded areas. EuroVelo 1 is both a key destination of cycling tourists and the core path for connection to the diverse destinations accessible throughout Portugal. As it directly connects the most visited areas in Portugal and serves as the backbone for accessing other regions, it is easy to estimate that EuroVelo 1 may represent about 50% of cycling tourism in Portugal.

## 4. Conclusions

Summarising the activities in the different partner countries, the following main methodological approaches for the monitoring and evaluation of the usage and impact of the different sections of EuroVelo 1 – the Atlantic Coast Route can be distinguished:

- Automatic counting through permanent counting devices (all partner countries, detailed results in the separate transnational report prepared by Eco-Counter in the framework of the project)
- Automatic counting through temporary installation of video cameras (Ireland)
- Structured on-site surveys and short interviews with cyclists (UK, Ireland, France)
- Structured online surveys (Norway, Spain)
- Unstructured on-site surveys/logbooks (Norway)
- Accommodation panels/surveys (France (as an auxiliary method), Portugal)

The strength and weaknesses of the different approaches and methodologies are shown in the following table:

	<b>Strengths</b>	<b>Weaknesses</b>
<b>Automatic counting through permanent devices</b>	<ul style="list-style-type: none"> <li>• Representative data over longer periods of time</li> <li>• Relatively easy to analyse, aggregate and compare</li> <li>• Enables comprehensive conclusions about traffic on the route</li> </ul>	<ul style="list-style-type: none"> <li>• Resources needed for installing + maintaining counters</li> <li>• Expertise needed for data curation</li> </ul>
<b>Automatic counting through temporary installation of video cameras</b>	<ul style="list-style-type: none"> <li>• Representative data</li> <li>• All modes of transport can be measured</li> <li>• Can be used to control + correct automatic counter data</li> </ul>	<ul style="list-style-type: none"> <li>• Relatively costly</li> <li>• Only temporary – more difficult to establish timelines than with automatic counters</li> <li>• Manual processing of video data needs resources – could be rationalised in the future through use of AI</li> </ul>
<b>Structured on-site surveys and short</b>	<ul style="list-style-type: none"> <li>• Provides detailed information about types of cycle tourists, spending etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Resource-intensive, both in terms of implementing</li> </ul>





<b>interviews with cyclists</b>	<ul style="list-style-type: none"><li>• Delivers quantitative data that can be used to calculate economic impact quite precisely (e.g. France, UK)</li></ul>	<ul style="list-style-type: none"><li>surveys and processing results</li><li>• Can be easily biased towards groups that are more prone to stop and answer surveys (as in the UK/Sustrans methodology; in the French methodology, this is (partially) solved through additional visual observations)</li></ul>
<b>Structured online surveys</b>	<ul style="list-style-type: none"><li>• Relatively easy and cheap to design and implement</li><li>• More time for respondents to reflect upon their answers than with on-site survey</li><li>• Potential to address also non-users of the route and learn about their motivations</li></ul>	<ul style="list-style-type: none"><li>• Poor participation rates both in Norway and Spain despite substantial dissemination efforts</li><li>• Hard to establish a representative sample of actual users of the route</li><li>• Possibly long time between riding on the route and answering the survey, which can have a negative effect on the quality of answers</li></ul>
<b>Unstructured on-site surveys/logbooks</b>	<ul style="list-style-type: none"><li>• Relatively easy and cheap to design and implement</li><li>• Can be an additional motivation for cyclists, and help to promote the route</li><li>• Valuable feedback on specific experiences of users + specific things to improve</li></ul>	<ul style="list-style-type: none"><li>• Not representative</li><li>• No quantitative data that could be used for calculating the impact of the route</li><li>• Easy to receive biased answers (e.g. in one of the Norwegian logbooks, the same feedback appeared very often – respondents could be influenced by earlier entries in the logbook that they read before writing their own)</li></ul>
<b>Accommodation panels/surveys</b>	<ul style="list-style-type: none"><li>• Easier and cheaper to implement than on-site surveys on the route</li><li>• Provides valuable quantitative data about provenance of users, trip length etc.</li></ul>	<ul style="list-style-type: none"><li>• No data on excursionists or utilitarian cyclists</li><li>• Only gives data for tourists staying in official accommodations – hard to reach every possible type of accommodation, which might create a bias</li></ul>

The table clearly shows that there is not one single method of data collection that could be recommended over all others in all circumstances. In terms of quantifying usage of the route and economic benefits, the combination of automatic counter data together with on-site surveys, as carried out in the original project and described in the EVA VELO methodological guide, remains the “gold standard”. The results of this project show however that there are still issues linked to the resources and expertise needed for implementing this methodology. More investments will be needed also in the future to enable all regions to carry out similar studies and make them comparable at the European level. Especially the input from Sustrans, comparing the



original Atlantic on Bike methodology with their own methodology for the United Kingdom, could also provide valuable insights on developing the methodology further.

The project also shows that other methods of data collection could supplement the original methodology. Video observation, as implemented in Ireland, makes it possible to also take into account other modes of transport than cycling, and could be used to control and adjust data collected from automatic counters. Accommodation panels can be used as a cost-efficient addition to on-site surveys over longer periods of time than just a few days as for the surveys, even though they are less representative since they only catch those cyclists staying at the accommodations where the survey is distributed. Structured online surveys seem to be of little overall value, at least according to the results of this project. In both cases where they were used, response rates were very low. Finally, the unstructured surveys/logbooks that were tested in Norway are also an interesting addition which has its merits for collecting direct feedback from users on specific conditions of the route or their overall experience.

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