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Agriculture and Rural Development



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**THE EUROPEAN CYCLE
ROUTE NETWORK
EUROVELO**

STUDY



DIRECTORATE GENERAL FOR INTERNAL POLICIES
POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES

TRANSPORT AND TOURISM

THE EUROPEAN CYCLE ROUTE NETWORK EUROVELO

STUDY

This document was requested by the European Parliament's Committee on Transport and Tourism.

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DIRECTORATE GENERAL FOR INTERNAL POLICIES
POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES

TRANSPORT AND TOURISM

THE EUROPEAN CYCLE ROUTE NETWORK EUROVELO

Challenges and Opportunities for Sustainable Tourism

STUDY

Abstract

This update of the 2009 study evaluates the challenges and opportunities of developing a cycle tourism network across Europe. It focuses on EuroVelo, a network of 14 long distance routes managed by the European Cyclists' Federation which is being developed in different countries by a wide range of partners. The study reviews the market for cycle tourism and presents a model of demand for EuroVelo. It also evaluates the recent developments on the Iron Curtain Trail.

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LIST OF ABBREVIATIONS

| | |
|---------------|---|
| ADFC | German Cyclists' Federation |
| BMBVS | German Federal Ministry for Transport, Building and Urban Affairs |
| BMVBW | German Federal Ministry of Transport, Building and Housing |
| BMWi | German Federal Ministry of Economics and Technology |
| BMZ | German Federal Ministry for Economic Cooperation and Development |
| CHF | Swiss Franc |
| CNL | CityNightLine |
| CO2 | Carbon dioxide |
| CRDFM | Cycle Route Demand Forecast Model (version 0.0.0) |
| DB | German National Railways |
| DTV | German Tourism Association |
| ECF | European Cyclists' Federation |
| ERDF | European Regional Development Fund |
| ESF | European Structural Funds |
| EU | European Union |
| Fvw | Fietsvakantiewinkel (Cycle holiday shop) |
| ICT | Iron Curtain Trail |
| MV | Mecklenburg-Western Pomerania |
| NMT | Non-motorised traffic |
| NRW | North Rhine-Westphalia |
| NUTS 3 | Nomenclature of Units for Territorial Statistics, developed by Eurostat |
| ÖBB | Austrian National Railways |
| PT | Public transport |
| RLP | Rhineland-Palatinate |
| SBB | Swiss National Railways |
| SSM | SchweizMobil Foundation |

SVS Veloland Schweiz Foundation

TEN-T Trans European Transport Network

TFEU Treaty on the Functioning of the European Union

GLOSSARY

- Cycle Tourism** Cycle tourism refers specifically to travel between places by bicycle for leisure purposes. Cycling is an integral part of the tourist experience.
- Cycle holidays** Holidays which are motivated by a desire to cycle, either on a tour or from a base for most of the time away from home.
- Holiday cycling** Holidays which involve some cycling but not entirely and often in association with other activities usually from one base.
- EuroVelo** EuroVelo is a European cycle route network with an aim to offer a sustainable Trans-European Network. It comprises 14 long distance cycle routes which cover about 70,000 km of which approximately 45,000 km are in existence. The network is managed by the European Cyclists' Federation which is seeking to ensure that all routes offer high standards of design, signage and promotion throughout Europe.
- Long distance cycle routes** Long distance cycle routes are those which are designed to encourage cycle tourists to travel between locations within a country and between countries. They are over 100 km in length but often span more than 500 km. Long distance routes include signage and interpretation to guide cyclists. They are often branded, following a theme, and promoted to various markets by a multiplicity of organisations.
- Cycle day trips** Leisure or recreational trips from home or holiday accommodation involving cycling as an integral part of the day outing. We also refer to these as day excursions.
- Public transport integration** The aim of the EuroVelo network is to have easy interchange between cycling and other modes of transport, principally tram, train, bus and ferry. Ideally, the interchange should be seamless and service facilities available for secure cycle parking and waiting areas. Integration in a wider context refers to connectivity between the tourism and transport sectors in fare and information provision.
- Slow Travel** Slow Travel is a term which refers to the use of sustainable modes of travel, such as the train or coach, to a destination. The visitor is encouraged to spend more time to experience the cuisine, culture and patrimony of the location preferably travelling on foot, by cycle or public transport. This form of tourism, it is argued, provides a richer experience for the tourist and a lower environmental impact.

**Sustainable
Tourism
Development** Long distance cycle route design should embrace the principles of sustainable tourism development; cycle tourism planners need to be aware of the need to conserve natural assets, to enhance community competences and capabilities and for the need for tourism providers to minimise use of resources and output of waste and pollution. Transport to a route can be one of the main negative environmental impacts and the route design has to be cognisant of this in terms of offering attractive near to home travel and integration of rail, coach and ferry transfers for longer distances.

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EXECUTIVE SUMMARY

Background

This study focuses specifically on travel between places by bicycle for leisure purposes. It provides an overview of the cycle tourism market across Europe and seeks to evaluate the potential for development.

The research paper concentrates on EuroVelo, a European cycle route network which seeks to offer a sustainable Trans-European Network. This network is managed by the European Cyclists' Federation which is working towards the goal of all routes offering high standards of design, signage and promotion throughout Europe. The report assesses whether or not this network could enhance the overall transport and tourism offering in Europe.

The study also addresses an idea to develop a new long distance trail which offers the potential to bring three core themes of culture, heritage and nature to a new market. The Iron Curtain Trail seeks to offer opportunities to discover over 20 countries, including 14 EU Member States, on the nearly 10,500 km route from the Barents Sea to the Black Sea. It is a very good example of the potential of cross border tourism in that many visitors will choose to cycle between 2 cities (and across borders) as part of their holiday.

Cycle Tourism Market

France is by far the most important destination for tour operators followed by Austria while the main outbound markets are Germany and the UK. The requirement of a continuous, safe, pleasant route with good signage is universal.

There are no firm trends reported in the literature. Cycle tourism is not recorded in Eurostat tourism statistics nor is it featured in other general reviews of domestic or international tourism. It is important to note that the growth of cycle tourism, both in terms of provision and market demand, is uneven across Europe. In countries such as Austria, Belgium, Denmark, France, Germany, Switzerland and The Netherlands, cycle tourism is important. A repeat of the 2009 survey found that most experts now think that the market for cycle tourism in their countries was increasing (compared to 'static' previously) despite the current economic climate.

There is no definitive response to the question as to the value of cycle tourism in the EU. A model has been developed that uses fractions of existing tourism flows within Europe to estimate the value and volume of cycle tourism. There are an estimated 2.295 billion cycle tourism trips in Europe with a value in excess of €44 billion per annum. This is the estimated sum total of domestic and international cycle tourism trips. The number of cycle overnight tourists is 20.4 million spending around €9 billion annually.

EuroVelo Economic Impact

An evaluation of the EuroVelo network has also been made. The study concludes that it is currently not an important transport or tourism network but that it has considerable potential if developed. A model has been generated to assess the economic impact of EuroVelo if developed as a European transport and tourism network. It is estimated that 60 million trips will generate a total of €7 billion of direct revenue that can be attributed to EuroVelo as a cycle tourism product.

Environmental Impacts

The act of cycling itself is almost emission free. Most cyclists start cycling their day trip directly from their front door but, in some cases, motorised transport modes are used to reach the destination. These transport modes do affect air quality en route and add to pollution and congestion at destinations. The study finds that on average, as cyclists tend to use more environmentally friendly transport and travel shorter distances to their destination, the emissions per cycle tourism holiday are much less than other holidays.

Public Transport Integration

As with all holiday travel there is a need for integration between modes of transport en route to the destination. The position regarding the carriage of cycles is problematic from a cycle tourist point of view as train operators in different countries have varying approaches. This is improving slowly, notably on the French TGV, German ICE and Austrian Railjet high-speed services, which are either introducing cycle carrying capacity or are committed to do so over the next few years. Hopefully small incremental improvements will allow the demand for rail/cycle tourism to gradually develop encouraging further cycle carrying capacity to be introduced.

There are a small number of cyclists who travel by coach/bus across Europe. There are limitations to carriage of cycles; they have to be packaged and in a similar manner to air travel are carried in the luggage sections. In addition, the coach and cycle offer is currently very limited.

The provision for cycles on ferries is an important element in making a European wide cycle tourism network. A small-scale electronic survey was carried out by the research team. The findings indicate that ferries have a willingness and capacity to carry large numbers of cycle tourists but most companies do not market this in any way.

Iron Curtain Trail (ICT)

The Iron Curtain divided East and West Europe for the best part of 50 year in the last century and there are reminders of its existence throughout its length in terms of monuments and local interpretation. When complete the ICT would offer a continuous route from the Barents Sea to the Black Sea passing through 20 European countries.

The potential demand and revenues for the Iron Curtain Trail has been estimated at 1 million holiday trips and 5.3 million day trips and a total of €521 million in direct revenues annually. A key factor is that many regional economies could gain additional tourism in areas where economic development has been hampered for decades due to the Iron Curtain, a phenomenon known as 'Zonenrandgebiete' in Germany.

Conclusions

Cycle tourists are motivated by a mix of elements but especially nature and the opportunity to relax from everyday life. Whilst the nature of cycle tourism fits well with current EU policies on sustainable tourism, there are a number of barriers to the development, for example the lack of interface between transport modes and the lack of presence in the market. In terms of sustainable development the train and cycle package is the most important. Carrying a bicycle by rail is relatively inexpensive, but not always possible and in many cases not easy. Another barrier is the lack of quality long distance cycle routes and

networks in many countries which offer a real presence in the tourism market place. There is also low involvement of tour operators and tourism providers in cycle tourism.

The evidence assessed in this study indicates that cycle tourists bring major benefits to localities which currently do not enjoy mainstream tourism development. The cycle tourist delivers a similar level of spend to other visitors.

EuroVelo is presently not a major tourism asset in most countries for it has not been developed sufficiently to offer choice of destination or a strong brand identity. The development of a network has considerable potential, but will require commitment and forward planning on behalf of the managing group. Initially, it needs a firm resource base on which to upgrade and develop the entire network within this decade.

Recommendations

In summary the following 6 key recommendations are made:

1. That EuroVelo is incorporated into the TEN-T programme.
2. That funds be made available for coordination and marketing of the EuroVelo network.
3. That cycle tourism in general and EuroVelo specifically should be monitored bi-annually.
4. That the EU should designate an individual to take the lead with regard to cycling.
5. That there should be a more detailed appraisal of the carriage of bicycles on public transport, specifically on long distance trains.
6. That there is a strong case to continue development of the Iron Curtain Trail.

1. INTRODUCTION

1.1. Aim and objectives

The aim of the study is to assess the potential benefits of long distance European cycling routes for tourism purposes especially in relation to sustainable tourism development. There are 3 key objectives:

- (a) To determine the current scale and scope of cycle tourism in Europe.
- (b) To evaluate the extent to which the EuroVelo can be developed as a sustainable tourism network.
- (c) To investigate the development of the Iron Curtain Trail which gives lasting recognition to the re-unification of Europe.

The analysis responds to a number of key research questions:

1. What are the crucial success factors in attracting cycle tourists?
2. Is cycle tourism more or less sustainable than other forms of tourism?
3. Is there an overall demand and value estimate of cycle tourism?
4. Will the EuroVelo network add to the potential of cycle tourism or not?
5. What are the opportunities, barriers and challenges in developing cycle tourism on a larger scale than previously?

The overarching objective is to update the original study of 2009 with new findings wherever possible. This update has been requested by the Transport and Tourism Committee (TRAN) of the European Parliament.

Cycle tourism has featured prominently in EU tourism policy since the publication of the original review which was well-received and has been used by stakeholders to demonstrate the benefits of cycle tourism to a wider audience. It appears as though European cycle tourism has entered a new, more mature stage. This update will review new developments and consider what the issues facing the development of cycle tourism are now and what they are likely to be in the future. The findings of a number of new studies have been incorporated, amongst others from Austria, Belgium, Denmark, Czech Republic, France, Germany, The Netherlands and Switzerland.

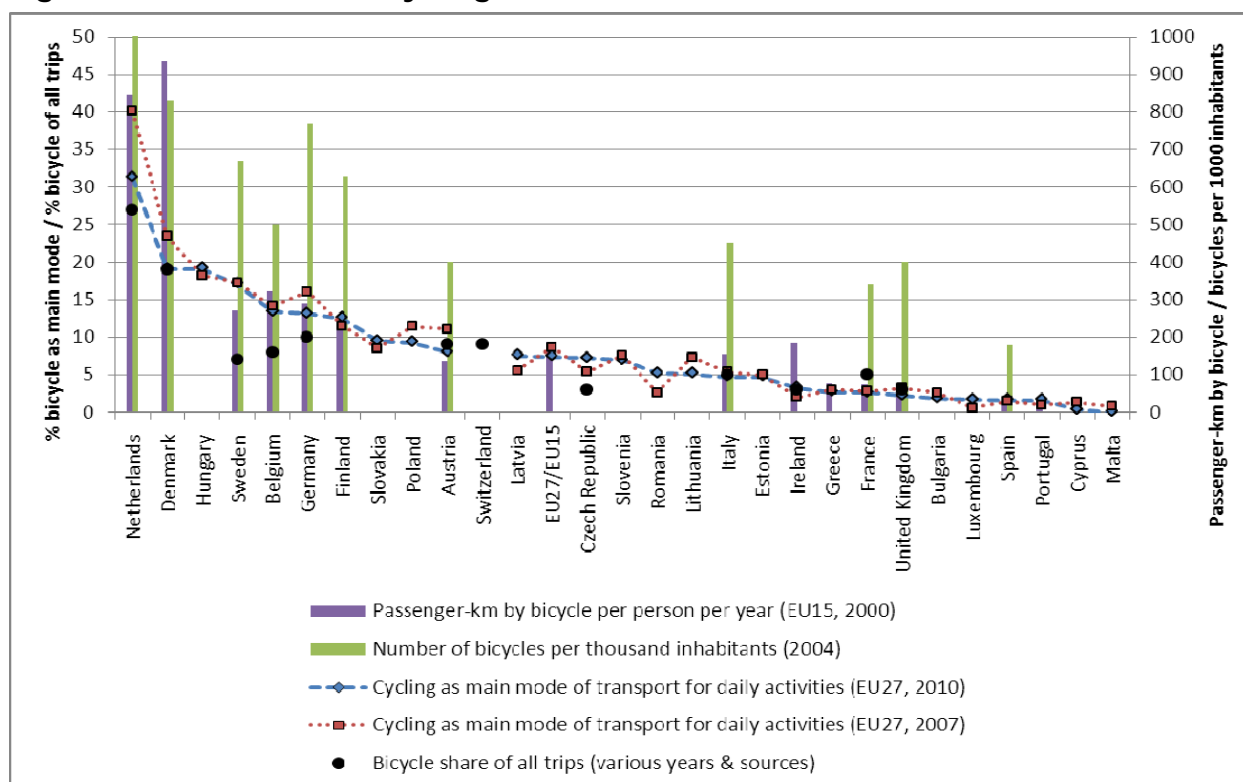
1.2. Cycling in Europe

As a background to the study it is worth noting the relevant importance of cycling for every day purposes across Europe. Figures on cycling in different European countries are, if existent at all, generally dated and not particularly reliable for comparison (Ministerie van Verkeer en Waterstaat & Fietsberaad, 2009). **Unfortunately, the bicycle disappeared from EU transport statistics around 2000**¹. Nevertheless, there is some relation when

¹ The TRAN Report on the proposal for a regulation on European Statistics on tourism (A7-0329/2010 of 17.11.2010) requested that data collected also include bicycle.

comparing different figures on bicycle usage from Eurobarometer surveys and EU statistics. The use of bicycles varies significantly between countries of the European Union. In most countries with a marginal cycling share, bicycles are mainly used for recreational purposes or in certain cities where provision for the cycle has been made, such as York in the UK or Ferrara in Italy (Trasporti e Territorio, 2010). In countries with a high share of cycling, like Denmark and The Netherlands, much of this relates to utility trips such as commuting, shopping and even some business travel (Pucher & Buehler, 2008). Note that bicycle ownership (see Figure 1) is not a reliable indicator for actual bicycle usage, nor are statistics on bicycle sales (which are not included here), even though the latter could say something about the popularity of cycling. Bicycle sales in the EU27 and for individual countries have been fairly stable throughout the last decade (COLIBI & COLIPED, 2011).

Figure 1: Overview of cycling in EU27 countries



Source: adapted from EC DG Energy and Transport (2003), The Gallup Organization (2007, 2011), and various sources in Trasporti e Territorio (2010) and Ministerie van Verkeer en Waterstaat & Fietsberaad (2009).

Interestingly, in countries with low levels of cycling generally men tend to cycle more than women, but in high share cycling countries the distribution between genders is even. Historically, the role of cycling showed a strong reduction in all countries between the 1950s and the 1970s. In 1950 the share of cycling trips in the UK was 15%, higher than current share in Germany. Progressive urban and transport planning reversed these trends in countries like Germany, Denmark and The Netherlands (Pucher & Buehler, 2008). **Clearly, government policies play an important role in promoting cycling.** Exemplary is the growth of public bicycle-hire schemes in Europe, from one in 2000, over 238 in 2005, to 426 in 2010 (Beroud, Clavel, & Le Vine, 2010).

1.3. Sustainable tourism development and cycle tourism

However, most of this study relates to cycling and tourism. There is a substantial interest in the impacts that tourism development has on travel routes to and at destinations. The economic benefit that tourism can bring to local economies has been a focus of research for several decades; studies on social impacts are also well covered in the early literature (Tao & Wall, 2009). However, the increasingly pressing requirement to mitigate climatic change effects now ranks as the major challenge for the tourism sector and has to be factored in a measurable way across all facets of tourism development (Peeters, Gössling, & Becken, 2006). There is clearly a need to develop new low impact, low carbon products for sustainable tourism in Europe in order to encourage existing and new markets to switch from resource intensive and polluting forms of tourism (Simpson, Gössling, Scott, Hall, & Gladin, 2008). Given the importance of Europe as a generating region and one where intra-regional tourism arrivals remain high, the potential of the market for such new products is considerable.

A commonly used definition of sustainable tourism stresses the economic, social and environmental balance required (source: UNEP/WTO, 2005, p. 5): "*Sustainable tourism development guidelines and management practices are applicable to all forms of tourism in all types of destinations, including mass tourism and the various niche segments. Sustainability principles refer to environmental, economic and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long term sustainability.*"

The associated indicators of sustainable tourism are listed as follows:

- Optimal use of environmental resources;
- A respect for the socio-cultural authenticity of host communities;
- Social economic benefits to all stakeholders;
- Informed partnership of all stakeholders;
- Continuous monitoring of impacts;
- High levels of consumer satisfaction.

Cycling holidays and day trips by cycle are often categorised as a sustainable tourism product which meets most these indicators (Lumsdon, 2000). This review focuses specifically on travel between places by bicycle for leisure purposes. Sustrans, the UK transport charity, sub-divides the market for cycle tourism as follows:

- Cycling holidays – cycling duration involves one night or more away from home and cycling is the principal purpose of the holiday. It can be centre based or as a tour involving staying at different places. A cycling holiday can also be sub-categorised into an organised package or independent tour.
- Holiday cycling – this involves day cycle rides from holiday accommodation or another place (such as a cycle hire at a railway station). This forms part of the holiday experience but is not necessarily the only one.
- Cycle day excursions – cycle trips of more than 3 hours duration made from home principally for leisure and recreation.

These categorisations include cyclists attending cycling events and 'casual' mountain bike trips but not sport-related trips (such as racing or mountain bike competitions) which require specialist skills and equipment.

Throughout the research paper the term cycle tourism is used to describe both cycling holidays such as cycle tours from place to place or holiday cycling, i.e. daily cycle leisure trips from one location. Either way cycling is a key motivational factor and is the main activity pursued throughout the holiday. Day trips by cycle from home or from a holiday base are referred to as cycle day excursions.

The cycle in this context is therefore not just a means of transport; it is an integral part of the tourist experience (Lumsdon, 2000). The journey is as important as the destination and in some cases it is the destination. It has been described by one visionary cycle route planner as the 'travelling landscape' (Grimshaw, 1998). **There appears to be a strong cycle tourism appeal in countries where everyday cycling is high** such as in Denmark, Germany and The Netherlands and in these countries good networks prevail (Larsen, 2007). An analysis of existing data shows that these countries also feature as strong cycle tourism destinations. This success is based on investment in a traffic free network as well as marketing. Even in countries where there's not a strong tradition of every day cycling, such as Cyprus, Italy and Spain, cycle tourism is being offered, albeit on a lesser scale, to visitors. New facilities are being developed and this in itself is attractive to the market. Cycle tourism is not only a rural tourism product; it involves towns and large cities. Many of the great European tourist destinations are now encouraging visitors to cycle and walk their cities rather than use cars; Amsterdam, Barcelona Berlin, Budapest, Copenhagen, Lyon, Paris and Seville have all introduced cycle schemes for residents and tourists alike. There are now an estimated 375 schemes, in 33 countries world-wide (Midgely, 2011).

This study evaluates the overall potential of cycle tourism and its contribution to sustainable development of tourism.

1.4. EU tourism policy

The entry into force of the Treaty of Lisbon, 2009, represented a landmark for the EU tourism sector. Tourism is an integrative sector with interfaces across transport, patrimony and the arts, and the food and beverage sectors, for example. With these linkages tourism is estimated to account for over 10% of EU GDP and 12% of all jobs; direct turnover is in the order of 5% of EU GDP (EC, 2010; ECORYS, 2009). The Treaty on the Functioning of the European Union (TFEU) acknowledges the industry's importance and for the first time a specific competence is outlined for the European Union in this sector, allowing for decisions to be taken under the ordinary legislative procedure (Title XXII, Tourism). Thus, the TFEU offers a new competence for European tourism policy. It allows the EU "to carry out actions to support, coordinate or supplement the actions of the Member States" at European level, amongst others in tourism (Article 6(d) TFEU). The complementing of Member State action should be particularly aimed at promoting the competitiveness of Union undertakings in the tourism sector, notably by encouraging the creation of a favourable environment for the development of undertakings in tourism, and promoting cooperation between the Member States, particularly by the exchange of good practice. Through this the tourism industry can contribute to "Europe 2020 – A European strategy for smart, sustainable and inclusive growth" and towards strengthening the concept of European citizenship.

In line with the goals of the Europe 2020 Strategy and the particular objectives under the flagship initiative on “an industrial policy for the globalisation era”, the EC adopted the Communication COM(2010) 352 “Europe, the world’s No 1 tourist destination - a new political framework for tourism in Europe” in 2010 (EC, 2010). This set out the EC’s intention “to encourage a coordinated approach for initiatives linked to tourism and define a new framework for action to increase its competitiveness and its capacity for sustainable growth. It therefore proposes a number of European or multinational initiatives aimed at achieving these objectives, drawing in full on the Union's competence in the field of tourism as introduced by the Lisbon Treaty” (EC, 2010, p.2). The overarching goals of the framework are to make European tourism a competitive, modern, sustainable and responsible industry. The Commission sees the development of sustainable, responsible and high-quality tourism as one of 4 top priority fields, as the sector's competitiveness is closely linked to its sustainability. A range of actions are planned to promote this, amongst others indicator development and awareness raising campaigns, as well as the publication of a European Charter for Sustainable and Responsible Tourism. The communication further stresses that the tourism sector needs to take account of its environmental impacts, notably those on climate change, and aim to reduce these. In brief, EU tourism policy currently focuses on 3 main areas:

1. Mainstreaming measures affecting tourism.
2. Promoting tourism sustainability.
3. Enhancing the understanding and the visibility of tourism (EC DG ENTR, 2012).

The core principle of sustainable development underpins the overall climatic change policy. It is supported by other strategic and policy documentation concerned with tourism impacts and which specifically offer solutions to reduce the contribution of tourism to climatic change (UNWTO-UNEP-WMO, 2008).

This overarching policy structure provides a framework for the development of cycle tourism as a means to “improving welfare and living conditions in a sustainable way for the present and future generations” (Commission of the European Communities, 2006, p. 10). This is not necessarily axiomatic; it depends on the way in which cycle tourism networks are developed and markets attracted to them. Cycle routes need to be designed in accordance with the conceptual sustainable tourism framework outlined by the UNWTO and as endorsed by EU policy structures. The development of the Amber Trail in central Europe, for example, has been part funded through DG Environment programmes and the North Sea Cycle Route through INTERREG programmes focussing on regional cooperation. In other cases cycle tourism that encourages long haul air travel, for example charity event rides in Africa or Latin America, would be less acceptable in terms of environmental impact than cycle routes which stimulate cross border tourism between a number of EU countries.

1.5. EU support for cycle tourism since 2009

In 2009, the European Parliament adopted a resolution to include EuroVelo in the trans-European transport network. It “asks the Commission and the Member States to consider the EuroVelo-Network and Iron Curtain Trail as an opportunity for promoting European trans-border cycling infrastructure networks, supporting soft mobility and sustainable tourism” (EP, 2009).

In the same year, and in line with the tourism policy focus discussed in the previous section, the Commission started implementing a number of direct activities in the field of tourism:

- The Preparatory Actions “European Destinations of Excellence (EDEN)”, “Calypso”, and “Sustainable Tourism”;
- The Competitiveness and Innovation Programme (CIP).

Some of these activities have provided strong support for developing cycle tourism in Europe. Notably the preparatory action “Sustainable Tourism”, running from 2009 to 2011 (total budget €1.9 million), supported various projects on the Iron Curtain Trail and cycle tourism in a wider context. Under the 2009 preparatory action, the Commission organised 3 regional, awareness-raising Workshops for the “Iron Curtain Trail”, in order to:

- Highlight the increasing importance of cycling tourism, its benefits and regional economic impacts and stress the importance of developing the Iron Curtain Trail as a EuroVelo route.
- Present European best practices of cycling tourism from other EuroVelo routes and model implementations of parts of the Iron Curtain Trail.
- Explore the interest of countries and regions alongside the former Iron Curtain in implementing such a cycling trail and the way forward by identifying feasible/concrete initiatives on how the European Commission could assist its implementation in the years 2010 and 2011 (DG Enterprise and Industry, 2012a).

These workshops were held in Warsaw (Poland), Sopron (Hungary) and Sofia (Bulgaria), for the Northern, Central and Southern parts of the route respectively, between November 2009 and March 2010. The conclusions of these workshops will be further discussed in Chapter 5.

In 2010, under the same preparatory action, the Commission promoted networking between countries and regions along the former Iron Curtain towards the establishment of a trans-national cycle route, the “Iron Curtain Trail”. To support this, the call for proposals under “Promotion of cycling tourism in the European Union as means of sustainable tourism development” (ENT/TOU/10/611) was published. Its overall objective was to provide added value in improving the sustainability and competitiveness performance of European cycling tourism. The call aimed at supporting and promoting cross-border and trans-national cycling routes and cycle networks with a view to contributing directly or indirectly, to reducing CO₂ emissions in the tourism industry. 6 cross-border/transnational projects were awarded grants under the 2010 call, and implemented during 2011 (DG Enterprise and Industry, 2012b):

1. EuroVelo Central Coordination (EVCC), led by the ECF.
2. Iron Curtain Trail-North Section (EV13-ICT North), led by the Pomeranian Association Common Europe (PSWE, Poland).
3. Iron Curtain Trail-Central (ICT-Central), led by the Environmental Partnership Association (Czech Republic).
4. Iron Curtain Trail - Balkan Section (StrategIC), led by the Bulgarian Association for Alternative Tourism (Bulgaria).
5. The Balkan Velo Trail (BVT 13), led by the Association of South-western Municipalities, (Bulgaria).
6. EuroVelo 3 St James Way – Pilgrims route (EV3), led by the Danish Cyclists' Federation (Denmark).

In 2011, the preparatory action "Sustainable Tourism" focused more on cultural objectives. Nevertheless, the subsequent call for proposals "12/G/ENT/TOU/11/411B: Promotion of trans-national thematic tourism products in the European Union as means of sustainable tourism development", with the aim of supporting projects at transnational and cross-European level for promotion activities of different thematic tourism routes, also possibly linked to cycling tourism (DG Enterprise and Industry, 2012c).

The opportunities for further direct support for cycle tourism and EuroVelo from DG ENTR appear to be more limited, because of budget constraints and the many other tourism sectors vying for funding. Possibilities for co-financing cycling routes to be considered at Member State/regional levels are to be found through Structural funds, Rural Development funds, cross-border cooperation, etcetera (Lelonek, 2011). The potential of cycling as a valid alternative to motorised transport, and as a part of the solution to mitigate transport externalities (climate change, pollution, noise), is still recognised by the Commission. Support for sustainable transport infrastructure or tourism infrastructure are 2 possible investment areas. DG Regional Policy (Cohesion Policy) support for cycling in the 2007-2013 term can be considerable, but so far absorption of funds is limited (Münch, 2011). The INTERREG IV B Project "DEMARRAGE", a transnational cooperation project under which the Rhine Route, now EuroVelo 15, was developed, is an example of how cycle tourism projects can still be co-financed through regional (here: cross-border) funds.

Further evidence that cycle tourism and the EuroVelo network in particular is seen as a viable infrastructure development within the EU is the vote by the Transport & Tourism Committee (TRAN) of the European Parliament to include EuroVelo in the TEN-T network, in November 2011. A month later, in a non-legislative response to the European Commission White Paper on Transport, the European Parliament plenary confirmed that vote (EP, 2011).

1.6. Role of EuroVelo

EuroVelo is a European cycle route network which seeks to offer a sustainable Trans-European Network. It comprises fourteen long distance cycle routes covering a distance of about 70,000 km (see Figure 2). It is estimated that approximately 45,000 km are in existence. The network is managed by the European Cyclists' Federation (ECF) which is working to ensure that all routes offer high standards of design, signage and promotion throughout Europe. The network is mainly promoted via the ECF web page, with its own public user website planned for 2012.

The development of EuroVelo has involved a wide range of stakeholders in different countries to progress sections of the proposed network across Europe. EuroVelo seeks to make use of local knowledge and uses existing long distance routes in each country. The approach is essentially about upgrading a route to a high standard and then re-branding it as EuroVelo in terms of signage, interpretation and market communications. This is a fragmented process given the different levels of resources that are available in each country and thus **the network is currently best described as in the making**. Some parts of the network are well advanced such as Route 6 from the Atlantic to the Black Sea. Others are no more than lines on a map or routes which 'pioneer' cyclists follow to explore new destinations. This is a current weakness which is holding back a European wide transport facility and tourism offering.

In theory, at least, the EuroVelo network can deliver sustainable tourism and a reduction in carbon dioxide (CO₂) emissions at the same time in line with guidelines set out by the UNWTO (Simpson et al., 2008).

It has the potential to:

- Enhance domestic tourism and to reduce tourist travel in relation to longer distances to destinations thus causing a high contribution to CO₂ emissions.
- Encourage cross border tourism with minimal environmental impact and a low impact on travel distances and low level of emissions.
- Encourage people to make use of public transport to get to the cycle destination, thus causing less environmental impact than private cars or air transport.
- Re-use assets such as old railways, forest tracks and canal towpaths.
- Stimulate economic development in rural areas which are not prime tourism destination areas.
- Bring about a diversification of land based businesses to provide accommodation, attractions and food and beverage for local consumption.
- Offer local residents an improved quality of life through enhanced physical exercise.
- Generate near zero carbon dioxide emissions by users on the route.
- Offer a form of slow travel which encourages interest in the richness of local gastronomy, heritage and community life across the different countries and regions of the EU.

Figure 2: Map of the EuroVelo Network

Source: European Cyclists' Federation on <http://www.ecf.com/projects/eurovelo-2/>.

These are the assertions that we test in this report by analysing existing data, case studies and expert opinion. In summary, there is a close policy fit to EU tourism, transport and to climate change policies (Commission of the European Communities, 2001, 2007). This is especially in relation to the proposed outcomes of EuroVelo in terms of the following core dimensions:

- (a) The potential to reduce greenhouse gas emissions while retaining or even enhancing revenues from tourism.
- (b) The potential to encourage the role of rail, bus and coach as carriers of cyclists on longer journeys in the EU. In the USA, for example, many of the municipal bus operators have fitted cycle racks to the front of their vehicles including Metro Seattle, Phoenix in Arizona and in several locations in Florida.
- (c) The potential to stimulate enterprise through new small and micro businesses servicing cycle tourist needs.
- (d) If developed sensitively, it also offers opportunities to support bio-diversity, enhancement of cultural heritage and has the ability to create local economic impact and jobs in rural destinations. This applies to cycle tourism in general terms but also specifically to EuroVelo.

- (e) It would enhance sustainable tourism visibility. As a branded European network; it could become a destination of excellence in offering sustainable tourism best practice.
- (f) The ability to encourage 'slow travel' destinations as substitutes for long haul destinations so as to encourage nearer to home tourism opportunities.
- (g) Encouragement of stakeholder participation regarding regulation and sustainable tourism development.

1.7. Iron Curtain Trail

The Iron Curtain divided the East and West of Europe for nearly half of the last century; the proposed trail seeks to offer opportunities to discover over 20 countries, including 14 EU Member States, by cycling some 10,500 km from the Barents Sea to the Black Sea. The route stems from an original idea of MEP Michael Cramer and is currently in the early stages of development.

It is likely that only a small proportion of the market would cycle such a route end to end. The main market will look to experience a section of the trail in any given country through which it passes. It is a very good example of the potential of cross border tourism in that many visitors will choose to cycle between 2 cities (and across borders) as part of their holiday. A key benefit from its construction is that many regional economies could gain additional tourism in areas where economic development has been hampered for decades due to the Iron Curtain, a phenomenon known as 'Zonerandgebiete' in Germany.

The appeal, at first glance, is the heritage of the Iron Curtain. For example, there is an extensive range of monuments and museums that can be seen or visited. However, there is another important dimension. It is also a relatively untouched 'green belt' through which the cyclist would pass; the proposed route includes many national parks and special landscapes. It has been surveyed and exists on the ground but it has not yet been developed in terms of signage, quality standards of facilities and tourism potential.

Three guidebooks have been published by Esterbauer for the route:

- From the Barents Sea to the German-Polish border.
- From Usedom (an island on the Polish-German border) to the German-Czech border along the German-German border Trail.
- From the German-Czech border to the Black Sea.

There is also a separate guide for the German-German Border Trail along the 'Green Belt'.

The study reviews the potential of this new long distance trail, progress in its development since 2009 and its inclusion in the EuroVelo network.

1.8. Summary

There are a number of interfaces between the EU policy frameworks and the development of cycle tourism including positive sustainable tourism opportunities. This offers a solid framework to develop a low carbon transport and tourism product at a European level. The question remains: 'can citizens be encouraged to take a healthier holiday nearer to home with a much reduced environmental impact?' The following sections of the review seek to evaluate the extent to which EuroVelo, in particular, can be developed as a major cycle tourism product.

2. LITERATURE REVIEW AND RESPONSES FROM CONSULTEES

2.1. The cycle tourism market

Lumsdon (1999) estimated that cycle tourism (cycling holidays and holiday cyclists) accounted for between 2-4% of all holidays in Europe. He based this figure on discussions with experts and a survey of specialist cycle tour operators at the time. He also predicted that by 2009 this figure would be 6-12% recognising that some countries, such as Denmark and Germany, would enjoy higher levels and other countries would exhibit slower growth.

Although there are still no reliable data regarding the overall volume and value of the existing cycle tourism market (discussions with project managers indicate that such data are not yet being collected on a national or regional basis in most countries), the limited number of national or regional figures now available do indicate that Lumsdon's early estimate appears a little too optimistic. Though these figures are on various economic impacts of cycle tourism, they are a reasonable indication for volumes. In Denmark for instance, the share of total tourism turnover related to cycling is indeed very high: 13% in 2008 (Møller Munch, 2010), but this figure includes 'soft' forms of cycle tourism. In Austria, it is estimated that cycle tourism makes up between 5.5 and 6% of summer tourism full-time equivalent employment (Miglbauer, Pfaffenbichler, & Feilmayr, 2009). In Germany, direct annual turnover from cycle tourism (€3.9 billion) makes up 3% of the turnover from all day and overnight tourism (BMW, 2009). In France, 5.5 million holidays, i.e. 3.3% of all French holidays, are identified as 'cycle holidays'. However, this includes any holiday where the bicycle plays an important part, e.g. also some where day excursions are concerned (Mercat, 2009). Thus, the number of real overnight cycle holidays will be considerably lower. Various Mintel Reports on cycle tourism (Millington, 2009; Mintel, 2003, 2007) do not offer estimates of overall demand for Europe.

The cycle tourism market is predominantly domestic (see Table 2) and primarily about independent travel. However, the range of cycle holidays available illustrates a wide market spread for lightly packaged tours. Specialist tour operators offer cycling holidays in many European countries and in some cases long haul destinations (Millington, 2009; Mintel, 2007). Annex 2 provides a sample of the main tour operators and countries where holidays are offered. From the analysis for that annex and a word content analysis on cycle tourism of web sites in all EU27 countries it appears that France is by far the most important destination for cycle tour operators, followed by Austria.

In the absence of data across all countries the study team reviewed reports from those countries where studies have been undertaken in order to ascertain the demand for cycle tourism. These are principally Germany, Switzerland, The Netherlands, France and the UK. In these countries more detailed scientific studies have been undertaken which are publicly available (see Table 1 and for a more extensive overview that includes other regions and routes, see Annex 3). It has been possible to supplement these with market research findings from Denmark, Belgium, Czech Republic and Spain. Analysis of this material provides an overview of demand for cycle tourism across Europe. This generalised approach is possible because cycle tourists have very similar characteristics across all countries. They require a continuous, safe, pleasant route with good signage. However, we are aware of cultural and socio-geographical differences which affect the propensity to cycle in everyday life and to choose cycling as part of a holiday.

The main outbound markets of the European tourism sector are Germany and the UK. For example, the UK-based tour operator Inghams continues to offer a tour on the Danube Cycle Route as did Thomson for many years. Thomson now delivers cycle packages via its company, Headwaters. In Germany, TUI offers cycling under its activity holidays brand. Within the context of the overall outbound market, however, cycle tourism remains small scale. Austria, Denmark, Switzerland and France are the main receiving countries (see Table 2). In terms of turnover, the Danish market demonstrates a high percentage (68%) of international cycle tourists, the majority of which are Germans (Møller Munch, 2009). The overall cycle tourism market in Denmark is valued at 1.8 billion Danish crowns (Urfe, 2007).

Table 1: Volumes for cycle tourists and day cyclists

| Cycle Route/ Area/ Network | Elbe CR – Saxony | Elbe CR – Prignitz | Rhineland-Palatinate | Moselle CR | 4 CR Northeast UK * | Ruhrtal CR | Lower Austria | Danube CR Passau-Vienna | Veloland Schweiz | Germany | Netherlands |
|----------------------------|----------------------------------|--------------------|----------------------|------------|---------------------------|------------------------|---------------|-----------------------------|----------------------|------------------|---------------------|
| Country | D | D | D | D | UK | D | A | A | CH | D | NL |
| Year | 2003 | 2006 | 2006 | 2006 | 2006 | 2010/11 | 2006 | 2010 | 2011 | 2010 | 2010/11 |
| Source | Futour 2004 in TMBLM (ed.), 2008 | Öhlschläger, 2007 | ETI, 2007 | ETI, 2007 | Downward & Sustrans, 2007 | Biermann & Weber, 2012 | MANOVA, 2007 | ARGE Donau Österreich, 2011 | Utiger & Rikus, 2012 | Trendscape, 2010 | Fietsplatform, 2012 |
| Volume | | | | | | | | | | | |
| Overnight (x1.000) | 70 | 14 | 960 | 256 | 158 | 47 | 117 | 145 | 220 | 6,225 | 987 |
| Day cyclists (x1.000) | 420 | 2 | 17,400 | 153 | 75 | 1,100 | 383 | 146 | 4,800 | 549,053 | 167,000 |
| Total (x1.000) | 490 | 16 | 18,400 | 409 | 234 | 1,147 | 500 | 291 | 5,020 | 555,278 | 168,000 |

*C2C, Hadrian's Cycleway, Pennine Cycleway (NE-section), Coast and Castles (NE-section).

As mentioned previously, the focus of the market is largely domestic, especially in Germany and The Netherlands. The UK has attempted to stimulate a domestic market through the development of the National Cycle Network and there have been additional initiatives in Scotland and Wales partly related to mountain bike centres. Participation in total cycle tourism remains, nevertheless, relatively flat at between 2-4%. 2 main reasons are offered by Mintel (2007). Firstly, 1 in 4 people are not willing to cycle on the highways in the UK for fear of traffic. Secondly, there is an underlying trend towards sedentary living and obesity; people are walking and cycling less in everyday life than in previous decades. Where off-road facilities have been developed by Sustrans and its partners, demand for cycle day trips has been high such as on The Camel Trail in the South West of England which generates over 250,000 trips per year (Weston & Lumsdon, 2006). Provision for cycle tourism in Scandinavia has increased in recent years and the market is witnessing increased demand in everyday and leisure cycling although this is not supported by Danish data, where turnover loss in cycle tourism between 2004 and 2008 was particularly from Danish cyclists (Møller Munch, 2010). On the other hand, Denmark is still in the top 10 most favourite foreign cycling destinations for German cycle tourists (Giebeler & Froitzheim, 2012).

2.1.1. Trends

There are no firm trends reported in the literature. Cycle tourism is not recorded in a separate format in EuroStat tourism nor is it featured in many other estimates of domestic or international tourism. Therefore, there is no clear overview of trends. As part of the consultation process of the 2009 EuroVelo study, 348 cycle tourist experts were contacted by way of an internet survey to ascertain their opinions regarding the trends in cycle tourism. The survey was repeated for the 2012 update; a total of 426 responses were received². In the original survey there was a reasonable consensus that cycle tourism is static in most countries, however, in the 2012 survey there was an overall perception that it is now growing despite reduced levels of funding available from regional and local government. (See Annex 12 for the full survey results).

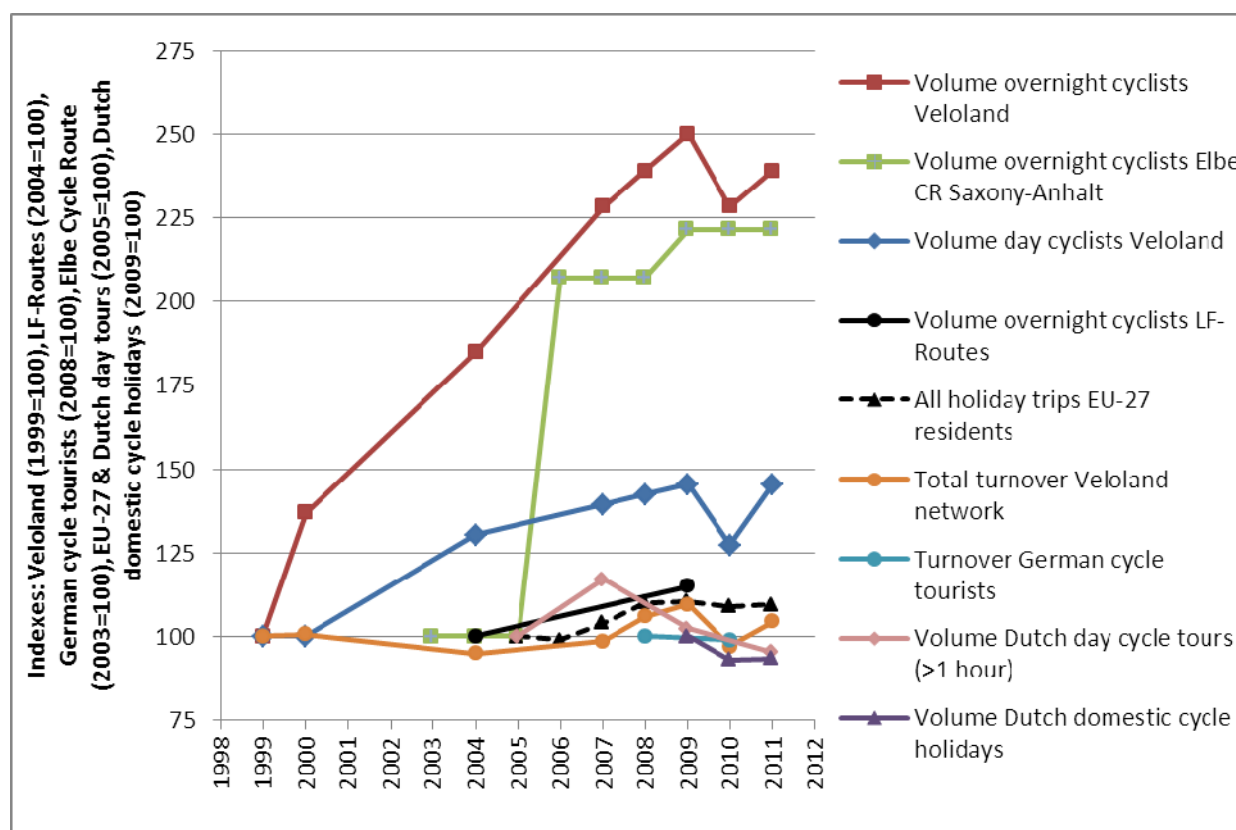
It is important, therefore, to note that the marginal growth of cycle tourism, both in terms of provision and market demand, is uneven across Europe. In countries such as Austria and France cycle tourism is important and still growing while in other countries, such as Denmark, Germany, The Netherlands and Switzerland it may have reached saturation. Figure 3 shows a limited number of developments that could be gathered from the literature:

- The network for which trends can best be shown is that of Veloland in Switzerland, thanks to constant monitoring since 1999. Here numbers have increased steadily for 10 years in a row. The number of overnight cyclists has doubled in a decade. However, throughout the years total turnover has remained virtually the same, although this may partly be caused by a change in calculation methods. All Veloland lines show a decline between 2009 and 2010, which was caused primarily by bad spring and summer weather conditions. The next year, 2011, saw good weather conditions and cyclist volumes and turnover returned to 'normal' (Utiger & Rikus, 2012; see also 2.2.3).

² The survey was distributed through a variety of channels, notably via the ECF network, the Cycling and Society discussion list on jiscmail, ADFC cycle tourism expert list, and the expert/contact list of this study's 2009 edition.

- For The Netherlands a 15% increase of overnight cyclists on the Dutch LF-Route network is reported between 2004 and 2008, but for the whole country tourism statistics show a decrease of day and overnight cycle tourists in the following years. Because of an overall decrease in day trips and domestic holidays, the share of day and overnight cycle trips of all trips has remained relatively stable (Fietsplatform, 2009a, 2012).
- For all of Germany, the development of turnover by German cycle tourists (domestic and abroad; overnight and day cyclists) was virtually static between 2008 and 2010.
- Apart from the Veloland network, the Elbe Cycle Route in Saxony-Anhalt is the only route where cycle tourists have been monitored consecutively over a large number of years. The jump between 2005 and 2006 may have been more gradual in reality, but growth of cycle tourism there is evident.
- For comparison, the development of all holiday trips (international and domestic) by EU-27 residents since 2005 is also shown in the figure (Demunter & Dimitrakopoulou, 2012).

Figure 3: Volume and turnover developments in cycle tourism (indexed)



Source: adapted from Demunter & Dimitrakopoulou (2012), Fietsplatform (2009a, 2012), Ickert & Rikus (2008), Peters (2012b), Trendscape (2010), Utiger & Ickert (2005), Utiger & Richardson (2000, 2001), Utiger & Rikus (2010, 2011, 2012).

Note: Data only for years with markers.

In Denmark, cycle tourism appears to have decreased, as total turnover from 'hard core' and 'soft core' cycle tourists has dropped by around 20% between 2004 and 2008 (Møller Munch, 2009, 2010), although it is not specified exactly which segments decreased³.

The absence of data makes it difficult to measure the extent to which cycle tourism may or may not be growing. However, there are some indications, especially in Belgium, France, Poland and the Czech Republic that there is some growth. For example, demand for some cycle routes such as the Prague to Vienna and Budapest trail is indicative of a general market development of the 'outdoors' in these countries principally for international markets. In the Czech Republic, 11% of the population reports cycling over 500 km a year for recreational purposes and 42% cycles at least once every 2 weeks (CzechMobil team, 2012). In contrast, cycle tourism remains a small niche product in countries such as Greece and Portugal.

The German cycle tourism market is the largest in Europe and it is developing a network, known as the D-Network⁴, in order to build on this demand. The share of foreign cyclists in Germany is around 5% (BMW, 2009). This figure is confirmed by a number of regional surveys (Dohmen et al., 2011; ETI, 2007; Öhlschläger, 2007; TMBLM (ed.), 2008), though some routes even show a percentage of up to 9% (see Table 2). This is lower than the overall German inbound tourism: international visitors made up 15% of all overnight stays in Germany in 2007 (Statistisches Bundesamt, 2008). ADFC cycle travel analysis reports from 2004 to 2008 show a relatively constant number of German residents who are 'reasonably sure' about planning a cycle holiday over the next years (an estimation of between 1.6 to 2.2 million people on average). The same goes for German residents using a bicycle 'often' or 'very often' during their holiday (6-7 million). However, the 2008 analysis indicated a slight decrease rather than further growth in cycling holidays (Giebeler & Froitzheim, 2008).

On the other hand, the importance of the German market for cycle tourism can be seen by its propensity to travel to other countries (see Table 2). For example, with regard to the Veloland Schweiz routes, German visitors make up 3% of all cyclists and account for 16% of holiday cyclists staying more than 2 nights (Ickert, Rommerskirchen, & Weyand, 2005). In Lower Austria, German tourists account for 12% of all cycle tourists and 30% of cycle tourists on the Lower Austrian part of the Danube Cycle Route (MANOVA, 2007). The German visitor is also important in the Scandinavian market. In Denmark, Germans brought in a larger share of turnover in the segment 'hard core' cycle tourists (51%) than the Danes (32%) in 2008. Norwegians (6%) and the Dutch (5%) also occupied relatively large shares in Denmark (Møller Munch, 2009). Note that these nationalities have different spending patterns, so these percentages do not correspond to volume shares (see Figure 11). Trendscape (2010) estimate that almost a quarter (23.6%) of all overnight cycle holidays and 5.9% of all cycle day excursions by Germans are made abroad.

In France, foreigners make up at least 13% of all cycle tourists, but their shares are much higher on routes like EuroVelo 6 (Loire) and 15 (Rhine) (Mercat, 2009). Cycle tourists from the Czech Republic appear to have a high propensity for cycling abroad: only 42% always stayed in their home country during the last 10 years. The most popular countries and routes for the Czech cycling abroad are Slovakia, the Danube Cycle Route, Lake Garda, Austria, Croatia, and the Elbe Cycle Route (CzechMobil team, 2012).

³ A 'hard core' cycle tourist is here defined as a tourist who has cycling as a travel motive and cycles "often" or "very often" on holiday. A soft-core cycle tourist has cycling as a travel motive and cycles "rarely" or "sometimes" (Møller Munch, 2009). So the 'hard core' group is most likely larger than only overnight cyclists.

⁴ See Annex 1.

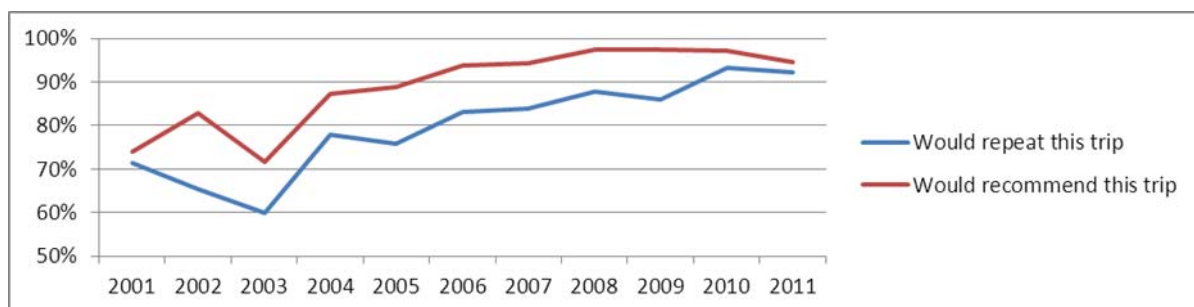
Table 2: Origin of cycle tourists

| Cycle Route/Area | Elbe CR - Saxony-Anhalt – overnight | Elbe CR - Prignitz – All | Rheinland-Pfalz - All cycle tourists | Lower Austria - All cycle tourists | Lower Austria - Danube | Veloland overnight cyclists (>2 nights) | Veloland – All cyclists | North Sea CR – North East England | France | Germany | D-Route 3 - overnight | Ruhr valley CR - overnight |
|------------------|-------------------------------------|--------------------------|--------------------------------------|------------------------------------|------------------------|---|-------------------------|-----------------------------------|--------------|---|-----------------------|----------------------------|
| Year | 2011 | 2006 | 2006 | 2007 | 2007 | 2004 | 2004 | 2001-2006 | 2009 | 2008 | 2010 | 2011 |
| Source | Peters, 2012b | Öhlschläger, 2007 | ETI, 2007 | MANOVA, 2007 | MANOVA, 2007 | Ickert et al., 2005 | Ickert et al., 2005 | Downward et al. 2007 | Mercat, 2009 | BMWf, 2009; Giebelier & Froitzeim, 2012 | Dohmen et al., 2011 | Biermann & Weber, 2012 |
| Origin domestic | 95% | 94% | 92% | 85% | 60% | 78% | 95% | 93.5% | 87% | 95% | 91% | 97.5% |
| Origin internat. | 4% | 6% | 8% | 15% | 40% | 22% | 5% | 6.5% | 13% | 5% | 9% | 2.5% |
| Austria | 1% | 1% | | 85% | 60% | | | | | 0.3% | | |
| Belgium | | | 2% | | | | | <1% | 1.2% | | | |
| Denmark | | | | | | | | | | 0.6% | | |
| France | 0.2% | | | | | | | | 87% | | | |
| Germany | 95% | 94% | 92% | 12% | 30% | 16% | 3% | 1% | 3.4% | 95% | 91% | 97.5% |
| Netherlands | 1.6% | 2% | 5% | | | | | 4% | 3.6% | 1.7% | 6% | 1.8% |
| Norway | | | | | | | | <1% | | | | |
| Poland | | | | | | | | | | 1.2% | | |
| Sweden | | | | | | | | <1% | | | | |
| Switzerland | 0.6% | 2% | | | | 78% | 95% | | 0.9% | 0.3% | | 0.6% |
| UK | 0.1% | | | | | | | 93.5% | 1.2% | | | 0.1% |
| Other | 0.4% | 1% | 1% | 3% | 9% | 6% | 2% | <1% | 3% | 0.9% | 3% | |

Developments along the Elbe Cycle Route in Saxony-Anhalt

The Saxony-Anhalt part of the Elbe Cycle Route offers a unique perspective on cycle tourism on a long distance route, being one of the only known stretches in Europe where monitoring of overnight cycling tourists has taken place over a longer period on an annual basis (2001-2011; Peters, 2012b). The Elbe Cycle Route⁵ is particularly interesting, as it has been the most popular route for Germans for many years. In the annual ADFC cycle tourism analyses, **the Elbe has been the number 1 most cycled, most beloved, and most planned-to-do cycle route in Germany in every year since 2004. The only route with a similar consistency and good scores over this long period is the Weser Cycle Route⁶** (Giebeler et al. 2012 and older ADFC cycle tourism analyses). In 2 further representative surveys in 2008 and 2010 the Elbe route also took first place in most cycled and most beloved route, and 2nd place of most likely next route (Trendscope 2008a, 2010). It should be noted that competition between cycle routes is immense in Germany, as 13 out of the 15 most cycled routes are river routes (the remaining 2 follow the coast of the Baltic Sea and that of Lake Constance). Nevertheless, Figure 3 shows that the number of overnight cycle tourists has remained constant (around 150,000) for the last 6 years. Admittedly, the method applied here is not the most reliable one (the volumes are extrapolated with the use of surveys distributed at accommodation), but the consistency is confirmed by the scores in the ADFC and Trendscope analyses. The next figure shows that obviously, the quality and experience of the route must have improved constantly, as satisfaction gradually increased to very high percentages. After all, cycle tourists (as all tourists) have actually become more and more focused on quality issues and the like. New route infrastructure after the severe Elbe flooding in 2002, cyclist friendly accommodation and continuous marketing efforts are some of the main reasons for these upward trends and the lasting success of the route (Peters, 2012a).

Figure 4: Satisfaction of overnight cycle tourists on the Elbe Cycle Route in Saxony-Anhalt



Source: Peters (2012b).

2.1.2. The cycle tourism market (volume and value)

No definitive response to the question as to the value of cycle tourism in the EU can be made either. In the absence of detailed data we have estimated the level of demand for cycle tourism in each country and have aggregated this to provide an outline figure. In 1999, Keeling (1999) forecasted a value of £14 billion per year for cycle tourism throughout Europe within 20 years. Koucky made a more conservative estimate based on 2005 figures. His estimate of €4-5 billion for cycle tourism in Europe is a little under 1% of

⁵ <http://www.elbe-cycle-route.com/start.html>

the tourism industry's turnover in Europe. Future market shares of 4%, based on Mintel (2003) and Eurostat tourism data for 2005 would indicate a total value of European cycle tourism of €8.5-11 billion in 2025 (Koucky, 2007). The wider literature refers only to turnover or added value figures for a number of cycle routes, regions and national cycle route networks.

An additional problem is the various methods used for calculating these figures; whereas some are based on a mixture of exact counting, survey results and extrapolation of these data; others are simple estimates of cycle tourism's share of total tourism turnover. For example, an old ADFC estimate for the German cycle tourism market of €5 billion/year has since been repeated in many recent reports on cycle tourism, including government reports (BMVBW (ed.), 2002a; PGV/plan&rat, 2007). Only very recently have researchers produced a more reliable figure for direct added value of German cycle tourists in Germany: this amounts to €3.7 – 3.9 billion/year (BMW, 2009; Trendscape, 2010). In France, The Netherlands and Denmark, annual direct added value of cycle tourism is estimated at €5.6 billion, €750 million and €400 million respectively (Fietsplatform, 2009b; Mercat, 2009; Møller Munch, 2010), but again, these figures are not comparable. The latter is already evident within the context of one country and study. For example, for cycle tourism in France a total value figure of €1.9 billion/year also exists, based on a more restrictive approach (Mercat, 2009).

Thus, our forecast of demand is not based on data being available in every country, but a less accurate estimate formulated on incomplete and scattered data (see Annex 3). Therefore, in this case, we have developed a model that uses fractions of existing tourism flows within Europe (EU27 plus Norway and Switzerland). Tourism departure data have been related to population size per country (Eurostat, 2008) assuming for every country a certain number of trips per capita and domestic and international tourism flows adapted taken from earlier work by Peeters, van Egmond & Visser (2004). In the 2009 EuroVelo study, it was estimated that there were 2,795 billion cycle tourism trips in Europe per annum, with a value in excess of €54 billion. One of the key points of criticism of these estimates was that they needed to be treated cautiously as they were based on estimations and a number of factors, and sometimes differed considerably from the figures in national studies (Krieger & Baum, 2011). In view of the wide range of methods employed, this kind of criticism was to be expected. Nevertheless, for this update the method and estimates for European cycle tourism have been revised.

As with the 2009 study, to estimate the proportion of the overall aggregate demand accruing from cycle tourism, and recognising that this varies significantly, countries were divided into bands of (cycle tourism) demand. However, in order to overcome some of the perceived deficiencies of the 2009 estimates 2 changes have been made to the method used. Firstly 3 new bands were added to the levels of demand, giving 6 in total. These now range from low to very high. This wider spectrum for levels of demand increases the sensitivity to national variations in cycle tourism. The second improvement was to link the banding of countries to the general use of bicycles as a mode of transport for each country rather than being based solely on expert opinion.

⁶ <http://weser-radweg.de/de/index.php?auswahl=0>

Table 3: Cycle tourism demand bands

| Demand band | Low | Low-Medium | Medium | Medium-High | High | Very high |
|---|---|---|---|--------------------|--|-------------|
| Share population with cycling as main mode of transport (The Gallup Organization, 2011) | ≤2% | >2 - 5% | >5 - <8% | 8 - 12% | 12 - 20% | >20% |
| Expert estimate share of cycle holidays of all holidays (%) | 0.5% | 1% | 1.5% | 2% | 3% | 3.7% |
| Countries attributed to demand band | Turkey**/** Bulgaria Luxembourg Portugal Malta** Cyprus Spain | Romania Lithuania Serbia**/** Norway*** Croatia**/** Macedonia**/** Italy Estonia Ireland Greece UK | Latvia Czech R. Slovenia France* | Slovakia Poland | Hungary Denmark Sweden Belgium Germany Finland Austria* Switzerland*/** | Netherlands |

*Austria, Switzerland and France have been moved up one demand band in order to compensate a lower daily usage share of cycling with demonstrated high shares of incoming cycle tourists (see Table 2). **These countries could not be included in the estimate for Europe due to missing background data. ***These countries do not feature in the modal split data of The Gallup Organization (2011). They have been attributed a 'cycling as main transport mode' share based on other, similar data on bicycle usage (see Figure 1) and the shares of neighbouring countries.

Factors were generated from cycle tourism data in countries (where they are collected) and allocated to each of these bands. These were then applied to overall tourism demand to generate an estimated demand for cycle tourism in each country. The demand for day cycling trips was multiplied by €15.39 and the demand for overnight stays by €439 (average spend per trip); these figures were estimated for the EuroVelo network from survey data (see the section 'A geographically based model' outlined in paragraph 2.4.2).

It is estimated that there are 2.295 billion cycle tourism trips in Europe per annum. The total estimated economic impact for these trips is almost €44 billion. Table 4 summarises the estimated demand and economic impact from these calculations.⁷

⁷ To reflect briefly on these country estimates: the figure for overnight trips in The Netherlands is nearly equal to that reported in (Fietsplatform, 2012). The day trip figure of 138 million is lower than the 167 million day trips reported for 2011 in Fietsplatform 2012, but these are all leisure trips of more than one hour. The total revenue estimate for The Netherlands is much higher than the €750 million reported in Fietsplatform 2009b, as average daily spending of day excursionists in The Netherlands is much lower than the overall average used in this report. The estimates for Germany are in the range of (Trendscope, 2010). Direct turnover reported there was €10 billion.

Table 4: Overview of estimate of economic value of cycle tourism in Europe (EU + NO + CH)

| Country | Daytrips (million) | Overnight trips (million) | Daytrips (billion €) | Overnight (billion €) | Total (billion €) |
|--------------------------|--------------------|---------------------------|----------------------|-----------------------|-------------------|
| Austria | 62 | 0.46 | 0.96 | 0.20 | 1.16 |
| Belgium | 39 | 0.21 | 0.60 | 0.09 | 0.69 |
| Bulgaria | 12 | 0.13 | 0.19 | 0.06 | 0.25 |
| Switzerland | 55 | 0.42 | 0.85 | 0.18 | 1.03 |
| Cyprus | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Czech Republic | 55 | 0.56 | 0.85 | 0.24 | 1.09 |
| Germany | 607 | 4.62 | 9.34 | 2.03 | 11.37 |
| Denmark | 42 | 0.32 | 0.65 | 0.14 | 0.79 |
| Estonia | 1 | 0.01 | 0.02 | 0.00 | 0.02 |
| Spain | 80 | 0.89 | 1.23 | 0.39 | 1.62 |
| Finland | 112 | 1.14 | 1.72 | 0.50 | 2.22 |
| France | 373 | 4.01 | 5.73 | 1.76 | 7.49 |
| Greece | 21 | 0.23 | 0.32 | 0.10 | 0.42 |
| Hungary | 98 | 1.00 | 1.50 | 0.44 | 1.94 |
| Ireland | 13 | 0.09 | 0.20 | 0.04 | 0.24 |
| Italy | 103 | 1.05 | 1.59 | 0.46 | 2.05 |
| Lithuania | 5 | 0.04 | 0.07 | 0.02 | 0.09 |
| Luxembourg (Grand-Duché) | 1 | 0.00 | 0.01 | 0.00 | 0.01 |
| Latvia | 9 | 0.10 | 0.14 | 0.04 | 0.19 |
| Netherlands | 138 | 1.01 | 2.12 | 0.44 | 2.57 |
| Norway | 23 | 0.20 | 0.35 | 0.09 | 0.44 |
| Poland | 101 | 1.06 | 1.56 | 0.47 | 2.02 |

| Country | Daytrips (million) | Overnight trips (million) | Daytrips (billion €) | Overnight (billion €) | Total (billion €) |
|----------------|--------------------|---------------------------|----------------------|-----------------------|-------------------|
| Portugal | 7 | 0.07 | 0.10 | 0.03 | 0.14 |
| Romania | 9 | 0.10 | 0.14 | 0.04 | 0.18 |
| Sweden | 134 | 1.20 | 2.06 | 0.53 | 2.58 |
| Slovenia | 9 | 0.07 | 0.15 | 0.03 | 0.18 |
| Slovakia | 17 | 0.14 | 0.26 | 0.06 | 0.32 |
| United Kingdom | 149 | 1.23 | 2.29 | 0.54 | 2.83 |
| Total | 2,274 | 20.36 | 35.00 | 8.94 | 43.94 |

Sources: Expert estimates plus Eurostat (2008), Peeters et al. (2004), The Gallup Organization (2011).

2.1.3. The profile of users

With regard to cycling holidays or cycling on holiday there are some common profiles. Board Fáilte reviewed the approach to segmentation of holiday cyclists in Eire in the 1990s (Board Fáilte, 1998). Following qualitative research, the cycle tourist market was divided into 'dedicated' cyclists, people who are very keen to spend their time cycling and will book holidays with cycling as the main pursuit, and 'participant' cyclists. This second segment enjoys cycling as part of a holiday but also seeks other activities such as fishing or walking. An evaluation of more recent studies indicates that this basic segmentation still applies.

The following generalised profile is based on an analysis of 8 market studies from 5 countries (ETI, 2007; Fietsplatform, 2009a, 2009b; Ickert et al., 2005; MANOVA, 2007; Mercat, 2009; Öhlschläger, 2007; Trendscape, 2010):

- Average age: 45-55 years;
- Gender: 60% male, 40% female. More equal shares with day excursionists;
- Education level: secondary education and significant minority university education and professional status;
- Group composition: 20% alone, 50% in pairs, 20% in small groups of 3-5 people;
- Household income: wide range but in a recent comprehensive German Study the mode was €24-36,000 per annum (Trendscape, 2010; see also Annex 4).

Data from the Elbe Cycle Route in Saxony-Anhalt show little changes in aspects like age groups or group composition over a longer period (2004-2011; Peters 2012b). The socio-economic characteristics of cycle tourists in many surveys are often similar (high education level and income, middle aged, travelling in pairs without children). These are independent of region or route which signals that cycling destinations can direct their marketing towards the demands of cycle tourists in general. The development of quality facilities in terms of cycling route infrastructure, also in rural, peripheral regions is a necessity given the market characteristics (Öhlschläger, 2007).

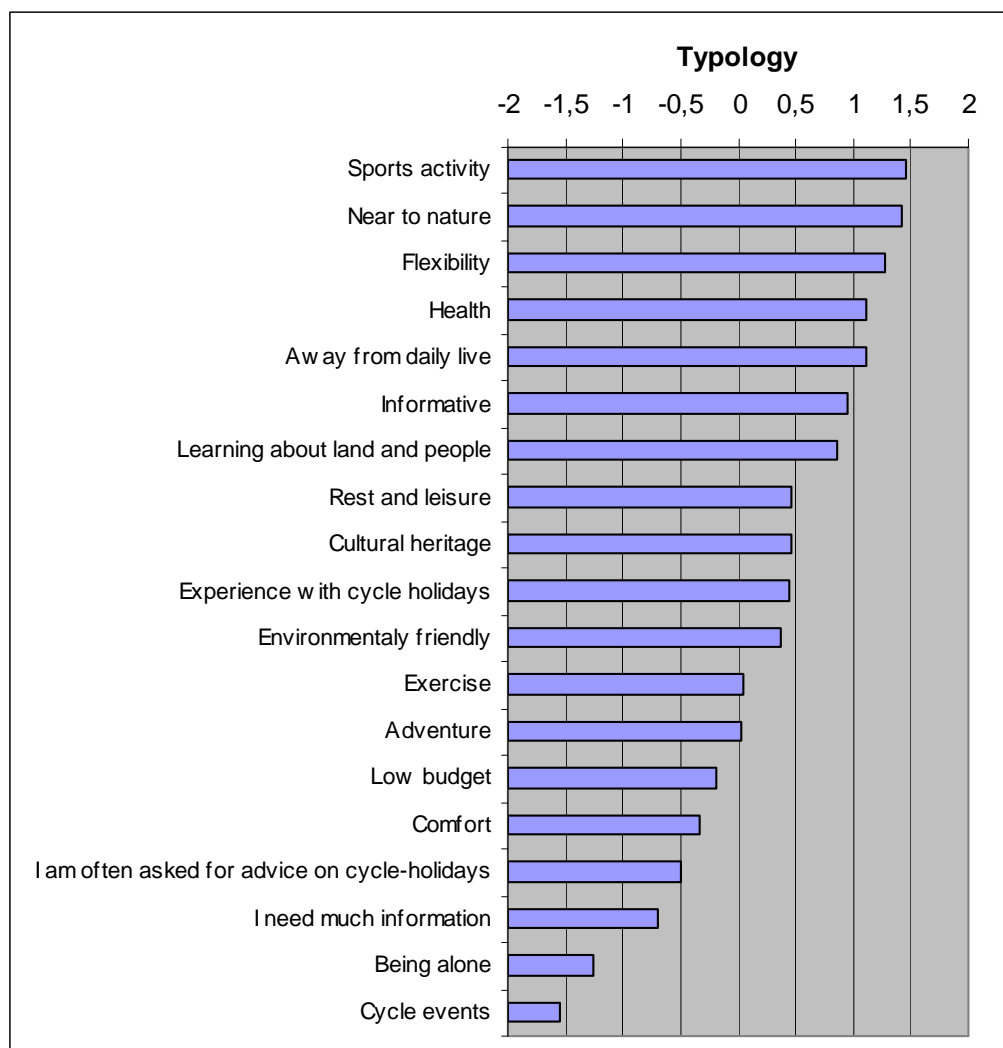
The day cycle excursion market is far broader. It is an important market in terms of serving the needs of local communities and encouraging holiday cyclists to spend more time cycling; duration is dependent on the quality of route provision (P. Downward & Lumsdon, 2001).

2.2. Motivational factors

Most studies indicate that cyclists are motivated to take cycling holidays and cycle day excursions because they enjoy cycling as a form of sport or physical exercise which is relaxing and healthy. Other core motivations include being close to nature and the ability to explore other places and landscape.

2.2.1. Stated motivations: the German case

Figure 5: Motivations given by cycle-holidaymakers



Source: Trendscope (2008b).

Note: -2 is the lowest score (not a motive at all) while +2 is the highest (clear motive).

Figure 5 shows a list of stated motivational factors which cycle tourists say encourage them to use cycle routes. Most are related: they refer to health, nature, relaxation and seeing sights as they pass by. Negative values are ascribed to the idea of it being low budget, about comfort, lack of information and cycle events. Thus, these cyclists expect to have some exercise, to improve their health, to enjoy some rest and leisure and at the same time learn something about another area. Factors such as cycling being inexpensive, spectacular scenery, environment (but passing through attractive landscape is important) and comfort are not primary.

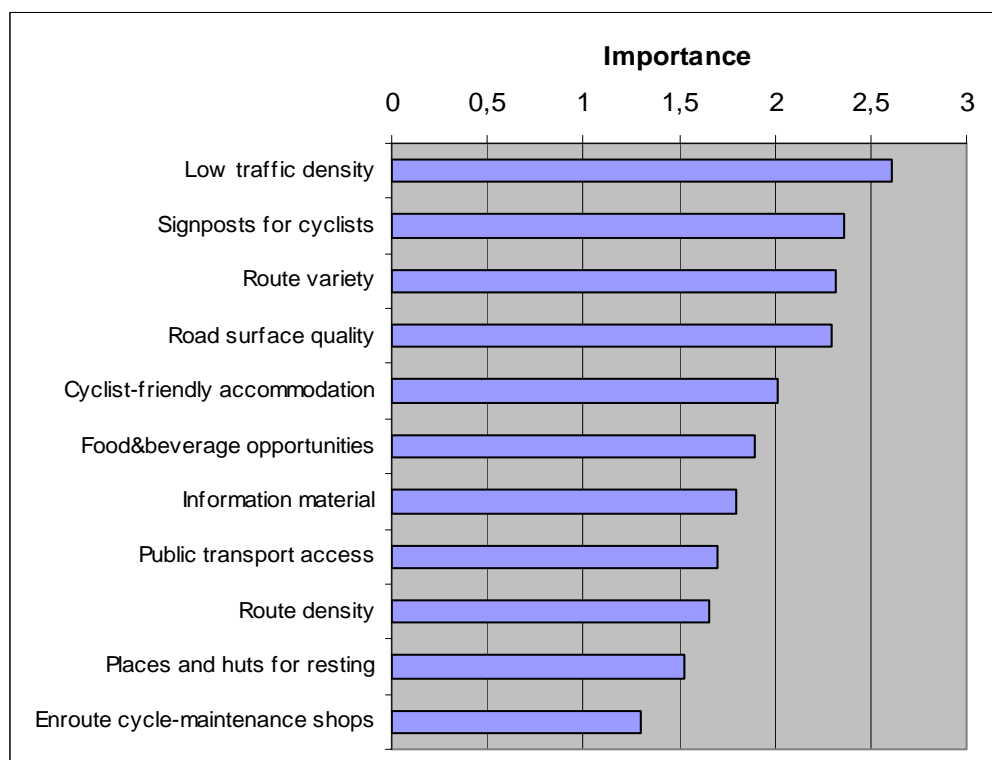
Table 5: Top motives for cycle tour/trip

| Source | Europäische Reiseversicherung AG & DZT 2008 in BMWi, 2009 | Öhlschläger, 2007 | MANOVA, 2007 | Mintel, 2003 |
|------------------------------|---|-----------------------------------|------------------------------------|-------------------|
| Route/Area/Sample | German cycle tourists | Elbe Cycle Route – Prignitz – All | Lower Austria - All cycle tourists | European cyclists |
| Nature/landscape | 87% | 91% | 47% | 31% |
| Sports/Fitness/Health | 83% | 60% | 47% | 29-40% |
| Joy/pleasure in cycling | 69% | | 75% | |
| Relaxation/Leisure | 69% | 66% | 37% | 57% |
| Time with friends/relatives | 57% | | 24% | 18% |
| Culture/Visiting attractions | 28% | 52% | 9% | 2% |

In reviewing several studies it can be seen that there are a number of recurrent factors which score highly such as the actual experience of cycling, relaxation and nature/landscape. This finding is verified by other studies (see Table 5).

2.2.2. Route characteristics

There is consistent evidence pointing to the preferred characteristics of cycle routes by leisure users. Trendscape (2008b) generated some data on wants or preferences of cycle tourists. Figure 6 shows the importance that German cyclists adhere to a cycling route or cycling area. Clearly safety (low traffic density), ease of use (signposting), route variety and accommodation/catering are more important than information materials, public transport access, route network density, cycle maintenance shops and infrastructure at resting places.

Figure 6: Importance of cycle-route or cycle-area qualities

Source: Trendscope (2008b).

Note: 0 is the lowest score while 3 is the highest.

A review of other available studies also illustrates the importance of consistent signage, interpretation and information regarding the landscape or sights to see. A study by Downward & Lumsdon (2001) in the UK noted key characteristics but stressed the importance of traffic free routes which are preferred by less experienced leisure cyclists. A survey of cycle tourists in the Saar-Moselle region by Klemm (1995 in ETI, 2007) found the most important aspects of cycling infrastructure was segregation from traffic, clear signage and sightseeing information. Segregation from motorised traffic was also by far the most important aspect for day cyclists in the Westhoek region of Belgium (Westtoer, 2007). Route signage and route description, as well as attractive landscapes and road quality, were the most important issues for cyclists in the Rhineland-Palatinate (ETI, 2007). Low levels of traffic on routes, route signage, road condition and route variation are the most important items for all German cyclists (Trendslope, 2008a). Both the 2004 Veloland Schweiz survey and the 2006 customer feedback report show the course of routes, route infrastructure and route signage to be the most important items for Veloland users (Gutbub, 2007a; Utiger & Ickert, 2005). A similar impression is given by Elbe Cycle Route users in the Prignitz area (Öhlschläger, 2007).

2.2.3. Patterns of behaviour

Seasonality

Studies in Germany and the UK indicate that for cycle tourists and day excursionists, the main season is from May until the end of August, with a share of 79% of all trips during these 4 months (Trendslope, 2008a). However, there are also peaks in terms of day cycling. In The Netherlands 74% of all day trips are made in spring and summer, 19% in autumn, and only 7% in winter (Fietsplatform, 2009b). On EuroVelo Route 6 in France

there is also a marked contrast between summer and the other seasons. There are significantly larger numbers of cycle tourists in the summer months and a predominantly day excursion market in the other seasons and at weekends (Altermodal, 2007). Thus, the seasonality effect is stronger for cycle tourists than for day excursionists. Temperature is another strong determinant for cyclists. In Brandenburg, Germany, cyclist numbers clearly follow rising and falling temperatures from January to December. This trend can be seen for all types of cyclists, whereby daily use cyclists show slightly higher user percentages in winter months than excursionists and tourists (Dohmen et al., 2011). Besides temperature, precipitation has negative effects on cyclist numbers, particularly on day excursionists. On the Veloland network, a longer snow season and cool and rainy early summer season caused a 12.5% drop in day excursionists and 9% drop in cycle tourists in 2010 compared to 2009 (Utiger & Rikus, 2011). In The Netherlands, a sunny and warm spring in 2007 attracted a far larger share of annual day excursionists (39%) than the spring of 2002 (28%), whereas in the summer of these 2 years the opposite happened due to weather circumstances (Fietsplatform, 2009b).

Length of stay

The balance between cycle tourists and day cyclists varies considerably between the various route networks, regions and single routes. The share of cycle tourists is generally low on networks and high on single routes which are often promoted specifically for tourism purposes. For instance, cycle tourists are estimated to make up between 4 and 7% of Veloland and LF-Route network users (Fietsplatform, 2004; Ickert & Rikus, 2008). For all of Lower Austria, cycle tourists are estimated to make up 17% of all cyclists, whereas this figure is 41% for the Lower Austrian part of the Danube Cycle Route (dwif-Consulting, 2007; MANOVA, 2007)⁸. In the Rhineland-Palatinate, the share of cycle tourists is 36% of those interviewed on 4 cycle routes. However, if only the Moselle Cycle Route is taken into account, the share of cycle tourists rises to over 60% (ETI, 2007)⁸. In the low-populated Prignitz area (Brandenburg) of the Elbe Cycle Route, overnight cyclists dominate with 85% (Öhlschläger, 2007).

Table 6: German cycle tourists: days spent cycling

| Duration | Cycle tourists (%) |
|------------------|---------------------------|
| 2-4 days | 30 |
| 5-7 days | 30 |
| 8-14 days | 32 |
| 15+ days | 8 |
| Total | 100 |

Source: Trendscape (2008a).

An analysis of the Trendscape study (2008) indicates that 30% of all German cycle tourists take short breaks, but that 62% make longer stays of between 5 and 14 days. Some 8% of cycle tourists enjoy longer stays of 15 plus days (see Table 6). The average length of stay for holiday cyclists appears to be between 5 and 8 days (ARGE Donau Österreich, 2011; ETI, 2007; Fietsplatform, 2004, 2009a; Ickert et al., 2005; MANOVA, 2007), with 7.7 as

⁸ Only cycle holidays with overnight stays. Excluding overnight guests making day excursions.

weighted average calculated from 18 different routes and networks (15 studies, 6 countries). Data from the Elbe Cycle Route in Saxony-Anhalt show a consistent length of stay (9 days) over a longer period (2004-2011; Peters 2012b).

Duration of cycling and distance per day

German cycle tourists spend longer cycling per day than day excursionists. Over 65% of cycle tourists spend over 7 hours in the saddle per day in contrast to only 5% of day cyclists. Some 62% of day cyclists spend between 1-4 hours cycling per day whereas only 11% of cycle tourists fall into this category (Trendscope, 2008a). On the Dutch LF-network, half of all cycle tourists cycle more than 6 hours per day (Fietsplatform, 2009a). The studies from France, Spain and the UK support this finding. In many cases, duration has been measured by distance. Based on 9 studies from Austria, France, Germany, The Netherlands, Switzerland, and the UK, overnight cyclists cycle 60 km on average per day. 11 (partly other) studies, including from Belgium, set the average distance for day excursionists at 41 km.

Accommodation

There is a substantial amount of information available regarding accommodation use by cycle tourists. A generalised picture is not entirely justifiable, so Table 7 shows an average percentage, an average range and anomalies. Note that most surveys used multiple answers, so the total in the Table adds up to more than 100%.

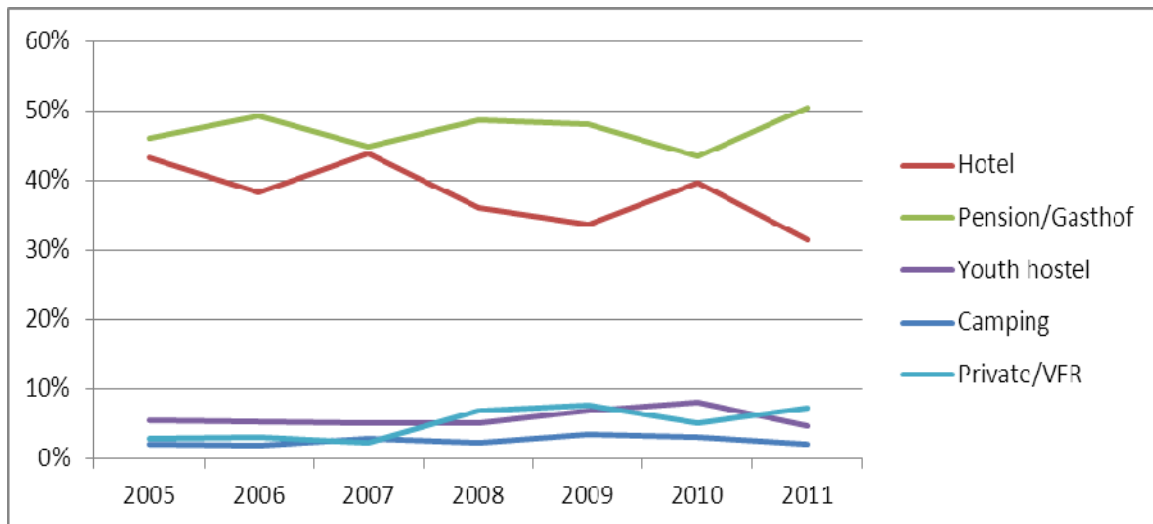
Table 7: Accommodation split of cycle tourists

| Accommodation type | Average use | Average range | Anomaly/Remark |
|--|--------------------|----------------------|--|
| Hotel | 40% | 30-60% | German holiday cyclists: 22% |
| Inn/Guest House/B&B/Farmstay | 45% | 30-60% | Veloland Schweiz: 15%; Route 6 in France: 9% |
| Camping | 15% | 10-20% | LF-Routes: 36%; Route 6 in France 41%; Denmark 38% |
| Youth Hostel | 7% | 5-13% | Danube/Lower Austria: 1% |
| Private Rooms/Relatives | 11% | 2-27% | Large variation |
| Other (incl. holiday homes/self-catering) | 15% | 5-15% | German holiday cyclists: 31% |

Source: Altermodal (2007), ETI (2007), Fietsplatform (2009a), Ickert et al. (2005), MANOVA (2007), Öhlschläger (2007), TMBLM (ed.) (2008), Trendscope (2010).

Data from the Elbe Cycle Route in Saxony-Anhalt show little changes in accommodation use over the years (see Figure 7). Apparently the growth in certified cycle tourist accommodation (Bett&Bike) has had no influence on this, or certified accommodations are well-spread over the categories.

Figure 7: Accommodation split of overnight cycle tourists on the Elbe Cycle Route in Saxony-Anhalt



Source: Peters (2012b).

The bicycle

There is a difference in terms of hiring bikes in the German market; 18% for holiday trips and 7% for day excursions (Trendscope, 2010). Both percentages appeared to have more than doubled since 2008 (Trendscope, 2008a), so the hire of cycles is becoming more important for the cycle tourism market. This growth stands apart from the electric bike⁹ trend, as of the 4% of German cycle tourists and excursionists who used an electric bike for their tour, only 10 to 19% had hired one. Nevertheless, 15% of German cycle tourists answered with a clear "yes" when asked whether they could imagine using an electric bike in the future (Trendscope, 2010). The ADFC also sees opportunities for the electric bike, specifically in regions with sharp climbs or regular strong headwind. One coastal region in Germany already reports a 50% capacity utilisation of their hire electric bikes in season. Electric bike sales in Germany have risen from 70,000 in 2007 to 300,000 in 2011 (Giebeler & Froitzheim, 2012). In The Netherlands, the share of electric bikes of all annually sold bikes has gone from 0% in 2002 to 15% in 2011 (Fietsplatform, 2009b, 2012).

2.3. Transport modes to the cycle route/destination

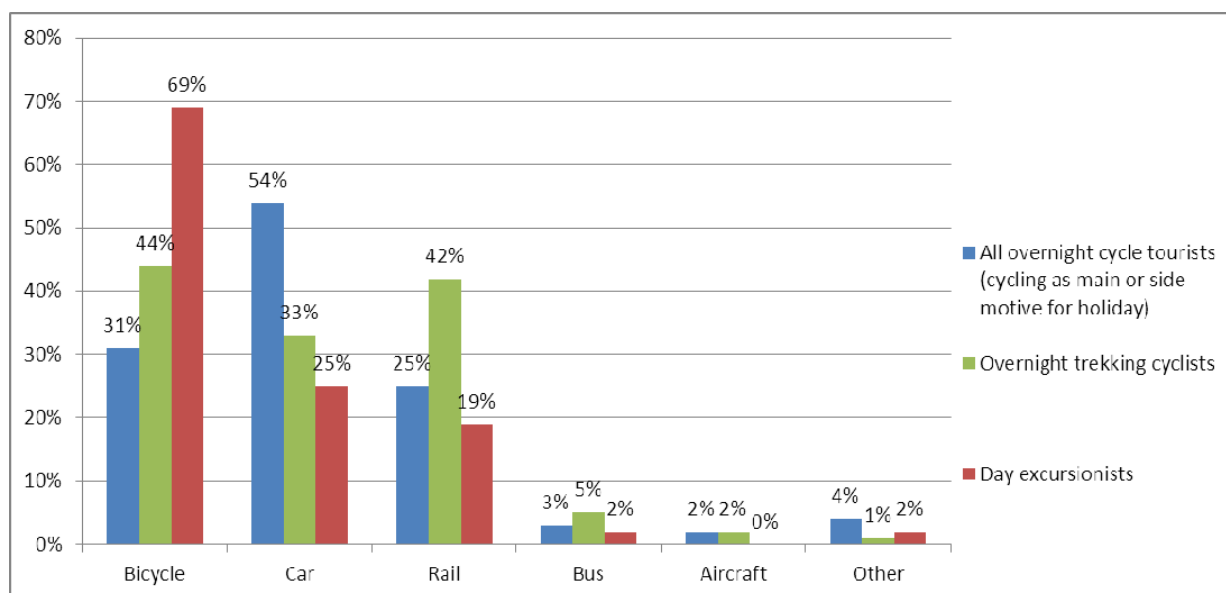
There is evidence from the Dutch, French, German, UK and Spanish markets about travel to cycling destinations. A significant majority of day excursionists cycle to and from home or holiday accommodation. For example, in Spain the rail trails known as 'Vias Verdes', or

⁹ "Electric bike" is the overarching term for bicycles with some sort of support by an electric motor, powered by a rechargeable battery. Most common types are the E-bike, which uses an electric motor that can power the bicycle completely, and the pedelec, where a torque and/or speed sensor deliver assistance only when the cyclist pedals. The E-bike is often considered as a motorised vehicle, but definitions of and laws for different types of electric bikes vary per country.

greenways, encourage mainly cycle and walk trips to access the routes (Aycart, 2004). This is similar for the German market at 69%, (see Figure 8) and in the North East of England, where over 80% accessed EuroVelo 12 directly from home or holiday accommodation (Cope, Downward, & Lumsdon, 2004).

With regard to cycle tourism there is also less emphasis on the car and air travel than for other forms of holidays. In the North East of England a study of the North Sea Cycle Route showed a high propensity of travel by train and ferry to join the route in contrast to other modes of travel (Cope et al., 2004). The Austrian, German and Swiss markets also indicate a favourable modal split towards sustainable transport. Altermodal (2007) noted that 76% of cycle tourists arrived in France from the bordering countries of Germany, Switzerland and The Netherlands. Over 50% of these visitors were from Germany. More than 40% had travelled by train. Figure 8 depicts transport access modes used by different types of German cycle tourists. It shows that more dedicated cycle tourists, whether day or overnight, generally tend to use more sustainable transport modes for getting to their routes than those that may have used the bicycle as a side activity on their holiday.

Figure 8: Modal split for access transport of 3 types of German cycle tourists



Source: Giebelier & Froitzheim (2012), Trendscape (2010).

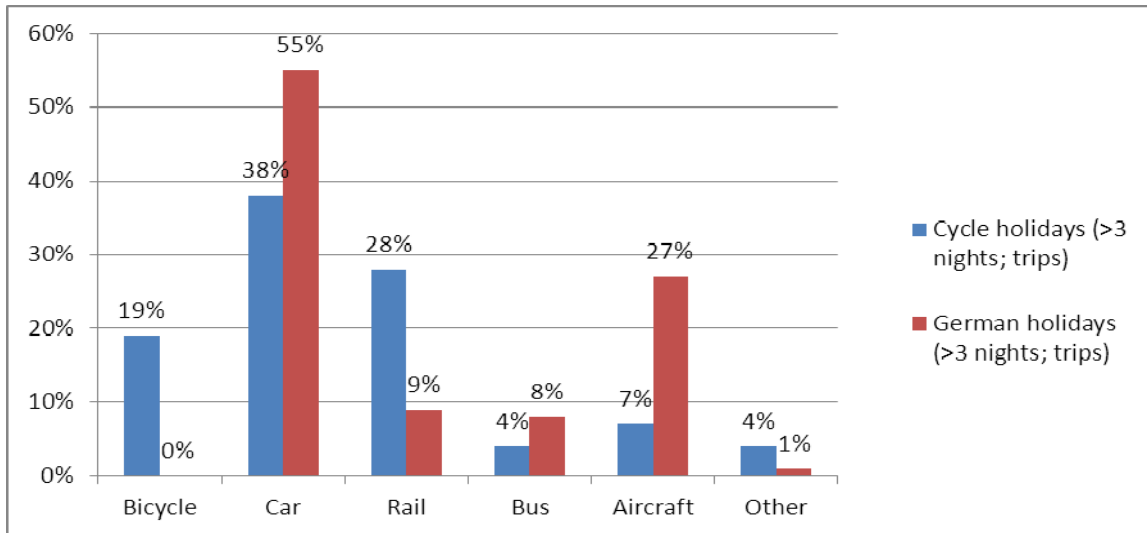
Figure 9 compares transport access modes used for German cycle holidays with those for all German holidays. It shows the following for cycle holidays compared to all holidays¹⁰:

- The share of rail is 3 times higher.
- The share of the car travel to the destination is 30% lower than all holidays.
- The share of air transport is 75% lower than all holidays.

A 3 times higher rail share than average tourists was also noted for cycle tourists on EuroVelo 6 in France (Mercat, 2009).

¹⁰ Note that the data on German cycle tourists in Figure 9 are different from those in Figure 8. They are based on additional data tables from the 2008 cycle tourism analysis by Trendscape.

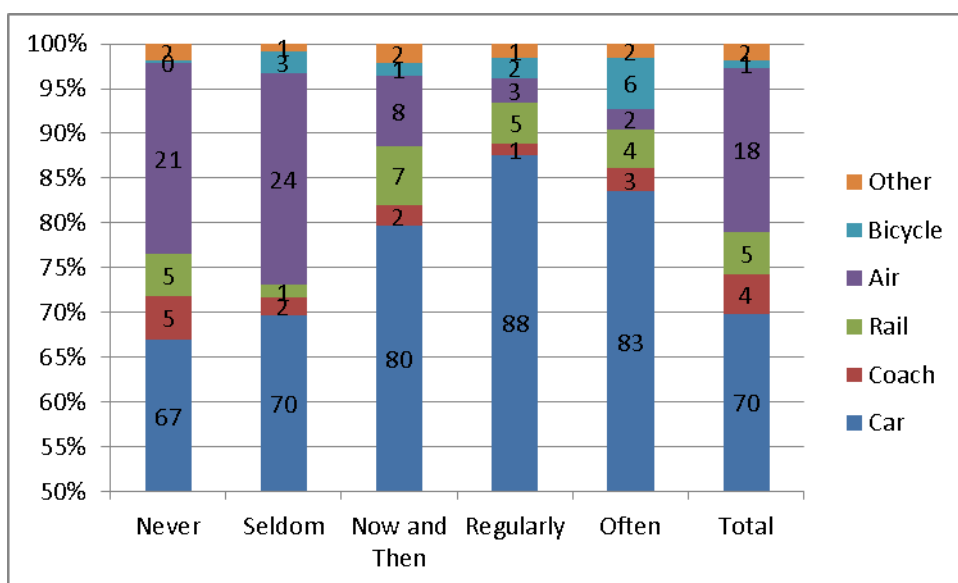
Figure 9: Modal split for access transport for German cycle-holidays and all German holidays (both for >3 nights)



Source: Giebeler & Froitzheim (2012), Trendscope (2010).

Figure 10 shows the modal split of travel to cycle tourism destinations by Dutch holidaymakers and their indication of the use of a bicycle during their holiday. There is a low share of air transport but a higher share of car travel which is related to higher frequency bicycle use during the holiday. During the holidays, where people have indicated either 'regular' or 'often use' of the bicycle for tours, the share of air transport is only one 10th of that for holidays without cycling (de Bruijn, Dirven, Eijgelaar, & Peeters, 2008). Note that the use of rail for holidays is much less for the Dutch than for the German tourist, both for non-cycling and cycling holidays. However, looking purely at overnight cyclists of Dutch LF-Routes, rail use is very similar to that of German trekking cyclists (40 vs. 42%; Fietsplatform, 2009a; Giebeler & Froitzheim, 2012).

Figure 10: Modal split for access transport for German cycle-holidays and all German holidays (both for >3 nights)



Source: de Bruijn et al. (2008).

Table 8 illustrates that the modal split depends on the nature of the route available and access to it by different forms of transport. For example, train travel is more important on the Ruhr than on the Moselle cycle route. Where day excursions are included, the cycle, as the mode for access, increases considerably (see also Figure 8). This varies from between 37% of access trips to 76% of all users of the long distance LF-routes in The Netherlands (in 2003). For Switzerland (Veloland) the share of sustainable transport modes (bicycle plus public transport) accounts for 82-83% of overnight stays and day trips combined. However, the distribution of the bicycle and public transport again depends much on the character of the trip: there is a much higher share of public transport access by day excursionists than for overnight (staying more than 2 nights) trips.

Table 8: Overview of modal split for some cycle routes and destination areas

| Access travel mode | Ruhr Cycle Route 2011 – overnight | Ruhr Cycle Route 2011 – day | Rheinland-Pfalz - All cycle tourists | Moselle Cycle Route - overnight | German overnight trekking cycle tourists 2010 | LF-Network Netherlands 2008 – overnight | Veloland 2004 (>2 nights) | Veloland 2004 (all) |
|------------------------------|-----------------------------------|-----------------------------|--------------------------------------|---------------------------------|---|---|---------------------------|---------------------|
| Bicycle | 16% | 62% | 46% | 17% | 44% | 74% | 24% | 59% |
| Train | 50% | 15% | 13% | 26% | 42% | 40% | 39% | 7% |
| Car | 32% | 21% | 39% | 55% | 33% | 14% | 13% | 12% |
| Air transport | | | | | 2% | | | |
| Public transport/ bus | 7% | 3% | | | 5% | | 14% | 2% |
| Other | | | 2% | 2% | 1% | 5% | 0% | 0% |

In contrast to the relatively low car use on the continent, UK cycle tourists to Scotland are heavily dependent on their car for travel to the destination; 75-80% travel by car (VisitScotland 2004 in Greenwood & Yeoman, 2006). The high car use could be partly explained by a high share of mountain bikers visiting Scotland as other UK studies report (see Cope et al., 2004 for example) higher levels of access made by cycle, train and other forms of public transport.

2.4. Economic impacts

2.4.1. Some local data

One important aspect of cycle route development is the way in which direct spending in local economies can support businesses and create or maintain jobs. This is particularly the case in areas which are not tourist honeypot sites and would not be able to attract visitor spending otherwise. In the UK, for example, a cycle route from the Irish Sea to the North Sea across a range of hills (The Pennines) is promoted as the C2C. It attracts over 100,000

trips per annum; 10-15,000 people per annum cycle for the entire length. Accommodation providers and shops in many of the rural areas through which it passes report that their businesses have developed mainly because of cycle tourist trade (Brown, 1997). In the Münsterland region (Germany), 1 million overnight cycle tourists and 12 million day cyclists were responsible for around 30% of the total annual turnover from tourism (BMVBW (ed.), 2002a). More recently, the development of the Danube Cycle Route in Serbia, also part of EuroVelo 6, has brought about an increase in the accommodation sector: 80 businesses were set up in 2008 alone (Limbert & Matijasevic (GTZ), 2009).

A good example of the expenditure brought about by a cycle route network designed to attract tourists can be found in Veloland Schweiz. The Swiss network has been monitored extensively from the project inception and use has been high from early stages of development. The total number of cyclists per annum was 3.4 million in 1999 and rose to 5 million in 2009, almost a 50% increase (Utiger & Richardson, 2000; Utiger & Rikus, 2010). After a temporary decline to 4.4 million in 2010 due to less ideal cycling weather, total volume was back at 5 million in 2011 (Utiger & Rikus, 2012). Around 220,000 of these trips are overnight cyclists; the other 4.8 million are day excursions (see Table 9). In 2011, the total turnover from all cyclists on the Veloland network was estimated at €118 million (CHF 143 million)¹¹. On average, overnight holiday cyclists (staying more than 2 nights) spend €71 per day, of which €28 is on accommodation and €25 on food and drinks (Ickert et al., 2005; Utiger & Ickert, 2005). Approximately, 520,000 overnight stays were estimated for 2011 (Utiger & Rikus, 2012). Cycle tourists provide the majority of turnover due to their length of stay and high daily spending. Another variable illustrating high spending by cycle tourists is spending per kilometre travelled; this is about 7 times higher than for day excursionists.

Table 9: Key figures Veloland Schweiz (year 2011)

| Trip type | Day | Short Break | Longer Holiday | Total |
|--|-----------|-------------|----------------|-----------|
| Classification: overnight stays | none | 1-2 nights | >2 nights | - |
| Cyclists | 4,800,000 | 130,000 | 90,000 | 5,020,000 |
| Distance cycled (million km) | 215 | 15 | 25 | 255 |
| Expenditure per person per day (€)* | 8.44 | 45.43 | 71.39 | - |
| Turnover (mill. S.Fr.)* | 64 | 23 | 56 | 143 |
| Spending per km travelled (S.Fr.) | 0.30 | 1.53 | 2.24 | 0.56 |

Source: Utiger & Rikus (2012).

*Turnover is based on spending data from 2004 survey (see Utiger & Ickert, 2005).

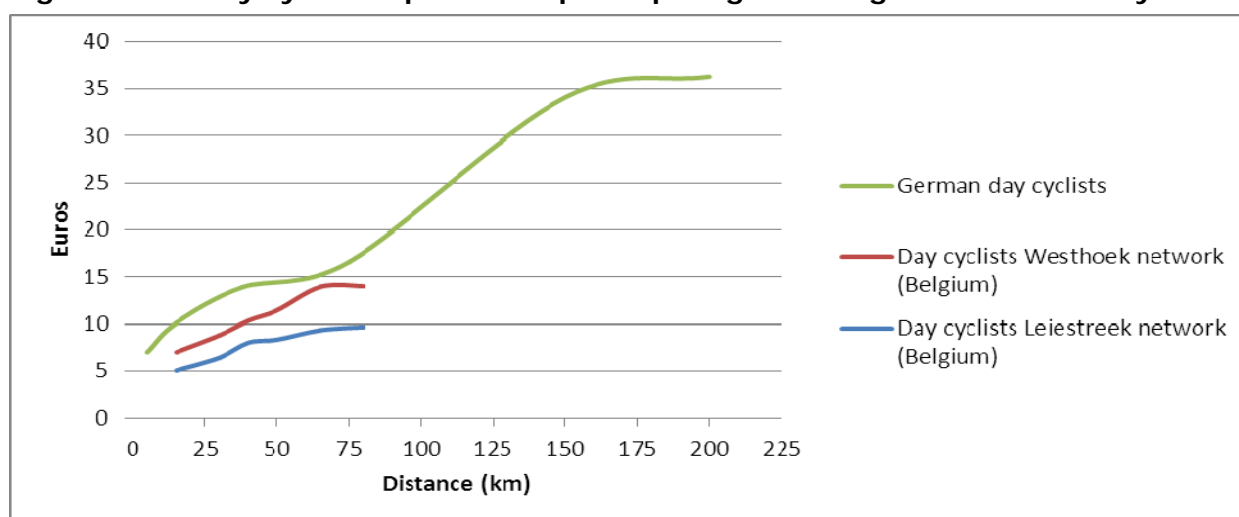
¹¹ Currency conversion of 1.1.2012 used.

A review of the available data on levels of expenditure across a number of regional and national studies illustrates the difference between cycle tourists and day cycle excursionists (see Table 10). From the studies shown in this table we used those that provided cyclist volumes, average length of stay and daily spending to calculate a trip-excursion weighted average¹². Cycle tourists spend on average €57.08 per day including accommodation. With a weighted average length of stay of 7.7 days, the average spend per trip is €439. Day excursion cyclists, on the other hand, tend to spend far less with an estimated average of €15.39 per day. It should be stressed that these studies are, to a large extent, not comparable due to the different methods and samples used. Nevertheless, the similarities of nearly all overnight (between €50 and €70 per day) and day excursion spending figures (between €10 and €20) are evident. Evidence from one cycle route (Elbe Saxony-Anhalt) point towards a relatively constant daily spending level over the years (2004-2011; Peters 2012b).

Based on 2 regional studies (Rhineland-Palatinate, Lower Austria) and 4 national studies (Veloland Schweiz, Dutch LF-Routes, France, German overnight cycle tourists), a more detailed look at the daily expenditure of overnight cycle tourists is allowed. Of the average €57.08, around 40% (€23) is spent on accommodation, 30% (€17) on food and drinks and another 30% (€17) on all other expenses like shopping (almost half this amount), local transport and activities (ETI, 2007; Fietsplatform, 2009a; Ickert et al., 2005; MANOVA, 2007; Mercat, 2009; Trendscape, 2008a). Day excursionists usually spend around 60 to 75% of their daily total on food and drinks (BMW, 2009; ETI, 2007; Fietsplatform, 2009b; Ickert et al., 2005; Trendscape, 2008a). A study in the USA also points to additional spend by users of long distance trails in local retail cycle shops (Bikesbelong, 2009).

Figures on German day cyclists (BMW, 2009), day cyclists on 2 regional route networks in Belgium (Westtoer, 2007, 2008b) and cyclists on a network in the North East of England (Downward, Lumsdon, & Weston, 2009) show that spending increases with the distance (or duration) cycled per day (see Figure 11). For overnight cyclists the increase is not likely to be this steep, as the high share of accommodation costs remains the same, regardless of distance cycled.

Figure 11: Day cyclist expenditure per trip length in Belgium and Germany



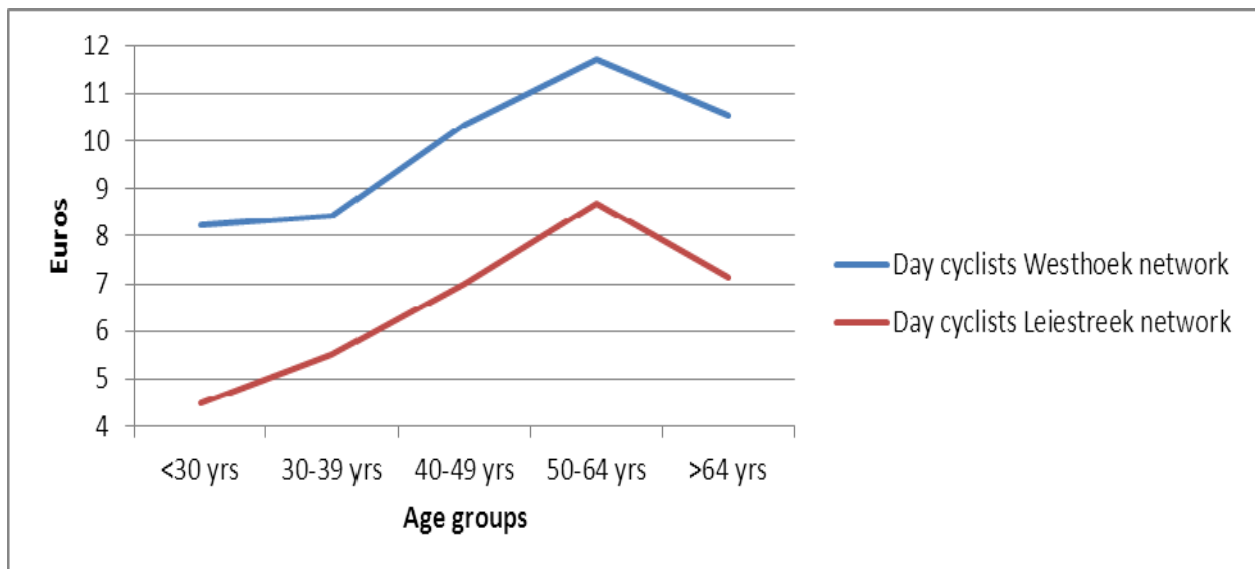
Source: BMW (2009), Westtoer (2007, 2008b).

¹² This means that studies which report large cyclist volumes, like Trendscape (2010), have a much stronger influence on the averages than studies on single cycle routes with low volumes. For average daily spending by overnight cycle tourists, the data from 17 routes/networks could be used. For the average of day excursionists, the data from 22 routes/networks were used.

Daily spending by day cyclists (see Figure 11) can be compared with average spending by all day excursionists. As an exemplary case, this is done for Germany. A comparison on the basis of main holiday transport mode used is not possible due to a lack of data. Daily spending varies considerably per federal state and within states. In general, average spending is higher in larger urban areas and lower in smaller towns and rural areas. Thus, overall average daily spending by day excursionists is €28 per person per day, but €19.40 in rural areas, €23.90 in small and medium-sized towns and €35.10 in cities over 100,000 inhabitants. Expenditure on day excursions by German tourists abroad is €45 on average (Maschke, 2005). As most cycle tourism takes place in rural areas, a comparison with this figure is most appropriate. Then, spending by day cyclists is only slightly lower than spending by the average day excursionist (€15.39 vs. €19.40).

Figures from 2 regional networks in Belgium indicate that there is a considerable difference of expenditure by day cyclists depending on their origin. Day cyclists living in the network area spent far less (€ 5.69-6.84) than those travelling into the area for the day (€ 9.61-13.80) and those staying in the area for holiday purposes (€ 14.70-16.70) (Westtoer, 2007, 2008b). Further differences in daily spending can be seen per age group (see Figure 12). Conveniently, the highest spending corresponds with the age group that cycles most (see section 2.1.3).

Figure 12: Day cyclist expenditure per age group on Belgian route networks

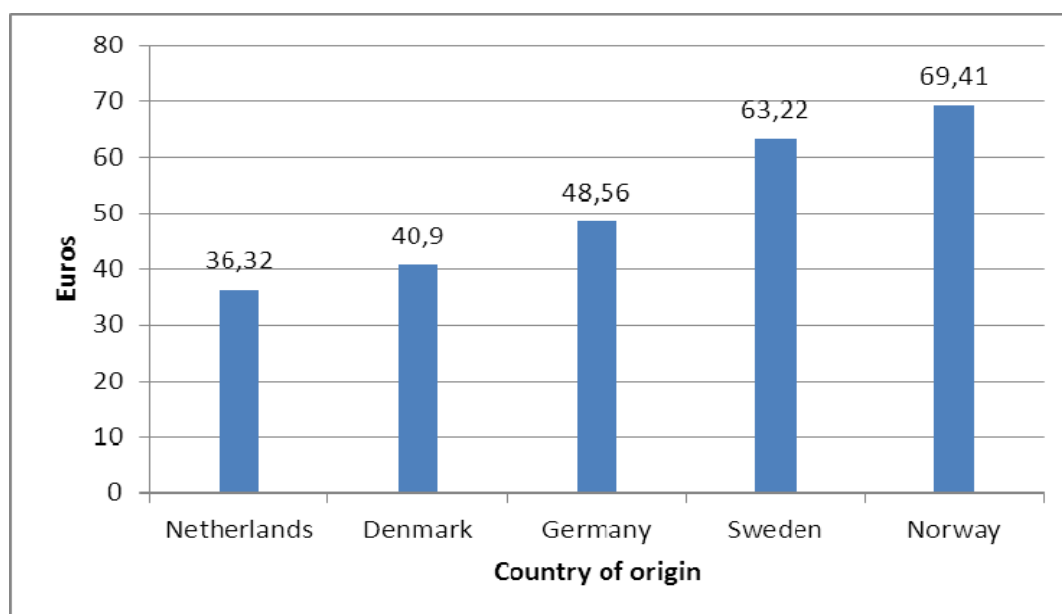


Source: Westtoer (2007, 2008b).

Spending of overnight cyclists can be compared with holiday spending by all EU-27 residents (domestic and outbound holidays). In 2011, EU-27 residents spent €64 per night, i.e. slightly more than the weighted average for overnight cycle tourists (€57), but clearly within the range shown in Table 10. EU-27 residents spent more on outbound (€82) than on domestic holidays (€50), and more on short holidays (€79) than on holidays of over 3 nights (€60) (Demunter & Dimitrakopoulou, 2012). Considering the average length of a cycle holiday (7.7 days), daily spending on cycle holidays in Europe appears similar with spending by all EU tourists. Per trip, spending by cycle tourists looks even more favourable, with €439 comparing to the average of €349 per holiday by EU-27 residents. However, for EU-27 holiday spending, differences are large between domestic and outbound, and long and short holidays (see Demunter & Dimitrakopoulou, 2012).

Further comparisons can be made on the national level. The spending of overnight cycle tourists and all overnight tourists in Germany is nearly equal when an average of the expenditure figures for the 3 accommodation forms used in German statistics is taken for the latter group (€57 vs. €56). Regional differences of this national comparison do exist. In France, cycle tourists (all types) spend around €10 more per day than average tourists, mainly due to higher spending on accommodation and food & beverage. With overnight cycle tourists, the difference may be even larger (Mercat, 2009). For all long domestic holidays by Dutch holidaymakers, spending was only €22 per day and €205 per trip in 2008 (CBS, 2009); much lower than the €71 per day and €550 per trip noted for cycle tourists on the LF-Route network in the same year (Fietsplatform, 2009a).

Figure 13: Daily spending by 'hard core' cyclists in Denmark per country of origin



Source: Møller Munch (2009). Currency conversion rate of 6.3.2012.

Finally, one study shows that daily spending by cycle tourists can vary per country of origin. Figure 13 presents daily spending by 'hard core' cyclists in Denmark (see explanation in footnote 2). Here, Norwegian cyclists, for instance, spend 90% more per day than Dutch cyclists. In the end, the availability and density of various products for cycle tourists in a region (gastronomy, local products, shopping, etcetera) also determine the amounts they (can) spend to a large extent (Mercat, 2009; Quack & Hallerbach, 2012).

Table 10: Daily expenditure for overnight and day cyclists

| Cycle Route/ Area/Network (FP/FS = Federal Province/State) | Country | Year | Daily spending overnight cycle tourists | Daily spending day cyclists | Source |
|---|---------|------|--|-----------------------------|--------------------------------|
| Danube CR Lower Austria | AT | 2006 | 77,00 | 32,90 | MANOVA, 2007 |
| Danube CR Passau-Vienna | AT | 2010 | 73,00 | 25,00 | ARGE Donau Österreich, 2011 |
| Lower Austria (FP) | AT | 2006 | 72,00 | 9,80 | MANOVA, 2007 |
| Brugse Ommeland network | BE | 2008 | - | 10,20 | Westtoer, 2008a |
| Leiestreek network | BE | 2007 | - | 7,62 | Westtoer, 2008b |
| Westhoek network | BE | 2006 | - | 10,94 | Westtoer, 2007 |
| EuroVelo6 (Switzerland) | CH | 2006 | 86,00 | 20,00 | Région Centre, 2007a |
| Veloland Schweiz (overnight is >2 nights) | CH | 2004 | 71,39 | 8,44 | Ickert et al., 2005 |
| Brandenburg (FS) | D | 2010 | 65,50 | - | Dohmen et al., 2011 |
| Elbe CR - Prignitz | D | 2006 | 62,00 | 20,00 | Öhlschläger, 2007 |
| Elbe CR - Saxony | D | 2003 | 57,00 | 12,00 | TMBLM (ed.), 2008 |
| Elbe CR – Saxony-Anhalt | D | 2011 | 66,55 | - | Peters, 2012b |
| Germany | D | 2007 | 64,60 | 16,00 | BMW, 2009 |
| Germany | D | 2010 | 53,23 | 18,61 | Trendscope, 2010 |
| Mecklenburg-Western Pomerania (FS) | D | 2003 | 44,00 | 8,50 | dwif-Consulting, 2004 |
| Mosel Radweg | D | 2006 | 55,10 | 19,20 | ETI, 2007 |
| Rheinland-Pfalz (FS) | D | 2006 | 61,95 | 22,16 | ETI, 2007 |

| Cycle Route/ Area/Network (FP/FS = Federal Province/State) | Country | Year | Daily spending overnight cycle tourists | Daily spending day cyclists | Source |
|---|---------|------|--|-----------------------------|-----------------------------|
| Ruhrta CR | D | 2011 | 75,60 | 14,20 | Biermann & Weber, 2012 |
| Saarland (FS) | D | 2004 | 44,00 | 8,50 | dwif-Consulting, 2005 |
| Denmark* | DK | 2008 | 47,00 | - | Møller Munch, 2009 |
| EuroVelo6 (France)** | F | 2006 | 67,00 | 12,00 | Région Centre, 2007b |
| Bourgogne** | F | 2009 | 68,00 | 12,50 | Bourgogne Tourisme, 2010 |
| Netherlands (overnight for LF-network; day for whole country) | NL | 2008 | 71,00 | 6,18 | Fietsplatform, 2009a, 2009b |
| Öland*** | SE | 2009 | 61,00 | 16,40 | Ramböll, 2010 |
| C2C route, Hadrian's Cycleway, Pennine Cycleway (NE-section), Coast and Castles (NE-section) (part of EV12) | UK | 2006 | 53,00 | 15,50 | Downward & Sustrans, 2007 |
| Weighted average | | | 57.08 | 15.39 | |

*) Weighted average based on contribution to turnover per nationality (**). This daily spending figure for day cyclists is for those that actually spent money. Région Centre (2007b) and Bourgogne Tourisme (2010) report a much lower average spending for all day cyclists. (***) Currency conversion 10-2010 used (these are the average spending figures of the 2009 EuroVelo study).

2.4.2. EuroVelo demand and economic impact

A geographically based model

The scientific literature does not give a comprehensive method to estimate the demand for a new cycle route or network. Some material is available for France, Germany and Switzerland, but this is not easily translated to other parts of Europe. From the data sources that have been made publicly available on cycle tourism explored in this study the study team has developed an approach to modelling the demand and economic impact of EuroVelo routes. The model has been updated from its original 2009 version, including new study results and the addition of an extra determining factor to estimate the number of day trips.

The general model is as follows:

Cycle Holidays

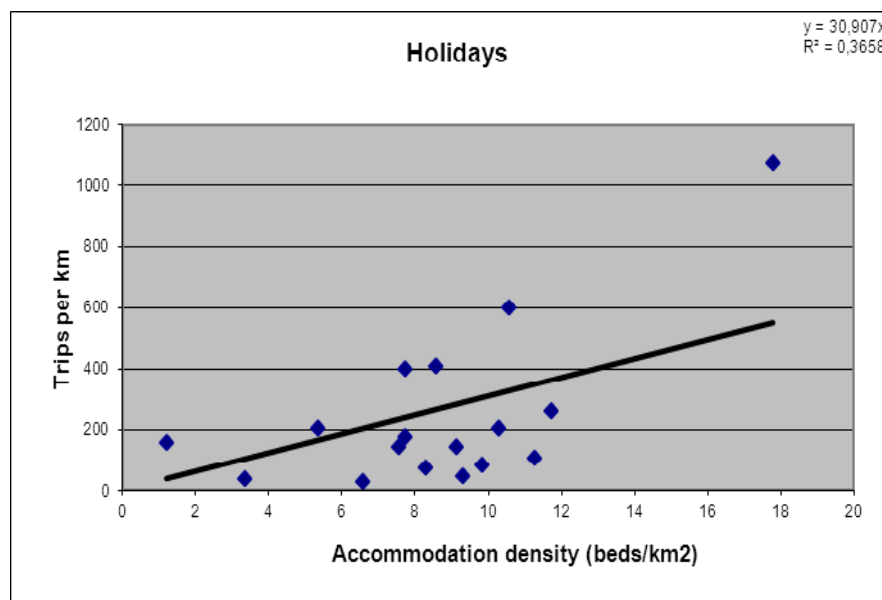
- trips/km = f(beds/km²)
- direct revs = f(€ per trip)

Cycle Day trips

- trips/km = f(% population with bicycle as main mode (The Gallup Org, 2011)*pop/km²)
- direct revs = f(€ per trip)

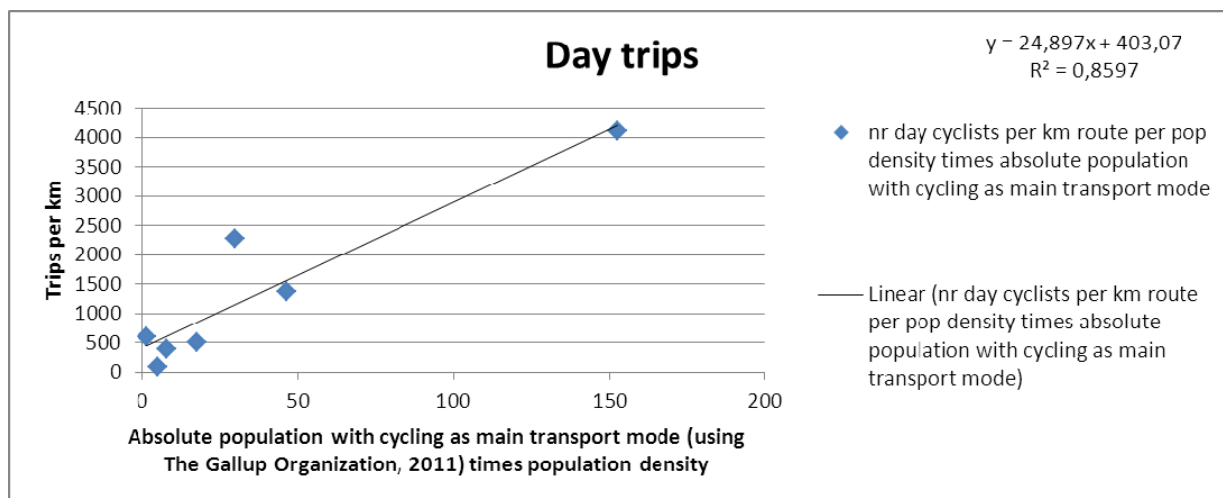
The relationships have been found to be most significant by using a multitude of data like GDP/km², Population/km², daily modal split, nights/km² and beds/route-km. Population density and bed density have also been used for estimating demand on the French and Swiss parts of EuroVelo 6 (Région Centre, 2007b). The same data have been used as given in Table 10 in section 2.4.1. The data for The Netherlands and the Pennine Cycleway were assessed to be relatively strong outliers (extreme values) and have not been used in Figure 14. Thus, the economic impacts are taken from section 2.4.1 and amount to €439.81 per cycle-holiday trip.

Figure 14: The relation between the tourism accommodation infrastructure and the number of overnight cyclist per km of a route



For day excursions, the data used are shown again for the same cases as for holidays. Figure 15 shows the resulting relationship for day trips. Unlike the 2009 model, the national figures on cycling as a main mode of transport (The Gallup Organization, 2011; see Figure 1) have now been added and multiplied with population density, in order to arrive at a better estimate of day trip volumes. In this case, Germany, Brandenburg and the Rhineland-Palatinate were outliers that have not been used for the model definition.

Figure 15: The relation between the tourism accommodation infrastructure and the number of overnight cyclist per km of a route



From the 2 figures the following simple linear model has been derived:

- For holidays the number of trips per route kilometre per year is 30.91 times the number of beds (all accommodation types) per square kilometre of the NUTS 3 region through which the route passes or within which the network is situated. The revenues are approximately €439 per trip. The average length of stay is 7.7 days.
- For day excursions, the number of trips per kilometre per year is 24.9 times the number of people per square kilometre of the NUTS 3 region times the (national) share of the population that uses cycling as their main mode of transport through which the route runs or the within which the network lies at the NUTS 3 level. The revenue is calculated at €15.39 per trip.

An estimate for the EuroVelo network

The model described in section 'A geographically based model' has been used with country level data. The distances of existing and planned EuroVelo routes were taken from the description on the ECF map or measured where necessary (European Cyclists' Federation, 2008). The 2 newly designated EuroVelo routes, 13 and 15, have been added to the original estimates. Based on the assumption that the total EuroVelo network has been completed the value of it is estimated at the following per year:

Table 11: Estimated annual volumes and direct revenues of the EuroVelo network

| | Volume | Direct revenues |
|-----------------------|----------------------|----------------------|
| Overnight cycle trips | 14.50 million | €6.38 billion |
| Day trips/excursions | 45.54 million | €0.70 billion |
| Total | 60.04 million | €7.08 billion |

Thus, in conclusion, it is estimated that a total of over €7 billion of direct revenue can be attributed to EuroVelo as a cycle tourism product. As EuroVelo makes use of

existing routes, this value represents the gross revenues for the total network, not the net additional revenues of EuroVelo concept itself. These net revenues depend on the way the concept impacts development in relation to missing stretches and by adding marketing value. There is also the consideration of the micro-multiplier in each locality bringing indirect and induced expenditure. This can be important when local supply chains and local business development circulate money in local economies.

It should be stressed that the projections given by the model are for good to ideal circumstances. For instance, this means an adequate and regular supply of facilities like cafés, restaurants, shops, etcetera. If these are absent or intermittent, the average spending figures used cannot be reached. In the 2 studies on EuroVelo 6 and the Bourgogne region in France, for example, it was noted that a large percentage of day excursionists reported not spending anything during their cycling trip. Hence the average daily spending for all day excursionists (including those not spending) on this route and in this region were €0.24 and €1.00 respectively. The Bourgogne study also mentions that the share of those not spending is much higher than reported for Germany and Switzerland, apparently due to a low supply of 'spending facilities' (Bourgogne Tourisme, 2010; Mercat, 2009).

2.4.3. CRDFM (Cycle Route Demand Forecast Model)

The Cycle Route Demand Forecast Model (CRDFM version 1.0.3) is a tool to help planners and designers of cycle routes or cycle networks to determine an estimate of the demand and gross revenues that a route may bring. The model is programmed in Microsoft Excel (version 2003 or higher) and uses a user-friendly interface. It is geographically based and requires input from the user about the distance of the route within each NUTS 3 region it enters. NUTS 3 regions are defined by EuroStat. Section 2.4.2 describes the theoretical background of the model.

The model can be used as soon as the route or network has been drafted on a map, even if only roughly. From the route map and with the help of maps added within the model, the user has to determine the NUTS 3 codes of all regions where the route or network passes through. Also the approximate distance covered in each NUTS 3 region has to be determined. It is then that codes and distances can be manually entered into the model. An estimate is generated of the number of cycle holiday trips, cycle day trips and the gross economic impact per year of these visits¹³.

2.5. Environmental impacts

2.5.1. Introduction

The following direct impacts on the environment and ecosystems can be identified in relation to cycling:

- Soil loss (erosion and water quality through run-off from tracks).
- Vegetation deterioration.
- Fauna disturbance.
- Crowding (impact on recreational quality).

¹³ The model can be obtained by contacting Paul Peeters on peeters.p@nhtv.nl.

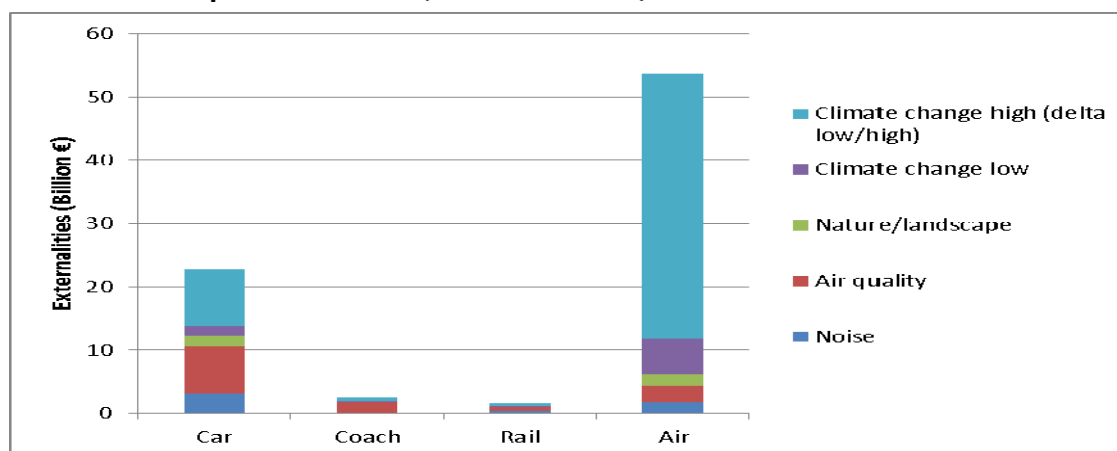
Furthermore some indirect impacts were identified, mainly caused by access transport to the cycle routes and accommodation (including cafes, restaurants, shops, etcetera):

- Energy use by traffic and accommodation providers.
- Climate change through greenhouse gas emissions by transport and accommodation.
- Air quality problems as a consequence of traffic.
- Water pollution from accommodation.
- Landscape problems due to traffic, parking areas and accommodation.
- Noise from transport and traffic.

The sustainability of cycling tourism can be evaluated in absolute terms. Like all tourism activity it adds to general environmental dis-benefits. It can also be evaluated in relative terms i.e. compared to other forms of tourism. In absolute terms, for example, the sustainable level of greenhouse gas emissions requires a reduction of 80% of 1990 emissions before the end of this century or a consistent reduction of up to 6% per year between 2015 and 2100 (Parry, Lowe, & Hanson, 2008). This could be used as a goal for cycling tourism to reach. However, a better approach would be to estimate if cycle tourism is (or can be made to be) emitting at least 80% less than current mainstream tourism. If so, it can be argued that cycle tourism is a sustainable form of tourism. For the latter approach, it is necessary to make a comparison with mainstream tourism and that will be the focus in this analysis. Is cycling doing better? In the following sections some evidence is provided on the environmental and ecological impacts of cycling and its sustainability.

The core principle is that tourism is a contributor to climate change, mainly in terms of the impact of transport to and from the destination (Peeters et al. 2007a, Peeters et al., 2004, UNWTO-UNEP-WMO, 2008). Of all tourism related CO₂ emissions, 75% are caused by transport for global tourism; accommodation provision is the second major contributor accounting for approximately 20% of emissions (UNWTO-UNEP-WMO, 2008). A review of the externalities of all EU tourism indicates that the major contributor to climate change is origin-destination transport (see Figure 16).

Figure 16: Externalities for all tourist trips (domestic and international) by European citizens (EU + NO + CH)



Source: data from Peeters et al. (2004).

Note 1: non-CO₂ -emissions for air transport are ignored. The radiative forcing of these might be as high as the radiative forcing directly caused by CO₂ alone (see Sausen et al., 2005).

Note 2: Because it is very difficult to estimate the cost of climate change a lower estimate and higher estimate (that is the additional cost delta low/high to reach the high level) are given in the figure.

2.5.2. Soil and nature

The impacts of recreation on nature lie in the domain of recreation ecology (Cole, 2004). This field of research emerged in the 1960s and concentrated on the impacts of hiking and camping, at first mainly in UK wilderness areas (e.g. Scottish Highlands). Much research was devoted to trampling as this has many and sometimes very long lasting impacts. Specifically if the soil is compacted by a high level of trampling, the changes may even become permanent. In addition, motorised transport, trail construction, maintenance and campfires have substantial impacts on the environment. The magnitude of the impacts is a function of the volume of users and the area affected. However, lack of empirical studies makes it difficult to really understand the mechanisms and magnitude of the impacts.

In the case of cycle route development in many areas emphasis tends to be on re-use of old routes and hence the main issue relates to infrastructure development which may affect long established habitats such as bat roosts in old tunnels. Trampling or rutting may occur on routes which are multi-purpose and there are demands from both walkers and cyclists for the available space. Hard-surfaced routes which are fenced tend to coral cyclists in order to minimise soil loss.

General findings regarding the development of impacts over time are (1) deterioration often occurs in a very short time, (2) the situation can be stable for long periods at sustainable levels of use and (3) if recovery occurs, this generally takes considerably more time than the deterioration (Cole, 2004). A very important finding has been that, in general terms, impacts increase at a rapid rate with the first wave of recreational pressure after which the rate decreases with increased impact and reaches an asymptote. Management mitigation measures would be to concentrate recreational pressure on as small an area as possible. The development of cycling routes can be an instrument for this, specifically the concept of EuroVelo, that generally makes use of existing trails and routes, thus just helping to increase the recreational (and economic) value of places that have been already disturbed (Mourek, 2006).

Much of the overall impact depends on the kind of recreation (horses, boots or cycles) and the detailed behaviour of users (for example, camp fires cause significant wood logging that generally is disturbing for wildlife and has a negative impact on soil and vegetation (Cole, 2004). Dogs have, in the main, a large impact too. Finally, a large amount of research has been conducted on the impact of environmental circumstances (kind of soil, vegetation, climate) on the vulnerability to recreational use (Cole, 2004) which suggests it is important to consider the local circumstances when planning a (new) cycle route.

"...many visitors do not notice ecological impacts that have occurred. Of those who do notice impact, many do not conceive of these impacts as 'damage' - or undesirable change. Finally, most visitors do not change their behaviour or have less satisfactory experiences even when confronted by impacts that they consider undesirable" (Cole, 2002, p. 428)

Some results from an impact study of a new cycling and walking path in open, mixed agricultural and forest area between the urbanised areas of Zeist and Bunnik (province of Utrecht). The data (based on Mabelis, van der Windt, & de Boer, 2001) are useful in illustrating potential impacts:

- The planned track will cross perpendicular with the daily walking routes of deer and several other wild animals and thus disturb them.

- A cycle path needs some reinforcement with sand. This will disturb the old soil layers, among them the former flow beds of the Old Rhine (Oude Rijn) river.
- Birds will not breed near the path and will try to scare the tourists away, exposing their eggs to predators (crows and the like).
- Bushes crossed by the route will no longer be suitable for deer to rest or give birth to their young.
- Detailed analysis of alternative routes revealed that in all cases some disturbance will occur to birds which enjoy meadow habitats and also wading birds, birds of prey (making potential nesting bushes unsuitable).
- Disturbance at twilight periods is more important than at mid-day; dogs disturb much more, motorcycles should be forbidden (there is an opportunity when long-distance cycle routes are built by making small roads zero-traffic) and potential nesting places should be avoided.

Another study compared the responses of large wild bison, mule deer and pronghorn antelope to both hikers and mountain bikers. It found slightly less disturbance by mountain bikers, i.e. the distance at which the animals started to flee was slightly shorter, reducing the disturbance area of the trail (Taylor & Knight, 2003). Another outcome was that off-trail hikers and bikers have a much stronger impact on wild animals. This, of course, is a case for long distance routes that obviously are connected to designated trails. The main problem of the flushing (fleeing) of animals is the energy it takes them, which may negatively impact on their ability to survive (Taylor & Knight, 2003). At the same time flushing reduces the suitable habitat.

A management recommendation that may be of importance for EuroVelo routes as well is:

"If management objectives include minimizing disturbance to wildlife habitat, new trails should follow existing edges and avoid water and forage resources, wildlife travel corridors, and escape terrain." (Taylor & Knight, 2003, p. 962).

On hiking, cycling and erosion:

"the extent of the impacts on environment, and within this on relief, related to recreation activities, compared to that of other sectors (e.g. industry, agriculture) is rather small." (David & Baros, 2007, p. 16).

For un-metalled roads and tracks the soil erosion can amount to a soil loss of almost 35,000 m³ per year for a 526 km trail system in the Big South Fork National River and Recreation Area (BSFNR), located in south-central Kentucky and north-central Tennessee, USA (Olive & Marion, 2009). This run off of soil also impairs water quality and therefore wild life and ecosystem quality in water flows, ponds and lakes. Importantly, the study found that type of use (i.e. hiking, biking, horse riding and all-terrain vehicle (ATV) are of much higher importance than use intensity. ATV's cause 144 m³ per trail km of soil loss and horse-riding causes 94.9 m³, while hiking is at only 11.8 m³ and biking at 3.5 m³ (Olive & Marion, 2009, p. 1489).

An overview of impacts is given by a report about trails in Pembrokeshire, Wales, UK (Asken Ltd, 2004). This report revealed the following:

- Impact on habitats (mainly vegetation) showing the type of vegetation determines the number of daily passages (on foot) that will remove 50% of plant life from it (clearly off-track), which varies from 48 for wood with vaccinium vegetation in Finland to 1445 on sand dune pastures in Wales.
- The impact on soils is mainly determined by the type of soil, where soils with a high clay or silt content are the most vulnerable.
- The slope of a terrain is very important, reducing the number of foot passages resulting in 50% vegetation loss by 30-80%.
- The season has an impact because wetter soils are more vulnerable.
- Again horses and heavy vehicles show the largest impact on soil loss on tracks, while walking (in this study, but based on very old references) is better than cycling.
- Fauna is impacted mainly by disturbance. The impacts are particularly severe during the breeding season for birds, due to leaving their nests. Non-breeding season impacts are less food intake, increased flying time and increased stress. Changes in soil can induce changes on micro-fauna (worms, etcetera). But no conclusive statements are made on this.
- Impacts on flora.
- The impact of access transport is an important environmental issue, mainly the impact on the landscape of large car parks and increased pollution and noise.
- Finally it is important that impacts are generally strong in small habitats, but may be negligible in large habitats or in habitats with strong connections to alternative habitats.

A special kind of impact from cycling and walking is crowding: the impact of one cyclist on the experience of the cycling (or walking) of another (Manning, Valliere, Minter, Wang, & Jacobi, 2000). Interestingly walkers find it more crowded if 'the others' are cyclists than in the case of other walkers. For cyclists there is not such a difference. It was also found that cyclists and walkers, as a general rule, do not mix very well: both are disturbed by the behaviour of the other group. This, of course depends on the capacity of the route and mix of walkers and cyclists.

In conclusion, the building of new tracks does not have a major impact on bird-life. It might, however, have an impact on insects. It is the use of trails that will have most impacts. The impact is a function of time of day/night, traffic density, alternatives for animal living or seeking to nest near the trail and the kind of use (most negative are motorcycles and dogs). Thus, environmental impact assessments are important in areas where cycle routes are planned to pass through or near environmentally sensitive areas where there is a likely disturbance factor.

2.5.3. Cycling and air quality

The act of cycling itself is almost emission free. Cycles use human power only and do not have exhaust pipes. Therefore cycling does not cause any carbon dioxide over and above the normal natural carbon-cycle. As there are also no other emissions, cycling is a truly zero-emission transport mode. Only production and maintenance of the bicycle and infrastructure require some (fossil) energy use, which is minimal and thus is not taken into consideration in this study.

However, though most cyclists start their day trip directly from their front door, in many cases motorised transport modes are used to reach the destination. These transport modes do affect air quality en route and near the destinations. Specifically popular destinations in the countryside with car-only access may cause both a reduction in air quality and noise problems. They also have negative impacts on the landscape due to the need to provide infrastructure such as car parks.

2.5.4. Cycling and climate change

This study focuses on CO₂-emissions (without equivalence factors because of practical and theoretical difficulties of applying these; see Forster, Shine, & Stuber, 2006, 2007; Graßl & Brockhagen, 2007; Peeters, Williams, & Gössling, 2007; Sausen et al., 2005). In order to ascertain the impact of cycle tourism in relation to tourism trips for other purposes it is necessary to discuss in detail the cases of German and Dutch cycle holidays where information is available for analysis. The advantage of the German case is that there is very detailed data on cycle holidays, but there's a lack of overall information about all German holidays. For The Netherlands it is just the reverse: there is very detailed information about the carbon footprint for all holidays (de Bruijn et al., 2008), but within this database cycle-holidays are not well defined.

German cycle tourist case

To assess the environmental impacts (i.e. the CO₂-emissions) of German cycle-holidays we use a database with the results of a recent survey among German holidaymakers (Trendscope, 2008b). This database shows the numbers of trips made by Germans for their last cycle holiday (that is a trip with 4 nights or more). The destinations mentioned were used to estimate the origin-destination distance travelled from the great circle distance between Frankfurt am Main (FRA) and the capital of the destination country (using WebFlyer, 2003). For domestic trips the average distance travelled by road transport was 788 km return. The figure was determined using the 2000 MuSTT (Peeters et al., 2004). The total transport emissions were calculated by multiplying the total distances with the emission and detour factors (i.e. people do not necessarily travel in a direct line) given in Table 12.

Table 12: Detour factors and emission factors used to determine CO₂ emissions

| | Detour | CO ₂ (kg/pkm) |
|----------------|--------|--------------------------|
| Car | 1.15 | 0.133 |
| Coach | 1.15 | 0.027 |
| Rail | 1.15 | 0.027 |
| Air | 1.1 | 0.129 |
| Bicycle | 1.15 | 0.0001 |
| Other | 1.15 | 0.133 |

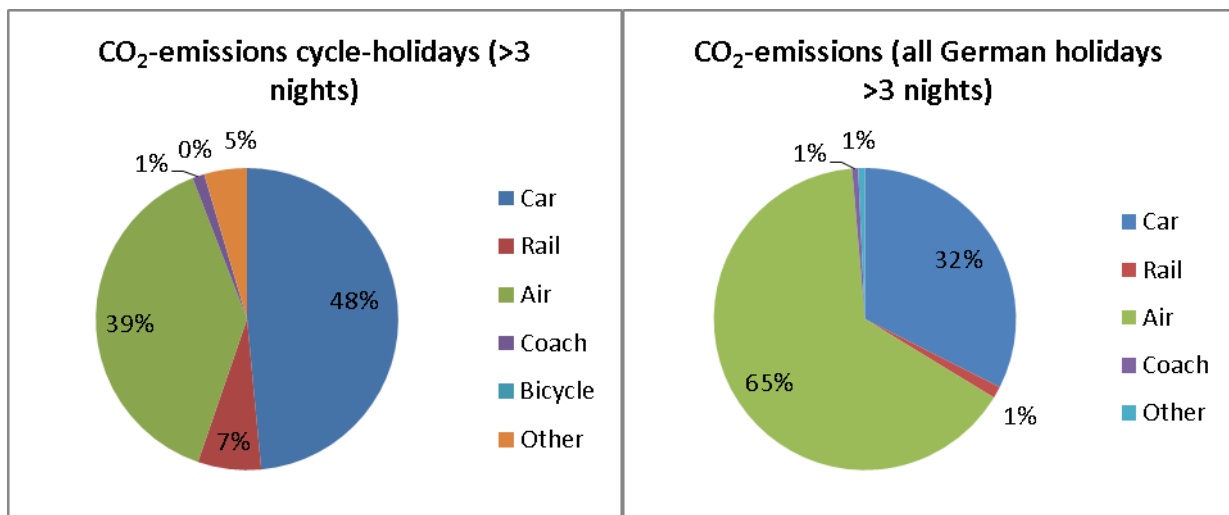
Source: UNWTO-UNEP-WMO (2008).

For comparison data on all outbound German tourism (including domestic) have been used (2007 data published by the German Statistical Office (Statistisches Bundesamt, 2008). The data of Trendscape have been modified slightly because of apparent errors (the corrections do not change the reported outcomes significantly):

- All instances with a return distance of more than 5,000 km and not giving air as transport mode have been changed to air. This was done in only 4 cases out of 1,533.
- All mentioned main transport modes exceeded the total number of responses by 198: it is assumed that all these 'errors' (only one mode can be the most important) were caused mainly by the inclusion of 'bicycle'. Support for this assumption was that several entries mentioned 'cycling' and some were intercontinental trips, for example to Mallorca, which seems to unlikely.

The statistical data have been treated and enhanced with data about distances travelled and weighted to represent the modal split given by Trendscape (2008a).

Figure 17: Distribution of origin-destination CO₂ emissions for cycle-holidays (>3 nights) and all German holidays (2008)



Source: Statistisches Bundesamt (2008), Trendscape (2008b).

Figure 17 shows clearly the following for cycle-holidays compared to other holidays (>3 nights):

- Air based cycle-holidays are responsible for almost 40% of all emissions (with a share of just 7% of all trips).
- Rail based cycle-holiday emit only 7% of all origin-destination transport related CO₂-emissions (with a share of 28% of all trips).

Table 13 shows the overall results of the study. As cycle tourists use more environmentally friendly transport modes and travel shorter distances to their destination (-53% in relation to all types of holidays), the emissions per cycle tourism holiday are 66% less than other holidays. So, cycle holidays are almost at the required sustainable level of -80% with respect to all holidays. Cyclists who do not use air travel at all (93% of all cycle holidays) generate on average emissions of 68 kg CO₂/trip, exactly 80% less the figure associated with mainstream holidays. This accounts for the German cycle holiday case of 4 nights or more.

Table 13: Overview of overall average distance and CO₂ emissions per trip for cycle-holidays and all holidays by Germans

| | All German holidays | Cycle Holidays |
|---|---------------------|----------------|
| Average return distance (km) | 2417 | 1146 |
| Average CO₂ emissions per trip (kg) | 328 | 111 |

Sources: Statistisches Bundesamt (2008), Trendscope (2008b).

There is some evidence to suggest that the trend towards nearer to home tourism is likely to continue in the cycle tourism market. Annual ADFC bicycle travel analysis reports also point towards a continuous sustainable trend of cycle holidays. The share of ADFC members planning to spend a bicycle holiday in Germany grew from 43% (abroad 57%) in 2002 to 88% (abroad 12%) in 2007. For 2008, only 2% of cycle tourists planned their cycle holiday outside Europe (ADFC bicycle travel analyses 2003-2008, W. Richter (ADFC), 2009). This contrasts sharply to all German holidaymakers: only 31% of trips of at least 5 days were in Germany and 6% were long-haul in 2007 (F.U.R, 2008). Measured in total nights, based on all German holiday trips with at least one overnight stay, Germany fared better (46%), but so did outside-EU destinations (19%) in 2007 (Statistisches Bundesamt, 2008)¹⁴.

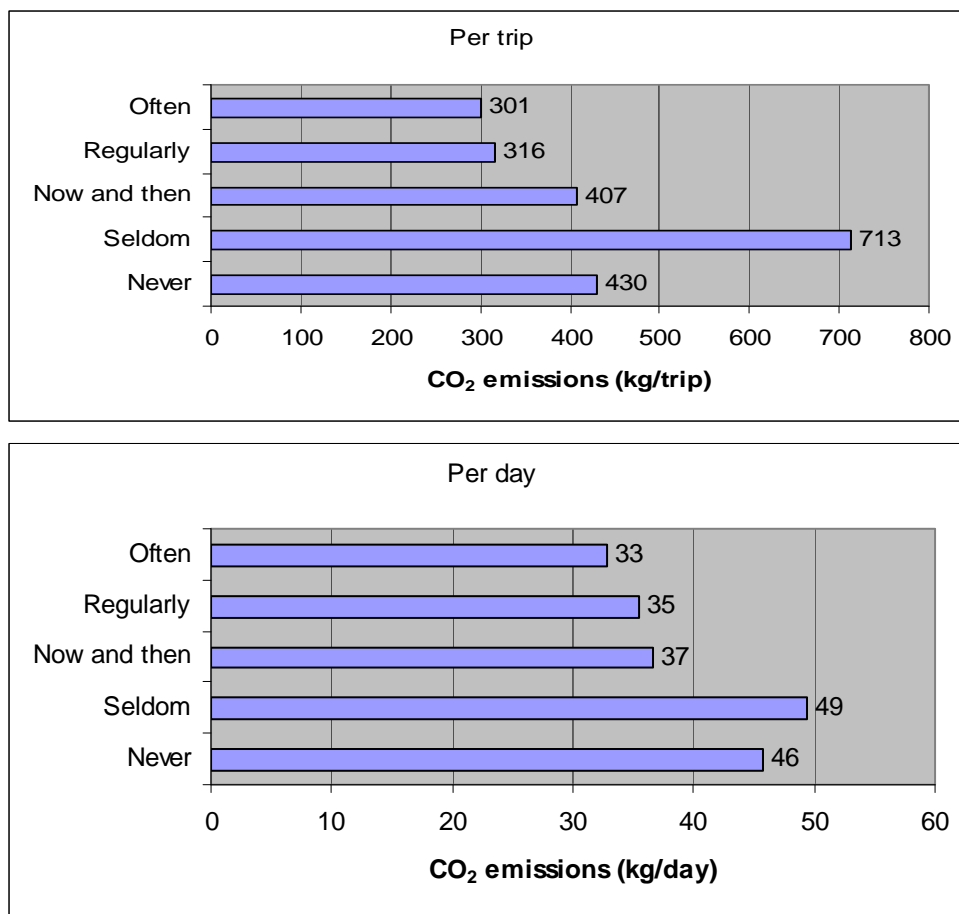
The conclusion from this case analysis is that cycle-holidays are considerably more sustainable than the mainstream holiday. The key factors are shorter distance travel between home and destination and a more environmentally friendly choice of transport mode (less air and much more rail travel).

The Dutch case

The NHTV Centre for Sustainable Tourism & Transport has published studies on the carbon footprint of Dutch holiday making (de Bruijn et al., 2008). The data are based on the Continuous Holiday Survey that contains over the records of 16,744 trips with at least one night stay for 2005 involving over 8000 respondents. Based on the properties of the trip (transport mode, distance, accommodation type, length of stay, kind of holiday and holiday activities at the destination) the carbon footprint per trip has been determined. Unfortunately, the survey does not seek information about the typical 'cycle-holiday'. Only 2 questions infer that a trip is a cycle holiday: the one is the main mode used to travel to the destination (out of 18 modes, the bicycle is one) and the other is the extent to which bicycle trips were made during the holiday (categorised as 'Never', 'Seldom', 'Now and Then', 'Regularly and Often').

Figure 18 shows a clear difference between holidays which include 'often' and 'regular' cycle tours compared to other holidays. In terms of each holiday the difference is 28% lower CO₂-emissions per trip. On a per day basis the difference is 26% in the favour of those on cycle holidays. About 12% of all holidays by the Dutch include 'regular' or 'often' cycle tours in the programme.

¹⁴ Both F.U.R. and Statistisches Bundesamt data refer to travellers aged 14 years and above.

Figure 18: Carbon footprint (CO₂ emissions) for the Dutch population

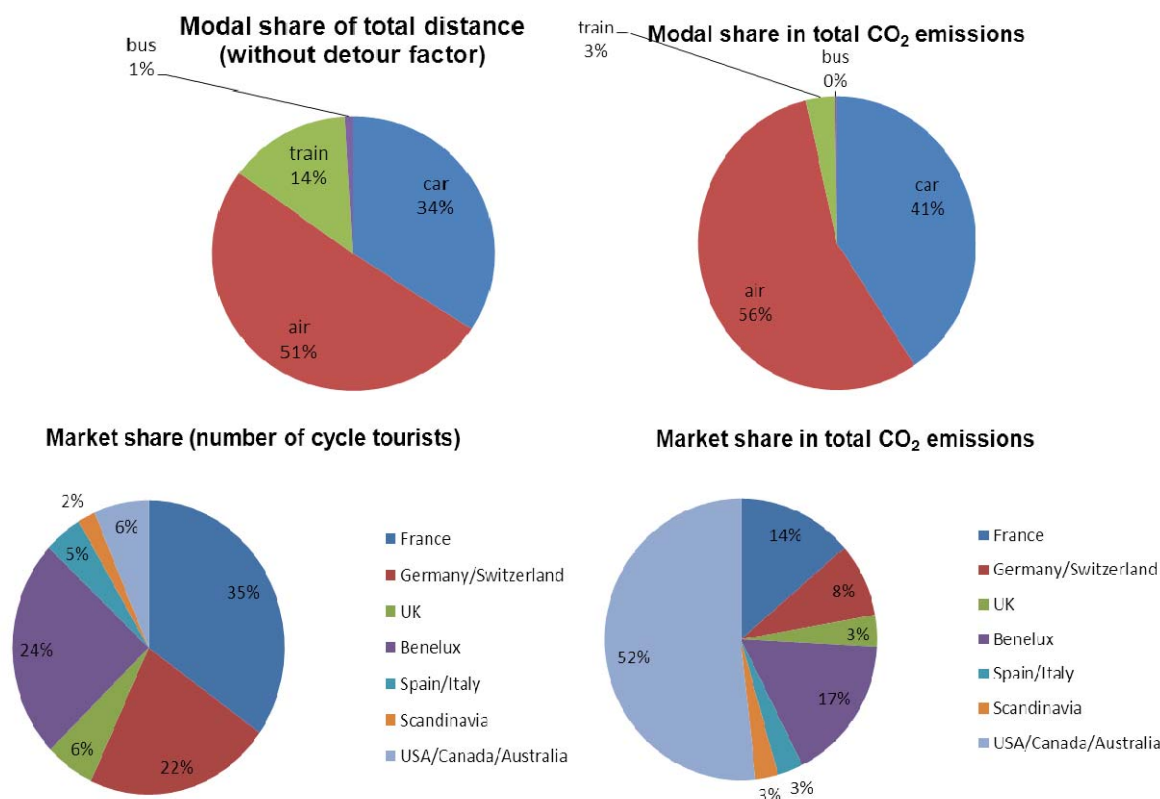
Emissions in kg per trip (upper graph) and kg per day (lower graph). The emissions include origin-destination transport, local transport, accommodation and activities at the destinations).

The French case

A brief look at results from a study on EuroVelo 6 in France shows that the country of origin is a very important determinant of the chosen transport mode and concomitant emissions. Overall, the train share for this route is 40% and aviation around 10%. However, cycle tourists from the UK, Scandinavia and the US all have very high aviation shares (50-100%), as opposed to for example Germany and Switzerland (6% aircraft, 64% train, 25% car), but also Spain and Italy (33% train, 67% car, 0% air). Cyclists from the Benelux arrive mainly by car (91%) (Mercat, 2009). The carbon footprint for this route is calculated based on cycle tourist volumes per country of origin and their modal split for EuroVelo 6 (Mercat, 2009, p.271) and applying average return distances¹⁵ and the detour and CO₂ emission factors of Table 12,. The following figure shows, from left to right and top to bottom, the share of each transport mode in the total distance travelled to and from the route, the share of each transport mode in the total carbon footprint, the share of each market in cycle tourist numbers, and the share of each market in the total carbon footprint for EuroVelo 6 access transport.

¹⁵ Distances are given in Mercat 2009, but these are not always realistic (e.g. too high for Scandinavia and far too low for USA/Canada/Australia). Distances for these countries have been recalculated using Great Circle Mapper (<http://gc.kls2.com/>).

Figure 19: Access transport of cycle tourists on EuroVelo 6 (France): modal share (in distance and CO₂ emissions) and market share (in tourist numbers and CO₂ emissions)



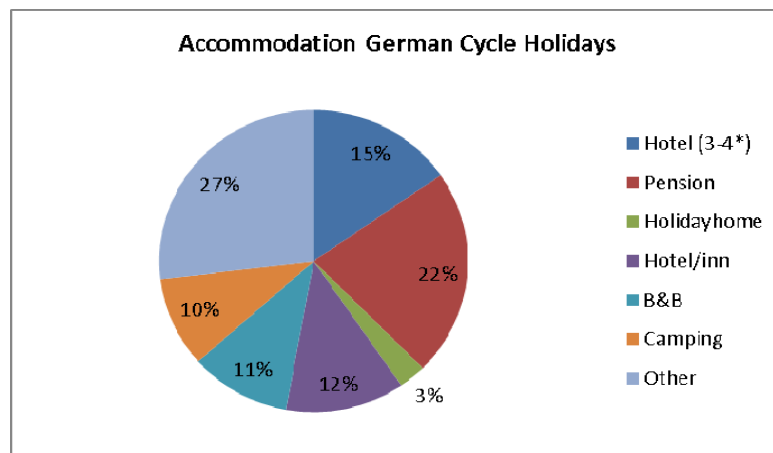
Source: Mercat (2009) and own calculation).

The overall figures for cycle tourists on EuroVelo 6 are: 1.1 million cycle tourists, 2,450 million km for access transport, and 316 million kg CO₂ emissions. Car and aviation dominate the modal share in terms of distance travelled and CO₂ emissions. The bottom graph shows there are markets with low visitor shares and very high emission shares (notably USA, Canada, and Australia) and vice versa (France, Germany, and Switzerland). Average transport emissions per holiday vary from around 110 kg CO₂ for French, German and Swiss cycle tourists to 2,270 kg CO₂ for those flying in from overseas. The latter groups lift the average transport emissions to 286 kg CO₂ per trip. Note that these exclude emissions from accommodation and transport at the destination. Hence, the market(s), and thus the marketing, (can) play an important role in the environmental impact of cycling guests.

Greenhouse gas emissions from accommodation sector

The emissions of CO₂ per night depend mainly on the type and quality of the accommodation. Emissions vary between 4 kg of CO₂ per night for pensions and B&B rooms up to 20 kg CO₂/night for medium range hotels (UNWTO-UNEP-WMO, 2008). For hotels the emissions range from about 13 for a non-star hotel up to 40 kg CO₂/night for a 4 star hotel (based on data for Amsterdam; Peeters & Schouten, 2006). The average for international and domestic tourism in developed countries has been estimated at 19 kg CO₂/night (UNWTO-UNEP-WMO, 2008). Using data from the UNWTO report for accommodation types and the distribution over these types for long distance German cyclists (see Figure 20) the average per night is about 13 kg CO₂/night, being 32% lower than for the mainstream holiday.

Figure 20: Accommodation choice by German cycle tourists (long distance cyclist only)



Source: Trendscope (2008a).

2.5.5. Comparing cycling tourism with mainstream tourism

The environmental impacts of cycle tourism can, just as tourism itself, be divided in 3 groups: accommodation, transport between home and destination and the tourism activities at the destination (including local transport). As shown in section 2.5.4 cyclists compare favourably with other tourists for both transport to the destination and accommodation. For activities we found the cycle-holidaymaker spends most time cycling. This is not entirely zero emissions; a cyclist is estimated to produce around 16 grams of CO₂ equivalents for "fuel", i.e. calorie intake, per kilometre. A life cycle inventory of a bicycle (production, maintenance, operation, i.e. including "fuel") revealed that bicycles release about 21 grams of CO₂ equivalents per passenger kilometre travelled, comparing to 271 grams for the car and 101 grams for the bus (Blondel, Mispelon, & Ferguson, 2011). The 5 grams CO₂ equivalents per kilometre for production and maintenance are based on an 8 year lifespan and 2,400 km cycle distance per year (see also Hendriksen & van Gijlswijk, 2010)¹⁶. Of course, visits to a museum, restaurant or other leisure facility will be made, but these are generally low emission activities (see footprints in Peeters & Schouten, 2006).

Cycle tourists would, using the 60 km per day and 7.7 days averages (see section 2.2.3) and the 21 grams CO₂ equivalents mentioned above, produce 9.7 kg per cycle holiday for the cycling itself. The weighted average CO₂ emissions for activities by international tourists are estimated to be 27 kg of CO₂ per trip. Domestic tourists in high income economies produce around 11 kg CO₂ per trip (UNWTO-UNEP-WMO, 2008). However, the latter figures do not include food (calorie intake), so they cannot be compared with the 9.7 kg figure for cyclists.

Using the data for German cycle holidays given in section 2.5.4 and assuming the average of 6.6 days per cycle holiday (5.6 nights) the total emissions per night are 36.3 kg CO₂¹⁷. This is a little less than half of the global average figure per night of 78.6 kg CO₂ (for tourists from developed countries both domestic and international based on data from UNWTO-UNEP-WMO, 2008).

¹⁶ Note that these estimates are for a commuter bicycle; small variations for touring bicycles are likely.

¹⁷ Transport emissions/nr of nights plus accommodation per night plus total activities per day corrected to per night: $126/5.6 + 13 + .66 * 6.6 / 5.6$ kg CO₂/day.

There is, however, a slowly developing trend towards 'long-haul cycle-holidays'. Only 1.1% of the Germans made a long haul flight (over 3000 km one-way) for a cycle holiday in 2007. Long haul cycle tourists travelled, on average, 7050 km from Germany (based on Trendscape, 2008b). This accounts for over 15% of all transport related emissions of German cycle tourism. Potentially a development towards more long haul cycle-holidays (both outbound and inbound) will be detrimental to the sustainability of cycle tourism. If the share increases to 7% (international plus domestic), total transport related cycle holiday emissions would double and thus become near to the global average (see the French example in the previous section). But even with such long haul holidays, cycling holidays might have some advantage as it will show the 80% lower emissions for local activities and transport and 30% lower accommodation emissions.

Impacts on nature and landscape depend very much on the local and detailed way of implementation of cycle-infrastructure and level and character of use of the infrastructure. With careful planning these impacts can be minimised. The main impact will be caused by (car) transport of day excursionists to popular cycle destinations and route networks. Day excursionists currently use public transport much less than cycle-holidaymakers. This access-transport has also negative implications for air quality, noise and safety.

Cycle tourism currently has a very significant advantage over other tourism in terms of the contribution to climate change brought about by accommodation use, transport to the destination and local activities. Impacts on nature and landscape can be kept to a minimum and are most likely less than for most other forms of tourism as cycle-infrastructure only requires small-scale investments. Large scale investments would probably shun potential cyclists away because cyclists find rest, solitude, nature and landscape important attributes of cycling (see section 2.2.1).

2.6. Social impacts

There are many studies which refer to the impact of tourism on local communities (Brunt & Courtney, 1999). Several research studies from the USA and the UK report that cycle routes and multi user trails are highly valued by their users and that businesses also welcome their development as it improves their trade (Bennett, Tranter, & Blaney, 2003; Bowker, Bergstrom, & Gill, 2007). Studies from Spain and Ireland also note the importance of community involvement and pride in local heritage with greenway routes (European Greenways Association, 2004; Kelly, 2006). Studies undertaken as part of the EuroVelo Route 6 project came to a similar conclusion (Altermodal, 2007).

There is also additional research to support the idea that cycle routes add to the quality of life of local communities (Schafer, Lee, & Turner, 2000). A study of cyclists on long distance routes in the North East of England asked all users about their willingness to pay for a day cycle trip. This is a monetary estimate of the value of the facility which is free on entry. The findings indicated that each cyclist was on average willing to pay 6 euro per day trip on the route which indicates a relatively high value (Institute of Transport and Tourism, 2007).

Most of the literature from the USA notes that neighbourhoods welcome cycle routes as they provide open spaces and opportunities for traffic free recreation and tourism (Lumsdon, Downward, & Cope, 2004). This is supported by a study on the National Cycle Network in the UK (Parker, 1998) which indicated that residents near to such routes welcomed the recreational gain. The Tourism France Ministry (2007) indicates that land prices have risen in areas near to well used cycle routes. Simonsen, Jørgensen, & Robbins

(1998), however, refer to the some negative impacts of cycle tourism on the island of Bornholm in Denmark but argue that the balance of positives and negatives is not clear.

The health benefits of cycling are often discussed in an economic context, as they reduce the costs to health care systems (PGV/plan&rat, 2007; SQW, 2007). Regular physical activity like cycling has been associated with a number of positive effects on health. There is a strong relationship between countries with high levels of cycling and walking and low levels of obesity and vice-versa (Bassett Jr., Pucher, Buehler, Thompson, & Crouter, 2008). In a Danish long-term study, physical activity undertaken in leisure time was inversely associated with all-cause mortality rates, with benefits increasing from moderate leisure time physical activity to sports activity and bicycling as transportation (Andersen, Schnohr, Schroll, & Hein, 2000). Regular physical activity further reduces premature death (from heart disease), developing diabetes, high blood pressure, colon and breast cancer and depression. Other health benefits include better weight control and psychological well-being (Cavill & Davies, 2007; PGV/plan&rat, 2007). It is the latter that is important in terms of cycle tourism. There are linkages between wellbeing, cycle tourism and overall tourism development which require further exploration (Hartig, 2006).

From a different social perspective, cycle tourism offers holiday perspectives for a range of people who otherwise would have very limited possibilities, for example because they:

- do not own or cannot drive a car;
- cannot travel by public transport;
- are scared of flying;
- do not want to use other holiday transport modes because of environmental principles;
- do not have the financial resources to holiday by other transport modes (see also *Trasporti e Territorio*, 2010).

2.7. Summary

There is no definitive response to the question as to the value of cycle tourism in the EU. A model has been developed, that uses fractions of existing tourism flows within Europe. The total economic impact for the estimated 2.295 billion day and overnight cycle tourism trips in Europe is in excess of €44 billion per annum. The estimated number of overnight cycle tourists is 20.4 million spending around €9 billion annually.

The cycle tourist brings a far lower impact on the environment than other forms of tourism. Cycle tourism is a good example of a low carbon tourism product which could be developed as a major slow travel opportunity across Europe.

3. PUBLIC TRANSPORT INTEGRATION

3.1. Introduction

As shown in section 2.3 cyclists use public transport relatively more than the mainstream tourist. The reason is partly practical: cyclists do generally not make a return trip from the destination because they cycle from one point to another from where they return home. This habit is extremely important in relation to the level of sustainability achieved by cycle tourism. If the modal split shifts away from public transport use towards car and airplane use, the current environmental advantage of cycle tourism would disappear.

Therefore, we have dedicated this chapter to an analysis of the relationship between cycling and public transport. The chapter reviews provision by railways, long distance coaches and finally the role of ferries. It updates previous work by Altermodal (2007) summarised in its review of integrated transport and Route 6 of EuroVelo. Air transport is not included extensively as it is (currently) little used by cyclists. However, we compared conditions and pricing with rail transport in section 3.2.1 and Annexes 6 and 7.

3.2. Railways

3.2.1. Current situation

In section 2.5.4 a reference was made to the propensity of cycle tourists to take holidays by train or coach and hence reduce the overall level of CO₂ emissions. For example, 73% of respondents in a survey of cycle tourists in Lower Austria were very interested in additional cycle tourism products that combined with public transport (MANOVA, 2007). The figure represents an expression of interest rather than actual behaviour but nevertheless it is an indication of interest in train and cycle holidays.

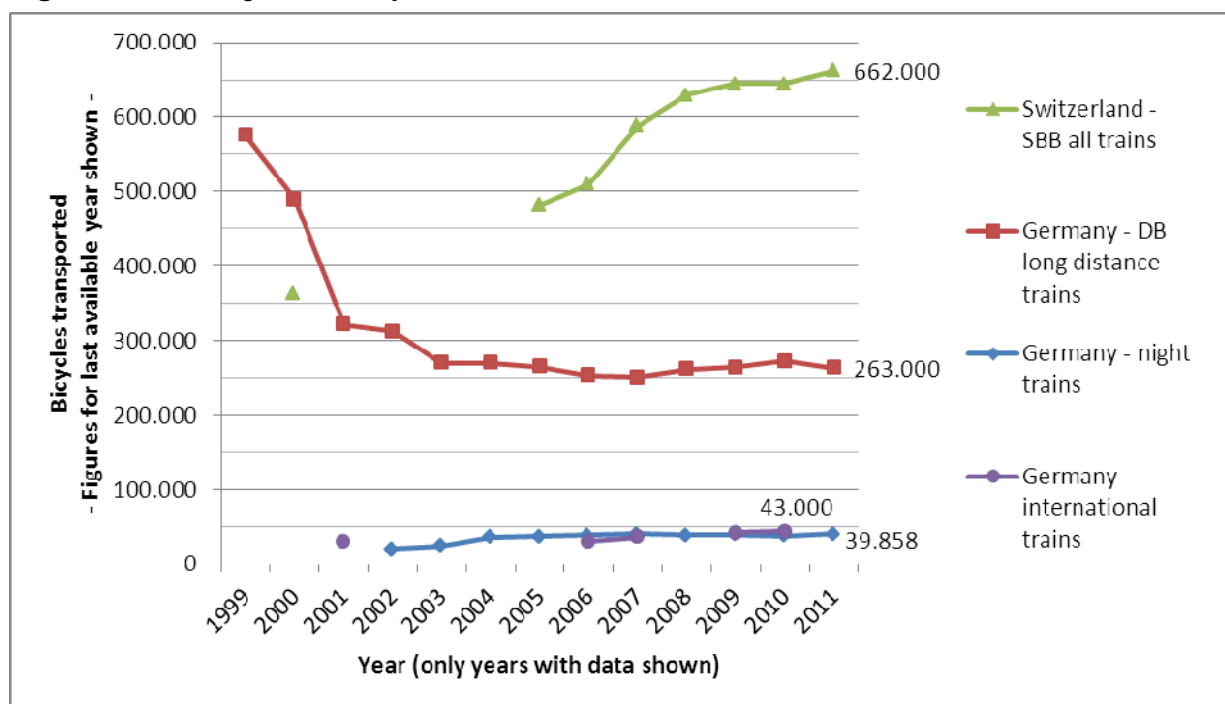
As with all holiday travel there is a need for integration between modes of transport en route to the destination. Many holiday cyclists prefer to take their own cycle on holiday with them if they are cycling considerable distances. Thus, while it would appear eminently sensible to offer bike hire at railway stations rather than carriage on trains this is not what many cycle tourists seem to want. Furthermore, here are also several destinations which are seeking to encourage car free tourism such as the Alpine Pearls and tour operators such as Inghams and Studiosus that encourage rail and cycle based holidays. There is a growing market which seeks train travel. For example, a recent report on Holiday Lifestyles Responsible Tourism (Intel, 2007) reported that whilst many holidaymakers prefer flights (and have been encouraged to take more as a result of low cost companies) a third would be willing to travel by train which they view as the scenic route to the destination. There is also an important requirement for seamless integration whilst travelling around the destination (Lumsdon & Page, 2004). In this respect, cycle hire for the more casual day excursionist at railway stations is ideal; the Rent-a-Bike scheme in Switzerland is a good example of this type of provision as is Country Lanes in the UK.

The position regarding the carriage of cycles is problematic from a cycle tourist point of view as train operators in different countries have varying approaches. As a general rule, most local trains and some regional train services allow bicycles on board for free or a small charge. Some, as in the UK, operate a system of obligatory reservations. There is a less

clear picture in relation to long distance trains which cross country boundaries. **For the most part, cycle carriage is restricted or not allowed and this is a major barrier in the development of cycle tourism as a sustainable tourism offering across Europe.**

In 2006, the ECF commissioned a study on bicycle carriage on long distance trains in the EU, co-financed by the European Commission. Its conclusions were that bicycle carriage should be seen as an opportunity rather than a problem. Standardisation and extension of the offer were identified as main needs (Danzi, 2006). The diversity of regulations, prices and approaches are evidenced in the summary table provided in Annex 6. As a rule cycles do not have to be packaged (although this is the case on some long-distance routes) and charges are very modest from being free to a 30 euro maximum (10 – 15 Euro average) for a single trip where available on international routes (0 – 15 Euro on domestic services). By contrast, the study team has reviewed the carriage of cycles on major airlines in Europe and a sample of conditions and prices are to be found in Annex 7. While there are no restrictions, such a time of travel, cycles have to be prepared for packaging and carriage (removal of pedals, etcetera). Prices range from free to 100 euro for European single trips, so are generally more expensive than by train. The maximum increases to 200 Euro for flights to/from countries outside Europe.

Figure 21: Bicycle transport on German and Swiss trains



Source: Source: ADFC (2001, 2003), Marti (SBB) (9.1.2009), Giebeler & Froitzheim (2012), Kormann (SBB) (2012).

With regard to the train the following examples illustrate the difference between 2 operators; one is in the process of reducing access for cycles on long distance trains while the other is making progress in encouraging the cycle market. Figure 21 shows the number of bicycles transported on German long-distance and all Swiss trains. The number of bicycles transported by the German National Railways (Deutsche Bahn, DB) on long-distance trains has decreased for a number of years as InterCity trains were replaced by ICEs, which do not carry bicycles. Numbers decreased from 575,000 in 1999 to 270,000 in 2003, and have since remained between 250 & 270,000 (Giebeler & Froitzheim, 2012). In Switzerland, a reverse trend has occurred; there is increasing carriage of bicycles (data

years 2001-2004 missing). In 2011, 662,000 bicycles were transported on Swiss National Railway (SBB) trains, a constant rise from 363,000 in 2000 (Kormann (SBB), 2012; Marti (SBB), 9.1.2009). However, a direct comparison is not appropriate, as the number of bicycles transported on German regional trains is not included. These numbered around 2 million in the year 2000 (ADFC, 2001), more recent figures are not available. Bicycle transport on German night trains shows an initial increase from just under 20,000 in 2002 to nearly 40,000 in 2007, and similar figures since then (Giebeler & Froitzheim, 2012). As of early 2012, 13 CityNightLine (CNL) connections, offered room for bicycles (8 or 20 per connection), and 2 EuroNight connections offered room for 3 to 6 bicycles (DB, 2012).

The approach adopted by DB on high speed trains is a barrier to the encouragement of sustainable origin-destination travel by cycle tourists. ADFC and other bicycle organisations have been critical of this development for several years. The German Federal Ministry for Transport, Building and Urban Affairs (BMVBS) has also expressed concerns. In an evaluation report of the D-Route Cycle Network, Schneewolf & Grimm (2006) regarded the reduction in capacity to carry cycles on long-distance trains as counter-productive to national and state efforts to position the cycle network as a premium sustainable tourist product. In a second cycling report to the federal government, DB is advised to re-evaluate its policy of refusing bicycles on ICE trains. It has been argued that DB could start with a basic service offering minimal capacity and compulsory reservation to trial the market (PGV/plan&rat, 2007). The Federal Government is continuing discussions with DB about improving bicycle transport on long distance trains. The aim is to test bicycle transport on one specific ICE route through a pilot project (BMW, 2008). In 2011, DB announced that the new high-speed ICx trains, to be introduced in 2016, will each include room for 8 bicycles (DB, 2011). In the long term, this will increase bicycle carriage options on all trains in Germany. In the short term, the situation is still somewhat unclear, as the ICx will gradually replace regular (IC) long-distance trains that have a larger bicycle carriage capacity.

It should be noted that bicycles can be transported free on many DB regional trains, but this does not help to stimulate a carbon conscious travel market seeking longer distance holiday packages, because these distances would rely on ICE and not regional trains.

Other train operating companies in Europe have introduced more progressive services such as SCNF TGV in France, SBB long-distance trains (Switzerland, see figure 21) and NSBs Regiontog (Norway). Austrian railways ÖBB have recently announced that its premium train service 'railjet' will be equipped with one bicycle compartment per train. When fully commissioned in spring 2013, each of the 51 railjet trains will allow for the carriage of up to 6 bicycles. In the UK concern about carriage of cycles on trains in the past decade has also led to more positive developments although the number of cycles which can be carried on any one train is limited.

3.2.2. EU Third Railway Package (EU TRP)

The EU TRP (European Parliament and Council, 2007) has been discussed in the light of the generally decreasing availability for cycle tourists to use rail networks to access medium to long distance European destinations. This regulatory package¹⁸ seeks notably to regulate

¹⁸ The Package is composed of: Directives 2007/58/EC and 2007/59/EC (entry into force in December 2007); Regulations (EC) No 1370/2007, (EC) No 1371/2007 (entry into force in December 2009) and (EC) No 1372/2007 (entry into force in December 2007). Bicycles on to the trains are referred to in Article 5 of Regulation (EC) No 1371/2007 on rail passengers' rights and obligations.

rail passenger rights. In this respect the principal article referring to cyclists is Article 5 of Regulation 1371/2007 which says:

“Railway undertakings shall enable passengers to bring bicycles on to the train, where appropriate for a fee, if they are easy to handle, if this does not adversely affect the specific rail service, and if the rolling-stock so permits.” Additional to this, Part I of Annex II to the same Regulation also requires that railway companies provide minimum pre-journey information about among others “accessibility and access conditions for bicycles”.

While the TRP offers an opportunity to increase the carriage of cycles on railways, in reality two barriers remain. Firstly, Article 2 of Regulation 1371/2007 makes the provision for a 5 year exemption period which can then be subsequently renewed for 2 further 5 year periods (i.e. a total of 15 years!). In addition, pursuant to the same Article Member States may decide not to apply the Regulation to urban, suburban and regional rail passenger services. Secondly, the wording of the above-mentioned Article 5 indicates that cycles may be handled if the rolling stock permits and **there is a major limitation for many long distance trains where recent design has excluded the provision for the carriage of cycles**. This will be detrimental to the development of cycle tourism as a sustainable tourism product; for it to be sustainable in the international market there needs to be a viable alternative to mid/long distance flights.

Nevertheless, the TRP’s new provisions have already brought about several positive impacts. On 4 December 2008 the German Bundesrat requested the carriage of cycles on the ICE trains by the end of 2009. This has not been achieved however, as stated above, new ICx trains to be introduced in 2016 will have bicycle carriage capacity, although this may take some time to fully implement. The SNCF has made the carriage of cycles possible on more Thalys trains, for example, between Paris - Stuttgart - Munich. A new service of pre-booking bike spaces started in April 2008 on the Eurostar between London and Paris, Lille or Brussels; this has resulted in a 300% increase in bikes carried admittedly from a very small base.

In 2011, the European Commission published a White Paper on Transport. Important measures regarding rail transport are, amongst others, a major overhaul of the regulatory framework for rail, tripling the length of the high-speed rail network, and generally making rail travel more attractive in order to gain a larger market share (EC, 2011). Although **bicycle carriage and cycling in general are not mentioned in the White Paper**, one can assume that this focus on rail travel, besides the overarching call for CO₂ reduction, will be in favour of bicycle transportation.

Annex 6 to the review gives a much more complete overview of bicycle transportation on trains in the EU.

3.3. Travel by long distance coaches

Not all destinations are served by rail links and there are cases where long distance coaches provide a solution to travel for the cycle tourist. However, the coach and cycle offer is currently very limited. There are no estimates of carriage of cycles on coaches; it is thought to be a very small number per annum.

There is a market for cyclists who wish to travel by coach/bus across Europe. This is a relaxing form of transport whereby a person can take a cycle with them, eliminating the

need to hire on arrival. Within this sector there are varying types of services. Firstly, scheduled long distance coaches operate between countries within Europe. The major company that allows the carriage of bicycles is the Eurolines express coach network which links 32 independent coach companies operating Europe's largest regular coach network (Mintel, 2009). Cycle carriage is not marketed but there is availability for cycles to be carried. The Berlin Linien Bus company connects various German cities with more than 350 destinations within Germany and Europe operating routes such as Berlin to Paris. There are limitations to carriage of cycles; they have to be packaged and, in a similar manner to air travel, are carried in the luggage sections.

The second type of service comprises long distance buses which operate within European countries and allow the carriage of bicycles, a good example of this is the Post Bus in Switzerland. The final category is the bike bus which advertises specialised services within Europe with a specific aim to transport cycle tourists. These run to schedules but are usually summer season only. One good example of this is the European Bike Express which operates between the UK, France and Spain; passengers can enjoy a high standard of coach and a bike trailer allowing passengers to take their own bike on the holiday with them.

Finally, there are coach tours with bicycle carriage such as those offered by specialist tour operators in The Netherlands into southern Europe. These are small scale operations with limited markets. Mintel (2009) considers that younger markets could be attracted to coach travel if the low price levels are maintained. In Canada and the USA, there is widespread practice of local bus companies fitting front of vehicle bicycle racks. The CTC in the UK estimate that **25% of the bus fleet in the USA carry bikes. In contrast, there are few examples of this practice across Europe.**

3.4. Travel by ferries

The provision for cycles on ferries is an important element in making a European wide cycle tourism network. This obviously applies more to nations on the periphery – the Mediterranean, Scandinavia and the Baltic Sea, Spain and Portugal, the Aegean as well as the UK/Ireland and France. In order to assess approaches by ferry operators to the carriage of cycle tourists, a small-scale electronic survey was carried out by the research team. Some 56 companies covering every European country with a coast line were sent a brief questionnaire by email. The response was limited with only 4 responses (representing 8 of the operating companies – as one response covered 5 different companies). To augment the findings, a search of each company's websites was also undertaken to assess the presence of information about cycles. This approach was not altogether reliable; some sites lacked any level of detail and 'user-friendliness'. See 0 for an overview of all data gathered.

3.4.1. Provision for cycles (and price)

Of the 8 companies represented by the email responses, all of them stated that they allow the carriage of cycles on their ferry services. Most often, cycles are stored on the car decks or luggage spaces, and in some cases there are racks especially for storage of cycles. Prices for the carriage of cycles range from free on around 20% of services to 26 Euro for a single journey, although most charges are in the 5 – 15 Euro range. Overall, taking into account also the results of the previous study of the countries bordering the North Sea and the observations of the operating company websites, it is likely that in most cases cycles

are allowed on ferries, although the presence of charges in some cases may indicate either a limit to capacity or storage space.

3.4.2. Marketing

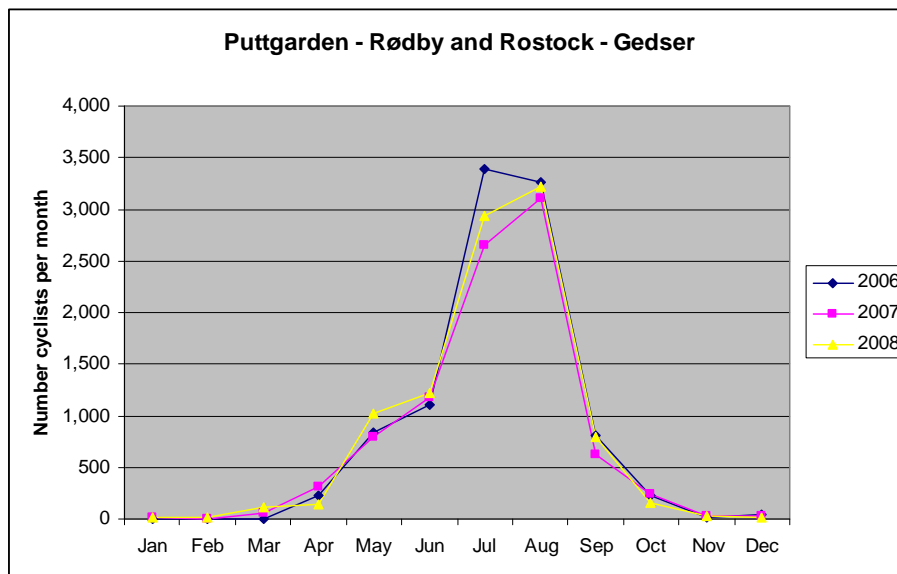
In general terms, the ferry company websites do not contain any real evidence of specific marketing strategies aimed at cycles. A response from the Balearia operating company pointed to their corporate commitment to sustainability and combating climate change, which is manifested in its offer to customers not to charge for carriage of cycles on the service. The Baltic Sea Company, serving Bornholm, is about to start a specific marketing project aimed at cycles, but other respondents stated that their companies were not currently making any special provision to promote the carriage of cycles.

3.4.3. Demand for cycles

The survey contained one further question asking for estimates for demand for cycles. There were no studies found on the web or further information on the operating company websites, and most of the responses did not contain any information on the numbers of people travelling with cycles. The only figures provided were as follows:

- Balearia embarked 3529 bikes in 2008 in all its lines and routes; 758 bikes of these were destined for the small island of Formentera.
- Information from NorthLink indicated a spread of cycle usage per annum on their services from Scotland and the Northern Islands:
 - Aberdeen to Kirkwall - 93 bikes;
 - Aberdeen to Lerwick - 164 bikes;
 - Kirkwall to Aberdeen - 117 bikes;
 - Kirkwall to Lerwick - 118 bikes;
 - Lerwick to Aberdeen - 182 bikes;
 - Lerwick to Kirkwall - 106 bikes;
 - Scrabster to Stromness - 351 bikes;
 - Stromness to Scrabster - 414 bikes.
- In 2008 we there were about 15,000 bicycles carried on Bornholmstrafikken (operates between Denmark and Sweden). However, there were many more carried on top of cars which are not included in the statistics.

Figure 22: Seasonality and numbers of cyclists (one way trips) on the Scandic ferries between Germany and Denmark



Source: Bohnsack (2009).

Scanlines carry higher numbers of cyclists. Their ferries between Germany and Denmark (the Puttgarden-Rødby route) attracted 3765 cyclists in 2008, slightly down from the 4105 in 2006 but up from 3519 in 2007 (Bohnsack, 2009). The route between Rostock and Gedser attracts more cyclists: 5912 in 2008 up from both 2006 (5822) and 2007 (5512). Figure 22 shows the total number of (one way) cyclists on 2 ferries between Germany and Denmark. The high season is from mid-May until mid-September.

3.5. Infrastructure

An additional element relates to lockers at stations, connections between routes, facilities to get a bike to platforms; rent-a-bike systems. By far the most advanced in this level of provision is SBB in Switzerland but there are also examples across Europe where progress is being made to improve facilities for cyclists.

3.6. Summary

The ideal approach is for seamless integration whilst travelling to and around the destination. Rail travel is an important element in the supply chain of sustainable cycle tourism, and strong demand for this has emerged where provision has been introduced. However, the position regarding the carriage of cycles is problematic from a cycle tourist point of view as train operators in different countries have varying approaches. Since 2009 the situation has shown modest signs of improvement with plans by DB to introduce cycle carrying capacity on their new ICx trains; although Railjet in Austria have implemented their no bikes policy. Given the nature of much of the rolling stock across Europe there is unlikely to be a significant improvement in the near future. Hopefully small incremental improvements will allow the demand for rail/cycle tourism to gradually develop encouraging further cycle carrying capacity to be introduced. The clear and consistent provision of information on the carriage of bicycles by rail companies, as required by the Third Railway Package, will go some way to improving the situation.

Not all destinations are served by rail links and there are cases where long distance coaches provide a solution to travel for the cycle tourist. However, the coach and cycle offer is currently very limited. There are limitations to carriage of cycles; they have to be packaged and in a similar manner to air travel are carried in the luggage sections.

The provision for cycles on ferries is an important element in making a European wide cycle tourism network. In order to assess approaches by ferry operators to the carriage of cycle tourists, a small-scale electronic survey was carried out by the research team. The findings indicate that ferries have a willingness and capacity to carry large numbers of cycle tourists but most companies do not market this in any way.

4. EUROVELO: CASE STUDY COLLECTION

4.1. Overview

The second major task outlined in the brief from the European Parliament was to research a number of case studies which reflect insights and best practice in relation to the development of a long-distance cycle network in Europe. The cases are divided in those which highlight aspects of (1) route development, (2) route marketing, (3) supporting facilities and (4) monitoring (see Table 14).

Table 14: Overview of the cases

| Project name | Routes/destination area | Key issue |
|--|---|--|
| <i>Route Development</i> | | |
| SchweizMobil Network | National network of Switzerland | Stakeholder cooperation |
| Drau cycle route and rail transport | Drau (Austria, Italy) | Local train/bus up, cycling down, cross-border |
| Cycle route development in Serbia | Danube Cycle Route, Serbia | Successful cycle route development in SE-Europe Cross border cooperation and knowledge transfer |
| Vias Verdes: the greenways of Spain | Local routes in Spain | Heritage and use of existing resources like abandoned rail tracks |
| Danube/Wachau | Danube Cycle Route, Austria | Long term sustainable tourism |
| Urban long distance cycle route in Berlin | Berlin Wall Trail | Development of a route in a large city interfacing city and cycle tourism |
| <i>Route Marketing</i> | | |
| Trail marketing: the Amber Trail, Poland | Poland/Czech Republic | Cross border trail marketing |
| Themed trail support publicity: CY.RO.N.MED | Italy, Greece, Malta and Cyprus | Themed trail support publicity Cross border partnership |
| Marketing to tourism information providers | Countries around the North Sea Cycle Trail | Marketing to tourism information providers along the route |
| Along the European Green Belt – Forum Anders Reisen | All countries along the former Iron Curtain | Trail marketing in early stages |

| Project name | Routes/destination area | Key issue |
|--|---|--|
| <i>Supporting Facilities</i> | | |
| Treinreiswinkel rail-cycle ticket sales | Rail-ticket shop in The Netherlands | Strong growth of sales due to extension of international cycle carrying rail network |
| Fietsvakantiewinkel tour operator | Cycle Holiday shop in The Netherlands | The Netherlands: coaches, package holidays |
| Bett&Bike: Cycle-Friendly accommodation | Accommodation provision in Germany | Criteria and success of accreditation scheme |
| Full public transport integration | Entire Veloland Schweiz network – Switzerland | PT integration, example of slow tourism |
| <i>Monitoring</i> | | |
| Sustrans monitoring survey | North Sea Cycle Route | Monitoring consistently |

4.2. Route Development

4.2.1. SchweizMobil Network

Introduction

“Veloland Schweiz” is the brand name for the network of 9 routes across Switzerland which were established in 1998. Their success stimulated the development of a national non-motorised traffic (NMT) network. To achieve this, one coordinating body, Stiftung SchweizMobil (SSM, Switzerland Mobility Foundation), was founded in 2008. It relies on federal and private partnerships.

Background

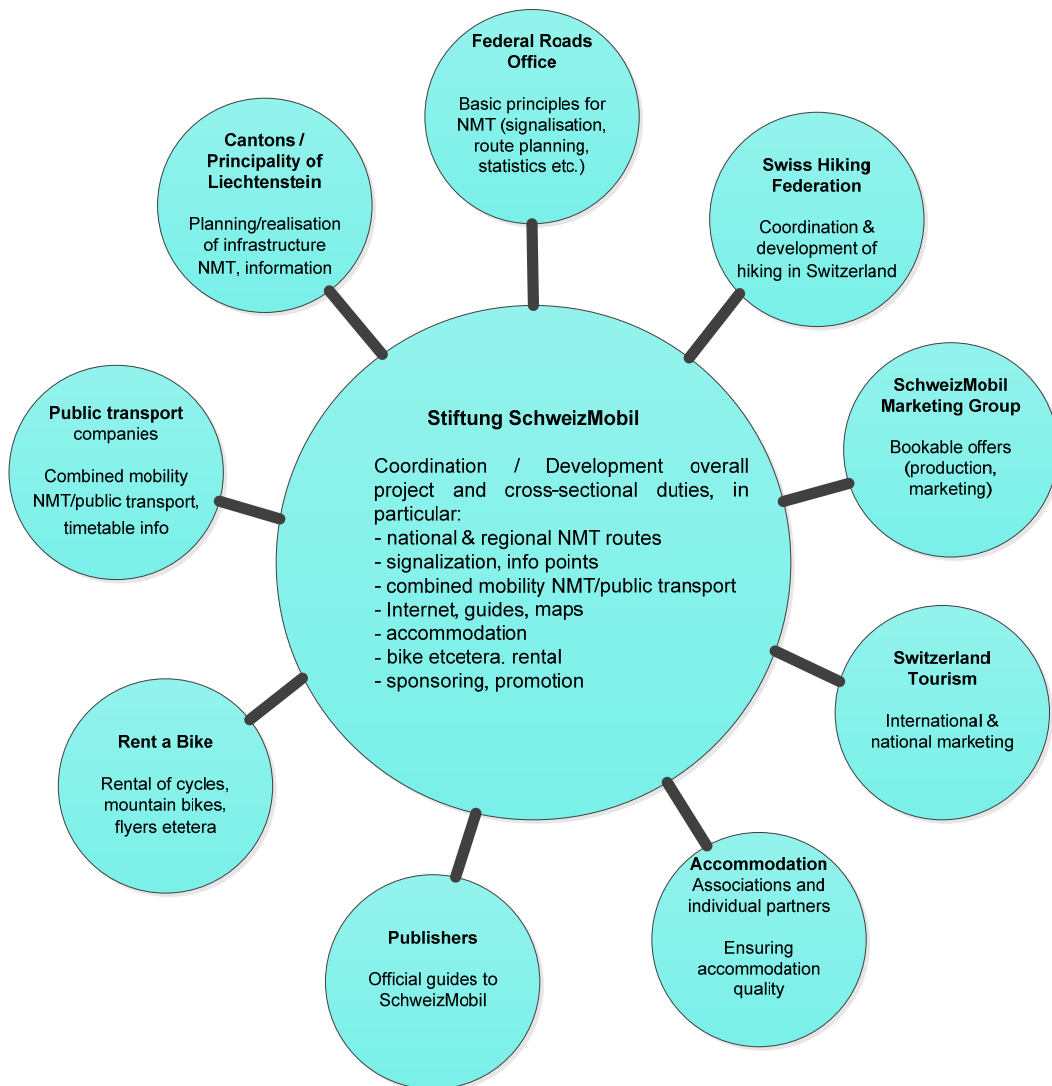
The idea of a Swiss national cycle route network was discussed in 1993. Stiftung Veloland Schweiz (Cycling in Switzerland Foundation, SVS) was founded and route planning commenced in 1995. A total length of over 3,000 kilometres of cycle routes with standard signage throughout all cantons opened in 1998.

Use of the Veloland network has been high from its inception: the total number of cyclists was 3.3 million in 1999, rising to 5 million and a total spending of €124 million in 2009 (Utiger & Richardson, 2000; Utiger & Rikus, 2010). In 1998, SVS broadened its objectives to develop other sustainable, non-motorised tourism products in combination with public transport. Further discussions led to the idea of SchweizMobil (Switzerland Mobility) with the aim of creating a national route network for slow tourism and recreation travel. After cooperation with the Swiss Hiking Federation, SVS was replaced by SSM in 2008 (Switzerland Mobility Foundation, 2008c). Besides Veloland Schweiz (now including regional cycle routes), SchweizMobil incorporates hiking (Wanderland Schweiz), mountain biking (Mountainbikeland Schweiz), skating (Skatingland Schweiz) and canoeing (Kanuland Schweiz). Access to all of these products is provided by one website¹⁹.

¹⁹ www.schweizmobil.ch.

The SchweizMobil network comprises 22 national and 147 regional routes, with a total length of 20,000 km (Stiftung SchweizMobil, 2008b). To ensure sustainable development and local commitment the routes were selected in close cooperation with cantonal NMT specialist departments, NMT specialist organizations and tourism organizations. In this way the many organizations were brought into an all-embracing process with various federal departments, cantonal offices, municipalities as well as NMT specialist organizations and the Principality of Liechtenstein (SwitzerlandMobility Foundation, 2008c). The routes represent a selection of the most attractive ones across Switzerland and offer a standard level of signage and interpretation which is important for the user. SSM estimates the turnover from its network to be €200-340 million for 2008 (Stiftung SchweizMobil, 2008b).

Figure 23: SchweizMobil organisation, partners and responsibility



Source: SwitzerlandMobility Foundation (2008b).

Organisation and partners

SSM is organized as a network of partners, each with their own responsibility. SSM itself is responsible for overall project coordination (see figure 23). All SchweizMobil routes are linked to the services of these partners (public transport, bicycle rental, accommodation, etcetera). For example, about 1,200 partner enterprises have been awarded the Switzerland Mobility Foundation accommodation quality label and Rent-a-Bike offers a

range of bicycles (3,000) at over 100 cycle-rental points. The Foundation Board and Committee include key persons from many of these partners and other institutions (e.g. Swiss Olympic Organisation, Swiss Alpine Club, and Swiss Touring Club). Other partners include main Federal Offices, 3 national sponsors and a range of private organizations and firms. The campaign 'slowUp' has its own partners and sponsors. SSM emphasises the teamwork of all these partners being responsible for the realisation of SchweizMobil (Switzerland Mobility Foundation, 2008c, 2009).

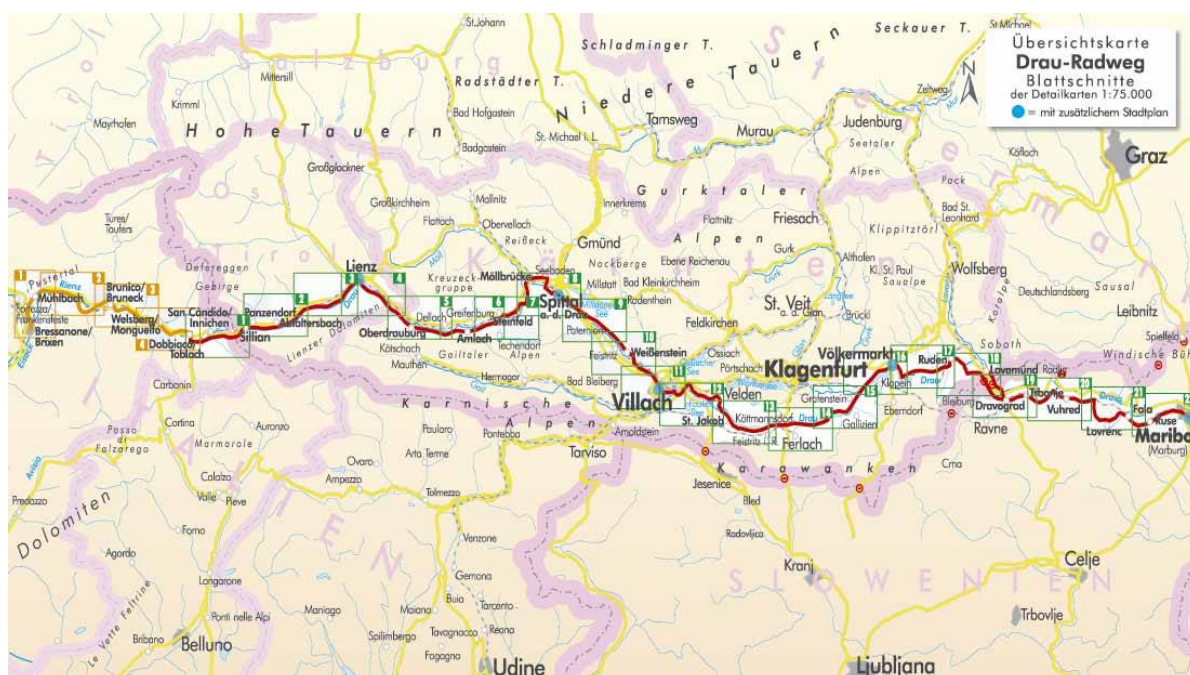
Implications

The case study highlights the key to the development of a network with high quality standards with regard to surfaces, signage and interpretation. Equally, it is a good example of stakeholder involvement to ensure that the interfacing sectors such as tourism, sport, transport and local economy are integrated into the programme of development. This is illustrated in Figure 23.

4.2.2. Drau cycle route and rail transport

The Drau route is 366 km in length and runs mainly through the Drau-valley in the south of Austria. It starts at Brixen in Italy and runs through to Maribor in Slovenia. The first short section climbs to Dobbiaco; this is followed by a very long stretch of the route to Völkermarkt which is continuously downhill. Therefore, a popular way to ride this route is by taking a train uphill to Italy and to cycle downhill back to Austria. The Austrian railways (ÖBB) offer a 2-5 person *Einfach-Raus-Radticket* (Simply out with a bike) at the cost of €35 including bike transport. The ticket is valid on all local and regional trains (only after 09.00 hours on weekdays). Local tourist offices also offer special packages for cyclists (ÖBB, 2009).

Figure 24: Map of the Drau route



Source: www.esterbauer.com/buecher/uek/drau_uek.htm.

The Cycle & Rail packages relate to single tourism regions. With the different tourism regions in Kärnten and Osttirol several Rail-combi packages have also been developed to ensure that visitors are not bothered by issues related to administrative boundaries. These packages are distributed only through Travel Agencies.

The Pustertal tourism office promotes the Drau route as being ideal for families with children as they can cycle gently downhill and take the train back. This valley also offers the Drei-Zinnen ticket that gives a full week access to all rail and bus for €42 (€110 for family). The tourist authority also presents a full page advertisement on welcoming holiday-makers without a car, stressing opportunities for cycling (Hochpustertal, 2009).

Implications

This case highlights the way in which local tourist authorities and transport providers can design and promote transport and tourism as a tourist experience. In this case the appeal of train and a downhill cycle ride has proven to be very popular.

4.2.3. Cycle route development in Serbia

Introduction

It has been said that The Danube is the most European of Europe's rivers. From its source in the Black Forest it flows for 2857 kilometres through 10 countries to the Black Sea. The Danube Cycle Route is one of Europe's oldest and most popular long distance cycle routes, although its success has long been reported with regard to the Austrian section in earlier decades (Lumsdon, 2000). The Danube route also forms the eastern half of EuroVelo 6 (Atlantic – Black Sea). The River Danube flows for about 588 km through Serbia, where the cycle route is also to become part of the proposed Iron Curtain Trail. Therein lies the potential to disperse demand and build new markets.

Economic Development and Employment Promotion Programme

Boosting economic activity in this lower Danube region is one of the important goals of different programmes implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), former GTZ, on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). These programmes promote tourism, investment and environmental protection in the Danube riparian states in South-Eastern Europe.

Together with national coordination teams and communities along the Danube, the programmes seek to develop and implement sustainable tourism for the lower Danube region, which is seen as a key element in South-Eastern Europe's integration into the European Union. Starting in 2004, one of the first steps was to extend the Danube Cycle Route from Budapest to the Black Sea. This has included route development and the provision of advisory services for tourism enterprises, supporting marketing activities and economic cooperation along the Danube. Opportunities are available through public-private partnerships (PPP projects) to stimulate this process. Other elements include the creation of new jobs, building on the cultural and natural potential and the establishment of various forms of sustainable tourism (GTZ, 2009; Limbert & Matijasevic (GTZ), 2009).

Figure 25: The Danube in South-eastern Europe

Source: www.danube-info.org.

Danube Cycle Route development in Serbia

The Serbian route was not newly constructed. Instead, existing stretches were identified by local cycle tourism experts (NGO Ciklonaut) and the German ADFC (in the initial stages), so that they could be improved. 8 GPS-compatible maps covering the route from Budapest to the Black Sea were then published. The most important step was route signage in Serbia, executed by the Serbian authorities and supported by GTZ. The signposting system and design were made by cycling association Ciklonaut Belgrade, based on experience from other countries and EuroVelo standards (see figure 26). This cooperation was important element in the project's success.

After some scepticism in the initial phase of the project, development of the Danube Cycle Route was recognised as important tourism product by the Serbian authorities, especially by Ministry of Economy and Regional Development. Convinced by practical results, they increased investment in the development of cycling routes. Not only in the refurbishment of existing routes, but also by building new cycling paths in cities along the Danube like Belgrade, Novi Sad, Apatin, and Sombor.

The GTZ Belgrade team sees the Iron Curtain Trail as a very positive development for cycle tourism in general and for Serbia in particular. The same is said for EuroVelo, which requires further implementation (Limbert & Matijasevic (GTZ), 2009). Training courses have been introduced to support the local population in setting up accommodation businesses. Extensive information on the 4 project countries and the Danube Cycle Route (e.g. detailed stage information, cyclist feedback, and press clippings) is offered on a dedicated website²⁰

²⁰ www.danube-info.org.

Figure 26: EuroVelo route sign along the Serbian part of the Danube Cycle Route

Source: http://www.ciklonaut.com/projekti/DBR/dbr_signalizacija.htm.

Project successes

The Serbian route was officially opened in July 2007. Over 85% of the 667 km are asphalted and only 5% of the route follows busy roads. The route has been completely signposted over a length of almost 1,100 km (665 km main route plus about 400 km of alternative routes). The number of accommodation businesses has increased rapidly along the Serbian part of the Danube which is having a positive effect on employment and local economies. For example, in some municipalities 20 % of tourist arrivals in private accommodation are currently made by cyclists (Majdanpek Tourism Organisation 2012 in Matijasevic (GIZ), 2012).

The Danube Cycle Route is mapped from Budapest to the Black Sea. The South-Eastern European part of the Danube is now much better known, which is evident by the steady increase in tourist arrivals. Also, more and more cycle tour operators from Germany, Austria, Netherlands and Belgium have recognised the emerging market and offer cycle tours in the Middle and Lower part of the Danube region.

Monitoring cyclist volumes has been implemented since 2009, when the first permanent cycling counter device in Serbia was set at the Iron Gate. The comparison of the counter data and data from 2005 (when Danube cycling traffic was estimated by interviewing Tourist organisations, pension owners, ferry services, etcetera, in the Iron Gate area) shows a 6 fold increase (Erakovic (Ciklonaut) 2012 in Matijasevic (GIZ), 2012).

success factors have been the involvement of cycling experts in the projects, good cooperation with authorities from all levels, transfer of know-how from other countries (especially from Germany), and intensive promotion measures. In the first 6 years, more than 100 articles were published in the key source markets, increasing the number of foreign cycle tourists using the route. The further development of the Danube cycle route depends on successful coordination of the stakeholders in the Danube region, on all levels, and cross-border cooperation with neighbouring countries (Matijasevic (GIZ), 2012).

Bicycle transport

The current position of cycle carriage on trains is far away from optimal. Officially, bicycle transport is possible if the bicycle is disassembled and packed in the appropriate way, so it can be treated like personal luggage in passenger compartments. However, experiences of cycle tourists show a degree of flexibility from the railway authorities regarding this issue. There has been some positive development after the introduction of bicycle compartments on some international lines (e.g. Prague - Belgrade). Until further improvement in this sector takes place, it is possible to use long distance busses and air travel for bicycle transport to Serbia (Matijasevic (GIZ), 2012).

Implications

This project highlights the usefulness of exchange of knowledge and skills and the requirement to stimulate the tourism sector to be proactive rather than reactive in the early stages of tourism development. As an indication of how the project has developed 2 cycle tours organised by the European Commission departed from Budapest and the Romanian-Bulgarian border in July 2009 and ended in Belgrade. The idea was to foster the dialogue between citizens from EU countries and potential Member States (ECF, 2009).

4.2.4. Vias Verdes: The Greenways of Spain

Introduction

This case study aims to illustrate 3 main factors in route development. Firstly, it shows how good use can be made of disused resources of the industrial past into recreational assets for the future. Secondly, it shows how heritage and architectural features can be preserved and made into public and commercial ventures. Finally, it highlights the importance of involving local communities in route development.

A Via Verde is greenway or a multi-user route. Greenways are to be found across Europe but especially in France, Wallonia (Belgium), Spain and the UK. In Spain in particular, they are designed to be accessible for the mobility impaired as they have gentle gradients and sealed surfaces. There are currently 1700 km of Vias Verdes across Spain with 70 routes ranging from 1-160 km in length. There is another project, Revermed, which is seeking to link the existing Vias Verdes together so as to form a long-distance route spanning 4 countries-Portugal, Spain, France and Italy.

Vias Verdes

The main aim of the project is to convert disused railway lines into non-motorised routes for easy access and safe travel without fear of traffic (including mopeds and motorbikes). The routes are used mainly by local communities and visitors for walking and cycling.

In 1993 an audit of the disused railways of Spain was undertaken to determine the condition of 5764 km of trackbed, 954 railway stations, 501 tunnels and 1070 bridges and viaducts many of which were Victorian works of art. Most of these were still in the ownership of the state but falling into disrepair. In addition, 1920 km of private mineral lines were discovered in a similar condition. Thus, in the mid-1990s there were over 8000 km of old railway network which could be given a new lease of life as recreational multi-users routes. A Master Plan for Infrastructure was designed to bring these assets back into use as greenways or multi user linear routes especially for cycling and walking.

The Vias Verdes project is managed by the Spanish Railways Foundation with the backing of the railway companies ADIT (previously RENFE until 2005) and FEVE, and the Ministry of the Environment. It has extensive links with other government departments and regional and local governments in Spain. The principal tasks of the Spanish Railway Foundation are to deliver the master plan, offer technical advice and to promote the Vias Verdes.

Heritage

One of the most important aspects of the Vias Verdes project has been the way in which redundant railway assets have been restored in an inspirational way. The project has encouraged the restoration of hundreds of distinctive railway features such as stations, tunnels and viaducts so that they can reflect the rich architectural heritage of the railways in the 19th century:

“giving them the social and economic importance they once had in towns and villages for decades. This aspect is of great importance given the evocative and sentimental power the railway world has on people’s collective memory.” (Aycart, 2004, p. 7)

Another important aspect is that the restoration process has involved minimum change to the environment in terms of using pre-existing infrastructure, local materials and using simple building techniques following the approaches adopted by the original railway builders. Other environmental aspects have included the use of native species in the provision of vegetation in some places and solar powered lighting such as in the tunnels.

Of equal importance has been the re-use of many of the old railway stations. Over 50 old station buildings have been restored to be hotels, restaurants, information points, museums of nature or cultural heritage, rent-a-bike points, etcetera. This represents an important contribution of local development and the creation of new jobs especially in rural areas. This has been a major success factor for many of the Vias Verdes. For example, a survey of the Via Verde de la Sierra undertaken by the Tourism Observatory of the Province of Cadiz in 2005 indicated that between 28-64% of the users had used the services offered at the 3 railways stations on the route offering refreshments.

Community Involvement

The third aspect that this case study highlights is the way in which the project has included many local town halls and communities throughout Spain, not only in the design of the routes but also sometimes in the construction and maintenance of the Vias Verdes in each locality. The success of this approach to encourage local people and the mobility impaired to use the Vias Verdes is reflected in several surveys which have been undertaken on different Vias Verdes during the past 10 years. For example, a survey undertaken in the routes near the city of Girona in Catalunya indicates that they are used by 52% of women (much higher than many other such routes in Europe) walking and cycling for less than one hour. This Via Verde is used by 1 million people per year; it is one of the most popular greenways in Spain (Ministerio de Industria Turismo y Comercio, 2007).

Feedback on Vias Verdes is maintained with this wide range of partners through a website²¹ and there’s a monthly bulletin sent to over 12,000 subscribers. The routes are promoted by guides and to the media and study groups by a ‘Magic Tour’ of several Vias Verdes. The routes are also promoted at major international trade fairs such as FITUR.

²¹ www.viasverdes.com

Implications

The Vias Verdes show how to re-use disused resources to good effect. In the past 10 years the project has produced a sustainable tourism product. These have been developed through strong ties with local communities. The case also illustrates how industrial heritage can be simultaneously used to provide access to natural areas for a wide range of users.

4.2.5. Danube/Wachau

Introduction

The Danube Cycle Route is perhaps the best-known and most popular cycle route in Europe.

The Danube Cycle Route (Donauradweg) was developed in the early 1980s after an increased demand for cycling tourism was noted in the years before. The Route measures 463 km in Austria, of which 188 are in Upper and 275 in Lower Austria. Initially, local tourism businesses opposed cycle tourism development as it was viewed as a temporary trendy thing to do. Now, many accommodation providers and restaurants are reliant on the cycle tourism business in many of the smaller towns and settlements (Bernhofer & Miglbauer, 2008).

The 1990s saw the highest visitor frequencies of all cycle routes in Austria (Bernhofer & Miglbauer, 2008). In 1994 it was estimated that, between Passau and Vienna, the route generated 80,000 overnight stays per annum, an increase of 27% in 10 years (Landesverband für Tourismus 1996 in Lumsdon, 2000). Towns became increasingly dependent on cycle tourism with reported cycle tourist shares of 60 to 80% of occupancy in local accommodation (Lumsdon, 2000). In summer 2006, 230,000 day excursionists and 65,000 overnight cyclists were counted between Passau and Vienna (Werbegemeinschaft Donau Oberösterreich, 2006). On the same stretch, 145,000 overnight cyclists and 146,000 day excursionists were counted in 2010 (ARGE Donau Österreich, 2011). It appears as though the calculation methods of these last 2 reports differ, but user numbers stay high. Cyclists are mainly from Austria, Germany and The Netherlands, but increasingly from other countries like France, the Czech Republic, Italy, Hungary and even the USA (Bernhofer & Miglbauer, 2008).

The 2012 ADFC cycle travel analysis ranked the German part of the Danube Cycle Route in fifth place of the most cycled routes and third place of most beloved routes in Germany in 2011. The Austrian stretch of the Danube Cycle Route has been the most popular foreign route for German cycle tourists for many years (Giebeler & Froitzheim, 2012). The German Danube section is also top of the 10 favourite routes of German holiday cyclists in the Trendscape survey (8% of the total favour this route); the Austrian part ranks 8 with 2%. When asked about their most likely future long distance routes, the German Danube section ranks first again (13%) and the Austrian part fifth (4%) which incidentally was the only foreign route (Trendscape, 2008a). However, the route appears to have reached its saturation phase for many cyclists from traditional markets like Austria, Germany and The Netherlands, so that new markets need to be sought (Miglbauer, 2012).

Compared to the whole of Lower Austria, the Danube Cycle Route draws a significantly larger number of higher income cycle tourists. Overnight and day cyclists also spend more per person per day than on other Lower Austrian routes. This may partly be as a result of the higher share of foreign cyclists on the Danube Cycle Route: 40% compared to 15% in

all Lower Austria (MANOVA, 2007). In Lower Austria the route generates a turnover of €6.5 million annually (Weinberger, 2008); a figure of €71.8 million is also mentioned for the Passau-Vienna stretch (ARGE Donau Österreich, 2011). Lower Austria has implemented an extensive monitoring system on its 7 main cycle routes, of which some results are publicly available²². Cyclists are monitored at 23 locations on 2 single weeks every 2 years. Direction, rainfall, temperature, user type (adult, child, cyclist, skater, hiker, etcetera) and speed are measured.

The route has extensive links with bus, boat and train services, and several companies offer lightly packaged cycling holidays using these facilities (Lumsdon, 2000). To maintain its' international top position, a number of measures have been planned or are regarded necessary for the Danube Cycle Route:

- positioning towards new cyclist markets in other countries;
- offering round trips combined with gastronomy and events;
- use of new technologies in guest communication and information;
- developing soft tourism products with bicycle-boat-train combinations;
- improving infrastructure and service quality (such as through training, certification), also in terms of a more international orientation of tourism businesses;
- introducing systematic monitoring of route users (Bernhofer & Miglbauer, 2008; Miglbauer, 2012; Weinberger, 2008).

Implications

The Danube Cycle Route in Austria indicates that long distance cycle routes can become mainstream in their appeal to an international market. It also notes the relevance of planning for development when a product is nearing maturity.

4.2.6. Urban long distance cycle route in Berlin

The Berlin Wall Trail traces the former GDR border around West Berlin for a total length of 160km. It was initiated by Michael Cramer (MEP), then a Member of the Berlin House of Representatives, and it is a good example of how to safeguard and experience an important piece of cultural and political heritage through active participation by cyclists and hikers. The Berlin Wall Trail served as a model for the Iron Curtain Trail that was launched in 2005, on Michael Cramer's initiative as well (See Chapter 5).

Background

The construction of a continuous Berlin Wall Trail (Berliner Mauerweg) for pedestrians and cyclists followed a resolution passed by the Berlin House of Representatives in 2001, 40 years after the Berlin Wall was built. In this way it was envisaged that the former border patrol roads, along with the remaining border installations, could be saved and documented. The trail is there to connect historically important locations and valuable nature areas, so as to offer a combined leisure-culture-tourism product (Flierl, 2006). The trail is based on the concept underpinning the Boston Freedom Trail, a themed walkway about the American war of independence (Cramer, 2008b).

²² See <http://fznoe.ebe-solutions.at>.

Figure 27: Signage on the Berlin Wall Trail



Source: <http://www.berlin.de/mauer/mauerweg/index/logo200.jpg>.

The Berlin Wall Trail was constructed between 2002 and 2006. A host of different projects were carried out: restoring sections, placing signs (around 600), installing map cases (100) and information boards at historically significant locations (17) and building centre islands and underpasses. The Berlin Wall Trail project cost a total of around €4.4 million. Approximately 90% of the funding came from the German Federal Government, with other funding from the Berlin Senate Department for Economics, Labour and Women's Issues and from the Berlin Senate Department for Urban Development's own resources. These funds were also used to finance some of the construction for the Wall Trail on land belonging to Brandenburg, the federal state that surrounds Berlin (Berlin Senate Chancellery, 2009). Cramer (2008b) mentions a figure of €10 million for 2002-2007. In recent years, Berlin politicians and administrators have been actively encouraging cycling as a low investment option. Bicycle use has increased from a 3% (East Berlin) and 6% (West Berlin) trip share before 1990 to around 10% for the city in 2007. That was the highest share for a European city of this size at the time. The city's bicycle strategy aimed for a 15% share in 2010 (Berlin House of Representatives, 2004; Pucher & Buehler, 2007). According to some internet sources this aim was achieved in 2011 (13% in 2010).

The Trail

The Berlin Wall Trail is divided into 19 individual sections, ranging between 7 and 21 kilometres. More than 40 different locations provide information including historical photographs with explanation in several languages. The start and end points of each section can be reached by public transportation and most trams, subways, urban (S-Bahn) and regional trains accept bicycles on them (Berlin Senate Chancellery, 2009). The trail is now used by residents and tourists alike; tourist use is increasing steadily (Flierl, 2006). Guided tours are offered, including overnight tours of up to 8 days. Each year in summer, some 1,000 residents and tourists participate in the guided tours offered by the Alliance 90-The Green party (Bündnis 90/Die Grünen) in the Berlin House of Representatives (Lange, 2008). Detailed Esterbauer bikeline guides of the trail are available in German and English. Extensive information on the sections is also available online²³.

Implications

The case indicates that urban heritage, city tourism and soft mobility can be developed in conjunction to offer both residents and visitors an opportunity to enjoy the tourist experience in a sustainable manner. Other cities have been involved in this type of development including Edinburgh, Basle and Bilbao.

²³ See www.berlin.de/mauer/index.en.html.

4.3. Route marketing

4.3.1. Trail marketing: the Amber Trail, Poland

The Route

Amber Trail Greenways programme (ATG) refers to a green corridor and international cycle route running from Cracow, Poland to Budapest, Hungary, via Banska Stiavnica in Slovakia (Amber Trail Greenways, 2008a). EuroVelo 9, the Amber Route, runs from Gdansk on the Baltic coast to Pula on the Adriatic Sea, running through Poland, Czech Republic, Austria and Slovenia, a total distance of 1,930 km (ECF / Wiki). The principal cycle tour operator for the Amber Trail (Topbicycle) offers a package which makes good use of the trail development to date: Cracow – Budapest (307 km); Cracow – Vienna (447 km) and between the northern and southern Czech borders (315 km) (Topbicycle, 2008a, 2008b, 2008c).

The Amber Trail

The initial development of the Amber Trail in 1996 involved several years of preparation. In particular the aim was to work with local communities to develop the tourism potential. This involved consultations and training for the development of tourism services and local products. In Slovakia, like many Eastern European countries, the situation was difficult because of the slow development of a free market in the early years (Rosac, 2009).

The philosophy behind the development and promotion of the route is the Amber trade which used the old routes of Central and Eastern Europe. These routes had a number of other roles historically such as military or religious pilgrimages. The Central and Eastern European Greenways programme (CEG) of the Environmental Partnership for Sustainable Development Association (EPSD) are responsible for the recent development of the trail (Amber Trail Greenways, 2008a). The project aims:

“to create an open network of cooperation between civic, communal, business, and governmental organizations that can provide complex and diverse support for efforts of local people to build and revitalize publicly beneficial trails and natural corridors called ‘greenways’ in countries and regions of Europe” (Amber Trail Greenways, 2008a, p. 1).

Development of the trail is funded by individual supporters and community groups, and also larger scale contributors including DG-Environment of the European Commission and The German Marshall Fund of the United States.

Marketing

The Amber Trail is currently not well known in the tourism market, but this situation is changing with efforts being made by the route developers to improve awareness (Rosac, 2009). The trail is marketed by utilising historic and cultural aspects of the areas along the route. The diversity of the different regions which the trail passes through, offers a range of experience which tourists can combine with cycling (Topbicycle, 2008d). Local attractions presented on the web page of the principal tour operator are the pilgrimage sites such as Kalwaria Zebrzydowska in Poland, handicrafts in Slovakia, and of course the history of the amber trade (Topbicycle, 2008b). A range of carnivals, and food, arts and cultural festivals are linked to the settlements along the trail.

The Amber Trail Greenways programme works in conjunction with Topbicycle, the principal tour operator which delivers package tours on sections of the route of 7 and 10 days duration. Packages can be self-guided or guided (more expensive) and include accommodation, bike rental and baggage transfer. There are also partnerships with local travel agencies such as 'Green Traveller' (a sustainable tourism agency). The collaboration with Topbicycle is mutually beneficial as the Greenways partnership provides the route development and operation, whilst Topbicycle is responsible for marketing (Rosac, 2009). In terms of signage of the route, only the section in Poland has been completed to an accepted standard to date.

Sustainability

Heavily engrained in the mission of the ATG is the requirement to embrace sustainability, both to the natural environment, and to the historic, social and cultural heritage of the land and settlements within the trail corridor. The programme represents a 'bottom up' response to the impacts of the former communist governments on the land and communities. The emphasis is on re-establishing sustainability of individual local communities and the bridges between them (Amber Trail Greenways, 2008c) whilst also maintaining local diversity as a reaction to uniformity of the 21st century (Amber Trail Greenways, 2008a). The activities surrounding the development of the trail have helped many of the adjacent settlements to become more accustomed to tourism development at an acceptable pace (Rosac, 2009). Environmentally friendly tourism is widely promoted, and protected areas conserved (Amber Trail Greenways, 2008c) as there are 6 UNESCO world heritage sites on the route (Amber Trail Greenways, 2008b).

Usage

It is estimated that the annual numbers riding between Cracow and Budapest are currently in the hundreds, Vienna and Prague, in the thousands and the 'Danube route' in the region of 1.5 million a year. July and August are the busiest months but temperatures are high and tour operators recommends May, June and September as more suitable times for long distance cycling.

Implications

The emphasis on sustainability and the commitment of the development programme to maintaining local diversity are the hallmarks of this case study. By working at the grass-roots level, both residents and visitors benefit from the development of this trail. In the eyes of the management team the most transferable best practice involves persistence and being prepared to start at a small scale. Additionally, the orientation of the project to business, profit and enterprise, through the early establishment of small travel agencies (especially in Slovakia or Poland) which have generated tourists rather than lines on a map are key to route development (Rosac, 2009). This also provides a good example of cross border collaboration between partners.

4.3.2. Themed trail support publicity: CY.RO.N.MED

The CY.RO.N.MED network is a series of linked cycle trails of the Mediterranean countries of Italy, Greece, Malta and Cyprus. CY.RO.N.MED stands for Cycle Route Network of Mediterranean (CY.RO.N.MED., 2009a).

Objectives

The main objectives are to increase sustainability of the route network by focusing the project on the reduction of environmental impact by travelling by bike ('Zero emission') and the integration with public transport and sea links. The project is aimed at improving the quality of life in the towns and cities (CY.RO.N.MED., 2008).

Organisation

The project is part of INTERREG III drawing much of its finance from this source (CY.RO.N.MED., 2008). The partnership which has formed the network comprises regional transport departments in Italy (Puglia, Basilicata & Calabria), Community programme in Campania region of Italy, municipalities in Greece (Athens & Karditsa), the Cyprus Tourism Organisation and Maltese Urban Development Ministry (CY.RO.N.MED., 2009a).

The Route

Cycling tends to be limited in Southern European countries because of a lack of available land, infrastructure, and links to other forms of transport, such as trains, boats, and air transport (CY.RO.N.MED., 2009d). The creation of the network is seen as a solution to this problem. The routes can be considered at several levels: either networks at an international or country scale or a region within a country, and also single routes. The design of the route uses the trails that are already in existence. Part of the design of the network, in the Italian region at least, is based on the need to link the major trails EuroVelo 5, 7, 8 and 11 to existing urban centres whilst also taking into account the topography and the existing structure:

"It is a region where the design of the territory is strongly influenced by the structure of the settlements and of the transport infrastructure network, in particular the network of both the old and the new roads." (CY.RO.N.MED., 2009b).

Formation of the network

The project team has carried out extensive preparation and planning to ensure that the network is designed and realised in the most effective way. Activity planning of the network has included a feasibility study of existing paths and transport links and studies on cycle-tourism in the area (CY.RO.N.MED., 2009c). One example of this is the Southern Greek section of the network. The feasibility study of a route between Athens and Patras (approx. 230km) included detailed information about possible rail and sea connections. As with most other sections of CY.RO.N.MED there is a main route plus many other secondary routes which branch off, and the study considered a number of different scales, including local areas, and in some places street level. (CY.RO.N.MED., 2008). An extensive analysis of the existing networks has taken place, evident in the amount of material (region-specific) available on the website, which includes detailed descriptions of each section of the network, plus rigorous analysis of the potential for joining the routes in each region.

Each partner country is at a different stage of development of their cycle network. Whilst Italy is already a popular destination for cycling (CY.RO.N.MED., 2007), Cyprus is very much planning for the future by creating new infrastructure. A Cypriot feasibility study included case studies of other European countries cycle networks, such as the UK and France, to inform the development of the network there (First Elements Euroconsultants Ltd, 2007).

The early signs of progress towards development of the trail include the inclusion of local cycle plans in all local authority regional urban policy documents, agreements with the water company (in the Puglia region) to re-use and transform waterside paths, the publication of results of the project by the Puglia region in public seminars and international workshops (Sforza, 2009). The regional transport law has for the first time taken into account regional cycle routes as a response to the results (Sforza, 2009).

Marketing the trails

In Cyprus, the marketing plan is targeted to markets in the UK, Germany and France (High priority), Scandinavia, the Benelux countries and Switzerland (medium priority) particularly focusing on cycling and other sports groups, and those who seek 'alternative tourism' (First Elements Euroconsultants Ltd, 2007). The many national parks, nature reserves and Natura 2000 sites in the vicinity of the network are considered to be added value to the network (CY.RO.N.MED., 2007).

The particularly strong focus on transport links plays a dual role, partly to market the flexibility of reaching various points of the network, in addition to the benefits in terms of increasing sustainable transport. There is a strong focus on removing impediments to cycling access to airports, ports and railway stations (by signage and safe storage) and making sure it is possible to carry bikes on the various ferries (CY.RO.N.MED., 2007). In the Puglia region of Italy, the rail authorities signed an agreement to develop infrastructure and abolish surcharges for bikes on the regional train network (CY.RO.N.MED., 2007).

Implications

The involvement of all partners from the 4 countries has been crucial; cross border cooperation is essential for success. It is the first time all partners have worked together to plan a cycle route. The technical assistance from ECF and FIAB has been essential to the success of the project (Sforza, 2009). The following elements of the project are considered as best practice (Sforza, 2009):

- Effective co-ordination of the partnership, attributable to the involvement of the lead partner and project management unit.
- Uniformity between countries, attributable to the involvement of a specialist technical assistance team.
- An online help-desk which provides further assistance.
- Workshops to raise awareness and promote local development.
- Promoting the same tourism theme between countries.

4.3.3. Marketing to tourism information providers

Introduction

The North Sea Cycle Route (EuroVelo 12) was launched in 2001. When launched it was the world's longest signed international cycle route at just over 6,000 km²⁴, passing through 8 countries bordering the North Sea. The Route was developed by an international partnership with 68 partners in Belgium, Denmark, England, Germany, The

²⁴ This will be surpassed by the Iron Curtain Trail when it is complete.

Netherlands, Norway Scotland and Sweden²⁵. The aim of this case study is to highlight the importance of marketing to tourism information providers when developing a long distance cycle route.

Promotion of the North Sea Cycle Route

The promotion of local tourism facilities is often the responsibility of local organisations. They are also charged with maximising the economic benefit from visitors to their area. Therefore, their focus can be narrow in terms of what is offered to tourists. In addition, those responsible for developing cycle routes within a location are not always the same as those responsible for promoting its use, particularly in the case of tourism. It is therefore important when developing a long-distance route to 'market' it to tourism information providers.

As part of the development of the North Sea Cycle Route (NSCR) the International Management Group (IMG) agreed a programme of monitoring. After the initial launch period an Internet based survey was undertaken of 159 tourism officers in regional and local tourist offices responsible for promoting destinations through which the NSCR passes.

The study

The study revealed that many tourism offices on the route either did not know of its existence or had little knowledge of it; only 13% said that they were 'familiar' or 'very familiar' with it. This finding encouraged the Secretariat of the NSCR to investigate ways to improve awareness of the route amongst tourism information providers. With some additional funding from the European Union the IMG produced a promotional film of the route. This short film gave a 'flavour' of the 8 countries through which the route passes. It also highlighted the international status of the route. The film was distributed by the NSCR national project partners in DVD format to the tourism offices that took part in the initial survey.

A follow-up survey was undertaken 2 months after distribution of the film, as previously through an Internet site. Of the respondents who reported receiving a copy of the film, 86% had watched it. The survey findings reported a significant improvement in the awareness of the NSCR. **The proportion of tourism officers now reporting that they were 'familiar' or 'very familiar' with the route had risen to 72%.**

Implications

This case study demonstrates the importance of marketing by the management groups of long distance cycle routes that are being developed for tourism purposes. In particular it highlights the need to maintain marketing communication throughout the development of a route with tourism officers and information providers. It also shows that visual media, in this case a short DVD film, is a popular medium that encourages recipients to engage with it and can therefore be very effective in raising awareness in this group.

²⁵ <http://www.northsea-cycle.com/>.

4.3.4. Along the European Green Belt – Forum Anders Reisen

Introduction

The aim of this case study is to highlight the importance of private sector support to encourage the development of new routes. It also seeks to highlight the importance of **offering culture and nature as 2 prime attractions of themed routes.**

Development of the Green Belt Tour

In 2009, celebrating 20 years since the Berlin wall and the Iron Curtain had been opened up, Forum Anders Reisen e.V. (FAR), Germany's association for small and medium-sized sustainable tour operators, decided to organise a 109-day cycle tour along the European Green Belt²⁶. The tour was split into a Northern and a Southern tour. Both parts started on June 17, 2009, then met in the Harz National Park some 3 months later (see map). From there on, both tours cycled together towards Berlin, where the tour ended on October 3, the Day of German Unity. Altogether 19 countries were crossed, all with sustainable transport modes – mainly bicycle. Both tours costed around €11,000 per person.

Both were divided into 7 stages that were organised and guided by FAR member operators who are specialists for each travel area. Customers could book a whole tour or for single stages. With regard to the course of the route FAR set a few criteria. The main one was that the route should always run within 100 km from the former Iron Curtain. Border crossings were encouraged in order to promote the cross-cultural aspect. The 9 operators fine-tuned their stage design with FAR. The name Green Belt ("Grünes Band") was chosen because of its appeal in the German language (the main target group), but also because it has a positive image. The name Iron Curtain Trail, it is argued, would not be as effective in generating interest in the German market. The tour was sponsored by Koga-Miyata, Friends of the Earth Germany (BUND) and the European Nature Heritage Fund – EuroNatur. The latter 2 nature conservation organisations are both active along the Green Belt.

Sustainable Tourism

Remembering the former European division by visiting heritage locations and experiencing nature conservation along the Green Belt were priority activities. Besides choosing the bicycle as a sustainable form of travel FAR had set a number of objectives so that the route was clearly positioned as a sustainable tourism offering:

- staying in sustainable accommodation facilities;
- recommending public transport for travelling to starting locations;
- actively supporting nature conservation by visiting protected areas;
- supporting interest in cultural and historic heritage;
- fostering environmental awareness;
- generating public interest in sustainable tourism.

²⁶ <http://www.radreise-gruenesband.de/>.

Implications

The tour may have been more of a public relations act than a standard tourism product but it illustrated the potential of tour operators to get behind a new idea and promote sustainable cycle tourism. A long-distance cross-cultural cycle tour matches perfectly the sustainable tourism philosophy of FAR. From an economic perspective the tour was not expected to be very profitable for the companies concerned. FAR organised a similar project in 2008: the Athens-Beijing cycle tour ("In 175 days around half of the globe") which connected the 2004 and 2008 Olympic host cities and was a great media success. 16 cyclists completed the tour from start to finish and some returned via the Trans-Siberian Railway to demonstrate that long-distance holidays do not have to depend on air transport. In summer 2012, FAR member Oekoplusreisen started a pilot tour, offering to cycle the German part of the Iron Curtain Trail (1400 km) in 7 stages of one week each.

Figure 28: The Green Belt Tour on the Iron Curtain Trail



Sources: <http://www.radreise-gruenesband.de>, (R. Polenz (FAR), 15-1-2009).

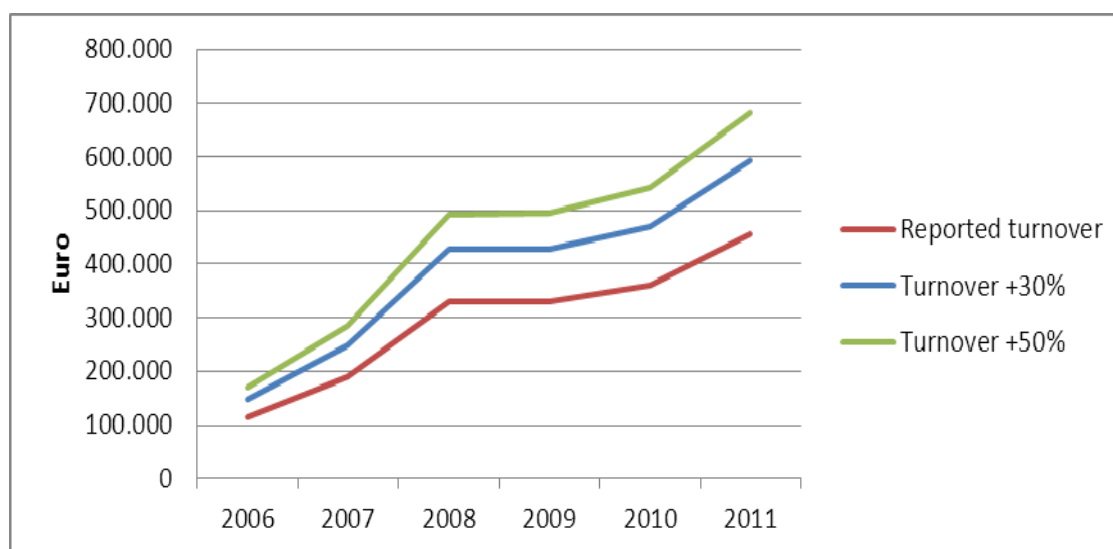
4.4. Supporting facilities

4.4.1. The Dutch 'Treinreiswinkel' (Railway Travel Shop)

Treinreiswinkel is the specialist travel agency in The Netherlands which focuses on rail travel, train round trip tickets, auto train tickets and other train travel packages. Coach tickets, ferry tickets, other public transport tickets, rented cars, hotels and holiday cottages are available as well. TRW was established 10 years ago; it has 40 employees and a turnover of more than €17,000,000. Bookings are made through travel shops in Leiden and Amsterdam and through the Internet web shop.

Approximately 2.6% of all train tickets sold by Treinreiswinkel are train and bicycle. Treinreiswinkel offers lightly packaged combinations of bicycle-train and long-distance cycling routes. For example, The Danube cycle route is in their travel programme and others routes are offered via the bicycle travel specialists. These bicycle travel specialists book their bicycle-train tickets with Treinreiswinkel. The establishment and extension of the Dutch CityNightLine (CNL - Night train network) has resulted in substantial growth in 2007 and 2008. However, the trend is not consistent across all destinations. For example, the discontinuation of direct night trains to Vienna and Milano in 2010 shows in decreasing ticket sales to Austria and Italy (Table 15 shows train-bicycle ticket sales to European countries over the last 3 years). Marketing is a very effective tool for generating interest and bookings for a destination. Treinreiswinkel's promotion of Ireland started in 2010 and as a direct result the train-bicycle ticket sales in that and the following year rose significantly. Similarly the increase in ticket sales to Germany can be explained by the active promotion of this country as a cycling destination (Brall (Treinreiswinkel), 2012).

Figure 29: Turnover related to train-bicycle tickets Treinreiswinkel Netherlands, 2006-2011



Source: Brall (Treinreiswinkel) (2012).

In relation to cycle packages there are, on average, 2.59 persons per booking, and average travel package price with bicycle amounts to €450 per booking. Turnover related to train-bicycle tickets has quadrupled between 2006 and 2011 (see Figure 29). These turnover figures are conservative and it is inferred that the real level is 30 - 50 % higher as not all cycle elements are recorded (see additional lines).

The company suggests 3 ways of improving train transport possibilities of bicycles:

- More direct bicycle transport facilities on the rail network.
- Facilitate bicycle transportation on all Thalys and ICE high speed long distance trains.
- Keep the possibility of carrying bicycles to Belgium (and on to France) on Fyra.

Table 15: Train-bicycle tickets Treinreiswinkel turnover in € per destination

| Destination | 2009 | 2010 | 2011 |
|--------------|----------------|----------------|----------------|
| FR | 43,933 | 81,253 | 96,595 |
| DE | 49,352 | 56,131 | 69,192 |
| NL | 43,232 | 47,045 | 49,905 |
| CH | 35,055 | 42,277 | 52,476 |
| IT | 39,693 | 25,022 | 52,786 |
| AT | 41,910 | 26,983 | 29,237 |
| CS | 24,852 | 19,098 | 22,037 |
| DK | 16,493 | 16,452 | 23,939 |
| EU | 11,388 | 11,050 | 7,938 |
| HU | 4,883 | 4,208 | 9,704 |
| IE | 851 | 8,884 | 7,109 |
| GB | 4,807 | 4,992 | 6,093 |
| PL | 2,974 | 2,759 | 8,990 |
| NO | 4,559 | 4,537 | 4,072 |
| BE | 3,205 | 4,759 | 4,550 |
| SE | 943 | 3,115 | 3,296 |
| LU | 476 | 1,348 | 2,031 |
| HR | 0 | 437 | 2,138 |
| SI | 971 | 891 | 683 |
| GR | 0 | 0 | 1,452 |
| ES | 419 | 142 | 477 |
| LT | 0 | 0 | 1,021 |
| SK | 0 | 733 | 286 |
| Total | 329,995 | 362,118 | 456,007 |

4.4.2. A tour operator: Fietsvakantiewinkel (Cycle Holiday Shop)

The role of the tour operator is an important factor in the package holiday market; some market segments still prefer a specialist to put together travel, accommodation and a cycle support service. Fietsvakantiewinkel (Fvw) is a specialised tour operator, based in Nijmegen in The Netherlands, which designs and sells cycle holidays to the public. Cycle tourism is its sole business concern (Houtstra, 2009). Fvw has been in operation for 30 years and has 6 employees. It started as a shop selling travel, maps, guide books and other material of interest to cycle tourists, however, a few years ago the shop was closed and it is now an 'e-business' using the website²⁷, e-mail, telephone and fax to trade. Fvw is the largest Dutch specialist in cycle tourism and offers travel within The Netherlands, in Europe and also outside Europe.

Fvw cooperates with bus transportation firms which transport cycles by coach and trailer such as Cycletours, Fital, Fietsrelax (all 3 located in The Netherlands) and Sausewind (Germany). There is also cooperation with Euro Express and Treinreiswinkel with regard to rail travel and finally there is collaboration with airlines which have acceptable bicycle carriage policies.

The Dutch bicycle holiday market is stable, though in recent years there has been a change in the market. The growth segments are elderly people (60 plus) and parents with children. There is very little bottom-up growth of younger people seeking this type of holiday. The total market is growing but the exact scale of the growth is not known.

In relation to holidays sold by the company the car has the largest modal share with 50% followed by bus at 20% and train at 15%. Air transport has a share of 8%, although Fvw is not active in the specific 'fly-cycle' market. Low cost carriers are one of the reasons for strong growth; the cheap fares contrast to the increasing cost of bus transport, the share of which has shown a sharp decline during the last decade. Increasingly special bicycle buses operate only in the summer holiday peak months of July and August. The principal reasons are rising costs (fuel and travel time regulation), comfort factors, growing competition of low cost carriers and a declining number of cyclists who opt for a holiday with a tent and touring bike.

Rail share had grown strongly in 2008 mainly due to the introduction of many new destinations by CityNightLine services (CNL) to Prague, Dresden/Berlin (Elbe Radweg), Passau and Vienna (Donau Radweg) which all carry cycles. In relation to Europe's most popular cycling destination, France, rail access is still problematic, but slowly improving.

A review of the prices per trip illustrates the disparity of the different travel offers. The bus ticket price averages €200 per person plus bicycle. For rail there is a far wider variation. Air transport also varies widely. Within Europe air tickets are between €50 and €450 per return ticket including bicycle: the lower end of this price range is very competitive in relation to other modes.

The e-shop sells all EuroVelo maps and guides, including EuroVelo 6, but demand is low. However, it is important to note that many established routes which happen to be part of the emerging EuroVelo have strong reputations in their own right. For example, the Donau Radweg has been known by customers as 'Donau' for some time and not as EuroVelo. The use of EuroVelo 6 in marketing campaigns and promotion materials has not, as yet, had

²⁷ <http://www.fietsvakantiewinkel.nl>.

much effect on customer awareness. There is currently no indication that the long distance EuroVelo routes add to the quality of the holiday. Currently, the principal appeal is that cyclists like to feel that they are on a route that runs all the way from the Atlantic to Black Sea. The Iron Curtain Trail is not well known by the company. The staff had heard of it but could not locate it precisely on a map.

Implications

Fvw is an important company within the Dutch organised cycle holiday market. For this market it seems that environmentally friendly bus transport is declining, but rail is growing; the latter market is growing quickly following the supply of more cycle transport on CNL. The speed with which the supply is followed by demand points to the existence of a latent market for cycle transport by train. This should be a signal to the train companies that there is a potential for growing this market.

There is also a question mark over the sustainability of cycle tourism as the share of air transport is growing as well as rail; this is replacing bus travel. Every 1% of all trips shifting from bus to air means at least an additional 4-5% greenhouse gas emissions where the same destination is chosen. As air transport offers a much wider range of destinations within a day's travel, it is likely that distances travelled will also increase due to this mode shift.

Finally the case shows that there is a role for tour operators within the sustainable development of cycle tourism but that there need to be realistic alternatives to air travel for this to happen.

4.4.3. Case Bett&Bike: Cycle-friendly accommodation

Introduction

Holiday cyclists have a few specific criteria concerning their accommodation. In their Danube survey, ETI (2007) found the 5 most important demands regarding cyclist accommodation were recorded as:

- bicycle storage;
- drying room;
- repair room;
- cyclist breakfast;
- specific information for cyclists about routes and facilities in the locality.

Cycle-friendly accommodation was rated as 'important' in German cycle tourism surveys (ETI, 2007; Trendscape, 2008a). Asked about improvements and additional products, 73% of respondents in the Lower Austria study were very interested in cycle-friendly accommodation (MANOVA, 2007). Once criteria have been complied with and businesses certified, the benefits from this additional customer group can be considerable. Certified cyclist accommodation accreditation has been introduced successfully in several countries including France and the UK.

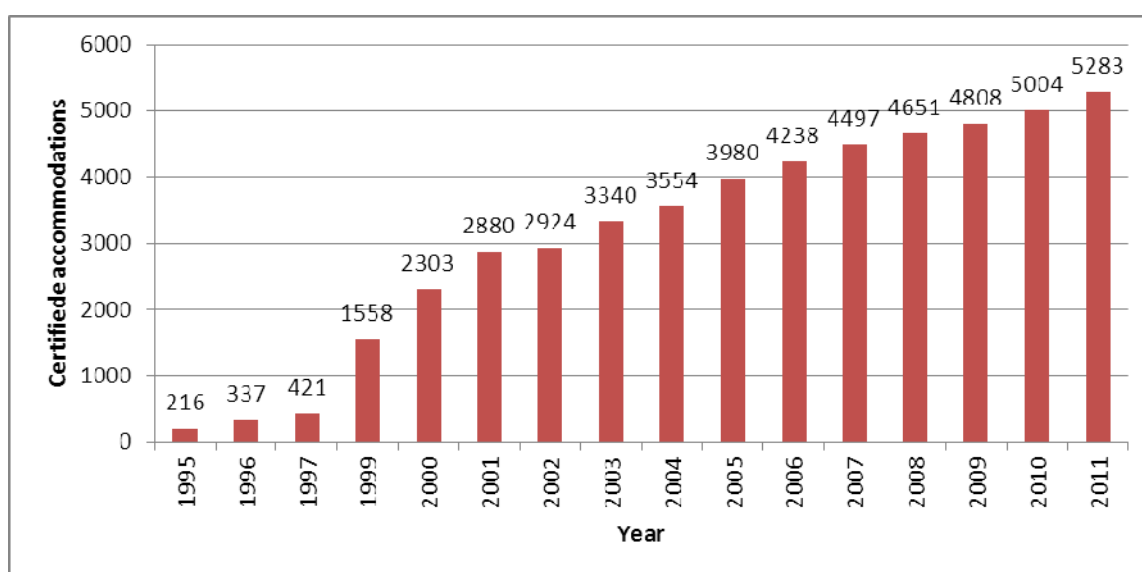
Bett&Bike (Germany)

The German Cyclist's Federation (ADFC) started the Bett&Bike accreditation for cycle-friendly accommodation as a pilot scheme in 1995. Its 3 main goals are:

- the establishment of a network of cycle-friendly accommodation based on minimum criteria throughout Germany;
- accommodation to satisfy the requirements and wishes of cyclists;
- the promotion and development of cycle tourism in Germany (Reiche, 2007).

From 1997 onwards businesses have been registered and listed online and in print. The high increase in membership between 1997 and 1999 was mainly due to regional ADFC marketing initiatives, explaining the benefits to the hospitality associations. This is still an important tool for gaining new members as well as cycle tourists carrying the Bett&Bike guide themselves (Reiche (ADFC), 19-1-2009). Participating businesses (including camping) is nearly 5,300 and can be found at some 3,100 locations (see figure 30). The ADFC refers to the Bett&Bike scheme as one the most successful marketing approaches in cyclist tourism (Giebeler & Froitzheim, 2008; Reiche, 2007). It is already the most popular such scheme in Germany (Giebeler & Froitzheim, 2012). Bett&Bike members are listed in the Bett&Bike Germany guide with a print run of 50,000 and in an online register²⁸. They may use the Bett&Bike accreditation and are featured on many cycle maps and guidebooks.

Figure 30: Certified Bett&Bike participants in Germany



Sources: Giebeler & Froitzheim (2008), Giebeler & Froitzheim (2012).

ADFC's minimum criteria for cycle-friendly accommodation are:

1. Cyclists may stay for one night only if they wish.
2. Lockable room for overnight bicycle storage (if possible on ground level).
3. Drying facilities for clothing and equipment.
4. Provision of cyclist breakfast (muesli, fruit, wholemeal products).

5. Display/provision of regional cycle touring maps and public transport timetables.
6. Set of repair equipment with most important tools.
7. Address, opening times and phone number of nearest cycle repair shop.

Further recommendations, of which at least 2 have to be fulfilled, include information on travel by public transport, transportation of guests, luggage transport service, rental bicycles, and a reservation service for further cycle-friendly accommodation. Additional criteria have been set up for cycle-friendly catering establishments and campsites²⁹. Certified accommodation are checked for quality by ADFC managers and mystery guest shoppers, but also by ADFC members (115,000) and cycle tourists (Reiche, 2007).

Over the last few years, the Bett&Bike model has been used as a template for similar projects in several European countries such as Belgium, Denmark, the Czech Republic, The Netherlands and Switzerland. In early 2012, the Czech label *Cyklisté vítáni*³⁰ counted around 1,100 and the Dutch label *Fietsers Welkom*³¹ nearly 1,000 certified members (both translate as Cyclist Welcome). In Switzerland, the SchweizMobil non-motorised traffic network has awarded some 1,200 partners in the hospitality industry the SchweizMobil quality label (Stiftung SchweizMobil, 2008b). These have to offer basic cycle-friendly standards, similar to those of the ADFC. Members are listed on the internet³², including their exact location on the networks' interactive maps. They also appear in the SchweizMobil accommodation guide and receive other benefits (Stiftung SchweizMobil, 2008a). On the basis of a Veloland Schweiz survey of hospitality members in 2006 (n = 168), around 145,000 guest nights were estimated to come from cycle tourists in the certified businesses (841 in 2006) in that year (Gutbub, 2007b). The average estimated share of guest nights by cycle tourists of all guest nights was 19%, with large differences between hotels, youth hostels and camping (11-13%) and B&B's/holiday homes (28%) or farm stays (48%). 83% of cycle tourists were estimated to have spent only one night at the facility, expressing the need for this main criterion which has to be maintained even in high season.

Implications

This case illustrates a tried and tested approach to adopting a quality standard for cycle tourists which is proving so popular that it is expanding across borders. Regarding international cross-border bicycle tourism and initiatives like EuroVelo, the ADFC is proposing a Europe-wide label for certified, cycle-friendly accommodation businesses. This should be based on a standardised appearance, including standardised criteria, name, logo, service, pricing, directories and quality assurance (Reiche, 2007; Reiche (ADFC), 19-1-2009).

²⁸ <http://www.bettundbike.de>

²⁹ http://www.bettundbike.de/68_1.

³⁰ <http://www.cyklistevitani.cz>.

³¹ <http://www.allefietzerswelkom.nl>.

³² <http://www.switzerlandmobility.ch> and <http://www.mySwitzerland.com>.

Figure 31: Cyclist accommodation logos

Sources: www.bettundbike.de, www.schweizmobil.org, www.cyklistevitani.cz, www.allefietsterswelkom.nl

4.4.4. Full public transport integration

Introduction

9 national cycle routes were opened in Switzerland under the brand Veloland Schweiz in 1998. Other non-motorised traffic routes followed, together forming the SchweizMobil network. The success of the network and its credentials as a sustainable tourism product depends on effective partnerships with rail and public transport operators.

Modal split and bicycle transport

The origin/destination (O/D) mode of travel shows the effect of a sound partnership with rail operators that are well equipped for and welcome cyclists. In 2004, 41% of overnight cyclists (>2 nights) used the train to get to their route, while 52% used the train to return home and 26% also during their cycle tour (39% train use over the whole cycle holiday). The car was used by 20% only for O/D travel.

Train use by short break overnight cyclists is lower (33% on average), but still high compared to car use (19% on average). Day excursionists use the car more than the train (11% versus 6% on average), but this should be seen in relation to 59% only using their bicycle for transport (Ickert et al., 2005)³³. Swiss National Railways (SBB) bicycle transport figures reveal a continuous growth, from 363,000 bicycles carried in 2000 to 662,000 in 2011 (Kormann (SBB), 2012; Marti (SBB), 9.1.2009). Veloland cyclists have access to a free timetable planner, specially developed for SchweizMobil. It provides quick, comprehensive information on many rail, bus and ship connections (including departure times, transport capacity and prices). Customer feedback on bicycle transport is mainly positive, except for some comments on high prices (Gutbub, 2007a). With 18%, visitor spending on transport forms a significant share of total turnover on the Veloland network (Ickert & Rikus, 2008; Utiger & Rikus, 2012).

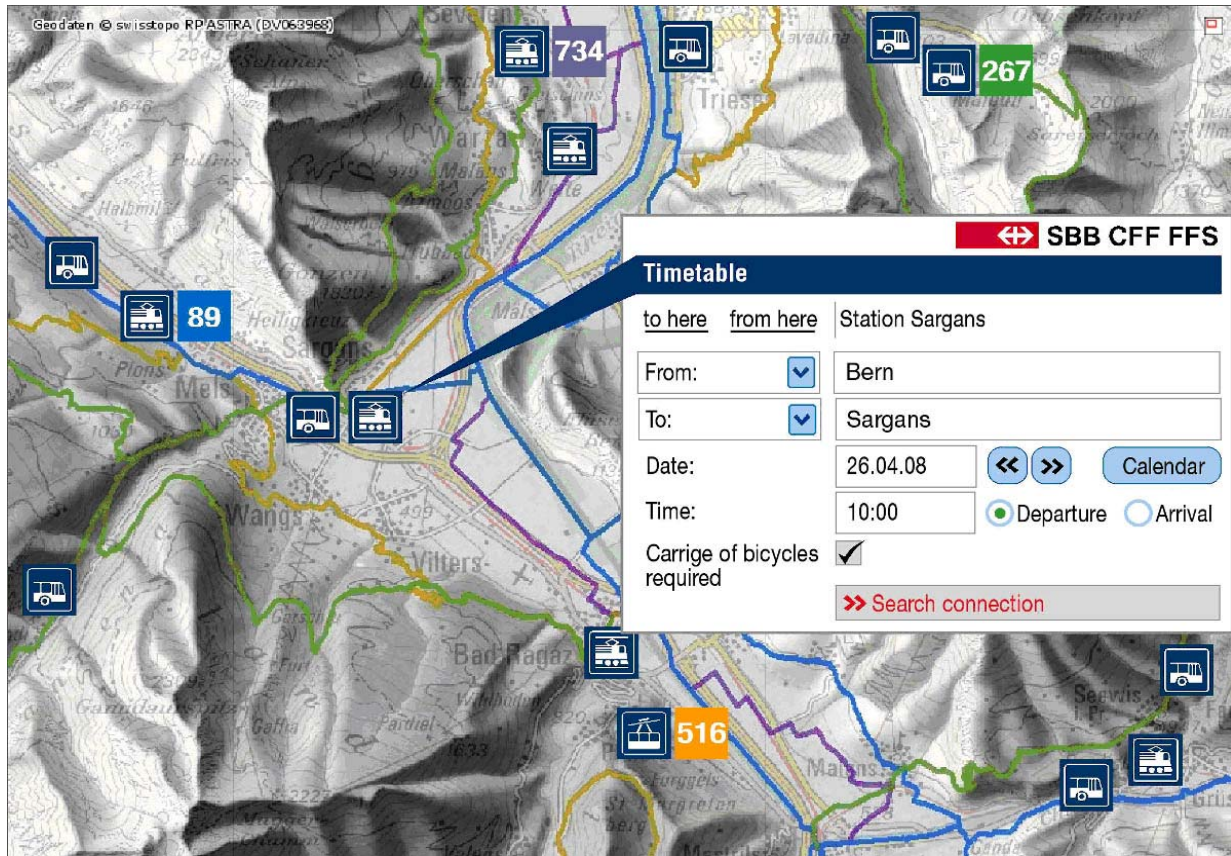
Public transport integration

SchweizMobil “integrates non-motorized traffic and public transport to the optimum in terms of infrastructure and communication, thus promoting combined mobility” (SwitzerlandMobility Foundation, 2008c: 9). This is done by dividing the whole route

³³ The survey question was “Did you use any other transport modes on your tour?” and the option “none” (i.e. only bicycle) was given also. Thus, the modal split changes when the bicycle is left out. E.g. without the bicycle as a mode, train use increases from 7% to 33% for all cyclists and from 39% to 53% for holiday cyclists.

network into one-day stages and defining stage destinations that people can ideally reach by some form of public transport, also enabling day excursions. 18,000 public transport stops are displayed with the routes on the SchweizMobil interactive Internet map and linked to the online timetable (see figure 32). The Website, guides and maps also include special recommendations (about 350) like using a ship or bus for certain stretches.

Figure 32: Example of linking non-motorized traffic with public transport information on Internet



Source: SwitzerlandMobility Foundation (2008a).

The main success factor has been the early integration of public transport companies in the Veloland project. The SBB is one of the founding members of the former Stiftung Veloland Schweiz. A special model was developed for the public transport partnership. SchweizMobil communicates all the above information to the public. In return, Swiss public transport companies put the necessary data at SchweizMobil's disposal, enable the transport capacity required and support Stiftung SchweizMobil financially (Utiger, 2008).

Bicycle transport

In Switzerland, the government specifies public transport services from the companies involved, but bicycle transport has not been part of these and rules on this issue have still not been resolved. Thus, bicycle transport is offered on a voluntary basis. Increased demand has meant that it would be difficult to ban cycles on Swiss trains without a major upset in the market (Utiger, 2008). However, a new law now ensures that public transport companies must provide entries and space for the disabled. Many multiple purpose compartments have been fitted on trains and cyclists have also profited from this. In the mountains, public transport companies have acknowledged the increase in mountain biking

and offer special transport options for this target group. Some cantons, like Graubünden, Postauto aim for their buses to be able to carry bicycles. SBB has the same goal for all of its trains. There are a few developments that may reduce transport options, the main one being some international trains (Cisalpino, ICE) do not take on bicycles but are part of the regular timetable previously in Switzerland. Also, mail is no longer transported by rail and these carriages were also used for transporting groups of cyclists (Utiger, 2008).

Implications

The case provides evidence that a well-functioning bike & rail network can bring substantial benefits to transport operators. It also re-affirms that there is a desire by cycle tourists to use trains (and buses) but that the provision and communication have to be clear to satisfy cyclists' needs.

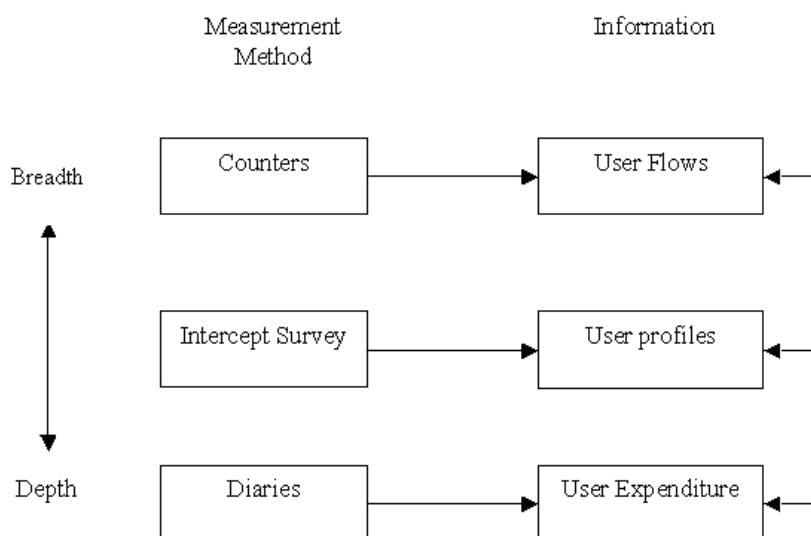
4.5. Monitoring

4.5.1. Consistent route monitoring, the North East of England

This case study presents an overview of the cycle route monitoring approaches adopted by Sustrans to address the measurement of economic impact of cycle tourism (Institute of Transport and Tourism, 2007) on 4 of the English National Cycle Network routes in the North East of England:

- Coast & Castles Cycle Route (North Sea Cycle Route).
- C2C (Sea to Sea) Cycle Route.
- Hadrian's Cycleway.
- Pennine Cycleway.

Figure 33: Research design

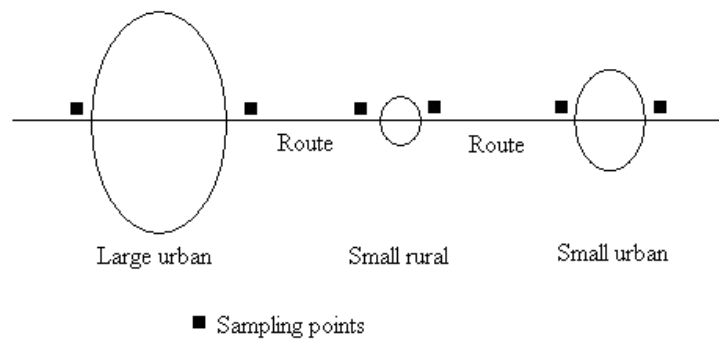


Three research tools were employed. To capture basic data on route usage, and thereby to provide a basis for aggregation, cycle counters were used to record cycle flows. These were supplemented by manual counts, which were also used to verify the automatic counter

readings. An intercept survey was then used to capture information on numbers in user groups, age, gender etcetera, as well as cycling experience, purpose of journey and place of origin. A closed response format was adopted. Finally, to record sensitive information such as incomes and expenditures, those intercepted were offered a travel diary in which to record journeys and these additional details in a semi-structured manner. Crucially, the diary allows respondents to record actual spending rather than estimates. Figure 33 describes the research design.

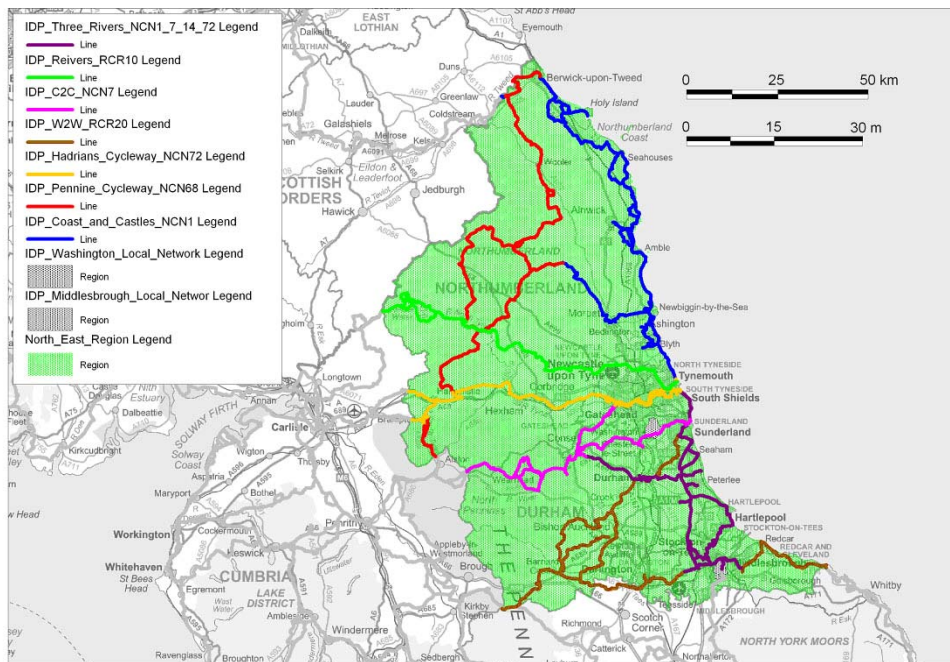
Drawing on the concept of 'gravity' modelling, i.e. that trip generation will reflect the density of populations in sources and destinations, it was decided to capture data on each route of the network such that a typical chain of different centres of gravity were represented. Figure 34 illustrates the conceptual framework, the size of ellipse referring to different population densities.

Figure 34: Sampling units



Consequently, automatic counters were situated and surveying took place on each route at points of access and egress that corresponded where possible to these types of population centre (data were collected from 2001-2006).

Figure 35: Map of the monitoring area



Source: Sustrans.

Automated count data was used to generate an *annual average daily total* for each count location, i.e. a mean of the daily count of cycles passing the count location over a calendar year period. Manual count records of cyclists are kept during the user intercept survey periods.

The surveys took place, where possible, at the same locations as the automatic cycle counters. The results of which were used to generate criteria for route segmentation and categorisation. Analysis of the data from automatic cycle counters showed significant differences between the levels of cycle use on traffic-free and trafficked routes, and routes in urban areas and in rural areas.

The point counts and surveys at each point were assumed to be representative of a single segment of route within the appropriate category. These 'typical' segments were then multiplied by the route length to generate annual usage figures.

Implications

It is important to develop a consistent monitoring method so that the impact of changes in demand can be assessed, particularly with regard to the economic implications, but also social and environmental impacts. Adopting a similar approach to the one described above consistently across the EuroVelo network would allow policy makers to allocate resources more efficiently and in areas where the greatest benefit can be achieved.

5. IRON CURTAIN TRAIL

5.1. General description

The Iron Curtain divided East and West Europe for the best part of 50 years in the last century and there are reminders of its existence throughout its length in terms of monuments and local interpretation of life near the strip of land which was once the dividing line. Michael Cramer, MEP, sought to develop a soft mobility tourism product featuring the trail and gained support from the European Parliament in 2006 to elicit support from the EU.

Figure 36: Map of the planned Iron Curtain Trail



Source: Cramer (2008c).

The proposal was to develop a continuous cycle trail from the Barents Sea to the Black Sea passing through 20 European countries, including 14 EU Member States. **The route is over 10,400 km in length**, of which approximately 8,800 km is inside the EU and 1,600 km in neighbouring countries. The trail would offer cycle tourism holidays in many countries, to discover what has also been labelled the Green Belt. The product is essentially the diversity of landscapes, historic imagery and discovery in parts of Europe which have not been major tourism destinations. The 2 core offerings are the story of the Iron Curtain and creation of a green belt as a consequence of the lack of development in the zone over many decades.

The area through which the ICT passes is known as the European Green Belt by many, particularly nature conservationists. The vision of the World Conservation Union (IUCN) is to create the backbone of a European ecological network out of the former East-West border region, which stretches from the Barents Sea to the Black Sea. It is to become the flagship of European nature conservation, also enhancing sustainable regional development³⁴ (Riecken, Ullrich, & Lang, 2006).

To achieve the latter, sustainable tourism development is regarded as a possible option. One way of meeting the objective is by encouraging slow travel associated with long distance trails. In December 2011, the Iron Curtain Trail officially became part of the EuroVelo network as EuroVelo 13.



5.2. Development since 2009

Since 2009 there have been a number of actions to support the development of the Iron Curtain Trail. Warsaw in Poland hosted the first of 3 workshops designed to raise awareness of the trail as a sustainable tourism offering in November 2009. This was followed by the second in Sopron, Hungary, and third in December, and Sofia, Bulgaria the following March. There was a wide range of participants from national and regional governments, NGOs, academics, cycling organisations and others interested in cycle tourism development. All of the participants expressed a strong interest in taking the development of the ICT forward. It was concluded that for the project to succeed coordination was needed from a single organisation at the European level, whilst national organisations should be responsible for national or cross-border implementation. This structure would then generate detailed plans for implementation at the respective levels (Baumgartner, 2010a, 2010b, 2010c).

In 2010 under the preparatory action "Sustainable Tourism" the Commission issued a call for proposals under "Promotion of cycling tourism in the European Union as means of sustainable tourism development" (ENT/TOU/10/611). The call aimed at supporting and

³⁴ <http://www.europeangreenbelt.org>

promoting cross-border and trans-national cycling routes and cycle networks. 3 cross-border/transnational projects (out of 6 that were awarded with grants) focussed on the development of the ICT:

1. Iron Curtain Trail-North Section (EV13-ICT North), by the Pomeranian Association Common Europe (PSWE, Poland).
2. Iron Curtain Trail-Central (ICT-Central), by the Environmental Partnership Association (Czech Republic).
3. Iron Curtain Trail - Balkan Section (StrategIC), by the Bulgarian Association for Alternative Tourism (Bulgaria).

The 3 groups had 3 key objectives:

1. To develop a common methodology for the implementation of the route through their section.
2. Create a database of the route, including itinerary, infrastructure requirements, services, etcetera.
3. The development of a transnational plan.

The groups also produced a number of newsletters and leaflets, and developed project websites to promote the route through their regions. Some sections where the route is already on the ground were signed and each country also produced national status reports and action plans.



5.3. Market and volume projections

The estimates of the demand and revenues for the Iron Curtain Trail have been based on the model that calculates the demand for holiday trips using bed density, and daytrips using population density and the national share of cycling as a main mode of transport (see 2.4.2). The revenues are then found using constant revenue per holiday trip and per day excursion. The markets and volumes per distance category, transport mode, nationality, socio-economic properties, route section, and type of trip (day, short, medium, long stay) are also important in estimating demand where data exist.

The whole route has been split up over all NUTS 3 level regions. In Russia, the ICT only runs through the Kalinigrad Oblast. Hence, the distance was measured in that region. The necessary statistics were gathered from several online sources. A moderate figure of 15,000 beds was used (Kropinova, 2006). For Serbia, the distance and projection were measured on a province level, as this was the most detailed level of tourism bed statistics that was available (Statistical Office of the Republic of Serbia, 2009). For Macedonia, the distance and projection were measured on a country level, as statistics on the NUTS 3 level were not available. Naturally, the statistics for population and bed density on a regional level can vary considerably from those used on a country level. In Turkey, the ICT runs through 2 NUTS 3 regions, for which there were no EU statistics available. The appropriate data was however found through several online sources. Data on the number of tourism beds in the regions are published by the Turkish Ministry for Culture and Tourism³⁵. These missing statistics were added to the Cycle Route Demand Forecast Model, and the distances per NUTS 3 region (or province/country) were then entered in the model.

Table 16: Overview of Iron Curtain Trail per country

| Country | Distance | Holiday trips | | Day excursion | | Total |
|-------------------|----------|---------------|----------------------|---------------|----------------------|-------|
| | | Trips (*1000) | Revenues (million €) | Trips (*1000) | Revenues (million €) | |
| | Km | | | | | |
| Norway | 110 | 0.8 | 0.4 | 44.5 | 0.7 | 1.1 |
| Finland | 1,740 | 23.8 | 10.5 | 741.2 | 11.4 | 21.9 |
| Estonia | 620 | 31.9 | 14.0 | 287.4 | 4.4 | 18.4 |
| Latvia | 686 | 26.5 | 11.7 | 391.8 | 6.0 | 17.7 |
| Lithuania | 116 | 7.5 | 3.3 | 57.6 | 0.9 | 4.2 |
| Russia | 133 | 1.2 | 0.5 | 66.0 | 1.0 | 1.5 |
| Poland | 530 | 127.2 | 55.9 | 488.3 | 7.5 | 63.4 |
| Germany | 1,679 | 537.1 | 236.2 | 1,430.1 | 22.0 | 258.2 |
| Czech Rep. | 350 | 50.9 | 22.4 | 191.7 | 2.9 | 25.4 |
| Austria | 316 | 43.7 | 19.2 | 166.6 | 2.6 | 21.8 |

³⁵ <http://www.kultur.gov.tr>

| Country | Distance | Holiday trips | | Day excursion | | Total |
|--------------|--------------|----------------|--------------|----------------|-------------|--------------|
| Slovakia | 72 | 18.4 | 8.1 | 75.8 | 1.2 | 9.3 |
| Hungary | 440 | 48.6 | 21.4 | 336.7 | 5.2 | 26.5 |
| Slovenia | 58 | 6.0 | 2.6 | 32.5 | 0.5 | 3.1 |
| Croatia | 179 | 1.6 | 0.7 | 86.5 | 1.3 | 2.1 |
| Serbia | 650 | 8.2 | 3.6 | 338.5 | 5.2 | 8.8 |
| Romania | 173 | 3.2 | 1.4 | 80.9 | 1.2 | 2.6 |
| Bulgaria | 722 | 42.3 | 18.6 | 307.0 | 4.7 | 23.3 |
| Macedonia | 130 | 6.6 | 2.9 | 65.2 | 1.0 | 3.9 |
| Greece | 59 | 2.0 | 0.9 | 25.2 | 0.4 | 1.3 |
| Turkey | 140 | 13.4 | 5.9 | 60.4 | 0.9 | 6.8 |
| Total | 8,903 | 1,001.0 | 440.3 | 5,273.8 | 81.2 | 521.4 |

Table 16 shows the results aggregated per country. The numbers of trips vary, not only according to the distance covered in the country, but also due to large differences in both touristic infrastructure (bed density) and population density.

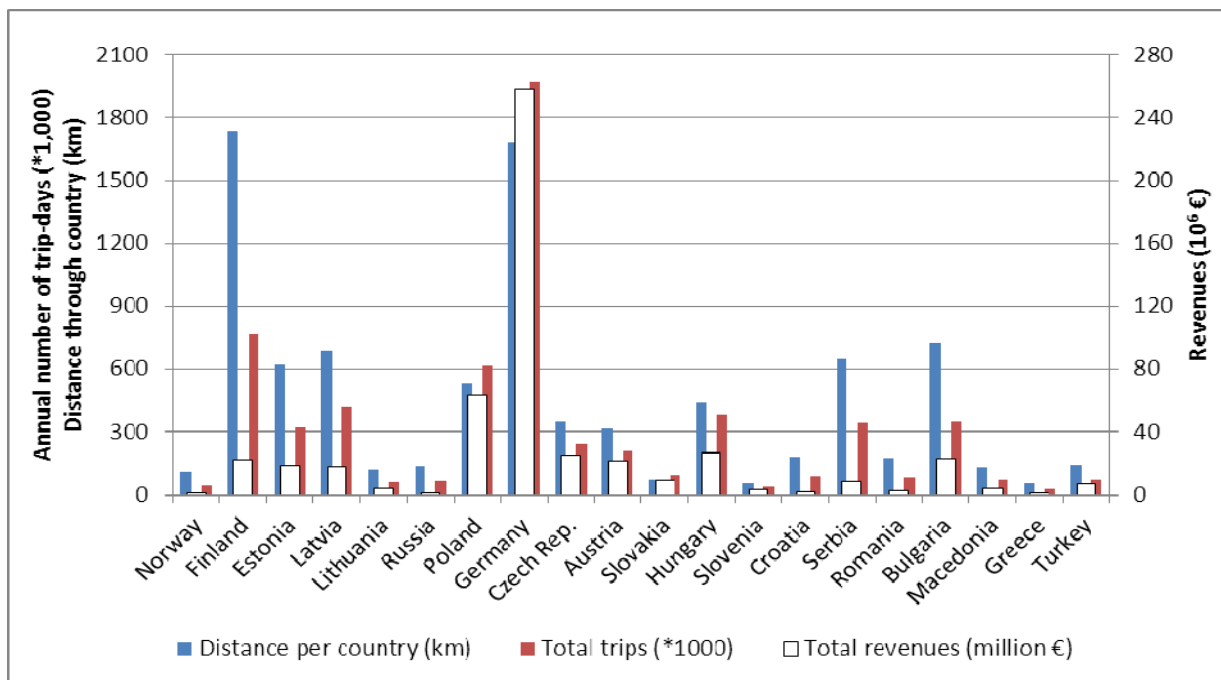
When complete it is estimated that the Iron Curtain Trail will generate annually around 1 million holiday trips and 5.3 million daytrips resulting in a total of €521 million in direct revenues (direct expenses by the holiday makers and day excursionists). The total route length has been estimated at 8,903 km.

Clearly the model shows that countries with low populations and limited tourism infrastructure density countries (like Finland and Bulgaria) do not generate large numbers of trips and revenues, while Germany and Poland show the potential of the route in a high densities country.



Figure 37 shows the uneven distribution of revenues, trips and distances in the countries through which the ICT passes. **The revenues and number of trips depend not only on the length of the route, but also on the tourism infrastructure, the daily use of the bicycle as a mode of transport, and population density.**

Figure 37: Distance, trip volumes and revenues as estimated for the Iron Curtain Trail



5.4. Public transport integration

The transport network available to facilitate tourism along the Iron Curtain Trail on the whole is good. For example, between Hamburg and North Cape a high level of rail, coach and ferry integration in this area of Europe makes it possible for tourists to access the majority of the proposed trail. The main transport hubs along the trail would be:

- Hamburg
- Gdynia
- Klaipeda
- Riga
- Tallinn
- Helsinki

The only restriction with the route is the limited transport available in the North and North East of Finland towards North Cape. The potential for integration by public transport has to be developed. There are also limitations with regard to cross border train services.

A current overview of the northern section of the route is presented in Annex 8. It shows that ferry and bus connections are available at the major hubs but these require to be lightly packaged for the cyclist.

5.5. Environmental impacts

Integrating nature conservation with non-consumptive land-use activities that also stimulate socio-economic benefits for local communities is seen as the most suitable approach:

"Increasing demand for nature experiences and sports activities represent an incentive for regions to develop specific tourism products linked to nature and the countryside."
(Engels & Gerling, 2006, p. 165)

There are many (national or cross-boundary) protected areas with sustainable tourism development potential along the Iron Curtain Trail zone. It is useful to note that these are also a major goal for the Green Belt Tour described in section 4.3.4. The challenge for the ICT lies in bringing together the different natural, economic and socio-cultural conditions along the route: factors that usually make tourism development difficult to realise because of inherent tensions between conservation of environments and encouraging higher levels of visitation (see Engels & Gerling, 2006). The authors also highlight the existing inequalities between the social and economic conditions for tourism development in the former Eastern and Western countries along the former Iron Curtain.

It will be important to ensure that there is an environmental impact evaluation of route development in areas which are protected or are the subject of special scientific interest.

Regarding emissions of CO₂ and climate change it is important to consider what impact the ICT could have. The main driver for CO₂ emissions for cycle tourism is the transport between the cyclists' and the route. With the demand model we have estimated the total number of holidaymakers per country through which ICT runs (see section 5.3). What we do not know, with any degree of accuracy, is where this demand comes from. Part of it will be domestic but a substantial part of it will be generated by the main source markets for cycle tourism: Germany, The Netherlands and Denmark. Furthermore we need to know the transport modes used to reach the trail.

Unfortunately, it is not possible to gather all these figures within this exploratory study. Therefore we simply estimated 2 extreme cases. The first is based on the assumption that all cycle tourists come from the main generating cycle tourism countries with a centre at Frankfurt a/M in Germany. The second case is based on the assumption that all the estimated tourists are domestic (i.e. all cyclists on the Finnish part are Finns; on the Polish part are Poles, etcetera). From this we found that the first case would generate 1,392 km as average return distance for travel from home to the route, while the domestic case ends up with 600 km. Clearly the final average will be somewhere between these 2 estimates. This compares well with the overall average of 1146 km for all cycling tourism we presented in section 2.5.4.

5.6. Social impacts

The major issues regarding social impacts can be drawn from the experience of cycle route development on the Amber Trail and in the lower Danube, for example, as outlined in the lower Danube case study.

It is essential that in each region within each country there is a mechanism, similar to that adopted in the development of the Amber Trail, for local communities to give consideration to how they might develop the tourism potential from the route in terms of economic gains set against potential impacts such as noise, increased traffic from day excursionists, etcetera.

Experience from elsewhere suggests that the ICT should be developed to encourage cycle tourists who are interested in staying in local accommodation provision and who are keen to try local foods and beverages so as to stimulate local supply chains. The impacts from cycle tourists, especially in the early stages of development are likely to be minimal.

That there are potential benefits to be gained by local residents in terms of quality of life is an important consideration. The lessons to be learned from Finland, the Baltic states and elsewhere in Europe is that cycle routes offer an additional opportunity for physical recreation and improvement of health, relaxation and opportunities for groups of friends and relatives to enjoy the countryside near to their settlements.



5.7. SWOT analysis

In terms of an initial review of the potential of the Iron Curtain Trail the study team has undertaken the following SWOT analysis:

Strengths

- The route has a strong cultural and historical appeal.
- It passes near to or through a diversity of landscapes.
- These areas are rich in bio-diversity and have a strong nature appeal.
- It allows discovery of many relatively untouched parts of Europe.
- It has a champion in the European Parliament who seeks to develop the route.
- There is a large population base on which to draw in the central zones of the route.
- There are large size settlements on the route, including cultural heritage.
- There are good ferry, rail and coach links to these large settlements.

Weaknesses

- The northern and southern sections are remote from populations.
- Demand for the trail will be very unevenly distributed over the length of the route, with 75% of all tourists generated by the sections through Poland, Germany and the Czech Republic representing just 33% of the total route length.
- There is uneven development of tourism provision along the route (such as accommodation).
- There are many competing sustainable tourism projects across Europe.
- Lack of cross border train travel opportunities.

Opportunities

- To be developed as the cross border cycle route which embraces history, culture and nature.
- To market sections of the route for different purposes such as the north as wilderness tourism.
- To offer an insight into East and West.
- To build a sustainable slow travel experience.
- To offer a sustainable alternative to holidays to further away destinations, still offering a strong diversity and exotic views.
- To develop other sustainable tourism opportunities in association with it, such as nature tourism experiences.
- To establish local teams and communities to develop the route with local knowledge.
- To encourage cross border and cross cultural knowledge.

- Especially those regions that benefit from additional tourism where economic development was held back hampered for decades due to existence of the Iron Curtain (e.g. in Germany the so called 'Zonenrandgebiete').

Threats

- Encouragement of fly-cycle in the peripheral sections of the route.

5.8. Summary

The Iron Curtain Trail has strong appeals to the cycle tourist market, namely a combination of nature, culture and history. Our initial estimates indicate that there is clearly a market which can be developed. The route has been surveyed and there are a group of interested parties who will champion the route throughout its entirety. The grounding in the cycle movement is important in the early stages. If developed as a part of the EuroVelo network, ICT will generate 1 million holiday trips and 5.3 million day trips annually. This would generate a total of €521 million in direct revenues (direct expenditures by the holidaymakers). The total route length has been estimated at over 10,400 km.



6. CONCLUSIONS AND RECOMMENDATIONS

The Mintel report on cycling holidays in Europe (Mintel, 2003) forecast a 4% growth of cycling holidays per annum in the short term. The pace, it was argued, will increase as destinations discover the potential of this market and plan accordingly. The report maintained that there are 2 main continuing driving forces for cycle holidays: the desire for healthy living and the interest in the countryside and environmental concern. **10 years on, it might be hard to contend that growth rates have been as high as 4% in Europe although there is a marginal growth pattern, albeit unevenly spread across countries.** Thus, the call for this research paper is a timely one given that there are also changes occurring in the market place which support the argument for more sustainable tourism products. The analysis has responded to 3 main objectives:

- To determine the current scale and scope of cycle tourism in Europe.
- To evaluate the extent to which the EuroVelo can be developed as a sustainable tourism network across Europe.
- To investigate the potential to develop a themed trail, currently known as The Iron Curtain Trail, which gives lasting recognition to the re-unification of Europe from previous decades.

6.1. The volume and value of cycle tourism

There are no accurate statistics on cycle tourism at a European level. In the absence of these the researchers have reviewed data that are verifiable and available for analysis.

In some countries there are data on cycle tourists and day excursionists. From this basis a demand model has been created and spending estimated. There are limitations with this approach. The figures are 'generalised' and in some countries will be an underestimate of reality and in others an overestimate. Nevertheless, it provides an indication of the scale of cycle tourism across Europe. **The estimate is as follows:**

- **2300 million cycle day trips per year.**
- **20 million cycle holiday trips per year.**
- **€44 billion of gross revenues per year of which €9 billion accrued from cycle holidays.**

This compares to a total number of 1,019 million overnight holiday trips (international plus domestic) worth €312 billion for EU-27 residents in 2011. International holidays contributed to 24% of these trips and 55% of tourist expenditure (Demunter & Dimitrakopoulou, 2012). These figures are not completely comparable to the estimates for cycle tourism, as they are for EU-27 residents only and include trips outside of Europe³⁶.

³⁶ Figures from Peeters et al (2007a) provide some insight on this matter. For the year 2000 they came to a total of 875 million holiday trips (international plus domestic) for EU-25 residents of which 61% were domestic, 29% intra-EU25, 4% to European countries outside the EU25 and 6% to other continents.

The estimated (potential) gross values of the EuroVelo network (when complete) are:

- 14.5 million overnight cyclists.
- Total gross revenues from overnight cyclists of €6.4 billion.
- 46 million day trips.
- €0.7 billion of direct revenue from day trips.
- €7 billion of total direct revenues.

Furthermore the potential value of the Iron Curtain Trail as follows:

- 1 million holidaymakers.
- Total gross revenues from holidaymakers of €440 million.
- 5.3 million daytrips.
- €81 million of direct revenues from daytrips.
- €521 million of total direct revenues.

It will be possible to refine these figures when data are collected on a systematic basis across several countries in order to afford systematic comparison. This would certainly be possible with regard to the EuroVelo network. It is possible to design a simple monitoring mechanism as advocated in paragraph 4.5.1 which provides continuous counts, a bi-annual intercept survey and cyclist travel diaries. It will be necessary to introduce bi-annual updates of the demand forecasting model (CRDFM, see 2.4.3) which provides a tool for route and network planners.

The evidence relating to trends in the market is less certain: there is indication from France, Germany and Scandinavia that cycle tourism is in growth. There is anecdotal material from elsewhere that there is growth but in many cases such as in Italy and the UK this is likely to be minimal and related to specific areas where traffic free routes have been developed. These findings are verified by the expert opinion survey (see Annex 12)

6.2. Are there key success factors which attract cycle tourists?

It is also possible to respond to the research question asking about key success factors in attracting cycle tourists to the EuroVelo network. **There are 3 core factors which are necessary:**

- **Safe and continuous routes.**
- **Pleasant countryside and cyclist friendly villages and cities through which cyclists pass.**
- **Clear and reliable signage and interpretation.**

Other factors are less important in relation to the choice of route or the decision to go cycling but they are fundamental to the tourist experience: quality accommodation and hospitality venues en route, service facilities and adequate information.

Cycle tourists are motivated by a mix of elements but especially nature and an opportunity to relax away from everyday life. Themed routes need to express these values to attract cycle tourists. **Generally we found a lack of systematic promotion and marketing of cycle routes throughout the literature and survey among stakeholders and experts.**

6.3. Barriers and challenges

There are a number of barriers to the development of the market for cycle tourism. **At present many of the major organisations responsible for tourism development across Europe do not recognise its potential and hence have offered limited investment. Herein lies one of the major issues.** The stakeholders involved in route infrastructure development are often highway authorities or departments responsible for physical activity, sport or the countryside. Thus, routes are provided as transport or local recreational facilities. The Ministries responsible for tourism development tend to concentrate on developing markets. As such they devote some resources to what is referred to as activities but in essence this is spread across a wide range of pursuits from walking to golf and cycling is often at the margins.

There are exceptions and some exceptional examples of coordinated stakeholder involvement to develop cycle networks for tourism such as in Switzerland. More often, it has been the champions of cycling for utility purposes, such as ADFC in Germany, Con Bici in Spain and Sustrans in the UK that have presented the case for the investment in cycle tourism. However, there is often a lack of evidence for such organisations to push for more resources in that survey data on cycle tourists is not always readily available.

Many transport and tourism suppliers have also marginalised cycle tourism from their operational and marketing strategies. This is especially the case in relation to getting cycle tourists to their destination. For example, our research of ferry companies found that most carry cycles and charge only small fees for doing so. Unfortunately they rarely market this. Many train operators across Europe show a limited willingness to carry cycles but principally on local or regional trains and only at certain times of the day. **In most cases, the carriage of cycles is a low priority.** It is possible that companies will seek to delay the implementation of cycle measures on long distance trains in relation to the EU Third Railway Package. **Specifically long distance transport of bicycles is hindered by a lack of access to the German, Austrian and some other high speed trains.** On the other hand, the CityNightLine network has expanded since 2007, offering routes all over Europe and even to destinations such as Moscow. All these trains have a capacity of 10 or more bicycles. Specifically, it is the connections of cycle carrying international trains that have been improved by this CNL network extension and data provided by the Treinreiswinkel show this had positive effect (the Railway Travel Shop, see section 4.4.1). This has boosted international cycle ticket sales by over 60% in 2008, the first full year of operation. This suggests that cyclists are likely to respond to investments in cycle carriage capacity improvements. Finally the French TGVs are being refurbished with space to carry cycles within the next decade; this offers considerable potential.

A general conclusion here is that carrying a bicycle by rail is relatively inexpensive, but not always possible and in most cases not easy. Carrying a bicycle on an airplane is always possible, requires some mechanical changes and a cover, but is relatively expensive compared to rail. The solution here might be that rail increases the price of carriage and invests the revenues in making it more convenient to travel with a

cycle. For example, **Eurostar has higher rates comparable to those for air transport but has for a long time been the only high speed operator carrying cycles as a matter of course.**

Major tour operators offer a small selection of holidays which have an option for visitors to hire a cycle when at the destination. Some have specialist companies within their portfolio and offer cycle tourism holidays. However, cycling remains a niche market for the large scale tour companies which still offer fly and car hire or cruise holidays. There are opportunities for the smaller scale cycle tour companies some of which are now reasonably long standing, to build the market but there is a real need to develop the cycle tourism product in many countries. Nevertheless, the tour companies could use their collective marketing networks to help build the market; the work of FAR in relation to the Green Belt tour is a prime example of this.

6.4. Is cycle tourism a sustainable product?

In relation to environmental impacts, cycle tourism offers enormous energy savings and reduced Greenhouse Gas Emissions. In relative terms it brings a reduction per trip day of between 50% and 80%, where the latter figure refers to the emissions caused by transport to the destinations. Accommodation, in general terms, will emit 30% fewer emissions than the global average for tourist trips by tourists emerging from developing countries. However, this advantage might slip away in case the current share of long haul cycle holiday (>300 km by air transport) increases even if there is a small percentage rise. When this percentage reaches the current share of 7% of all trips (by German tourists), then the advantage for transport emissions of *all* cycle holidays together will become marginal.

As cycle holidays generate above average gross revenues, the eco-efficiency of cycle tourists (that is the average gross revenues per ton of CO₂ emitted) is several times higher than for mainstream tourism and might even be better than the average for the economy. This means **promoting cycle tourism with its current high public transport share, short haul form, will enhance both the environment and the economy.**

The evidence assessed in this study indicates that cycle tourists bring major benefits to localities which currently do not enjoy mainstream tourism development. In some countries, these destination areas would not appeal to walkers or other visitors seeking pristine scenery or must see cultural sites. Thus, cycle tourism can be a real asset to less attractive destinations which visitors would otherwise by-pass. In this respect, cycle tourism is allied to slow travel (with an emphasis on slow food, patrimony and culture) and the synergies between the 2 should be explored to gain market share.

The cycle tourist delivers a similar spending level to other visitors. The difference is that the spending is focused more in the area through which the route passes and depending on nature of local supply chains will circulate in these local economies for a longer period before leakages occur.

Finally, the development of routes are relatively low cost investment especially as they re-use disused assets such as canal towpaths or old railway tracks or shared road space on highways where traffic levels are generally low. Thus, the case for cycle tourism development in Europe is strong.

6.5. Will EuroVelo add to the potential of cycle tourism?

EuroVelo is presently not a major tourism asset for it has not been developed and marketed sufficiently. The development of a network, which offers a consistent standard across Europe and a wide variety of choice in terms of destination areas, has considerable potential. The key arguments are that such a network will increase market share by:

- (a) Offering an alternative sustainable tourism product which crosses borders and spans all EU countries. This makes it unique.
- (b) Engaging the interest of tourism providers in the thousands of settlements through which it traverses. They will be able to build networks, share best practice and develop a holistic sustainable tourism offering by seeking energy reduction and greenhouse gas emissions themselves.
- (c) Bringing together the marketing power of hundreds of municipalities responsible for tourism development and promotion; the emergence of nearer to home slow travel opportunities is a key factor.
- (d) Presenting a strong imagery of cross border, cultural and heritage discovery which is accessible to many visitor markets within the EU.

This will require commitment and forward planning on behalf of the managing group responsible for advancing the project. Most of all it needs a firm resource base on which to upgrade and develop the entire network within this decade for there will be an increasing urgency to have developed low carbon products to offer as substitutes to longer haul destinations in a sector which has clearly grown in the period of cheap oil.

6.6. Potential of the Iron Curtain Trail

The Iron Curtain Trail is based on 2 strong themes: historic culture and nature combined. It also offers the potential to develop a flagship slow travel product which encourages visitors to make a tourist adventure in some of the untouched parts of Europe and bordering Russia (Euromonitor, 2007). This requires sensitive planning and development by a management organisation which can develop such a route in an appropriate way. There are substantial local economic gains to be made but we stress the importance of development in association with the many communities on the route.

6.7. Implications for EU policies

The brief for the review also asked that consideration be given as to how the EU might respond or contribute to the overall development of the EuroVelo network. In preparation for this we have undertaken an e-survey of over 300 transport and tourism experts in the field and the following recommendations reflect the analysis of their responses as well as the conclusions drawn from the survey (see Annex 12):

- The EuroVelo should be part of the TEN Trans-European Networks; EuroVelo is clearly a cross border network which is both a transport and a tourism network. There will be large numbers of utility trips as well as tourism journeys. Thus, there is an argument in favour of some funds for infrastructure across borders. There is also a need to resolve conflicts with the development of the other TEN infrastructure

(like funds to invest in bridges/tunnels for cyclist when new (TEN) roads or railway lines block a EuroVelo route) so that EuroVelo can be given the status it deserves as a sustainable transport-tourism development.

- The Directorate General for Enterprise and Industry (DG ENTR) policy for sustainable tourism (Commission of the European Communities, 2006) should develop a project which focuses on EuroVelo as a prime example that other tourism initiatives might follow. It has real potential to reduce the carbon footprint of the visitor as well as sustaining local tourism economies.
- The Directorate General for Mobility and Transport (DG MOVE) policy to revitalise railways (Commission of the European Communities, 2001) needs to build on the best practice of some railway companies and re-appraise the issue of carriage of cycles on long distance trains across Europe.
- Thus, the Third Railway Package (European Parliament and Council, 2007) should be strengthened in respect of the obligatory carriage of cycles on long distance trains.
- Cycle tourism should be enhanced as it offers a useful contribution to EU policy to reduce the greenhouse gas emissions by 20% by 2020 (Commission of the European Communities, 2007).

6.8. Key recommendations

In the 2009 study 6 key recommendations were proposed. Some of these have been followed up by action, which is described below.

1. That EuroVelo is incorporated into the TEN-T programme.

EuroVelo is a sustainable transport network which spans Europe and in this context needs to be part of the Trans European Transport Network. There are several principal reasons. It allows the completion of connections which are currently incomplete. Secondly, it meets the needs of the TEN programme to integrate the environmental dimension into the European networks. Thirdly, it would help to solve potential conflicts between extension of road and rail infrastructure and cycle trails. Fourthly it may help to integrate rail and trail at an infrastructural level as well. Thus, the inclusion of EuroVelo in the TEN-T programme will ensure that the cycling network is integrated with other long distance modes of transport. It will facilitate the interface between motorised and non-motorised modes of travel in relation to both short distance and long distance trips. Whilst it can be argued that many of the journeys on EuroVelo are tourism trips this applies equally to many other longer distance networks such as train and air services. Thus, a sustainable network which integrates with other modes could be considered to be an essential requisite for the reduction of energy consumption in transport and CO₂ emissions. Thus, it would add overall value to the TEN programme.

In November 2011, the Transport & Tourism Committee (TRAN) of the European Parliament voted to include EuroVelo into the TEN-T network. In December 2011, in a non-legislative response to the European Commission White Paper on Transport, the European Parliament plenary confirmed that vote³⁷ (EP, 2011). It should be noted that the Commission did not

³⁷ P7_TA(2011)0584 (item 11).

take this resolution into consideration: its proposal for a regulation on Union guidelines for the development of the TEN-T³⁸ (currently under discussion and to be adopted through the ordinary legislative procedure) does not make any reference to EuroVelo or even cycling.

2. That additional funds be made available for coordination and coordinated marketing of the EuroVelo network.

The development of EuroVelo has been retarded because of lack of funding for infrastructure in and partly a lack of a budget for coordination of marketing of the network as it develops. The EuroVelo brand could easily be developed further for high quality cross-border trails. There has been a lack of funding to upgrade existing long distance cycle trails to the standard required for designation as a EuroVelo route. Experience from Routes 6 and 12 illustrates that cross border cooperation and funding is currently at a level which allows only limited development of routes and marketing. The development of the network could be accelerated by a mechanism to funding through existing EU programmes. For example, DG MOVE funding of the coordination of infrastructure development needs to be considered. This could also be paralleled by the coordination of route development and marketing through EU cultural and social programmes such as European Structural Funds (ESF).

3. That bi-annual monitoring of cycle tourism in general and EuroVelo specifically is undertaken.

The approaches to monitoring have been developed on EuroVelo through several smaller scale monitoring programmes such as on the North Sea Cycle Route (EuroVelo 12), undertaken by the Institute of Transport and Tourism and Loughborough University in the UK, in Switzerland by Veloland Schweiz and as part of the development of Route 6. Other monitoring mechanisms have been developed by Fietsplatform in The Netherlands and ADFC in Germany. The lessons to be learned from these approaches and best practices need to be drawn up. Furthermore, there is a need to establish, probably through the work of the ECF, a standardised monitoring approach across the entire EuroVelo network through the establishment of a working group to standardise approaches to data collection and analysis.

4. That the EU should designate an individual to take the lead with regard to cycling.

Cycling, both as a leisure activity and as an everyday mode of transport, is becoming more popular. The benefits of promoting cycling, for health, improved social inclusion, reducing carbon emissions and congestion, as well as the economic benefit, are universally recognised. Many of the Member States are already introducing policies and improving conditions for cyclists in an attempt to capture some of these benefits. The number of towns and cities across Europe, and worldwide, which have introduced some form of 'bike sharing', has grown exponentially. The EU has supported the development of cycling through a variety of initiatives. However, in each case the Directorate-General promoting a particular action has done so focusing on their sphere of responsibility. As these initiatives continue there is likely to be increasing 'overlap' between these. It would therefore be beneficial for an individual within the Commission to be given the 'lead' with regard to cycling. In this way actions to promote the further development of cycling can be better coordinated.

³⁸ COM(2011) 650/2.

5. That there should be a more focused and detailed appraisal (projects, seminars, cost-benefit analyses) of the carriage of bicycles on public transport, specifically on long distance trains.

This report develops a case for the development of cycle tourism and EuroVelo as an ideal form of slow travel which has minimal ecological impact whilst retaining a similar level of economic impact in local communities. However, the main element of carbon dioxide reduction relates to the origin-destination trip which is currently low in relation to cycle tourism. In order to maintain this benefit, it is necessary to enhance opportunities for medium to long distance travel with carriage of cycle, principally by train but also by coach and ferry. The advent of City Night Line services, with a standard cycle carriage, highlights the latent demand by cycle tourists. There is clearly a case for a more detailed study which presents evidence across Europe with regard to the barriers to rail and coach travel with a cycle and how they can best be overcome.

6. That there is a strong case to continue development of Iron Curtain Trail.

The Iron Curtain Trail provides an opportunity to develop sustainable tourism in regions which have been hampered in previous decades by the very existence of the Curtain itself. There are a number of projects which could be developed in order to accelerate the process of route development. The most important step is to bring the Iron Curtain Trail within the development of the EuroVelo network to provide stronger branding. There is then a case for more specific projects related to cycling, culture and nature under the umbrella of soft tourism. Other projects to enhance tourism provider capability, marketing of regions and the encouragement of knowledge transfer could be financed through ESF and European Regional Development Fund.

Recent projects focussed on the development of the ICT have created important management structures, which will support progress towards the completion of the route. Whilst some of the initial weaknesses identified in the 2009 SWOT analysis remain most of the threats have now been removed or reduced by these structures. It is now well placed to take advantage of further funding opportunities to support its long-term development.

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ANNEXES

ANNEX 1: DEVELOPMENT OF NATIONAL CYCLE ROUTE NETWORKS: D-NETZ (GERMANY)

The D-Route Network (or D-Netz) is a nationwide cycle route network concept envisaged by the ADFC and several other organisations. It is part of Germany's national cycling plan whereby the German government aims to promote bicycle traffic in Germany (BMVBW (ed.), 2002a, 2002b). The project aims to raise and standardise the quality of cycle tourism in Germany. The ultimate goal is the extension of the D-Netz for marketing use in Germany and abroad. The 5 federal states involved, the Federal Ministry for Transport, Building and Urban Affairs (BMVBS), the Federal Ministry of Economics and Technology (BMWt) and the German Tourism Association (DTV) support the project. The growth in cycle tourism, demographic change and increasing awareness of sustainable forms of tourism are main reasons for the initiation of this project (DTV, 2008).

The network is made up of 12 premier national routes with a total length of approx. 11,700 km and with standardised signposting throughout. It is designed on a similar basis to the existing cycle route networks in Switzerland or The Netherlands. The idea is to build D-routes largely on long-distance cycle routes already in place. 7 D-routes coincide with EuroVelo routes to ensure the international integration of the D-Netz (PGV/plan&rat, 2007). A pilot project on D-Route 3/Euroroute R1 (and also EuroVelo Route 2) was started in October 2008. Approximately 90% of the network exists as themed routes that have their own names and are signposted, some with the D-Route Network logo.

However, the network is far from complete and **awareness of the D-Netz is low**. D-Netz was evaluated in 2006 by Schneewolf & Grimm (2006) for the BMVBS. 2 main issues were identified: (1) creating a universal "D-Route worthy" quality of infrastructure, signage, service and marketing and (2) creating a national coordination unit to implement this. As D-Netz can only function in alliance with the train as Origin/Destination transport for longer trips, **the continuous decline of bicycle transport options by long-distance trains is regarded as a limiting factor in the development of the national approach to build the D-Netz as a premium tourist product** (ibid.).

DTV has begun to create more awareness for the D-Route Network within Germany. There is a reluctance on the part of some regional cycle route managers to accept the decision to incorporate existing themed routes into the D network (Keutmann (DTV), 10.12.2008).

Figure 38: German long-distance cycling route network (D-Netz)



Source: http://www.germany-tourism.de/cycling/pdf/german_long_distance_cycling_route_network_07.pdf.

ANNEX 2: A SAMPLE OF EUROPEAN CYCLE TOUR OPERATORS AND DESTINATIONS

Table 17: Cycle tour operators in the EU and Switzerland

| Country of operation | Company Name | Main destination countries | Countries added since 2009 | Tours Offered |
|-----------------------|--|--|--|--|
| Austria | Austria Radreisen | Austria, Germany, Italy, France, Switzerland, Spain, Hungary, Sweden | Netherlands, Belgium, Slovenia, Czech Republic, Romania | Group tours (guided), Individual, Star rides (flexible) |
| Austria | Euro Bike | Ireland, England, Bulgaria, Romania, Austria, Belgium, Estonia | Slovenia | Distance (linear), loop (circular with changing accommodation), centre (one accommodation base with daily rides) |
| Belgium | EuroCycle Rad & Reisen | Austria, Belgium, Croatia, Czech Republic, Germany, France, Greece | Hungary, Slovakia, Italy, Denmark, Spain, Bosnia, Netherlands, Poland, Lithuania, Romania, Turkey, Switzerland | |
| Bulgaria | Oberösterreich Touristik | | | |
| Czech Republic | Imersion Cycling | Belgium | | Aimed at more serious cyclists. Races and challenge tours. Equipment and support provided |
| Czech Republic | Cycle Bulgaria | Bulgaria, Romania, Turkey, Croatia | Greece | Cycling and Mountain biking |
| Denmark | Biko Adventures | Czech Republic | Not recorded in last study | Guided, self-guided, range of abilities. Rental and accommodation provided. Also provides Mountain Bike tours |
| Denmark | TopBicycle | Czech Republic, Hungary, Poland, Slovakia | Germany, Austria | Self-guided and guided, includes tandem tours |
| France | Bike Denmark (part of Scantours, US company) | Denmark and Sweden | | Circular with baggage transfer |

| Country of operation | Company Name | Main destination countries | Countries added since 2009 | Tours Offered |
|----------------------|---------------------------|---|---|--|
| France | Dansk Cykel Safari | EuroVelo routes. Locations: Denmark, Germany, Luxembourg, Spain | Netherlands, Malta, Italy, France, Greece, Cyprus | Focuses primarily on 'natural locations', such as National Parks. Provides guided holidays, 'Tour packs' (primarily information for people planning cycling holidays), and a means to book accommodation |
| France | Aquitaine Tours | France | | |
| France | Best of the Pyrenees | France | Not recorded in last study | Aims to go off the beaten track on little used roads in the Pyrenees. Challenge element, with easier options provided. Guided and self-guided |
| France | Blue Marble Travel | Austria, Belgium, Denmark, France, Italy, Norway, Switzerland | Basque Country, Portugal | Family friendly trips, charter trips, specially scheduled trips and self-guided trips |
| France | Cycling Classics | France and Spain | | Guided and self-guided. Custom and fixed routes. |
| France | Cyclomundo Bicycle Travel | France, Spain, Italy, Switzerland | | Guided and self-guided. Base / hub tours. Arrange challenge tours / races. Custom service, option for initial arrangement through web interface |
| France | Detours in France | France, Italy, Spain | | Self-guided - 7 set tours with information, equipment, accommodation provided and an option to custom design tours. |
| France | Nice Cycle Tours | France | Not recorded in last study | Regional tours of Nice. Day tours |
| Germany | Provence Cycling Holidays | France | | GPS self-guided tours. 2 broad types. Balance between cycling and non-cycling activities distinguishes them. Equipment and support provided |
| Germany | Velo Loco | France and Spain | | Self-contained, self-guided and fully supported |

| Country of operation | Company Name | Main destination countries | Countries added since 2009 | Tours Offered |
|----------------------|-----------------------------|--|----------------------------|--|
| Germany | Alps Biketours | Austria, Switzerland, Italy, and Spain. | Slovenia | Mostly mountain biking with some 'comfort tours'. Caters for those people seeking 'extreme' experiences. Guided tours, accommodation, baggage transfer |
| Germany | DNV Tours | Austria, Italy, Germany, Spain | Not recorded in last study | Individual and group tours. Bike and boat tours |
| Germany | German Cycling Tours | Germany | Not recorded in last study | Leisurely' itineraries, sightseeing, baggage transfer and equipment. |
| Germany | Pedalo | Belgium, Denmark, Germany, France, Greenland, Holland, Ireland | | Many different tours for varying levels of experience |
| Germany | Radissimo | Germany, Austria, Ireland, France, Croatia, Netherlands, Portugal | Not recorded in last study | Individual and group tours, boat and bike trips mountain bikes and grades of difficulty |
| Germany | Rotalis | Portugal, Spain, France, Netherlands, Sweden, Germany, Italy, Austria, Switzerland | Not recorded in last study | Guided tours, caters for all needs, range from adventure to luxury tours. Support and baggage transfer provided |
| Germany | Rückenwind | Germany, France, Austria, Italy | Not recorded in last study | Individual, guided and 'semi-guided' tours |
| Ireland | Tour de Spokes | Germany, France, the Baltics, Austria, and The Netherlands | | Guided unguided, custom and fixed itineraries. Provides equipment, accommodation and baggage transfer. |
| Ireland | Velo Tours | Germany, Italy, Spain | Austria, Switzerland | Guided and self-guided tours |
| Italy | Irish Cycle Tours | Ireland | | Sightseeing and heritage tours of Ireland. Also provides walking holidays |
| Lithuania | Iron Donkey Bicycle Touring | Ireland, England, and Italy | | Independent (information only - unsupported), self - guided (minimal support - meet and greet and on-call |

| Country of operation | Company Name | Main destination countries | Countries added since 2009 | Tours Offered |
|----------------------|--------------------------------|---|---|---|
| | | | | support) |
| Netherlands | Lake Como Cycling | Italy | Not recorded in last study | Guided tours of region |
| Netherlands | BaltiCycle | Estonia, Latvia, and Lithuania. | | Bike rental, information and some guided and self-guided tours |
| Netherlands | Bike Dreams | France, Spain, Italy | Greece | Primarily aimed at adventure and challenge seekers. Baggage transfer and accommodation added. Fixed itineraries |
| Poland | Eurosail | Netherlands, Belgium, Germany, and France | Luxembourg | Bike and Barges. Can book a whole barge or travel as individual / small group |
| Portugal | HAT Tours - Holland Aqua Tours | Netherlands, Belgium, Croatia, Holland, and Italy | | Relaxing' cycle tours. Guided, including barge accommodation. Self-guided |
| Portugal | Destination Poland | Poland, Lithuania, Slovakia, and Ukraine | | Cycling part of a range of activity holidays |
| Portugal | A2Z Adventures | Italy, France, Portugal, Turkey | Not recorded in last study | Guided, supported or self-guided. Different grades of difficulty and quality of accommodation. Mountain biking and walking tours also provided. |
| Portugal | Ave Bicycle Tours | Austria, Croatia, Czech Republic, Germany, Italy | Not recorded in last study | Guided group and self-guided tours, sightseeing, bike rental available. One day option. |
| Spain | Bike Iberia | Portugal and Spain | | Guided trails, short and longer trips, with themes. |
| Spain | Cycling through the Centuries | Spain, France, and Portugal | | A range of themes from 'epic adventures' to 'active travel', guided, self-guided and custom. |
| Spain | Bravo Bike Spain Tours | Spain and Switzerland | Austria, Belgium, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, | Day tours, week or more than one week. Guided and unguided. |

| Country of operation | Company Name | Main destination countries | Countries added since 2009 | Tours Offered |
|----------------------|---------------------------------|---------------------------------|--|--|
| | | | Scotland, Slovenia, Netherlands, Wales | |
| Spain | Creative Catalonia | Spain | Not recorded in last study | Guided and non-guided, 1 day tours or longer. Accommodation and activities included. Also provides walking and mountain bike holidays. |
| Spain | Cycling Country | Spain and Portugal | England | Different grading, guided and self-guided |
| Switzerland | Girona Bike Tours | Spain | Not recorded in last study | Day tours and longer. Accommodation provided. Guided and self-guided. Rental available |
| Switzerland | Thomson Bike Tours | Italy, France, and Spain | | Challenging cycle tours |
| UK | Hans Rey Biking Vacations | Italy, Austria, and Switzerland | | Guided by cycling expert Hans Rey. Graded tours. Rental service. Customised options and 'specials' such as culinary activities and other recreational activities |
| UK | Bike Switzerland | Switzerland | Not recorded in last study | Moderate, adventure and serious tours, guided or individual. Baggage transfer, GPS and support |
| UK | Bents Cycling and Walking Tours | Germany, Switzerland, Austria | Slovenia, Czech Republic | Different grades of difficulty. Guided and unguided. Sightseeing and activities built into tours. Option to include non-cycling days. |
| UK | Bicycle Beano Cycling Holidays | UK (Wales, England) | | Flexible itineraries, guided. Culinary focus |
| UK | Chain Gang Cycle Tours Limited | France and Italy | UK | Sightseeing, gastronomic and heritage tours |
| UK | CTC Cycling Holiday & Tours | France, Italy, Spain | Netherlands, Belgium, non EU countries | Tours for all abilities. Off road, camping, self-guided and short breaks |

| Country of operation | Company Name | Main destination countries | Countries added since 2009 | Tours Offered |
|----------------------|---------------------------|--|--|---|
| UK | Cycle Breaks | UK, France, Austria, Germany, Italy | Not recorded in last study | Self-guided, itineraries and accommodation provided. Luggage transfers and bikes. |
| UK | Cycle Tours UK | UK, Croatia | Not recorded in last study | Guided tours, corporate away days, charity and challenge races |
| UK | Headwater | Austria, Croatia, Cyprus, France, Italy, Portugal, Spain, Switzerland, UK | | Flexible itineraries for different grades and experiences. Also provides walking holidays. |
| USA | Saddle Skedaddle | France, Netherlands, Germany, Italy | UK, Austria, Croatia, Iceland, Norway, Portugal, Spain, Turkey | Guided and unguided. Equipment and support. Range of abilities: Sightseeing, challenge and off road options |
| USA | Cycling for Softies | France | | Luxury tours. Tailored, with options to cycle only a short distance or not at all |
| USA | Breaking Away Cycle Tours | Austria, Germany, Italy, Switzerland, Spain | Not recorded in last study | Range of difficulties, sightseeing and challenge. Equipment and accommodation provided |
| USA | CycleTours | Netherlands, Belgium, France, Spain, Portugal, Greece, Germany, Austria, Hungary | Not recorded in last study | Barge tours or other accommodation. Sightseeing, rental and baggage transfer available |

ANNEX 3: TOURISM VOLUMES FOR SEVERAL ROUTES AND NETWORKS

Tourist day excursionists are people who stay at a tourist destination overnight and make daytrips from their holiday address. Note that, besides these 2 user groups there are also other user groups who are sometimes taken into account in study reports (such as commuters or sport cyclists). On the Danube Cycle Route in Austria, other user groups make up 33% of all users. A similar figure was reported for the Saxony part of the Elbe Cycle Route. For the Federal Province of Lower Austria, this group accounts for 54% of the total. The day excursion group is sometimes split in tourists and locals. The locals usually make up the larger day group.

Table 18: Tourism volumes and type

| Cycle Route/Area | Country | Year data | Source | Overnight tourists (x1.000) | Day excursionists (x1.000) | Share overnight of total |
|--|---------|-----------|----------------------------|-----------------------------|----------------------------|--------------------------|
| Danube CR Lower Austria | AT | 2006 | MANOVA 2007 | 65,000 | 230,000 | 22.0% |
| Danube CR Passau-Vienna | AT | 2010 | ARGE Donau Österreich 2011 | 145,000 | 146,000 | 49.8% |
| Lower Austria | AT | 2006 | MANOVA 2007 | 117,000 | 383,000 | 23.4% |
| Brugse Ommeland network | B | 2008 | Westtoer 2008a | N.A. | 1,505,754 | - |
| Leiestreek network | B | 2007 | Westtoer 2008b | N.A. | 1,453,342 | - |
| Westhoek network | B | 2006 | Westtoer 2007 | N.A. | 1,058,703 | - |
| Veloland Schweiz | CH | 2011 | Utiger et al. 2012 | 220,000 | 4,800,000 | 4.4% |
| Berlin-Copenhagen CR (Brandenburg section) | D | 2010 | Dohmen et al. 2011 | 11,400 | N.A. | - |
| D-Route 3 | D | 2010 | Dohmen et al. 2011 | 3,600 | N.A. | - |
| Elbe CR - Brandenburg | D | 2011 | Dohmen et al. 2011 | 24,600 | N.A. | - |
| Elbe CR - Prignitz | D | 2006 | Öhlschläger 2007 | 10,000 | 1,500 | 87.0% |
| Elbe CR - Saxony | D | 2003 | TMBLM (ed.) 2008 | 70,000 | 420,000 | 14.3% |
| Elbe CR – Saxony-Anhalt | D | 2011 | Peters? | 155,000 | ?? | ? |
| Germany | D | 2007 | BMWi 2009 | 3,531,300 | 153,000,000 | 2.3% |
| Germany | D | 2010 | Trendscope 2011 | 6,225,000 | 549,053,000 | 1.1% |

| Cycle Route/Area | Country | Year data | Source | Overnight tourists (x1.000) | Day excursionists (x1.000) | Share overnight of total |
|---------------------------------------|---------|-----------|----------------------|--------------------------------|-------------------------------|-----------------------------|
| Mecklenburg-Western Pomerania | D | 2003 | dwif-Consulting 2004 | 535,000 | 2,500,000 | 17.6% |
| Moselle CR | D | 2006 | ETI 2007 | 255,500 | 153,300 | 62.5% |
| Rhineland-Palatinate | D | 2006 | ETI 2007 | 960,000 | 17,400,000 | 5.2% |
| Ruhrtal CR | D | 2011 | Biermann et al. 2012 | 46,700 | 1,100,000 | 4.1% |
| Saarland | D | 2004 | dwif-Consulting 2005 | 55,000 | 2,470,000 | 2.2% |
| EuroVelo6 (France) | F | 2006 | Région Centre 2007b | 122,000 | 360,000 | 25.3% |
| Netherlands | NL | 2010/11 | Fietsplatform 2012 | 987,000 | 167,000,000 | 0.6% |
| Öland | SE | 2009 | Ramböll 2010 | 29,000 | N.A. | - |
| C2C route | UK | 2006 | Downward et al. 2007 | 92,200 | 43,500 | 67.9% |
| Coast and Castles (NE-section) | UK | 2006 | Downward et al. 2007 | 21,400 | 8,600 | 71.3% |
| Hadrian's Cycleway | UK | 2006 | Downward et al. 2007 | 33,100 | 18,600 | 64.0% |
| Pennine Cycleway (NE-section) | UK | 2006 | Downward et al. 2007 | 11,500 | 4,700 | 71.0% |

ANNEX 4: PROFILE OF CYCLISTS

Table 19: Profile of cyclists from several routes and networks

| Cycle Route/ Area | Elbe Cycle Route - Saxony - All | Elbe Cycle Route - Prignitz - All | Rhineland-Palatinate - All cycle tourists | Moselle Cycle Route - All | Brandenburg cycle tourists | Lower Austria - All cycle tourists | Lower Austria - Donau | Veloland 2004 | LF-Network 2003 |
|--------------------------|--|--------------------------------------|--|------------------------------|-------------------------------|---------------------------------------|--------------------------|---------------------|---------------------|
| Source | Futour 2003 in TMBLM (ed.), 2008 | Öhlschläger, 2007 | ETI, 2007 | ETI, 2007 | ift, 2008 | MANOVA, 2007 | MANOVA, 2007 | Ickert et al., 2005 | Fietsplatform, 2004 |
| < 35 | 14% | ca. 12% | 7% | | 14% | | | *) | 25% |
| 36-50 | 35% | ca. 46% (36-56) | 31% | | 37% | | | | 47% (35- 55) |
| 51-65 | 41% | ca. 42% (57+) | 45% | | 42% | | | | 29% (55+) |
| > 65 | 10% | | 17% | | 7% | | | | |
| Average age | | | 54 | 54 | | 49 | 47 | 47 | |
| Gender | | | | | | | | | |
| Male | | 50% | 66% | | | 58% | 64% | 59% | |
| Female | | 43% | 35% | | | 42% | 36% | 40% | |
| Children | | 7% | | | | | | | |
| Household size | | | | | | | | | |
| 1 p. | | | 10% | 9% | | | | | |
| 2 p. | | | 52% | 55% | | | | | |
| > 2 p. | | | 48% | 36% | | | | | |
| Children in household | | | 78% No | | | | | | |
| Household income | | | | | | | | | |

| Cycle Route/ Area | Elbe Cycle Route - Saxony - All | Elbe Cycle Route - Prignitz - All | Rhineland-Palatinate - All cycle tourists | Moselle Cycle Route - All | Brandenburg cycle tourists | Lower Austria - All cycle tourists | Lower Austria - Donau | Veloland 2004 | LF-Network 2003 |
|------------------------------|------------------------------------|--------------------------------------|--|------------------------------|-------------------------------|---------------------------------------|--------------------------|---------------|-----------------|
| (Euro) | | | | | | | | | |
| < 1350 | | | | | | 32% | | | |
| 1350-3000 | | | | | | 48% | | | |
| < 1500 | | | 14% | | | | | | |
| 1500-3000 | | | 50% | | | | | | |
| > 3000 | | | 36% | | | 20% | | | |
| Education | | | | | | | | | |
| Academic | | 46% | | | | | | | |
| College (Tec etcetera) | | 18% | | | | | | | |
| Skilled worker/ craftsman | | 21% | | | | | | | |
| High school grad. | | 7% | | | | | | | |
| High school | | 7% | | | | | | | |

Age-spread Veloland Schweiz (Ickert et al., 2005): 0-29: 15%, 30-39: 15%, 40-49: 23%, 50-59: 27%, 60+: 20%, Average: 47.

ANNEX 5: NUTS REGION CODES DETERMINING THE MODEL PARAMETERS

Table 20: NUTS 3 region codes used to determine regional surface area, population and tourism accommodation for the economic impact calculation

| Trail / Country / Area | Region Code | Notes |
|--------------------------------------|--|--|
| Veloland Schweiz | ch | Nights/bed from http://www.bfs.admin.ch/bfs/portal/d/index/themen/10/01/key.html as the Eurostat data were an order of magnitude out of normal. |
| LF-Routes Netherlands | nl | Used NUTS 1 level |
| Lower Austria | at12 | |
| Germany | de | |
| Saarland | dec | |
| Mecklenburg-Western Pomerania | de8 | |
| Brandenburg | de4 | |
| Rhineland-Palatinate | deb | |
| EuroVelo 6 (Fr) | fr511, fr512, fr244, fr245, fr246, fr241, fr262, fr263, fr432, fr431 | |
| Elbe route (Saxony) | ded36, ded27, ded25, ded21, ded29. | |
| Elbe route (Prignitz) | de417 | |
| Donau Austria: | at313, at312, at121, at126, at123, at130 | |
| Mosel route | deb16, deb17, deb22, deb21, deb25 | |
| Coast and Castles (UK) ³⁹ | UKM23, UKM24, UKM25 | Surface areas from (General Register Office for Scotland, 2008). |
| C2C (UK) | ukd11, ukd12, ukc14, ukc23, ukc22, ukc21 | |
| Hadrian's Wall (UK) | ukd11, ukd12, ukc22, ukc21 | |
| Pennine cycleway: | ukc21, ukd12, ukd43, uke22, uke43, uke32, ukf13, ukf11 | |

³⁹ Surface areas from General Register Office for Scotland (2008).

ANNEX 6: BICYCLE TRANSPORTATION ON TRAINS IN THE EU

Table 21: Summary of provision for cycle carriage on trains (domestic journeys)

| Country | Operator | Price (Converted into Euro) | Bicycle Transport Notes |
|--------------------|----------------------|--|---|
| Austria | InterCity | 7 Euro | |
| Austria | EuroCity | 7 Euro | |
| Austria | OBB | 10 Euro (long journeys within Austria). 5 Euro (short distances). | Reserving space is most important on long journeys as there is likely to be only space for 2 bicycles |
| Austria | Other intra national | | Bicycles are allowed on most trains with a special bicycle ticket |
| Belgium | All intra national | 5 Euro (one journey) or 8 Euro (one-day pass) | Most trains allow bicycles with a 'bicycle card'. Tandems covered. Off peak, prior notice to staff and space restrictions are advised on website. Some stations have storage. SNCB offers a number of cycling packages (B-excursions) which combine train tickets with cycle hire at destinations. They also provide 'cyclepoints' at stations which include hire and minor repairs |
| Bosnia Herzegovina | ZFBH | | Bicycles are generally not allowed on trains in Bosnia |
| Croatia | Hravatske željeznice | 30 kn | Bicycles are allowed some fast trains between cities, in special compartments (space for 3-10 bikes). |
| Cyprus | No trains | | |
| Czech Republic | Czech Lines | 1 Euro (per journey leg). 0.50 - 8 Euro for one day bicycle ticket (depending on booking.) | Bicycles are allowed on most trains, but timetables usually indicate this with a symbol. They can be transported either fully assembled in limited special spaces or disassembled in bicycle bags free of charge. Some stations provide storage and bicycle hire |
| Denmark | InterCity | 8 Euro | Bicycles carried in luggage van with 'bicycle ticket' |
| Denmark | DSB | 1.6 Euro to 8 Euro depending on route | Bicycles in front, back or any other carriage with a bicycle sign |
| Estonia | Edelaraudtee | c.20% of the standard price | Bicycles allowed in designated areas, usually first or last carriage. Train |

| Country | Operator | Price (Converted into Euro) | Bicycle Transport Notes |
|-------------------|----------------------------|---|---|
| | | | attendant must be notified |
| Finland | VR | Free | Long distance trains |
| Finland | InterCity | 9 Euro | Intercity double decker trains have special compartments for cycles which includes a lock |
| Finland | All intra national | | Commuter trains in Helsinki restricted at peak times |
| France | All intra national | | Bicycles accepted in semi-dismantled state in zip up bicycle bag, free within dimensions of 90x120cm |
| France | Intercités de nuit | 10 Euro | Overnight trains, reserve in advance |
| France | Local and regional | Free | Peak hours restricted on Paris commuter routes |
| France | TGV | 10 Euro | Most TGV lines accept bicycles. Max 4 spaces per train |
| Hungary | All intra national | 0.80 Euro - 5.70 Euro. Priced by distance | Bicycle accepted in first or last cabin (unless there are special compartments). Whilst in the past only regional trains carried bicycles, developments in infrastructure are being made to accommodate bicycles (extra spaces in coaches etcetera) |
| Iceland | No trains | | No trains - buses take bicycles for fee |
| Ireland | InterCity | 6 Euro one way and 12 Euro return | |
| Ireland | Commuter and DART services | | Carried in vestibules at discretion of staff. Off peak times only |
| Italy | All intra national | 3.50 Euro | Carried on any train if dismantled and placed in zipped-up bags. Transported in the luggage van for 3.50 Euros (a 24 hour bicycle pass transferable to most local and regional trains) |
| Latvia | All intra national | | Bicycles allowed on most trains, but are limited at peak times |
| Lithuania | All intra national | | Bicycles allowed on most services - restricted by season and time. Disassembled bicycles may be packed and stored as luggage |
| Luxembourg | SNCB from Belgium | 9 Euro | Bicycles taken in the baggage van |

| Country | Operator | Price (Converted into Euro) | Bicycle Transport Notes |
|--------------------|---------------------------------------|---|---|
| Macedonia | All intra national | | Bicycles are allowed on most trains with a special bicycle ticket |
| Malta | No trains | | Cycles only allowed on buses - no train services |
| Montenegro | All intra national | | Bicycles allowed on local trains with a reservation |
| Netherlands | InterCity | 9 Euros | Carried on baggage vans |
| Netherlands | Thalys | | Only if placed in zip up bag (90x120 cms) and carried on board |
| Netherlands | All intra national | 6 Euro | One day bicycle ticket. Peak hours (6:30 - 9:00 and 16:30- 18:00) restricted |
| Norway | All intra national | 12 Euro (regional service) 4 Euro (Local) | Bicycles accepted on all regional trains. On intercity and Signature trains space is limited. On local trains carriage cannot be guaranteed |
| Poland | All intra national | 2.70 Euro | Bicycles accepted on most trains, but many intercity trains do not have guards vans, therefore the corridor areas are the only place to put them |
| Portugal | Regional and Interregional | | Free at weekends and public holidays (2 bicycles per carriage). At inspectors discretion, space permitting and in specially marked spaces |
| Portugal | Alfa Pendular and Intercidades | | Must have wheels removed and packed in luggage spaces |
| Romania | All intra national | | Difficult to take bicycles on Romanian trains. Sometimes possible following negotiation with the guards. |
| Serbia | All intra national | | Bicycles generally only allowed if dismantled and carried as hand luggage |
| Slovakia | ZSSK | 0.66 Euro | Has 2 means of transporting bicycles: 'Mobile' compartment where the carrier is responsible and 'Simplified' where the customer is responsible (0.66 Euro) charge for a luggage reservation (dismantled bicycle in bag) |
| Slovenia | InterCity, International and Regional | | Transported in special luggage vans. Flat fee |
| Slovenia | Diesel & Electric | | Diesel (10 bicycles max) and Electric (20 Bicycles Max). Flat fee |

| Country | Operator | Price (Converted into Euro) | Bicycle Transport Notes |
|-------------|--------------------------------|-----------------------------|--|
| Spain | AVE & Large Distancia | | Not accepted on long distance trains in Spain, even in bicycle bags |
| Spain | Media Distancia & Cercenias | Free | Regional, local or suburban trains - bicycle must be placed in a bicycle bag. Subject to space restrictions, and off peak times |
| Spain | Avant | Free | Only folding bicycles |
| Spain | Avant Grenada | Free | Covers Cadiz. 3 unfolded bicycles per train |
| Sweden | Inter-city and regional trains | 15 Euro | Spaces are limited to between 4-9 bicycles on each train depending on route |
| Switzerland | All intra national | Free | Must be reserved in Summer on some trains |
| Turkey | All intra national | Free | Bicycles generally only allowed when a goods van present. Advised to dismantle bicycle and take in bicycle bag |
| UK | | Free | National legislation states destination should be labelled |
| UK | All intra national | Free | Accepted on most trains except busy peak-time trains around London and other cities. Must be transported in designated areas and reserved in advance if required |

Table 22: Summary of provision for cycle carriage on trains (international journeys)

| Country | Operator | Price (Converted into Euro) | Bicycle Transport Notes |
|--|-----------------------|-----------------------------|---|
| Austria, Germany | Railjt | Bikes not accepted | |
| Austria to neighbouring countries | OBB | 12 Euro | Reserving space is most important on long journeys as there is likely to be only space for 2 bikes |
| Austria, Germany | Austrian Intercity | 12 Euro | International bike ticket from Munich to Salzburg to Linz and Vienna |
| Croatia, Hungary, Austria, Germany, Slovenia | Vlak | 5 Euro | |
| Denmark, Sweden | Oresund | | Between Copenhagen & Malmo or Gothenburg. Bikes limited to 9 spaces |
| France, Germany | City Line Night | 15 Euro | Sleeper train from Paris to Berlin or Munich. UK agency Deutsch Bahn UK arrange this in advance |
| France, Italy | TGV | | Covers Paris to Turin or Milan. Only allowed 'unofficially' in zipped up bike bags |
| France, Italy | Thello | | Covers Paris to Venice, Milan and Verona. Only allowed 'unofficially' in zipped up bike bags |
| France, Spain | Elipos Trainhotels | Free | Covers Paris - Madrid / Barcelona. Free of charge as carry-on luggage if placed in zip-up bag and if you pay for a full compartment |
| France, Spain | Intercités de nuit | 10-15 Euro | As far as Irun (reserved at 10-15 Euro). Does not need to be packed |
| Germany, Belgium | Thalys | Free | Bike bag essential (120x90cm) |
| Germany, Belgium | ICE | Free | Bike bag essential (120x90cm) |
| Germany, Belgium | InterCity | 9 Euro | Reservation essential |
| Germany, Czech Republic | City Line Night | 10-15 Euro | From Cologne / Munich to Prague (10-15 Euro) |
| Hungary, Germany | EuroCity | | Budapest - Hamburg. Bikes accepted in special carriage for nominal fee based on distance |
| Hungary, Slovakia, Slovenia | International service | 5 Euro | |

| Country | Operator | Price (Converted into Euro) | Bicycle Transport Notes |
|---|-----------------------|-----------------------------|--|
| Hungary, Germany, Croatia, Austria, Czech Republic | International service | 10 Euro | |
| Italy, neighbouring countries | Trenitalia | 12 Euro | Not all international trains accept bikes |
| Luxembourg | SNCB from Belgium | 9 Euro | Bicycles taken in the baggage van |
| Netherlands, Belgium | City Line Night | | Cycle Compartment on sleeper train |
| Netherlands, Germany, Austria | City Line Night | 10 Euro | Stored in special bike compartment (sleeper) |
| Romania, Hungary | International service | | Bucharest - Budapest (book in advance, although acceptance is unclear from Traveller's reports) |
| Spain, Portugal | Lustania & Surex | Booked with compartment | Whole sleeping compartment must be booked. The bike must be folded and packed (pedals removed and handlebars turned parallel). |
| Switzerland, Belgium | Lyria TGV | 15 Euro | |
| Switzerland, France | Lyria TGV | 10 Euro | Service provider for Paris to Geneva, Lausanne, Bern and Zurich. Space for 4 bikes which are not packed (10 Euro). Otherwise, they must be packed in zip-up bags no bigger than 120x90cm |
| Switzerland, Italy | EuroCity | | Bikes not accepted |
| UK, France, Belgium, Netherlands | Eurostar | 30 Euro | There are 3 options: Free in bike box, 30 Euro as registered item or 30 Euro in one of the special bike spaces which are on each train. |

ANNEX 7: SUMMARY OF CARRIAGE OF CYCLES & PRICING BY AIRLINES

Table 23: Summary of carriage of cycles on airlines

| Airline | Country | One way charge on flights within Europe (converted into Euro) | Fee | Variants |
|-------------------------|----------------------|---|--------------------------------|--|
| Adria Airlines | Slovenia | 70 | Flat fee | 150 from / to non EU countries |
| Aeroflot | Russia | 50 | Flat fee | |
| Aigle Azur | France, Portugal | 11 | Per KG | |
| Air Berlin | Germany | 75 | | 100 EUR if transaction takes place at check-in |
| Air Corsica | France (and Corsica) | 20 | Flat fee up to allowance limit | Extra 3 EUR per KG over baggage allowance (23KG); extra 1 EUR per KG over baggage allowance on flights outside of Paris-Corsica |
| Air Dolomiti | Italy | 70 | Flat fee | |
| Air Europa | Spain | 75 | Flat fee | |
| Air Finland | Finland | 30 | Flat fee | |
| Air France | France | 0 | | Travellers get 1 or 2 items free in their baggage allowance depending on ticket class. A range of fees are added if the bicycle is not within the allowance, depending on ticket class, and whether the flight is intra-European or to / from non-EU countries |
| Air Italy | Italy | 40 | Flat fee | 50 EUR on long haul flights |
| Air Malta | Malta | 20 | Flat fee | 30 EUR if no voucher is displayed, free if total weight of baggage including sport equipment falls within baggage allowance |
| Air Mediterranee | France | 35 | Flat fee | |
| Air Nostrum | Spain | 75 | Flat fee | |

| Airline | Country | One way charge on flights within Europe (converted into Euro) | Fee | Variants |
|------------------------------------|--|--|--------------------------------|---|
| Air One | Italy | 30 | Flat fee up to allowance limit | 10 EUR per kg over weight limit. 40 EUR if booked at airport ticket counter |
| Air Poland | Poland | 30 | Flat fee | |
| Air Pullmantur | Spain | 100 | Flat fee | |
| Air Transat | Canada (flies within and to / from Europe) | 23 | Flat fee | |
| AirBaltic | Latvia | 30 | Flat fee | |
| Allegiant Air | Albania | 5 | Per KG | |
| Alitalia | Italy | 0 | | |
| ArkeFly | Netherlands | 40 | Flat fee | 80 EUR for non-European countries |
| AtlasJet | Turkey | 3 | Per KG | |
| Aurela | Lithuania | 30 | Flat fee | |
| Aurigny | Guernsey | 0 | | |
| Austrian Airlines | Austria | 70 | Flat fee | |
| Baboo | Switzerland | 41 | Flat fee | |
| BelleAir | Albania | Price not found | | |
| Balkan Holidays Air | Bulgaria | 0 | | 47 EUR if travelling to Bulgaria |
| Bosnia Herzegovina Airlines | Bosnia Herzegovina | Not given | Flat fee | |
| Binter Canarias | Canary Isles | Not given | | |
| Blekingeflyg | Sweden | 17 | Flat fee | |
| Blue Air | Romania | 25 | Flat fee | |
| Blue Islands | Channel Islands | Price not found | | |
| Blue1 | Finland | Price not found | | |
| Blu-express | Italy | 20 | Flat fee | |

| Airline | Country | One way charge on flights within Europe (converted into Euro) | Fee | Variants |
|--------------------------|----------------|--|--------------------------------|--|
| BMI | England | 30 | Flat fee up to allowance limit | 30 EUR extra, per way, if bike weighs over 20 kg. Free if travelling business class and baggage limit not exceeded |
| BMI baby | Scotland | 22 | Flat fee up to allowance limit | 28 EUR if booked through call centre or airport (22 EUR on website) |
| British Airways | England | 0 | | 39 EUR if outside of checked baggage allowance |
| Brussels Airlines | Belgium | 70 | Flat fee | 150 if coming from / going to countries outside of Europe |
| Bulgaria Air | Bulgaria | Price not found | | |
| Bulgarian Charter | Bulgaria | 0 | | 3 EUR per KG if outside of baggage allowance |
| Carpatair | Romania | 0 | | If baggage limit exceeded charge is 1.5% of highest fare for itinerary |
| Cimber Sterling | Denmark | 40 | Flat fee | 80 EUR if transaction made at check in |
| Cirrus Airlines | Germany | 0 | | Un-defined fee if exceeds baggage allowance |
| City airline | Sweden | 25 | Flat fee | |
| CityJet | England | 0 | | 55 EUR if outside of baggage allowance (2nd item), 200 EUR if 3rd or 4th piece |
| Condor | Germany | 26 | | 75 EUR if long haul |
| Corendon Airlines | Turkey | 25 | Flat fee | |
| Corsairfly | France | 0 | | 10 EUR per kg if outside of allowance |
| Croatia Airlines | Croatia | 70 | Flat fee | 150 EUR if coming from /to Europe |
| Cyprus Airways | Cyprus | 35 | Flat fee | |
| Czech Airlines | Czech Republic | 60 | Flat fee | 200 EUR if coming from /to Europe |

| Airline | Country | One way charge on flights within Europe (converted into Euro) | Fee | Variants |
|----------------------------------|----------------|--|------------|--|
| Danube Wings | Slovakia | 0 | | 10 EUR per kg over free baggage allowance |
| Darwin Airline | Switzerland | Price not found | | |
| Direktflyg | Sweden | Price not found | | |
| Eastern Airways | England | | | Charged as excess baggage dependent on weight |
| EasyJet | England | 30 | Flat fee | 35 EUR if booked at the airport |
| Edelweiss Air | Switzerland | 70 | Flat fee | |
| Estonian Air | Estonia | 20 | Flat fee | 45 EUR if coming from /to Europe |
| EuroLot | Poland | | | Charged as excess baggage dependent on weight |
| Finnair | Finland | 50 | Flat fee | 100 EUR if coming from /to Europe |
| Flybe | England | 37 | Flat fee | 20 EUR if flying to / from Finland / Estonia |
| Flyniki | Austria | 50 | Flat fee | 75 EUR 'Zone 4' or long haul; 100 EUR if transaction takes place at check-in |
| Flysmaland | Sweden | 14 | Flat fee | |
| Georgian Airways | Georgia | Price available from office | Flat fee | |
| Germania | Germany | 50 | Flat fee | |
| German Wings | Germany | 30 | Flat fee | |
| Gotlandflyg.se | Sweden | 14 | Flat fee | |
| Hellenic Imperial Airways | Greece | Price not found | | |
| Hello | Switzerland | 70 | Flat fee | |
| Helvetic Airways | Switzerland | 33 | Flat fee | |
| Iberia Airlines | Spain | 75 | Flat fee | |
| Iberia Regional | Spain | 75 | Flat fee | |

| Airline | Country | One way charge on flights within Europe (converted into Euro) | Fee | Variants |
|----------------------------|----------------|--|-------------------------------|--|
| Iberworld | Spain | Price available from office | Flat fee | |
| Iceland Air | Iceland | 29 | Flat fee | |
| Iceland Express | Iceland | 23 | Flat fee | |
| InterSky | Germany | Price not found | | |
| Islas Airways | Spain | 0 | | |
| ItAli Airlines | Italy | Price not found | | |
| Jat Airways | Serbia | Price available from office | | |
| Jet2.com | England | 30 | Flat fee | |
| Jetairfly | Belgium | 20 | Flat fee | |
| JetTime | Denmark | Price available when booking online | | |
| Kalmarflyg | Sweden | 22.5 | Flat fee | |
| KLM | Netherlands | 0 | | 55 EUR if over the free baggage allowance |
| Kullaflyg | Sweden | 17 | Flat fee | |
| Logan Air | Scotland | 12 | Flat fee | |
| LOT Polish Airlines | Poland | 12 | Flat fee | |
| Lufthansa | Germany | 70 | Flat fee | 150 EUR if travelling from / to other continents |
| Luxair | Luxembourg | 25 | Flat fee | 50 EUR if booked as part of on package holiday, 70 EUR if booked through Lux air (flight only) |
| Malmo Aviation | Sweden | 18 | Flat fee for domestic flights | International flights: part of free allowance or if over 20kg, excess baggage |
| Meridiana Fly | Italy | Price not found | | |
| Moldovian Airlines | Moldova | Price available from office | | |
| Neos Air | Italy | 50 | Flat fee | |

| Airline | Country | One way charge on flights within Europe (converted into Euro) | Fee | Variants |
|------------------------------|----------------|--|---------------------------|---|
| Norwegian Air Shuttle | Norway | 0 | | Variable excess fees (6-20 EUR) based on seating, type and distance of flight, and method of payment (internet or airport) |
| OLT | Switzerland | 0 | | If bike exceeds allowance, 5 or 10 EUR per extra kg (depending on route) |
| Onur Air | Turkey | 8.5 | Flat fee | |
| Orbest Orizonia | Spain | Contact 'Travel Professional' for price | | |
| Pegasus airlines | Turkey | 40 | Flat fee | |
| Primera Air | Denmark | 18 | Flat fee if booked online | 35 EUR if booked at the airport |
| REGIONAL | France | 0 | | Travellers can transport 1 or 2 items free in their baggage allowance depending on ticket class. A range of fees are added if the bicycle is not within the allowance, depending on ticket class and whether the flight is intra-European or to / from non-EU countries |
| Ryanair | Ireland | 40 | Flat fee | 50 EUR if booked at airport |
| SATA | Portugal | 50 | Flat fee | 35 EUR if domestic in Portugal |
| Scandinavian Airlines | Sweden | 0 | | 20 kg if outside of baggage allowance (domestic), 30 EUR if Europe, 40 EUR if International |
| Sky Airlines | Turkey | 20 | Flat fee | |
| Sky Express | Greece | Price not found | | |
| Sky Work Airline | Switzerland | 13 | Per KG | |
| Skyways | Sweden | 22.5 | Flat fee | |
| Small Planet | Lithuania | Price available | | |

| Airline | Country | One way charge on flights within Europe (converted into Euro) | Fee | Variants |
|--------------------------------|----------------|--|------------|---|
| Airlines | | from office / online booking | | |
| Smartlynx Airlines | Latvia | Price available from office / online booking | | |
| Smartwings | Czech Republic | 40 | Flat fee | |
| Sun Air of Scandinavia | Denmark | 41 | Flat fee | |
| Spanair | Spain | 50 | Flat fee | |
| Sundsvallsflyg | Sweden | 17 | Flat fee | |
| Sun Express | Turkey | 25 | Flat fee | |
| Sverigeflyg | Sweden | 17 | Flat fee | |
| Swift Air | Spain | Price not found | | |
| SWISS | Switzerland | 70 | Flat fee | 150 EUR if intercontinental |
| TAP Portugal | Portugal | 35 | Flat fee | 150 EUR if intercontinental |
| TAROM | Romania | 50 | Flat fee | 100 EUR if outside EU |
| Thomas Cook Belgium | Belgium | 74 | Flat fee | |
| Thomas Cook Scandinavia | Denmark | 74 | Flat fee | |
| Thomas Cook UK | England | 47 | | £60 (75 EUR) return for long haul, tandems £45 (56 EUR) for short haul and £55 (68 EUR) for long haul |
| Thomson Airways | England | 35.5 | Flat fee | £60 (75 EUR) return for long haul |
| Titan Airways | England | Price not found | | |
| Transavia | France | 40 | Flat fee | |
| TUI fly | Germany | 0 | | Extra 10 EUR added if using overweight baggage, 25 EUR for an extra 5 kg, 45 for extra 10 kg |
| TUI fly Nordic | Sweden | 79 | | 1400 SEK (160 EUR) if long haul |

| Airline | Country | One way charge on flights within Europe (converted into Euro) | Fee | Variants |
|------------------|---------|---|----------|----------------------------|
| Turkish Airlines | Turkey | Unclear if bikes accepted | | |
| Twin Jet | France | Unclear if bikes accepted | | |
| Tyrolean Airways | Austria | 35 | Flat fee | 70 EUR if intercontinental |
| Virgin Atlantic | England | 0 | | |
| Vueling | Spain | 45 | | |
| Wideroe | Norway | 40 | | |
| Wind Jet | Italy | 40 | | |
| Wizz Air | Hungary | Price not found | | |
| XL Airways | France | Unclear if bikes accepted | | |

Notes: General Conditions of Carriage

Bicycle pedals must be removed (or fixed inwards). Handlebars must be fixed sideways. The bicycle must be contained in a protective case or bag. Passengers are advised to deflate the tyres to reduce risk of damage.

The weight limit is a maximum of 20 kg for most airlines.

Generally extra costs are required for the special cover that is requested (about €10 per bicycle).

ANNEX 8: PUBLIC TRANSPORT INTEGRATION ON THE IRON CURTAIN TRAIL (NORTHERN SECTION)

Finland

Limited information on buses/coaches, the following website does give information but only if you specify a route: http://www.matkahuolto.fi/en/travel_services/timetables/



Estonia

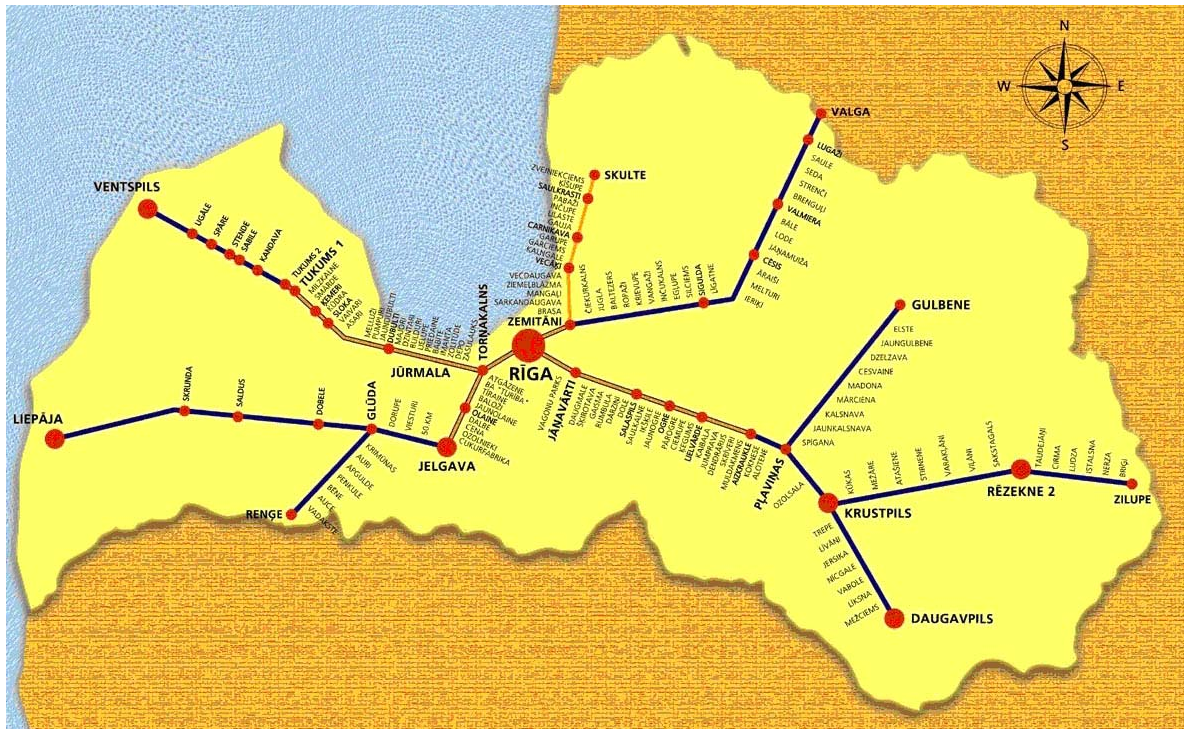
Rail and Ferry Integration

Rail: Tallinn, Paldiski

Ferry: Tallinn – Helsinki (9 departures daily)

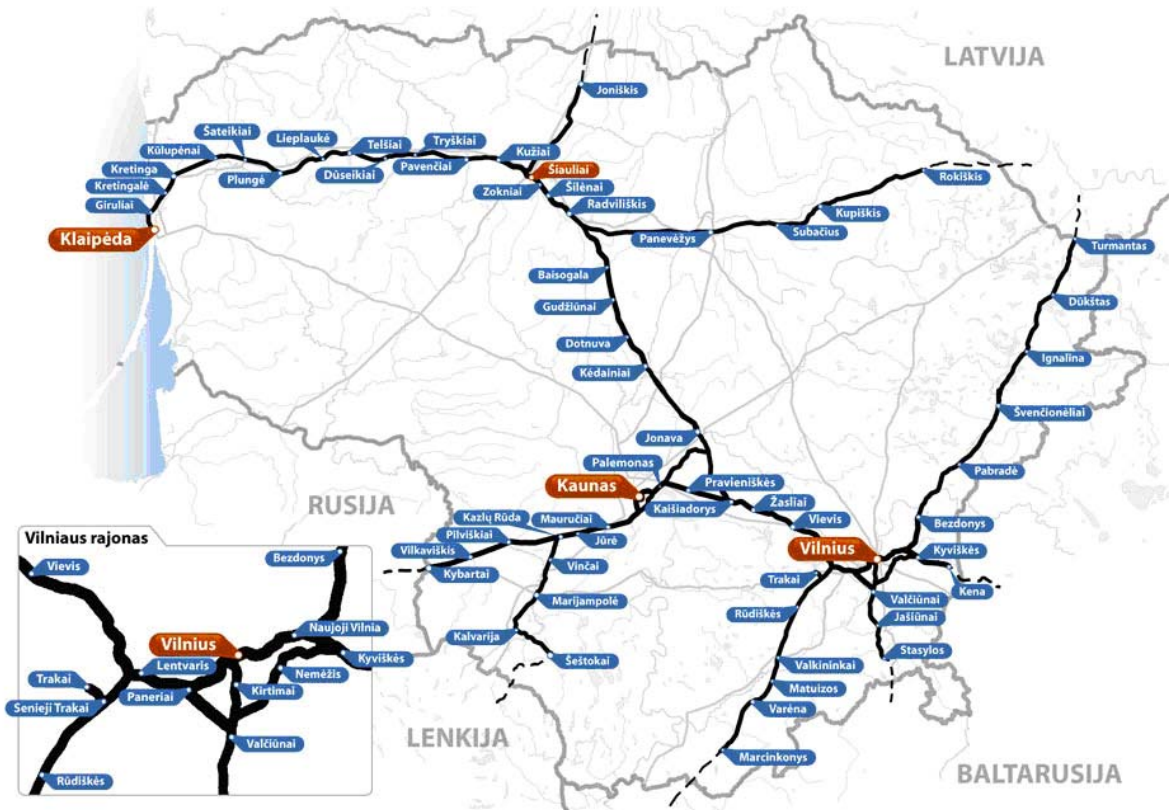
Tallinn – Stockholm (1 departs daily)

Latvia



Rail and Ferry: There are 3 major ports in Latvia – Liepāja, Riga and Ventspils.

Lithuania



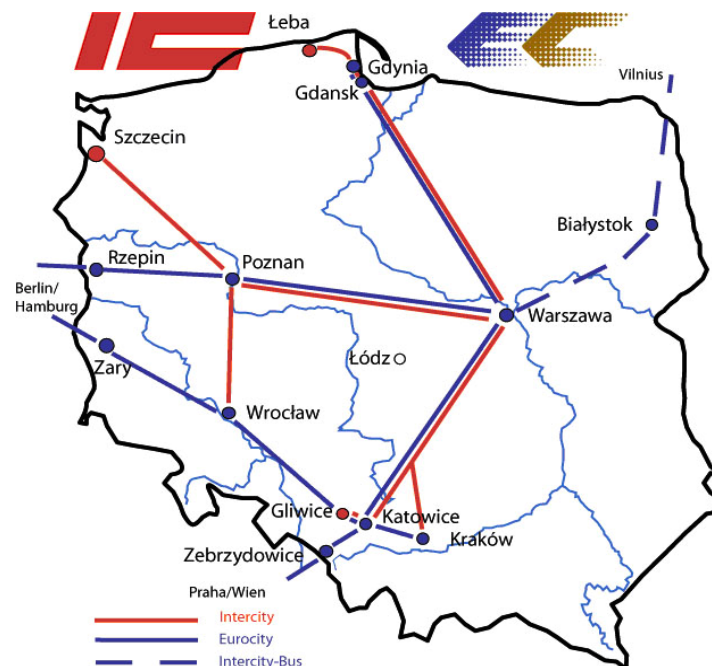
Ferry: Klaipėda is the only major port in Lithuania; these are the routes available although there is no information on how frequently these services run.

| |
|--|
| Klaipėda – Kiel (Germany) - Klaipėda |
| Klaipėda – Sassnitz (Germany) – Klaipėda |
| Klaipėda – Karlshamn (Sweden) – Klaipėda |
| Klaipėda – Copenhagen – Fredericia (Denmark) |
| Klaipėda – Baltiysk (Russia) - Klaipėda |
| Klaipėda – Aabenraa – Aarhus (Denmark) |

Rail:

As you can see, Klaipėda is the main railway station on the Iron Curtain Trail. Timetable information is available, but again – you need to specify where to and from (<http://www.litrail.lt/wps/portal>)

Poland



Ferry: The ports of Gdańsk, Gdynia, Szczecin, Ustka and Kolobrzeg are all close to the Iron Curtain Trail. Gdynia is the main railway station for the Iron Curtain Trail.

Germany

The port of Hamburg is the largest port in Germany. Hamburg is the main railway station for services into Germany along the Iron Curtain Trail. The InterCityExpress (ICE) is a type of high-speed train operated by Deutsche Bahn in Germany and large cities in neighbouring countries, such as Zürich, Vienna, Paris, Amsterdam, Liège and Brussels. The carriage of cycles on these trains is not currently possible. The rail network throughout Germany is extensive and provides services in most areas. On regular lines, at least one train every 2 hours will call even in the smallest of villages. Nearly all larger metropolitan areas are served by S-Bahn, U-Bahn, Strassenbahn and/or bus networks.

ANNEX 9: NUTS 3 REGIONS IRON CURTAIN TRAIL CALCULATIONS

Table 24: List of NUTS 3 regions used for calculations of demand for the Iron Curtain Trail

| NUTS 3 Code | Name region |
|-------------|--|
| no073 | Finnmark |
| fi1a3 | Lappi |
| fi1a2 | Pohjois-Pohjanmaa |
| fi134 | Kainuu |
| fi133 | Pohjois-Karjala |
| fi187 | Etelä-Karjala |
| fi186 | Kymenlaakso |
| ee007 | Kirde-Eesti |
| ee006 | Kesk-Eesti |
| ee001 | Põhja-Eesti |
| ee004 | Lääne-Eesti |
| lv007 | Pieriga |
| lv006 | Riga |
| lv003 | Kurzeme |
| lt003 | Klaipėdos (Apskritis) |
| - | Kaliningrad Oblast (Russia) ¹ |
| pl621 | Elblaski |
| pl634 | Gdanski |
| pl633 | Trojmiejski |
| pl631 | Slupski |
| pl422 | Koszalinski |
| pl423 | Stargardzki |
| pl425 | Szczecinski |
| de80f | Ostvorpommern |
| de801 | Greifswald, Kreisfreie Stadt |

| NUTS 3 Code | Name region |
|-------------|-----------------------------|
| de80d | Nordvorpommern |
| de805 | Stralsund, Kreisfreie Stadt |
| de807 | Bad Doberan |
| de803 | Rostock, Kreisfreie Stadt |
| de80e | Nordwestmecklenburg |
| de806 | Wismar, Kreisfreie Stadt |
| def03 | Lübeck, Kreisfreie Stadt |
| de80a | Ludwigslust |
| def06 | Herzogtum Lauenburg |
| de935 | Lüneburg, Landkreis |
| de934 | Lüchow-Dannenberg |
| de417 | Prignitz |
| dee0d | Stendal |
| dee04 | Altmarkkreis Salzwedel |
| dee07 | Börde |
| de917 | Helmstedt |
| dee09 | Harz |
| de916 | Goslar |
| de919 | Osterode am Harz |
| deg07 | Nordhausen |
| deg06 | Eichsfeld |
| de915 | Göttingen |
| de737 | Werra-Meißner-Kreis |
| deg0p | Wartburgkreis |
| deg0n | Eisenach, Kreisfreie Stadt |
| de733 | Hersfeld-Rotenburg |
| de732 | Fulda |
| deg0b | Schmalkalden-Meiningen |
| de266 | Rhön-Grabfeld |

| NUTS 3 Code | Name region |
|-------------|--------------------------|
| deg0e | Hildburghausen |
| de247 | Coburg, Landkreis |
| deg0h | Sonneberg |
| de24a | Kronach |
| deg0i | Saalfeld-Rudolstadt |
| deg0k | Saale-Orla-Kreis |
| de249 | Hof, Landkreis |
| ded17 | Vogtlandkreis |
| de23a | Tirschenreuth |
| de237 | Neustadt an der Waldnaab |
| de235 | Cham |
| de229 | Regen |
| de225 | Freyung-Grafenau |
| cz041 | Karlovarský |
| cz032 | Plzeňský |
| cz031 | Jihočeský |
| cz064 | Jihomoravský |
| at313 | Mühlviertel |
| at124 | Waldviertel |
| at125 | Weinviertel |
| at112 | Nordburgenland |
| at111 | Mittelburgenland |
| at113 | Südburgenland |
| sk021 | Trnavský kraj |
| sk010 | Bratislavský kraj |
| hu221 | Gyor-Moson-Sopron |
| hu222 | Vas |
| hu223 | Zala |
| hu232 | Somogy |

| NUTS 3 Code | Name region |
|-----------------|---|
| hu331 | Bács-Kiskun |
| hu333 | Csongrád |
| sl011 | Kosický kraj |
| hr022 | Viroviticko-podravska zupanija |
| hr025 | Osjecko-baranjska zupanija |
| - | Vojvodina (Republic of Serbia Serbia) ¹ |
| - | Central Serbia (Republic of Serbia Serbia) ¹ |
| ro422 | Caras-Severin |
| ro413 | Mehedinti |
| bg412 | Sofia |
| bg414 | Pernik |
| bg415 | Kyustendil |
| bg413 | Blagoevgrad |
| bg424 | Smolyan |
| bg425 | Kardzhali |
| bg422 | Haskovo |
| bg341 | Burgas |
| mk ¹ | Macedonia, the former Yugoslav Republic of |
| gr111 | Evros |
| tr212 | Edirne |
| tr213 | Kirklareli |

Note: NUTS is Nomenclature of Units for Territorial Statistics, developed by Eurostat; 3 refers to the most detailed level. ¹ For Russia, the Kaliningrad Oblast is taken as "NUTS" region. Serbia is split in 2 regions (Vojvodina and Central Serbia; the smallest regions for which statistics on the number of tourism beds were available). Macedonia is included on a NUTS 1 (i.e. country) level.

ANNEX 10: LIST OF CONSULTEES WHO PROVIDED INFORMATION

Table 25: List of consultees

| Organisation | Surname | First Name | Country |
|--|--------------|------------|-------------|
| The Study Team | | | |
| Institute of Transport and Tourism | | | UK |
| | Lumsdon | Les | |
| | Weston | Richard | |
| | McGrath | Peter | |
| | Davies | Nick | |
| Centre for Sustainable Transport and Tourism | | | Netherlands |
| | Peeters | Paul | |
| | Piket | Pieter | |
| | Eijgelaar | Eke | |
| European Parliament | | | Europe |
| | Cramer | Michael | |
| | Danklefsen | Nils | |
| | Beeckmans | Paul | |
| Key Organisations which responded to requests for information | | | |
| ECF | | | Europe |
| Main office | Ensink | Bernhard | |
| | Bodor | Adam | |
| | Lancaster | Ed | |
| Idéværkstedet De Frie Fugle | Larsen | Jens Erik | Denmark |
| Velobuero | Stadtherr | Lukas | Switzerland |
| Russian Cycle Touring Club. NGO Bicycle Transport Union | Nalimov | Igor | Russia |
| Filoi tou podèlatou (Friends of the Bicycle) | Hadjialexiou | Lydia | Greece |
| Ministry of Tourism | Dangulea | Julia | Romania |
| Sustrans | | | UK |
| | Insall | Philip | |

| Organisation | Surname | First Name | Country |
|--|--------------------|------------|----------------|
| | Cope | Andy | |
| Ecoplus. Niederösterreichs Wirtschaftsagentur GmbH | Weinberger | Christian | Austria |
| ARGUS (Austria) | Hemmens | Benjamin | Austria |
| IG-Fahrrad | Leitner | Wolfgang | Austria |
| Fietsersbond vzw | Herrijgers | Eva | Belgium |
| Udruga BICIKL | Širola | Darinka | Croatia |
| Ministry of Ecology | Peigne | Hubert | France |
| Transport Research | Martinek | Jaroslav | Czech Republic |
| Polish Greenways | Krystztof | Florys | Poland |
| Vist Denmark | Urfe | Lisbeth | Denmark |
| Magyar Kerékpáros-Klub | László | János | Hungary |
| FIAB, Federazione Italiana Amici della Bicicletta, CYRONMED | Sforza | Raffaele | Italy |
| Latvijas Velocelojumu Informācijas Centre | Silenieks | Viesturs | Latvia |
| Lithuanian Cyclists' Community | Ružinskas | Saulius | Lithuania |
| Polish Environmental Partnership Foundation | Zareba | Dominika | Poland |
| Pomeranian Association Common Europe (PSWE) | Piotrowicz | Andrzej B. | Poland |
| CCN, Clubul de Cicloturism Napoca | Mititean | Radu | Romania |
| ConBici | Rivero | Pilar | Slovenia |
| Pro Velo Schweiz | Merkli | Christoph | Switzerland |
| VCS / ATE | Tschopp | Jürg | Switzerland |
| SBB, Communication & public affairs | Kormann | Reto | Switzerland |
| Fundacion de los ferrocarriles | Hernandez-Colorado | Arantxa | Spain |
| CCN, Cycle Campaign Network | Franklin | John | UK |
| Stiftung SchweizMobil | Utiger | Martin | Switzerland |
| Fundacion de los ferrocarriles Espanoles | Aycart | Carmen | Spain |

| Organisation | Surname | First Name | Country |
|---|---------------|------------|------------------------------|
| | | | |
| ETRA | Roetyneck | Annick | Europe |
| Amber Trail Greenways | Rohac | Jan | Slovakia |
| Greenways | Sepsei | Gergely | Hungary |
| Polish Environmental Partnership Foundation | Miłka | Nizinska | Poland |
| Czech Environmental Partnership Foundation | Mourek | Daniel | Czech Republic |
| Cyprus Tourism Organisation | Liatiri | Monica | Cyprus |
| Ciclopista del Sole | Pedroni | Claudio | Italy |
| CYRONMED | Vicini | Doretta | Mediterranean Europe |
| BaltiCCycle | Wurft | Frank'as | Baltic Countries and Belarus |
| Trendscope GbR | Keutmann | Ulf | Germany |
| Magdeburger Tourismusverband Elbe-Börde-Heide e.V. | Peters | Uwe | Germany |
| Czech Environmental Partnership Foundation | Mourek | Daniel | Czech Republic |
| CzechTourism | Martinek | Jaroslav | Czech Republic |
| Eberswalde University of Applied Sciences / BTE Tourism Management, Regional Development | Rein | Hartmut | Germany |
| Eberswalde University of Applied Sciences / BTE Tourism Management, Regional Development | Rein | Hartmut | Germany |
| ETI, European Tourism Institute at Trier University | Hallerbach | Bert | Germany |
| ADFC Tourism Department | Richter | Wolfgang | Germany |
| Forum Anders Reisen - responsible for GreenBelt Tour 2009 | Polenz | Rainer | Germany |
| State Tourism Organisation Brandenburg (LTV Brandenburg); Tourism Marketing Brandenburg (TMB); Head "Nature conservation, Environment & Tourism" of German Tourism Association (DTV) | Jennert | Raimund | Germany |
| Regional management Neustadt / Paneuropa-Radweg | Frauenreuther | Margit | Germany |
| DTV (German Tourism Association) - responsible for pilot project D-Route 3 | Keutmann | Ulf | Germany |

| Organisation | Surname | First Name | Country |
|---|------------------|-----------------|---|
| (=EV2) | | | |
| DTV (German Tourism Association) - responsible for D-Route 3 project | Schelkle | Judith | Germany |
| DZT German National Tourist Board - Theme marketing active holidays | König | Beate | Germany |
| Radschlag - Büro für Tourismus und Radverkehr | Tiffe | Andrea | Germany |
| Ruhr Tourism – Manager cycle tourism | Lottritz | Christoph | Germany |
| invent GmbH | Miglbauer | Ernst | Germany |
| Trendscope | Hürten & Brimmer | Dennis & Oliver | Germany |
| Treinreiswinkel | Brall | Helmut | Netherlands |
| Fietsvakantiewinkel | Houtstra | Frank | Netherlands |
| Fietsplatform | Nijland | Erik | Netherlands |
| NBTC (Dutch Tourism Board) | Ornee | M | Netherlands |
| Toerisme Vlaanderen (Flemish Tourism Board) | Vervlyte | Dries | Belgium |
| BMWfJ | Penitz | Renate | Austria |
| Project Coordinator INTERREG IV B "DEMARRAGE" | Wicht Matas | Melanie | Germany |
| Westtoer | Callens | Moira | Belgium |
| GIZ Belgrade | Matijasevic | Nebosja | Serbia |
| Ciklonaut | Erakovic | Jovan | Serbia |
| SBB - Media department | Marti | Roman | Switzerland |
| Scandlines | Bohnsack | Juliane | Germany, Denmark, Baltic States, Sweden |
| Balearia | Boix | Pilar | Spain |

ANNEX 11: OVERVIEW OF FERRIES

Table 26: Ferry operators and cycling provision

| Operator | Countries (or Islands) | Provision for cycles | Price (Each trip unless specified) | Route (Both ways unless specified) | Routes changed since 2009? | Price changed since 2009? |
|----------------------------|-------------------------------------|----------------------|-------------------------------------|--|----------------------------|---------------------------|
| Adria Ferries | Italy, Albania | Yes | Free | Ancona / Bari - Durres | Yes | No |
| Agemar | Italy, Albania | Yes | Free | Trieste / Bari - Durres | Yes | No |
| Alstrafikken | Denmark | Yes | 12 Euro (one way) | Bøjden - Fynshav | No | No |
| Azzurra Line | Italy, Croatia, Albania, Montenegro | Not specified | Not specified | Bari (Italy) - Durres (Albania); Bari - Dubrovnik (Croatia); Bari - Kotor (Montenegro); Bari - Bar (Montenegro) | Service suspended | |
| Balearia | Spain, Balearic Isles | Yes | Free | Algeciras - Ceuta / Tangiers; Barcelona-Mallorca / Menorca / Ibiza; Ceuta - Algeciras; Denia-Mallorca / Ibiza; Formentera - Ibiza; Ibiza - Barcelona / Denia / Formentera / Mallorca / Valencia; Mallorca - Menorca; Valencia - Menorca; Mallorca - Menorca; Mallorca - Ibiza; | Yes | No |
| Bastø Fosen | Denmark | Yes | Free | Moss-Horten Ferry, | No | No |
| Blueline | Croatia, Italy | Yes | Free | Ancona - Split / Hvar | Yes | n/a |
| Bornholms Trafikken | Sweden, Denmark, Germany | Yes | 9-26 Euro variable by age and route | Ronne - Koge / Ystad / Sassnitz | Yes | ? |
| Brittany Ferries | England, Ireland, France, Spain | Yes | 5 Euro (France); 10 Euro (Spain) | Portsmouth - St Malo / Caen / Cherbourg / Santander / Bilbao; Plymouth to Roskoff / St Malo / | Yes | Yes |

| Operator | Countries (or Islands) | Provision for cycles | Price (Each trip unless specified) | Route (Both ways unless specified) | Routes changed since 2009? | Price changed since 2009? |
|---------------------------|---|----------------------|------------------------------------|---|----------------------------|---------------------------|
| | | | | Santander | | |
| Colorline | Denmark, Norway, Sweden | Yes | 5-15 Euro, variable by route | Hirtshals - Kristensand / Larvik; Stromstad - Sandefjord; Kiel - Oslo | No | No |
| Condor Ferries | England, France | Yes | Free | Weymouth / Poole / Portsmouth - Guernsey / Jersey / Cherbourg / St Malo | No | No |
| Corsica Ferries | France, Italy (to Corsica and Sardinia) | Yes | 2.85 Euro | Toulon / Nice - Corsica; Savona / Livorno - Corsica; Livorno / Civitavecchia - Sardinia; Piombino - Portoferraio | No | No |
| DFDS Seaways | England, Norway, Sweden, Netherlands, Denmark | yes | 5-10 Euro variable by route | Dover - Dunkirk / Calais; Newcastle - Amsterdam; Harwich - Esbjerg; Copenhagen - Oslo; Klaipeda - Karlshamn / Sassnitz / Kiel | Yes | Yes |
| Dimaiolines | Italy, Sicily, Sardinia | Yes | Free | Napoli - Palau / Cagliari / Golfo Aranci | Service suspended | |
| Fjordline | England, Norway, Denmark | Yes | 6 - 16 variable by route | Bergan - Hirtshals; Hirtshals - Stavanger / Kristiansand / Langesund | Yes | |
| GLD Lines | France, Italy, Spain | Yes | Free | Barcelona - Livorno / Civitavecchia; Civitavecchia - Toulon / Portovecchio | Yes | No |
| Grandi Navi Veloci | Spain, Italy, Malta | Yes | Free | Genoa - Barcelona / Porto Torres / Olbia / Palermo; Palermo - Civitavecchia / Livorno / Napoli; Livorno - T. Imerese | Yes | No |
| Harwich | England | Yes | 1.5 - 2.5 | Harwich - Shotley - | No | No |

| Operator | Countries (or Islands) | Provision for cycles | Price (Each trip unless specified) | Route (Both ways unless specified) | Routes changed since 2009? | Price changed since 2009? |
|----------------------|--------------------------|----------------------|------------------------------------|---|----------------------------|---------------------------|
| Harbour Foot Ferry | | | Euro | Felixstowe | | |
| Compagnie Corsaire | France | Not specified | Not specified | St Malo - Dinan - Dinard | n/a | n/a |
| HD ferries | Channel Islands, France | Yes | Not specified | Jersey - Guernsey - St Malo | Service suspended | |
| Hurtigruten | Norway | Yes | 10-20 Euro variable by route | Bergen - Alesund - Molde - Kristiansund - Trondheim - Stamsund - Harstad - Tromso plus 20+ minor stops | No | |
| Irish Ferries | Ireland, UK, France | Yes | 10 Euro | Holyhead - Dublin; Rossalaire - Pembroke / Cherbourg / Roscoff | No | |
| Iscomar | Spain, Balearic Isles | Yes | Not specified | Ibiza - Barcelona / Formentera / Denia; Valencia - Palma / Mahon; Alcudia - Ciutadella | Yes | n/a |
| Jadrolinija | Croatia | Yes | 1 Euro | Destinations in Rijeka, Zadar, Sibenik, Split and Dubrovnik | n/a | n/a |
| Langeland strafikken | Denmark | Yes | Adult - 18 Euro, Child - 10 Euro | Spodsbjerg - Tars | No | Yes |
| LD Lines | England, France | Yes | Free | Le Havre - Portsmouth; Dover - Calais; Marseilles - Tunis; St Nazaire - Gijon | Yes | No |
| Minoan | Italy Greece | Yes | Free | Patras - Ancona / Venice / Corfu / Igoumenitsa; Piraeus - Heraklion | No | No |
| Moby Lines | Italy, Corsica, Sardinia | Yes | Free | Genoa - Olbia / Porto Torres / Bastia; Olbia - Porto Torres / Livorno / Piombino / Civitavecchia; Livorno - Bastia; | n/a | n/a |

| Operator | Countries (or Islands) | Provision for cycles | Price (Each trip unless specified) | Route (Both ways unless specified) | Routes changed since 2009? | Price changed since 2009? |
|---------------------------|---|----------------------|--------------------------------------|---|----------------------------|---------------------------|
| | | | | Bonifacio - ST di Gallura; Portoferrario - Piombino | | |
| Naviera Armas | Portugal, Canary Islands | Yes | 5-15 Euros (free with vehicle) | Tenerife, Portimao, Madeira, Lanzarote, La Palma, La Gomera, Gran Canaria, Fuerteventura, El Hierro | No | No |
| Nordic Jet Line | Finland, Estonia | Not specified | Not specified | Tallinn - Helsinki | Service suspended | |
| Norfolk Line | England, Belgium, Scotland, Ireland | Yes | Free | Dover - Dunkirk; Liverpool - Belfast / Dublin; Edinburgh - Zeebrugge | Service suspended | |
| North Link Ferries | Scotland - Shetland / Orkney | Yes | Free | Aberdeen - Kirkwall / Lerwick; Scrabster - Stromness; Lerwick - Kirkwall | No | No |
| P & O Ferries | England, Netherlands, Belgium, France, Spain, Ireland, Scotland | Yes | Free | Dover - Calais; Hull - Rotterdam / Zeebrugge; Bilbao - Portsmouth; Liverpool - Dublin; Larne - Troon / Cairnryan | No | No |
| Polferries | Poland, Denmark, Sweden | Yes | 5.60 – 7.80 Euro (Variable by route) | Gdansk - Nyashamn; Swinoujscie - Ystad / Kopenhaga / Ronne | No | Yes |
| RG Line | Finland, Sweden | Yes | 6 Euro | Vaasa - Umea | No | No |
| Samsøfaergen | Denmark | Yes | 3.30 Euro | Kolby Kas - Kalundborg; Saelvig - Hou | Yes | Yes |

| Operator | Countries (or Islands) | Provision for cycles | Price (Each trip unless specified) | Route (Both ways unless specified) | Routes changed since 2009? | Price changed since 2009? |
|----------------------------|--|----------------------|------------------------------------|---|----------------------------|---------------------------|
| Scandlines | Germany, Finland, Sweden, Lithuania | Yes | 5-10 EUR variable by route | Klaipeda - Kiel / Sassnitz / Karlshamn; Helsinki - Stockholm / Turku; Stockholm - Turku / Mariehamn | Yes | Yes |
| Sea France | England, France | Yes | Free | Dover - Calais | Service suspended | |
| Smyril Line Ferries | Iceland, Faroe Islands, Denmark | Yes | 15 Euro | Torshavn - Seydisfjordur; Seydisfjordur - Hortshals | Yes | Yes |
| Snav | Italy, Sicily, Sardinia, Croatia, Greece | Not specified | Not specified | Napoli - Procida - Ischia; Capri - Castellammare / Sorrento / Napoli; Napoli - Sorrento; Napoli - Panera - Stromboli - Lipari - Vulcano; Ancona - Split / Spalato | Yes | n/a |
| SNCM | France, Italy, Corsica, Sardinia | Not specified | Not specified | Toulon / Marseilles / Nice - Sardinia / Corsica | No | n/a |
| SpeedFerries | England, France | Out of business | | | | |
| Steam Packet | England, Isle of Man, Ireland | Yes | Free | Liverpool / Heysham / Belfast/ Birkenhead / Dublin - Douglas | Yes | No |
| Stenna Line | England, Holland, Ireland, Scotland | Yes | Variable by route. Approx.: 5 Euro | Belfast - Cairnryan / Liverpool; Fishguard - Rosslaire; Harwich - Hook of Holland; Holyhead - Dun Laigoighaire / Dublin | Yes | No |
| Superfast Ferries | Scotland, Belgium, Greece, Italy | Yes | Free | Ancona / Bari - Patras / Igoumenitsa / Corfu; Pireaus / Heraklion | Yes | No |
| Tallink Silja | Finland, Sweden, | Yes | 10 Euro | Stockholm - Helsinki / Aland / Tallinn / | Yes | No |

| Operator | Countries (or Islands) | Provision for cycles | Price (Each trip unless specified) | Route (Both ways unless specified) | Routes changed since 2009? | Price changed since 2009? |
|----------------------------|-----------------------------------|----------------------|------------------------------------|--|----------------------------|---------------------------|
| | Estonia | | | Turku / Riga; Helsinki - Tallinn | | |
| Tirrenia | Albania, Italy, Corsica, Sardinia | Not specified | Not specified | Arbatax - Olbia / Genova / Civitavecchia / Cagliari; Cagliari - Trapani / Civitavecchia / Napoli / Palermo; Civitavecchia - Olbia; Genoa - Olbia / Porto Torres; Napoli - Palermo; Termoli - Tremiti | Yes | No |
| Transeuropa Ferries | England, Belgium | No | n/a | Ostend - Ramsgate | No | n/a |
| Transmanche Ferries | England, Italy, France, Ireland | Yes | Free | Le Havre - Portsmouth / Newhaven; Dieppe - Newhaven | Yes | No |
| TT Line | Germany, Sweden | Yes | 6 Euro | Rostock - Travemunde - Trelleborg | No | Yes |
| TTT Lines | Italy, Sicily | Yes | 12 Euro | Naples - Catania | No | No |
| Venezia Lines | Italy | Yes | 10 Euro | Durres - Bari; Venice - Porec / Rovinj / Istra | Yes | No |
| Viking Line | Finland, Sweden, Estonia | Yes | 7 Euro | Helsinki - Tallinn; Mariehamn - Helsinki / Turku / Kapelskar / Stockholm | No | No |
| Virtu Ferries | Italy, Sicily, Malta | Yes | Free | Valletta - Pozzallo / Catania | No | No |

ANNEX 12: SURVEY OF EXPERTS ON EUROPEAN CYCLE TOURISM

As part of the study an on-line survey of experts within cycling, cycle tourism and the cycling industry was undertaken. The aim of the survey was to find out what experts from different areas of cycling considered was happening with regard to cycle tourism and the future of the EuroVelo network. This was repeated in 2012 with some additional questions. ***The results of the 2009 survey are retained in brackets for comparison.***

The survey was divided into 7 sections, these were: Cycle Tourism, EuroVelo, Cycle and Transport, Cycle Touring, Holiday Preferences, The Future and About You. Each of the sections contained questions or statements that required responses on pre-set scales. There was a final open question asking the respondents what they thought the European Union could do to support the development of cycle tourism and the EuroVelo network.

The first section asked some general questions on trends in cycle tourism, cycle routes and funding. The next section asked whether they were aware of the EuroVelo network and what contribution they thought it made to cycle tourism. The third section asked how easy they thought it was to transport their bikes by different means. The next 2 sections asked how important certain factors were in their choice of cycle touring route and about their cycling holiday preferences. The 6th section asked their opinions on the future of cycling holidays and the EuroVelo network.

Cycle Tourism

The respondents were asked to think about the following statements and answer using the following scale *Decreasing, Static, Increasing, Don't know*. The answers to the 3 questions on the level and demand for cycle tourism all indicated static levels. The questions on the funding of cycle routes received mixed responses, with the second most frequent response being *Static* (34% and 33% respectively).

This group of questions showed the most significant changes of the survey; whereas in 2009 the development of cycle routes and demand for cycle tourism was seen as static the 2012 responses now suggest that these are both now increasing. This is in contrast to the 2 questions on funding where this is reversed, previously seen as increasing but now static - probably reflecting the current economic climate in Europe.

| Statement | Most frequent response | Median response |
|--|-----------------------------------|------------------------|
| The demand for cycling holidays in your country is | Increasing – 85% (Static, 83%) | Increasing (Static) |
| The demand for day leisure cycling in your country is | Increasing – 84% (Static, 86%) | Increasing (Static) |
| The number of cycle routes is | Increasing – 75% (Static, 66%) | Increasing (Static) |
| The level of funding for cycle routes by municipalities is | Static – 36% (Increasing 42%) | Static (Increasing) |

| Statement | Most frequent response | Median response |
|--|--------------------------------|---------------------|
| The level of funding for cycle routes by regional governments is | Static – 37 (Increasing, 44%) | Static (Increasing) |
| In general, cycle tourism in your country is | Increasing – 85% (Static, 78%) | Increasing (Static) |

EuroVelo

Respondents were asked if they had heard of EuroVelo; of those that answered 75% (69%) said yes. Those that responded yes were then asked to indicate their agreement or otherwise with the following statements using the following scale *Disagree strongly, Disagree, Neutral, Agree, Agree strongly*. There was strong support for the first statement with a further 39% agreeing. It was similar for the second statement with a further 28% agreeing strongly. EuroVelo was seen as more important for rural tourism (59% agreement) than for city tourism (48% agreement). Opinion in the last 2 statements supports the development of long distance routes to promote tourism. However, there was a significant difference between the responses from the new EU Member States and other Eastern European countries, with 44% disagreeing compared with the European countries (59%) on the importance of long distance routes.

There has been little change in responses between the 2 surveys for this set of questions. EuroVelo is still seen as important for the development of cycle tourism (90% either agreeing or strongly agreeing). An additional question was also added regarding the incorporation of EuroVelo in the TEN-T programme; overall 66% agreed or strongly agreed with this.

| Statement | Most frequent response | Median response |
|--|-----------------------------------|-----------------|
| EuroVelo is an important network for developing cycle tourism in Europe | Agree – 48% (Agree strongly, 47%) | Agree |
| EuroVelo should be incorporated into the TEN-T programme | Agree – 34% | Agree |
| EuroVelo is important for the development of cycle tourism in your country | Agree – 41% (43%) | Agree |
| EuroVelo is important for the development of rural tourism in your country | Agree – 43% (35%) | Agree |
| EuroVelo is important for the development of city tourism in your country | Agree – 39% (Neutral, 34%) | Agree (Neutral) |
| Long distance routes are less important than local routes | Disagree – 43% (42%) | Disagree |
| Long distance routes attract more visitors than local routes | Agree – 36% (43%) | Neutral (Agree) |

Cycles and Transport

They were then asked how easy was it to perform certain tasks relating to cycling and transport in their country using the following scale *Not at all easy, Not easy, Neutral, Easy, Very easy, Not applicable*. **There is strong dissatisfaction with the ease of use of InterCity, high-speed and international trains.** Although the results suggest that the issue is less strongly felt in the new EU Member States where on average a smaller number of respondents rated it as either *Not easy at all* or *Not easy* compared to the Western European countries. **The picture appears to be no better with busses, trams or planes. The only mode with which there seems to be any degree of satisfaction is ferries;** with over half of respondents indicating that they are *Easy* or *Very easy* to use.

Again there is little difference between the 2 set of responses. Worryingly “taking your cycle on a local or regional train” is now seen as more problematic than in 2009, this is despite the *Third Railway Package* having been in place for several years. Although this may be due to differences in the sample.

| Task | Most frequent response | Median response |
|--|---------------------------------------|---------------------|
| Take your cycle on a local or regional train? | Not easy – 33% (Very easy, 38%) | Neutral (Very easy) |
| Take your cycle on an InterCity train? | Not easy – 41% (34%) | Not easy |
| Take your cycle on a high-speed train? | Not at all easy – 40% (50%) | Not at all easy |
| Take your cycle on an EC or other international train? | Not easy – 33% (Not at all easy, 35%) | Not easy |
| Take your cycle on a local bus or tram? | Not at all easy – 48% (50%) | Not at all easy |
| Take your cycle on a long distance bus? | Not at all easy (41%) | Not easy |
| Take your cycle on a ferry? | Easy – 32% (33%) | Easy |
| Hire a cycle from a railway station? | Not at all easy – 36% (38%) | Not easy |
| Take your cycle on a domestic flight? | Not easy – 27% (30%) | Not easy |
| Take your cycle on an international flight? | Not easy – 29% (30%) | Not easy |

Cycle touring

Thinking about longer distance cycling the respondents were then asked to indicate how important are the following factors when choosing a cycle tour using the following scale *Not important, Somewhat important, Important, Very important, Extremely important*. The responses to this question indicate that **the most important factors to consider when designing a cycle route are: the degree to which the route is traffic-free, pleasant and changing scenery, and reliability of information** (including signs, accommodation,

connections to transport interchanges, etcetera). Many of these factors were more important, on average, to respondents from existing EU countries than for those in the new Member States.

Unsurprisingly the responses to the 2 surveys remain similar here, with all the factors identified in the literature as important to the development of cycle tourism remaining so here.

| Factor | Most frequent response | Median response |
|--|---------------------------------------|----------------------------|
| A traffic free route | Very important – 32% (38%) | Very important |
| Good scenery | Very important – 46% (47%) | Very important |
| Facilities such as accommodation and cafes | Important – 37% (39%) | Important |
| Clear signage | Very important – 31% (35%) | Very important (Important) |
| Crossing through or by nature reserves or areas of outstanding natural beauty | Important – 36% (Very important, 38%) | Important (Very important) |
| Reliable information | Very important – 37% (Important, 38%) | Very important (Important) |
| Access by train | Important – 36% (33%) | Important |
| Visitor attractions | Important – 39% (33%) | Important |
| Being on a long (international) route | Somewhat important – 34% (35%) | Somewhat important |
| Standardised signage across borders for international routes | Important – 38% (37%) | Important |
| Standard quality across borders for international routes | Important – 36% (39%) | Important |

Holiday Preferences

Thinking about their own cycling holiday preference they were asked to rate a number of different options using the following scale *Do not prefer at all, Do not prefer, Neutral, Prefer, Prefer very much*. The responses from this section indicate that the preferred cycling holiday would be one that is within Europe and accessed by train; almost half have a preference to travel directly from home. However, as before there is a slight difference in the average preference between 'old' and 'new' Europe; with new Member States having a greater preference for car/cycle holidays in their own countries.

The increased preference for 'cycling from home', 'cycling in your own country' and 'rail/cycle holidays' in the 2012 survey suggests that cycle tourism is ideally suited for development as a sustainable tourism product.

| Preferences | Most frequent response | Median response |
|--------------------------------------|------------------------------------|------------------|
| Cycling from home to a tourist place | Prefer – 41% (33%) | Prefer (Neutral) |
| Cycling in your own country | Prefer – 52% (38%) | Prefer |
| Cycling in another country in Europe | Prefer – 46% (46%) | Prefer |
| Cycling in another part of the world | Neutral – 38% (36%) | Neutral |
| Fly-cycle holidays | Neutral – 30% (Do not prefer, 29%) | Do not prefer |
| Car-cycle holidays | Prefer – 35% (30%) | Neutral |
| Rail-cycle holidays | Prefer – 48% (42%) | Prefer |
| Bus-cycle holidays | Do not prefer – 30% (Neutral, 34%) | Neutral |

The Future

In the 2012 survey an additional set of questions were set; these concerned potential barriers to the growth of cycle tourism. Responses were given using the following scale *Major barrier, Minor barrier, No barrier and No experience with this factor*. For all 6 factors the most frequent response was 'Major barrier', although it was the availability of regional or national funding and national transport policy which were seen as the greatest challenges.

| Barriers | Most frequent response | Median response |
|---|------------------------|-----------------|
| National (transport) policy | Major barrier – 48% | Major barrier |
| Available regional funds | Major barrier – 53% | Major barrier |
| Available national funds | Major barrier – 61% | Major barrier |
| Available EU funds | Major barrier – 31% | Major barrier |
| Stakeholder cooperation along the route | Major barrier – 34% | Major barrier |
| Project coordination | Major barrier – 37% | Major barrier |

The respondents were then asked to indicate to what extent they agreed with statements about the future of cycle tourism and EuroVelo using the following scale *Disagree strongly, Disagree, Neutral, Agree, Agree strongly*. More respondents from the new Member States

thought that the EuroVelo network would not be completed in the next 5 years (40%) than those from Western Europe (30%). However, 80% thought that it should be developed as a sustainable tourism facility, and **86% thought that this should be funded at European Union level**. There is also strong support (65%) for the development of themed long-distance cycle routes such as the Iron Curtain Trail.

Again the responses between the 2 surveys were very similar. 2 new questions were also added regarding the use of GPS on cycle routes. The responses to these suggest that whilst the use of this type of technology is growing in popularity it is unlikely to replace more traditional forms navigation in the near future.

| Statement | Most frequent response | Median response |
|---|----------------------------|-----------------|
| More people will take holidays closer to their homes in the next 5 years | Agree – 50% (57%) | Agree |
| Walking and cycling holidays will become more popular | Agree – 61% (67%) | Agree |
| The EuroVelo network will be complete by 2020 (within 5 years) | Neutral – 52% (47%) | Neutral |
| EuroVelo should become a major sustainable tourism facility | Agree – 43% (48%) | Agree |
| EuroVelo should be funded at EU level | Agree strongly – 43% (48%) | Agree |
| EuroVelo is a good name for long distance routes | Agree – 47% (47%) | Agree |
| Cycle Tourism funding should focus on local schemes only | Disagree – 44% (44%) | Disagree |
| There should be more themed routes such as The Iron Curtain Trail | Agree – 43% (52%) | Agree |
| The availability and use of GPS applications for cycle routes will make field-signed routes superfluous | Disagree strongly – 27% | Disagree |
| EuroVelo routes need to be equipped with GPS tools and applications in order to remain attractive | Agree – 39% | Agree |

Comments and suggestions on the future of European Cycling

The respondents were then given the opportunity to suggest measures that they thought the EU contribute to developing and supporting cycle tourism. A number of key themes are distilled from the comments below.

- **Public transport and cycling** – there were a considerable number of comments regarding the carriage of cycles on trains and other forms of public transport. In

some cases, it is felt that the train companies require more pressure to be exerted on them (by Governments and legislation) to ensure that they carry bicycles at a modest cost. The carriage of bicycle on international trains was also seen as important.

- **Governments support in developing cycle tourism** – many respondents see the role of government (at local, national and European level) as important in providing the resources to develop cycling within the European Union. Particularly through supportive legislation and developing physical infrastructure.
- **Infrastructure for cycling** – the main comments here concerned the future development of infrastructure to ensure that it becomes more cycle friendly. Particularly those factors identified previously in the *Cycle touring* section of the survey, for example, unification and quality of signage and being traffic-free.
- **Marketing and promoting cycling in Europe** – a few respondents indicated a need to market cycling and cycle routes better within Europe, for example, guidelines for countries with less developed cycle tourism strategies and adding cycling information to the 'Ecolabel' criteria for tourism.
- **Equipment** – decreasing VAT on bikes and related accessories and changing the legislation on safety equipment were suggested by a number of respondents.
- **Information and dissemination** – a few respondents recognised the need to inform stakeholders better on how to develop cycle tourism in their countries or regions. A variety of means were suggested, including internet-based tools, a central European office and workshops.

The scope of additional comments in the 2012 survey reflected those of 2009. In particular issues related to funding and the legislative framework were frequent.

The table below shows the geographic distribution of the respondents.

Table 27: Geographic distribution of the respondents

| Country | Frequency | Percentage | Frequency | Percentage |
|----------------------|-----------|------------|-----------|------------|
| Year | | 2009 | | 2012 |
| Austria | 8 | 2.3 | 16 | 3.8 |
| Belgium | 7 | 2.0 | 7 | 1.6 |
| Bosnia - Herzegovina | - | - | 2 | 0.5 |
| Bulgaria | 13 | 3.7 | 0 | 0.0 |
| Croatia | 1 | 0.3 | 6 | 0.3 |
| Cyprus | - | - | 18 | 4.2 |
| Czech Republic | 8 | 2.3 | 6 | 1.4 |
| Denmark | - | - | 4 | 0.9 |

| Country | Frequency | Percentage | Frequency | Percentage |
|----------------|------------|--------------|------------|--------------|
| Estonia | - | - | 1 | 0.2 |
| Finland | 3 | 0.9 | 1 | 0.2 |
| France | 8 | 2.3 | 104 | 24.4 |
| Germany | 43 | 12.4 | 31 | 7.3 |
| Greece | 2 | 0.6 | 25 | 5.9 |
| Hungary | 31 | 8.9 | 2 | 0.5 |
| Iceland | - | - | 4 | 0.9 |
| Ireland | 3 | 0.9 | 4 | 0.9 |
| Italy | 75 | 21.6 | 18 | 4.2 |
| Lithuania | 2 | 0.6 | 1 | 0.2 |
| Netherlands | 9 | 2.6 | 4 | 0.9 |
| Poland | 2 | 0.6 | 1 | 1.2 |
| Romania | 22 | 6.3 | 8 | 1.9 |
| Russia | 1 | 0.3 | 0 | 0.0 |
| Serbia | 1 | 0.3 | 1 | 0.2 |
| Slovakia | 9 | 2.6 | 28 | 6.6 |
| Slovenia | 1 | 0.3 | 1 | 0.2 |
| Spain | 69 | 19.8 | 15 | 3.5 |
| Sweden | 1 | 0.3 | 6 | 1.4 |
| Switzerland | 3 | 0.9 | 6 | 1.4 |
| Turkey | - | - | 22 | 5.2 |
| United Kingdom | 26 | 7.5 | 8 | 1.9 |
| Total | 348 | 100.0 | 426 | 100.0 |

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