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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

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

AUTHORS

Institute of Transport and Tourism, University of Central Lancashire, UKⁱ
Centre for Sustainable Transport and Tourism, Breda University, the Netherlandsⁱⁱ

RESPONSIBLE ADMINISTRATOR

Mr Nils DANKLEFSEN
Policy Department Structural and Cohesion Policies
European Parliament
B-1047 Brussels
E-mail: poldep-cohesion@europarl.europa.eu]

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ABOUT THE EDITOR

To contact the Policy Department or to subscribe to its monthly newsletter please write to:
poldep-cohesion@europarl.europa.eu

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ⁱ Les Lumsdon, Richard Weston, Peter McGrath, Nick Davies.

ⁱⁱ Paul Peeters, Eke Eijgelaar, Pieter Piket



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Abstract:

This study evaluates the challenges and opportunities of developing a cycle tourism network across Europe. It focuses on EuroVelo, a network of 12 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 in Europe and presents a EuroVelo demand modal. It reviews the carriage of cycles on trains. Finally, it evaluates the potential of the Iron Curtain Trail.

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ACRONYMS

Acronym	Description
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
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	Rheinland-Pfalz
SBB	Swiss National Railways
SSM	SchweizMobil Foundation
SVS	Veloland Schweiz Foundation
TEN	Trans-European Network

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 twelve long-distance cycle routes which cover 66,000 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 500km. 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's excursions
Public transport integration:	The aim of the EuroVelo network is 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

Aims 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 three 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 across Europe
- (c) 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.

Background

Cycling holidays and day trips by cycle are often categorised as a sustainable tourism product. This report focuses specifically on travel between places by bicycle for leisure purposes. This is in essence, cycle tourism and it is currently important for some tourism destinations. The report provides an overview of the cycle tourism market across Europe and seeks to evaluate the potential for development.

EuroVelo is a European cycle route network which seeks to offer a sustainable Trans-European Network. It comprises twelve long-distance cycle routes covering a distance of 66,000 km. The 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.

Thirdly, the report 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 twenty countries and including 14 EU Member States on the 6800 km route from the Barents to Black Sea. It is likely that only a small proportion of the market would cycle such a route end to end. The main market would want to experience a section of the trail in any given country through which it passes. The study reviews the potential of this new long-distance trail and whether it should be a part of the EuroVelo network.

The Cycle Tourism Market

There are no reliable data sources regarding the overall volume and value of the existing cycle tourism market. In order to assess the market for cycle tourism in Europe, it was decided to scan the Internet to analyse cycle tourism opportunities available to the public. The findings are clear. France is by far the most important destination for tour operators followed by Austria. Scientific studies sourced from Germany, Switzerland, the Netherlands and the UK were also reviewed; these were supplemented by market research findings principally from Denmark, France and Spain. The requirement of a continuous, safe, pleasant route with good signage is universal. 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. For example, people in Denmark, the Netherlands and Germany enjoy a more cycle-friendly culture at home and they are also more likely to cycle for recreation and on holiday. The main outbound markets of the European tourism sector are Germany and the UK.

Trends

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. The fastest moving market is Germany. While some markets are still growing the survey of experts undertaken for this study suggests that most markets are relatively static.

The Cycle Tourism Market (Volume and Value)

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 (EU27 plus Norway and Switzerland) to estimate the value and volume of cycle tourism. There are an estimated 2,795 billion cycle tourism trips in Europe with a value in excess of €54 billion per annum. This is the estimated sum total of domestic and international cycle tourism trips. The number of cycle overnight tourists is 25.6 million or about 3% of the total number of tourist trips generated by the EU population (based on Peeters et al. 2007a).

Motivational Factors

Cyclists are motivated by health reasons (physical activity), taking relaxation, and at the same time learning something about another area. Factors such as cycling being inexpensive, spectacular scenery or environment (although the surrounding landscape is important) and comfort are not primary factors. In terms of route characteristics, the most important factors are safety (low traffic density), ease of use (signposting), route variety and accommodation/catering. Of lesser importance are information materials, public transport access, route network density, cycle maintenance shops and infrastructure at resting places. The balance between cycle tourists (staying overnight) and day cyclists varies considerably between the various route networks, regions and single routes.

Transport Modes to the Cycling Route/Destination

Evidence from the German, UK and Spanish markets about travel to cycling destinations shows that a significant majority of day excursionists cycle to and from home or holiday accommodation. However, the picture is different in terms of holiday travel. For example, in the Netherlands, there is a low share of air transport but a higher share of car travel to the destination. Consequently, bicycle use increases during the holiday period. The modal split also depends on the nature of the route and access to it by different forms of transport. In contrast to the relatively low car access on the continent, UK cycle tourists to Scotland are heavily dependent on their car for travel to the destination. This might be explained by the high level of mountain biking as opposed to other forms of leisure cycling.

Economic Impacts

One important aspect of cycle route development is the way in which direct spending in local economies can generate businesses and create or maintain jobs. A good example of spending generated by a cycle route network designed to attract tourists can be found in Veloland Schweiz. The Swiss network has been extensively monitored from the inception of the project and use has been high from the earliest stages of development. From a review of the available data, we calculated a trip-excursion weighted average. Cycle tourists spend on average €53 per day including accommodation. Day excursion cyclists, on the other hand, tend to spend far less, the estimated average being just under €16 per day. Similar results are available from other countries. The daily spending by cycling excursionists and tourists are comparable to those of the mainstream tourist travelling for a wide range of

purposes. This conclusion is based on detailed data for German tourists. Dutch car travellers on long domestic holidays (with an average duration of 9.9 days) spent €21 per person per day in 2007; on short domestic holidays (average duration 3.2 days) they spent €32 p.p.p.d. (CBS 2008). This compares with the average daily spending on 'LF' cycle routes in the Netherlands of €31 per day recorded in 2003.

Environmental Impacts

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

- Soil loss (erosion affecting water quality through run-off from tracks)
- Damage to vegetation
- Fauna disturbance
- Crowding (impact on recreational quality)

The sustainability of cycling tourism can be evaluated in absolute terms. Like all tourist activity, it has an additional impact on the environment. The core problem is that tourism, like any other sector, contributes to climate change. Investment in cycle route development is frequently channelled towards the reuse of old infrastructure intended for another purpose, for example, railway routes and waterway towpaths, especially in Belgium, France and Spain. The actual building of new routes has a minimal effect on wildlife. However the increasing use of trails will have a greater impact. Environmental impact assessments are therefore important when a route passes through or near to environmentally sensitive areas.

The act of cycling itself is almost emission-free. Most cyclists start their day trip directly from their front door but, in some cases, motorised transport is used to reach the destination, affecting air quality en route and adding to pollution and congestion at destinations. This study focuses on CO₂-emissions in, the case of German and Dutch cycle holidays where information is available for analysis. In the case of Germany, as cyclists use more environmentally-friendly transport modes and travel shorter distances to their cycle destination (-53% in relation to all types of holidays), the emissions per cycle tourism holiday are 66% less than other holidays. In the case of the Netherlands there is a clear difference between holidays which include 'frequent or 'regular' cycle tours and other types of holiday. CO₂ is 28% per holiday trip and 26% lower per day. About 12% of all Dutch holidays include 'regular' or 'frequent cycle tours in the programme.

Cycle tourism has a very significant advantage over other forms of tourism in terms of contribution to climate change (resulting in the main from transport to the destination). Impacts on nature and landscape can be minimised and are probably less than in the case of most other forms of tourism since cycle infrastructure generally requires small-scale investments.

There are also potential social impacts, as the Spanish and UK case studies illustrate. Routes passing through towns and villages give local communities immediate access to physical and social activity, thereby improving the quality of life for those concerned.

EuroVelo Economic Impact

An evaluation of the EuroVelo network has also been made. The study concludes that while it is currently not a major transport or tourism network, it has considerable potential. 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 45.2 million trips will generate a total of almost €5 billion of direct revenue that can be attributed to EuroVelo as a cycle tourism product.

Public Transport Integration

As with all holiday travel, it is necessary to ensure smooth integration between modes of transport en route to the destination, and whilst travelling around the destination. In this connection, cycle hire for the more casual day excursionist at railway stations is ideal. The position regarding the carriage of cycles is problematic from a cycle tourist point of view, however, as train operators in different countries have varying approaches. For example, cycle carriage applies to most German rail services with the exception of the long-distance ICE trains, while, cycles are carried on almost all trains in Switzerland and the Netherlands. The Third Railway Package (European Parliament and Council 2007) is seeking to improve bicycle carriage facilities. This has led to political representations in Germany to allow bicycles on long-distance ICE trains. Bicycle space is now to be offered on the new Thalys services and on an increasing number of TGVs in France. As a rule, cycles do not have to be packaged (although this is the case on some long-distance routes). In some cases this service is provided free of charge. In others the costs are very modest and never more than €20 per trip.

Not all destinations are served by rail links. Sometimes long-distance coaches provide a solution for the cycle tourist. However, the coach and cycle option is currently very limited. There is a market for cyclists who wish to travel by coach/bus across Europe. There are restrictions regarding the 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 a major factor in a Europe-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, while ferry companies are willing and able to carry large numbers of cycle tourists, most of them do not advertise this in any way.

Case Studies of Best Practice

The second major task outlined in the brief was to carry out a number of case studies which reflect insights and best practice in relation to the development of a long-distance cycle network in Europe, focusing on tourist development, marketing practices, the need for supporting facilities and finally monitoring. The cases are summarised as follows:

- The case of the 'Veloland Schweiz' network highlights the key to the development of a network: 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.
- The Drau route highlights the way in which local tourist authorities and transport providers can design and promote transport and tourism as a tourist experience. The Danube cycle route development in Serbia highlights the usefulness of exchange of knowledge and skills and the requirement to stimulate the tourist sector to be proactive rather than reactive in the early stages of tourist development.
- The Vias Verdes case reflects on how to re-use disused resources to good effect. The case illustrates how industrial heritage can be used simultaneously to provide access to natural areas for a wide range of users. The Danube Cycle Route in Austria indicates that long-distance cycle routes can become mainstream in their appeal so as to attract an international market. It also notes the relevance of planning for development when a product is nearing maturity.
- The emphasis on sustainability and the commitment of the development programme to maintaining local diversity are the hallmarks of the Amber Greenways Trail in Eastern Europe. This case illustrates the importance of cross-border partnership.

- The involvement of all partners from the four countries involved in the CY.RO.N.MED network has been crucial. It is the first time all partners have worked together to plan a cycle route. The technical assistance from ECF and FIAB have been essential to the success of the project. This also confirms the importance of cross-border partnership.
- The Berlin Wall Trail case indicates that urban heritage 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. It also provides a useful example of the combination of city tourism with cycle tourism.
- The North Sea Cycle Route (EuroVelo 12) demonstrates the importance of marketing by the management group of long-distance cycle routes that are being developed for tourism purposes. In particular it highlights the need to maintain marketing communication throughout all development stages with tourism officers and information providers.
- A case study on the Cycle Tour along the European Green Belt highlights the importance of offering culture and nature as two prime attractions of themed routes.
- Treinreiswinkel is the specialist rail travel agency in the Netherlands offering round-trip train tickets, and other train travel packages. Treinreiswinkel has observed a growth in recent years in turnover related to train and bicycle tickets. The company suggests two ways of improving train transport possibilities of bicycle:
 - o More direct bicycle transport facilities on the rail network
 - o Facilitate bicycle transportation on all Thalys and ICE high speeds long-distance trains.
- The case of Bett & Bike 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.
- Finally, there is a case that refers to the monitoring of the North Sea Cycle Route in the North East of England. It highlights the importance of a systematic monitoring approach to long-distance cycle routes.

Iron Curtain Trail

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. The current proposal is to develop a continuous cycle trail from the Barents Sea to the Black Sea passing through many countries. The total route length has been estimated at 6592 km (excluding Russian parts). It has also been labelled the Green Belt as it passes by natural areas which have been untouched for decades. It is proposed that the Iron Curtain Trail becomes part of the EuroVelo network and this is currently being discussed by the management group of the European Cyclists' Federation.

The estimate 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 day trips using population density. The Iron Curtain Trail may generate annually 849,000 holiday trips and 3.3 million day trips and a total of €355 million in direct revenues (direct expenditure by cycle holidaymakers). 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. The transport network available to facilitate tourism along the Iron Curtain Trail on the whole is excellent. The only restriction with the route is the limited transport availability in the North and North East of Finland towards North Cape. 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.

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. It is essential that in each region

within each country that there is a mechanism, similar to that adopted in the development of the Amber Trail for local communities to give consideration as 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.

Conclusions

Cycle tourists are motivated by a number of factors especially the need to be close to nature and to relax from everyday life. Themed routes need to express these values to attract cycle tourists. Whilst the nature of cycle tourism fits well with current EU policy and the encouragement of sustainable tourism, there are a number of barriers to the development. Some of these relate to the lack of interface between transport and tourism and others to the lack of presence in the market. In terms of sustainable development the train and cycle package is important in a low-carbon tourism market. One conclusion is that carrying a bicycle by rail is relatively inexpensive, but not always possible and in most cases not easy. Transporting a bicycle by air is always possible, requires some mechanical changes and a cover but is relatively expensive compared to rail. The solution here might be to increase the cost of carriage by rail and invest the proceeds in improved facilities for cyclists. Another barrier is the lack of quality long-distance cycle routes and networks in many countries which occupy a prominent position on the tourist market. Thirdly, tour operators and other tourist service providers are not, generally speaking, involved to any great degree in the development of 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. Spending by cycle tourists is similar to that of 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 longer before leakages occur. The development of routes amounts to a relatively low-cost investment in transport and tourism routes as they involve disused assets or shared space on roads where traffic levels are generally low.

EuroVelo is presently not a major tourism asset in most countries, since it has not been developed sufficiently to offer choice of destination or a strong brand identity. Even EuroVelo 6 (Atlantic to Black Sea) is still in the early stages of market development following an upgrade of the route. 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. This will require commitment and forward planning on behalf of the managing group responsible for advancing the project, so as to develop a strong brand which signifies the best in cycle tourism across Europe. Initially, it needs a firm resource base on which to upgrade and develop the entire network within this decade.

Recommendations

In summary we make the following six key recommendations:

1. That EuroVelo be incorporated into the TEN programme.

EuroVelo is a sustainable transport network which spans Europe and in this context needs to be part of the Trans-European 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 regarding integration of 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 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 essential for the reduction of energy consumption in transport and of CO₂ emissions. Thus, it would add overall value to the TEN programme.

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 some instances and partly given a lack of budget for the coordination of the marketing of the network as it develops. EuroVelo could clearly be even more a brand for high quality cross-border trails than it is today. 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 illustrate that cross-border cooperation and funding is currently at a level which allows a limited development of routes and marketing only. The development of the network could be accelerated by a mechanism to funding through existing EU programmes. For example, DG TREN 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 ESF funding.

3. Biannual monitoring of cycle tourism in general and EuroVelo specifically.

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 Stichting Landelijk 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 funds be provided to further develop and maintain the cycle route demand forecast model (CRDFM).

For the purposes of this study the researchers have developed an easy-to-use model which allows project managers across Europe an opportunity to estimate the likely level of demand and economic impact associated with route development. However, this model needs to be tested, refined and made available for a wide audience. It will also be necessary to review the data on which the model is calibrated so as to ensure that it is as up to date and accurate as possible.

5. That there should be a more focused and detailed appraisal (projects, seminars, cost-benefit analyses) with regard to 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 included, 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 proceed with 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 Iron Curtain. 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 ERDF and ESF funds.

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 (see paragraph 1.2). There are three 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 across Europe
- (c) 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.

There are a number of key research questions:

1. What are the key 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 report responds to these questions.

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.

Table 1: Overview of cycling in a selection of European countries

Country	Share of cycle trips (%)	Cycle distance per person per day (km; 2000)
UK	1% (2005)	0.2
Ireland	2% (2002)	0.5
Italy	2% (2000)	0.4
France	3% (1994)	0.2
Norway	4% (2001)	-
Austria	5% (1995)	0.4
Switzerland	6% (2000)	-
Belgium	8% (1999)	0.9
Germany	10% (2002)	0.9
Sweden	10% (2000)	0.7
Finland	11% (1998)	0.7
Denmark	18% (2001)	1.6
Netherlands	27% (2005)	2.5

Source: Pucher et al. 2008

The use of bicycles varies between countries of the European Union. Table 1 shows some data provided by Pucher et al. (2008). 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. 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 et al. 2008). 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 gender is even. In historical terms, 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 et al. 2008). Clearly, government policies play an important role in promoting cycling.

1.3 Sustainable tourism development and cycle tourism

However, most of the 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 et al. 2009). However, the increasingly pressing requirement to mitigate climate change 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 et al. 2006b). 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 et al. 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: 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 2000a). This report 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 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 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 are trips of more than three 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 report, 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 2000b). 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 an 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.

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

1.4 EU Tourism policy

The fundamental aim of tourism policy in the EU is to stimulate lasting growth and more and better jobs across all sectors in accordance with the Lisbon Strategy (EU 2006). Tourism is an integrative sector with interfaces across transport, patrimony and the arts, and the food and beverage sectors, for example. Given these linkages it is estimated that it accounts for 11% of GDP and 24 million jobs (in contrast to a tighter definition of tourism amounting to 4% of GDP). The enlargement of the EU brings a wider diversity of natural and cultural heritage and emergent destinations closer to main generating markets.

In order to capitalise on the richness of European tourism, the renewed policy envisages four pillars of development and management:

- Promote competitiveness and sustainability
- Enhance the visibility of tourism
- Support the promotion of European destinations
- Improve the regulatory framework.

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: 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 focusing on regional cooperation. In other cases cycle tourism encourages long haul air travel; 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 several EU countries.

1.5 Role of EuroVelo

EuroVelo is a European cycle route network which seeks to offer a sustainable Trans-European Network. It comprises twelve long-distance cycle routes covering a distance of 66,000 km (see Figure 1). It is estimated that approximately 45,000 km are in existence. The network is managed by the European Cyclists’ Federation, which is working to ensure that all routes offer high standards of design, signage and promotion throughout Europe. The network is publicised on a map published on behalf of the ECF and on the ECF web page.

The development of EuroVelo has involved a wide range of stakeholders in different countries seeking to develop 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 reduce long-distance tourist travel thus helping greatly to curb CO₂ emissions
- encourage short-distance cross-border tourism with minimal environmental impact and low level of emissions
- encourage people to use public transport to travel to the cycle destination, resulting in a lower environmental impact than in the case of private cars or air transport
- reuse assets such as old railways, forest tracks and canal towpaths
- stimulate economic development in rural areas which are not prime tourist destinations
- bring about a diversification of land-based businesses to provide accommodation, attractions and food and beverage for local consumption

- offer local residents the opportunity to improve their quality of life by taking more 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 1: Map of the EuroVelo Network.



Source: European Cyclists' Federation on www.ecf.com/3195_1

These are the assertions that we test in this report by analysing existing data, case studies and expert opinion. Basically, there is a close policy fit to EU tourism, transport and to climate change policies (Commission of the European Communities 2001, 2007). This applies particularly to the objectives of EuroVelo in the following key areas:

- (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, Pheonix in Arizona and in several locations in Florida.
- (c) The potential to stimulate enterprise through new small businesses and micro-businesses servicing cycle tourist needs
- (d) If developed sensitively, it also offers opportunities to support bio-diversity, enhance the cultural heritage, stimulate local economies and create jobs in rural destinations. This applies to cycle tourism in general terms but also specifically to EuroVelo.

- (e) It would, as a branded European network give sustainable tourism a higher profile; it could become a prime example of best practice with regard to sustainable tourism.
- (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.

1.6 Iron Curtain trail

The 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, is also under consideration. The Iron Curtain divided the East and West of Europe for nearly half of the last century and the proposed trail seeks to offer opportunities to discover over twenty countries, including 14 EU member states, by cycling some 6592 km from the Barents to Black Sea (excluding Russian sections). 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 cross-border tourism in that many visitors will choose to cycle between two cities (and across borders) as part of their holiday. 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 '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. Guidebooks in both English and German have been produced of the section from Lübeck to the border of the Czech Republic (Cramer 2007, 2008a).

The study reviews the potential of this new long-distance trail and whether it should be a part of the EuroVelo network.

1.7 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 report 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. Since this early report there appears to be no further progress in determining a more accurate figure across the enlarged EU; discussions with project managers indicate that data are not as yet being collected on a national or regional basis in most countries. Two Mintel Reports (Mintel 2003, 2007) on European cycle tourism and the UK market do not offer estimates of overall demand for Europe. Thus, there are no reliable data regarding the overall volume and value of the existing cycle tourism market.

In order to assess the overall scope of cycle tourism in Europe it was decided to scan the Internet to analyse cycle tourism opportunities readily available to the public at the click of a button. A number of key terms were agreed by the research team from an initial review. The search engines www.Google.co.uk and www.Google.de were used to perform the searches in English/German on the respective web sites. Terms were searched across the twenty-seven Member States of the European Union. The total web pages were recorded but these figures undoubtedly include duplicates and a number of irrelevant pages as time restriction limited the process of scanning websites on an individual basis. Terms were searched in singular and plural forms; these results highlight only singular words. The result indicates that France is by the most important destination for cycle tourism (using the English search) and Germany is also important when using German terms.

There are data from some countries which can be used to provide an overview of demand for cycle tourism in Europe. The cycle tourism market is predominantly domestic (see Table 1) 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 (Mintel 2007). Annex 2 provides a sample of the main tour operators and countries where holidays are offered. The evidence supports the word content analysis of web sites in that France is by far the most important destination for 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 and the UK. In these countries more detailed scientific studies have been undertaken which are publicly available. It has been possible to supplement these with market research findings from Denmark, France 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, Headwater Holidays. In Germany, TUI offers cycling under its activity holidays

brand. Within the context of the overall outbound market, however, cycle tourism continues to operate on a small scale. Austria, Denmark and France are the principal destinations. The Danish market accounts for a high percentage (66%) of international cycle tourists (Koucky 2007). The majority of these visitors are from Germany and the overall market is valued at DKK 1.8 billion (Urfe 2007).

As mentioned previously, the focus of the market is domestic, especially in Austria, France, Germany, the Netherlands and Switzerland. 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 unchanged at between 2-4%. Two main reasons are offered by Mintel (2007). Firstly, one in four 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 southwest of England which generates over 250,000 trips per year (Weston et al. 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 the researchers were unable to obtain up-to-date information to support this overview.

In the absence of data across countries the study team has reviewed reports from those countries where studies have been undertaken in order to ascertain the demand for cycle tourism. The data are drawn principally from Germany, Switzerland, the Netherlands and the UK (see Table 2):

Table 2: Volumes for cycle tourists and day cyclists

Route/ Area/ Network	Elbe Cycle Route – Saxony	Elbe Cycle Route – Prignitz	Rhineland- Palatinate	Moselle Cycle Route	Saarland	Mecklenburg- Western Pomerania	Lower Austria	Veloland Schweiz	Germany	LF-Network Netherlands
Year	2003	2006	2006	2006	2005	2004	2006	2007	2008	2003
Source	Futour 2004 in TMBLM (ed.) 2008	Öhlschläger 2007	ETI 2007	ETI 2007	dwif- Consulting 2005	dwif- Consulting 2004	MANOVA 2007	Ickert et al. 2005	Trendscope 2008a	Fietsplatform 2004
Volume										
Overnight (x1.000)	70	14	960	256	55	535	117	212	4,004	400
Day cycl. (x1.000)	420	2	17,400	153	2,470	2,500	383	4,629	685,700	5,400
Total (x1.000)	490	16	18,400	409	2,525	3,035	500	4,841	689,704	5,800

2.1.1 Trends

No firm trends are reported in the relevant 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, 348 cycle tourist experts were contacted by way of an Internet survey to ascertain their opinions regarding trends in cycle tourism. For the most part there was consensus that cycle tourism is static in most countries. This tends to confirm the interpretation of scattered data drawn from other sources which indicate that cycle tourism remains stable or is at best enjoying a marginal increase in popularity. See 0 for full 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, Denmark, France, Germany, Switzerland and the Netherlands, cycle tourism is important and still growing although at some destinations, such as the Austrian Danube, it has probably reached saturation. In other countries such as Central-Eastern European states, Italy, Spain, UK and Scandinavia provision and markets are less well developed. There is some growth of cycle tourism in these countries but, in the absence of data, it is difficult to measure the extent to which this is happening. There are some indications, especially in Belgium, France, Germany and Central and Eastern Europe that there is a some growth in the market for cycle tourism. 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 contrast, cycle tourism remains a small niche product in countries such as Greece and Portugal.

The major market is Germany. The German cycle tourism market is the largest in Europe and it is developing a network, known as the D-Network, in order to build on this demand (see Annex 1). There is no exact figure regarding the share of foreign cyclists in Germany. The results of a number of regional surveys, however, suggest a figure of 5 to 8% (ETI 2007, Öhlschläger 2007, TMBLM (ed.) 2008). 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 et al. 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 3). 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 two nights (Ickert et al. 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.

Table 3: Origin of cycle tourists

Route/Area	Elbe Cycle Route - Saxony – All	Elbe Cycle Route - Prignitz –	Elbe Cycle Route - Prignitz - day exc.	Elbe Cycle Route - Prignitz – All	Rheinland-Pfalz - All cycle tourists	Lower Austria - All cycle tourists	Lower Austria - Danube	Veloland – overnight cyclists	Veloland – All cyclists	North Sea Cycle Route – North East England
Year	2003	2006	2006	2006	2006	2007	2007	2004	2004	2001-06
Source	Futour 2004 in TMBLM (ed.) 2008	Öhlschläger 2007	Öhlschläger 2007	Öhlschläger 2007	ETI 2007	MANOVA 2007	MANOVA 2007	Ickert et al. 2005	Ickert et al. 2005	Sustrans
Origin domestic	95%	93%	99%	94%	92%	85%	60%	78%	95%	93.5%
Origin international	5%	7%	1%	6%	8%	15%	40%	22%	5%	6.5%
From										
Austria				1%		85%	60%			
Belgium					2%					<1%
Denmark										
Germany	95%	93%	99%	94%	92%	12%	30%	16%	3%	1%
Netherlands				2%	5%					4%
Norway										<1%
Sweden										<1%
Switzerland				2%				78%	95%	
UK										93.5%
Other unspecified					1%	3%	9%	6%	2%	<1%

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 equals a 2% share of 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 are 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 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 on direct added value of German cycle tourists in Germany: this amounts to €4.5 billion (Trendscope 2008a). Other material relates to preliminary work undertaken in the Tours region of France on EuroVelo Route 6. This indicates an overall economic impact of €354,000 per annum or €67 per day for cycle tourers and €52 per holiday cyclist (Altermodal 2007).

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. 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 from earlier work by Peeters et al. (2004).

To estimate the proportion of the overall aggregate demand accruing from cycle tourism, and recognising that this varies significantly, the countries were divided into three bands of high, medium and low (cycle tourism) demand. Table 4 below contains the countries in each band based on expert opinion.

Table 4: Cycle tourism demand bands.

	Low	Medium	High
Expert estimate share of cycle holidays of all holidays (%)	0.5	1.5	3.7
Countries attributed to demand band	Bulgaria Cyprus Czech Republic Estonia Greece Hungary Italy Latvia Lithuania Luxembourg Malta Poland Portugal Romania Slovakia Slovenia United Kingdom	Belgium Finland Ireland Norway Spain	Austria Denmark France Germany the Netherlands Sweden Switzerland

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 €16 and the demand for overnight stays by €353; 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 2.8 billion cycle tourism trips in Europe per annum. The total estimated economic impact for

the estimated 2.8 billion cycle tourism trips in Europe with a value in excess of €54 billion. Table 5 summarises the estimated demand and economic impact from these calculations.

Table 5: overview of estimate of economic value of cycle tourism in Europe.

Country	Daytrips (10 ⁶)	Overnight trips (10 ⁶)	Daytrips (billion €)	Overnight (billion €)	Total (billion €)
Austria	77	0.6	1.26	0.20	1.46
Belgium	19	0.1	0.32	0.04	0.36
Bulgaria	12	0.1	0.20	0.05	0.25
Switzerland	68	0.5	1.11	0.18	1.29
Cyprus	0	0.0	0.01	0.00	0.01
Czech Republic	18	0.2	0.30	0.07	0.37
Germany	749	5.7	12.25	2.01	14.26
Denmark	52	0.4	0.85	0.14	0.99
Estonia	1	0.0	0.01	0.00	0.01
Spain	239	2.7	3.92	0.94	4.86
Finland	56	0.6	0.91	0.20	1.11
France	919	9.9	15.03	3.49	18.53
Greece	10	0.1	0.17	0.04	0.21
Hungary	16	0.2	0.27	0.06	0.33
Ireland	19	0.1	0.32	0.05	0.37
Italy	52	0.5	0.84	0.19	1.03
Lithuania	2	0.0	0.04	0.01	0.04
Luxembourg (Grand-Duché)	1	0.0	0.01	0.00	0.01
Latvia	3	0.0	0.05	0.01	0.06
Netherlands	138	1.0	2.26	0.36	2.61
Norway	34	0.3	0.56	0.11	0.67
Poland	25	0.3	0.41	0.09	0.51
Portugal	7	0.1	0.11	0.03	0.14
Romania	5	0.1	0.07	0.02	0.09
Sweden	165	1.5	2.70	0.52	3.22
Slovenia	3	0.0	0.05	0.01	0.06
Slovakia	4	0.0	0.07	0.01	0.08
United Kingdom	74	0.6	1.22	0.22	1.43
Total	2770	25.6	45.32	9.04	54.35

Europe figures (sources: expert estimates plus Eurostat 2008, Peeters et al. 2004)

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 (Bord 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 five market studies (ETI 2007, Ickert et al. 2005, MANOVA 2007, Öhlschläger 2007, Trendscape 2008a):

- Average age: 45-55 years
- Gender: 60% male, 40% female
- 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 2008a).

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 (Downward et al. 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 2 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. Less importance is attached to factors such as low-budget activity, comfort levels, the volume of information and cycle events. Thus, 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 (although travel through attractive landscape is important) and comfort are not primary factors.

Figure 2: Motivations given by cycle-holidaymakers (source: Trendscape 2008b).

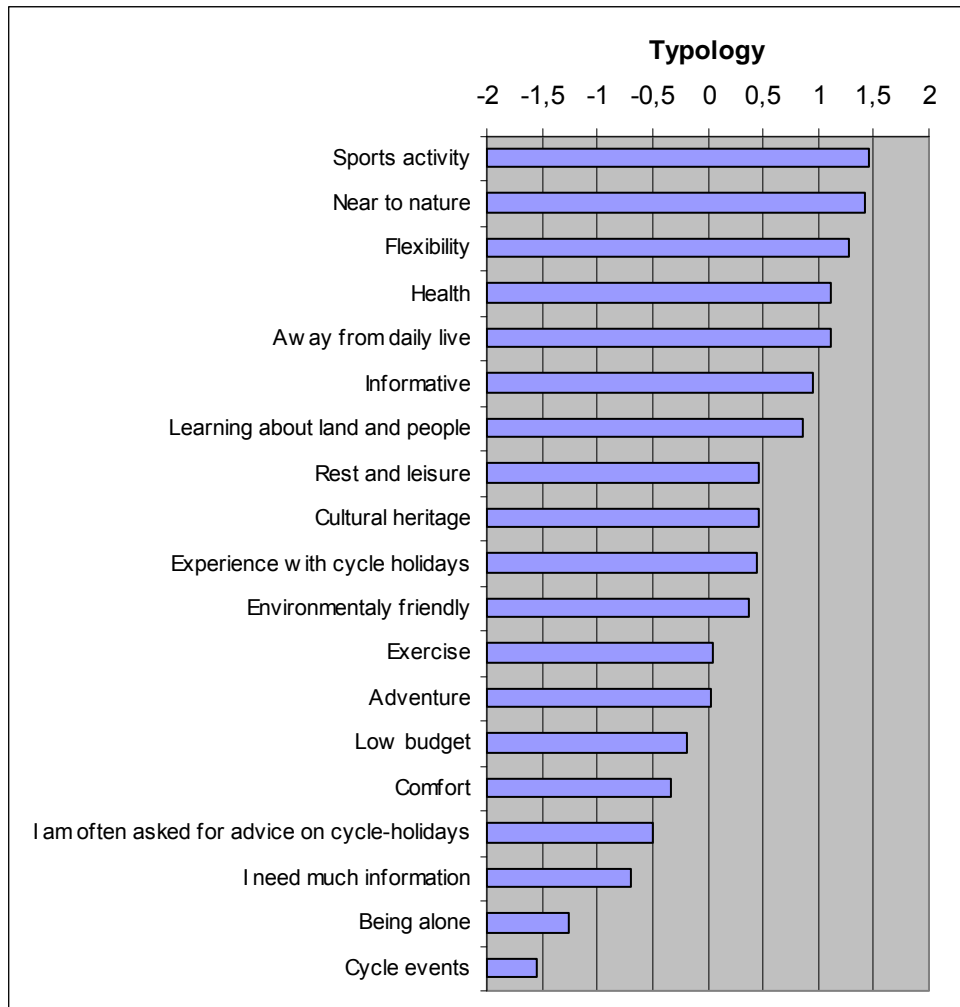


Table 6: Motivation for cycle tour/trip

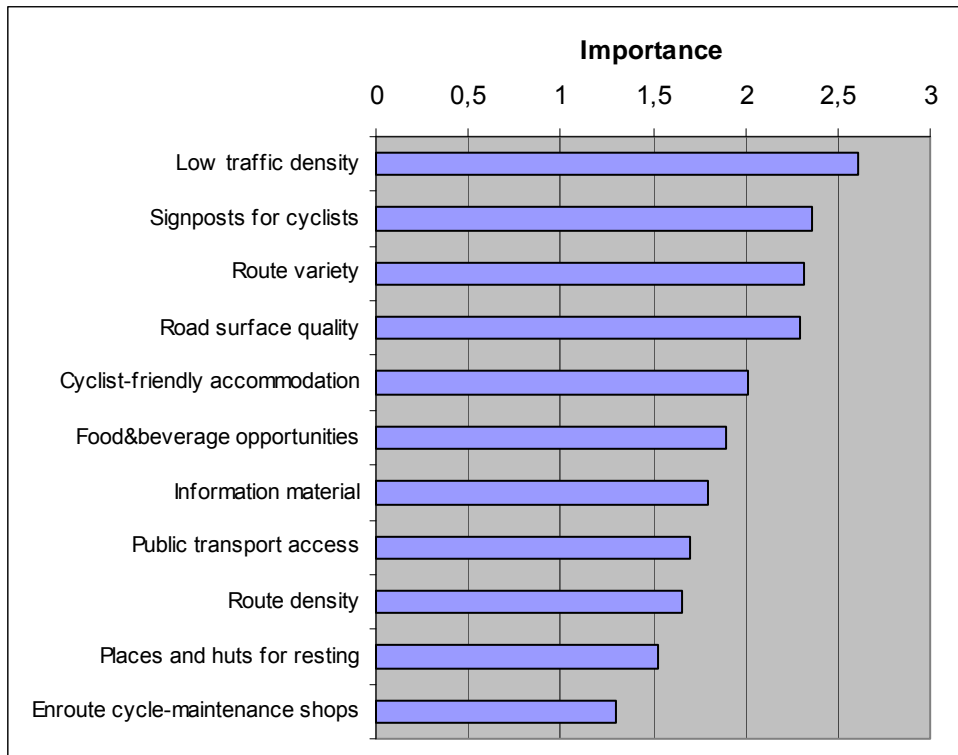
Source	Öhlschläger 2007	MANOVA 2007	MANOVA 2007	MANOVA 2007	Mintel 2003
Route/Area/Sample	Elbe Cycle Route – Prignitz – All	Lower Austria - All cycle tourists	Lower Austria - Danube	Lower Austria – EuroVelo9	European cyclists
Joy/pleasure in cycling		75%	75%	71%	
Relaxation/Leisure	66%	37%	37%	35%	57%
Sports/Fitness/Health	60%	47%	41%	48%	29%
Fitness/Health					40%
Nature/landscape	91%	47%	54%	40%	31%
Culture/Visiting attractions	52%	9%	17%	2%	2%
Time with friends/relatives		24%	29%	23%	18%
Enjoying food/drinks/exercise		14%	22%	15%	
To be alone					7%
Other	2%	5%	5%	5%	14%

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 6).

2.2.2 Route Characteristics

There is a consistent amount of evidence which points to the preferred characteristics of cycle routes by leisure users. Trendscape (2008b) generated some data on wants or preferences of cycle tourists. Figure 3 shows the importance that German cyclists attach 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 3: Importance of cycle-route or cycle-area qualities.



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 et al. (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. Route signage and route description, as well as attractive landscapes and road quality, were the most important issues for cyclists in the Rheinland-Pfalz (ETI 2007). Low levels of traffic on routes, route signage, road condition and route variation are the most important items for all German cyclists (Trendscope 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 et al. 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 four months (Trendscope 2008a). However, there are also peaks in terms of day cycling. In the Netherlands 45% of all day trips are made in summer, 28% in spring and 19% in autumn (Stichting Recreatie 2004). 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, there is an importantly seasonality effect for day cycle tourists but not for day excursionists.

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 et al. 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)³. In the Rheinland-Pfalz, the share of cycle tourists is 36% for those interviewed on four cycle routes. However, if only the Moselle Cycle Route is taken into account, the share of cycle tourists rises to over 60% (ETI 2007)³. In the low-populated Prignitz area (Brandenburg) of the Elbe Cycle Route, overnight cyclists dominate with 85% (Öhlschläger 2007).

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 7). The average length of stay for holiday cyclists appears to lie between 5 and 7 days (ETI 2007, Fietsplatform 2004, Ickert et al. 2005, MANOVA 2007).

Table 7: 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

Duration of cycling 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 (Trendscape 2008a). The studies from France, Spain and the UK support this finding. In some cases, duration has been measured by distance. On Eurovelo Route 6, for example, some 50% of day excursionists travel less than 35 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 8 shows an average percentage, an average range and anomalies. Note that most surveys used multiple answers, so the total in Table 8 adds up to more than 100%.

³ Only cycle holidays with overnight stays. Excluding staying guests making day excursions.

Table 8: Types of Accommodation used by cycle tourists

Accommodation type	Average use	Average range	Anomaly/Remark
Hotel	40%	30-60%	German holiday cyclists: 16% (only 3-4 star hotels).
Inn/Guest House/B&B/Farmstay	45%	30-60%	Veloland Schweiz: 15%; 9% Route 6 in France
Camping	15%	10-20%	LF-Routes: 43% Route 6; in France 41%
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%

Sources: Altermodal 2007, ETI 2007, Fietsplatform 2004, Ickert et al. 2005, MANOVA 2007, Öhlschläger 2007, TMBLM (ed.) 2008, Trendscape 2008a

Other factors

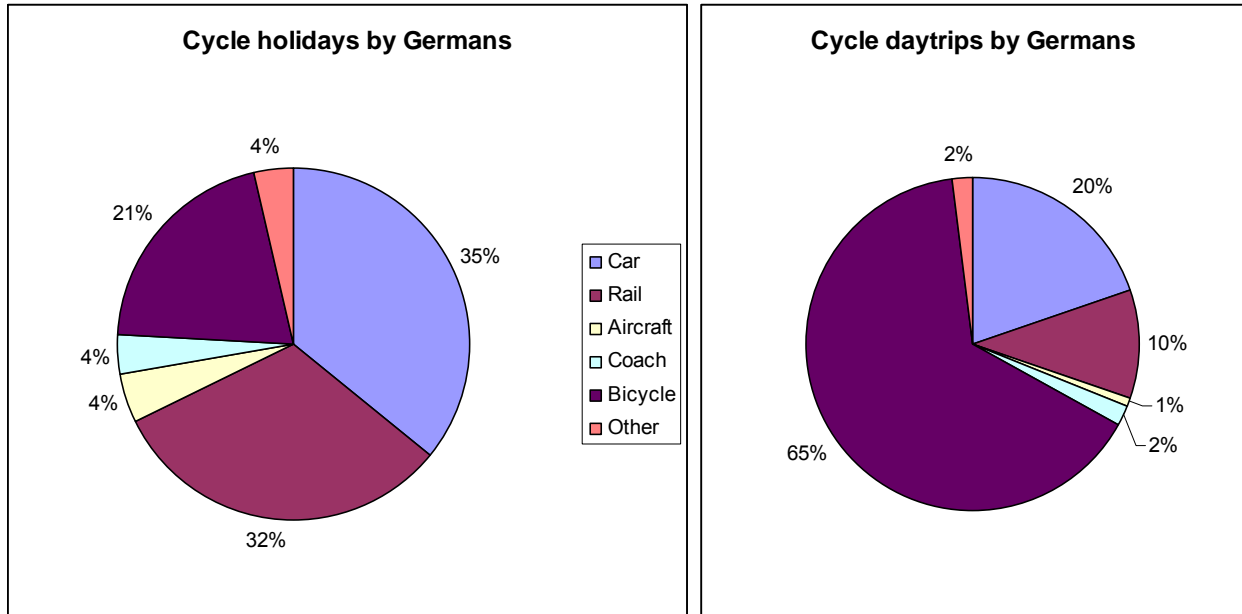
There is a slight difference on the German market with regard to bike hire: 7% for holiday trips and 3% for day excursions (Source: Trendscape 2008a). The hire of cycles tends to be a small percentage of the cycle tourism market elsewhere but can be important in terms of city tourism and where traffic-free sections of longer distance routes are promoted specifically for day excursions.

2.3 Transport modes to the cycle route/destination

There is evidence from the 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 'Vias Verdes' (greenways) are disused railway lines converted into cycling and walking routes (Aycart 2004). This is similar for the German market at 65%, (Trendscape 2008a) and in the northeast of England, where over 80% accessed EuroVelo 12 directly from home or holiday accommodation (Cope et al. 2004). Most cycle day excursions made by German residents simply start at home (see left hand pie in Figure 4).

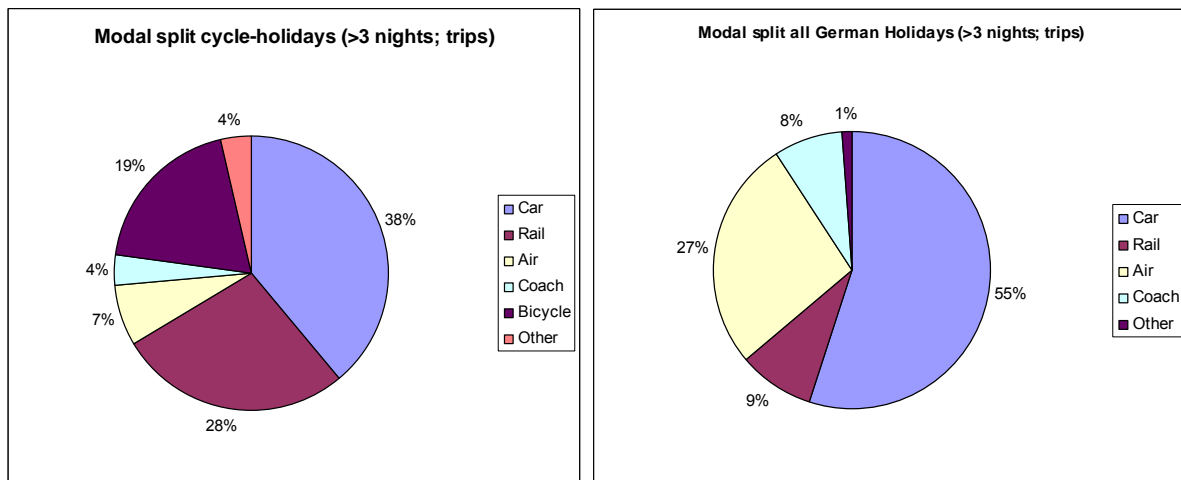
With regard to cycle tourism, there is also less emphasis on the car and air travel than in relation to other forms of holidays. In the northeast of England, a study of the North Sea Cycle Route showed a high propensity of travel by train and ferry to join the route in contrast to other modes of travel (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 tourers 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 4 shows cycle tourism in Germany; it compares cycling on the left hand side with the overall market for holidays shown by Figure 5.

Figure 4: All German overnight (1 or more nights) and daytrip cycling tourists.



Source: Trendscope 2008a

Figure 5: Modal split for access transport for German cycle-holidays and all German holidays (both for >3 nights).



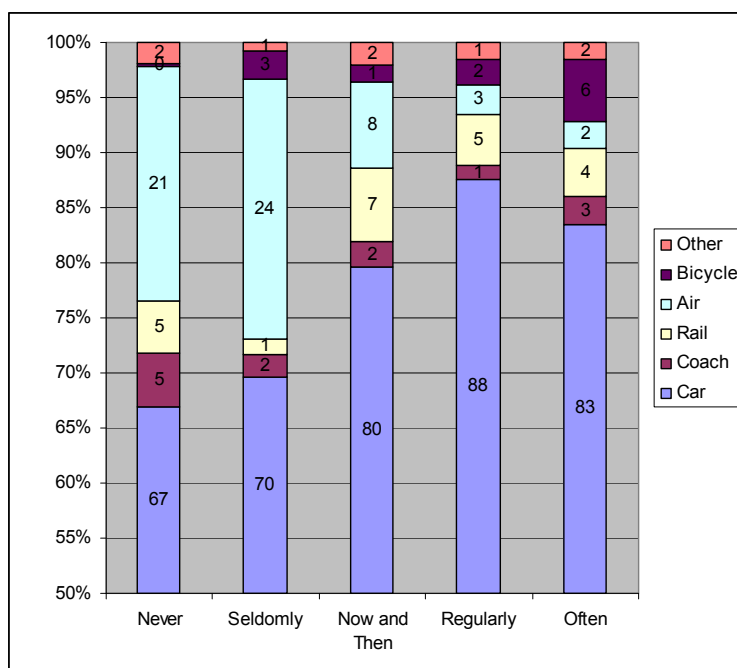
Source: Statistisches Bundesamt 2008, Trendscope 2008b

Figure 5 shows that, with regard to cycle holidays compared to holidays as a whole:

- The share of rail is three times higher
- The share of the car travel to the destination is 30% lower
- The share of air transport is 75% lower

Figure 6 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 related to more frequent bicycle use during the holiday. During the holidays, where people have indicated either 'regular' or 'frequent use' of the bicycle for tours, the share of air transport is only one-tenth of that for holidays without cycling. 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.

Figure 6: Modal split for Dutch holiday as a function of tours by bicycle during holidays.



Source: de Bruijn et al. 2008

Table 9 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 important on the Elbe cycle route, whereas it is a less popular form of access in Lower Austria. Where day excursions are included, the cycle, as the mode for access, increases considerably. This varies from between 37% of access trips to 76% of all users of the long-distance LF-routes in the Netherlands. 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's a much higher share of public transport access by day excursionists than overnight (staying more than 2 nights) trips.

Table 9: Overview of modal split for some cycle routes and destination areas

Access mode	travel	Elbe Cycle Route - Saxony – overnight	Elbe Cycle Route - Saxony – All	Rheinland-Pfalz - All cycle tourists	Moselle Cycle Route - overnight	Lower Austria - All cycle tourists	LF-Network Netherlands 2003	Veloland 2004 (>2 nights)	Veloland 2004 (all)
Bicycle			37%	46%	17%		76%	24%	59%
Train		58%	35%	13%	26%	6%	37%	39%	7%
Car		25%	24%	39%	55%	25%	14%	13%	12%
Air transport									
Public transport/bus						2%		14%	2%
Other				2%	2%	3%	1%	0%	0%

In contrast to the relatively low car use on the continent, UK cycle tourists to Scotland are heavily depending on their car for travel to the destination; 75-80% travel by car (VisitScotland 2004 in Greenwood et al. 2006). The high car use could be partly explained by a high share of mountain bikers visiting Scotland. However, in other UK studies (Cope et

al. 2004) the figures for access by cycle, train and other forms of public transport are higher

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 generate business 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 & Matijašević (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 3.3 million in 1999 and this rose to 4.8 million in 2007, a 30% increase (Ickert et al. 2008, Utiger et al. 2000). Around 210,000 of these trips are overnight cyclists; the other 4.6 million are day excursions (see Table 10). In 2007, the total turnover from all cyclists on the Veloland network was estimated at €88 million (S.Fr. 135 million); this has increased by 3% from 2004 (Ickert et al. 2008). 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 et al. 2005). Approximately, 540,000 overnight stays were estimated for 2007 (Ickert et al. 2008). 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 more than seven times higher than for day excursionists.

Table 10: Key figures Veloland Schweiz (year 2007)

Trip type	Day	Short Break	Longer Holiday	Total
Classification: overnight stays	none	1-2 nights	>2 nights	-
Cyclists	4,600,000	120,000	90,000	4,810,000
Distance cycled (million km)	210	16	23	249
Expenditure per person per day (€)*	8.44	45.43	71.39	-
Turnover (mill. €)*	40.2	14.3	33.1	87.6
Spending per km travelled (€)	0.19	0.89	1.44	0.35

Source: Ickert et al. 2008.

*Turnover is based on spending data from 2004 survey (see Utiger et al. 2005). Currency conversion rate of 22.12.2008.

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 (Table 11). From these data we calculated a trip-excursion weighted average. Cycle tourists spend on average €53 per day including accommodation. Day excursion cyclists, on the other hand, tend to spend far less at an estimated average of almost €16 per day⁴.

Based on two regional studies (Rheinland-Pfalz, Lower Austria) and three national studies (Veloland Schweiz, Dutch LF-Routes, German overnight cycle tourists), a more detailed look at the daily expenditure of overnight cycle tourists is allowed. Of the average €53.36, around 40% (€21) is spent on accommodation, 30% (€16) on food and drinks and another 30% (€16) on all other expenses like shopping (almost half this amount), local transport and activities (ETI 2007, Fietsplatform 2004, Ickert et al. 2005, MANOVA 2007, Trendscape 2008a). Day excursionists usually spend around 60 to 75% of their daily total on food and drinks (ETI 2007, Fietsplatform 2004, Ickert et al. 2005, Trendscape 2008a). A study in the USA also points to additional spending by users of long-distance trails in local retail cycle shops (Bikesbelong 2009).

Daily spending by cyclists can be compared with average spending by all day excursionists and overnight tourists (see Table 11). By way of example, this is done for Germany only. A comparison on the basis of main holiday transport mode used is not possible due to 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 of 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 (€16.80 vs. €19.40). Daily spending by overnight tourists can be split over three accommodation types: accommodation with less than 8 beds, private establishments with 9 beds or more and camping (see Table 11). The spending of overnight cycle tourists and all overnight tourists in Germany is nearly equal when an average of the expenditure figures for these three accommodation forms is taken for the latter group (€54 vs. €56). This is subject to regional variations.

⁴ For this average, the figure from EuroVelo 6 in France was excluded. €0.24 is perceived as unrealistic.

Table 11: Daily expenditure for overnight and day cyclists

Route/Area/Sample	Country	Year	Daily spending overnight cycle tourists	Daily spending all overnight tourists for: acc. > 9 beds/private est. < 8 beds/camping (Harrer et al. 2002)	Daily spending day cyclists	Daily spending all day excursionists (Maschke 2005)	Source for figures cyclist spending
Veloland Schweiz (> 2 nights)	CH	2004	71	-	8,40	-	Ickert et al. 2005
LF-Routes Netherlands	NL	2003	31	-	11,40	-	Fietsplatform 2004
Moselle Cycle Route	D	2006	55	80/59/28	19	33,50	ETI 2007
Elbe Cycle Route - Prignitz	D	2006	62	73/41/20	20	18,70	Öhlschläger 2007
Lower Austria	A	2006	72	-	9,80	-	MANOVA 2007
Danube Cycle Route Lower Austria	A	2006	77	-	32,90	-	MANOVA 2007
Germany	D	2008	54	93/48/27	16,80	28,00 19,40***)	Trendscope 2008a
Saarland	D	2004	44	98/37/20	8,50	30,70	dwif-Consulting 2005
Mecklenburg-Western Pomerania	D	2003	44	76/44/28	8,50	24,70	dwif-Consulting 2004
Brandenburg	D	2007	63	78/41/20	8,50	20,20	ift 2008
Elbe Cycle Route - Saxony	D	2003	57	87/51/34	12	19,30	TMBLM (ed.) 2008
Rheinland-Pfalz	D	2006	62	81/59/28	22	28,00	ETI 2007
4 UK cycle routes*)	UK	2006	53	-	15,50	-	Institute of Transport and Tourism
EuroVelo 6 France	F	2006	45	-	0,24	-	Alter-Modal
Rounded average of these figures			53	-	16**)	-	

*) Coast and Castles, C2C, Hadrian's Cycleway, Pennine Cycleway

***) Without figure EuroVelo 6 France

****) Overall average and average for rural areas

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 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 demand for EuroVelo routes.

The general model is as follows:

Cycle Holidays:

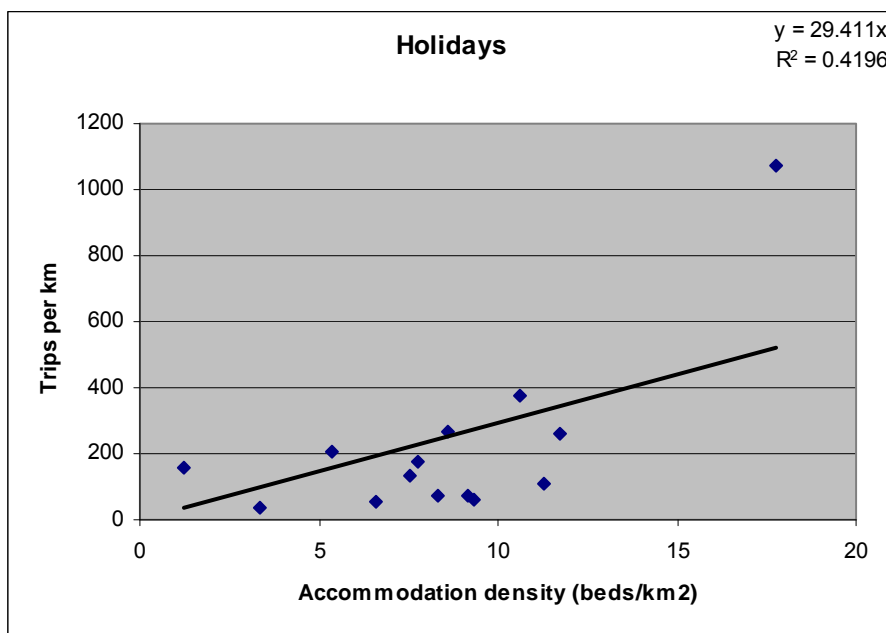
- trips/km = $f(\text{beds}/\text{km}^2)$
- direct revs = $f(\text{€ per trip})$

Cycle Day trips

- trips/km = $f(\text{pop}/\text{km}^2)$
- direct revs = $f(\text{€ per trip})$

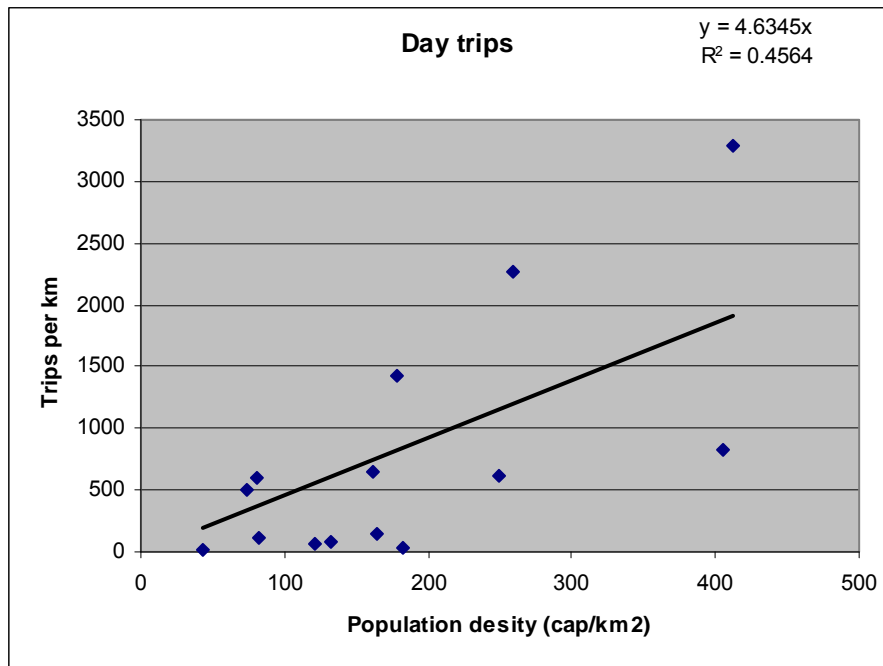
The relationships have been found to be most significant by using a multitude of data like GDP/km², Population/km², nights/km² and beds/route-km. The same data have been used as given in Table 11 in section 2.4. The data for LF-Routes the Netherlands, Brandenburg and Pennine Cycleway were assessed to be relatively strong outliers (extreme values) and have not been used in Figure 8. Thus, the economic impacts are taken from section 2.4 and amount to €353 per cycle-holiday trip.

Figure 7: 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 8 shows the resulting relationship for day trips. In this case Germany, Brandenburg and the Rheinland-Pfalz were outliers that have not been used for the model definition.

Figure 8: the relation between the population density and the number of day trip cyclists per km of a route.



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

- For holidays the number of trips per route kilometre per year is 29.41 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 €353 per trip. The average length of stay is 6.6 days.
- For day excursions the number of trips per kilometre per year is 4.63 times the number of people per square kilometre of the NUTS 3 region through which the route runs or the within which the network lies at the NUTS 3 level. The revenue is calculated at approximately €16 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). Based on the assumption that the total EuroVelo network has been completed the value of it is estimated at the following per year:

- 12.5 million holidaymakers (82.5 million holiday cycle days)
- Total direct revenues from holidaymakers of €4.4 billion.
- 33.3 million day trips
- €0.54 billion of direct revenues

Thus, in conclusion, it is estimated that a total of almost €5 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 the EuroVelo concept itself. These net revenues depend on the impact of the concept regarding the development of the missing stretches and added marketing value. There is also the consideration of the micro-multiplier in each locality resulting in indirect and induced expenditure. This can be important when local supply chains and local business developments pump money into local economies.

2.4.3 CRDFM (Cycle Route Demand Forecast Model)

The Cycle Route Demand Forecast Model (CRDFM version 0.0.0) 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 through which the route or network passes. 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 visits⁵.

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 affecting water quality through run-off from tracks)
- Damage to vegetation
- Fauna disturbance
- Crowding (impact on recreational quality)

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

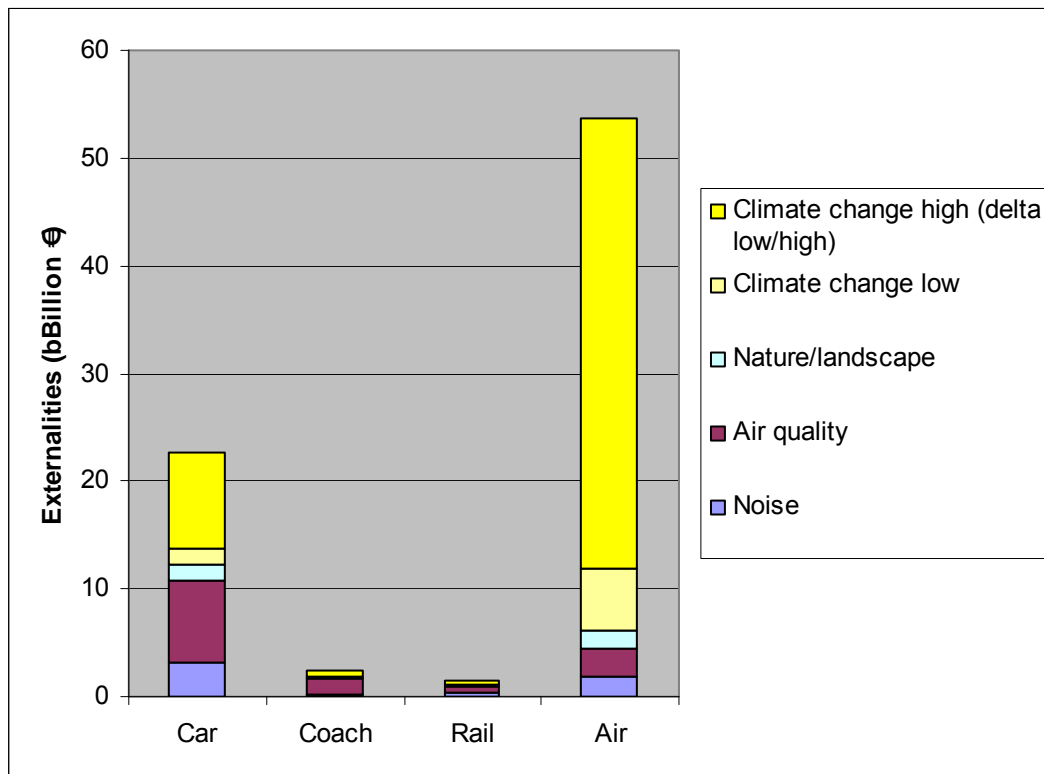
- Energy use by traffic and accommodation providers
- Climate change through greenhouse gas emissions from transport and accommodation
- Air quality problems as a consequence of traffic
- Water pollution by accommodation
- Landscape problems due to traffic, parking areas and accommodation
- Noise by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

The sustainability of cycling tourism can be evaluated in absolute terms. Like all tourist activity it compounds the adverse effect on the environment in general. 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 et al. 2008). This could be used as a goal for cycling tourism to reach. However, a better approach would be to estimate whether 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 report. Is cycling doing better? In the following sections some evidence is provided on the environmental and ecological impacts of cycling and its sustainability.

⁵ The model can be obtained by contacting Paul Peeters on peeters.p@nhtv.nl.

The core principle is that tourism contributes 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 transport between home and destination (see Figure 9).

Figure 9: Externalities for all tourist trips (domestic and international) by EU27+Swiss and Norwegian citizens.



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 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, the 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 reuse 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 much wood logging that generally is disturbing for wildlife and has a negative impact on soil and vegetation (Cole 2004). Dogs generally have 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). Therefore it is important to consider the local circumstances when planning a (new) cycle route.

Interestingly visitors acknowledge that they may have a negative impact on the environment and ecosystem they are visiting and that this might reduce its overall attractiveness:

"...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: 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 et al. 2001) are useful in illustrating potential impacts:

- The planned track will run perpendicular to 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 close to 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 with meadow habitats, also wading birds and 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 (when long-distance cycle routes are built, small roads could be made 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 et al. 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 flushing (fleeing animals) is the energy it takes them, which may negatively impact on survival ability (Taylor et al. 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 et al. 2003: 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 et al. 2007: 16).

For unmetalled roads and tracks the soil erosion can amount to 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 et al. 2009). This soil runoff also impairs water quality and hence wild life and ecosystem quality in water courses, ponds and lakes. Importantly, the study found that type of use (i.e. hiking, biking, horse riding and all-terrain vehicles (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 et al. 2009: 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, etc). But no conclusive statements are made on this.
- 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.
- 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.

A special kind of impact of cycling and walking is crowding: the impact of one cyclist on the experience of the cycling (or walking) of another (Manning et al. 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. Also it was 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 (see section 2.3), 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-access only 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 et al. 2006, 2007, Graßl et al. 2007, Peeters et al. 2007b, 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

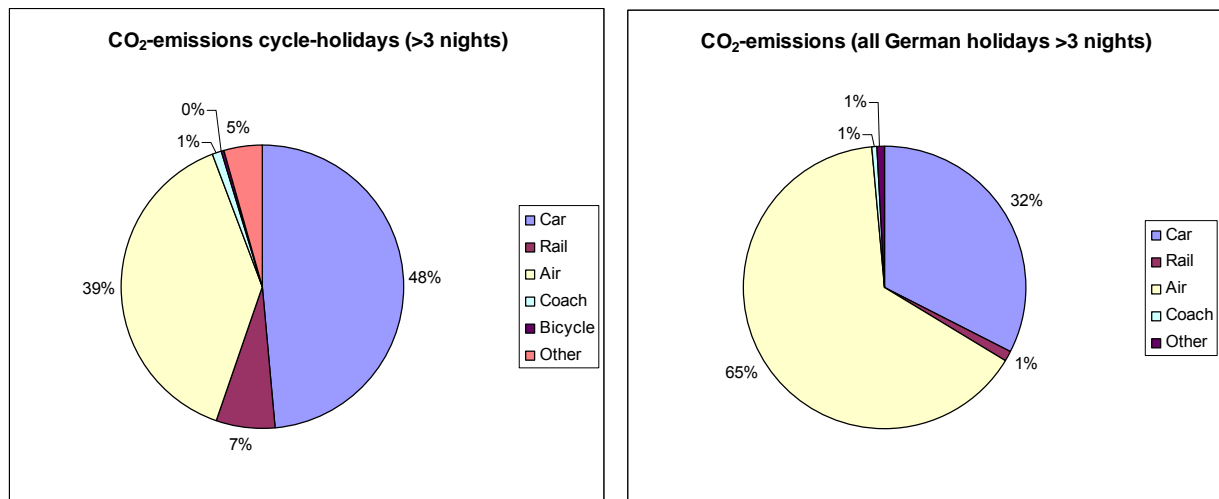
Source: UNWTO-UNEP-WMO 2008

For comparison data on all outbound German tourism (including domestic) have been used; data published for 2007 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 5000 km and not giving air as transport mode have been changed to air or removed (4 cases out of 1533).
- 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 or travel to Mallorca for example, which seems 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 10: Distribution of origin-destination CO₂ emissions for cycle holidays (>3 nights) and all German holidays (2008)



Source: Statistisches Bundesamt 2008, Trendscape 2008b

Figure 10 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 holidays 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 lesser 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 (just 7% of all cycle holidays), generate on average emissions of 68 kg CO₂/trip, exactly 80% less than 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 CO ₂ emissions per trip (kg)	328	111

Sources: Statistisches Bundesamt 2008, Trendscape 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, 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 destinations outside the EU (19%) in 2007 (Statistisches Bundesamt 2008)⁶.

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

The Dutch case

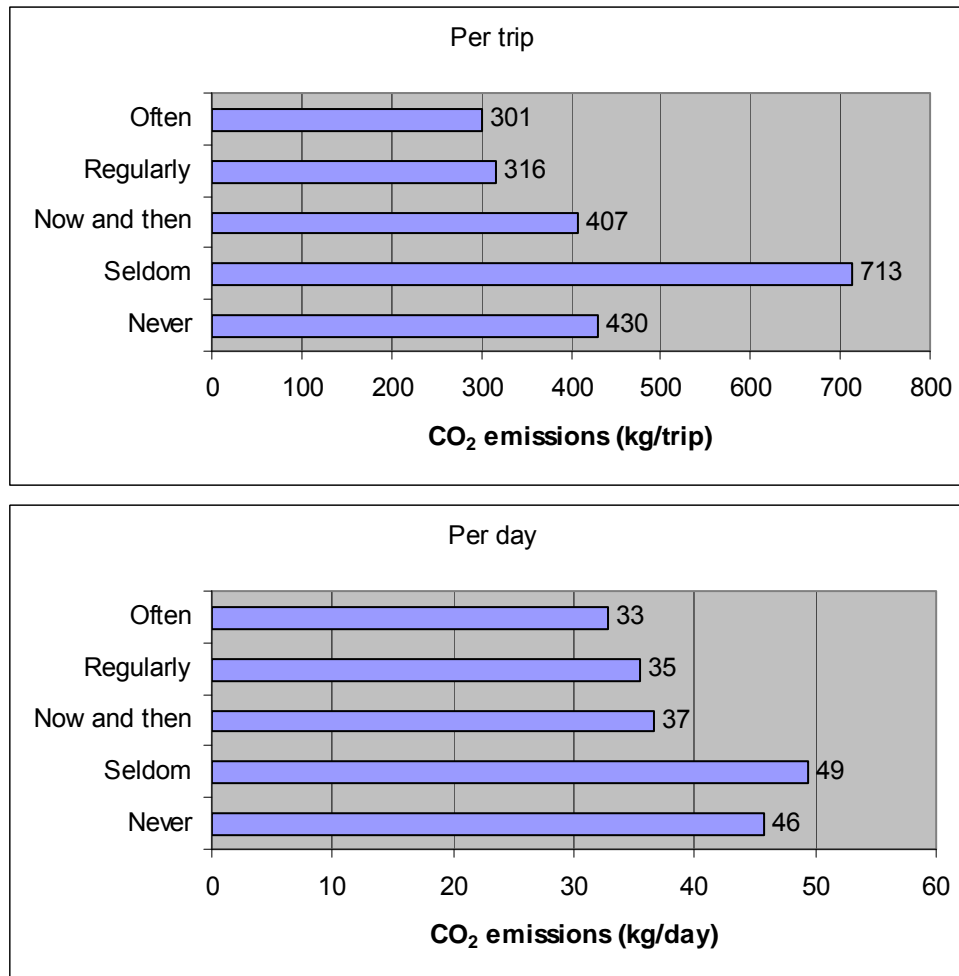
The CSTT has recently published a study on the carbon footprint of Dutch holidays (de Bruijn et al. 2008). The data are based on the Continuous Holiday Survey that contains over the records of 16,744 trips with at least one night stay for 2005 involving over 8000 respondents. Based on the properties 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 two questions infer that a trip is a cycle holiday: the

⁶ Both F.U.R. and Statistisches Bundesamt data refers to travellers aged 14 years and above.

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 11 shows a clear difference between holidays which include 'frequent' 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 'frequent' cycle tours in the programme.

Figure 11: Carbon footprint (CO₂ emissions) for the Dutch population.

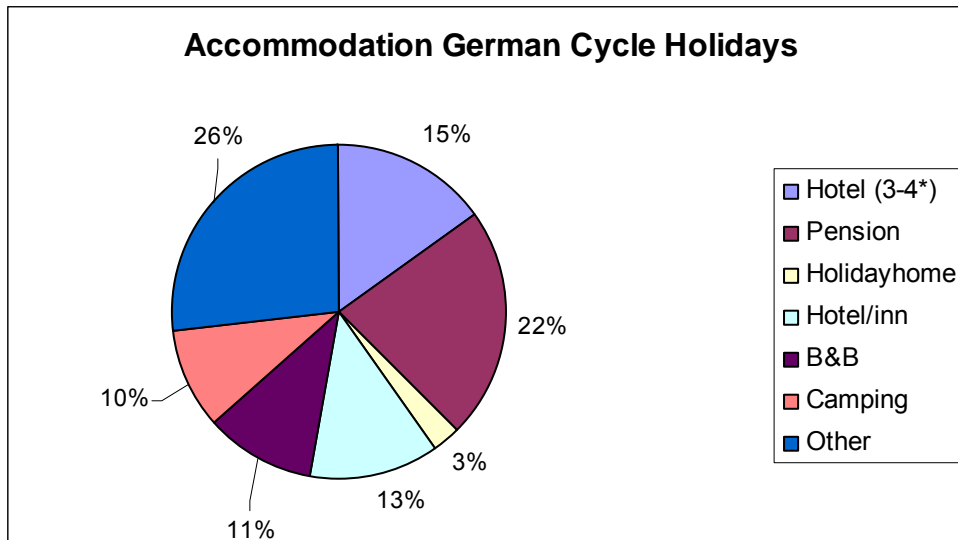


Emissions per trip (upper graph) and per day (lower graph). The emissions include origin-destination transport, local transport, accommodation and activities at the destinations in kg per trip respectively day.

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 guesthouses 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 an unrated hotel up to 40 kg CO₂/night for a four star hotel (based on data for Amsterdam; Peeters et al. 2006a). 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 12) the average per night is about 13 kg CO₂/night, being 32% lower than for the mainstream holiday.

Figure 12: accommodation choice by German Cycle tourists (long-distance cyclist only).



Source Trendscope 2008a

2.5.5 Comparing cycle tourism with mainstream tourism

The environmental impacts of cycle tourism can, just as tourism itself, be divided in three groups: accommodation, transport between home and destination and the tourist 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, thus at near-zero emissions. Of course, a visit to a museum, restaurant or other leisure facility will be made, but these are generally low emission activities (see footprints in Peeters et al. 2006a). The average emissions for tourist from developed countries is 3.3 kg (based on data from UNWTO-UNEP-WMO 2008). For cycle tourism we assume this to be just 20% or 0.66 kg CO₂.

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 CO₂⁷. 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).

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 Trendscope 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. But even with such long-haul holidays, cycling holidays might have some advantage, given the 80% lower emissions from local activities and transport and 30% lower accommodation emissions. Impacts on nature and landscape depend very much on the local and individual implementation of cycle infrastructure and the extent to which such infrastructure is used and how. 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

⁷ 126/5.6+13+.66*6.6/5.6 kg CO₂/day.

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 are less than for most other forms of tourism as cycle infrastructure requires small-scale investments. Large scale investments would probably deter potential cyclists, given the importance they attach to rest, solitude, nature and landscape (see section 2.2.1).

2.6 Social impacts

There are many studies which refer to the impact of tourism on local communities (Brunt et al. 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 et al. 2003, Bowker et al. 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 et al. 2000). A study of cyclists on long-distance routes in the northeast 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 et al. 2004a). 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 et al. (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. et al. 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 et al. 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 et al. 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).

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 (EU27 plus Norway and Switzerland). The total economic impact for the estimated 2.8 billion cycle tourism trips in Europe with a value in excess of €54 billion per annum. This is the estimated sum total of domestic and international cycle same day and overnight tourism trips. The number of cycle overnight tourists is 25.6 million or about 3% of the total number of tourist trips generated by the EU population (based on Peeters et al. 2007a).

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 not generally make a return trip to the same 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 Annex 7.

3.2 Railways

3.2.1 Current situation

In paragraph 2.3, a reference was made to the propensity of cycle tourists to take holidays by train or coach and hence reducing 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.

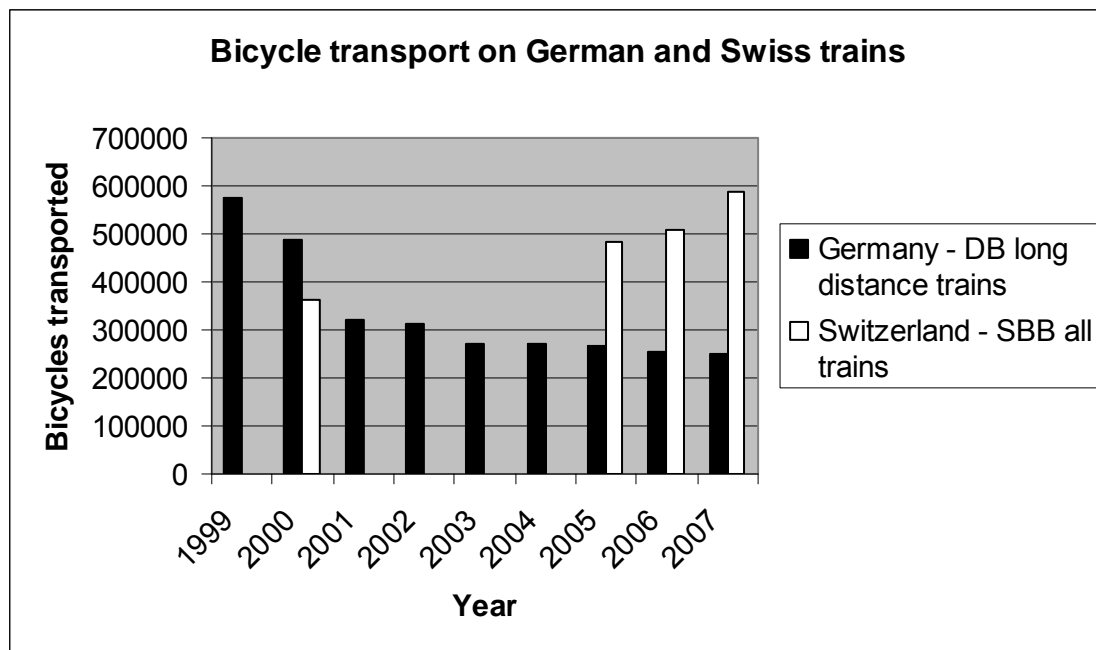
As with all holiday travel, there is a need for integration between modes of transport en route to the destination. Many holiday cyclists prefer to take their own cycle on holiday with them if they are cycling considerable distances. Thus, while it would appear eminently sensible to offer bike hire at railway stations rather than carriage on train, 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 Studiosis 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 (Mintel 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 et al. 2004b). 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 either free or for 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. 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, where levied, are very modest, the maximum being € 20 per trip. By contrast, the study team 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 €28 to €76 for European single trips so are more expensive than by train.

With regard to the train, the following examples illustrate the difference between two 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 13 shows the number of bicycles transported on German and Swiss long-distance trains. The number of bicycles transported by the German National Railways (DB) on long-distance trains has decreased in recent years as InterCity trains are replaced by ICEs which currently do not take carry bicycles. Numbers decreased from 575,000 in 1999 to 250,000 in 2007 (ADFC bicycle travel analyses 2000-2008, ADFC 2009). In Switzerland, a reverse trend has occurred; there is increasing carriage of bicycles (data years 2001-2004 missing). In 2007, 589,000 bicycles were transported on Swiss National Railway (SBB) trains, a rise from 363,000 in 2000 (R. Marti (SBB) 9.1.2009). However, a direct comparison is not entirely appropriate, as the number of bicycles transported on German regional trains is not included. Furthermore, there is a positive trend shown in relation to the use of German night trains. Here, bicycle transport rose from just under 20,000 in 2002 to 40,000 in 2007 (ADFC 2009).

Figure 13: Bicycle transport on German and Swiss trains



Source: analyses (2000-2008), R. Marti (SBB) 9.1.2009

The approach adopted by DB on high speed trains is a barrier to the encouragement of sustainable travel by cycle tourists from home to destination. 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 et al. (2006) regarded the reduction in cycle carriage capacity on long-distance trains as undermining to national and state efforts to promote the cycle network as a premium sustainable tourist product. In a second report on cycle travel to the federal government, Deutsche Bahn is advised to

reconsider its no bicycle policy 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).

It should be noted that bicycles can be transported free of charge 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. There are other potentially restrictive proposals elsewhere in Europe. Austrian Railways (ÖBB) intends to follow the example of Deutsche Bahn with its new Railjet high-speed train which will also ban bicycles.

Other train operating companies in Europe have introduced more progressive services such as SCNF TGV in France, SBB long-distance trains (Switzerland, see figure 13) and NSBs Regiontog (Norway). In the UK, concerns 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 Regulation entered into force 24 months after the date of its publication in the Official Journal of the European Union, i.e. 23 October 2008. The TRP seeks to regulate rail passenger rights. The principal article referring to cyclists is Article 5 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.” In addition Part I of Annex II also requires that railway companies provide minimum level of pre-journey information about “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 makes the provision for a five-year exemption period which can then be subsequently be renewed for two further five-year periods. Secondly, the wording of 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 train 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 produced a number of benefits. On 4 December 2008, the German Bundesrat requested the carriage of cycles on the ICE trains by the end of 2009. The SNCF has made the carriage of cycles possible on more Thalys trains, for example on the Paris - Stuttgart – Munich route. 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.

Annex 6 of the report gives a 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 is nevertheless possible. 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 restrictions regarding the carriage of cycles; they have to be packaged and, in a similar manner to air transport, are carried in the luggage sections. See Annex 6 for more detail of carriage of cycles on trains.

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 being the Post Bus in Switzerland. The final category is the bike bus which advertises specialised services within Europe for the specific purpose of transporting cycle tourists. These run to schedules but are usually summer season only. One good example of this is the European Bike Express which operates from the UK to France and Spain; passengers are offered a high standard coach bike trailer service allowing them to take their own bike on the holiday with them.

Finally, there are coach tours with bicycle carriage such as those to southern Europe offered by specialist tour operators in the Netherlands. 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, local bus companies are routinely fitted with 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

Provision for cycles on ferries is an important element regarding a European-wide cycle tourism network. This obviously applies more to outlying nations – the Mediterranean, Scandinavia and the Baltic Sea, Spain and Portugal, the Aegean as well as the UK/Ireland and France. In order to assess the approach of 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 four responses (representing eight of the operating companies – as one response covered five different companies). To augment the findings, a search of each company's websites was also undertaken, to assess the provision of information about cycles. It was not altogether reliable; some sites lacked any level of detail and 'user-friendliness'. See Annex 10 for an overview of all data gathered.

3.4.1 Provision for cycles (and price)

Of the eight companies represented by the email responses, all of them stated that they allow the carriage of cycles on their ferry services. Cycles are generally stored on the car decks or luggage spaces and sometimes on racks designed especially for this purpose. Prices for the carriage of cycles range from free on some services to €37 per return journey. 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 charges levied in some cases may reflect limited capacity or storage space.

3.4.2 Marketing

Ferry company websites do not generally 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.

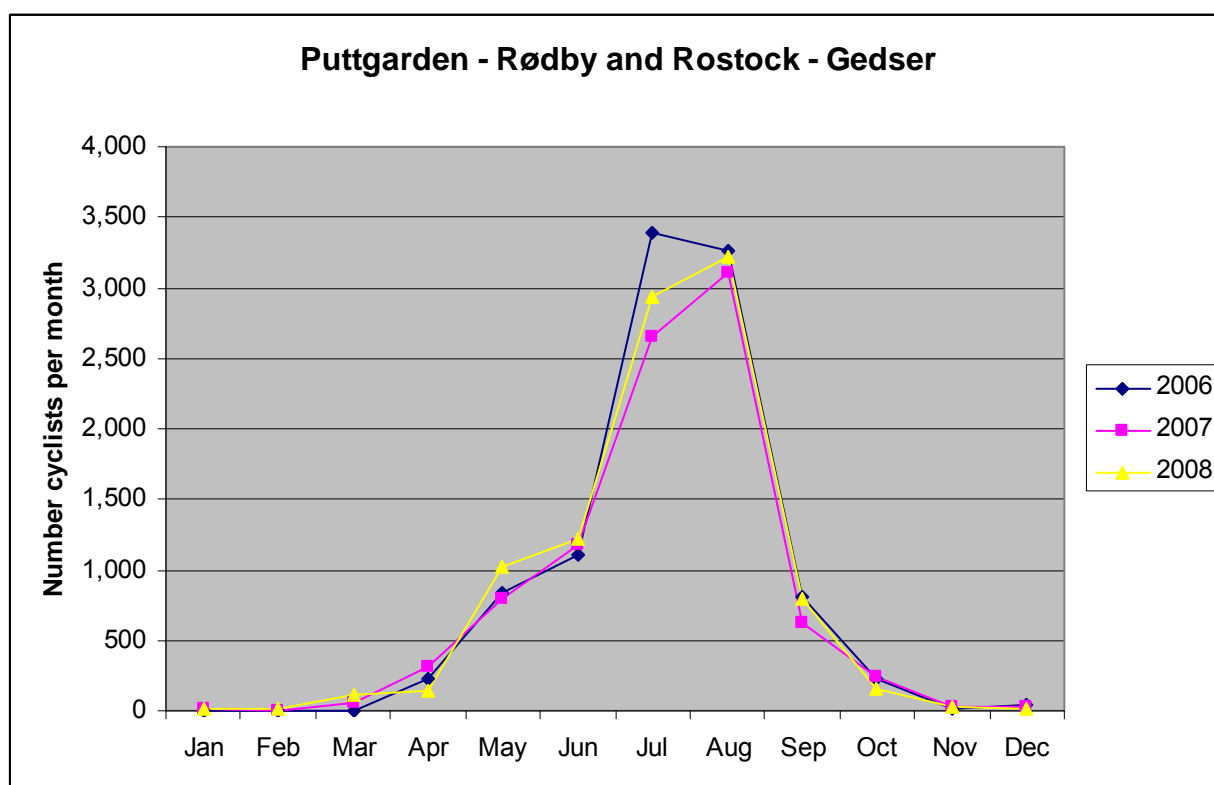
3.4.3 Demand for cycles

The survey contained one further question asking for estimates of 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 on 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 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.

Scanlines carry larger 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 14 shows the total number of (one-way) cyclists on two ferries between Germany and Denmark. The high season is from mid May until mid September.

Figure 14: Seasonality and numbers of cyclists (one way trips) on the Scandic ferries between Germany and Denmark.



Source: Bohnsack 2009

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. 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.

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 are willing and able to carry large numbers of cycle tourists but most companies do not in any way seek to market this service.

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 reflecting ideas and best practice regarding the development of a long-distance cycle network in Europe and focusing on route development, route marketing, supporting facilities and monitoring respectively (see Table 14).

Table 14: Overview of the cases

Project name	Routes/destination area	Key issue
Route Development		
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
Route Marketing		
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 Route	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
Supporting Facilities		
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
Monitoring		
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 nine 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 4.8 million and a use spend of €88 million in 2007 (Ickert et al. 2008, Utiger et al. 2000). 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 (SwitzerlandMobility 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 website (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).

Organisation and partners

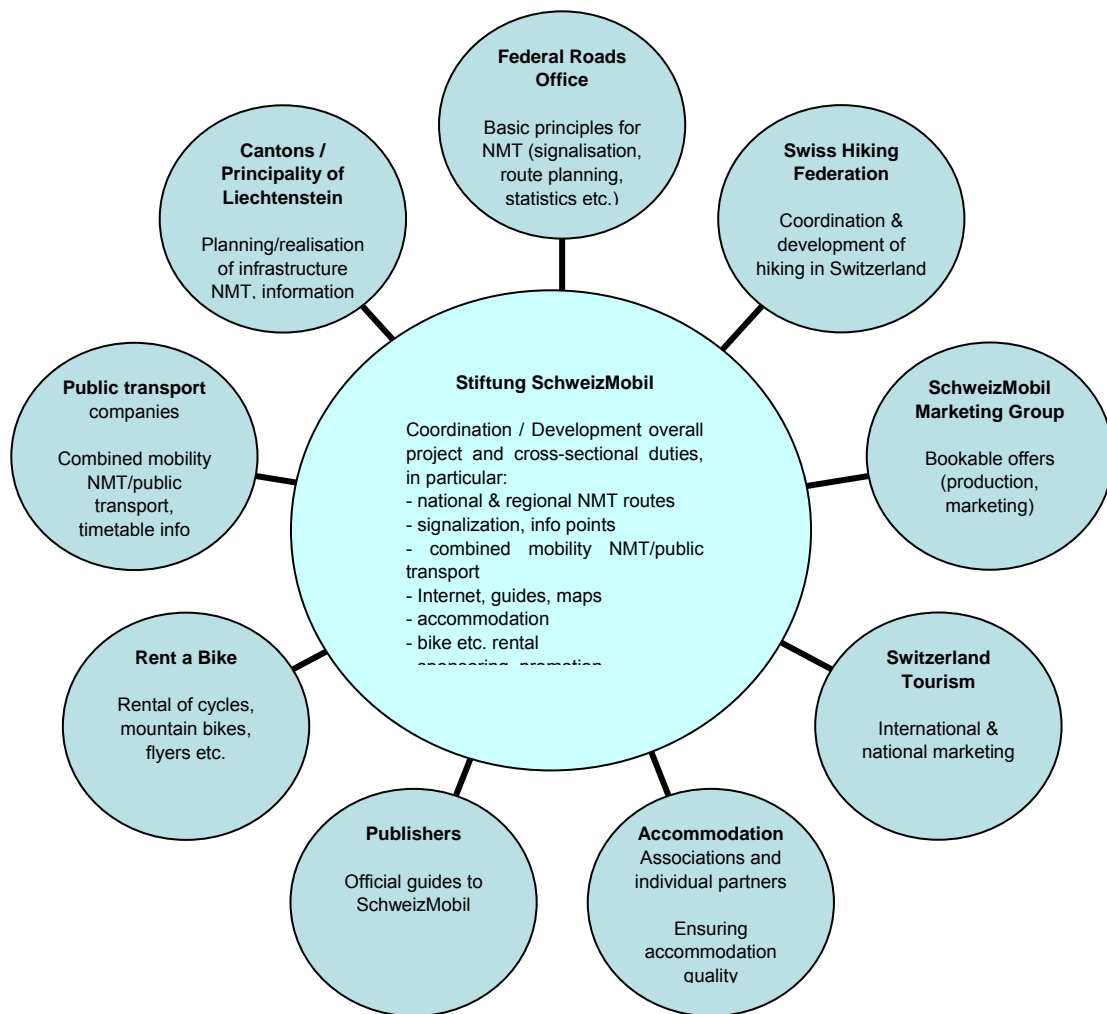
SSM is organized as a network of partners, each with their own responsibility. SSM itself is responsible for overall project coordination (see figure). All SchweizMobil routes are linked to the services of these partners (public transport, bicycle rental, accommodation, etcetera). For example, about 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, Swiss Touring Club). Other partners include main Federal Offices, three 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 (SwitzerlandMobility 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 15.

Figure 15: SchweizMobil Organisation, partners and responsibility



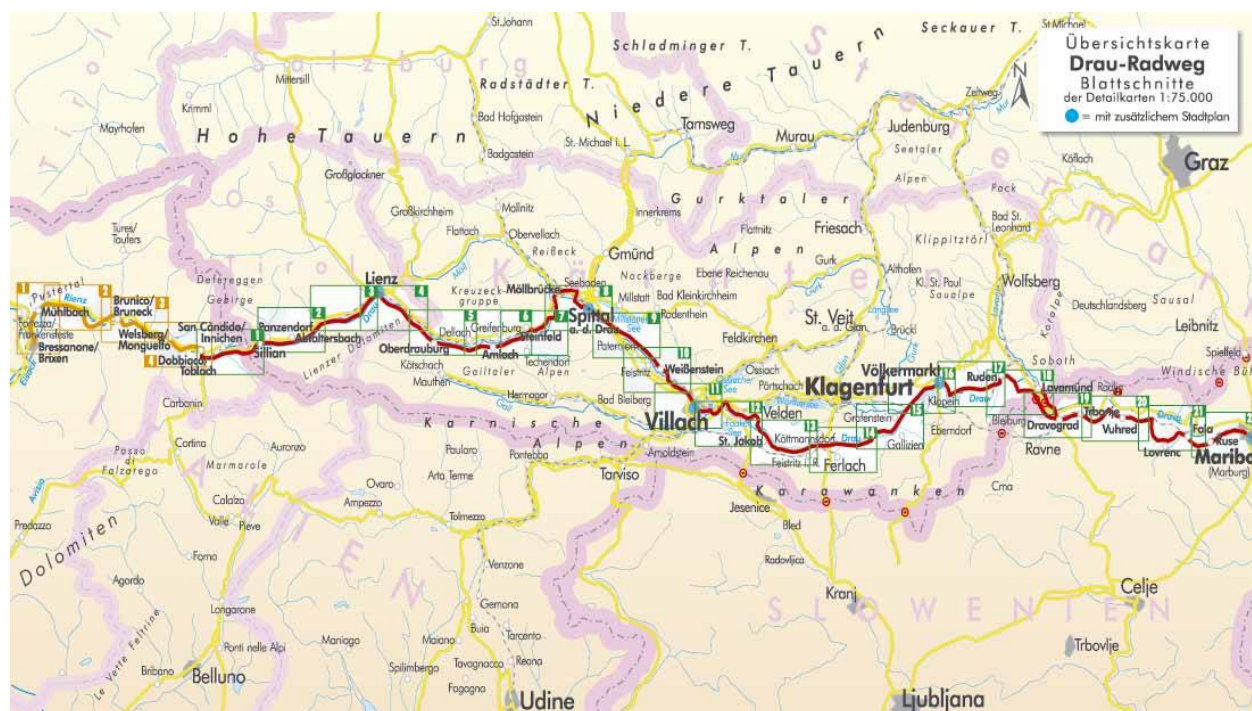
Source: SwitzerlandMobility Foundation 2008b

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 (One-way with bike) for €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 16: Map of the Drau route



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

The Cycle & Rail packages relate to single tourism regions. In cooperation with the different tourism regions in Corinthia and eastern Tyrol, several Rail-combi packages have also been developed to ensure that visitors do not encounter problems with administrative boundaries. These packages are available only through the 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 the 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 ten countries to the Black Sea. The Danube Cycle Route is one of Europe's oldest and most popular long-distance cycle routes, the Austrian section having already enjoyed great success in earlier decades (Lumsdon 2000b). The Danube also forms the eastern half of EuroVelo 6 (Atlantic – Black Sea). It

flows for about 588 km through Serbia, where it is also to become part of the proposed Iron Curtain Trail. Therein lies the potential to stimulate demand and create new markets.

GTZ Economic Development and Employment Promotion Programme

Boosting economic activity in this lower Danube region is one of the key goals of the economic development and employment promotion programmes implemented by the Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (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: Croatia, Serbia, Bulgaria and Romania.

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 Community. 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, W. Limbert & N. Matijašević (GTZ) 23.1.2009).

Figure 17: 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 German ADFC and local cycle tourism experts so that they could be improved. Eight GPS-compatible maps covering the route from Budapest to the Black Sea were then published. The final step was route signage in Serbia, executed by GTZ and the Serbian Government in a financial partnership. Signs include EuroVelo 6 and information according to EuroVelo standards (see figure). Austrian and French EuroVelo experts were contacted to assist with EuroVelo signage. This proved to be an important element in the project's success. Initially, the idea of the Danube Cycle Route becoming a key tourism product was neither recognised nor accepted by the Serbian Government. Now, local partners acknowledge the importance of cross border cooperation. Danube cycle tourism has become a priority for the tourism ministry. 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 (W. Limbert & N. Matijašević (GTZ) 23.1.2009). Training courses have been introduced to support the local population in setting up accommodation businesses. Extensive information on the four project countries and the Danube Cycle Route (e.g. detailed stage information, feedback option) is offered on www.danube-info.org.

Figure 18: Information table Serbian Danube Cycle Route



Source: www.mtbserbia.com/2007/danube-cycle-route-comes-to-serbia/

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 now been signposted from the Hungarian border to Belgrade and from Ram to the Bulgarian border, leaving only 110 km between Ram and Belgrade still to be sign-posted (15% of the route). The number of establishments offering accommodation has increased rapidly along the Serbian part of the Danube to some 280 (80 new in 2008); this is having a positive effect on employment and the local economy.

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, as reflected by the steady increase in tourist arrivals. At least two German cycle tour operators (Launer Reisen and Neubauer Reisen) have started offering cycle tours from Budapest to the Black Sea. The installation of cycle monitoring counters is planned for 2009. German and Serbian cycling experts cite Belgrade GTZ, excellent cooperation with provincial and state officials and the

German-Serbian transfer of know-how as key success factors (W. Limbert & N. Matijašević (GTZ) 23.1.2009).

Bicycle transport

There are direct daily train connections from Vienna or Munich to Serbia. Bicycle transport on trains is possible but problematic. GTZ is working with Serbian Railways to improve cycle facilities on trains. In the meantime, long-distance coaches and air travel are recommended for bicycle transport to Serbia; the latter limits the project's sustainable development approach (W. Limbert & N. Matijašević (GTZ) 23.1.2009).

Implications

This project highlights the usefulness of exchanging knowledge and skills and the need to encourage the tourism sector to be proactive rather than reactive in the early stages of its development. As an indication of how the project has developed two cycle tours organised by the European Commission will depart from Budapest and the Romanian-Bulgarian border (July 2009) and end in Belgrade. The idea is to foster 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 three 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 a greenway or 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 four 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 19th Century 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 ViasVerdes 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: 7)

Another important aspect is that the restoration process has involved minimum impact on the environment by using pre-existing infrastructure, local materials and using simple building techniques in line with those of 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 in the tunnels, for example.

Of equal importance has been the reuse of many of the old railway stations. Over 50 old station buildings have been restored to be hotels, restaurants, information points, nature or cultural heritage museums, rent-a-bike points, etcetera. This represents an important contribution of local development and the creation of new jobs especially in rural areas. It 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 up to 64% of users had used the services offered at the three 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 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 ten years. For example, a survey undertaken on the routes near the city of Girona in Catalunya indicates that 52% of users were 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 website www.viasverdes.com 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.

Implications

The Vias Verdes show how to reuse disused resources to good effect. In the past ten 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 km in Upper and 275 km in Lower Austria. Initially, local tourism businesses opposed cycle tourism development which was regarded as a flash in the pan. Now, many accommodation providers and restaurants are reliant on the cycle tourism business in many of the smaller towns and settlements (Bernhofer et al. 2008).

The 1990s saw the highest visitor frequencies of all cycle routes in Austria (Bernhofer et al. 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 ten years (Landesverband für Tourismus 1996 in Lumsdon 2000b). Towns became increasingly dependent on cycle tourism with reported cycle tourist shares of 60 to 80% of occupancy in local accommodation by cycle tourists (Lumsdon 2000b). In summer 2006, 230,000 day excursionists and 65,000 overnight cyclists were counted between Passau and Vienna (Werbegemeinschaft Donau Oberösterreich 2006). 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 et al. 2008).

The 2008 ADFC cycle travel analysis ranked the Danube Cycle Route in fourth place of the most cycled routes by Germans in 2007. Around 4.5% of 2,400 respondents had been on the Danube Cycle Route that year, albeit many of these would have been on the German section. The Austrian stretch of the Danube Cycle Route is by far the most popular destination for foreign visitors, including German cycle tourists (24% of all respondents-Giebeler et al. 2008). The German Danube section is 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 eight 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).

Compared to the whole of Lower Austria, the Danube Cycle Route draws significantly more higher-income cycle tourists. Overnight and day cyclists also spend more per person per day than on other Lower Austrian routes. This may be partly due to the far 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). Lower Austria has implemented an extensive monitoring system on its seven main cycle routes, of which some results are publicly available (see <http://fznoe.ebe-solutions.at>). Cyclists are monitored at 23 locations on two single weeks every two years. Direction, rainfall, temperature, user type (adult, child, cyclist, skater, hiker, etc.) 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 2000b). To maintain its' international top position, a number of measures have been planned for the Danube Cycle Route for the next five years:

- positioning towards new cyclist markets in other countries,
- offering round trips combined with gastronomy and events,
- developing soft tourism products with bicycle-boat-train combinations,

- improving infrastructure and service quality (such as through training, certification) introducing systematic frequency monitoring (Bernhofer et al. 2008, 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 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.

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).

Figure 19: 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 and with other funding from the Department for Economics, Labour and Women's Issues and from the 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 is the highest share for a European city of this size. The city's bicycle strategy aims for a 15% share in 2010 (Berlin House of Representatives 2004, Pucher et al. 2007).

The Trail

The Berlin Wall Trail is divided into 19 individual sections, ranging between seven and 21 kilometres. More than 40 different locations provide information including historical photographs in several languages. The start and end points of each section can be reached with 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 eight 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 under www.berlin.de/mauer/index.en.html.

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.

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 from the Czech North to South borders (315 km) (Topbicycle 2008a, b, c).

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 tourism potential. This involved consultations and training for the development of tourism services and local products. In Slovakia, like many Eastern 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: 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, 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 on the trail (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 a pace which is acceptable (Rosac 2009). Environmentally friendly tourism is widely promoted, and protected areas conserved (Amber Trail Greenways 2008c) as there are six UNESCO world heritage sites on the route (Amber Trail Greenways 2008b).

Usage

It is estimated that the annual figures for cyclists riding from Cracow to Budapest are currently in the hundreds, Vienna to 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 widely-applicable best practice consists of perseverance and a willingness to start on a small scale. Additionally, orientation of the

project towards 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, is a 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 – 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 Apulia region) to re-use and transform waterside paths, the publication of results of the project by the Apulia 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 four 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 have been essential to the success of the project (Sforza 2009). The following elements of the project are considered as best practice (Sforza 2009):

- Effective coordination 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. It is the world's longest signed international cycle route at just over 6,000 km, passing through 8 countries bordering the North Sea. The Route was developed by an international partnership with sixty-eight partners in Belgium, Denmark, England, Germany, the Netherlands, Norway, Scotland and Sweden. For more information see <http://www.northsea-cycle.com/>. 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 NSCR

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 eight countries through which the route passes. It also highlighted the international status of the route. The film was distributed by post through the national co-ordinators in DVD format to the tourism offices that took part in the initial survey.

A follow-up survey was undertaken two months after distribution of the film, as previously through an Internet site. Of the respondents that 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.

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 two prime attractions of themed routes.

Development of the Green Belt Tour

It is 20 years since the Berlin wall and the Iron Curtain have been opened up. The former border zone is now often called the European Green Belt, because the former political situation allowed nature to flourish here. The annual international alternative travel fair the

“Reisepavillon” picked the Green Belt as its main theme for the 2009 fair in Munich, Germany. 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 Belt. The tour is split into a northern and a southern tour. Both parts start on June 17, 2009, then meet in the Harz National Park some three months later (see map). From there on, both tours cycle together towards Berlin, where the tour ends on October 3, the Day of German Unity. Altogether 19 countries are crossed, all with sustainable transport modes – mainly the bicycle. Both tours cost around €11,000 per person.

Both tours are divided into seven stages that are organised and guided by FAR member operators who are specialists for each travel area. Customers can book a whole tour or for single stages. With regard to the course of the route FAR set a few criteria. The main one is that the route should always run within 100 km from the former Iron Curtain. Border crossings are encouraged in order to promote the cross-cultural aspect. The nine operators have 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.

Marketing of the Green Belt Tour started in autumn 2008, with a four-page description in the FAR 2009 catalogue. Over 10,000 flyers have been mailed and the tour advertised in the German Railways magazine (DB Mobil). The tour has its own website: www.radreise-gruenesband.de (only German). It is sponsored by Koga-Miyata, Friends of the Earth Germany (BUND) and the European Nature Heritage Fund – EuroNatur. The latter two nature conservation organisations are both active along the Green Belt.

Sustainable Tourism

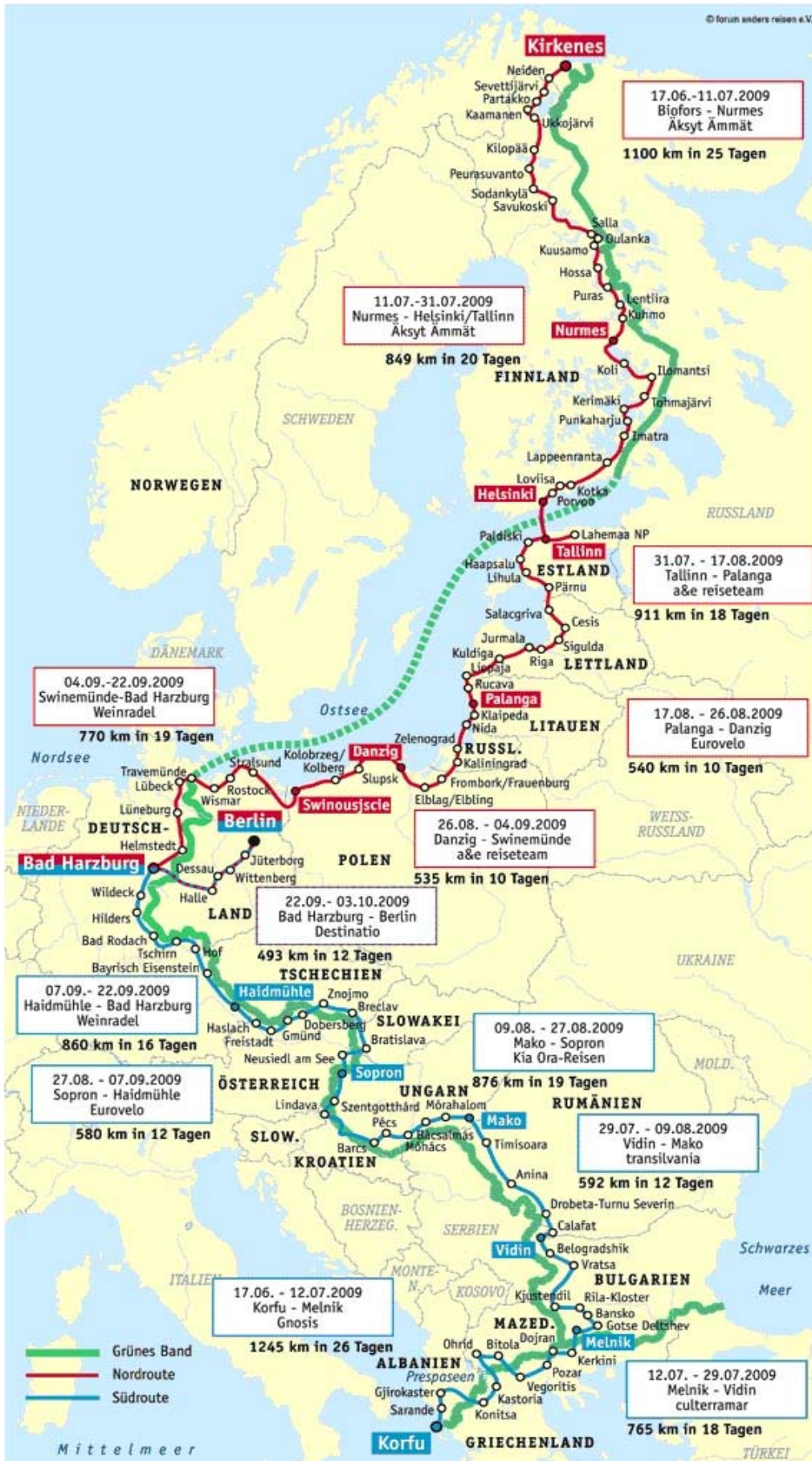
Remembering the former European division by visiting heritage locations and experiencing nature conservation along the Green Belt are, therefore, priority activities. Besides choosing the bicycle as a sustainable form of travel FAR has set a number of objectives so that the route is clearly positioned 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 culture and heritage
- fostering environmental awareness and
- generating public interest in sustainable tourism.

Implications

The European Parliament decision (2005) that the European Green Belt should become a biotope was also promoted by FAR. The tour, at present, may be more of a public relations act than a standard tourism product but it illustrates 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 is 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. This was set up the same way, with specialised tour operators responsible for each stage. The tour was a great media success and won one of the most prestigious German travel awards (the GEO-Saison Goldene Palme). Sixteen 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.

Figure 20: 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 6 years ago; it has 35 employees, and a turnover of more than €15,000,000. Bookings are made through travel shops in Leiden and Amsterdam and through the internet.

Approximately 2% 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 City Nightline night train network has resulted in substantial growth in 2007 and 2008.

In relation to cycle packages, there are, on average, 2.8 persons per booking, and average travel package price with bicycle amounts to €450 per booking. Thus, Treinreiswinkel has observed a growth in recent years in turnover related to train and bicycle tickets:

- 2006 €114,281
- 2007 €190,867
- 2008 €329,000

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 Table 15). The company suggests two ways of improving train transport possibilities of bicycle:

- More direct bicycle transport facilities on the rail network
- Facilitate bicycle transportation on all Thalys and ICE high-speed long-distance trains.

Table 15: Train and Bicycle Tickets Treinreiswinkel Netherlands 2008 turnover in € per destination.

Destination	Measured	30 % higher	50 % higher
NL*	50397	65516	75596
IT	49092	63820	73638
FR	47332	61532	70998
DE	42000	54600	63000
CH	36273	47155	54410
AT	30332	39432	45498
CS	21645	28139	32468
DK	21163	27512	31745
NO	6655	8652	9983
HU	3690	4797	5535
PL	3600	4680	5400
ES	3300	4290	4950
GB	2517	3272	3776
BE	1351	1756	2027
SE	1018	1323	1527
Others	8635	11226	12953
Total	329000	427700	493500

Note: It is anticipated that the real figures are 30 - 50 % higher (see specified columns).

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 six 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 website (www.fietsvakantiewinkel.nl), 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 three 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. Bus transport share 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 has grown strongly last year 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: only the Euroexpress to Avignon is available to bicyclists because of direct access to cycling destinations.

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. For example, the EuroExpress average ticket price is €300 per return ticket. Air transport also varies widely. Within Europe these are between €50 and €450 per return ticket including bicycle. The lower end of the 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 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 five most important demands regarding cyclist accommodation were recorded as:

- bicycle storage,
- drying room,
- repair room,
- cyclist breakfast and
- 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 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. Accredited cyclist accommodation has been introduced successfully in several countries, including France and the UK.

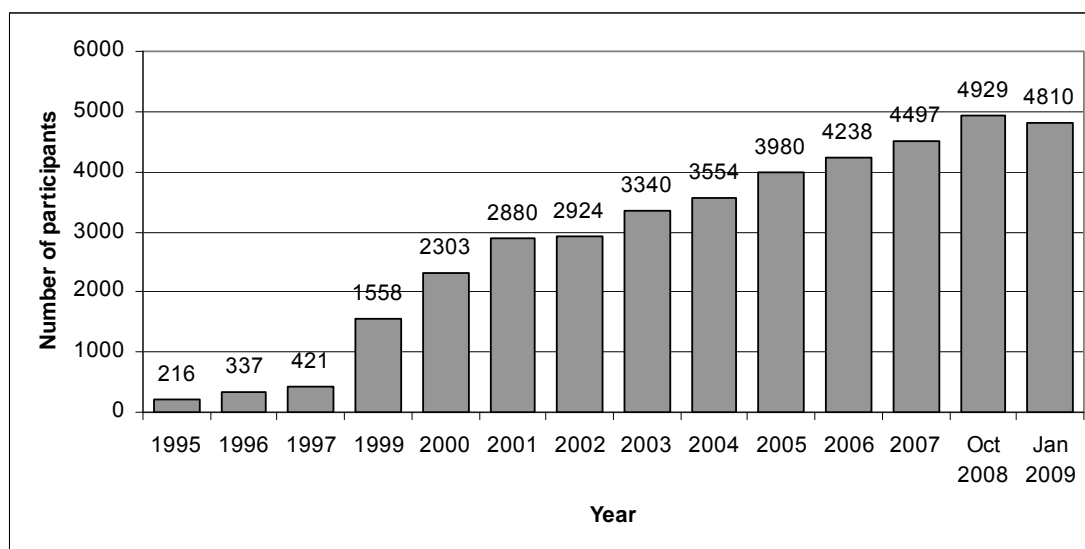
Bett&Bike (Germany)

The German Cyclist's Federation (ADFC) started the Bett&Bike accreditation for cycle-friendly accommodation as a pilot scheme in 1995. Its three 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 and
- 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 on 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 (W. Reiche (ADFC) 19-1-2009). Participating businesses (including camping) is nearly 5,000 and can be found at some 3,100 locations (see figure)⁸. The ADFC refers to the Bett&Bike scheme as one the most successful marketing approaches in cyclist tourism (Giebeler et al. 2008, Reiche 2007). Bett&Bike members are listed in the Bett&Bike Germany guide with a print run of 50,000 and in an online register on www.bettundbike.de. They may use the Bett&Bike accreditation and are featured on many cycle maps and guidebooks.

⁸ The lower January 2009 figure is due to membership cancellations at the end of the year – an annually returning phenomenon (W. Reiche (ADFC), *Bett&Bike*, personal communication, 19-1-2009).

Figure 21: Certified Bett&Bike participants in Germany

Sources: Giebeler et al. 2008, www.bettundbike.de

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 two have to be fulfilled – include information on travel by public transport, transportation of guests, luggage transport service, rental bicycles, a reservation service for further cycle-friendly accommodation and more. Additional criteria have been set up for cycle-friendly catering establishments and campsites (see www.bettundbike.de/68_1). Certified accommodation are tested for quality by ADFC managers and mystery guest shoppers, but also by ADFC members (115,000) and cycle tourists (Reiche 2007).

Recently a register of 240 Bett&Bike facilities has opened in Flanders. Single members are also found in other European countries. These target the German cycle tourist. The Bett&Bike model has been used for similar projects in Denmark, the Czech Republic and Switzerland. The Czech label *Cyklisté vítáni* (Cyclist Welcome) currently has some 700 certified members (see www.cyklistevitani.cz). In Switzerland, the SchweizMobil non-motorised traffic network has awarded some 1,200 partners in the hospitality industry with 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 www.switzerlandmobility.ch and www.mySwitzerland.com, 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), cycle tourists are estimated to have generated around 145,000 guest nights at certified businesses (841 in 2006) (Gutbub 2007b). The average estimated share of total guest nights by cycle tourists 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 spend only one night at the facility, expressing the need for this main criterion which has to be

maintained, even in high season. In the UK, there has been a similar campaign known as Cyclists Welcome which involves training of accommodation providers prior to accreditation.

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, W. Reiche (ADFC) 19-1-2009).

Figure 22: Cyclist accommodation logos



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

4.4.4 Full public transport integration

Introduction

Nine 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 welcome cyclists and are well equipped for bicycles. In 2004, 41% of overnight cyclists (>2 nights) used the train to get to their route, while 52% used the train to return home (26% during their cycle tour, 39% in total). 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)⁹. Swiss National Railways (SBB) bicycle transport figures reveal a continuous growth, from 363,000 bicycles carried in 2000 to 589,000 in

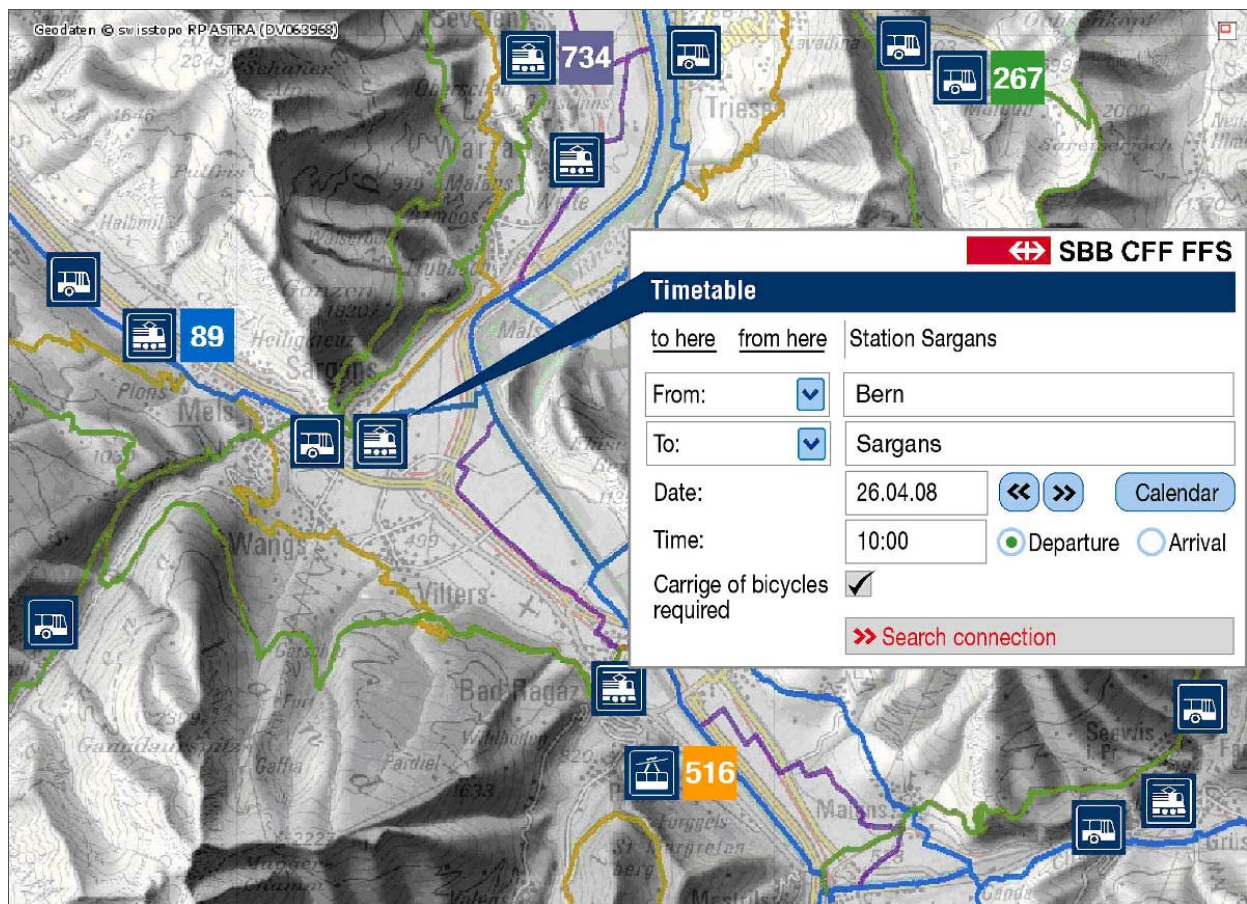
⁹ The survey question was "Did you use any other transport modes on your tour?" and the option "none" (i.e. only bicycle) was given also. Thus, the modal split changes when the bicycle is left out. E.g. without the bicycle as a mode, train use increases from 7% to 33% for all cyclists and from 39% to 53% for holiday cyclists.

2007 (R. 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). Visitor spending on transport forms a significant share (18%) of total turnover on the Veloland network in 2007; it amounts to approximately €16 million per annum (Ickert et al. 2008).

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 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). The Website, guides and maps also include special recommendations (about 350) like using a ship or bus for certain stretches.

Figure 23: 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 to 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. In some cantons, like Graubünden, Postauto aims 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 bicycle transport options, the main one being some international trains (Cisalpino, ICE) do not take on bicycles but are part of the regular timetable in Switzerland. Also, mail is no longer transported by mail carriages and these carriages were also used for transporting groups of cyclists previously (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

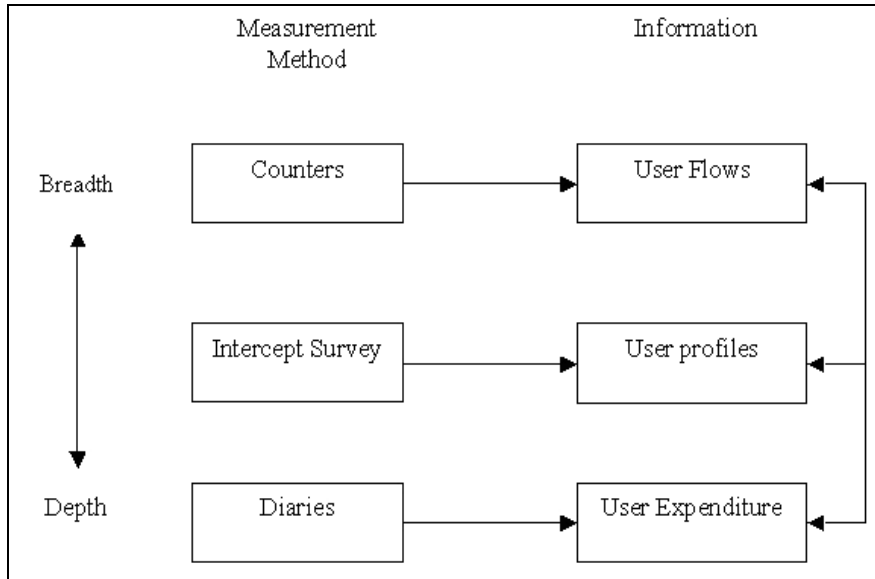
4.5.1 Consistent route monitoring, the North East of England

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 on four 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

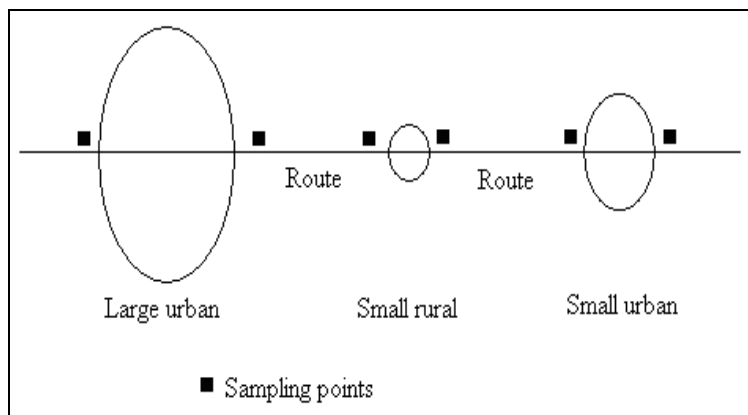
Three research tools were employed. To capture basic data on route usage, and thereby to provide a basis for aggregation, cycle counters were used to record cycle flows. These were supplemented by manual counts, which were also used to verify the automatic counter readings. An intercept survey was then used to capture information on numbers in user groups, age, gender etc., 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 24 describes the research design.

Figure 24: Research design



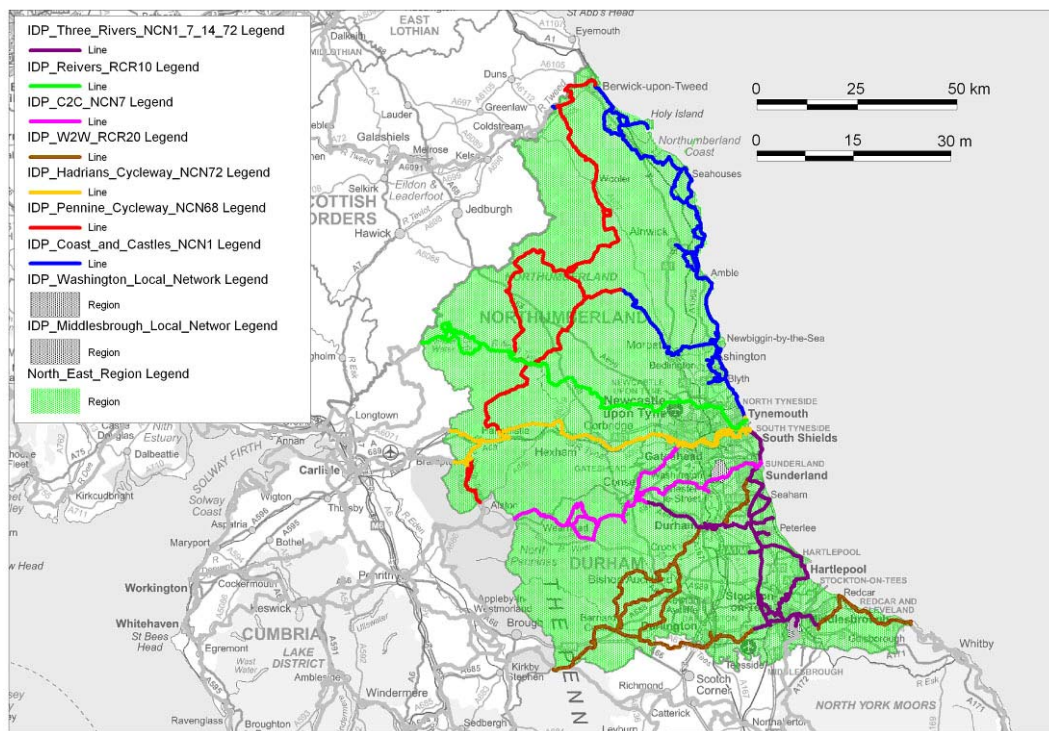
Drawing on the concept of 'gravity' modelling, i.e. that trip generation will reflect the density of populations in sources and destinations, it was decided to capture data on each route of the network such that a typical chain of different centres of gravity were represented. Figure 25 illustrates the conceptual framework, the size of ellipse referring to different population densities.

Figure 25: 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 26: 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 were situated. The results of which were used to generate criteria for route segmentation and categorisation. Particularly as 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 information points regarding life along the strip of land which once formed the division. Michael Cramer, MEP, sought to develop a soft mobility tourism product featuring the trail and obtained the assistance of the European Parliament in 2006 in securing EU support.

Figure 27: Map of the planned Iron Curtain Trail



Source: Cramer 2008c

The proposal is to develop a continuous cycle trail from the Barents Sea to the Black Sea passing through many countries, including 14 EU Member States; it is 6800 km in length and would offer cycle tourism holidays discovering 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 two 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 development (Riecken et al. 2006, see also www.europeangreenbelt.org). 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. It is proposed that the Iron Curtain Trail become part of the EuroVelo network and this is currently being discussed by the management group of the European Cyclist Federation.

5.2 Market and volume projections

Estimates of demand for the Iron Curtain Trail and revenue generated by it have been based on the model that calculates the demand for holiday trips in terms of the number of beds and daytrips in terms of the number of users. The revenues are then calculated and the results expressed as a constant revenue per holiday trip and per day excursion. The markets and volumes per distance category, transport mode, nationality, socio-economic properties, route section, type of trip (day, short, medium, long stay) are also important in estimating demand where data exists.

Table 16: Overview of Iron Curtain trail per country (excluding Russian parts).

Country	Dist Km	Holiday trips		Day excursion		Total	
		Trips (*1000)	Revenues (million €)	Trips (*1000)	Revenues (million €)	Trip days (*1000)	Revenues (million €)
Norway	125	1	0	1	0	7	0
Finland	1050	14	5	34	1	125	5
Estonia	580	27	10	130	2	311	12
Lithuania	453	24	9	276	5	435	13
Latvia	80	5	2	27	0	60	2
Poland	569	192	68	1145	19	2414	87
Germany	1098	372	132	944	15	3400	147
Czech	506	75	26	161	3	652	29
Slovakia	95	8	3	46	1	101	4
Hungary	620	68	24	239	4	686	28
Romania	423	7	3	120	2	168	5
Bulgaria	993	55	20	223	4	588	23
TOTAL	6592	849	300	3345	55	8948	355

Note: The exact route for the ICT has not yet been determined. Therefore, we had to choose between the two countries situated along the border in each case. We made this choice in a practical way: where we had no NUTS3 level data (as for Croatia, Serbia and Macedonia) we opted for Hungary, Romania and Bulgaria; regarding Austria and Slovenia we chose the Hungarian side of the border. The differences in number of trips, revenues and total length of the route is not significantly affected by this, only the distribution over the countries is of course affected.

The whole route has been split up over all NUTS 3 level region (see Annex 9 with listing), generally choosing one side of the border. The parts through Russia (some 500 km) have been left out.

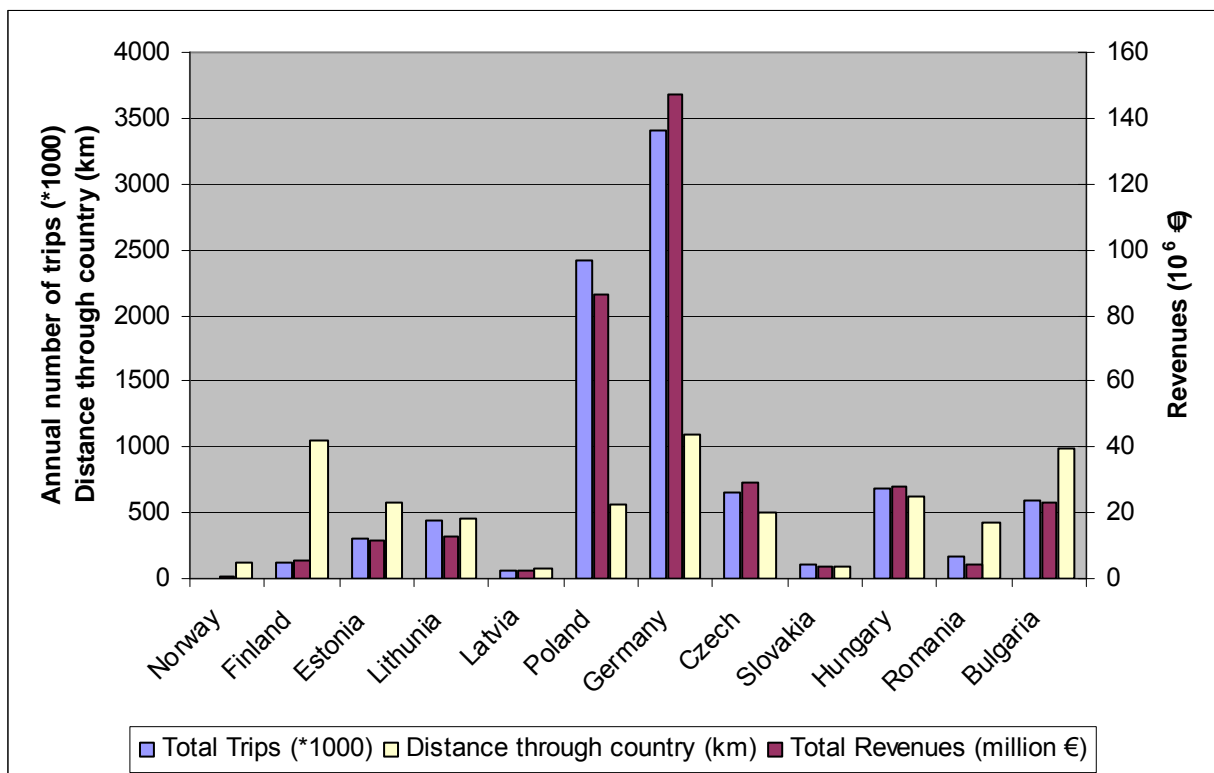
Table 16 shows the results aggregated per country. The number of trips vary, not only according to the distance covered in the country, but also due to large differences in both touristic infrastructure (bed density) and population density.

The Iron Curtain Trail may generate annually 849 000 holiday trips and 3.3 million daytrips and a total of €355 million in direct revenues (direct expenses by the holiday makers and day excursionists). The total route length has been estimated at just 6592 km (excluding Russian parts).

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 high-density countries.

Figure 28 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 tourist infrastructure and population density.

Figure 28: Distance, cycle days and revenues as estimated for the Iron Curtain Trail.



Note: The exact route for the ICT has not yet been determined. Therefore, we had to choose between the two countries situated along the border in each case. We made this choice in a practical way: where we had no NUTS3 level data (as for Croatia, Serbia and Macedonia) we opted for Hungary, Romania and Bulgaria; regarding Austria and Slovenia we chose the Hungarian side of the border. The differences in number of trips, revenues and total length of the route is not significantly affected by this, only the distribution over the countries is of course affected.

5.3 Public Transport Integration

The transport network available to facilitate tourism along the Iron Curtain Trail on the whole is good. The focus of this section is the trail from Hamburg to 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 need to be lightly packaged for the cyclist.

5.4 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 et al. 2006: 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 et al. 2006). The authors also point towards 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 principal source of CO₂ emissions for cycle tourism is the transport between cyclists' homes and the route sections. With the demand model we have estimated the total number of holidaymakers per country through which ICT runs (see section 5.2). What we do not know with any degree of accuracy is the source of this demand. 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 what transport modes are used for this transport.

Unfortunately, it is not possible to gather all these figures within this exploratory study. Therefore we simply estimated two 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 an average return distance from home to route of 1392 km, while for domestic users the distance is 600 km. Clearly the final average will be somewhere between these two estimates. This compares well with the environmentally-friendly overall average of 1146 km for all cycle tourism quoted in Table 13 (see section 2.5.4).

5.5 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 of every 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 establishments providing accommodation 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.

The potential benefits to be gained by local residents in terms of quality of life are 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 better health, relaxation and opportunities for groups of friends and relatives to enjoy the countryside near to their settlements.

5.6 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 biodiversity 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 settlements along the route, including also cultural heritage areas
- 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 is no current framework to manage the development of the project
- There are many competing sustainable tourism projects across Europe
- Cross-border train links are insufficient.

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
- Build a sustainable slow travel experience
- To offer a sustainable alternative to holidays to more distant destinations, still offering a strong diversity and exotic views.
- Develop other sustainable tourism opportunities in association with it, such as nature tourism experiences
- Establish local teams and communities to develop the route with local knowledge
- Encourage cross-border and cross-cultural knowledge
- Especially those regions might 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').
- To bring it within EuroVelo so as to benefit from managerial experience of route development
- In the longer run, EuroVelo could also offer marketing potential

Threats

- The lack of coordination between projects along the route;
- Lack of resources or differential resources: financial investments in relation to route development will be relatively small;
- Minimal commitment from tourism authorities in the regions and at national level;
- Encouragement of fly-cycle for access to the remoter sections of the route.

5.7 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 will be supported in its entirety by various interested parties. The grounding in the cycle movement is important in the early stages. However, this is not sufficient for it to achieve its potential, since it currently lacks a master plan or a framework setting out guidelines for essential future development. If developed as a part of the EuroVelo network, ICT could account for 849 000 holiday trips and 3.3 million day trips annually. This would generate a total of €355 million in direct revenues (direct expenditure by the holidaymakers). The total route length has been estimated at just 6592 km (excluding Russian parts).

6 Conclusions and recommendations

The Mintel report on cycling holidays in Europe (Mintel 2003) forecast an annual 4% growth in cycling holidays in the short term. The pace, it was argued, will increase as destinations discover the potential of this market and plan accordingly. The report argued that the two principal incentives for cycle holidays continue to be a desire for healthy living and interest in the countryside and the environment. Five or six 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 report 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 report has responded to three main 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 across Europe,
- (c) 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

In the absence of accurate statistics on cycle tourism on a European level, the researchers have reviewed data that are verifiable and available for analysis.

In some countries data is available concerning cycle tourists and day excursionists. On this basis a demand model has been created and spending estimated. There are limitations to this approach. The figures are 'generalised'. For some countries they will be an underestimate and in others an overestimate. Nevertheless, they provide an indication of the scale of cycle tourism across Europe. The estimated figures are as follows:

- 2.8 billion cycle day trips per year
- 26 million cycle holiday trips (170 million tourist-days) per year
- €54 billion in gross revenue, of which €9 billion generated by cycle holidays each year

This compares to a total number of 900 million holiday trips (international plus domestic estimated from Peeters et al. 2007a) for the EU27 plus Norway and Switzerland (3%). Of these trips, some 270 million are international generating around €180 billion in gross revenue (based on UNWTO 2008. Domestic tourist revenues are unknown.

We estimated the (potential) gross value of the EuroVelo network (when complete) and the results are:

- 12.5 million holidaymakers (82.5 million holiday cycle days)
- Total gross revenues from cycle tourists of €4.4 billion.
- 33. million day trips
- €0.54 billion of direct revenue

Furthermore, we have evaluated the potential value of the Iron Curtain trail as follows:

- 0.85 million holidaymakers (5.3 million holiday cycle days)
- Total gross revenue from holidaymakers of €300 million.
- 3.30 million daytrips
- €55 million in direct revenue from daytrips

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 also evidence from France, Germany and Scandinavia that cycle tourism is growing. There is anecdotal evidence of growth elsewhere 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 concerning key success factors in attracting cycle tourists to the EuroVelo network. There are three core factors which are necessary:

- Safe and continuous routes
- Pleasant countryside and cyclist friendly villages and cities en route
- Clear and reliable signage and interpretation

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

Cycle tourists are motivated by a number of factors but especially the opportunity to enjoy nature and relax away from everyday life. Themed routes need to express these values to attract cycle tourists. Generally the relevant literature and the surveys of stakeholders and experts revealed a lack of systematic promotion and marketing of cycle routes.

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 investment in cycle tourism. However, there is often a lack of evidence for such organisations to push for more resources, given that survey data on cycle tourists is not always readily available.

Many transport and tourism suppliers have also sidelined cycle tourism in formulating their operational and marketing strategies, particularly with regard to the transport of cycle tourists to their destination. For example, our research of ferry companies found that, while most carry cycles and charge only small fees for doing so, unfortunately they rarely market this. Many train operators across Europe will 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 German, Austrian and 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 carry cycle carriages with a capacity for 10 or more bicycles. Specifically, the cycle-carrying international train connections have been improved by this CNL network extension and effectively promoted by the *Treinreiswinkel* (the Railway ticket Shop, see section 4.4.1). This has boosted international cycle ticket sales by over 60% in 2008, the first full year of operation, suggesting 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. Transporting a bicycle by air is always possible, requiring 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 by bicycle. For example, Eurostar charges higher rates than the airlines 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 bicycle 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 continue to offer fly-and-drive 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 travel 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 trips by tourists from developing countries. However, this advantage might be lost, given the current percentage of long-haul cycle holidays (>300 km by air transport) even if the increase is small. When this percentage reaches 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 as a whole. This means promoting cycle tourism with its current high public transport share and short-haul distances, 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 where 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 two should be explored to make market inroads.

The spending level of cycle tourists is similar to that of 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 requires relatively little investment especially since it exploits disused assets such as canal towpaths or old railway tracks or shared space on roads 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, since it has not been developed and marketed sufficiently. The development of a network, which offers a consistent standard across Europe, and a wide choice of destination 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 all borders and spans all EU countries. This makes it unique.
- (b) engaging the interest of tourism providers in the thousands of settlements along the route. 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 two 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. One way forward is to establish the route as part of the EuroVelo network.

6.7 Implications for EU policies

The brief for the report 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 EV 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 (for example, investment 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 DG enterprise and Industry 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 DG-TREN 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 with regard to obligatory carriage of cycles on long distance trains.
- That cycle tourism should be enhanced as it offers a useful contribution to EU policy to reduce the EU's greenhouse gas emissions by 20% in 2020 (Commission of the European Communities 2007) Key Recommendations

In summary we propose the following six key recommendations:

1. That EuroVelo is incorporated into the TEN programme.

EuroVelo is a sustainable transport network which spans Europe and in this context needs to be part of the Trans-European 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 regarding integration of 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 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 in the reduction of energy consumption in transport and CO₂ emissions. Thus it would add overall value to the TEN programme.

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 some instances and partly given a lack of budget for the coordination of the marketing of the network as it develops. EuroVelo could clearly be even more a brand for high-quality cross-border trails than it is today. There has been a the 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 illustrate that cross-border cooperation and funding is currently at a level which allows only limited route development and marketing. The development of the network could be accelerated by a mechanism for

funding through existing EU programmes. For example, DG TREN funding for 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 ESF funding.

3. Biannual monitoring of cycle tourism in general and EuroVelo specifically.

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. Funds to further develop and maintain the demand forecast model (CRDFM).

As part of the delivery of this study, the researchers have developed an easy-to-use model which allows project managers across Europe an opportunity to estimate the likely level of demand and economic impact associated with route development. However, this model needs to be tested, refined and made available for a wide audience. It will also be necessary to update the information used by the model so as to ensure that it is as relevant and accurate as possible.

5. That there should be a more focused and detailed appraisal (projects, seminars, cost-benefit analyses) with regard to 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 concerns travel to and from destination, which is currently low in relation to cycle tourism. In order to maintain this benefit, it is necessary to improve medium to long-distance cycle carriage facilities, principally on trains but also on coaches and ferries. The advent of City Night Line services, which routinely provide cycle carriage facilities, illustrates the latent demand by cycle tourists. There is clearly a case for a more detailed study of barriers existing throughout Europe to rail and coach travel with bicycles and how they can best be overcome.

6. That there is a strong case for proceeding with Iron Curtain Trail

The Iron Curtain Trail provides an opportunity to develop sustainable tourism in regions in which it has 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 ERDF and ESF funds.

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Annexes

Annex 1 Development of national cycle route networks: D-Netz (Germany)

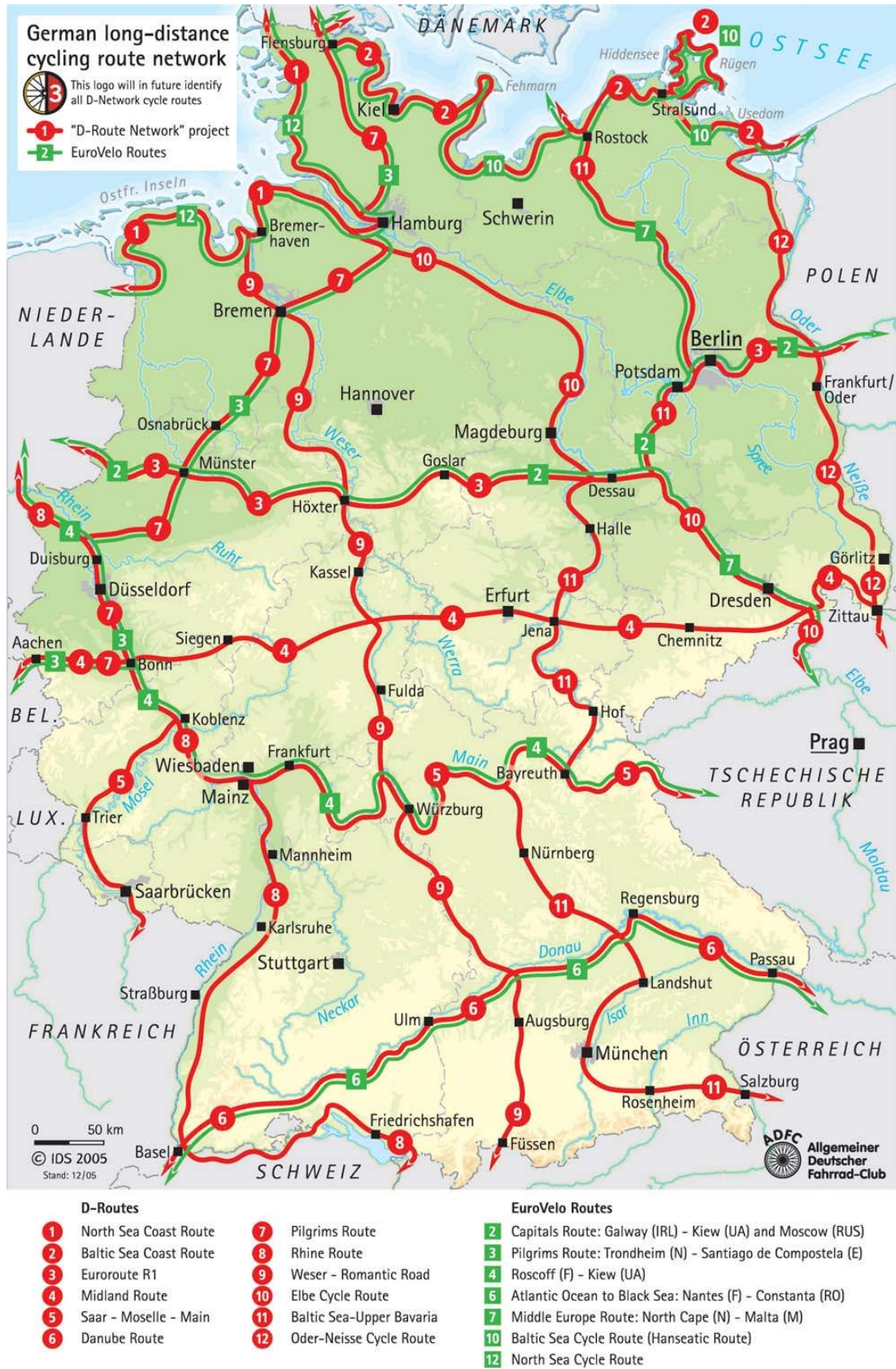
The D-Route Network (or D-Netz) is a nationwide cycle route network concept envisaged by the ADFC and several other organisations. It is part of Germany's national cycling plan whereby the German government aims to promote bicycle traffic in Germany (BMVBW (ed.) 2002a, b). The project aims to raise and 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 five federal states involved, the Federal Ministry for Transport, Building and Urban Affairs (BMVBS), the Federal Ministry of Economics and Technology (BMWi) 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 the main reasons for the initiation of this project (DTV 2008).

The network is made up of 12 primary 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. Seven 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 et al. (2006) for the Federal Ministry for Transport, Building and Urban Affairs (BMVBS). Two 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 O/D transport for longer trips, the continuous decline in bicycle transport facilities offered by long-distance trains is regarded as a limiting factor in the development of national efforts to develop the D-Netz as a premium tourist product (ibid.).

DTV has begun to create more awareness of 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 (U. Keutmann (DTV) 10.12.2008).

Figure 29: 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 the major cycle tour operators and destinations

Table 17: Major cycle tour operators in EU countries

Country of operation	Company Name	Main destination countries
Austria	Austria Radreisen	Austria, Germany, Italy, France, Switzerland, Spain, Hungary, Sweden
Austria	Euro Bike	Ireland, England, Bulgaria, Romania, Austria, Belgium, Estonia
Austria	EuroCycle Rad & Reisen	Austria, Belgium, Croatia, Czech Republic, Germany, France, Greece
Bulgaria	Cycle Bulgaria	Bulgaria, Romania, Turkey, Croatia
Czech Republic	TopBicycle	Czech Republic, Hungary, Poland, Slovakia
Denmark	Bike Denmark	Denmark and Sweden
Denmark	Dansk Cykel Safari	EuroVelo routes. Locations: Denmark, Germany, Luxembourg, Spain
France	Blue Marble Travel	Austria, Belgium, Denmark, France, Italy, Norway, Switzerland
France	Cycle Classics	France and Spain
France	Cyclomundo Bicycle Travel	France, Spain, Italy, Switzerland
France	Detours in France	France, Italy, Spain
France	Velo Loco	France and Spain
Germany	Alps Biketours	Austria, Switzerland, Italy, and Spain.
Germany	Pedalo	Belgium, Denmark, Germany, France, Greenland, Holland, Ireland
Germany	Tour de Spokes	Germany, France, the Baltics, Austria, and the Netherlands
Germany	Velo Tours	Germany, Italy, Spain
Ireland	Iron Donkey Bicycle Touring	Ireland, England, and Italy
Lithuania	BaltiCCycle	Estonia, Latvia, and Lithuania.
Netherlands	Bike Dreams	France, Spain, Italy
Netherlands	Eurosail	Netherlands, Belgium, Germany, and France
Netherlands	HAT Tours - Holland Aqua Tours	Netherlands, Belgium, Croatia, Holland, and Italy
Poland	Destination Poland	Poland, Lithuania, Slovakia, and Ukraine

Country of operation	Company Name	Main destination countries
Portugal	Bike Iberia	Portugal and Spain
Portugal	Cycling through the Centuries	Spain, France, and Portugal
Spain	Bravo Bike Spain Tours	Spain and Switzerland
Spain	Cycling Country	Spain and Portugal
Spain	Thomson Bike Tours	Italy, France, and Spain
Switzerland	Hans Rey Biking Vacations	Italy, Austria, and Switzerland
UK	Chain Gang Cycle Tours Limited	France and Italy
UK	CTC Cycling Holiday & Tours	France, Italy, Spain
UK	Cycling for Softies	France
UK	Bents Cycling and Walking Tours	Germany, Switzerland, Austria
UK	Saddle Skedaddle	France, Netherlands, Germany, Italy

Annex 3 Tourism volumes for several routes and networks

Tourist day excursionists are people that stay as a tourist overnight at a destination and make daytrips from their holiday address.

Table 18: Volumes and Type

Route/Area	Elbe Cycle Route	Elbe Cycle Route	Rhineland Palatinate - All cycle tourists	Moselle Cycle Route - All	Lower Austria - All cycle	Lower Austria - Donau	Velo-land 2007	LF- Network 2003
Volume								
Overnight (x1.000) tourists	70	4,6-23,4	960	255,5	117		212	400
Day (x1.000) excursionists	420	0,7-3,1	17.400	153,3	383		4.629	5.400
Total (x1.000)	490	5,3-26,5	18.400	409,0	500		4.841	5.800
Division overnight/day								
Overnight cyclists	18%	85%	36%	52%	17%	41%		
Tourist day excursions	10%		11%	10%	6%	13%		
Locals day excursions	40%		29%	23%	23%	21%		

Annex 4 Profile of cyclists

Table 19 Profile of cyclists from several routes and networks

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
Age:									
< 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:									
<1350						32%			
1350-3000						48%			
< 1500			14%						
1500-3000			50%						
> 3000			36%			20%			
Education:									

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
Academic		46%							
College (Tec etc.)		18%							
Skilled worker/craftsman		21%							
High school grad.		7%							
High school		7%							
Group size:									
1 p.		12%	23%				20%	20%	
2 p.		57%	49%					52%	
3-5 p.		ca. 22%	20%					18% (3-4)	
>5 p.		ca. 10%	8%					9% (>4)	
Average group size			2,6	2,6		11		2,7	2,4

*) 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/de/index/themen/10/01/key.html as the Eurostat data deviated by an order of magnitude from the norm.
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	
Danube Austria:	at313, at312, at121, at126, at123, at130	
Mosel route	deb16, deb17, deb22, deb21, deb25	
Coast and Castles (UK) ¹⁰	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	

Source: All data from Eurostat NUTS 3 level regional data (surface area, GDP, population for 2004).

Note: NUTS is Nomenclature of Units for Territorial Statistics, developed by Eurostat; 3 refers to the most detailed level.

¹⁰ Surface areas from General Register Office for Scotland, Mid-2007 population estimates Scotland. Population estimates by sex, age and administrative area 2008.

Annex 6 Bicycle transportation on trains in the EU

All data have been gathered from ROVER (2008).

Austria:

Bicycles are allowed on most trains and on all local and regional trains. For the other trains the provision of cycle transport facilities are clearly indicated on the relevant timetables and on stations. On the EC/IC trains reservation is compulsory. The standard fare is €2.90. Day and week tickets are available as well. The EC/IC fare is €6.80.

Baltic States:

There is no real provision for cyclists on trains operating in the Baltic States

Belgium and Luxemburg:

Bicycles are in general allowed although the space available is very limited. Standard fares in Belgium for bicycle transport: one way: €5, day-ticket €8. Luxemburg: €1.10.

Bulgaria:

Bicycles are allowed on local and regional trains. On express trains bicycle facilities are limited to the trains from Sofia to Varna, Plovdiv, Burgas and Gorna Oryachovitsa. Bicycle fare 2 lev (= €1).

Czech Republic:

Bicycles are allowed on many trains where indicated on the timetable and on the train itself. One-day bicycle fare CZK 25. Tickets valid for more than one day are available as well. Reservations are recommended for travel on, EC and IC express trains.

Denmark:

Bicycles are allowed on most Danish trains. Advance reservation is recommended on IC trains. Available facilities are indicated on DSB rail timetables and at stations. Bicycle fares (cykelklippekort) vary from DKK 10.50 to DKK 57.50 depending on distance and type of train.

Finland:

Bicycles are allowed on IC trains (day and night) within the luggage compartment. Room is limited on IC trains. They are also allowed on several regional trains but not on high-speed trains. Bicycle fare on IC trains: €10. On local trains in the region of Helsinki the fare is approximately €4, but bicycle transport is not possible during peak hours.

France:

Bicycles are allowed free of charge on TGV trains only if packed in a special cover. There are several exceptions to these rules. Limited transport possibilities exist with reservations on the TGV routes between: Lille and Paris and Lille and Bordeaux, some TGVs on TGV Sud-Est and TGV Méditerranée, and TGV Lyria between Paris and Lausanne/Zürich/Brig, TGV Est to Strasbourg and Germany, as well as on most Corail/Lunea trains and the Corail Teoz trains from Paris to Clermont Ferrand, Brive and Strasbourg and between Bordeaux and Nice.

Germany:

Except for the ICEs bicycles are allowed on almost every train. Regulations and prices for bicycle transportation on local and regional trains (RB, RE and IRE) dependent on the

federal state and/or Verkehrsverband concerned. In some federal states rush-hour restrictions apply. The standard fare is €4.50 (€3.50 in North Rhine-Westphalia). Bicycles are allowed as well in many long distance trains (EC/IC, IR/D, NZ, CNL). Reservations are highly recommended and obligatory for night trains. Fare: €9. International fare: €10. On local and regional trains bicycle transportation is free of charge except for night trains, and other long-distance trains where a charge of €10 per bicycle and reservations are compulsory.

Greece:

There is no real provision.

Hungary:

Bicycles are allowed on local and regional trains, and on only a very few international trains. Bicycle fare: 25% of the price of standard fare.

Ireland:

Bicycles are allowed in the guards van on many trains. The only exceptions are the DART trains in which only folded and packed bicycles can be transported. Fares €1.50 to €5 depending on the distance

Italy:

Bicycles are allowed on regional, diretto and interregio trains where indicated. The Eurostar Italia and the Cisalpino/Pendolino are not included. The 24- hours fare is €3.50. For short distances the fare is less, and for Intercity, Eurocity and night trains the fare is €5. A disassembled packed up bicycle is allowed on trains such as the TrenBiz and the TrenOK free of charge.

The Netherlands:

Bicycles are generally allowed on trains in the Netherlands only outside rush (peak) hour times (6.30 - 9.00 Hrs and 16.30 - 18.00 Hrs). These restrictions do not apply at weekends and in the summer holiday months of July and August. The fare is €6, irrespective of destination, if you want to transport your bicycle from the Netherlands to Belgium, Luxembourg, France, Germany, Switzerland, Austria, Hungary, Denmark, Poland and/or Czech Republic you need an international bicycle ticket valid for 2 months: one-way; €12, return: €24. This ticket is also available in many other EU countries.

Norway (outside EU):

Bicycles are allowed on all trains. Reservations are highly recommended particularly for regional, Express and long-distance routes. There is a special summer bicycle train on the Haugastøl-Finse-Myrdal-Flåm line. Bicycles are not allowed on international trains to or from Norway. The fare is 10% of the standard passenger fare with a minimum of NOK 55 (around €7).

Poland:

Bicycles are allowed on most trains for a fare of PLZ 4.50 (approximately €1.10). or PLZ 9 on InterCity, Express and EC trains. However, if you take a sleeping car or couchette, you will not be allowed your bike onboard. Some regular-seat (non-couchette) long-distance night trains (TLK, WARS) also do not allow bikes unless there is special compartment provided. Folded bicycles in cover are accepted.

Portugal:

Bicycles may be transported on regional trains at the conductor's discretion and on local trains in and around Lisbon and Porto. Bicycles are not allowed on long-distance trains

unless packed up. Fares range from €1–2.50. Bicycle carriage is sometimes free of charge at weekends.

Romania:

Bicycles are only allowed when there is a separate luggage wagon available or at the conductor's discretion.

Russia:

Bicycles are allowed on local trains. On long-distance trains only disassembled packed up bicycles are allowed.

Slovak Republic:

Bicycles are allowed on most trains as indicated on the timetable and on the train. IC trains require reservations. Bicycle fare is SKK 40. A one-day ticket may be purchased for SKK 50 and IC train reservations cost SKK. 20

Slovenia:

Bicycles are, in general, allowed on trains (some in summer only) for a fare of €2.69 within Slovenia and €5 on international trains.

Spain:

Bicycle transport is free of charge on local and regional trains and on the Regio Express. Restrictions apply to rush-hour trains around Madrid and Barcelona. Bicycles are not allowed on high-speed TRD trains.

Switzerland (outside of EU):

In almost most cases bicycles are allowed on Swiss trains, including a few private rail tracks (Privatbahnen), even for groups of more than 10 persons/ bicycles. Reservations are highly recommended in the summer months and compulsory from the end of March until November on ICN trains. Normal fare: CHF 15. Concessionary fare: CHF 10.6.

Sweden:

In the summer of 2007 the Swedish railways (SJ) introduced a pilot project for the carriage of bicycles on trains between some of the major cities. In the peak summer period some services in the south of Sweden were equipped to carry 4 bicycles per train. The standard fare was SEK 112. Bicycles are only allowed on regional trains run by private companies and space is in general limited. From Copenhagen Danish trains carry bicycles via Malmö to Göteborg and Kalmar for SEK 74 per bicycle.

UK:

The situation is complicated by the fact that there are 25 different railway companies each applying their own rules. In most cases, bicycles are allowed on all trains but space is limited and restrictions apply during rush hours. Some companies require reservations but do not charge for the carriage of bicycles.

It is recommended that the reader also consult the report 'Bicycle Carriage on Long-Distance Trains in the European Union' (2006) drawn up by Marco Danzi for the ECF. Special advice for the carriage of bicycles: The pedals must be removed (or fixed inwards) and the handlebars must be fixed sideways. The bike should be contained in a protective box or bag. It is not necessary for safety purposes to deflate tyres found on bikes and wheelchairs for carriage in the hold. However, to eliminate the marginal risk of them being damaged by bursting, you may wish to do so, depending of course on how easily the tyres could be inflated upon arrival.

Annex 7 Summary of prices and conditions for carriage of cycles by airline

Table 21 – Summary of carriage of cycles on airlines

Airline	Country	One-way air fare within Europe (price in EURO)
Austrian Airlines	Austria	70
Brussels Airlines	Belgium	40
Air France	France	60
Lufthansa	Germany	70
Air Berlin	Germany	25
Aegean Airlines	Greece	40
Ryanair	Ireland	30 (if booked on web) 40(airport)
Aer Lingus	Ireland	30 (if booked on web) 40(airport)
Alitalia	Italy	50
Norwegian Air Shuttle	Norway	40
KLM/Air France	Netherlands/France	40
SAS	Scandinavia	40
TAP Portugal	Portugal	50
Sky Europe	Slovakia	30 (if booked on web) 40(airport)
Iberia	Spain	75
Vueling Airlines	Spain	30
Swiss International AirLines	Switzerland	70
EasyJet	UK	25-32
British Airways	UK	28

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.

A supplement is generally charged for special bicycle covers around €10 per bicycle).

Annex 8 Public Transport Integration on the Iron Curtain Trail (northern section)

Finland



Limited information available regarding buses/coaches from the following website only if a route is specified: http://www.matkahuolto.fi/en/travel_services/timetables/

Estonia

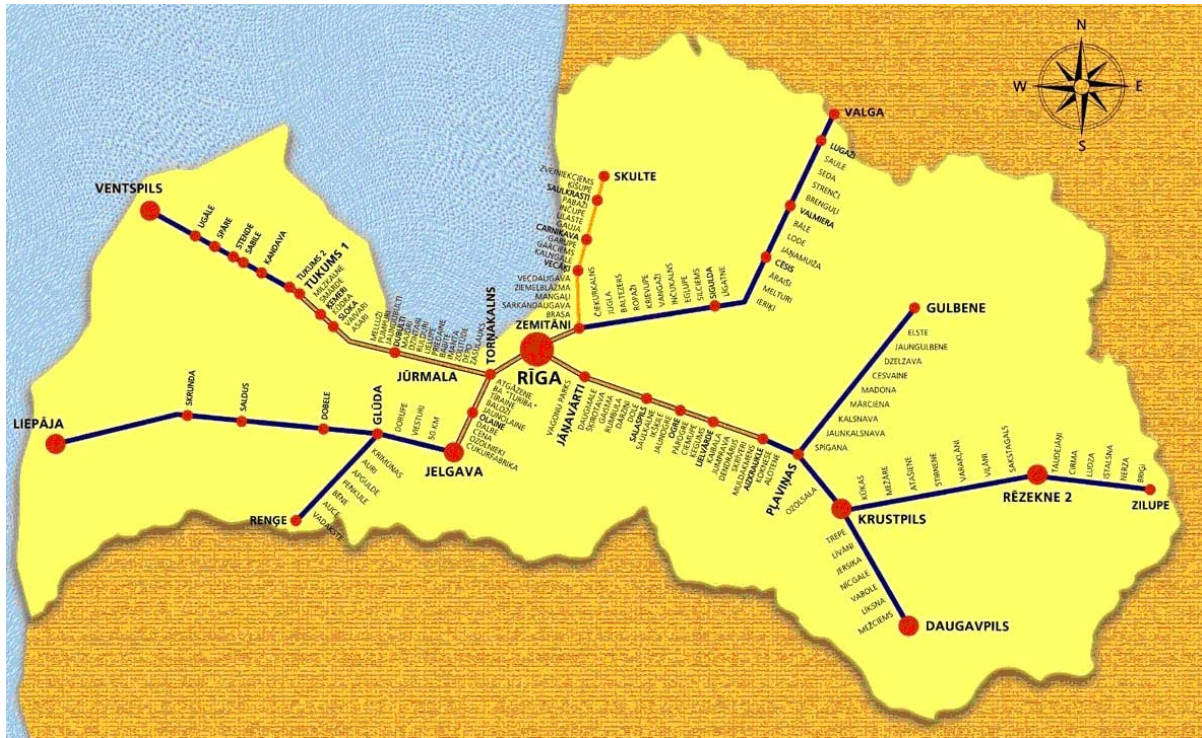
Rail and Ferry Integration

Rail: Tallinn, Paldiski

Ferry: Tallinn – Helsinki (9 departures daily)

Tallinn – Stockholm (1 departs daily)

Latvia



Rail and Ferry: There are three major ports in Latvia – Liepāja, Riga and Ventspils;

Lithuania



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

Klaipėda – Kiel (Germany) - Klaipėda

Klaipėda – Sassnitz (Germany) –
Klaipėda

Klaipėda – Karlshamn (Sweden) –
Klaipėda

Klaipėda – Copenhagen – Fredericia
(Denmark)

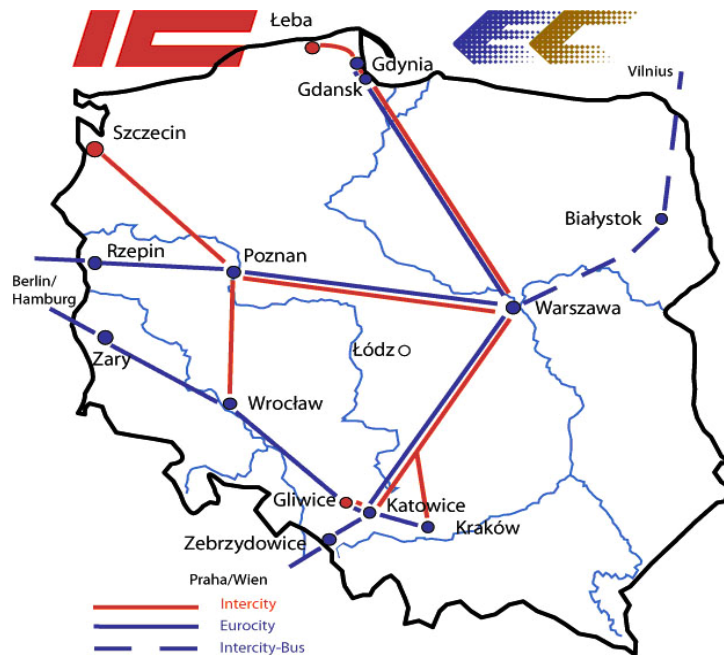
Klaipėda – Baltiysk (Russia) - Klaipėda

Klaipėda – Aabenraa – Aarhus
(Denmark)

Rail

As you can see, Klaipėda is the main railway station on the Iron Curtain Trail. Timetable information available only if points of departure and arrival are specified. (<http://www.litrail.lt/wps/portal>)

Poland



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

Germany

The port of Hamburg is the largest in Germany.

Hamburg is the main railway station for services into Germany along the Iron Curtain Trail. The InterCityExpress or ICE is a high-speed train service 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. Even the smallest villages are served by at least one train every two hours on regular lines. 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 22 – List of NUTS 3 regions used for calculation of demand on the Iron Curtain Trail

NUTS 3 Code	Country
no073	Finnmark
fil a3	Lappi
fil a2	Pohjois-Pohjanmaa
fil 34	Kainuu
fil 33	Pohjois-Karjala
fil 87	Etelä-Karjala
ee 007	Kirde-Eesti
ee 006	Kesk-Eesti
ee 001	Põhja-Eesti
ee 004	Lääne-Eesti
lv 007	Pieriga
lv 006	Riga
lv 003	Kurzeme
lt 003	Klaipėdos (Apskritis)
pl 621	Elblaski
pl 634	Gdanski
pl 633	Trojmiejski
pl 631	Slupski
pl 422	Koszalinski
pl 423	Stargardzki
pl 425	Szczecinski
de 801	Greifswald, Kreisfreie Stadt
de 80f	Ostvorpommern
de 801	Greifswald, Kreisfreie Stadt
de 805	Stralsund, Kreisfreie Stadt
de 80d	Nordvorpommern
de 803	Rostock, Kreisfreie Stadt

NUTS 3 Code	Country
de 807	Bad Doberan
de 806	Wismar, Kreisfreie Stadt
de 80e	Nordwestmecklenburg
de 80a	Ludwigslust
de 935	Lüneburg, Landkreis
de 934	Lüchow-Dannenberg
dee 04	Altmarkkreis Salzwedel
dee 07	Börde
dee 09	Harz
deg 07	Nordhausen
deg 06	Eichsfeld
deg 09	Unstrut-Hainich-Kreis
deg 0p	Wartburgkreis
deg 0b	Schmalkalden-Meiningen
deg 0e	Hildburghausen
deg 0h	Sonneberg
deg 01	Erfurt, Kreisfreie Stadt
deg 0k	Saale-Orla-Kreis
ded 17	Vogtlandkreis
cz 041	Karlovarský
cz 032	Plzeňský
cz 031	Jihočeský
cz 064	Jihomoravský
sk 041	Presovský kraj
sk 042	Košický kraj
hu 221	Győr-Ménfőcsanak-Sopron
hu 222	Vas
hu 223	Zala

NUTS 3 Code	Country
hu 232	Somogy
hu 231	Baranya
hu 331	Bács-Kiskun
hu 333	Csongrád
ro 424	Timis
ro 422	Caras-Severin
ro 413	Mehedinti
bg 311	Vidin
bg 312	Montana
bg 412	Sofia
bg 414	Pernik
bg 415	Kyustendil
bg 413	Blagoevgrad
bg 424	Smolyan
bg 425	Kardzhali
bg 422	Haskovo
bg 343	Yambol
bg 341	Burgas

Note: NUTS is Nomenclature of Units for Territorial Statistics, developed by Eurostat; Code 3 is the most detailed.

Annex 10 List of consultees who provided information

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	
	Beckmans	Paul	
Key Organisations which responded to requests for information			
ECF			Europe
Main office	Ensink	Bernhard	
ECF Hungary	Bodor	Adam	
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 podêlatou (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
Visit Denmark	Urfe	Lisbeth	Denmark
Magyar Kerékpáros-Klub	László	János	Hungary
FIAB, Federazione Italiana Amici della Bicicletta, CYRONMED	Sforza	Raffaele	Italy
Latvijas Velocelojumu Informācijas Centre	Silnieks	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
Fundacion de los ferrocarriles	Hernandez-Colorado	Arantxa	Spain
CCN, Cycle Campaign Network	Franklin	John	UK

Organisation	Surname	First Name	Country
Stiftung SchweizMobil	Utiger	Martin	Switzerland
Fundacion de los ferrocarriles Espanoles	Aycart	Carmen	Spain
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
Europäisches Tourismus Insitut GmbH (ETI)	Hallerbach	Bert	Germany
Deutscher Tourismusverband Service GmbH	Keutmann	Ulf	Germany
CzechTourism	Martinek	Jaroslav	Czech Republic
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
Landkreis Neustadt a.d.Waldnaab - Regionalmanagerin & Paneuropa-Radweg	Frauenreuther	Margit	Germany

Organisation	Surname	First Name	Country
DTV (German Tourism Association) - responsible for pilot project D-Route 3 (=EV2)	Keutmann	Ulf	Germany
DTV (German Tourism Association) - responsible for baseline research German cycle tourism due March 2009	Hegemann & Dunkelberg	Iris & Dirk	Germany
DZT German National Tourist Board - Theme marketing active holidays	König	Beate	Germany
Tourism Vision / former Universität Lüneburg	Fischer	Julian	Germany
Emsradweg (former University of Trier)	Freitag	Elke	Germany
invent GmbH	Miglbauer	Ernst	Germany
Trendscope	Hürten & Brimmer	Dennis & Oliver	Germany
Treinreiswinkel	Brall	Helmut	Netherlands
Fietsvakantiewinkel	Houtstra	Frank	Netherlands
Fietsplatform	Nijland	Erik	Netherlands
schweizmobil/Stiftung Veloland Schweiz	Utiger	Martin	Switzerland
NBTC (Dutch Tourism Board)	Ornee	M	Netherlands
Toerisme Vlaanderen (Flemish Tourism Board)	Vervlyte & Plasman	Dries & Sofie	Belgium
Office de Promotion du Tourisme de Wallonie et de Bruxelles (Wallonian Tourism Board)	-	-	Belgium
NBTC (Dutch Tourism Board)	Schouten	Maartje	Netherlands
	Weijdema	Wendy	Netherlands
Tourismus-Marketing GmbH Baden-Württemberg	Hemmerich & Lagemann	Anja & Michael	Germany
BAYERN TOURISMUS Marketing GmbH	Bluemcke	Kristina	Germany
Programmbüro GTZ/ WBF Serbien - Projekt „Regionalentwicklung entlang der Donau“	Limbirt	Wolfgang	Germany
SBB - Media department	Marti	Roman	Switzerland
Scandlines	Bohnsack	Juliane	Germany, Denmark, Baltic States, Sweden
Balearia	Boix	Pilar	Spain

Annex 11 Overview of ferries

Operator	Countries (or Islands)	Provision for cycles?	Price (Each trip unless specified)	Marketing Initiatives?	Route (Both ways unless specified)
Adria Ferries	Italy, Albania	Yes	Free	In Italian	Trieste - Durres
Agemar	Italy, Albania	Yes	Not specified	Not on website	Bari - Durres
Alstrafikken	Denmark	Yes	Adult - DKK 85, Child (4-15) - DKK 40; Under 4 - Free	No	Bøjden - Fynshav
Azzurra Line	Italy, Croatia, Albania, Montenegro	Not specified	Not specified	Not on website	Bari (Italy) - Durres (Albania); Bari - Dubrovnik (Croatia); Bari - Kotor (Montenegro); Bari - Bar (Montenegro)
Balearia	Spain, Balearic Isles	Yes	Free	Yes	Barcelona-Mallorca; Barcelona-Menorca; Denia-Mallorca; Denia-Ibiza; Valencia - Menorca; Mallorca - Menorca; Mallorca - Ibiza; Ibiza - Formentera
Bastø Fosen	Denmark	Yes	Free	No	Moss-Horten Ferry,
Blueline	Croatia, Italy	Not specified	Not specified	Not on website	Ancona - Split / Hvar / Vis
Bornholms Traffiken	Sweden, Denmark	Yes	Adult - DKK 191, Child (4-15) - DKK 96; Under 4 - 10 Free (Varies by route and peak / off season)	No	Ronne - Koge / Ystad
Brittany Ferries	England, Ireland, France, Spain	Yes	€10 return	Not on website	Portsmouth to Caen; Portsmouth to Cherbourg; Portsmouth to St Malo; Poole to Cherbourg; Plymouth to Roscoff; Portsmouth to Santander; Plymouth to Santander; Cork to Roscoff
Colorline	Denmark, Norway	Not specified	Not specified	Not on website	Hirtshals - Kristensand; Hirtshals - Larvik; Stromstad - Sandefjord; Kiel - Oslo
Condor Ferries	England, France	Not specified	Not specified	Not on website	Weymouth / Poole / Portsmouth - Guernsey / Jersey / Cherbourg / St Malo
Corsica Ferries	France, Italy (to Corsica and	Yes	€2.85		Livorno - Bastia; Savona - Bastia / Ile Rousse / Calvi;

Operator	Countries (or Islands)	Provision for cycles?	Price (Each trip unless specified)	Marketing Initiatives?	Route (Both ways unless specified)
	Sardinia)				Nice / Toulon - Bastia / Ile Rousse / Calvi / Ajaccio; Livorno / Civitavecchia - Golfo Aranci
DFDS Seaways	England, Norway, Sweden, Netherlands, Denmark	yes	£5 standard fare (single journey)	No	Newcastle-Amsterdam, Newcastle-Bergen, Newcastle-Stavanger, Newcastle – Haugesund, Newcastle-Gothenburg, Newcastle-Kristiansand, Harwich-Esbjerg, Copenhagen-Oslo, Kristiansand - Helsingborg - Gothenburg
Dimaiolines	Italy, Sicily, Sardinia	Yes	Free	Not on website	Napoli - Palau / Cagliari / Golfo Aranci
Ferryways	England, Belgium	Out of business			
Fjordline	England, Norway, Denmark	Yes	€7 - 17	Not on website	Bergan - Hirtshals; Hirtshals - Stavanger
GLD Lines	France, Italy, Spain	Yes	Free	Not on website	Barcelona - Livorno / Civitavecchia; Civitavecchia - Toulon / Portovecchio; Palermo - Salerno
Grandi Navi Veloci	Spain, Italy, Malta	Not specified	Not specified	Not on website	Genoa - Barcelona / Porto Torres / Olbia / Palermo; Palermo - Civitavecchia / Livorno
Harwich Harbour Foot Ferry	England	Yes	£1.50 - £2.50	Not on website	Harwich - Shotley - Felixstowe
HD ferries	Channel Islands, France	Yes	Not specified	Not on website	Jersery - Guernsey - St Malo
Hurtigruten	Norway	Not specified	Not specified	Not on website	Bergen - Alesund - Molde - Kristiansund - Trondheim - Stamsund - Harstad - Tromso plus 20+ minor stops
Irish Ferries	Ireland, UK, France	Not specified	Not specified	Not on website	Holyhead - Dublin; Rosslaire - Pembroke / Cherbourg / Roscoff
Iscomar	Spain, Balearic Isles	Yes	Not specified	Not on website	Ibiza - Barcelona / Formentera / Denia; Valencia - Palma / Mahon; Barcelona - Palma / Mahon; Alcudia - Ciutadella
Langelandstrafikken	Denmark	Yes	Adult - DKK 84, Child (4-15) -	No	Spodsbjerg - Tars

Operator	Countries (or Islands)	Provision for cycles?	Price (Each trip unless specified)	Marketing Initiatives?	Route (Both ways unless specified)
			DKK 42; Under 4 –DKK 10		
LD Lines	England, France	Yes	Free	Not on website	Le Havre - Portsmouth / Newhaven; Dover - Boulogne / Dieppe; Dieppe - Newhaven
Minoan	Italy Greece	Yes	Free	Not on website	Patras - Ancona / Venice / Corfu / Igoumenitsa; Piraeus - Heraklion
Moby Lines	Italy, Corsica, Sardinia	Not specified	Not specified	Not on website	Genoa - Olbia / Porto Torres / Bastia; Olbia - Porto Torres / Livorno / Piombino; Livorno - Bastia; Bonifacio - ST di Gallura; Portoferrario - Piombino
Naviera Armas	Portugal, Canary Islands	Not specified	Not specified	Not on website	Tenerife, Portimao, Madeira, Lanzarote, La Palma, La Gomera, Gran Canaria, Fuerteventura, El Hierro
Nordic Jet Line	Finland, Estonia	Not specified	Not specified	Not on website	Tallinn - Helsinki
Norfolk Line	England, France, Belgium, Scotland, Ireland, Northern Ireland,	Yes	Free	Not on website	Dover - Dunkirk; Liverpool - Belfast / Dublin; Edinburgh - Zeebrugge
North Link Ferries	Scotland - Shetland / Orkney	Yes	Free	No	Aberdeen - Kirkwall / Lerwick; Scrabster - Stromness; Lerwick - Kirkwall
P & O Ferries	England, Netherlands, Belgium, France, Spain, Ireland, Scotland	Yes	Free	Not on website	Dover - calais; Hull - Rotterdam / Zeebrugge; Bilbao - Portsmouth; Liverpool - Dublin; Larne - Troon / Cairnryan
Polferries	Poland, Denmark, Sweden	Yes	SEK 40-70 / DKK 40-50 (Variable by route)	Not on website	Gdansk - Nyashamn; Swinoujscie - Ystad / Kopenhaga / Ronne
RG Line	Finland, Sweden	Yes	€6	Not on website	Vaasa - Umea
Samsøtrafikken	Denmark	Yes	DKK 25	No	Kolby Kas - Hou
Scandlines	Denmark, Germany, Latvia, Sweden, Estonia,	Yes	Variable. Typical price €16-23	Not on website	Puttgarden-Rødby; Rostock - Ventspils / Trelleborg / Hanko / Gedser; Arhus - Aabenraa - Klaipeda; Sassnitz - Trelleborg;

Operator	Countries (or Islands)	Provision for cycles?	Price (Each trip unless specified)	Marketing Initiatives?	Route (Both ways unless specified)
	Lithuania				Helsingor - Helsingborg
Sea France	England, France	Yes	Free	Not on website	Dover - Calais
Smyril Line Ferries	Norway, Scotland, Iceland, Faroe Islands, Denmark	Yes	With return fare, ranges from €62 - €293, depending on route and time of year	Not on website	Hanstholm - Seydisfjordur / Bergen / Torshavn; Torshavn - Seydisfjordur / Bergen; Seydisfjordur - Bergen; Scrabster - Torshavn / Seydisfjordur
Snav	Italy, Sicily, Sardinia, Croatia, Greece	Not specified	Not specified	Not on website	Brindisi / Paxos - Corfu; Pescara - Huar; Ancona - Spalato; Napoli - Aeolian Islands / Palermo / Gulf of Naples / Pontine Islands / Oblia; Civitavecchia - Olbia / Palermo; Cagliari - Palermo
SNCM	France, Italy, Corsica, Sardinia				Toulon / Marseilles / Nice - Sardinia / Corsica
SpeedFerries	England, France	Out of business			
Steam Packet	England, Isle of Man, Ireland	Yes	Free	Not on website	Liverpool / Heysham / Belfast / Dublin - Douglas
Stenna Line	England, Holland, Norway, Denmark, Sweden	Yes	Extra fee, varies by route. Typical amount: £5	Information on website about cycling holidays in the Netherlands, specific details about safety and storage on the route	Belfast - Stranraer; Fishguard - Rosslaire; Fleetwood - Larne; Harwich - Hook of Holland; Holyhead - Dun Laoghaire / Dublin
Superfast Ferries	Scotland, Belgium, Greece, Italy	Yes	Free	Not on website	Rosyth - Zeebrugge; Ancona / Bari - Patras / Igoumenitsa
SuperSeaCat	Norway, Sweden, Denmark	Out of business			SuperSeaCat
Tallink Silja	Finland, Sweden, Estonia	Yes	€10	Not on website	Stockholm - Helsinki / Tallinn / Turku / Riga; Helsinki - Rostock / Tallinn
Tirrenia	Albania, Italy, Corsica, Sardinia	Not specified	Not specified	Not on website	Arbatax - Olbia / Genova / Civitavecchia / Fiumicino / Cagliari; Bari - Durazzo; Cagliari - Trapani

Operator	Countries (or Islands)	Provision for cycles?	Price (Each trip unless specified)	Marketing Initiatives?	Route (Both ways unless specified)
Transeuropa Ferries	England, Belgium	No	n/a	No	Ostend – Ramsgate
Transmanche Ferries	England, Italy, France, Ireland	Yes	Free	Not on website	Marseilles - Barcelona; Toulon - Civitavecchia; Le Havre - Portsmouth / Newhaven; Dover - Boulogne / Dieppe; Dieppe – Newhaven
TT Line	Germany, Sweden	Yes	€5 (one- way)	Not on website	Rostock - Travemunde – Trelborg
TTT Lines	Italy, Sicily	Yes	€12 (one- way)	Not on website	Naples – Catania
Venezia Lines	Italy	Yes	€10 (one-way)	Not on website	Durres – Bari
Viking Line	Finland, Sweden, Estonia	Yes	€7	Not on website	Helsinki - Tallinn; Mariehamn - Helsinki / Turku / Kapelskar / Stockholm

Annex 12 Survey of experts on European cycle tourism

As part of the study an on-line survey of experts on 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.

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 preset scales. There was a final 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 two sections asked how important certain factors were in their choice of cycle touring route and about their cycling holiday preferences. The sixth 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 three 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).

Statement	Most frequent response	Median response
The demand for cycling holidays in your country is	Static (83%)	Static
The demand for day leisure cycling in your country is	Static (86%)	Static
The number of cycle routes is	Static (66%)	Static
The level of funding for cycle routes by municipalities is	Increasing (42%)	Increasing
The level of funding for cycle routes by regional governments is	Increasing (44%)	Increasing
In general, cycle tourism in your country is	Static (78%)	Static

EuroVelo

Respondents were asked if they had heard of EuroVelo; of those that answered 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. The same applied to 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 two statements supports the development of long-distance routes to promote tourism. However, there was a significant difference in the responses from the new EU Member States and other Eastern

European countries, with 44% contesting the importance of long-distance routes, compared with 59% elsewhere in Europe.

Statement	Most frequent response	Median response
EuroVelo is an important network for developing cycle tourism in Europe	Agree strongly (47%)	Agree
EuroVelo is important for the development of cycle tourism in your country	Agree (43%)	Agree
EuroVelo is important for the development of rural tourism in your country	Agree (35%)	Agree
EuroVelo is important for the development of city tourism in your country	Neutral (34%)	Neutral
Long distance routes are less important than local routes	Disagree (42%)	Disagree
Long distance routes attract more visitors than local routes	Agree (43%)	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 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 buses, 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.

Task	Most frequent response	Median response
Take your cycle on a local or regional train?	Very easy (38%)	Very easy
Take your cycle on an InterCity train?	Not easy (34%)	Not easy
Take your cycle on a high-speed train?	Not at all easy (50%)	Not easy at all
Take your cycle on an EC or other international train?	Not at all easy (35%)	Not easy
Take your cycle on a local bus or tram?	Not at all easy (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 (33%)	Easy
Hire a cycle from a railway station?	Not at all easy (38%)	Not easy
Take your cycle on a domestic flight?	Not easy (30%)	Not easy
Take your cycle on an international flight?	Not easy (30%)	Not easy

Cycle touring

Regarding 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 varied with regard to scenery, and the reliability of information (including signs, accommodation, connections to transport interchanges, etc.). Many of these factors were more important, on average, to respondents from existing EU countries than for those in the new Member States.

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

Holiday Preferences

Regarding 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 for 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.

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

The Future

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 by the European Union. There is also strong support (65%) for the development of themed long-distance cycle routes such as the Iron Curtain Trail.

Statement	Most frequent answer	Median response
More people will take holidays closer to their homes in the next 5 years	Agree (57%)	Agree
Walking and cycling holidays will become more popular	Agree (67%)	Agree
The EuroVelo network will be complete within 5 years	Neutral (47%)	Neutral
EuroVelo should become a major sustainable tourism facility	Agree (48%)	Agree
EuroVelo should be funded by the EU	Agree strongly (48%)	Agree
EuroVelo is a good name for long distance routes	Agree (47%)	Agree
Cycle Tourism funding should focus on local schemes only	Disagree (44%)	Disagree
There should be more themed routes such as The Iron Curtain Trail	Agree (52%)	Agree

Comments and suggestions on the future of European Cycling

The respondents were then given the opportunity to suggest EU measures to 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 government measures and legislation) to ensure that they carry bicycles at a modest cost. The carriage of bicycle on international trains was also seen as important.
- **Government 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 the adoption of supportive legislation and the development of physical infrastructures.
- **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 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 table below shows the geographic distribution of the respondents.

Country	Frequency	Percentage
Austria	8	2.3
Belgium	7	2.0
Bulgaria	13	3.7
Croatia	1	0.3
Czech Republic	8	2.3
Finland	3	0.9
France	8	2.3
Germany	43	12.4
Greece	2	0.6
Hungary	31	8.9
Ireland	3	0.9
Italy	75	21.6
Lithuania	2	0.6
Netherlands	9	2.6
Poland	2	0.6
Romania	22	6.3
Russia	1	0.3
Serbia	1	0.3
Slovakia	9	2.6
Slovenia	1	0.3
Spain	69	19.8
Sweden	1	0.3
Switzerland	3	0.9
United Kingdom	26	7.5
Total	348	100.0

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT **B** STRUCTURAL AND COHESION POLICIES

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