

Cycling tourism

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Preface

In 1996, The Research Centre of Bornholm had the pleasure of having two guest researchers - both with a high interest in bicycle tourism. Not only did they have an interest in the subject, but they were also active cyclists, with an enthusiasm for promoting this mode of transport as part of the *green* agenda for local development.

Combining two reports in different languages and from different cultures is not an easy task, and we owe thanks to all those who have helped with translation and advice. Now the results are at last ready for publication and it is a pleasure for the Centre to include this report in our series of tourism research studies.

As usual, the responsibilities for the content of the two reports rests with the authors and we are most grateful to them for their efforts. Peter Saabye Simonsen and Derek Robbins undertook their research and analyses independently, but they have had the opportunity to go through the each other's manuscript before the final printing.

Svend Lundtorp
Head of Research
December 1998

Part I

Cycle tourism

An economic and environmental sustainable form of tourism?

By

Peter Saabye Simonsen

and

Birgitte Jørgensen

Authors' Preface

This research has been undertaken as part of the overall activities of The Bornholm Research Centre, which encompass social research and the communication of information relevant both to Bornholm and other peripheral areas. Tourism is the Research Centre's main subject and work has previously been produced on, for example, the church and tourism, adventure tourism based on nature and so on.

No previous study has sought to deal with cycling tourism on such an objective research basis, neither in Denmark nor abroad. Indeed, many people have reacted by saying, *it is impossible to study cycling tourism!*, especially when I have spoken to those not directly involved in tourism. However, the cycling tourists are very prominent in the profile of tourism on Bornholm and it is essential, amongst other things, to examine more closely who they are, what they do, how they spend money, what their attitude to the environment is and what damage they inflict on the destination. Since Bornholm holds a unique place in the overall picture of Danish tourism, this study includes Fyn in order to be able to produce a higher level of representative and comparative information.

Birgitte Jørgensen has written the chief part of the economic section, and Peter Saabye Simonsen has produced the rest of the research. The latter is therefore responsible for the conclusions and any recommendations from the research. Naturally, there are many contributions which we wish to acknowledge gratefully. These include, especially, thanks to Anne-Mette Hjalager, who has worked as a patient adviser throughout the research, and Thomas Rafn for advice over the sections on economics. Thanks are also due to the interviewers Jordi Roig and Nikolaj Gregersen who undertook an enormous task, to Ivan Hill for doing a great job on translating the report into English, to The Countryside and Water environment departments of Fyns Amt and the Technical Administration of Bornholm's Amt, to a large number of people within the tourist business, to Jens Sohl and Martin Poulsen and others who have provided information and assistance and finally, a thank you to the Head of Research at The Bornholm Research Centre, for the willingness to finance and wait for this study.

Peter Saabye Simonsen and Birgitte Jørgensen
Odense and Bornholm

Translator's Note

The intention has been that the translation of this study should be comprehensible to anyone interested in the subject even if they do not have a detailed knowledge of Denmark. To this end, some explanatory comments may be of use.

The Danish system of government gives wide powers to local levels of administration. In this study, the two relevant tiers of government are the *Amt* and the *Kommune*. The standard translations for these terms are *County* and *Municipality*. However, for a detailed understanding of the structure of Danish tourism, these translations are potentially misleading. Both levels have greater autonomy and powers of fund-raising and allocation than any comparable Anglo-Saxon institutions. A *kommune* can represent a relatively small number of inhabitants, but its democratic and constitutional powers are still very strong.

Sometimes I have used the standard translations, more often, I have added the Danish terms, to remind the reader of the essential difference.

This same fierce tradition of local democracy has spawned an array of institutions which have no precise equivalents in any English Language speaking country. Again, I have at times offered an equivalent, usually used the Danish title as well, and have appended, with Peter Saabye Simonsen's help, a list of the principal organisations with a brief description of their function.

One other explanation may be helpful. A great deal of Danish tourism involves *holiday houses*. These are neither second homes nor rented cottages. They range from the very luxurious to the rather primitive, indeed, many are little more than cabins. They tend to have been built up in defined areas near the coasts and are extremely popular both with domestic tourists and German visitors.

I have kept the titles of the reference sources in the footnotes in the original languages, sometimes adding a rough translation where I think it may be of use. The justification is that if anyone should wish to follow up the sources, they would have to have the original title.

Finally I wish to thank Peter Saabye Simonsen for his help and patience and Jon Berry for his advice and eagle eyes.

Ivan Hill
Fjellerup

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1. Introduction

1.1 Background

The number of overnight stays in Denmark has grown over recent years, but the income per tourist has not increased correspondingly. This is largely due to the considerable increase in the number of camping and holiday-home tourists. This category of tourist is well known for spending a relatively low amount of money on daily needs. This tendency is unfortunate and the term discount tourism¹ has been used. In order to counter this unfortunate development, political decisions must be taken to encourage different forms of tourism, in particular, theme tourism.²

Of the options available, cycling tourism is highly profiled. One reason for this is that cycling tourism is an especially environmentally-friendly and sustainable tourist category, which could generate two million overnight stays by the year 2000, as opposed to one million in 1992.³

It is also recognised that, just as with other forms of theme tourism, we know very little about the nature of cycling tourism, or its motivation, development and consequences. This report will try to identify some of the areas where we need more structured information.

1.2 Objective

The overall objective of this project is to investigate cycling tourism on Bornholm and Fyn in order to establish whether cycling tourism is economically and environmentally sustainable. The objective can be described as follows:

- to clarify whether cycling is the perfect type of tourism - the pot of gold at the end of the rainbow - i.e. tourism with a good income and very little environmental cost.

in particular:

- to assess whether cycling tourism on its own can be described as a green/sustainable tourist category. That means a form of tourism which respects both nature and the environment, and which does not pollute or damage the tourist business' relationship with the authorities nor with the area where the tourism takes place. In short, whether cycling tourism is, from an environmental point of view, the ideal goal in the light of a number of concrete pollution and sustainability criteria.

1 Erhvervsfremmestyrelsen, 1993.

2 Erhvervsministeriet (formerly Ministeriet for Kommunikation og Turisme), 1994b.

- to evaluate the economic consequences of cycling tourism on Fyn and Bornholm to allow an assessment as to whether this type of tourism is more or less desirable.

As a part of the project it has been necessary to pin-point the characteristics of cycling tourism such as:

- demographic data
- activities and behaviour
- experiences
- consumption and needs
- the use of cycling routes and cycling tourism *products*
- attitude towards the environment and environmental measures.

This part of the project is in itself of great use.

It has also been the objective of the project to evaluate whether the prospects for cycling tourism on Fyn and Bornholm are good seen in the light of the potential of other forms of tourism and in relation to the findings of the project.

Earlier examinations of cycling tourism in Denmark can all be classified as market analyses primarily concentrating on marketing/turnover aspects. This project however will assess cycling tourism much more comprehensively.

1.3 Definitions

Let us start defining the terms: tourist, the tourist industry and the cycling tourist.

The tourist

Several definitions of a tourist are to be found. The issue has been discussed for decades. Please refer to the numerous publications on this issue.⁴ WTO's definition will be used in the project. *Any person, who travels to somewhere that is not his or her usual surroundings for less than 12 months, and for whom the most important objective of the journey is other than salaried activities at the destination.*

The tourist industry

The areas covered by the terms *tourism* and *the tourist industry* have been discussed often and at length. Some have said that tourism is not an industry but a phenomenon.⁵ Others stress the difference between *traditional leisure tourists* and *business tourists* and ask whether the latter can be called tourists at all.⁶ In principle, this discussion is important

3 Danmarks Turistråd et al., 1992.

4 Such as: Mathieson, A., G. Wall, 1981. OECD, 1991. Jensen, S., C. Hansen, 1995. Rafn, T., 1995. Framke, W., 1993. And many others.

5 Dahlgaard, F., 1994.

6 Jensen, S., 1993. Danmarks Turistråd, 1991. Danmarks Turistråd, 1993. Framke, W., 1993.

but does not belong in this project, where tourism will be defined as: *Activities by persons travelling to - or staying at - a different destination than their usual surroundings for no more than 1 year, whether engaged in leisure or business activities.*⁷

(Cycling) tourists are often served by the businesses in- and outside the local community, referred to here as the tourist industry. Focusing to an ever greater extent on tourists as a source of income for the peripheral areas and countryside areas is expected to lead the authorities and more and more businesses to consider themselves as an integrated part of the tourist industry, regardless of whether their main source of income stems from tourism or not. A debate on the subject of whether these businesses can be classified as forming a part of the tourist industry or not is less interesting than the fact that more and more (people) are making money from tourists.

The cycling tourist

In this project the cycling tourist is defined as:

A cycling tourist is a person of any nationality, who at some stage or other during his or her holiday uses the bicycle as a mode of transportation, and to whom cycling is an important part of this holiday. Short trips to the "corner shop", etc. are not included.

This definition is very similar to Friluftsrådets (Open Air Association) definition *All nationalities incl. locals, who spend a minimum of 24 hours away from home (i.e. not one-day trippers), and who use a bicycle as a mode of transportation during their holiday and to whom cycling is important.*⁸ A third, somewhat more limited definition has also been used *[A cycling tourist is]... a tourist who uses a bicycle as his/her main mode of transportation.*⁹

It is estimated that the chosen, rather wider definition best includes the variations that make up current holidays and activities, whereas narrower definitions such as that mentioned above, exclude a large part of the cycling tourists. As an example can be mentioned cycling tourists who stay in a holiday house but who, due to the weather, only use their bicycle as a mode of transportation during a limited number of days.

Local residents, cycling for recreational or other purposes are not included.

Bikers to whom bike-racing is the main feature of their visit, but who otherwise meet the definition, are not considered cycling tourists but sports tourists as the main purpose of the holiday is racing.

The above mentioned definition could also be expanded to include the proviso that a cycling tourist should be defined according to the number of days he/she plans to use the

7 Framke, W., 1993.

8 Friluftsrådet, 1990.

9 Danmarks Turistråd et al., 1992

Economic sustainability

Cycling tourism can be considered economically sustainable for several reasons. In this project we have used a simple model to compare the daily expenditure to different forms of tourism, but applied a more complex system of calculations to estimate the economic advantages for the local areas, i.e. a socio-economic evaluation.

To find the economic sustainability of this form of tourism, cycling tourism was analysed on the basis of the average spending per day of the cycling tourist. These figures were then compared to the (general) public sector investments made in cycling tourism in the Counties of Bornholm and Fyn. Private investments and expenditure have not been included with the exception of the estimated costs of marketing cycling tourism, as it is very difficult to assess whether, for example, the renovation of rooms at a youth hostel is for the benefit of the cycling tourists or other tourists. Private investments in the improvement of products for cycling tourists are also often one-off investments, and are generally considered small amounts with no real significance in the economy of cycling tourism.

This project takes as its starting point the attitude that although a tourism theme may be profitable, this in itself is not sufficient grounds for maintaining and developing it. The individual themes must provide give high returns to be considered interesting. This reasoning behind this attitude is that the destinations and the tourist industry should always consider whether the money spent developing and marketing a product is spent wisely or whether it would be advantageous to look at other holiday themes, see the debate on leisure tourism vs. business tourism.¹⁰

Environmental sustainability

The effect of tourism on the environment can be criticised from many points of view, be they biological/ecological, behavioural, planning and design, and political.¹¹ This project will focus on the impact of this form of tourism on the environment and the use of resources, and at the same time will examine the questions in the light of the tourists' perception of the environmental standard of their holiday destination. The social angle, i.e. the relationship between local residents and the tourists is not examined. The latter is disregarded because cycling tourists are not yet present in sufficient numbers to constitute a problem for local residents - as is the case with tourists (especially German anglers) on Langeland.¹²

The question of environmental sustainability will be defined by researching the attitude of the cycling tourists towards chosen environmental issues. To start with, the importance of the environment when choosing a holiday destination is examined. Subsequently, the im-

10 Saabye Simonsen, P., *Erhvervsturisme - en introduktion. Turisme...*, Årg. 3 nr. 9 + 10. Saabye Simonsen, P., *Erhvervsturisme 2 - markedsforhold og markedsstrukturer. Turisme...* Årg. 3 nr. 11. Saabye Simonsen, P., *Erhvervsturisme 3. Turisme...* Årg. 3 nr. 12.

11 Briassouliss, H., J. van den Straaten, 1992.

12 Fyens Stiftstidende 30.05.1996. TV2 Nyhederne 30.05.1996. Danmarks Radios TV-Avis 30.05.1996.

portance attached by cycling tourists to the quality of the beaches and the sea, keeping nature clean, and sewage issues is taken into consideration. Their opinions about drinking water and energy saving measures, garbage sorting and recycling systems are also assessed, as are the extent and character of pollution caused by cycling tourists and what effect they have on the environment and the countryside. The mark cycling tourist make on the countryside is assessed by analysing how these tourists behave in and make use of nature, where they go and what impact is caused by mere fact of their presence. The degree of pollution and impact on environment is assessed on the basis of their mode of transportation and the pollution attached to these - including transport to and from the holiday destination and transport during the holiday. Their choice of accommodation is considered and, where possible, the pollution and environmental effect related to the different forms of accomodation are examined. Finally, we look at how these tourists dispose of their refuse.

To sum up, there are 4 possibilities for the sustainability of cycling tourism.

Table 1. Economically sustainable

	Yes	No
Environmentally Sustainable	1	3
	2	4

Option 1 is *the pot of gold*.

Option 2 is a compromise economically sound, but environmentally undesirable.

Option 3 is a compromise environmentally perfect, but not economically sound.

Option 4 is economically and environmentally undesirable.

Finally it is important to point out that sustainable tourism development is used to mean a *combination* of sustainable tourism (i.e. strategies for long term success for the tourist industry whatever the initial costs) and sustainable development (i.e. strategies that encompass respect for the environment, and social and cultural sustainability).¹³

1.4 Contents and structure

The introduction defines the objective and the intention of the project and clarifies the key definitions.

Chapter 2 defines the geographical limitations of the project and describes the methodology and the sources.

Chapter 3 lists the main analyses on cycling tourism, and environmental and economic sustainability.

13 Dimanche, F., TRINET, 22.09.95, freely quoted/translated.

Chapter 4 describes the framework for cycling tourism on Fyn and on Bornholm, i.e. the current tourism on the islands and its characteristics. Cycling tourism is described from the seller's point of view and national and regional policies are outlined, including the rôle of various sector related organisations. Finally, environmental measures in tourism are briefly described.

Chapter 5 describes the cycling tourist in demographic terms: group size, choice of accommodation, mobility, duration of stay, catering, preferred type of bicycle, professional standing and seasonal preference.

Chapter 6 describes the cycling tourists' activities: what they do while they are cycling, and (what they do) when they are not. Their experiences as cycling tourists are examined together with their reasons for choosing a cycling holiday. Their use of the signposted cycling routes and their opinions of these routes and of the other elements that make up such a holiday are also investigated. Finally the distribution of cycling tourism on Fyn and Bornholm is shown.

Chapter 7 examines the cycling tourists' knowledge of Fyn and Bornholm, their reasons for choosing a cycling holiday, where they obtained information and their evaluation of the availability and quality of this information.

Chapter 8 assesses the environmental sustainability of cycling tourism, including the importance of the environment to the cycling tourist and attitudes towards environmental issues. The impact of cycling tourism on the environment is measured according to a number of concrete criteria: impact on flora/fauna, emission of CO₂, sulphides etc., garbage sorting and recycling, sewage outlets, water consumption and energy consumption. The results of all these elements are compared to those related to other forms of tourism.

Chapter 9 analyses the economical sustainability of cycling tourism, starting with establishing an overview of the cycling tourist's expenditure per day and purchases of consumer goods. Birgitte Jørgensen then assesses the effect of cycling tourism on the economy and employment: i.e. the investments made, costs and income and the influence, if any on employment.

Chapter 10 summarises and discusses the main findings of the project and draws conclusions about the economic and environmental sustainability of cycling tourism.

2. Methodology

2.1 Geographical limits

The project is limited to covering Bornholms Amt and Fyns Amt (counties).

First of all, it has not been possible within the time limits to examine cycling tourism throughout Denmark and secondly, the reason for choosing Bornholm is simply that Bornholms Forskningscenter (Reserach Centre of Bornholm) is on the island and its purpose is to carry out research in tourism etc. on Bornholm.

Since Bornholm is unique in many ways it is to be assumed that an analysis of the cycling tourism on Bornholm alone would be of value to Bornholm, but not to the rest of Denmark. Therefore, a second region, (the island of) Fyn, has been included.

The two regions are both especially interesting when looking at cycling tourism because:

- they are probably the two most visited cycling tourist destinations in the country, measured from the number of regional bicycle maps available.
- they are also two naturally limited areas with differing access routes, which presumably attract different groups of cycling tourists.
- Fyns Amt and Bornholms Amt have invested and will invest large sums in developing facilities, services and concrete products.
- because of the extensive investments, they are probably the most developed and *cycling tourism friendly* destinations in Denmark.¹⁴
- It is possible to pinpoint differences in the manner in which the two islands' municipal and county authorities and tourist industries approach cycling tourism, including marketing, product development and network constellations, etc.¹⁵

2.2 Source material - demand side

This analysis is a combination of quantitative material (questionnaires, statistics and analyses) and qualitative material (interviews, conversations and written documents), because the combination of several types of sources has proved most appropriate to show the variations in the description of the cycling tourists and cycling tourism within the mentioned problematic areas.

14 Fyn and Bornholm are the most developed cyclingtourist regions in Denmark, which at the same time is the most developed of the cycling countries in Europe together with Holland and Austria. Source: Cykelbyprojektet: *Sykkelturisme i Norge. Notat*. Oslo. Nov. 1994 and Sustrans (J.E. Larsen), 1996.

15 Dansk Cyklistforbund, *Opførelse 1994-1995*. Fyns Stiftstidende 06.09.1994. Saabye Simonsen, P., 1993.

There is, all in all, a shortage of source materials describing cycling tourists in- and outside Denmark. No actual research has been conducted into cycling tourism itself and none whatsoever into its connection with and influence on the economy and environment.

Information about the cycling tourists has primarily been gathered through questionnaires and interviews. Secondly this data is supplemented by information from earlier research, in particular Dansk Cykelturisme Analyse (1990) and FynTour's research from 1994.

The questionnaires were completed by 394 cycling tourists in 1995, from July 1 to mid-August. 50% were interviewed on Fyn and 50% on Bornholm. Two interviewers visited cycling tourists every day in the week and from all corners of the two regions to avoid any imbalance in the data collected, which may have occurred if cycling tourists were only interviewed in a few places, such as the southern part of the islands, one type of accommodation, one town, etc. To avoid mistakes and misunderstandings, the interviewers assisted the interviewees in completing the questionnaires, and in general they were met with a positive attitude towards the questionnaires.¹⁶

The cycling tourists were mainly interviewed in towns, by attractions and sights, on ferries, by ferry ports, at harbours, at picnic places and at accommodation centres. In practice, it proved impossible to stop cycling tourists on the routes and talk with them. At the same time only a few routes have sufficient cycle traffic to make it worth waiting. Consequently the locations mentioned were quickly selected as suitable for interview sites. The advantage of interviewing cycling tourists at these places was that both cyclists who use the signed routes and those who do not could be interviewed. There was also a good spread of age, gender and origin amongst those questioned.

The questionnaire was very comprehensive and contained 44 questions over 4 A-4 pages, which placed a great demand on the interviewer to keep the interviewees' attention. There were only a few complaints about the length of the questionnaire and all asked completed the questionnaire. The questionnaire can be seen in the appendix.

To supplement the questionnaire's quantitative data with qualitative data, 14 face-to-face interviews were conducted on Bornholm and 15 on Fyn. The interviews were conducted by the author and the responses were recorded both in writing and on tape. These in-depth interviews served the purpose of providing a more thorough knowledge of the cycling tourists' attitudes, behaviour and assessment of the areas where the structure of the questionnaire prevented more detailed or personal responses. The interviews were carried out in the same places as for the questionnaire. The guide to questions which formed the background for the interviews can be seen in the appendix. Generally the cycling tourists

16 To obtain a suitable geographical coverage of the islands the interviews on Bornholm were conducted in postal code areas: 3270, 3700, 3740, 3760 and on Fyn in : 5000, 5125, 5193, 5300, 5390, 5500, 5592, 5600, 5700, 5750, 5772, 5792, 5900, 5953, 5970. The interviewers concentrated on bikers with maps, luggage or other tourist signals to avoid interviewing locals.

reacted very positively to being interviewed, very few failed to become involved in the discussion and only one couple (elderly Germans) declined to be interviewed.

The comprehensive research from the Dansk Cykelturisme Analyse (1990) was used to supplement the information produced by the questionnaires. Its limitations and relevance for current research lie in the fact that it was only conducted on Langeland and it is based on older data. FynTour conducted two research projects of cycling tourism on Fyn in 1993 and 1994 for the Fyn Cycling Network and Fyns Amt. The one from 1993 has not been used in this study because of some errors in methodology. However, the one from 1994 has been used. Finally the network's report *Cykeltræfpunkt Fyn* (1993), completed by the author, is referred to for information on areas such as product development, needs and expectations for cycling tourism on Fyn.

2.3 Source material - supply side¹⁷

All available brochures and information about Fyn and Bornholm as destinations for cycling tourism have been collected. This includes descriptions of routes in the form of national route descriptions, produced by the Dansk Cyklistforbund, where maps and text deal with the national routes on Fyn and Bornholm.

Fyns Amt and Bornholms Amt have also produced maps and descriptions of signed cycle routes. This material has been used to describe the supply side regarding products, active parties' marketing and marketing indicators.

This material has been supplemented with extensive interviews and conversations with people from the industry - both private agents and key personnel in the counties and municipalities, who have participated in a very positive way. This includes information from Danmarks Turistråd (The Danish Tourist Board), Erhvervsministeriet (The Ministry of Trade), Dansk Cyklistforbund (Danish Cycling Association), Friluftsrådet (Open Air Association) and others who work in cycling tourism at a senior level.

The author cycled along the Bornholm cycle routes in the summer of 1995, as well as 500 kms of cycle routes on Fyn. The remaining 750 kms of routes on Fyn were covered by car. The author had previously (1994) taken a cycling holiday on the South Fyn islands (Ærø, Langeland and South Fyn). In this way, the author's knowledge of the cycling tourism product is completely drawn from first-hand experience.

It is recognised that the research methods used are open to discussion and consequently the results which they produce and the conclusions drawn from them can also be debated. It is also evident that the absence of research in the area means that the source materials used are open to question, especially brochures, etc. It has been necessary to use these texts

17 Supply = the private businesses and public institutions/authorities, which to a greater or lesser degree offer facilities, grants or services which are used by cycling tourists.

in the absence of any others. At the same time, it should be emphasised that no text has been used uncritically.

3. Research description

3.1 Introduction

As mentioned earlier, no actual research literature on cycling tourism is available, and certainly not on the economic and environmental sustainability of cycling tourism. It has also been difficult to find research on other theme holidays or the like, of which the results and methodology could be used in this research project. In this respect, this project has to stand alone and form its own basis.

Of literature, the market analyses of cycling tourists on Fyn and Langeland and a minor Norwegian analysis have been chosen. Added to this are case studies and project descriptions of areas relevant to this project, such as national and international analyses of the environmental impact of the accommodation sector, the degree of pollution of various modes of transport, investigations on the impact of other forms of tourism on the environment and level of pollution.

A number of market analyses from Danmarks Turistråd and tourism network reports - written by FynTour and the author amongst others¹⁸ - have been included.

Finally extensive literature is available on tourism and the economy and tourism and the environment. Particularly in recent years, a vast number of articles and works have been written on the impact of tourism on the environment - these articles include studies of sustainability, carrying capacity, eco-tourism, nature based tourism, special interest tourism, green tourism etc. Consequently some works on environment and tourism have been selected.

3.2 Literature on cycling tourism

To put this project into perspective, attempts were made to find international analyses and works on cycling tourism. It was only possible to find a few, including a single Norwegian study, which only contributes peripherally.¹⁹ Added to this are a couple of Danish market analyses,²⁰ where the Danish cycling analysis is the most comprehensive and examines several areas around cycling tourists, but must be considered a little out of date. FynTour's analyses are primarily aimed at acquiring information for the Fyn tourism network - Cykelnetværk Fyn A.m.b.A. - and are consequently of limited value due to the geographical extent of this analysis. They are, however, up to date.

These market analyses are mainly used to put the results of the questionnaires and the interviews of this project into perspective.

18 Such as Fyns Amt/FynTour, 1994a. Fyns Amt/FynTour, 1994b. Saabye Simonsen, P., 1993a.

19 Sykkelbyprosjektet, 1994.

20 Friluftsrådet, 1990. FynTour, 1993. FynTour, 1994.

On an international level, only few studies are to be found, which specifically deal with cycling tourism. The most important of these is *Bicycle Master Plan for Adirondack North Country Region and New York State*.²¹ This work includes a description of and perspective on the relation between cycling and leisure time in the USA. At the same time it is outlined how cycling can be developed in the American style. USA conditions are not, however, directly comparable to Danish conditions due to geographical and demographical differences etc. The master plan is still useful because it competently structures the problem areas and possibilities of developing cycling in a defined geographical area. The weakness of this work is that it is not specifically orientated towards tourism.²²

Other American and Canadian studies have also been found, but basic conditions such as demography, geography (mountains) and economy mean that they are not easily transferred to Danish conditions, where everything is smaller but far more advanced. These studies have not been included.

Cycling tourism as a tourism theme is briefly described in the report *Fælles Fodslaw*,²³ regarding demand, geographical analysis and possibilities of development, and here Denmark is estimated to be potentially the European country potentially best suited to cycling tourism. For the present research into cycling tourism's economic and environmental sustainability, *Fælles Fodslaw* is a vital source as well as being a valuable report, in that *Fælles Fodslaw* is a horizontal co-operation between Danmark's Turistråd (The Danish Tourist Board), Planstyrelsen (Danish Board for Planning), Skov- og Naturstyrelsen (The Danish National Forest and Nature Agency), as well as Turismens Fællesråd (Danish board and association for the tourism sector),²⁴ and has the objective of laying out and making a proposal for suitable tourism for Denmark. The report has come to be regarded as a set of overall guidelines for the tourist industry and others who influence and affect tourism. The principal conclusion of the report is that the quality of the environment can be sustained and improved at the same time as encouraging the growth of tourism. Furthermore, the report concludes that *Quite simply, it is possible to achieve a continuous development of tourism in Denmark on a sustainable basis*.²⁵ Cycling tourism is seen as an integral element in this continuous sustainable growth. The report had and has a vast importance for the formulation of tourist policies in Denmark at a national and regional level. Therefore, it is also natural that several of the report's conclusions will be examined in the current study.

21 Schuett, M. et al., 1994.

22 Other American and Canadian studies have been found, however, but the basic conditions such as demography, geography (mountains) and economy mean that they are not easily transferred to Danish conditions, where everything is smaller but far more advanced. These studies have not been included.

23 Danmarks Turistråd et al., 1992.

24 Danish Common Board of Tourism and a kind of lobbyorganisation for the tourismsector in Denmark.

25 Danmarks Turistråd et al., 1992.

3.3 Literature about environmental sustainability

Tourism itself has both advantages and disadvantages for the tourists, the locals and the destination. The tourists can enjoy the sights and attractions of a destination and relax at the same time, while the locals profit from it both economically and through increased employment.

On the other hand tourism also has some negative effects on nature and the environment of the destination, this again makes the destination less attractive to tourists if the necessary steps are not taken. It is therefore important that the consequences of tourism are studied carefully to protect the environment, culture, and countryside of the destination for the sake of the tourists.

The impact of tourism on the environment (in the widest sense of the word) has been studied since the 70's when the focus was on local cultures and how they are influenced by tourism.²⁶

In the 80's, studies of tourism and the environment received substantial international attention and concepts such as *qualitative tourism* and *gentle tourism* were used in the (strategic) debate on the nature of tourism, planning and future regarding environmental issues.²⁷

By the end of the 80's and the beginning of the 90's the issues of tourism and the environment became more important and a great deal of international research was carried out. This issue now also receives some national (Danish) attention. Especially large international organisations such as WTO (World Tourism Organisation), OECD, and the UN have, in particular, initiated extensive studies and programmes in the area. The EU has also initiated projects and issued policies concerning tourism and the environment.²⁸ A key issue in the latest studies is that the relationship between tourism and the environment can be seen a potential conflict or symbiosis and that the subject should be approached holistically.²⁹

For a more thorough examination of the basic research on the subject of the impact of tourism impact on the environment, please refer to the literature available on this matter.³⁰

The probably most important signal for starting environmental and tourism studies and programmes was the presentation of the Brundtland Report, where it is emphasised that economy and environment are not independent matters, but, on the contrary, are linked more and more closely. Sustainability is defined as *The development which meets the de-*

26 Briassouliss, H., J. van den Straaten, 1992. Inskip, E., 1987.

27 Krippendorf, J., 1986.

28 EU (DG XXIII, 1995.

29 Dowling, R.K., 1992.

30 Such as Farrell, B.H., R.W. McLellan, 1987. Buhalis, D., J. Fletcher, 1995. Dowling, R.K., 1992.

*mands of the current generation without jeopardizing the possibilities of meeting the demands of future generations.*³¹

The basic view of the Brundtland Commission also has consequences for the tourist industry, as the report more or less states that the environment is not to be considered independent from the actions, needs and ambitions of people. The environment is where people live and development is what people try to achieve to improve their conditions. The two are inseparable. There is no such thing as an individual crisis; an environmental crisis, a development crisis, and energy crisis. Ecology and economy are more and more closely entwined - locally, regionally and globally - in a firm mesh of cause and effect.³²

Researchers have looked at tourism's influence on the environment from several angles, e.g. biological/ecological, behavioural, planning and design, and political.³³ In this report we look at the sustainability of cycling tourism based on the cycling tourists impact on nature and resource consumption as well as their assessment of the environmental awareness level of the destination. It is important to note, however, that to achieve a complete evaluation of cycling tourism's environmental sustainability, it is necessary also to study other consequences of cycling tourism, such as the impact on local cultures on Fyn and Bornholm and aesthetic considerations.

A central element in the evaluation of the sustainability of tourism is whether there is such a thing as a balance between the number of tourists and the *wear and tear* which the destination will tolerate. *Carrying capacity* indicates the limit of a destination for tourism growth.³⁴ In this report the concept *carrying capacity* will be used when estimating whether Fyn and Bornholm will tolerate more cycling tourists, as this is already a relevant issue for tourists on Bornholm. It is important to stress that there is no actual formula or fixed level for the carrying capacity of a destination. This will depend on the infrastructure, economy, geography, natural and cultural conditions of the destination. Whether the carrying capacity is surpassed is solely a very broad evaluation on the very specific impacts there are on the destination.³⁵ When the carrying capacity is exceeded - such as it has been seen in some places on Mallorca - this is easily recognized by the tourists, the industry or the hosts, the capacity has been exceeded - the balance has been shifted. But it is not so easily estimated whether the limit for cycling tourists has been surpassed on Fyn and Bornholm.

When assessing the impact of cycling tourists on environment and resource consumption, various international and national project results have been included, such as the pollution from camping sites and hotels, energy consumption of various modes of transport etc. As the main part of these project results are categorized case studies or pilot projects rather

31 WCED, 1987.

32 Saabye Simonsen, P., K. Gausdal, 1995.

33 Briassouliss, H., J. van den Straaten, 1992.

34 Coccossis, H., A. Parpairis, 1992.

35 Coccossis, H., A. Parpairis, 1992.

than actual research, the results have only been included in this report when looking at these areas individually.

3.4 Economic sustainability

The environment and the economy are closely related, as shown in the Brundtland Report, and this means that, for example, the economic sustainability of biking tourism cannot in practice be separated from environmental sustainability without losing the essential holistic understanding. It is impossible to talk of the sustainability of tourism without calculating its financial aspects. A separation here and a division of individual items serves simply the purpose of isolating individual phenomena on the environmental and economic sides, which can then be examined individually. The conclusions, however, should keep sight of the fact that these are parts of a single entity.

Literature about the economic sustainability of tourism is available, both looking at the subject in isolation and as an assessment of the sustainability of tourism as a whole.

Fundamentally the economic sustainability of a destination can be assessed using a number of factors, of which the following are the most significant:

- benefit (profit) from tourism
- local job creation
- vulnerability to seasonal fluctuations.

Many researchers have made the *benefit* operational through the concept of daily consumption, which is a simple method of calculation. Daily consumption in itself only shows how much money tourists spend each day. However, it says nothing about the real benefit which the destination derives from tourism when both private and public investments and running costs are offset against the daily consumption. Daily consumption can, however, be calculated as a turnover figure.³⁶

Another way to calculate the economic influence of tourism is through simulation, i.e. building models which represent the most significant relationships in the world under examination, in this case biking tourism on Fyn and Bornholm.³⁷

In research and in practice the focus is placed upon earnings from tourism in a given area, while costs and expenditure relating to the influx of tourists have not been investigated to the same extent. This situation naturally means that the economic significance of tourism has often been over-assessed or distorted.³⁸

36 Frechtling, D.C., 1987.

37 Frechtling, D.C., 1987.

38 Frechtling, D.C., 1987.

The economic advantages of tourism include:³⁹

Primary and direct advantages: increased business, income, jobs, public income.

Secondary advantages: increased investment and *spin-offs* from the primary advantage, *induced benefits* generated as a result of the consumption of primary income.

The costs of tourism (negative consequences) include:

Private costs

Social costs, including:

Direct social costs

costs to the quality of life (pollution, overcrowding etc.)

Fiscal expenditure (public services and investments)

Indirect social costs

This study of biking tourism on Fyn and Bornholm will attempt to illuminate both the direct earnings related to biking tourism and the costs, at least those which can be identified, that biking tourism creates. It is, however, not possible to follow up on the indirect costs and benefits.

It should be noted, however, that precisely because the costs incurred for biking tourism are difficult to identify exactly, the costs aspects within this study should be taken as being only guidelines.

Until such a point as precise tools (models) for the assessment of the costs of tourism have been developed, any assessment of costs will always be more of a general outline than an exact description.

At an international level, many of the influences of tourism on the environment have been studied, and there has been a particular focus on the harmful impacts, while only very peripheral work has been done from the point of view that tourism offers a means to maintain the countryside, buildings etc. The economic aspects of tourism and environment have been somewhat under-prioritised, in spite of the difficulty of separating the economy and the environment.⁴⁰

The influence of tourism on both the environment and the economy can be illuminated through the use of input/output models. The problem is *just* that no sufficiently advanced models have been developed capable of including both factors.⁴¹ Therefore, until such advanced models are developed, input/output models are used for the economy, while the environmental aspects are examined through other means, such as case studies, the selection of concrete areas of impact etc. (see above).

39 Frechtling, D.C., 1987.

40 Sinclair, T., 1992. Frechtling, D.C., 1987.

41 Buhalis, D., J.Fletcher, 1995.

In recent years in Denmark, there have been several studies which attempted to clarify how much tourism really earns.⁴² The studies have been based on (EMIL-) input/output models, starting from the amount of tourist consumption, and then calculating through an economic model the conditions of the actual direct effect (direct consumption) of tourism, input/output effect (demand from suppliers etc.) the effect on income (stimulation of purchasing power and thus economic activities within the region). These models also make it possible to gain an insight into the influence of tourism on employment. It can be argued, contrary to this study of biking tourism, that private and public investments should not be included in the results, as *it is at the moment impossible to provide reliable estimate of the relevant amounts invested*. Overall, it is concluded that tourism generates a profit, from which the state in particular benefits.⁴³

In previous research the multiplier effect of the tourism industry has been calculated including the ability to retain income in the local region on the basis of bed nights and daily consumption.⁴⁴ Such studies can be used to complement the above (EMIL).

No specific study of the economy of individual tourist themes has been undertaken before this one. Thus, this study also stands alone in the matter of economic sustainability, which naturally is an inconvenience, as it means there are no other studies available for purposes of comparing the results and putting them into perspective.⁴⁵

42 Rafn, T., 1995. Rafn, T., 1996.

43 Rafn, T., 1996.

44 Hattesen, K., 1990. Aschim, J.P., 1990.

45 Buhalis, D., J.Fletcher, 1995.

4. The framework for cycling tourism

4.1 Growth in tourism

Tourism is today regarded as a very important economic phenomenon and a large growth is predicted on a global scale in the near future. A growth of 100% in turnover is predicted in the 15 largest markets from 1989 to 2005.⁴⁶ Denmark's largest market, Germany, is, as an example, expected to double its turnover to \$48 billion, and it is also expected that the other important nearby markets, Sweden, Norway, Holland and Great Britain will increase turnover correspondingly.⁴⁷

Denmark as a host country for tourists has lately experienced a period of rapid growth. Tourism is now regarded as Denmark's fourth largest industry, estimated to have a turnover of DKK 40-45 billion with a gross foreign currency income of approximately DKK 25 billion, i.e. an industry with a very low import quota. Around 100.000 people are employed in tourism and the aim is 117.000 by the year 2000. The number of bednights has increased by 33% from 1990 to 1994 to a total of 43.7 million recorded overnight stays.⁴⁸

4.2 Changes in demand

Many of the the leisure tourists have changed their demand for holidays. The mass tourism of the 60's and 70's and its continual demand for sun, sand and relaxation has been replaced in the 90's by a quest for more varied and active holidays. Many of the leisure tourists of today want to be stimulated, educated and inspired. Travellers may journey alone or with friends, and are to a greater extent finding activities in which the whole family can be involved.⁴⁹ Cycling tourism is a holiday which, in many ways, meets these demands.

There are no tangible expectations as to how cycling tourism will develop, but it must be assumed that the number of cycling tourists choosing Denmark as their destination will continue to increase. On the one hand, there will be an increase in the number of tourists, according to the above, and on the other, an increased tendency towards outdoor recreation. The tourist industry is aiming to meet these demands by developing a variety of tourism themes - cycling, golfing, sailing, angling, guided nature tours, etc.

In the United States some of the most popular outdoor activities are hiking (60%), cycling (36%) and camping (20%). Today, more Americans participate in outdoor activities than have dogs, garden or participate in sports. These outdoor activities include such categories as hunting, angling, scuba diving, wind surfing and cycling. Analyses show that the num-

46 European Intelligence Unit (EIU), 1992.

47 European Intelligence Unit (EIU), 1992.

48 Ministeriet for Kommunikation og Turisme, 1994.

49 Schultz, C., 1994.

ber of people participating in outdoor activities will continue to grow into the 21st. century.⁵⁰

Analyses from Denmark and Germany support these tendencies.⁵¹

4.3 Tourism in the two regions

This research has been conducted on Bornholm and Fyn. Two regions with clear natural borders/boundaries, both seeking to develop leisure holiday themes built up around the enjoyment of nature and outdoor activities, and both seeking to exploit the potential of the coastal areas in particular. In addition to this, both areas are looking to develop season-prolonging tourism which also takes into account nature, the environment and the local inhabitants. Cycling tourism is singled out on the islands as an important theme tourism area, as cycling tourism is considered both environmentally friendly and as stimulating for the local economies.⁵²

In terms of size, the two regions are very different seen through Danish eyes, and the access routes are also very varied. Bornholm is an island of 588 square kilometres and a population of 45,110 (1993). Fyn is an island of 2,976 square kilometres, to which *belong* 90 smaller islands, of which 25 are inhabited including the larger islands of Langeland, Ærø and Tåsinge as the largest. Thus, Fyns Amt (County) covers 3,482 square kilometres in total and has a population of 466,567 (1992).

Bornholm is primarily a tourist destination, whereas only the Southern part of Fyn and the islands can be labelled primary tourist destinations. The North, West and inner parts of Fyn are less well visited, although East Fyn around Kerteminde and Nyborg attract some tourists and are therefore considered secondary tourist destinations.⁵³

In order to get to Bornholm it is necessary either to sail or fly. Ferries depart from Copenhagen, Mukran (Germany) and Ystad (Sweden). The bridges between Jutland and Fyn mean that the island can be reached using traditional modes of transport - car, bus, train - and also by bike. There are ferry connections to Fyn from Zealand, (the island of) Als, Kiel (Germany), and Gelting (Germany).

50 Schultz, C., 1994.

51 Erhvervsfremmestyrelsen, 1993 and Reisebüro Bulletin, 1994.

52 FynTour et al., 1991. (Tourism Strategy for Fyn).

53 The labels primary and secondary tourist destinations are from Danmarks Turistråd et al., 1992. In this report the following terms are used for defining destinations in Denmark concerning bed night capacity, quality of attractions and possibilities for developing further tourism: Very primary tourism area, Primary tourism area, Secondary tourism area, Area with limited tourism.

The extent of tourism on the islands is illustrated in the number of bednights below.⁵⁴

Table 2. Number of bednights on Fyn and Bornholm, (1.000's)

Bednights 94	Holiday homes*	Hotels	Youth hostels	Camping	Cycling tourists**
Bornholm	707	623	65	348	177
Fyn	943	864	108	1,098	300
Denmark	17,461	11,970	1,044	11,955	?

*1992/93 ** See calculations in chapter 5

Although Fyn is a considerably larger island and has more inhabitants, more local municipalities etc, Bornholm receives far more visitors per inhabitant. It is also interesting to note that the number of hotel bednights on Bornholm represents a larger proportion of the total number of bednights than is the case on Fyn, despite the far higher level of business tourism on Fyn⁵⁵. Later on we will be looking at whether the hotel bednights have the same significance amongst cycling tourists on Bornholm.

A certain difference in the nationality mix is also apparent when looking at the tourists visiting the two islands. This is shown in absolute numbers and percentages.⁵⁶

Table 3. Bednights on Fyn and Bornholm for different nationalities

Bednights per country	Denmark	Germany	Sweden	Norway	Holland	Rest of Europe	Rest of the world	Total
Bornholm	526700 29.6%	920700 51.9%	249700 14.1	45700 2.6%	4200 0.2%	23700 1.3%	4500 0.2%	1775200 99.9%
Fyn	1594900 52.9%	1015400 33.7%	38100 1.2%	78000 2.6%	148500 4.9%	81400 2.7%	57000 1.9%	3014300 99.9%
Denmark	15682800 37.0%	19298800 45.6%	2226500 5.3%	1736600 4.1%	1011400 2.4%	1431200 3.3%	909000 2.1%	42296300 99.8%

The table shows that on Bornholm the German tourists are by far the largest target group, followed by the Danes and the Swedes. These three nationalities together account for 95.6% of the total number of bednights.

On Fyn the Danes constitute the largest single group, followed by the Germans and the Dutch. Together, these three nationalities account for 91.5% of the total number of bednights on Fyn.

54 Danmarks Statistik, 1994. Danmarks Statistik, 14/1995. Please note that that the following over night stays are not included: Sailboats, farm holidays, private accommodation at friends/family, camping sites with less than 75 spaces, and hotels with less than 40 beds. This means that the figures mentioned are somewhat below the actual number of bednights. In Saabye Simonsen, P., et al., 1994, it was estimated that the official statistics are 10 - 15% below the actual number of bednights, when including the smaller camping sites, hotels and pensions. Add to this an unknown number of overnight stays at camping sites etc which are never recorded.

55 99,5% of the business tourism bednights on Fyn are in hotels, motels, and in training and conference centres. Saabye Simonsen, P., 1994.

56 Own calculations based on source 31.

Fyn and Bornholm have the large number of German and Danish tourists in common. Furthermore, the tourist development potential is described as limited for both islands.⁵⁷

4.4 The characteristics of Tourism on Fyn and Bornholm

Seen through international eyes, Denmark is a country with rather limited differences in landscape, and there is not much difference between Fyn, Zealand and Jutland. However, seen with Danish eyes Fyn and Bornholm in particular, are two very different areas of Denmark, which with their own profiles and landscapes attract tourists and cycling tourists.

Bornholm is a miniature Scandinavia with rocks, sandy beaches, an archipelago, gently rolling hills, marshes, beech woods, pine woods etc. (quotation from an in-depth interview with Norwegian cyclist). This is true. From a tourist's point of view, Bornholm perfectly fits this description.⁵⁸

Bornholm has a unique place in Danish tourism, and the island must be labelled a primary tourist destination. Typically, the season is short, and the importance of the holiday home sector is of less importance than along the West Coast of Jutland.

In 1994 a little under 2 million bednights were spend on the island, i.e. almost 5% of the total number of recorded bednights in Denmark. The Germans (53%) and the Danes (29%) are the most important visitors together with the Swedes (14%). The leisure tourism accounts for more than 90% of the bednights. Bornholm also has an important number of day trippers from Sweden.

The number of tourist attractions on Bornholm requiring the payment of an entry fee is limited. The largest of these attractions are Brændegårdshaven and Østerlars Church. A total of 600,000 visit Bornholm's sights and attractions annually, this is equivalent to slightly more than 2% of the total number of visits in Denmark.

The main tourist attractions are the harbour atmospheres in the towns and the island's unique landscape, especially on the North coast where you find Denmark's only rocky landscape. In addition, the life created by the tourists themselves is a large part of the attraction. To this should be added the excellent beaches and the fine cycling routes that attract the Danish tourists in particular. There are also good opportunities for angling and wind surfing, and, rather curiously, Bornholm accounts for 20% of the total of green-fees for Danish golf courses.

57 Danmarks Turistråd et al., 1992. Where figures and dates have been updated where possible

58 The chapter on Tourism characteristics of Fyn and Bornholm is based on Danmarks Turistråd et al., 1992, where figures and data have been up dated where possible.

The Bornholm towns and villages also play an appreciable rôle. They offer well preserved picturesque architecture and are characterized by the fact that they have sprung up around these natural harbours, from where fishing boats still put to sea. Today, several of these towns are facing a dilemma, in that it is imperative to maintain a good balance between historic authenticity and the tourist exploitation.

The exploitation of underground resources has resulted in various kinds of production industries (stone quarries, ceramic workshops etc.) which are now a fairly important part of the tourism on the island.⁵⁹

Fyn has lately implemented a number of initiatives aimed specifically at the tourism industry - as mentioned in the regional plans - and is now more visible on the *tourist map*, both nationally and internationally. The tourist characteristics of Fyn are:

4.4.1 West- and North Fyn

Tourism in the North Western part of Fyn is based around the Little Belt coast and is built up on the possibilities offered by water and beach activities. The area should be labelled as a secondary tourist destination visited almost exclusively by Danes, and it is a typical *holiday house area* (with the possible exception of the town of Middelfart).

In 1991, 675,000 bednights were spent in the area, and 86% of these were from the leisure holiday sector. The camping sector accounts for half of these.

The natural attractions of the area are mainly found along the coast, but the many manor houses typical of the area lie inland .

The water and the coast offer a wide range of activities. There are several good beaches, and there are excellent opportunities for wind surfing. It goes without saying that the Little Belt is very inviting for sailing of all kinds. Finally, angling is good along the entire coast and there are fishing boats and put&take lakes.

It is worth noting that the area has hardly any attractions requiring the payment of an entrance fee. The total number of visitors to sights and attractions in the area is only 25,000 per annum. The Danish Live-stock Park by Bogense is the most popular attraction. The manor houses could become an important element of the tourism in the area, but typically, they are either not open to the public at all or the public is only allowed access to the parks.

The towns of Middelfart, Bogense and Assens are not sufficiently interesting to make them tourist attractions in their own right, but they are natural launching pads for the local tourism.

59 Danmarks Turistråd et al., 1992.

The overall picture is (that of) an area with very traditional tourism, where the doors are locked by the end of August at the latest. The activities on offer are limited and very limited use is made of them. Both the holiday houses and the camping sites, which are the main accommodation providers for tourism in the area, are often old and in need of renovation. All in all the area is overshadowed by Odense and the more developed areas of South Fyn.

4.4.2 Mid and East Fyn

The image of the tourism in this area is very much influenced by the motorway which divides it in two. In is in fact an area that is, to a great extent, used as a stop-over centre and for outings with Odense as the dominating centre. You do not have to go far from the motorway, though, to find an interesting and characteristic cultural landscape with idyllic villages and several castles and manor houses. The number of tourist bednights is, however, very limited and in this regard the area is labelled a secondary tourist destination.

In 1991 a total of 760,000 bednights were spent in the area, of which 70% were leisure tourists – mainly in holiday houses and on camping sites along the East coast. The middle of Fyn accounted for very few overnight stays. The hotel bednights are mainly spent in Odense and Nyborg, but at least 2/3 of these are down to business tourists. A large majority of the tourists in the area are Danes.

Two factors are noteworthy when looking at tourism in the area: It only accounts for approximately 2% of the total number of bednights in Denmark, but 6% of all visitors to entrance-fee based attractions in Denmark. This is therefore very much a starting point for outings with limited accommodation development.

It is particularly noteworthy that Odense and its many attractions draw a large number of leisure tourists, but very few of them spend the night in the city. With the exception of Egeskov Castle and the Veteran Car Museum and the Nyborg Aqua Centre, all the main attractions are in Odense: Hans Christian Andersen's House, The Funen Village, Odense Zoo, Brandts Klædefabrik, Hollufgaard, The Railway Museum. In addition to this there are a large number of smaller museums and sights. A total of 1.7 million visitors visit entrance-fee based attractions in the area annually.

The area's manor houses adopt a withdrawn attitude to tourism; in fact only Hindemae is open to the public, although Erholm will open its doors by specific arrangement. There are a large number of churches, historical remains and a significant number of guided outdoor activities.

Along the East coast, there are excellent opportunities for sailing and angling and numerous good beaches. The area has the facilities for pursuing a wide range of sports and there are 3 golf-courses.

4.4.3 South Fyn, The Archipelago and Langeland

South Fyn, the Archipelago and Langeland form one the country's primary tourist areas. It is considered a typical summer holiday area with a short season, which first and foremost attracts a very large number of Danish visitors.

In 1991, the 1.5 million bednights were spent in the area, corresponding to 3.5% of the total for Denmark. 90% of these were leisure tourists. It is worth noting that while the area accounts for barely 3% of all overnight camping and barely 3% of holiday home stays, a full 20% of pleasure sailing stays are spent in this area.

The area is principally distinguished by the qualities associated with the small harbours and the seafaring atmosphere of Svendborg, Ærøskøbing, Marstal, Faaborg, Rudkøbing, Troense, Lundeborg and Lohals. The main bluewater sailing route passes through the area, and, amongst other things, the area is distinguished by its landscape of large manor houses and small towns. On the other hand, the area has no entrance-fee based attractions of a size to make them worth mentioning. The largest is Valdemar Slot (Valdemar's Castle). Even though the area contains a significant number of castles and manor houses, none of the other castles and manor houses is open to the public.

As far as activities are concerned, the area includes a good cycle route network with sign-posted routes to attract cycling tourism. Sea fishing can be arranged from Langeland and development has begun around *Fyn's Sea Trout Eldorado* and the *Maritime Centre* in Svendborg.

The opportunities for wind surfing are excellent on Langeland and Ærø. However, a conflict with ornithological interests could arise, which might create a need for regulation. Finally, particularly on Langeland, a large number of guided nature walks are available.⁶⁰

With the exception of some visitor and bednight figures as well as some newly-opened attractions, and others which have closed, this description also fits the current state of tourism on the islands.

4.5 The cycling tourism product

Tourism is like an iceberg – it is easy to describe the part which stands out from the water, but very hard to be precise about exactly what lies beneath. The primary tourist business – transportation, accommodation, catering – corresponds to the ice above the water and is easy to describe, whereas it is more difficult to specify the exact composition of the total product (if, indeed, one can talk of a product), when the underwater part – experiences, sights and attractions, as well as suppliers of services and facilities – has to be taken into

60 Danmarks Turistråd et al., 1992.

account. In other words, it is difficult to define accurately what makes up the cycling tourism product.

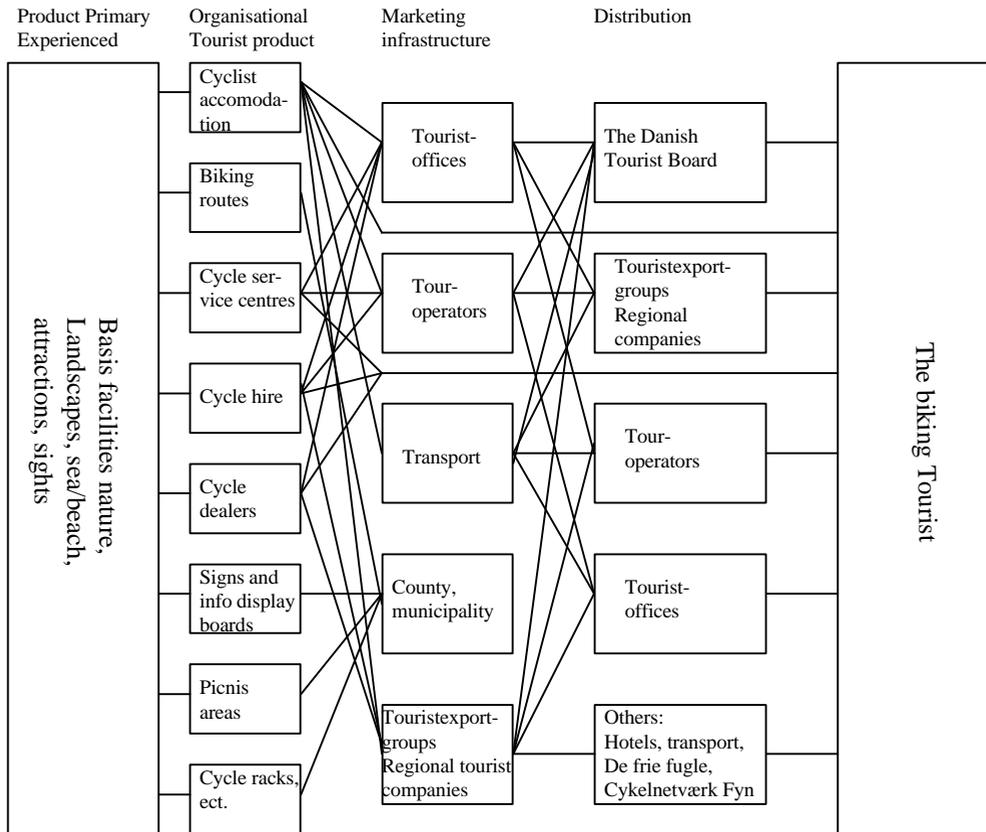
Cycling tourism can be looked at from two angles: a demand side (the tourists) and a supply side (the industry). It can be presumed that there can be a difference between what is supplied and what is demanded, insofar as accommodation is not of central importance to cycling tourists, whereas cycling is. For the supplier, it is important that the tourist stays overnight and spends money. This view may result in to high a level of product focus from the supply side (emphasis on types of accommodation, methods of transport, etc.).

In the following section, clarification is sought of who plays a role within cycling tourism and what it is they are trying to sell. What does the cycling tourism product consist of from the supply side? Is it different to what the cycling tourists want - demand side.⁶¹

With a little simplification, the cycling tourism product can be shown as a model (see below). Please note that several of the interested parties are active on several levels, such as the hotels, which are active on both accommodation (infrastructure) and marketing (marketing and distribution) levels. The hotels do not use just one channel to market themselves, but several, and can have contact with transport companies, tour operators, tourist offices and regional companies. At the same time, the hotel can have its own contacts at a local level with cycle hire outlets, cycle dealers (repairs) and cycle service centres. In this way several individual companies operate on several levels in the model.

61 Brochure material includes brochures from Danmark's Turistråd, Fyn Tour, Destination Bornholm as well as a range of different brochures from local tourist offices and private agents in the field, especially in the accommodation sector and shipping lines and national offices and others. Own observations made during a comprehensive tour (by bicycle) of the Bornholm cycle routes (approx 230 km) and similarly of the cycle routes on Fyn, roughly half of which were covered by bicycle (around 550 km) and the other half by car (roughly 600 km).

Figure 2. The cycling tourism product



4.5.1 The Product experience

The experience of the cycling tourism product will be referred to again and thoroughly examined under the description of cycling tourists' activities (chapter 6).

4.5.2 The primary cycling tourism product

Cyclist accommodation

The accommodation sector is part of the main cycling tourism product. In chapter 5 the cycling tourists are described and their choice of accommodation will be looked at in more detail.

Accommodation centres are traditionally active in marketing, but do not themselves attract the cycling tourists. A few, especially hotels, have entered into cooperations on package holidays sold to the tourists. Many of the accommodation centres still endeavour to de-

velop various kinds of cycling friendly measures, such as special bicycle racks, shelters, lockers etc.

Signed bicycle routes and route descriptions

The photos in cycling tourism brochures mainly depict cycling tourists at the most popular sights and attractions, and the Danish landscape with its lakes, woods and the beaches. Thus there is no significant difference here to what is offered to the ordinary camping or holiday house tourist, and what is offered to attract the attention of the cycling tourist. It does seem, however, that more of the in-land sights are presented in the cycling brochures than in other holiday brochures.

The brochure texts emphasize the presentation of the main and very advanced Danish cycling tourism product - the marked routes and the matching cycling maps and route descriptions.

National routes

The cycling routes can be divided into national and regional routes. There are 10 national routes which run through the various regions. The routes have been chosen by Dansk Cyklistforbund and have been marked with official route signs with numbers from 1 to 10, where route No. 10 is a route exclusively on Bornholm, while No. 6 (Esbjerg-Copenhagen) crosses Fyn, going through Nyborg - Odense - Middelfart, and No. 8 (Rudbøl - Møn) crosses South Fyn, Tåsinge and Langeland.

As a supplement to the routes, a national cycling holiday map has been published, showing the 10 routes and with tourist bureaux, ferry routes, shopping centres, accommodation centres etc. clearly marked. Accompanying the cycling maps is a book entitled *Cycling routes in Denmark* which gives a thorough description of the sights, attractions and various activities along the route. The book also includes good advice about how to prepare for the trip, transport to and from the cycling holiday, the bicycle and the equipment, clothing and luggage, choice route, etc. The cycling route map costs DKK 130.

Regional Routes

The regional routes are also officially marked with route numbers and signs. The routes have been chosen to allow the cycling tourist to experience all corners of the islands. In practice this means a route around the islands - which mainly follows coastal paths and roads, and routes crossing the islands, connecting Odense to all the coastal towns. Out of safety considerations, the primary objective has been to keep the cycling tourists on roads with very little automobile traffic, as far as possible. Moreover, the routes have been laid out in such a way as to include all larger towns, attractions, sights and beautiful landscapes. On Bornholm the first routes were opened in 1980, and the cycling routes on Langeland in 1990. The routes on the rest of Fyn and the islands opened in subsequent years.

On Bornholm, there are approximately 230 km of marked cycling routes, on Fyn approximately 1,200 km. On both islands, the routes combine paths, bicycle paths, cycling roads - i.e. roads which only pedestrians, cyclists and mopeds are allowed to use (old rail road tracks, smaller lanes etc.) - smaller local roads with sparse traffic and field lanes and forest roads. The national routes use the same kind of roads and paths.

Bornholms Amt has been in charge of planning the routes on Bornholm. The routes on Fyn have been planned by Fyns Amt, and Dansk Cyklistforbund tested the routes and the local municipalities helped perfecting them.

The cycle routes are shown on special maps. The maps show the routes with route numbers and a standard map key (road type, doctors, shops, tourist offices, accommodation etc.). The maps of Fyn have also introduced several symbols of special interest to cycling tourists, for example, cycle dealers. Bornholms and Fyns Amts have financed the construction of the routes as well as the signs and maps.

Local routes

Aside from the regional routes there is a system of public paths which are only marked on the local maps. In many towns, there are also numerous cycle paths which have been laid out for the town's inhabitants. On Fyn, several kommuner have set up smaller local path networks which are principally intended for the inhabitants, but which tourists also use.

Cycling route map

Special cycle maps have been produced on both Fyn and Bornholm. The Bornholm cycle map comprises a pocket-sized booklet, printed in two-colour and contains a cycling map and a short text describing the towns, special attractions and sites of natural beauty to be found along the national cycling route and the 8 regional cycle routes on Bornholm. The map costs DKK 40.

The cycling maps for Fyn are produced in two geographically divided sections. One shows North and Mid Fyn, the other the South and the islands. The map is presented in a more sophisticated way than the one for Bornholm, and comes in a plastic wallet with a description of the sights, attractions etc. on the route. The map costs DKK 75.

The maps for Fyn and Bornholm and the accompanying descriptions were designed to attract cycling tourists, to show the islands' tourist opportunities combined with a safe form of transport.

The demand for these cycling maps and the numbers sold give an indication of cycling tourists in the relevant areas. The following table shows the numbers of cycling maps/guides sold:

Table 4. Number of bicycle maps sold (1.000's)

Amt/Region	1993	1994	1995	Amt/Region	1993	1994	1995
Bornholm	6,2	5,0	5,8	Frederiksborg	4,4	2,7	2,6
Fyn*	7,6	5,7	5,0	Copenhagen	1,4	1,4	1,3
Hærvejen	2,8	1,9	1,7	Ribe	3,1	2,0	1,6
Roskilde	1,4	2,3	1,1	Ringkjøbing	2,4	2,2	1,9
Storstrøm	4,9	3,8	3,7	Århus	3,3	2,0	2,2
Sønderjylland	2,7	2,6	2,3	Viborg	1,7	1,5	1,4
Vejle	2,5	1,6	1,4	Vestsjælland	5,0	2,5	1,0
Nordjylland	4,2	2,5	3,5	Bicycle maps	5,6	3,2	2,8

(Source: Dansk Cyklistforbund. The numbers are in round figures and for 1993 cover the whole year, but the summer period are only for 1994 and 95) * Please note that on Fyn the actual number sold is 6,021 as the Cykelnetværket have sold 1,021 above the stated 5,000.⁶²

The table shows that the maps for Fyn and Bornholm are clearly the best sellers. This tendency strengthened between 1993 to 1995. This supports the assertion that Bornholm and Fyn are the most popular cycling tourism destinations in Denmark.

It should be noted that cycling route maps have been sold, in general, in decreasing numbers over the years in all amts/regions, with the result that the total of all maps sold was smaller in 1995 than in 1993. This could indicate that fewer cycling tourists are coming, or that there are relatively fewer cyclists who buy cycling route maps, either because they already have them or because they use a different map. Finally, there is the possibility that the local population in the amts bought the cycling maps in 1993 just to see it and consequently created an artificially higher sales total in 1993.

Cycle service centre

On Fyn a *Cykeltræfpunkt* has been established. This is a kind of filling station for cycles, where cyclists can gather information, buy cycling gear, meet other cyclists, book accommodation, wash clothes and so on⁶³. This *Cykeltræfpunkt* is an indication of the level of development Fyn has reached and which not to be found in any other Danish region, not even Bornholm. The idea is that more service centres should be set up on Fyn, and should be situated in strategic locations with regard to cycling routes, ferries, accommodation etc.

Cycle hire

There are several places which rent out bicycles both on Fyn⁶⁴ and Bornholm (approx. 20). It is primarily cycle dealers that hire out cycles, but also some accommodation centres,

62 Cykelnyt Nr. 2, 1995.

63 Saabye Simonsen, P., 1993a.

64 It has proved impossible to find an exact total of hire outlets, but estimations suggest 30-40 larger or smaller outlets on Fyn and the islands)

garages, corner shops etc. hire bicycles to a greater or lesser extent. The number of hire outlets offering a large capacity - i.e. those with a large number and a wide variety of bicycles - is, however, limited on both islands.

Cycle dealers

The bicycle dealers on both Fyn and Bornholm are mainly to be found in the larger towns, but there are a few out in the rural areas and the smaller towns. Some cycle dealers attract cycling tourists' attention through, for example, the tourist industry's marketing.

Signs and information display boards

The question of signposting, etc. of the cycling routes is dealt with in chapter 6.

Resting points

Special stopping places exist both on Fyn and Bornholm, particularly along the marked cycling routes. These stopping places were developed to offer cyclists the chance to stretch their legs and eat and drink from purpose-built tables and benches. Some of the stopping places have been positioned at selected viewing points or in areas of outstanding natural beauty. Normally, they are set up by the county authorities.

Cycle stands etc.

At some sights and attractions as well as in some towns, cycle stands have been erected for cycling tourists to use as an alternative to leaving their cycles in places chosen by chance.

Other product development initiatives

Besides the factors mentioned in the model, there is a wide range of smaller, diversified product development initiatives on Fyn and Bornholm. These are described together under *additional product development initiatives*. Several of these cannot be *put in a single box* in the model because they cut across several levels.

The establishing of the amts network of cycling routes and associated maps is the overall product development initiative from the county authorities. However, product development involves much more than this. As mentioned earlier, there is on Fyn a regional network for cycling tourism - Cykelnetværk Fyn. This was partly funded under the Ministry of Trade's tourism networks scheme. The network is an association of the county, municipalities, cycle dealers, accommodation businesses, tourist offices and other tourist companies (over 90 companies), which has the objective to collect cycling tourism on Fyn under one hat with a view to common marketing and product development (amongst other things, the development of cycling tourism-friendly initiatives in businesses, in towns, on the routes etc.) The network has been given support under the Ministry of Trade's tourism networks scheme. The objective of this scheme is to support horizontal and vertical network formation in Danish tourism with the intention of increasing efforts towards product development and marketing. The support amounts to DKK 1.5 million spread over 3 years. The state funding is to be matched by investment from the network's participants in

such a way that the contribution from the state in year 1 amounts to 40%, in year 2 = 30% and in year 3 =20%.⁶⁵

Furthermore, private businesses and municipalities are improving conditions for cycling tourism on a local scale.

Nationally

Danmarks Turistråd has produced a catalogue of ideas and inspirations. The catalogue provides a wide framework of proposals for regions, destinations, accommodation centres, sights and attractions, tourist offices, transport companies and others regarding ways in which their products could be improved. The proposals were drawn up put together by the Amtsrådsforeningen (Association of Counties), the tourist export groups, Dansk Cyklist forbund, Danmarks Turistråd and the Ministry of Trade.⁶⁶

On a concrete level, the national routes are an expression of a product development initiative. Added to this is the previously mentioned interregional co-operation between accommodation centres and transport companies etc. in marketing concrete package tours to specific target groups. An example of this cooperation is *Cycling holidays in Denmark*, a scheme in which a range of accommodation providers from Fyn and Zealand have produced five, fixed price standard tour suggestions with optional extras and services.⁶⁷

Regional activities

On a regional level, Bornholm was prescient when the cycling routes were set up in the early 80's. However, the fact that ideas of this kind should be followed up is demonstrated by Fyn's success as a cycling tourism destination. Measured according to the number of cycling maps sold, Fyn has overtaken Bornholm as the most visited destination for cycling tourism. The reason for this is to be found in Fyns Amts involvement in establishing a cycling network which is a co-operation between the amt, the kommuner and a range of businesses, cf. the above.⁶⁸

Cykelnetværk Fyn consists of roughly 90 public and private companies, including Dansk Cyklistforbund. The industry is represented by accommodation providers, transport companies and others. The aim is to carry out a general development of products on the route network and at the individual tourist locations so that a generally high level of quality can form the basis for developing specialised products such as package holidays. In the first instance, the level of service to the individual tourist on a cycling holiday is to be increased wherever possible by establishing resting and viewing places on the routes and developing cycle-friendly facilities at eating places and accommodation centres. These

65 Erhvervsministeriet, 1994. And conversations with the network co-ordinator Jens Sohl Jensen, FynTour.

66 Danmarks Turistråd et al., 1994.

67 *Cykelferie i Danmark*, behind which are, for example Hotel Svendborg, Hotel Nyborg Strand, Hotel Faaborg Fjord, Hotel Rudkøbing Skudehavn, Hotel Kobæk Strand, Hotel Schæffergården, Hotel Strandparken and 11 other hotels of a certain standard (4-star *Danish* standard)

68 Fyns Amt, Projekt 23 and Fyns Amt, Projekt 23 part 2. Bornholms Amt, Notat 1988-8-51-51-4.

facilities could, for example, include bicycle parking arrangements, making a few tools and spare parts available to cycling tourists, baggage holding facilities, packed meals, etc. In the long run it is hoped to develop a *star* system, whereby the network participants are classified according to how bicycle friendly they are.⁶⁹ The network has a management agreement with the tourism export group FynTour which is in charge of administration and coordination.

Bornholm's Amt are also improving and developing their product, but the effort is as yet not coordinated between local municipalities and industry in a formal network as on Fyn.

Local activities

On a local level there are, particularly on Fyn, several organisations involved in developing offers for the cycling tourists. A number of local suggestions are published as brochures with route descriptions of the local tours. These include Historical Cycling Tours on South Fyn, Hiking and Cycling Tours on Fyn, etc. In addition, the municipalities are making paths which the cycling tourists can also use. A few of these paths have been laid down with consideration for nature, such as the projected path by Tårup Strand – Stokkebækken, where ponds along the path have been restored. The fauna and flora of these ponds, including the very rare fire-bellied toad, all heighten the enjoyment of nature experienced by all those who use the path.⁷⁰ Parallel initiatives have also been seen on Bornholm.

The business community and the municipalities have lately become aware of the fact that they have to make life easier for the cycling tourists by establishing camping sites, separate car free zones, etc. Cycle parking facilities have also improved by youth hostels, hotels and camping sites and at more and more sights and attractions. Hotels and inns work together on package tours including cycle hire, picnics, luggage transportation, differentiated standards and meals, etc.

The product development initiatives which happen on Fyn are partially coordinated through the Fyn cycle network, but a number of companies have, for a variety of reasons, chosen to remain outside this network. They are developing their own products as on Bornholm. These companies on Fyn must, to some extent, be considered as being parasites on the ideas of others. Dynamism and creativity without the investment of time and money is one thing, but it is obvious that they too will help to raise service and quality levels on Fyn, in the same way as the participants in the network.

69 Cykelnyt Nr. 2, 1995. Fyns Amt/FynTour, 1994a and 1994b.

70 Source: Biolog Lars Briggs, Amphi Consult.

4.5.3 Organisational infra-structure

Tourist Offices

The tourist offices provide the service and reception functions when the cycling tourists have arrived in the country. A few also operate as a kind of travel agent, assisting tourists during the planning phase with tour suggestions, accommodation, transport etc, mainly by forwarding information (brochures, catalogues, ferry and aeroplane timetables etc.). The rôle of the tourist offices is also described under marketing.

Tour Operators

Tour operators, of which we have only a few in Denmark, make a living by designing and packaging particular tour suggestions. A tour operator is typically allied with accommodation centres and transport companies and perhaps even bicycle hire outlets, so that they can offer tailor made tour proposals to the tourists. Please see under marketing.

Transport

Transport companies include in particular shipping lines, train (DSB), bus and coach companies. Because only a few cycling tourists fly to their destinations, this mode of transport is not analysed in depth.

County, Municipality

Fyns Amt and Bornholm Amt are two very central parties, as they have planted the idea of developing cycling tourism. They have financed the cycling maps and furnished the cycling routes with signs, resting points etc. The counties are in this manner central to the development of cycling tourism. The municipalities have also contributed to the development of cycling tourism and undertaken the development efforts, particularly in the town areas.

Tourism export groups, regional companies

The Tourism export groups and the regional companies, i.e. FynTour and Destination Bornholm are especially active in marketing. FynTour also used to operate as a consultancy for Fyns Amt in connection with the establishment of Cykelnetværk Fyn, carrying out analyses and producing cycling maps.

4.6 Marketing cycling tourism

The key parties in tourism are often identical to those who spend money on marketing and product development. By describing those who pay for the marketing of cycling tourism, the most important product providers appear. Adding the fundamental facilities (nature, attractions, etc.) produces the cycling tourism product, see figure 2.

Nationally

The Danish Tourist Council markets Denmark internationally and nationally (please see sector related organisations). This also applies for cycling tourism. Cycling tourism is

marketed by distributing brochures to selected markets, especially to the neighbouring markets. The brochures project Denmark as a cycling tourism country. In addition there are trade fairs, workshops and other marketing activities. The Danish Tourist Council annually appoints particular groups to manage these campaigns.

There is a difference between *Danmarkskataloget* (the Denmark Catalogue) – a widely targeted catalogue aimed at all leisure tourists, including cycling tourists – and *Cykelkataloget* (the Cycling Holiday Catalogue) - aimed specifically at cycling tourists.

The brochures are financed by the industry as a whole advertising in the brochure and thereby paying for production and distribution of the brochures and for other campaign activities.

The campaigns are mainly targeted at the neighbouring markets.

Regionally

Campaign activities are typically coordinated by the tourism export groups at a regional level, i.e. the tourism export groups are the regional counterparts to the Danish Tourist Council. They receive a fee of 10% of the regional campaign funding. On Fyn the tourism export group is called FynTour and on Bornholm it is Destination Bornholm. Each tourism export group is also responsible for the marketing of its own region, i.e. the tourism export groups - soon to be replaced by the regional companies⁷¹ - produce their own general brochures which describe the possibilities for the holiday destination. The broadly targeted brochures *Fyn Magasin – Fyn, Langeland, Ærø* and *Bornholm* complement the *Denmark Catalogue* and their contents are organised according to themes and depict the opportunities for sailing, surfing, golfing, cycling, etc.

On Bornholm a brochure is produced, describing the opportunities for pursuing particular activities such as cycling. On Fyn special theme tourism brochures are produced and to strengthen product development and marketing a cycling tourism network has been established. A network is a collaboration between businesses, municipalities and the county, which has received a 3 year grant from the state.⁷² The cycle network on Fyn produces a regional cycling brochure *Cykelguide Fyn - Langeland & Ærø* (Cycling Guide Fyn - Langeland & Ærø) - which projects the opportunities on Fyn and the islands for cycling tourism.

The regional efforts are mainly targeted at the neighbouring markets.

71 The regional companies are taking over the responsibilities of the tourism export groups.

72 The network is entering phase 3 of the Ministry of Trade *Tourism network scheme*, which grants up to DKK 1.5 million in total for phases 1 - 3, where the latter lasts more than 36 months.

Locally

At the local level it is the tourist offices, seven on Bornholm and 17 on Fyn and the islands, which are the centrepiece. All tourist offices have their own brochures describing the holiday opportunities in the local area. On Bornholm there are no specifically local cycling brochures, whereas on Fyn local cycling tourism material is produced at nearly all the tourist offices, covering larger or smaller areas, such as Ærø, East Fyn, High Fyn, Mid Fyn etc.

Other brochures

Apart from the Fyn cycling network guide there is a second brochure on cycling holidays on Fyn. It is financed by six tourist offices together with a number of businesses and also presents the opportunities for cycling holidays on Fyn.

There are also other types of cooperative ventures across municipality and county boundaries between businesses (typically hotels, inns, shipping lines, airlines) which develop complete package solutions, aimed at specific target groups or markets not included in the general marketing policy. These groups include geographically defined markets such as Switzerland and distant markets such as the USA and Japan, and demographically defined target groups such as lonely nests and grey panthers. These companies also present their products through brochures and catalogues. These companies have often set up an arrangement with tour operators and travel agents which specialise in cycling holidays in the selected markets.

Finally, the Museum of Svendborg and the Surrounding Area has produced a theme-oriented brochure with text and maps on *Historiske cykelture på Sydfyn* (Historical cycling tours on South Fyn). Brochures of this type combine the main objective of the holiday with the use of an alternative form of transport.

Businesses

Whether on national, regional or local level or cooperating across *parish boundaries*, it is the same companies that finance the marketing of cycling tourism. An examination of the cycling brochures shows that these businesses are primarily camping sites, holiday centres, hotels, inns, holiday home letters, youth hostels, tourist offices, and shipping lines. The profiles of these businesses are raised, and so they are more than willing to pay for the brochure production, campaign activities and other marketing.

The second rank of *sponsors* comprises the large attractions, followed in the local brochures by corner shops, bicycle dealers, fast food and other restaurants, secondary attractions and a few retailers.

A comparison with other brochures shows that the companies who pay for the marketing of cycling tourism also pay, to a large extent, for the marketing of other holiday themes. Considering the fact that there is a large number of tourist businesses in the areas in ques-

tion, it is clear that the number of companies that finance the marketing work is relatively limited compared to the number of companies which could contribute. In other words, there are *free riders* amongst the businesses marketing cycling tourism - more companies benefit from the marketing work than pay for it.

The contents of the brochures

The national and regional tourist brochures show a number of large photos of cycling tourists, typically in the *cultural landscape*, in front of (the) traditionally popular tourist attractions and sights. This also applies, to a greater or lesser extent to the local brochures, where limited resources often restrict colour photos to the cover, the remainder of the brochure consisting of descriptions, addresses and advertisements. Marked cycling routes are also described, and captions and pictures give examples of what is in store. The local brochures also describe the marked routes, but several also suggest tours in the local area, with descriptions of larger or smaller local sights and attractions, and suggested activities.

Finally, there are the advertisements for the businesses which finance the brochures and a list of factual information and practical advice as well as advertisements for cycling maps and so on.

Other marketing initiatives

The Fyn cycling tourism network newsletter describes the marketing activities in 1995.

Cycling route maps, cycling guide Fyn distribution:

- Coupon orders
- Trade fairs
- Network participants
- Danish tourist information offices
- Welcome centres
- Dansk Cyklist Forbund (Danish Cyclists Association).

Direct Marketing:

- DT's (Danish Tourist Council) cycling campaign 1995 (DK, D, NL, N, S)
- Fyn Magazine 1995 (DK, D, UK, NL)
- Idénýt (Magazine published by the Danish electricity suppliers and distributed free of charge to all households)
- Ud og Se med DSB (Danish State Railways on-board magazine)
- Aktiv Radfahren (D) (German special interest magazine)
- Sportens Verden (Danish sports magazine)
- Direct Mail ((Northern) Germany).

Indirect Marketing:

- Ferieavisen (The holiday magazine)
- TV3 (Scandinavian satellite channel)

- TV49 (regional TV station)
- Danmarks Kataloget 1995 (DK) and Danmarks Kataloget 1995 (NL) (The general Denmark Catalogues distributed in Denmark and the Netherlands).⁷³

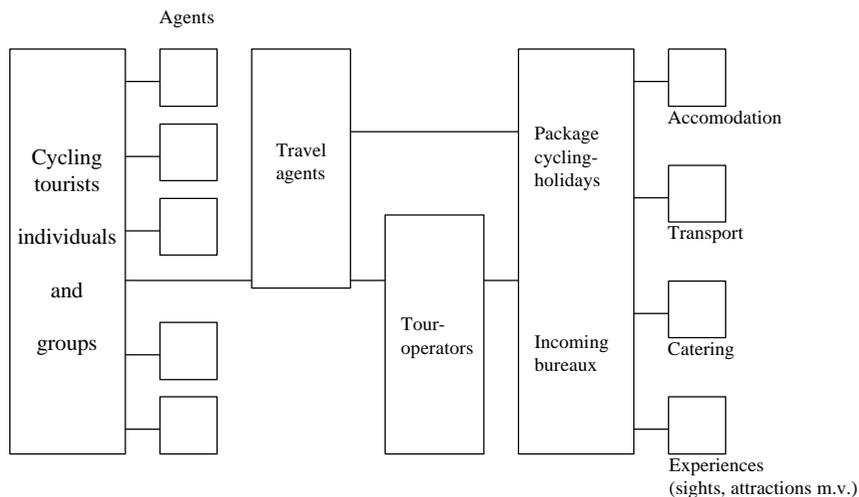
The network's activities are more extensive than the activities on Bornholm, i.e. the cycling tourism on Fyn is advertised in more places and to a larger extent, but the nature of the activities is the same in both places.

Tour operators and travel agents

The tour operators and travel agents sell package tours to the cycling tourists. On Bornholm, there is a minor agency that sells cycling holidays, but there are no such agencies on Fyn. On the other hand, there are many parties selling package tours on a national scale which include both Fyn and Bornholm, of which Bike Denmark and Idéværkstedet De Frie Fugle are the most active. These businesses carry out some marketing. Finally, there are foreign operators who, to a lesser extent, market cycling holidays in Denmark, including Fyn and Bornholm.

An organisation which packages and sells holidays operates in a world which can be shown in a simplified form as follows:

Figure 3. Travel agents environment



⁷³ The network is considering expanding the marketing and number of sales channels in 1996. *Cykelnyt* No. 2. 1995 (Newsletter from the Fyn cycling network).

4.7 National and regional policies for tourism

In the *Fælles Fodslaw* report, Denmark is described as an ideal country for cycling. It is estimated that over a ten year period, the number of cycling tourism overnight stays will grow from the current total of approximately 1 million (1992) to 2 million (2002). To increase the number of cycling tourist overnight stays, a whole range of product development initiatives has been proposed: more package holidays, signposting of cycling routes, etc.⁷⁴ The report offers a widely extended basis for the formation of strategies and business plans within both national and regional policies, including the following, which form the political framework for developing (cycling) tourism in the country.

4.7.1 Statement of tourist policy

In the national tourist policy it is stated that the efforts made in the next 5-10 years to promote tourism will take as their principal objective the attraction of new tourists who use accommodation facilities which greatly affect employment, who have a large daily consumption and who travel off-season. At the same time, the policy identifies a large potential for the growth of services such as: *High quality theme tourism, based, for example, on angling, the arts, gastronomy, surfing, cycling or golf...Holidays where environmental awareness is the decisive factor in choosing the holiday location.*⁷⁵

In short, from the national point of view, an increase in cycling tourism is desirable, since cycling tourism is considered to meet the requirements of extending the season, considering the environment and of quality.

4.7.2 Regional tourism strategies

At the regional level, which, for the purposes of this comparison, means the county plan, tourism is controlled by regional plans – and, occasionally, tourism strategies – which can be read as a measure of the region or county's *willingness* to attract cycling tourists.

On Fyn, the following target is expressed in *A tourist strategy for Fyn towards the year 2001*: [the aim is to] *create (a) tourist development in which the number of tourists and the amount of tourist currency exceed the national average, and through which the chances of fulfilling long-term, quantitative goals, as well as conserving nature, the environment and cultural life are improved and enhanced.* The following target is also set out: *A better provision of non-seasonally dependent opportunities for experiences, [for which] there is an increasing demand (for example, activity holidays..) and a cleaner environment, a wider diversity in the natural conditions, more and larger conservation areas and a development of cultural life.* Finally, it is laid down as imperative that theme tourism be developed: *The international tendency towards a mixture of hobby-based activities and holidays has also begun to appear in Danish tourism. In this respect, Fyn already has a*

74 Danmarks Turistråd et al., 1992.

75 Ministeriet for Kommunikation og Turisme (The Ministry for Communications and Tourism), 1994.

*number of advantages as regards angling, sailing and cycling tourism....Fyn...already has excellent natural conditions for developing these differentiated forms of tourism, and these types of active holidays should therefore be developed during the coming years. Product development must underpin the overall design...along with opportunities for activity within the basic framework.*⁷⁶

Bornholm does not yet have a decided strategy for tourism, but the regional plan (1993) expresses a desire to invest in tourism, a desire expressed, for example, in the expansion of the existing 195 km of cycling routes (now 230 km). The extent of tourism on Bornholm must not, however, become such that the number of tourists exceeds the number of inhabitants.⁷⁷ This is, in fact, the case at present during the summer months.

The starting point for the two counties' efforts is also different in that Fyn wants a substantial increase in the numbers of tourists, including cycling tourists, whereas Bornholm wants to encourage tourism, but in fact has no real possibility to increase the intake of tourists in the high season. Should more cycling tourists come, it would have to be at the expense of other types of tourist or during the off-season.

4.7.3 Local politics

Very few of the municipalities (kommunes) have a tourist strategy which takes account of their relations to and planning for tourism, but practically all the municipalities want tourism and see cycling tourism as a *gentle* holiday form which can be supported through municipal initiatives e.g. with cycle routes, etc. In addition, many of the initiatives for cycling tourism will benefit the local inhabitants all year round.

4.7.4 Interested organisations

As well as the political functions mentioned, the interested organisations play an essential rôle in the development of cycling tourism in the two areas, both as participants on the commercial side and as watchdogs with regard to nature, the environment and the local population. The starting points for encouragement or discouragement of the development of cycling tourism are different for the individual organisations and societies.

Danmarks Turistråd (The Danish Tourist Council)

The objective of Danmarks Turistråd (The Danish Tourist Council) is to promote Denmark as a tourist destination and thus create economic growth and employment in the Danish tourist industry and related businesses. Furthermore, the Council also supports and supplements the efforts which Danish authorities, businesses, institutions, etc. make to raise the international profile of Denmark and Danish business interests.⁷⁸

76 FynTour et al.,1991.

77 Bornholms Amt, 1993.

78 Danmarks Turistråd, 1996.

The Danish Tourist Council undertakes marketing activities to develop new markets and to maintain established markets. It does so for both holiday and business tourism through its own actions and in cooperation with the business community, business organisations and public authorities. Finally, The Danish Tourist Council carries out tasks related to tourism policy on behalf of the Erhvervsministeriet (The Ministry of Trade).⁷⁹

The Danish Tourist Council markets tourism inside and outside Denmark, and has divided tourism into different themes, such as angling, golf and cycling tourism. Each theme is analysed by the council with regard to its potential for development and for attracting new tourists - naturally including cycling tourists.⁸⁰

Cykelkataloget (The cycling catalogue) is produced by the Danish Tourist Council. This is a special cycling tourism brochure of an informative and general nature, which gives an indication of the cycle routes, accommodation options and so on in Denmark, including Fyn and Bornholm. The brochure is financed by advertising and is a concrete expression of the Tourist Council's opinion that cycling tourism should be encouraged. In addition, photos of cycling tourists are included in *Danmarks-kataloget*⁸¹ to demonstrate Denmark's richness as a tourist country.

Friluftsrådet (The open air association)

Friluftsrådet is an umbrella organisation for 90 or so other organisations. The tourist committee of the open air association works to maintain and develop tourists' opportunities to pursue open air and nature interests taking into account nature, the environment and the local population. It is the committee's task to contribute to the political and strategic development of the country's tourism. This means supporting product development, keeping up with the trends in development and liaising with the association's member organisations and county representatives to ensure that these are followed. Finally, the committee is to work to influence the tourist sector and tourists' behaviour and choice of type of holiday.

It seeks to do this by spreading tourists geographically, and across activities and seasons. The development of green tourism - e.g. cycling or walking - is seen both as a way of stimulating the local areas in the interior and, at the same time, as a way of possibly reducing the environmental pressure on, for example, the West Coast of Jutland. Green tourism must be developed through locally-generated target-setting and planning, i.e. with back-up from the local population, and an increased realisation that tourism must take place on nature's conditions.⁸²

79 Danmarks Turistråd, 1996.

80 DT's main cycling analysis is under development at the moment, cf. conversation with Ulla Kramer, DT.

81 DT's national business brochure.

82 Friluftsrådet, 1994. Friluftsrådet, 1995. Friluftsrådet, 1992. Also, conversations with Ida Sloth Bonnevie, Friluftsrådet.

Dansk Cyklist Forbund

The Danish Cycling Association works to improve conditions for cyclists in Denmark and to persuade more people to use bicycles as a form of transport. The Danish Cycling Association generally supports the development of cycling tourism. This development is considered beneficial to traffic in general and will help to expand the opportunities offered by cycling as a means of transport both for everyday needs and as recreation.

The Danish Cycling Association *takes care of cyclists' needs - including exerting influence on the judiciary and administration where cyclists' interests are involved - and seeks to effect the establishment of cycle paths and to promote the improvement of roads and traffic conditions.* Sensible development of cycling tourism perfectly matches these objectives and the intention is therefore to influence the development of cycling tourism in a positive way. This work is carried out via national and international organs, such as *Den nationale productsviklingsgruppe* (The national group for product development) which concerns itself with cycling tourism and was set up by the County Association, Cykelnetværk Fyn (The Fyn Cycling Network), etc.

The association operates a small travel agency during the summer season offering partly or completely packaged cycle tours. Literature to help cycling tourists - maps, etc. - is sold in shops in Odense, Århus, Copenhagen and Gladsaxe. In the same way, the initiative for the regional and national cycling routes comes from the Danish Cyclists' Association, which also participated actively in the idea and development phases. In several counties, the association takes part in the planning, proofing etc. of the county cycling maps.

The Danish Cycling Association sees itself as offering first hand experience of cycling tours and knowledge of transport conditions. Moreover, it sets itself against *all overtly commercial thinking, such as business pressure to omit natural camping places from the county maps....On the whole we occasionally take on the role of environmental watchdog and protector of the cyclist as cyclist (as against the cyclist as commercial object.*⁸³

4.8 Environmental efforts in the tourist area

At *international* level, it is the EU which has most influence on Danish tourism, both because one of the EU's aims is to protect European consumers when they buy tourist products through a range of regulations, and because the EU legislates about environmental conditions that also affect the tourist industry. That there should be development of a form of tourism which takes account of nature, culture, local population and the environment, is one of the *legs* on which the EU policy stands.⁸⁴ At a concrete level, the EU has set up a range of national and, especially, cross-border demonstration and model projects in the

83 Conversation with Johannes Lund, representing the Danish Cyclists' Association, who was responsible for the written formulation of the association's attitude to cycling tourism

84 EU, 1995. EU, 1994. EU, 1992a.

area of tourism and the environment to prompt care for the environment on a local level as well as tourist development.⁸⁵ Moreover, a prize has been set up for environment-friendly tourism projects.

Then there is the *national* dimension, where Denmark has, by international standards, a restrictive environmental legislation. Businesses' green accounting, a very comprehensive water environment plan, conservation projects refuse sorting, etc. are examples of initiatives which influence tourists' day-to-day experiences in a positive way. Together with, for example, re-creating ponds and building animal crossings, these are the concrete and often surprising examples of public initiatives that cycling tourists will notice during their stay.

This means that an effort is made from the public side to keep the environmental framework in which cycling tourists move in order. There are, however, still certain problem areas which can be assumed to influence and affect tourists, and so influence Denmark's renown and reputation as an environmentally aware country and tourist destination. These problem areas include disposal of refuse along the roads and cycle routes, pollution of watercourses and ditches, water holes which have to be cleaned of old car wrecks and other refuse. Yet another problem is the agricultural discharge of nitrates which causes an increased production of organic matter resulting in cloudy lakes and ponds, increased algae growth and unwanted deposits on beaches, etc.

Up until a few years ago, the influence and effects of the *environmental regulations on the tourist industry* in Denmark were not particularly clear. To some extent, the industry was not seen to be taking environmental problems seriously. This has changed in the last few years, as environmental considerations have become a current and constant part of the everyday concerns of the tourist industry. Parts of the industry, especially within the hotel and transport sectors, have gone on the offensive, actively using the environment for product development and marketing, exploiting the Green Key and Blue Flag (which has not been supported by the municipalities, however) initiatives and a number of self-developed environmentally friendly concepts. The future looks even more green and environmentally friendly for tourists and the tourist industry.

At the same time, the individual tourist also has an impact on the environment through using water and energy, erosion of nature, refuse disposal, and using forms of accommodation out in the countryside which cannot adequately handle waste water, sewage, etc. In this area, Denmark has just an attitude and not an overall official policy to encourage and guide the tourists to considerate action and behaviour.⁸⁶

85 EU (DG XXIII), 1995.

86 Saabye Simonsen, P., K. Gausdal, 1995. Miljøministeriet (Ministry of the Environment), 1995a.

4.9 Summary

Cycling tourism's primary *product* on Fyn and Bornholm consists, from the supply side point of view, of the islands' traditional sights and attractions, of which nature, woods, water and beaches are the most important. Inland tourism is (apparently) profiled more towards the cycling tourist than the traditional tourist.

The signposted national and, in particular, regional cycling routes stand out as a flagship in product development which should attract cycling tourists, both on Fyn and Bornholm. At the same time, this is the product which is given most weight in the texts in the brochures that highlight the cycling potential of the islands. The brochures constitute the principal marketing tool.

The marketing message is built on nature, good cycling routes, etc. while the direct environmental aspects are not emphasised. Internationally, the very concrete initiatives implemented by the destination/ company to improve the environment are used as extra sales arguments. At the same time, an appeal is made to the tourists' responsibility for the environment, and they are encouraged to keep nature clean and pure (behaviour code/code of conduct).⁸⁷ Denmark's role as a leading country in the area of the environment is widely recognised and could be exploited as an advantage for cycling tourism, generally accepted and highly valued as an environmentally friendly type of tourism.

Fyn and Bornholms Amts (Counties) that have taken responsibility for the development and financing of the cycling routes. They are also the biggest contributors, from a purely economic point of view, to the continued maintenance and establishment of routes and other cycling tourism products.

After the counties, it is the small and medium-sized businesses - in the form of accommodation providers and transport companies as well as tourist offices (thus, indirectly, the municipalities) - that are the prime movers, together with some individual bicycle dealers/cycle hire outlets. Product development and marketing is carried out and financed by these companies (along with the counties), while retailers, eating-places and corner-shops, as well as grocers and supermarkets, etc. contribute nothing more to the local brochures, where contributions are more limited in size.

87 (Eds.) Weiler, B., C.M. Hall, 1992.

5. The characteristics of the cycling tourist

5.1 Introduction

The objective of this chapter is to describe the cycling tourist. The following factors are considered: demographic data, group size, choice of accommodation, mobility of the cycling tourists, length of stay, food, hiring or owning the bicycle, type of bicycle, professional standing and season. Where possible, these data are compared with data on the traditional leisure tourist. The aim of this comparison is to illustrate similarities and differences between the two tourist groups and at the same time develop a description of the cycling tourist.

There has been no previous research on cycling tourists which compares data from two different regions, but cycling tourists in Denmark have been described earlier in Dansk Cykelturismeanalyse (Danish Cycling Tourism Analysis) from 1990 and FynTour carried out some research for Fyns Amt (County) in 1993 and 1994. The advantage of comparing the information from the two regions, in this case Fyn and Bornholm, is that this makes it possible to gather information on the regional tourist, at the same time, the information from the two regions can better provide other information of relevance above regional level. If the information collected on Fyn and Bornholm is very similar, it can be assumed that this will also apply for other regions in the country, and possible to the entire country.

5.2 The number of cycling tourists on Fyn and Bornholm

Any product targeted at cycling tourists should broadly take into account the cyclist's skills, experience and so on, just as cycling tourism destinations should offer a wide range of activities and attractions.

The cyclists in Denmark can be divided into 3 groups:

1. Advanced cyclists capable of dealing with all traffic conditions
2. Intermediate cyclist mainly teenagers and younger adults, not as confident in their ability to cope in traffic.
3. Children unaccustomed to dealing with traffic and so are often accompanied and watched by their parents on the trip.

All three groups of cyclists can be regarded as cycling tourists when on holiday.

How many cycling tourists there are on Fyn and Bornholm is a question the tourist industry, the counties, and Danmarks Turistråd (The Danish Tourist Board) have tried to answer for several reasons. First of all it is interesting to know the size of each target group of tourists, so as to be able to clarify whether the marketing efforts and initiatives are justified by the number of cycling tourists attracted; secondly it is interesting to know to how popular the cycling routes are.

Finally, it is useful to know the number of cycling tourists when estimating the impact on economy and nature and environment along the cycling routes.

The number of cycling tourists is difficult to calculate, as there exists no registration of the number of cycling tourists who cross the borders of Denmark, and because no methods are available for counting the cycling tourists within a region. Along The Ancient Highway (Hærvejen) or the Donauradweg (Danube Cycling Road) it should be fairly simple to conduct counts, as the cyclists follow the route in one direction or the other. It is different matter when it comes to regions, where the cycling tourists cycle cross routes, regional boundaries, etc. The cycling tourists within a region follow no set pattern which can be registered and upon which counts can be conducted.

In an earlier analysis (Fælles Fodslaw), it was estimated that there are 160,000 hard core cycling tourists in Denmark with estimated 1 mio. bednights, added to this are 400,000 camping tourists, 370,000 holiday home tourists and 52,000 leisure sailors, who bike occasionally during part of their holiday.⁸⁸

It is assumed that Fyn and Bornholm attract proportionally more cycling tourists than other regions and that more cycling tourists have visited the islands than registered above, as the number of cycling maps sold is higher here than in other regions.⁸⁹ It is therefore realistic to assume that at least one in ten tourists on Fyn and Bornholm is a cycling tourist.⁹⁰ It also seems realistic, as we know that 21% of all Germans state that they cycle during their holidays, and so do 22% of the Dutch, 6% of the Swedes and 10% of all tourists in Denmark, as well as the 9% of all foreign tourists who bring a bicycle to Denmark.⁹¹ The number of cycling tourists on Fyn and Bornholm can consequently be calculated by dividing the total number of bednights by 10 (one out of 10 tourists is a cycling tourist). So the number of cycling tourists is estimated to be:

Calculation 1

- Bornholm:	177,000 cycling tourist bednights
- Fyn:	300,000 cycling tourist bednights
- Fyn + Bornholm:	477,000 cycling tourist bednights

The number of individual cycling tourists can consequently be calculated by dividing the total number of cycling tourist bednights by the average number of bednights per tourist. With this calculation the reader should make allowances, as it is an estimate based on an estimate (total number of cycling tourists). The figures have been rounded.

88 Danmarks Turistråd et al., 1992.

89 Dansk Cyklistforbund, *Salg af cykelkort 1993-95* (The sale of cycling maps 1993-95).

90 Saabye Simonsen, P., 1993a.

91 Danmarks Turistråd, 1992c.

Calculation 2

- Bornholm:	20,000 cycling tourists
- Fyn:	33,000 cycling tourists
- Fyn + Bornholm:	53,000 cycling tourists

The number of cycling tourists can also be calculated in the following way:

We know that the number of cycling tourists who used the cycling map in 1995 is approximately half of the total number (55%) of the cycling tourists interviewed. We know the number of cycling maps bought and the average group size of the cycling tourists who used the cycling map during their holiday. Add to this 45%, i.e. the number of cycling tourists who used other maps or no maps. This gives us the total number of cycling tourists. This figure should be slightly reduced, however, as some of the cycling tourists who used the cycling route maps could have been visiting Fyn or Bornholm for the second, third or fourth time, and could have bought the map earlier or borrowed it from friends or acquaintances. If this figure is set at 10% we reach the following number (round figures) of cycling tourists on Bornholm and Fyn:

Calculation 3

- Bornholm:	26,000 cycling tourist
- Fyn:	29,000 cycling tourist
- Fyn + Bornholm:	55,000 cycling tourist

It is apparent that the total number of cycling tourists using this calculation method is almost the same as reached in calculation 2, and while the number of cycling tourists on Fyn is reduced and the number on Bornholm is increased. So it is safe to assume that the calculated number of cycling tourists is very close to the actual number of cycling tourists.

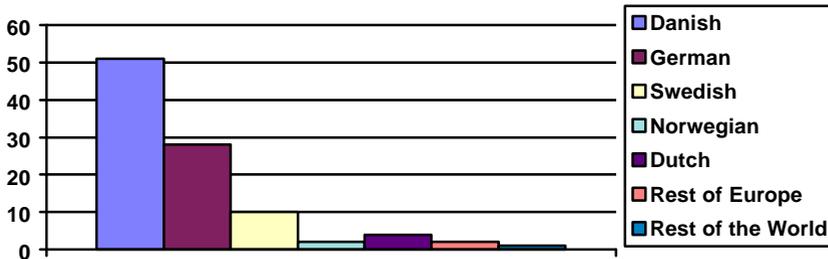
The figures from calculation 2 have been used in a later chapter on the economy of cycling tourism. The quite unscientific reason for choosing the figures from calculation 2 rather than 3 is that the number of cycling tourists who reuse the cycling map is larger on Bornholm as there are more second and third time visitors than on Fyn.

To these figures should be added some personal observations that were made when covering the routes during the summer of 95, and a number of eye witness statements from farmers and people from the accommodation sector. The farmers, particularly, along the routes on Fyn have noticed an appreciable increase in the number of cycling tourists in just 2 - 3 years. This increase does not quite match the number of maps sold. It is, in fact, not possible to prove any increases, decreases or stagnations in the number of cycling tourists, as information on the cycling tourists' number of bednights as a percentage of the total tourism for the two regions over the last years is not available.

5.3 Nationality

The cycling tourists on Fyn and Bornholm are distributed between the following nationalities:

Figure 4. The nationality of the cycling tourists



As can be seen, the Danes alone account for approximately half of the cycling tourists, while the Germans account for 28.4 % and the Swedes for 10.2 % of the cycling tourists. Earlier analyses support the fact that the Danes account for more than half and that the Germans are by far the largest group of the foreign nationalities.⁹²

To trace any differences in the nationality distribution on Fyn and Bornholm the cycling tourists have been counted according to nationality. This reveals the following percentage distribution:

Table 5. Nationality distribution - Fyn vs Bornholm, %

Measured in %	Danish	German	Swedish	Norwegian	Dutch	Rest of Europe	Rest of the world
Bornholm	54	44	90	21	0	0	0
Fyn	46	56	10	79	100	100	100
Total	100	100	100	100	100	100	100

The table clearly indicates that the cycling tourists on Fyn are spread over more nationalities than on Bornholm, where the cycling tourists are mainly Danes, Germans and Swedes.

The nationality mix of cycling tourists also reflects the overall nationality mix of the tourists.⁹³ Please note the relatively lower number of German cycling tourists in relation to the total number of Germans on Bornholm and in relation to the total number of Germans on Bornholm and Fyn.

An explanation may well be that the Germans enjoy staying in holiday houses - they accounted for a total of 1,292,000 holiday house bednights on Fyn and Bornholm out of a total of 1,936,100, which is 66.7 %.⁹⁴ Later in this chapter it will become apparent that the cycling tourists use holiday houses to a lesser extent and tend to prefer camping.

⁹² Friluftsrådet, 1990. Fyns Amt/FynTour, 1994a.

⁹³ Please see chapter 3. Danmarks Statistik, 1994.

⁹⁴ Own observations based on Danmarks Statistik, 1994, and the questionnaire analysis.

5.4 Gender

Earlier analyses indicate that men are more likely to use a bicycle during their holiday than women,⁹⁵ which also applies for this analysis where the gender of the cycling tourists divides as follows:

Table 6. The gender of the cycling tourists

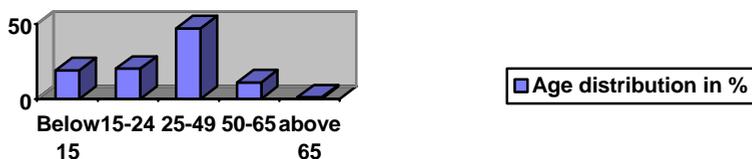
Men	58 %
Women	41 %

There is no obvious reason why it is not a fifty/fifty division, as in the gender combinations in general,⁹⁶ but one possible explanation could be that men are generally more interested in sport activities and consequently more likely to ride a bicycle during the holiday. This is supported to some extent by Torben Fridberg's analysis of the leisure habits of the Danes, where 25% of the men and 33% of the women used a bicycle regularly, but 9% of the men and 6% of the women went touring by bicycle.⁹⁷

5.5 Age

The analysis shows that the age distribution of the cycling tourists is as follows:

Figure 5. The age distribution of the cycling tourist



Approximately half the cycling tourists are aged between 25 and 49, the main family and professionally active age, while 19.5% are below 15 and so must be assumed to be children accompanying the adult bikers. The number of cycling tourists above 50 years of age is small.

Approximately the same age distribution is seen in an earlier analysis, where the only difference is that this analysis says that 19.5% are under 15 compared to 10%, and in this analysis 20.3% are in the age group 20 - 25, compared to 27% according to the Dansk Cykelturisme Analyse (Danish Cycling tourism Analysis).⁹⁸ This means there is a slight difference between the two sets of figures with regard to these age groups.

95 Friluftsrådet, 1990.

96 Danmarks Statistik, 1994.

97 Fridberg, T., 1994.

98 Friluftsrådet, 1990.

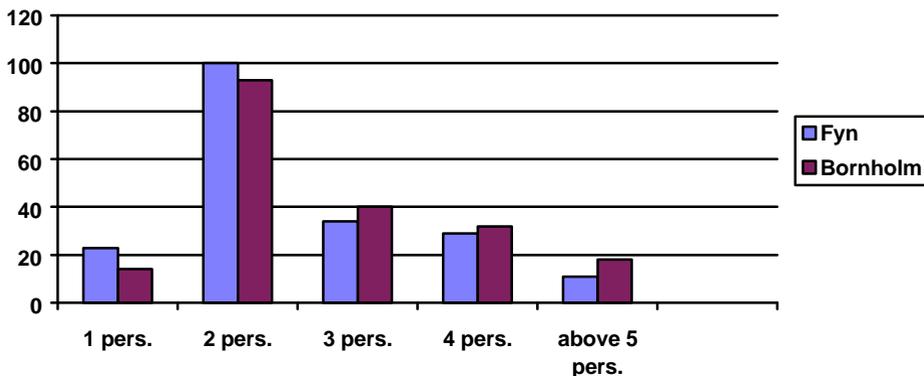
The age distribution is more or less the same as for tourists in general in the two areas.

5.6 Group sizes

Cycling tourism is considered a *family-friendly* type of holiday, which should be reflected in a disproportionately large number of groups of more than 2 people.

The analysis shows the following:

Figure 6. The group size of cycling tourists in absolute figures



There is no clear difference in the distribution of groups on Fyn and Bornholm, but there seems to be a tendency towards more groups of 1 - 2 persons on Fyn, while there are relatively more groups with 3 people or above on Bornholm - i.e. typical family groups.

On the other hand there are more cycling tourists who choose to cycle in pairs or in smaller groups of 3 - 4 people, whereas the desire to cycle alone is limited. There are only very few larger groups of more than 4 people. This should confirm the assumption that cycling tourism is for those who want a holiday with the girlfriend/boyfriend, the wife/husband or a friend, or with the family/friends. But that cycling tourist should be mainly a family-orientated type of tourism does not seem to be the case, even though the average group size amounts to 2.6 people.

Thinking back upon the gender distribution figures, it is possible to imagine that there is a proportionally large number of fathers (above 24 years old) who are on a cycling tour with 2 children. This could explain the group size and the gender distribution. Unfortunately, it would seem that the opposite is the case, as groups of 1 - 2 people have far more male participants while groups of above 2 people have an even distribution of sexes within the age group 24 - 49, which contains the most fathers.

For comparison it can be added that in an earlier analysis 7% (of (cycling)tourists) answered that they travelled alone, 32% that they travelled with others than the family and 62% travelled with the family (with or without children).⁹⁹

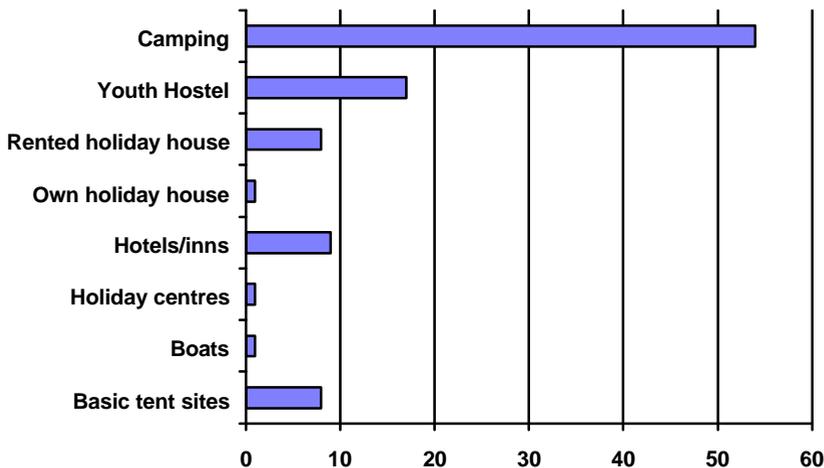
5.7 Accommodation

A cycling tourist's choice of accommodation has great influence on the daily expenditure, and consequently on the economy of the destination. To mention two economic extremes, an overnight stay at a hotel entails a high daily expenditure of typically DKK 400 - 800, simply because of the high costs of the hotel room, while a basic tent site offers much cheaper accommodation, often costing from DKK 10 to DKK 20 and a low daily expenditure is a natural result.

Thus it can be seen that the choice of accommodation influences the cycling tourist's impact on the environment and on the economy.

The distribution of choice of accommodation is as follows:

Figure 7. The cycling tourists choice of accommodation measured in %



This indicates clearly that around 50% of the cycling tourists spend the night on a camping site. Camping - together with yachts, primitive tent sites and youth hostels - accounts for 4/5 of all bednights. These are all types of accommodation which can all be labelled as inexpensive, as

99 Friluftsrådet, 1990.

opposed to hotels/inns and holidays centres, which are clearly at the other end of the range. The same pattern is seen in other analyses.¹⁰⁰

When the distribution of accommodation is compared to the total number of bednights on Fyn and Bornholm, it becomes clear that cycling tourists to a greater extent prefer less expensive types of accommodation than those chosen by the average tourist.¹⁰¹

Table 7. Choice of accommodation of the average tourist vs. the cycling tourist, %

	Holiday house	Hotel	Youth Hostel	Camping
The average tourist	34	31	3	30
Cycling tourists	9	9	17	54

In absolute figures, the calculated cycling tourists' bednights in the two counties as distributed by type of accommodation amount to the following:

Table 8. Number of cycling tourists bednights in absolute figures

Youth hostels	Rented holiday house	Own holiday house	Hotel/Inn	Holiday Centres	Yachts	Camping	Primitive tent sites	Total
81,090	38,160	4,770	42,930	4,770	4,770	262,350	38,160	477,000

The figures speak for themselves. The cheaper types of accommodation are clearly the most popular.

5.8 Nomadic cycling tourist as compared to those touring from a central base

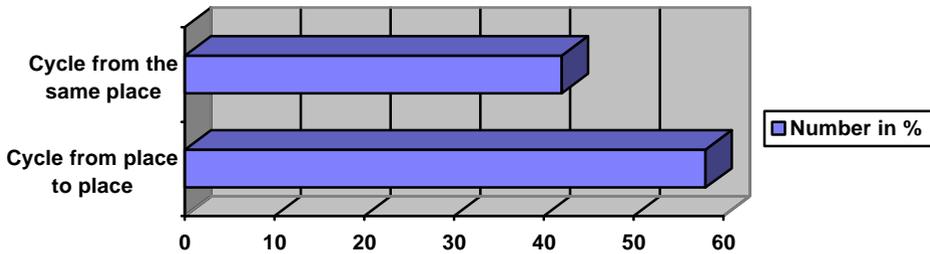
Usually the cycling tourist is perhaps seen as a cyclist on holiday, cycling from youth hostel to youth hostel, or from hotel to hotel, or taking his *house* with him like a snail. However, this analysis includes both the *nomadic* cycling tourist, who changes place of accommodation numerous times during his holiday, and the cycling tourist who stays in the same place, using this place as a starting point and goes on tours from there.

The distribution of the interviewed cycling tourists shows that more than half of them choose to cycle from place to place.

100 Friluftsrådet, 1990.

101 Own calculations based on Danmarks Statistik, 1995.

Figure 8. Cycling tourists: *Centred* compared to *nomadic*



At the same time it is apparent that fewer than assumed prefer to change accommodation every day, as more than 40% choose fixed accommodation.

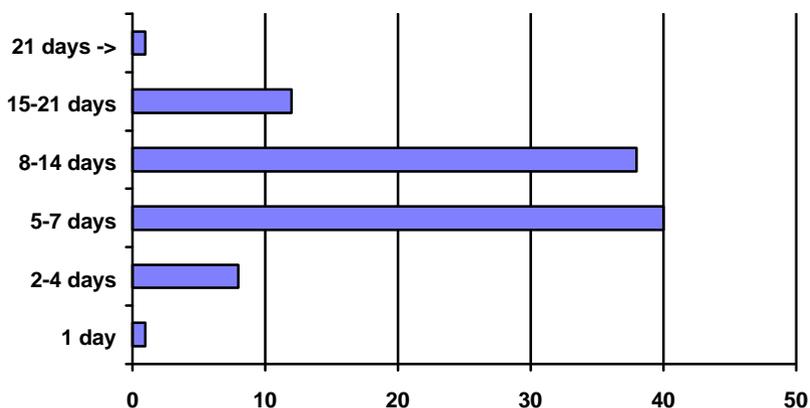
The preferred forms of fixed accommodation are holiday centres, holiday houses, and, to a lesser extent hotels/inns. Together, these account for 20% of the total number of cycling tourist bednights. It can be assumed that camping sites and youth hostels are also used as fixed accommodation, and it would be wrong to assume that camping is only used as transit accommodation.

5.9 Length of stay

As it has been proven that the cycling tourists chose the less expensive types of accommodation, it would be interesting to see whether the less expensive types of accommodation are counterbalanced by a longer stay, i.e. do the cycling tourists stay at the destination for longer and therefore spend a larger amount of money per person during the holiday?

The table shows how long the cycling tourists stay at the destination:

Figure 9. Cycling tourist bed nights in %



By far the majority of the cycling tourists stay between 5 and 14 days. Every tenth cycling tourist spends more than 15 overnight stays, and very few stay for less than 5 days.

On average, the cycling tourists stay for 9 - 10 days, against 10.34 days in DTA¹⁰² and 7 days for the leisure tourist in general nation-wide.¹⁰³ Cycling tourism is therefore not the short holiday type so typical of the theme and off-season holidays, it is, in fact, quite the opposite. Here, short holidays are taken to mean holidays including fewer than 5 overnight stays.

By cross-referring accommodation type with length of stay the following results are seen:

Table 9. Type of accommodation compared to length of stay, %

	1 day	2-4 days	5-7 days	8-14 days	15-21 days	> 3 weeks	total
Camping	0.6	5.7	23	19.9	4	0.3	52.5
Youth hostel	-	3.1	5.1	7.9	0.8	0.3	17.2
Rented holiday house	-	-	2.5	3.7	2	-	8.2
Own holiday house	-	-	-	0.6	0.3	0.3	1.2
Hotels/Inns	-	2	3.4	2.5	1.4	-	9.3
Holiday centre	-	-	0.3	0.9	-	-	1.2
Boats	-	-	0.3	0.6	-	0.3	1.2
Basic tent site	0.3	0.9	2.5	3.7	0.3	0.6	8.3
Total	0.9	11.7	37.1	39.8	8.8	1.8	100

The table clearly shows that the type of accommodation most commonly chosen is camping, where the cycling tourists spent 23 % for 5 - 7 days and 19.9 % of their 8 - 14 stays. If this is

102 Friluftsrådet, 1990.

103 Own calculations based on Tabel 3 in Danmarks Turistråd, 1993.

compared with the length of stay at hotels/inns, the same pattern is seen with the emphasis primarily on 5 - 7 day stays, and secondly 8 - 14 days. All other types of accommodation are used mainly for 8 - 14 days stays and secondly 5 - 7 days stays.

On average, the length of stay for the cycling tourist who camps is the same as the cycling tourist who stays in a hotel.

5.10 Food

The cycling tourists who cycle from one place of accommodation to another cannot, of course, carry substantial amounts of food and beverages with them and have to buy food often. Presumably this means that they often *eat out* and shop frequently. Both should lead to comparatively larger consumption. The cycling tourists who stay at the same place during the holiday and cycle from there are a different matter. The latter category can be assumed to have a consumption which matches other camping and holiday house guests etc. and to follow a similar pattern regarding eating out.

The table below illustrates the preferences of the cycling tourist regarding food. A first and second priority have been stated. The first priority represents what the cycling tourist does most. Second priority represents their second preferences.

Table 10. Cycling tourists eating habits, %

	First priority	Second priority
Cook themselves, have brought food from home	11.4	0
Cook themselves, shop locally	75.4	7.6
Dine at restaurants	11.7	27.2
Eat fast food	1.3	9.4

(Please note, that 100% marked the first priority whereas 44.2% marked the second priority, hence the low response rate for second priority)

By far the majority of the cycling tourists cook for themselves and shop locally, but visiting restaurants is also quite popular. Only a minor part of the cycling tourists bring food with them and the cycling tourists interviewed only rarely eat fast food.

The table also shows that a major part of those who cook often eat at restaurants as a second choice. The fast food businesses do better when it comes to the cycling tourists' second priority, almost 10% supplement their own cooking with fast and easy food.

All in all, the table shows that cycling tourists are to be seen as *good* tourists, because they purchase the majority of their foods at the destination and therefore generate a considerable turnover for the local retailers. At the same time, it must also be noted that a proportionally large number of the tourists - in relation to the main types of accommodation - choose to eat at restaurants. It is only every fourth cycling tourist, however, who visits a restaurant as a second priority.

5.11 Bicycle hire - own bicycle

One of the ways in which to stimulate the local economy is to make bicycle hire available at the destination. Many hire bicycles are, however, *ordinary* bikes without gears or with only three gears. This could be one reason why people refrain from hiring, as modern bicycles, mountain bikes, city bikes, touring bikes etc. are more comfortable than the typical hire bicycles. A few of the bicycle hirers questioned explained that the lack of modern hire bikes is due to the fact that *modern* cycles are not as durable, are too expensive to maintain, are expensive to purchase (and are worn out before they have paid for themselves). Furthermore there is too much trouble with the customers tampering with the cables, gears and hand brakes etc. The tendency, however, is clearly towards better and more advanced hire bikes.

The analysis shows that cycling tourists generally bring their own bikes (90.4%), while 9.6% hire a bicycle at the destination. Why so many prefer their own bicycles is not quite clear. Some claim that they are familiar with their own bicycle, and their own bicycles are much better than other bikes; others claim that there are a few, if any, cycle hire centres at their destination, or that it is too expensive to hire a bicycle when you have your own etc. It is, however, not clear whether a better promotion of the hiring opportunities would result in more people hiring bicycles rather than bringing their own.

Bicycle hire is very popular on Bornholm, whereas only 3% of all cycling tourists hired a bicycle on Fyn. There does not seem to be any connection between nationality and preference for hire/owned bikes, but there are proportionally more holiday house and hotels guests amongst those who hire a bicycle. Finally, the table below shows that *centred* cycling tourists hire bicycles more often while *nomadic* cycling tourists would rather use their own.

Table 11. *Nomadic/centred* cycling tourist and their choice of bicycle (%)

	Own bicycle	Hired bicycle	Total
Stationary cycling tourists	87	13	100
Mobile cycling tourists	94	6	100

On Bornholm, an analysis of the leisure tourists' choice of transport on the island has shown that 9.3% of all leisure tourists primarily use their own bicycle for transport, while 20.7% use a hired bicycle.¹⁰⁴ This seems to contradict the results of this analysis. One possible explanation for the disparity of the results is that this investigation has concentrated solely on cycling tourists (see definitions), while the Bornholm analysis encompassed all types of tourists. In this analysis most of the tourists we met and interviewed cycle extensively.

5.12 Types of bicycle

Today, a visit to a bicycle dealers will reveal that the bicycle has changed in the past decade. During the the last few years in particular, the ranges of mountain bike, off roaders, city bikes, touring bikes, racing cycles and ordinary cycles etc. have widened. Bicycles are now available in

104 Bornholms Forskningscenter, 1996, Preliminary results of Demand Survey - 3rd. Quarter 1995.

fashionable colours which change from year to year, there are now fashion bike types, and people *express themselves through their bicycles*. As the ranges have been widened and the cycle types have changed, the equipment has also changed. A bicycle used to have 10 external gears or three internal gears, but today bicycles with 18 - 21 external or 7 internal gears are not unusual. The table shows the development in choice of bicycle types from 1990 to 1995 amongst the cycling tourists on Fyn and Bornholm.

Table 12. Bicycle types (%)

	Ordinary bicycles	Racing bikes	Mountain bikes	Others
1990	57	29	8	5
1995	58	21	21	2

(The 1990 figures are from Dansk Cykelturismeanalyse (Danish Cycling tourism Analysis).

The number of ordinary bicycles is virtually unchanged, whereas around 10% have exchanged their racing bike for a mountain bike, and today as many mountain bikes as racing bikes are sold. The explanation for the increase in the number of mountain bikes sold is not an increased desire for cycling off road, through in woods and over hills, but simply that the mountain bikes are more advanced and more durable for holidays than racing bikes. In fact only a very small proportion of the cycling tourists leave the roads and the marked paths. This contrasts with international tendencies, where cross country and mountain cycling are new phenomena and are developing into a rapidly growing new holiday and leisure activity.¹⁰⁵ Later on, we will see that none of the cycling tourists chose Fyn or Bornholm because they wished to bike off road. On the contrary, a large number of cycling tourists spontaneously expressed appreciation for the fact the cycling is only allowed on designated roads and paths.

5.13 Professional Standing

Based on the hypothesis of the analysis that cycling tourists have a low daily expenditure, it could be assumed that the cycling tourists are generally of a low social status and professional standing. This assumption was not confirmed by DTA,¹⁰⁶ and neither has it been verified by other analyses.¹⁰⁷

Against this assumption is the fact that certain population groups such as academics, school teachers and others that have completed an education of middle to long duration, are more minded towards and conscious of keeping fit by practising sports and other forms of exercise, and have healthy eating habits.¹⁰⁸ It is therefore safe to assume that these groups are more likely to choose cycling tourism according to the basis of different criteria (exercise, environment, health etc.) rather than purely economic criteria, and that these groups will be proportionally well represented among the cycling tourists.

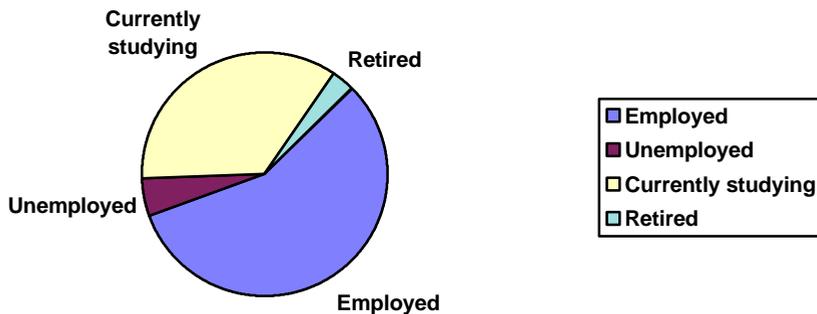
Figure 10. Professional standing of the cycling tourist

105 (Ed.) Williams, A.M., 1996.

106 Friluftsrådet, 1990.

107 Saabye Simonsen, P., 1993a. Fyns Amt/FynTour, 1994a.

108 Saabye Simonsen, P., 1994.



The figure above clearly illustrates that more than half of all cycling tourists are in employment. Students (35.2%), unemployed (4.5%) and retired people (3,3%) thus account for less than half of the cycling tourists.

An earlier investigation shows that employed people accounted for 3/4 of all cycling tourists, and that 23% were studying and 1% were either unemployed or retired.¹⁰⁹

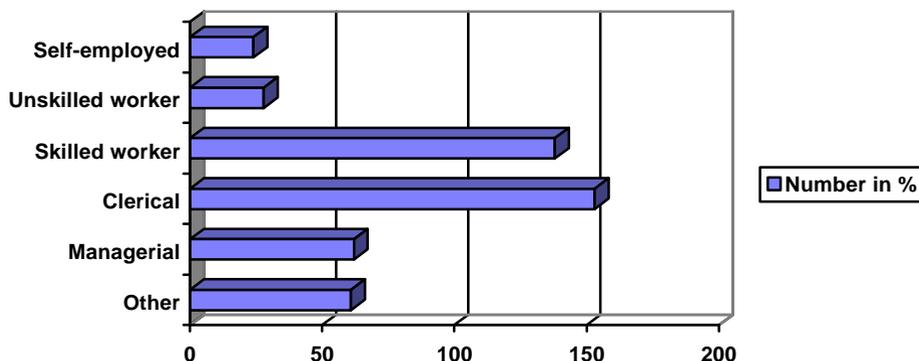
A possible explanation could be that the less affluent groups constitute a growing group of cycling tourists, whereas more affluent tourists choose other destinations and types of holiday. This has been demonstrated in Germany, where a smaller disposable income leads less privileged members of society (the under-educated and the unemployed etc.) to choose shorter holidays and a destination close to home.¹¹⁰

This relationship can be partly explained by looking at the cycling tourists' professional standing. The cycling tourists' professions are as follows:

109 Friluftsrådet, 1990.

110 Fyens Stiftstidende (regional newspaper on Fyn), 30.04.1996.

Figure 11. Cycling tourist' professional level



Most of the cycling tourists are clerical or skilled workers, while there are relatively few self-employed or unskilled workers. Thus it seems that the professional standing of the cycling tourist does not indicate that cycling tourism attracts low income groups. On the contrary, it supports the opinion that certain groups choose cycling tourism on the basis of criteria other than the simply economic, such as attitude, wanting an active holiday etc.

By comparing nationality and professional standing, it will become clear whether Fyn and Bornholm attract foreign or Danish low-income groups, such as the unskilled, the unemployed students and old age pensioners.

The table shows professional standing compared to nationality:

Figure 12. The professional standing of the cycling tourists compared to nationality, %

	Employed	In Education	Unemployed	Retired	Total
Danish	50	41	4	3	98
German	60	33	2	4	99
Swedish	72	22	4	2	100
Norwegian	80	20	-	-	100

(Please note that the the categories including tourists from Holland, rest of Europe and rest of the world have not been included due to limited data available on these groups).

Without doubt the Danes represent the nationality with the highest proportion of underprivileged (in education, unemployed, retired), in both relative and absolute terms.

It should also be noted that relatively few cycling tourists are unemployed, which becomes especially clear when compared to the official unemployment figures for the respective

countries.¹¹¹ It is also worth noting that the employed are by far the largest group and that the Danes and Germans under education account for a large percentage of the total number of Danish and German cycling tourists.

The cycling tourists as a whole do not seem to belong to the underprivileged groups, if these are defined according to employment and educational conditions. However, the Danes in particular and, to some extent, the Germans are exceptions because of the large number of students. Based on these factors, it remains unclear whether the cycling tourists are a less attractive group of tourists than other groups. Nevertheless, the assumption that cycling tourists choose to bike during their holidays for other reasons than pure economy, seems likely.

5.14 Season

Danish tourism is characterized by a very high concentration of leisure tourists in the months June, July and August. It is therefore necessary to disperse the high season pressure and have more tourists all year round.

Only few types of holiday - such as angling, golfing and business tourism - prolong the season, but to this should be added the tendency of more tourists, especially Germans, to rent holiday houses on the West Coast out of the season, during the Easter, Christmas or Autumn breaks. However, all in all very little Danish tourism takes place outside the summer months.

Cycling tourism is generally a peak season activity, as rain and wind (often gusty) do not encourage the tourists in their desire to cycle. Cycling tourism will consequently not prolong the season, nor does it give an even distribution of the tourists throughout the year. As such it is not a welcome holiday theme. It is, however, possible that cycling tourism could help to lead cycling tourists to other areas of Fyn and Bornholm. This aspect will be dealt with in a later chapter.

5.15 Summary

On basis of this chapter we can draw a profile of the typical cycling tourist on Fyn and Bornholm. The profile itself is useful, for example for marketing, but at the same time it shows that generalisations and profiles often blur some important information about the tourists.

- More than 50% are Danes and 28.4% are Germans.
- On Bornholm the third largest group is the Swedes, but on Fyn it is the Dutch.
- There are more men (just under 60%) than women (just above 40%).
- Around 50% are between 25 - 29 years old, but approx. 20% are below 15 and 20% are between the ages of 15 - 24.
- They majority cycle in pairs.
- On average a cycle group numbers 2.6 persons.
- 54% stay at camping sites, 17% at youth hostels.

111 JyllandsPosten (regional newspaper covering Jutland), 1995.

- Almost 60% change accommodation several times during the holiday, whereas just over 40% stay in one place.
- Almost 80% of all cycling holidays last between 5 - 14 days, with an average of 9 - 10 days.
- 75.4% mainly make their own food and shop locally. 11.7% mainly eat at restaurants, 11.4% mainly cook for themselves and bring their own food.
- 27.4% visit restaurants as a second choice.
- 90.4% bring their own bicycle, while 9.6% rent a cycle, 6.6% of these on Bornholm.
- They are mainly clerical and skilled workers.
- over 50% are employed, 35.4% are students - these students are mainly Danes.
- The total annual number of cycling tourist bednights is 477,000, 177,000 on Bornholm and 300,000 on Fyn.
- The total number of cycling tourists is 53-55,000 - 20-26,000 on Bornholm and 29-33,000 on Fyn.
- They mainly cycle in the summer.

6. The activities of the Cycling tourist

6.1 Introduction

In the last chapter we drew up a profile of the cycling tourist. The main aim of this chapter is to describe the activities of the cycling tourists. One of the hypotheses of the analysis is that cycling tourists have a significant impact on the countryside, as it is assumed that they spend more time outdoors than ordinary tourists. To discover whether this is true, the following chapter examines the activities of cycling tourists and to what extent they use the cycling routes laid out. This last factor is important, as the routes described elsewhere have been designed to guide the cycling tourists to the locations where the authorities find that conditions and space would be able to accommodate more cycling tourism without damaging the countryside and the environment.

6.2 Cycling holiday experiences

When the cycling tourist was defined it was argued that the term *cycling tourists* include both those who have mainly come to have a cycling holiday, and those for whom cycling itself is not the principal aim, but who cycle on one or more days of the holiday, using the same facilities and services and visiting the same sights and attractions.

Table 13. Purpose of the holiday

Cycling is the principal objective of the holiday	65%
Cycling is the secondary objective of the holiday	33%
Don't know/not answered	2%

For 2/3 of the cycling tourists, cycling is the primary objective, while it is secondary for 1/3. So by far the majority of the cyclists are hard core cycling tourists.

It is still an interesting fact that one third of the cycling tourists consider cycling a secondary objective, especially if these figures are compared with how many of the cycling tourists have previously been on a cycling holiday:

Table 14. Have had a cycling holiday previously

Have had a cycling holiday previously	63%
Have never had a cycling holiday	37%

Apparently, almost 2/3 of cycling tourists have previously been on a cycling holiday. But the two groups of two thirds are not the same people.

Table 15. Previous cycling holiday compared to objective of the holiday (%)

	Main objective Cycling holiday	Secondary objective Cycling holiday	Objectives are other than cycling	Total
Have previously been on cycling holiday	45	18	-	63
Have not previously been on cycling holiday	20	15	2	37
Total	65	33	2	100

The table shows that there is a kind of *hard-core cycling tourist*, who has previously been on cycling holidays and whose main objective for the holiday is cycling. This group is approximately half of all cycling tourists. It also shows that those who have not previously been on a cycling holiday and whose objective with the holiday is cycling account for 20% of the cycling tourists. Finally, it can be concluded that the number of cycling tourists with cycling as a secondary objective is virtually the same (15%) irrespective of whether or not these tourists have previously been on a cycling holiday.

6.3 Loyalty to destination

26.4% of the cycling tourists have visited their destination before, while 73.6% have not. The majority of the cycling tourists are therefore visiting Fyn and Bornholm for the first time, even though they may have been on a previous cycling holiday elsewhere. If this is compared to the holiday home and camping tourism on the West Coast and tourists in Denmark in general, a difference in loyalty to destinations becomes obvious:

Table 16. Loyalty to destination

	Have visited the destination before
Cycling tourists	26%
Tourists in holiday homes (West Coast) ¹¹²	74%
Camping tourists (West Coast)	62%
Camping Tourists (Denmark) ¹¹³	48%
Tourists in holiday homes (Denmark)	64%
Tourists in Youth Hostels (Denmark)	41%

The tourists from the neighbouring markets are, in particular, very loyal towards Denmark as a destination, while tourists from other countries do not have the same level of loyalty. For example, only 17% of the Italian camping tourists have visited Denmark before.¹¹⁴ Cycling tourists, however, are very different. It could even be said that cycling tourism is a *new* tourism form with a loyalty pattern different to the pattern of the *traditional* tourist visiting the West Coast and Denmark.

112 Hjalager, A., 1995.

113 Denmark has been included to detect any clear differences in loyalty to destination at a regional level compared to national level. The figures are own calculations based on table 16 in Danmarks Turistråd, 1993.

114 Danmarks Turistråd, 1993.

The reason for this different pattern of loyalty is unclear, but it may be that this *new* tourist is more interested in new adventures and experiences.¹¹⁵ Cycling tourists may be an example of this new tourist who, in his search for new experiences, makes frequent changes of destination - i.e. has a low destination loyalty - in order to satisfy his need for adventure.

Another explanation may be simply that it is a new kind of tourism. If this is the case, loyalty may increase in the future.

Among those cycling tourists loyal to the destination, i.e. those who have visited more than once, the following pattern emerges:

Table 17. Number of previous holidays on Fyn and Bornholm

	1 holiday	2 holidays	3 holidays	More than 3 holidays
Percentage of total number of cycling tourists	14%	5%	3%	4%

A little over 12% of all cycling tourists have been on a cycling holiday on Fyn or Bornholm more than once. This group of cycling tourists must be considered loyal tourists, although the group of tourists who are on Fyn or Bornholm for the fourth time or more is very small.

In the next table it is indicated that a number of cycling tourists have been on cycling holidays in several places both in and outside Denmark. The cycling tourists have been divided in to two groups according to whether they were interviewed on Bornholm or Fyn. The division has been made to discover whether there is any difference in the *internationalisation* of the cycling tourists on the two islands. Please note that the absolute figures show how many that previously have had a cycling holiday in the various destinations.

115 Poon, A., 1993.

Table 18. Previous holiday destinations of cycling tourists, no. of trips¹¹⁶

Bornholm		Fyn		
<i>Bornholm</i>	45	<i>Fyn</i>	35	Iceland
<i>Fyn and islands</i>	16	<i>Bornholm</i>	36	Poland
Jutland	26	Jutland	50	Bulgaria
Sealand	16	Sealand	13	South America
Lolland/Falster	4	Lolland Falster	4	USA
Everywhere in DK	4	Everywhere in DK	1	Australia
Germany	21	Germany	23	China
Sweden	21	Sweden	8	Portugal
France	5	France	23	Turkey
Norway	5	Norway	5	Spain
Belgium	5	Belgium	3	Morocco
Holland	5	Holland	15	Switzerland
Austria	3	Austria	17	Scotland
Finland	2	Finland	1	Total trips
Czech Republic	2	Czech Republic	1	272
England	1	England	6	
Ireland	1	Ireland	3	
Italy	1	Italy	6	
Luxembourg	1	Luxembourg	1	
Everywhere in Europe	1	Everywhere in Europe	2	
Total trips	210			

The table shows, that the cycling tourists have been on cycling holidays to a large number of different countries and that the cycling tourists interviewed on Fyn are more *international* than those of on Bornholm, and are also more oriented towards exotic destinations.

In the table below, the number of destinations (including different parts of Denmark) have been calculated for Fyn and Bornholm separately. The average number of different destinations visited by the cycling tourists has also been calculated including both cycling tourists who have previously been on a cycling holiday and those who have not.

Table 19. Number of different cycling destinations per cycling tourist

	Total number of cycling holiday destinations	Average number of cycling holiday destinations
Bornholm	210	1.0
Fyn	272	1.4
Total	473	1.2

The calculation shows that, on average, the cycling tourists on Fyn have visited more cycling holiday destinations than those on Bornholm.

116 394 cycling tourists were interviewed, 197 on Fyn and 197 on Bornholm.

It is clear, however, that the number of cycling holiday destinations visited previously is in fact higher, as several of the interviewees did not mention all the countries they have cycled in, nor the total number of their previous cycling holidays. However, had they mentioned the total number of countries, this would not have altered the trend shown in the figures.

Amongst the interviewees, around 5% can be called cycling enthusiasts as they have visited more than 5 different countries and at the same time often visited one country several times. A couple of the cycling tourists on Fyn have even cycled in more than 10 different countries.

There also seems to be a tendency towards some nationalities preferring certain destinations; for example, the Dutch prefer France and the Swedes preferring Scandinavia, while the pattern for the Germans is more varied. However, conclusions cannot be drawn from the statistics available in this area.

It can be concluded that the cycling tourists visiting Fyn and Bornholm are different. The cycling tourists on Fyn have more international experience, and several of them can be labelled enthusiasts. Several of these enthusiasts have also visited Bornholm. This strongly indicates that Bornholm is known to be an *official* cycling tourist destination, which attracts some cycling tourists, while Fyn's reputation is more recent and thus attracts other target groups. The cycling tourists on Fyn can be labelled less loyal¹¹⁷ and more willing to run risks by visiting lesser-known destinations than the cycling tourists on Bornholm, who are more loyal and less adventurous.

Why this difference in loyalty and sense of adventure cannot be explained through this analysis.¹¹⁸

6.4 Number of cycling days

Cycling tourists usually spend 5 - 14 days on holiday. The following table illustrates on how many days of the holiday the cycling tourists intend to cycle.

Table 20. Intended number of days' cycling, %

	1 day	2-4 days	5-7 days	8-14 days	15-21 days	More than 3 weeks
Share in %	3.3	23.6	35.3	33.5	3.6	0.8

The table shows that the majority of the cycling tourists intend to cycle between 5 - 7 days or 8 - 14 days. A considerable number also intend to cycle for 2 - 4 days of the holiday, while only a few percent intend to cycle for one day only or for more than 15 days.

117 Mossberg, L.L., 1994.

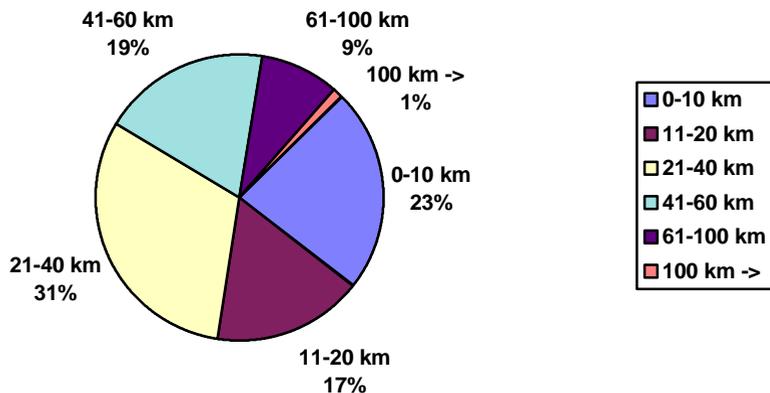
118 A cross-comparison of cycling tourists on Fyn and on Bornholm by age, professional standing, accommodation preference etc. has been attempted, but it has not been possible to demonstrate any patterns regarding sense of adventure and loyalty.

The average number of days on which the cycling tourists intend to cycle is 8.5 days. This is approximately one day below the duration of the holiday. By far the largest part of the cycling tourists' holiday is spend on the saddle, which is not surprising. It is surprising, however, that such a large part of the cycling tourists for whom cycling is a secondary objective of the holiday, use their bicycle as much as they do. The difference between the enthusiastic cycling tourist and the less enthusiastic can therefore not be accurately evaluated on the basis of individual statements about the main purpose of the holiday. The definition of the cycling tourist should rather be based on the number of days spent on the bicycle in relation to the length of the stay, as this gives a more precise picture of their need for cycling tourism products. *The more days of the total duration of the holiday on which the bicycle is used, the more the tourist can be called a cycling tourist.*

6.5 Length of cycling tours

The more kilometres a cycling tourist rides per day, the greater the wear and tear especially on gravel paths. On the other hand the more the cycling tourists stay on roads and paths, the smaller his or her impact on environment. It is necessary to look at the number of kilometers the tourist rides per day and the holiday as a whole, as shown in the diagram.

Figure 13. Number of kilometres per day per cycling tourist



1/3 of the cycling tourists cycle 21 - 40 km per day, while 25% cycle 0 - 10 km per day, just under 20% cycle 11 - 20 km per day and 20% cycle 41 - 60 km per day. This distribution matches the results of earlier analyses.¹¹⁹

119 Friluftsrådet, 1990.

Table 21. Kilometres cycled Fyn/Bornholm (1996) compared to the Dansk Cykelturismeanalyse (Danish Cycling tourism Analysis) 1990. (%)

	0-10 km	11-20 km	21-40 km	41-60 km	61-100 km	100 km >
Fyn/Bornholm	23	17	31	19	9	1
DTA ¹²⁰	29	14	27	18	10	3

The above figures can be compared to the number of kilometres which the cycling tourists intended to cycle per day. The purpose is to evaluate whether there are disagreements between the expected and the actual number of kilometres.

Table 22. The number of kilometres the cycling tourists intended to cycle per day (%)

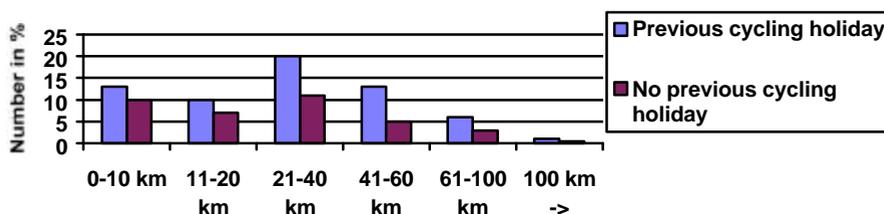
0-10 km	11-20 km	21-40 km	41-60 km	61-100 km	100 km >
6	26	41	20	7	1

The expected number of kilometres cycled does not quite correspond with the number of kilometres actually covered. In general, cycling tourists cycle fewer kilometres than planned. Only within the groups 61 - 100 km og over 100 km did more actually live up to their own expectations. On average, cyclists cover roughly 1.5 km less than planned.

The slight inconsistencies could also indicate that the cycling tourists are not really aware of how many kilometres they actually cycle. Only by using a kilometre counter on the bicycle can you measure the exact distances. Observations on Fyn and Bornholm indicate that very few bicycles are equipped with a kilometre counter.

If the distance cycled is compared to the cycling tourists' previous holidays, the following distribution is found. Expressed as a percentage of the total number of cycling tourists.

Figure 14. Number of kilometres per cycling tourist compared to information on previous or no previous cycling holidays



The above diagram makes it clear that the number of kilometres cycled is directly linked to previous cycling holidays. The cycling tourist who has not had a cycling holiday before rides

120 Friluftsrådet, 1990.

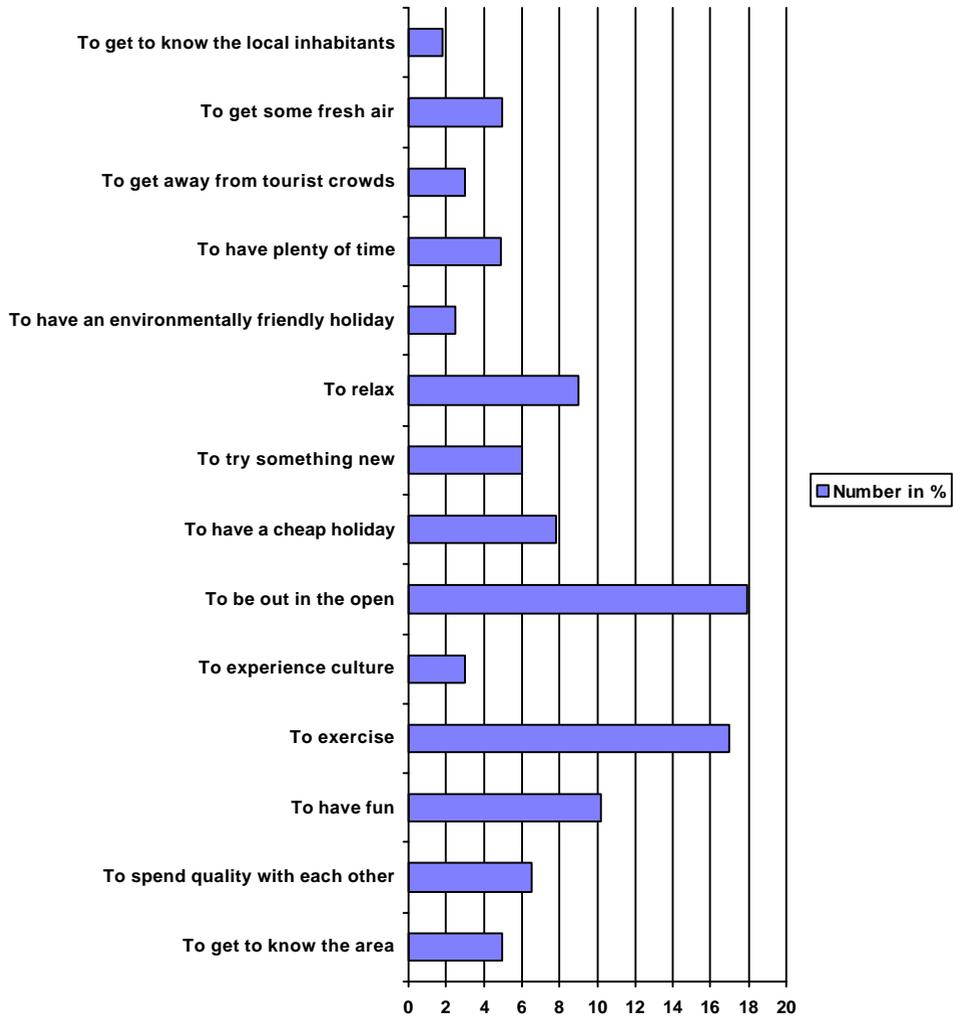
both absolutely and relatively fewer kilometres than the cycling tourist who has had a previous cycling holiday.

6.6 Reason for choosing a cycling holiday

The form and contents of the cycling holiday brochures are, as mentioned, different to those of the usual tourist brochures, as they focus less on beaches and attractions and concentrate instead on the countryside and the smaller coastal towns. The cycling holiday is projected as a thematic holiday form, well suited for people who wish to be active during their holiday(s) and who want to enjoy the sights and sounds of their chosen area (s) at their own pace.

In the following section the activity patterns of cycling tourists are compared to the suppliers' views of them.

Figure 15. Reasons for choosing cycling holiday



The table shows that the two main reasons for choosing a cycling holiday are: To be out in the open and to exercise.

Next in order are reasons such as having fun, having a cheap holiday, relaxing, trying something new and to spend quality time with each other/the family.

Aspects such as culture, environmental friendliness, getting to know the local inhabitants, getting away from tourist crowds do not seem to be accorded high priority by cycling tourists. A corresponding pattern can be found in Dansk Cykelturismeanalyse (Danish Cycling Tourism Analysis).¹²¹

Most cycling tourists point out that the sights and attractions on the islands are the main magnets. In addition to this, special sights such as Bornholm's glass blowers' workshops, round churches and herring smokehouses are much visited, as are Fyn's sights such as Egeskov Castle and the attractive countryside with its the gently undulating hills.

6.7 Time spent of the main holiday activities

Earlier in this chapter it was concluded that cycling tourists spend much of their holidays on the saddle. However, judging from the distances covered each day, plenty of time would be left for activities other than cycling. Even families with relatively small children can cover 30 km per day, if the distance is divided into smaller sections and with breaks at attractions, beaches, ice cream vendors etc. So what do the cycling tourists do during the remaining time?

Interviews with cycling tourists tell us that:

- approximately 8 hours per 24 hour are spent sleeping - some spend a little more, few spend less
- usually 2 - 3 hours are spent cooking and eating, and time for shopping should be added to this
- usually 5 - 6 hours are spent cycling, but this can vary from 2 - 10 hours including breaks¹²²
- usually 2 -3 hours per day are spent in town or at attractions, but this can vary from 1 - 7 hours
- usually 1 - 2 hours per day are spent in the open, i.e. in woods, on the beach, in dunes etc. away from the cycling paths and the accommodation centres
- usually 1 - 2 hours are spent packing, unpacking, pitching tents etc.

The cycling tourists spend only a little of their time on outdoor activities, and by far the majority of the time is spent where other tourists go, in towns, at attractions, at accommodation centres, etc. It has not been possible to track down other national analyses on how time is spent, so no comparisons can be made between the cycling tourists and other tourists.

121 Friluftsrådet, 1990.

122 The number of hours spent cycling do not appear to match the actual distances covered per day, which can indicate that more time is spent at attractions etc. than the cycling tourists themselves are aware of. A cyclist typically does 10 - 20 km per hour. While cycling through the Fyn and Bornholm routes an average speed of 16 - 18 km per hour was recorded. Even with heavy baggage and small children on their own bikes a speed of 8 - 10 km per hour can be kept. The estimated number of hours actually spent on the bicycle therefore seems a little high, but this does not alter significantly the time spent on other activities mentioned above.

This could mean that the cycling tourists, due to the cycling tour which naturally slows speed down, achieve a daily rhythm which gives them time to do a little of everything, i.e. the daily tempo is reduced. On the other hand, a transport form such as the car would not encourage this easy-going tempo to the same extent as a bicycle. This is a factor stressed by cycling tourists themselves.

6.8 A day in the life of a cycling tourist

The interviews made have it possible to reconstruct a typical day in the life of the cycling tourist.

A typical day

The cycling tourist rises around 7.30 - 8.30, washes and has breakfast. Tent and equipment are then packed down and the tourist cycles along a more or less fixed route. A large number of cycling tourists have fixed a accommodation centre and cycle from there.

A couple of hours are spent cycling during the morning. Due to the high and constant heat (and humidity) of the summer 1995, 1 - 3 breaks were taken, for drinks or ice creams. These breaks are often held in connection with a visit to an attraction or a town that the tourist wanted to look more closely. Lunch is then eaten, this is often the meal which requires the least preparation and which is eaten quickly (packed lunches, fast food, etc.). There are exceptions to this rule, especially if there are small children in the group.

After lunch, a few hours are spent cycling. The route is typically planned in more detail in the afternoons as it is necessary to reach the next camping site by the end of the afternoon. This, of course, does not apply for those who stay at fixed accommodation centres, but these tourists have to make sure that they get back before they get too tired.

During the afternoon, breaks are again held, and again, typically at attractions, in towns and at beaches. The breaks are spent, both mornings and afternoons, stretching the legs, consuming liquids and possibly eating chocolate or ice creams. Most cycling tourists do not regard the breaks as breaks, but as natural stops on the route to look at attractions or to shop. These stops can be planned or be the result of having something interesting on the way past.

Shopping for food, etc. is typically done at the end of the day, due to the heat - as the food bought does not keep well. At the end of the day, the tourists return to their place of accommodation or arrive at a new place. The tent is pitched again and the area is explored, practical matters are dealt with and then it is time to rest or visit the beach.

In families with children preparations for dinner are made. In groups without small children this is often postponed until later in the evening. One or two nights per week are reserved for eating out, especially when camping close to attractive small towns and villages. After cooking, dining and clearing away, time is spent walking in nearby towns or on the beach or swimming, playing with the children or just relaxing before retiring for the night. Even young

cyclists stress that late nights - occasioned by visits to bars or discotheques - are rare as cycling and fresh air are tiring.

The cycling tourists themselves find each day different, as different attractions are visited and new camping sites found etc. Nevertheless the above description and the time allocated to different activities is very typical.

6.9 What did you do yesterday?

One part of the analysis was to describe the cycling tourists' attitude to typical tourist activities. This was done by asking the tourists to cross off activities which they had done the day before.

Figure 16. Activities of cycling tourists



The table shows the distribution of activities in relation to each other. The most popular activity is swimming in the sea and visits to cultural attractions, and relaxing is also popular.

If this information is compared to the main reasons for choosing a cycling holiday - being outdoors and exercise - it is noteworthy that activities such as walking and visiting spectacular countryside are not accorded high priority. This could indicate the the cycling tourists' perception of being outdoors does not necessarily mean walks in the woods, over rocks etc.

This means that the cycling tourist considers cycling on paths, roads and along other routes as being outdoors *in nature*. The cycling tourist's perception of nature and the countryside is very

much the landscape which surrounds him/her during the cycle tour. This is irrespective of whether the landscapes be man-made, such as fields or pine plantations, or more *natural* landscapes such as meadows and woods. Therefore, when Fyn and Bornholm are chosen because of their countryside and landscapes, this does not mean that the cycling tourists necessarily want to get away from roads and paths but are just as happy to admire them as they cycle along the routes.

This supports the fact that the cycling tourists themselves state that they seldom leave the bicycle-friendly surfaces of the paths, routes and roads but admire the countryside on the way.

Another factor is the risk of having the bicycle or the equipment stolen when the bicycle is parked with the luggage, without being watched.

What is more, swimming in the sea, which is a very popular activity, is not actually considered a nature activity, even though the visitor goes across the beaches, in the dunes and in some cases through fields and woods to get to the beach. The sea is in this way not regarded as nature in the same way as the countryside, with its fields, woods, meadows and so on. Swimming in the sea is considered a relaxing activity and is thus not considered as belonging to the *experiencing the countryside and exercising* categories.

Finally, the table of activities also shows that activities which cost money - shopping, visiting cafés/bars/restaurants, visiting amusement parks/zoos - are only popular with relatively few cycling tourists. This again supports the theory that the activity patterns of the cycling tourists are based on spending only small amounts of money and using the free activities available at the destinations.

6.10 Cycling tourists and cycling route maps

From the above it can be deduced that the cycling tourists spend only a little time off roads and paths along the tour. It is not clear, however, whether the cycling tourists use the cycling routes laid out by the tourist industry, the counties and the cycling association to guide the cycling tourists along routes without (automobile) traffic to beautiful areas of the destinations.

The most effective way to draw attention to the cycling routes is by mentioning them in brochures and by describing the routes in the cycling route maps. Cycling tourists can also get information on the way without using maps, but the cycling route maps allow them to plan ahead. The cycling route maps are an important factor in the product development which supplement the routes.

Figure 17. Bornholm: Use of cycling maps

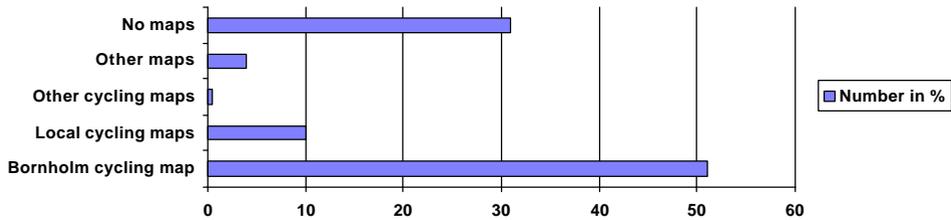
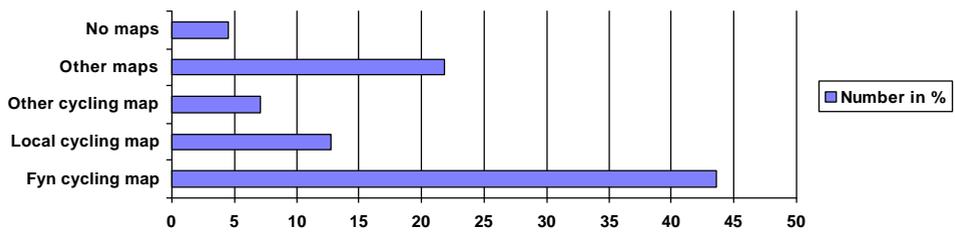


Figure 18. Fyn: Use of cycling maps



By far the majority of the cycling tourists use maps on the tour. A little more than 50% of the cycling tourists interviewed on Bornholm use the Bornholms Amt (County) cycling route map, but just below 45% of the cycling tourists on Fyn use the Fyns Amt (County) cycling route map. Quite a large number of the cycling tourists use the cycling route maps published by the counties.

On Bornholm approx. 15% use cycling maps other than the county cycling route map but a much larger percentage, 42%, on Fyn. Under *Other maps* (other than the counties' cycling maps) are mentioned Shell maps, Ordnance Survey maps, Denmark maps, the national cycling maps, Atlases, Marco Polo's maps (German travel agent) and many others. Some of the cycling tourists use more than one kind of map including both the regional cycling route maps and other maps.

Just over 17% do not use any maps on the cycling tours, and there is a great difference between Fyn (4.5%) and Bornholm (31%). The majority of this group mention that they know the area quite well, that they do not go far, or that they do not want to have a map controlling their holiday. This ties in with the fact that the cycling tourists on Bornholm are more loyal to the destination without quite explaining the large difference between Fyn and Bornholm. Another

explanation could quite simply be that Fyn is so much bigger and so the need of maps for guidance is much greater.

Objections to and criticisms of the cycling route maps are few, but the shortcomings are as follows:

- does not mark all types of accommodation
- does not mark restaurants/cafés/fast food places
- does not mark the levels of difficulty of the routes
- does not indicate gradient of hills, especially in connection with very steep down-hill rides, bends, cross roads, slopes etc.
- does not indicate *sensitive* country side areas (walking here is not allowed)
- does not indicate where cycling is allowed/not allowed, i.e. information where one should not cycle.

These expressed shortcomings can be used to great advantage when further developing the cycling tourism products on Fyn and Bornholm.

6.11 The cycling tourists and their use of the cycling routes

Even if they use a cycling route map the cycling tourists do not necessarily follow the routes. It is conceivable that some would prefer to find their own routes and perhaps combine them with the designated routes. The analysis shows

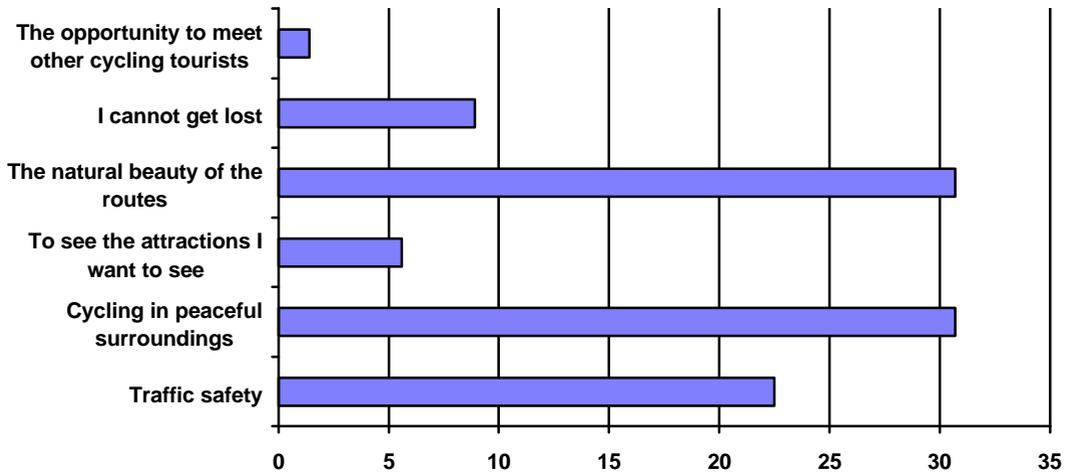
Table 23. The cycling tourists' use of the designated cycling routes

- that 82% mainly use the designated cycling routes - that 18% do not use the designated routes or use them by coincidence only
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The majority of the cycling tourists therefore use the designated routes to a great extent. The cycling routes can thus be considered a success since so many cyclists use them.

The reasons for choosing the routes are as follows:

Figure 19. Reasons for choosing the designated routes



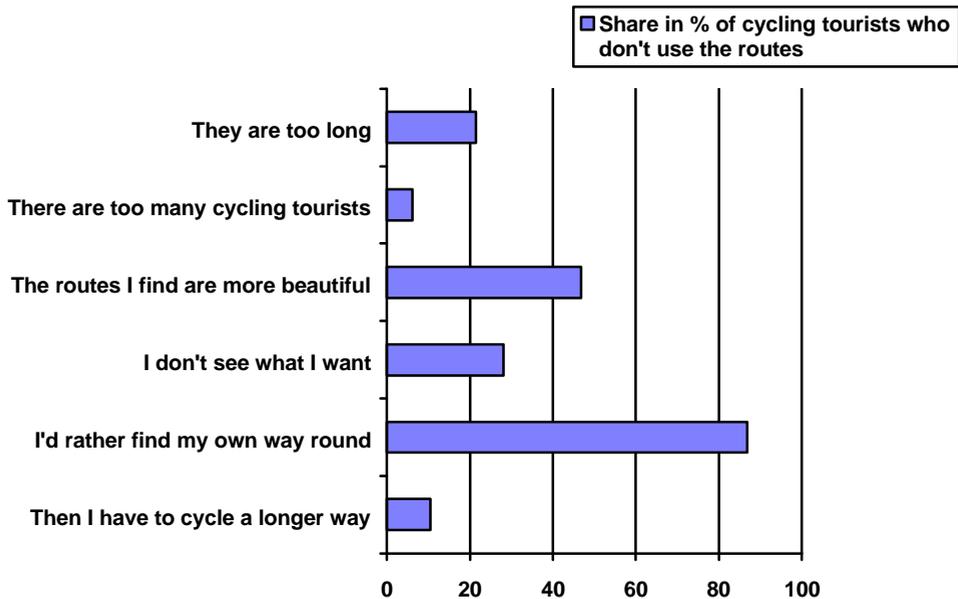
The cycling tourists were permitted to mark two options if traffic safety was the first priority. However, judging from the total number of answers, the main reasons for choosing the routes are to experience the beautiful countryside and cycling in peaceful surroundings without too many cars. The criteria for designating the cycling routes have hereby been met, as the routes - as mentioned earlier - were intended to guide the cycling tourists to the beautiful areas of the islands while, at the same time, making it possible to cycle in safe surroundings.

Only a few of the routes are chosen for the sake of the attractions. This could indicate that the cycling tourists are not particularly interested in attractions and experiences or that the route descriptions and brochures on the routes have not succeeded in explaining that the routes lead to the areas' main attractions as well as guiding the cyclists round the countryside of Fyn and Bornholm.

The cycling tourists do not have a great desire to meet other cycling tourists and the routes have not been chosen because they are worried about getting lost.

Only relatively few choose not to follow the routes. Reasons for not following the routes are examined below. They may well give rise to suggestions concerning what could be done to encourage these cyclists to use the routes and what can be done to improve the routes:

Figure 20. Reasons for not using the routes



The main reason for not choosing the cycling routes is that the cycling tourists prefer to find their own way round Fyn and Bornholm. An argument which, when combined with the fact that they find beautiful routes themselves, makes it difficult to alter their disinclination to use the routes.

Several cycling tourists explain this by saying that they feel that they are being controlled when cycling along designated routes. They prefer to be in control of their own holiday as regards where they go and what they see. They do not necessarily want to see what the tourist industry and the regional authorities think they ought to see.

The cycling tourists who choose not to cycle along the designated routes have the same nationality pattern and expenditure per day as the cycling tourists who choose to follow the routes. Nor is there any difference to be detected in their choice of activities. This group of cycling tourists have largely the same characteristics as the other cycling tourists, but its members are more likely to cycle alone or in pairs, which, to some extent, supports their expressed need for independence and liberty, and their disinclination to have someone else influencing their holiday.

6.12 Satisfaction with the routes

Both the users and the non-users of the designated cycling routes are very satisfied with the roads and the routes. Some do, however, point out that gravel and soil are not ideal surfaces, especially when wet. This criticism is most heard on Bornholm, but can also apply to the gravel paths on Fyn. In a few places where tree roots have ruined the surfaces, or holes have appeared in the asphalt, the stones used as a foundation protrude - as is the case at Poulsker Plantage (Bornholm). Gravel surfaces are also often a problem as they soon become very worn and almost unusable for cyclists with heavy baggage. On Enebærødde (Fyn), for example, stones and loose sand make the path almost impassable (summer 95), and cyclists often choose to ride along the sides of the path on the firm grass. This makes the path even wider as the grass is worn away and new sand tracks are made and the cyclists pull out even further.

The suggestions for improving the cycling route net are few, but better parking facilities at attractions, sights, restaurants, accommodation centres - especially camping sites and youth hostels - and at stopping places along the routes are often mentioned. Heavily-laden cycles fall over easily, so cycle racks which can support the cycle without twisting the wheels are often requested by cycling tourists.

Accommodation centres (camping sites) lack lockers for storing equipment, etc. while you sleep or spend time at the beach, shop or are away from the tent. The Bornholm youth hostels in particular are mentioned as lacking flexibility and cycling-friendliness.

It is puzzling that none of the cycling tourists mentions the problem of access to toilets. Very long distances can be covered without finding a toilet. The majority probably use *the great outdoors*, but this is not a desirable solution from an environmental point of view nor is it not particularly comfortable.

Other criticisms include:

- Problems with marking/signing of routes (especially in Odense, by the ferries on Bornholm, where the cycling routes start in the towns and if grass and plants hide the signs).
- Inadequate signposting of youth hostels, basic camp sites and other accommodation along the route.
- Distances to accommodation centres, nearest town etc. are not indicated.
- Inadequate signposting of attractions and sights.
- Too few tables/benches at the stopping places.

6.13 The cycling tourists' evaluation of other cycling tourism products

Cycling tourists generally have a very positive attitude towards Fyn and Bornholm as cycling tourist destinations. Some of the concrete reservations mentioned here have been made in

connection with the cycling tourists' evaluation of the specially developed cycling routes and cycling route maps. Other reservations and suggestions for improvement and adjustments will be listed in the following.

Apart from ordinary tourist brochures and cycling tourist brochures the cycling tourists request material about:

- How to establish contact with the local inhabitants (there are many requests for this, especially from Germans).
- Cultural events - exhibitions, festivals, concerts as well as museums etc.
- Nightlife.
- Shopping facilities.
- A broad guide to the flora and fauna of the islands.
- How to behave considerately towards nature and the environment as a cycling tourist.
- Different language versions of existing material and above mentioned material, especially in Swedish, French and English - and request for museums to have information in languages other than Danish.
- Eating-out guides.

A few cycling tourists mention the lack of qualified cycling mechanics (on Ærø and Bornholm) and more request transport facilities for baggage and bicycles, especially on public transport. At the same time several of the shipping lines are said to offer bad service to the cycling tourists, insufficient cycle parking facilities during the crossings and to be biased towards motor vehicle drivers - here BornholmsTrafikken (The ferry company operating Copenhagen-Bornholm) is especially mentioned. Finally several of the cycling tourists suggest package tours based on different themes, such as historical, botanical cycling tours etc. A number of the above product development suggestions have been mentioned in the inspiration guide for development of the cycling tourism,¹²³ but some are new.

6.14 Distribution of the cycling tourists on Fyn and Bornholm

According to the report *Fælles Fodslaw*, cycling tourism is thought to stimulate the local areas which find it difficult to attract other leisure and business tourists. And furthermore the cycling tourists are thought to visit areas where other tourists do not normally go, and this is another argument regarding the geographical distribution. But this does not seem to be the case.

One of the problems for the tourist industry on Fyn and Bornholm has been to identify the areas where the cycling tourists stay on the islands. This issue is interesting because the cycling tourists may stick together in smaller areas and develop *honey pots* which can become

123 Danmarks Turistråd et al., 1994.

overcrowded,¹²⁴ and this also give the industry an opportunity for intensifying their efforts in the areas where there are many cycling tourists and developing the areas with fewer. Finally the distribution of the cycling tourists can be a guideline to what actually attracts the tourists besides what has already been analysed.

The South of Fyn and the whole of Bornholm are regarded as primary tourist destinations.¹²⁵ It can therefore be assumed that the concentration of cycling tourists will be especially large in South Fyn and evenly distributed throughout Bornholm.

The cycling tourists have been asked where on Fyn and Bornholm they intend to visit or have already visited.

Table 24. The distribution of the cycling tourists on Fyn and Bornholm, %

	The entire island	South part	Eastern part	Western part	Northern part
Fyn	22	49	13	9	6
Bornholm	47	13	9	21	10

The table shows that the assumption to be more or less correct. On Bornholm, approximately 50% intend to bike around the entire island, while nearly 50% intend to bike around the South of Fyn.

On Bornholm just over 1/5 intend to cycle on the Western part of the island only, while only a very limited amount intend to cycle on the Eastern part of Bornholm, which could seem a little puzzling considering that the tourist attractions such as Nexø, Gudhjem, Svaneke, The Bornholm Art Museum, and the Helligdomsklipper etc. are on the Eastern part of Bornholm.

Cycling along the designated routes shows that currently there are no *honey pots* along the routes, i.e. places where large numbers of cycling tourists are concentrated around limited parts of the routes and thus creating heavy traffic or displaying a tendency to group together. Large number of cycles and cycling tourists can only be seen at certain attractions - EgeskovCastle, ValdemarsCastle, The Bornholm Art Museum and Helligdomsklipperne - in some towns, and, in particular at very popular beaches, but they do not appear more prominent than other tourists. However, their cycles can take up quite a lot of space in areas where there are only few proper cycle parking facilities, and this could give to feelings of bad-will among the locals, other tourists and other visitors.

If the geographical distribution of cycling tourists is compared to where they spend their time it can be seen that cycling tourists spend a relatively large amount of time on the cycling routes. However, it also shows, that when they are not cycling, cycling tourists can be found in the same places as other tourists. Consequently, the efforts made to move cycling tourists away from the

124 For the time being there is not enough cycling tourist to create overcrowding, but it might be a problem in the future.

125 Danmarks Turistråd et al., 1992.

main tourist areas for a few hours every day have, to an extent, been successful. On the other hand, the aim of creating a form of tourism to spend more of their time away from the most popular tourist areas and to spend more of their money in areas with few tourists has not been realized. When it is added that the cycling tourists cycle almost exclusively during the peak season, it is reasonable to ask questions such as whether cycling tourism can fulfil the expectations regarding the wider distribution of tourism.

6.15 Summary

The main results from this chapter can be summed up as follows:

- A cycling holiday is the main purpose for 65% of the cycling tourists.
- 63% have previously been on a cycling holiday.
- Cycling tourists are not very loyal to the destination, especially on Fyn.
- The cycling tourist on Fyn is more *international* than the cycling tourist on Bornholm.
- Between 5 and 14 days are typically spent cycling.
- 1/3 cycle 21 - 40 kilometres per day, 23% cycle 0 - 10 kilometres per day and 19% 41 - 60 kilometres per day.
- The number of planned kilometres often exceeds the distance actually covered.
- Being out of doors and exercising are the main reasons for choosing a cycling holiday.
- Cycling, swimming and visiting cultural attractions are the preferred tourist activities.
- Entrance-fee-based attractions are not very popular among cycling tourists as compared to free activities.
- Approximately 50% use the regional cycling route maps.
- Cycling tourists are generally satisfied with the cycling route maps.
- 81.5% stay on the designated routes.
- The most common reason for choosing to follow the designated routes are *the beautiful routes, peace and quiet and not too many cars and traffic safety*.
- The main reason not to use the designated routes is *I'd rather find my own way round*.
- In general the tourists are very satisfied with the designated routes.
- In general the tourists are very satisfied with the other cycling tourism products (over and above the designated cycling routes and maps).
- 49% of the cycling tourists on Fyn stay in South Fyn while 47% of the Bornholm cycling tourists visit the entire island.

The characteristics of the cycling tourist from the previous chapter together with this chapter's description of their activities indicate that the cycling tourist is a concrete example of the *new* tourist - the tourist of the 90's - whose six main features are:¹²⁶

1. They are very experienced.
2. They have a new life style.

126 Poon, A., 1993.

3. They are more flexible.
4. They have new values.
5. They come from very varied demographic sectors.
6. They are more independent.

A number of the above characteristics of the *new* tourist listed above also apply to the cycling tourists on Fyn and Bornholm: they want variation, they are experienced travellers, educated, spontaneous, sensitive to environmental issues etc.

An examination of the cycling tourists' activities and their distribution on the islands shows that there is no reason to assume that the cycling tourists have a greater impact on the environment than other forms of tourism. Danish tourism is based on exploiting outdoor opportunities, especially those offered by the sea and the beaches. The analysis cannot show whether the cycling tourists have as great an impact as the holiday house tourists and the like. The latter have, to a great extent based their holiday upon using the beach, hiking in the dunes etc. This applies especially to the West Coast but also to popular summer house areas on Fyn and Bornholm - such as Ristinge, Dueodde etc. Other tourists such as anglers, surfers and other *users of the countryside* must be considered as constituting a greater threat to the environment than cycling tourists, as they often spend more time in the open, often in more *sensitive* areas.

Moreover, the cycling tourists' use of *sensitive* areas, on the contrary, like dunes, meadows, bird reservations etc., is not very extensive as cycling tourists spend by far the greater part of their time at accommodation centres, in towns and at attractions and on cycling paths, roads etc. - i.e. in places where they do not increase damage to the environment.

Cycling tourists spend 2 - 3 hours a day outdoors (apart from the time spent on roads and paths) of which the main part of the time is spent on beaches. During this time the cycling tourists have an impact on the environment, but this impact is no more intensive nor prolonged than the impact of other forms of tourism. Cycling tourism cannot be said to be more harmful to the environment than other forms of tourism.

7. The cycling tourists' knowledge of Fyn and Bornholm

7.1 Introduction

The tourist industry spends a considerable amount of money on marketing Bornholm and Fyn as cycling tourism destinations. It is therefore interesting to examine where the cycling tourists acquire their knowledge of the islands, to elucidate any connection between the industry's choice of marketing tools and the cycling tourists' choice of destination.

The following will differentiate between *how* the cycling tourist was motivated to choose Fyn/Bornholm and *why* the islands were chosen as a holiday destination. Finally, we will look at how and where cycling tourists obtain information on Fyn and Bornholm.

7.2 Motivation for choosing Fyn and Bornholm

The table shows how the cycling tourist was motivated to choose this cycling holiday.

Table 25. The sources of motivation for the cycling tourists choice of Fyn and Bornholm, %

	Danes	Germans	Swedes Norwegians	Dutch Other Europeans Other nationalities
Family/Friends	25	29	45	23
Fairs/Exhibitions	-	1	2	3
Previous experience	50	27	30	23
Articles in newspapers	4	6	5	9
The Danish Tourist Board's Denmark Catalogue	1	10	-	12
The Fyn/Bornholm Catalogues	1	1	-	9
Books on cycling tourism	1	1	-	-
Spontaneous idea	18	25	16	18
Total	100	101	98	97

(Please note that the rounding up of figures, might result in a total different to 100%)

The Danes mainly elected to go on a cycling holiday on the basis of previous experiences, advice from family and friends or spontaneously. All three behaviours patterns require previous knowledge of the cycling tourism product on the two islands.

The same pattern is seen with the Germans and the Swedes/Norwegians, which implies that these nationalities also possess a previous knowledge of the cycling tourism products of Fyn and Bornholm. In fact these nationalities must have a rather thorough knowledge, as only few were inspired to a cycling holiday through image brochures and promotional marketing materials.

The same pattern is recognisable as regards the other nationalities, but the figures in this mixed group are based on a more varied decision making process. The Dutch follow the same process as the Danes and the cycling tourists from the neighbouring markets, whereas the distant markets to a greater extent become aware of Fyn and Bornholm through marketing campaigns.

All in all, the table shows quite clearly that exhibitions, books on cycling tourism, regional tourist brochures, and the national tourist catalogue are not marketing tools that draw tourists from the main markets i.e. Denmark, Germany and Sweden. In total they only account for 7.6% of the interviewees. Even if the Danes are left out of this calculation - based on the assumption that they, of course, know Denmark - the image brochures and promotional tools can be said to attract only a very limited number of cycling tourists.

7.3 Reasons for choosing Fyn and Bornholm

In the last chapter it was established that cycling tourists mainly choose a cycling holiday because they want to see beautiful landscapes and take exercise. The reasons for choosing Fyn and Bornholm as a cycling holiday destination are the following:

Table 26. Reasons for choosing Bornholm as a cycling holiday destination¹²⁷

Bornholm			
The landscape/beautiful island	35	Good climate/good weather	7
Know the island/prior experience	36	Good beaches	6
Recommended/heard about it/good reputation	35	Spontaneous idea	6
Cycling friendly island/ good cycling roads	22	“Green” island	3
Friends/family live here	15	Have not visited the island before	3
Short distances/easily reached	13	Have not visited Denmark before	3
Cheap	11	Only place in Denmark not visited	3
Try something new	10	Holiday house on Bornholm	3
Close/easily accessible	10		
<u>Other:</u> Love islands; Read about it in a magazine; Have been in love with a girl from Bornholm; The song about Bornholm; Bornholm is the place for cycling holidays; Cruise; House swap; Many hills; Loves Bornholm; Possibility for free accommodation; Children friendly island; Accidental; Southern Denmark is beautiful; Exotic; Sunshine island; Many attractions; Small/peaceful; Away from the big city; Wants to discover Denmark; Tourist Brochures; Curiosity.			

127 Bornholm: 197 interviews have given 246 answers as it was possible to mark more than one reason.

Table 27. Reasons for choosing Fyn as a cycling holiday destination¹²⁸

Fyn			
The landscape/beautiful island	75	Know the island/prior experience	6
Cycling friendly island/good cycling roads	25	Nice beaches	5
Short distances/easily reached	16	South Fyn	5
Friends/family live here	15	The island/archipelago	5
Close/easily accessible	12	Small hills	4
Transit/going East/West	11	Lives here	4
Recommended/heard about/good reputation	9	“Children friendly”	3
Try something new	9	Brochures	3
Attractions/H.C. Andersen/Egeskov Castle	9	Perfect for a short holiday	3
Haven't visited Fyn before	7	Good ferry connections (from the South)	3
Part of round trip/DK Tour	7		
<u>Other:</u> Cheap; Try something new; Nice climate/nice weather; Spontaneous idea; Green island; Only place we haven't visited in Denmark; Perfect for a long weekend; Likes Denmark; Many camping sites; Many youth hostels; Island camping; Good information; Angling; Fyn is Fine - nice girls; Rally; Moby Dick Radfahrerführer (German cycling guide); Rented holiday house; Midt Fyn Festival; Nice people (the locals); Fascinated by Scandinavia; To see more of Denmark; Sports; Articles in Magazine; Culture; Odense; Curiosity.			

The main reasons for choosing Fyn and Bornholm are very similar, e.g. beautiful countryside and landscapes, knowledge of the islands and how cycling friendly they are, especially the *official* routes and the cycling roads.

However, there is a difference in the familiarity with the islands. Bornholm is chosen mainly because of recommendations and earlier experiences, while this does not apply to Fyn to the same extent. Fyn is a more obscure holiday destination, with few *repeaters* among the tourists, while tourists are attracted to Bornholm several times.

It should be noted that a significant part of the Bornholm cycling tourists base their choice on the fact that it is cheap to have a cycling holiday on Bornholm. The young Swedes are a large part of this group. In comparison there is only one cycling tourist who chose Fyn because of the price, despite the fact that it is cheaper to reach Fyn than Bornholm.

The main reasons for choosing Fyn and Bornholm have been grouped below:

Table 28. Main reasons for choosing Bornholm and Fyn as a cycling holiday destination

1.	Connections/knowledge/family/friends
2.	The country side/the landscape/the beaches/the climate
3.	Cycling route/cycling-friendliness
4.	Short distances/easily reached/easy to orient oneself

Connections, knowledge, family and friends are the primary reason for choosing Fyn and Bornholm, followed by the country side, landscape, beaches and climate of the islands.

¹²⁸ Fyn: 197 interviewees have given 262 answers as it was possible to mark more than one reason.

The cycling routes/cycling-friendliness come next in the line of reasons for choice of destination. The industries, counties and municipalities of the islands have therefore succeeded in attracting a large part of the tourists by target oriented development efforts - the development of the cycling product, especially the cycling routes and roads. This is a criterion for choice which requires knowledge of the islands and which is at the same time unique to the cycling tourists, as they are the only group (apart from the locals) who really benefit from the product development efforts made.

Finally, a very important reason for choosing Fyn and Bornholm is the short distances and easily reached places. At first sight, this should only be important for the cycling tourists who stay at fixed accommodation, because they can reach a considerable part of the islands riding a bicycle from their fixed place of accommodation. However, the short distances and easily reached places are also an important factor for tourists moving from place to place. The explanation for this is that the countryside varies considerably within short distances. Unvarying countryside is not interesting. Over and above this, it is also possible to find accommodation, shops, and beaches within very short distances. Both factors are important to cycling tourists.

7.4 Information seeking

Cycling tourists obtain information about Fyn and Bornholm from a variety of sources. Some cycling tourists are very thorough, and read about the islands in books and other forwarded material before they leave home. Others travel without any real knowledge of the tourist facilities of the islands. Younger tourists in particular are not really interested in making preparations, preferring to go on holiday and let themselves be surprised by Bornholm and Fyn. They are prepared to take things as they come, or state that friends or family have told them what to see. Most part of the cycling tourists interviewed did send off for material or read various travel books before departure.

During their stay, information is gathered from brochures, cycling maps, event calendars, travel guides, books, verbal information from tourist offices. In general, cycling tourists are interested in the regional and local tourist brochures and many are happy to take all the material handed out at the tourist offices and accommodation centres. The majority of these tourists read the brochures, and only few of the interviewees did not read any of the material they have been given.

7.5 The level and quality of the information

All in all, great satisfaction is expressed with the service level and information available on the islands. In particular. The tourist offices in particular are mentioned as good places to obtain information, but signs for attractions and sights, brochures and factual information brochures are also generally found satisfactory.

Only a few cycling tourists mention unreliability and gaps in the information, and the most common complaints are about signs for Egeskov Castle, absence of signs for restaurants and cafeterias and unclear marking of the routes. Several, especially Germans, think that more should be done for the German-speaking visitors, especially in the museums, where often the information displays are often only written in Danish.

It is also worth noting that cycling tourists generally find that Fyn and Bornholm actually resemble the pictures in the brochures and other sales material - i.e. the brochures do not paint too rosy a picture. But several find that the brochures give too great an emphasis to restaurants and accommodation locations. Pictures of these could well be replaced by pictures of what people wanted to see, and the real attractions of Fyn and Bornholm - the countryside, the landscapes and the small harbour towns.

7.6 Summary

The main results of this chapter are, in brief:

- The motivation for choosing Fyn and Bornholm is mainly: earlier experiences (38.8%); recommendations from family and friends (28.1%) spontaneous idea (19.7%).
- The level of knowledge of Fyn and Bornholm as cycling destinations must be considered to be high among both national as well as international cycling tourists.
- The reasons for choosing Fyn and Bornholm are mainly;
 - 1: Connections/knowledge/family/friends.
 - 2: The countryside/landscape/the beaches/the climate.
 3. Cycling routes/cycling friendliness.
 4. Short distances/easily reached/easy to orient oneself.
- The majority of the cycling tourists have requested information material on the islands before they leave home.
- The younger cycling tourists do not seek information on the destinations before departure.
- That, on the whole, service and information available on Fyn and Bornholm is satisfactory.

8. Cycling tourists and the environment

8.1 Introduction

Some researchers have identified eco-tourism as an environmentally sustainable form of tourism, while others think that it is not. Then the difference between environmental tourism, eco-tourism, special interest tourism and nature oriented tourism is debated, and finally whether sustainable tourism is eco-tourism, ... or vice versa. Only if cycling tourism can definitively be included in a single category will determining whether cycling tourism is one kind of tourism or another be of any relevance.

This analysis will show, that cycling tourism in its various forms can be described both as eco-tourism,¹²⁹ nature oriented tourism,¹³⁰ Special Interest Tourism¹³¹ and environmental tourism¹³² etc., which should all be seen as variations of sustainable tourism.¹³³ None of the labels alone covers all of cycling tourism. It has too many varieties and forms. Cycling tourism, in the broad sense of the word, is therefore considered in this project to be a new kind of tourism, best labelled as a *green* form of tourism. Green tourism is in itself not necessarily sustainable, but the degree of sustainability will be investigated.

In the following we will look at the type of accommodation tourists prefer and the environmental impact of the various modes of transport as well as the impact on flora and fauna. The importance of the environment when choosing a holiday destination is examined. The level of satisfaction of cycling tourists concerning certain environmental issues, such as water and energy consumption, sewage outlets, bathing-water quality at beaches, keeping the countryside clean, refuse sorting and recycling systems. Finally, the environmental awareness of cycling tourists themselves is considered: In what way and to what extent does the individual consider the environment?

The analysis of the impact of cycling tourism on the environment will not include evaluations of the impact on nature and environment of construction. For example, it is impossible to isolate the impact of cycling tourists from the impact of the local inhabitants when looking at building and maintaining cycling paths etc. There are simply no figures available on who uses which paths and how much.

8.2 Environment as a selling point

The environment has become a key selling point for the tourist industry in Europe, especially within the German market. The development around the Mediterranean has shown that a

129 Murphy, K., 1991.

130 Such as Valentine, P.S., 1992.

131 Such as Weiler, B., C.M. Hall, 1992.

132 Saabye Simonsen, P., K. Gausdal, 1995.

133 WWF, 1992

country which ignores its environmental issues will learn that it is the tourists and not the issues which vanish. Seen from a tourism angle, well-proven environmental friendliness, awareness and responsibility will gain an increasingly more important rôle in determining demand when tourists choose a holiday destination. In Germany, for example, the leading tour operator TUI (The largest in Europe) and Neckermann have employed *environment managers* who insist that their destinations and sub-suppliers meet certain requirements. Furthermore, a German tourism magazine has shown that environment is far more important than sun for Germans in choosing their holiday destinations. On the list of priorities of what influences the choice of destination, beautiful countryside is at the top followed by cleanliness, meaning the cleanliness of the holiday area together with unspoilt countryside, clean beaches and well organised refuse sorting.¹³⁴

8.3 The environmental impact of cycling tourists

As a starting point it is relevant to look at how and in which areas tourism influences the environment, including nature, local population and resources. Opaschowski lists seven types of effect which are linked to leisure and tourism:¹³⁵

1. Pollution of the landscape
2. Water pollution
3. Air pollution
4. Endangering plants
5. Endangering (wild) animals
6. Destruction of landscape
7. Destruction of landscape by development.

A more comprehensive description has been made by the OECD¹³⁶ and Hjalager¹³⁷ (please see list below):

134 Reisebüro Bulletin, 1995.

135 Opaschowski, H.W., 1991.

136 The model is based on the OECD model, which has been copied with certain additions in Buhalis. D., J. Fletcher, 1995.

137 Here with a few additions to Hjalager, A., who has reworked Hunter/Green (1995) to a Danish version, Hjalager, A., 1996.

Table 29. Examples of the environmental impact of tourism and leisure

<u>Aspects</u>	<u>Consequences</u>
Flora and Fauna	<ul style="list-style-type: none"> - Disruption of the natural habitat of the animals and their food sources - Hunting and fishing of rare species. - Collecting plants, eggs, fossils, stone - Trampling of vegetation, increased risk of erosion - Changes in vegetation and landscape as a consequence of building
Sewage and water environment	<ul style="list-style-type: none"> - Impact on the oceans by increased sewage - Pollution of the oceans in connection with (illegal) dumping from sailing craft, cruise liners, ferries etc. - Toxins from the keel paint on boats - Nitrate pollution from sea and lake production of fish for anglers - Pollution of the water table from septic tanks found in many summer house areas.
Water Supply	<ul style="list-style-type: none"> - Depletion of the water supply and lowering of the water table due to increased consumption of fresh water.
Air	<ul style="list-style-type: none"> - Air pollution in connection with transport of people and goods - Pollution from production of electricity and indoor heating. - Deterioration of monuments and buildings of cultural/historical value due to air pollution.
Refuse	<ul style="list-style-type: none"> - Increased amounts of household refuse and increased use of disposable packaging - Dumping waste in nature - Decreased possibility of effective recycling systems due to seasonal fluctuations
Noise	<ul style="list-style-type: none"> - Noise from traffic (airports, roads, ferries) - Noise from sports activities and other recreational activities - Noise from the tourists themselves and the entertainment made available to them such as ice cream vendors, cafés, competitions on beaches, discos etc.
Visual pollution	<ul style="list-style-type: none"> - Dominating infrastructure such as airports, harbours, roads - Aesthetically inappropriate buildings and signs and overly built up areas - Maltreatment and lack of maintenance - Wear and tear on the countryside
Other	<ul style="list-style-type: none"> - Traffic jams and parking problems - Town atmospheres are altered, seasonal fluctuations increase this tendency - Traditional livelihoods are endangered - Too many tourists compared to the local inhabitants, who are forced to alter their lifestyles and pattern of activity.

In the following we look closely at the environmental impact of cycling tourists and the pollution the increased amount of cycling tourists addsto Fyn and Bornholm. The analysis will focus on the pollution and energy consumption of various modes of transport. Then the water and energy consumption, the quantity of refuse and the handling of refuse as well as sewage of the most popular types of accommodation are examined. And finally we look at cycling tourism and its impact on flora and fauna.

8.3.1 Transportation

Transportation is an important part of travel. At the same time it is also an important part of the environmental issues surrounding tourism, because transport is especially what separates holiday from everyday life and because the most popular modes of transport are also those that pollute the most. One person travelling 500 km will have the following impact:¹³⁸

Table 30. The environmental impact of transport

	Plane	Car	Rail	Bus
Carbon dioxide (kilos)	130	88	19	14
Nitric oxide (grams)	490	220	57	340
Sulphur dioxide (grams)	62	17	17	14

The choice of transport is also relevant both at the destination and in the areas the tourists travel through to reach it. The various types of transport and their energy consumption can be listed in a table to clarify the degree of environmental impact. The table shows in numerical order, where 1. is the most environmentally friendly/least environmentally damaging. The energy consumption is measured per person in megajoules when transporting different group sizes by different modes of transport.¹³⁹

Table 31. Environmental friendliness of types of transport measured per person

Travelling Alone	Travelling in pairs	Travelling in group of 3	Travelling in group of 4
1. Train	1. Train	1. Train	1. Train
2. Bus	2. Bus	2. Bus	2. Bus
3. Plane (direct flight)	3. Plane (direct flight)	3. Car	3. Car
4. Car	4. Car	4. Plane (direct flight)	4. Plane (direct flight)

Cycling alone is the most environmentally friendly. If the bicycle is to be transported, trains and busses are to be preferred. Planes and cars are definitely the most environmentally damaging.

8.3.2 Mode of transport to and from Fyn and Bornholm

In the analysis the choice of transport will not only include the choice of transport at the destination, which is of course important, but also how cycling tourists transport themselves to and from the destination. This is done to see whether the cycling tourist is only environmentally friendly during the holiday or whether cycling reflects environmental awareness in a broader sense by the conscious choice or rejection of certain modes of transportation to and from the destination etc.

The majority of cycling tourists on Bornholm start their cycling holiday on Bornholm, a few of them start on Zealand and in Copenhagen and a couple started in Germany. Cycling tourists start and finish at the same place on Bornholm.

138 G + J Märkte - Tendensen: *Tourismus mit Einsicht*, (Tourism with awareness) Grüner - Jahr Marktanalyse, 1995. Somerville, H., 1994.

139 Hopfenbeck., W., P. Zimmer, 1993.

On Fyn half the cycling tourists start the cycling holiday at the destination while 1/5 start in Jutland, some on Zealand and in Copenhagen - of which several just ride across Fyn to Jutland - and a few have biked all the way from Germany. More exotically a couple of Americans started in Lisbon and expected to finish in Budapest with a short trip to Fyn and the rest of Denmark. An 8 month cycling holiday. Cycling tourists on Fyn also end the holiday more or less where they started it, although a few more end on Fyn than started on Fyn.

Table 32. The main mode of transport of cycling tourists to and from the destination measured in %

	Bicycle	Car	Car with caravan	Auto camper	Ferry	Train	Bus	Plane	Total
Bornholm	22	35	1	4	16	19	-	1	98
Fyn	28	26	5	2	6	30	1	2	100
Total	25	31	3	3	11	24	-	2	99

(Please not that for *Train* some interviewees did not indicate destination, thus small deviations occur).

The table shows, that cycling tourists' main choice of transport vary a little for the two islands. More of the Bornholm cycling tourists go by car and take the ferry than on Fyn, where more go by train and bike all the way. Measured in this way a few more of the environmentally friendly tourists choose Fyn than Bornholm, as bicycles and collective transport (excluding planes) are known to be more environmentally friendly than cars. This is due to the geography of the destination and the neighbouring populations.

In the table below the *Rest of Europe* and *Rest of the World*" have been ignored due to the very limited numbers. Ferry has also been excluded as a means of transportation as it does not indicate which means of transport were used to get to the ferry.

Table 33. The main mode of transport of cycling tourists measured in %

	Bicycle	Car	Car with caravan	Auto camper	Train	Bus	Plane	Total
Danish	39	16	1	1	31	-	-	100
German	9	42	3	7	27	-	2	100
Swedish	15	68	-	-	3	-	-	100
Norwegian	12	47	29	6	6	-	-	100
Dutch	11	33	22	29	6	6	-	100

The table shows that Danish cycling tourists prefer to bike or go by train to and from the destination while 16% go by car. The car is the most popular means of transport for all foreigners irrespective of nationality, whereas there seems to be more variation when choosing other types of transport. As an example, 25% of Germans go by train while only 2.5% of the Swedes and 5.9% of the Dutch. Whereas on the other hand almost a third of the Dutch go by car with a caravan, a form of transport almost none of the other nationalities uses.

In an environmental analysis the Danes are to be considered the most environmentally friendly. The Swedes and the Dutch, with their preference for cars and caravans, the least

environmentally friendly, especially the latter as they cover comparatively long distances by car and caravan.

8.3.3 Transport during the stay

During the stay 47% use forms of transport other than the bicycle, i.e. approximately half of cycling tourists use a bicycle only on Fyn and Bornholm. On Bornholm 55% of cycling tourists use the bicycle only and on Fyn 50%.

The distribution of other forms of transport used at the destination for the total of cycling tourists is as follows:

Table 34. Use of other forms of transport than the bicycle during the stay,¹⁴⁰ in %

	Car	Car and caravan	Auto camper	Ferry	Train	Bus	Plane	Total
Bornholm	31	6	1	2	1	40	1	83
Fyn	9	1	27	37	11	6	-	90
Average Fyn & Bornholm	20	4	14	20	6	23	1	87

The table shows, that 31% of cycling tourists on Bornholm who use forms of transport other than a bicycle, used their car during the stay. And it also shows that 40% used busses during their stay while the amount of auto-campers and cars with caravans is limited.

On Fyn the most environmentally damaging are cycling tourists in auto campers, as opposed to Bornholm where only a few auto-campers are seen. On Fyn, on the other hand, cycling tourists with a car tend to not use it during their stay, whereas by contrast the car is used by one third on Bornholm. Only a very limited number of cycling tourists use a car and caravan as a mode of transport during their stay on Fyn. A good 10% go by train. Bus transport is not often used by cycling tourists on Fyn. The choice of forms of transport other than bicycle vary a lot on the two islands. In fact, so much that the averages rather undesirably blur the picture. Thus cycling tourists on Bornholm are more environmentally friendly due to their use of busses but the extensive car driving is not environmentally friendly. On the other hand the cyclists on Fyn are environmentally friendly because of the very limited use of the car and the use of trains. However, the extensive use of auto campers contributes to increased pollution on Fyn. It is also interesting to look at whether certain nationalities are more likely than others to use other forms of transport than the bicycle during their stay:

140 Please note that the total is not 100% as some responses were missing, and because some had stated a bicycle as other form of transport. This is interpreted to mean that 13% of the Bornholm tourists and 9.5% of the cycling tourists on Fyn mainly use other forms of transport and where the bicycle is seen as an additional transport form.

Table 35. Cycling tourists' use of other forms of transport than the bicycle during the stay, by nationality in %¹⁴¹

	Car	Car and caravan	Auto camper	Ferry	Train	Bus	Plane	Total
Danish	22	-	1	30	12	30	-	96
German	5	10	40	8	3	8	2	75
Swedish	44	-	-	20	-	31	-	94
Dutch	29	-	14	29	-	-	-	72

The figures show that the most environmentally damaging cycling tourists when using other forms of transport are the Swedes, the Danes and the Dutch in cars. The Germans and the Dutch in auto campers also increase pollution and compared to the total number of auto campers, to a large extent. The Germans in cars - and there are a lot of those - only make limited use of the car when they are at the destination. It is also interesting that a proportionally large number of Danes and Swedes use busses at the destination thus contributing to less environmental damage and maintaining the collective transport forms. Only Danes and Germans go by train.

The large proportion of the Danes and Dutch who use ferries during their stay is particularly due to cycling tourists on Fyn who use the ferries in the South Fyn archipelago.

8.3.4 Calculating the energy consumption of cycling tourists: Transport

It is not possible to make an exact calculation of how much energy (fossil fuel) a cycling tourist uses for transport. The use of different forms of transport, different travelling distances etc. are too varied. It is however possible to compare a cycling tourist to an ordinary tourist on a more general level.

An analysis has concluded that the energy consumption for transport forms are stated in the table below.¹⁴² The calculation is based on a journey from Frankfurt to Costa Brava, estimated at 2500 km (by land) and 1950 km (by air).

141 Please note that the total is not 100% as some responses were missing, and because some had stated a bicycle as another form of transport. This is interpreted to mean that 13% of the Bornholm tourists and 9.5% of the cycling tourists on Fyn mainly use other forms of transport and where the bicycle is seen as an additional transport form. Please note that some nationalities have been disregarded due to limited numbers.

142 Hopfenbeck, W., P. Zimmer, 1993.

Table 36. Transport forms and their energy consumption per person¹⁴³

Train	Tourist coach	Car with 4 persons	Car with 3 persons	Car with 2 persons	Plane, direct flight	Car with 1 person
859 Megajoule	875 Megajoule	1800 Megajoule	2400 Megajoule	3600 Megajoule	3600 Megajoule	7200 Megajoule

The table shows that there is a great difference in the energy consumption of each transport form. The number of people in the travelling group also influences this a lot.

Earlier in the analysis it was demonstrated that cycling tourists, when compared to the average tourist in Denmark, have approximately the same length of holiday, approximately the same travelling group size, come from almost the same countries etc. No important differences can be detected in consumption of energy. The cycling tourist however, does not use the same modes of transport as the average tourist. Only around 35% of cycling tourists against 80% of the ordinary tourists¹⁴⁴ use their own car (including auto campers and cars with caravans) which of course means that cycling tourists use other forms of transport to and from the destination and at the destination.

A simple mathematical calculation shows *that cycling tourists have a lower energy consumption. It amounts to at least 30% less than the consumption of the ordinary tourist for transport to and from the destination.* This is because:

- 25% of all cycling tourists transport themselves to and from the destination by bicycle, i.e. no energy consumption, where the ordinary tourists use energy-consuming transport.
- 24% of all cycling tourists go by train.

As approximately 20% of ordinary tourists (those who do not go by car) use planes, trains, busses and ferries, it can realistically be assumed that they consume more energy per person than the train-travelling cycling tourists through using transport with a higher energy consumption (especially planes).

If the calculation is extended to include energy consumption at the destination, the cycling tourist has an estimated consumption which is around 50% less than the average tourist, as around 50% of cycling tourists only use the bicycle at the destination while the ordinary tourist use other forms of transport. That the cycling tourist therefore is more environmentally friendly than the ordinary tourist is obvious.

143 Hopfenbeck, W., P. Zimmer, 1993.

144 Danmarks Turistråd et al., 1992.

8.3.5 Cycling tourism and generation of harmful substances

It is not only when measuring energy consumption that the cycling tourist is more environmentally friendly. The choice of more environmentally friendly forms of transport also produces considerably lower quantities of harmful substances, such as carbon dioxide, sulphur dioxide, etc. than is produced by the average tourist. However, the information available on this does not allow exact calculation.

8.3.6 Summary

To minimise the environmental impact of transport and increase sustainable tourism researchers recommend that the following 4 areas are given priority:¹⁴⁵

1. Management of the flow of cars and car parking, making both as unobtrusive as possible.
2. Reduction of the proportion of visitors arriving by car, in favour of more environmentally friendly modes of transport.
3. Support of local, rural transport services through a use of income generated by tourism.
4. Provision of alternative means of transport for visitors and making travelling to and within the tourist area more enjoyable and interesting.

These recommendations can be transferred to Fyn and Bornholm together with practical experience from places such as Australia.¹⁴⁶ It is not the intention to make recommendations here, just to point out that cycling tourism falls within these strategic suggestions. It should also be noted that the public bus and train services to and from Fyn and Bornholm and on the islands are to be regarded as extensive. Whether they are adequately marketed and made visible to the tourists in the form of package tours for example, where the possibilities of public transport to and from the destination and within the destination are collected and made easy to use for the tourists is a different matter. It is questionable however whether cycling tourists can be persuaded to use public transport to and from the destination as not having a car would reduce their mobility.

The use of other means of transport during the stay can indeed be reduced by implementing certain controlling mechanisms. The possibility of long term car-parking with supervision and reasonable prices in Sweden, Copenhagen and Germany (Mukran) could mean that fewer cars are brought to Bornholm. Implementing such measures does require that the advantages, which will convince the car owner that it is easier not to bring the car, are made visible. But also here it is questionable whether the tourists might disregard Fyn and Bornholm if such bans or restrictions on car tourism were introduced on the islands. Experiences of traffic management, park and ride, development of new road hierarchies etc. from Holland and Great Britain (such as the Lake District, Corfe Castle and village), reservations and recreational areas can be included in the process.¹⁴⁷

145 Williams, A.M. (Ed.), 1996.

146 Commonwealth Department of Tourism, 1995.

147 Speelmann, K., 1994. Williams, A.M. (Ed.), 1996.

8.3.7 Accommodation

The cycling tourist also has an impact on nature and the environment through his/her accommodation. By looking at the various types of accommodation and their degree of damage and comparing this with the accommodation cycling tourists prefer and then at the ordinary Danish tourists and their preferred accommodation, it can be shown whether the cycling tourist chooses environmentally friendly or environmentally damaging types of accommodation.

Earlier it was shown that the cycling tourist uses the following accommodation:

Table 37. Choice of accommodation of the cycling tourist

Camping	Youth Hostels	Rented holiday house	Own holiday house	Hotel/Inn	Holiday Centres	Yachts	Primitive campsites	Total
54%	17%	8%	1%	9%	1%	1%	8%	99%

In the following, camp sites, holiday homes and hotels/inns and their environmental impact will be looked at. Boats will be disregarded as they accommodate such a limited number of cycling tourists, as will holiday centres, since no analyses for these have been found. Youth hostels will be included under hotels/inns and basic camp sites will be included under camping.

Camping

Camping and basic camp sites account for two thirds of all overnight stays of cycling tourists. The two types of accommodation are similar regarding the basic product. The difference is in the degree of luxury, i.e. the services, facilities etc. provided extra at the camping sites.

There are currently no audits or other green concepts for camping sites in Denmark. This does not mean that various green measures such as economizer nozzles (*saving-spouts*) on water taps and the use of solar energy are not implemented on some camping sites. But this happens on the initiative of the camping site owner or manager himself. As a whole, the camping sites in Denmark, and hence on Fyn and Bornholm, are not very environmentally aware. This is partly due to the fact that no green policies or strategies have as yet been introduced by the head organisations (Dansk Camping Union (Danish camping Association) and DK-Camp).

The camping sites have an impact on the environment through.¹⁴⁸

1. Water consumption (for cooking, toilet and bathing facilities, pools, cleaning etc.).
2. Energy consumption (heating of communal areas, electricity for caravans, heating of pools etc.).
3. Refuse (Refuse sorting, refuse storing etc.) and sewage, including sanitation for auto campers.
4. Traffic and noise (traffic to and from the site, noise from the campers, and radios etc.).
5. Effect on the landscape (visually, when being built, etc.).

148 Deutscher Fremdenverkehrsverband (German Tourist Board) e.v., 1996.

Re. 1: Water consumption

An increase in the amount of tourists means an increase in the need for drinking water. Fresh drinking water is a resource which needs to be limited in use. In areas with a limited water supply such as Bornholm in dry summers, an increased number of tourists make it necessary to allow for extra strain on the water supply. A typical German for example (also when camping) has the following water consumption per day:¹⁴⁹

Table 38. Water consumption per person per day

Bath/personal hygiene	55 litres	Other cleaning	7 litres
Toilet flushing	48 litres	Drinking/food	3 litres
laundry/dish washing	19 litres	Garden watering	3 litres
rinsing of plates/cutlery etc.	10 litres	total	145 litres

Regarding water consumption, it must be assumed that there is no difference between a cycling tourist and an ordinary tourist in their water requirements. On the face of it, it is difficult to prove whether anything in the behaviour and patterns of cycling tourists differ from other tourists (campers). It is assumed that the typical household has a consumption of 170 - 180 litres per day per person.

Re. 2: Energy consumption

The energy consumption also increases with the increase in tourists. It has not been possible to find the average energy consumption per camper. Cycling tourists must be assumed to consume the same amounts of energy as other campers, as they perform the same energy consuming actions (cooking, heating water etc.) it is not impossible, however, the limited number of auto campers and caravans among cycling tourists entail that the electricity consumption is reduced a little compared to the average camper. Auto campers and caravans and certain frame tents often require electricity for TVs, ovens, microwave ovens etc.

Re. 3: Waste

Every camper throws out an average of 1.5 kilos of refuse every day.²² Camping sites can, however, substantially reduce the amount of waste. Through increasing recycling, introducing deposit systems and avoiding packaging the amount of the incidence of waste can be reduced by as much as 90%, where 70% of it comes from packaging (tins, beer bottles, etc.). When an average camp site in Germany of 400 pitches produces the following amounts of waste, there is a lot to save:²³

149 Deutscher Fremdenverkehrsverband e.v., 1996.

22 Detscher Fremdenverkehrsverband e.v., 1996.

23 Detscher Fremdenverkehrsverband e.v., 1996.

Table 39. Yearly waste from a campsite with 400 pitches

Paper	Metal	Glass	Other packaging	Remaining waste
80m ³	360m ³	480m ³	180m ³	900m ³

Most cycling tourists cannot, for good reasons, carry a large amount of baggage, nor food, for example. It is certain that more cycling tourists than campers are generally dissatisfied with, amongst other things, the waste treatment on Fyn and Bornholm (see later in this chapter). This could indicate a higher level of awareness of the environmental aspects than amongst campers. Whether this means that cycling tourists throw away less refuse than other campers is uncertain. More detailed research into the eating and drinking habits of cycling and other tourists would clarify more, as especially fast-food and tinned food, beer bottles and cans as well as other packaging especially used for foodstuffs produce a lot of refuse. In this way, it cannot be determined here, whether cycling tourists, measured in this way, are more environmentally friendly than other campers.

Re. 4: Traffic and noise

Noise principally comes from cars and the tourists themselves, including their radios and so on. As a substantial part of cycling tourists cannot carry much luggage, it may be expected that the number of radios is limited. At least less than for other campers. Regarding noise from vehicles, cycling tourists are naturally less noisy than other campers who use their car as a means of transport. Measured by noise level, cycling tourists are looked upon as more environmentally friendly than tourists in general.

Basic camp sites

Basic camp sites are not dealt with separately in the available research and will therefore be considered as a more environmentally friendly form of accommodation than camp sites in general (and other types of accommodation), because they do not use the same quantities of water, energy or the same damage during construction. On the other hand it is not known how basic campsites increase the load on waste (separation and treatment) waste water (purified/non purified), sewerage, sanitary conditions etc.

Basic camp sites account for 8% of all cycling tourist overnight stays. Without any official statistics on the total of all overnight stays on basic camp sites, it is unrealistic to state that cycling tourists use basic camp sites, which seen as a whole have a limited capacity, to a greater extent than the average tourist. By using basic camp sites cycling tourists also contribute to a better environment than if they used another type of accommodation.

Summary

On the whole, the cycling tourist is *a little more environmentally friendly* than the average camper. There is an implication that the amount of equipment for a cycling tourist is less than for the general camper.

Hotels/inns

Hotels and inns along with youth hostels provide 26% of cycling tourists' accommodation, of which youth hostels account for 17% (of the 26%) and so form the second most common overnight accommodation after camping. Just like camp sites, hotels and inns use resources and pollute, amongst other things with waste water. It should be pointed out that when speaking of hotels, it is mainly the small and middle sized where cycling tourists check in. The larger hotels in built up areas are naturally less attractive to cycling tourists, who prefer to travel in rural areas. Finally, there are only a few bigger hotels to be found on Fyn and Bornholm.

As with campsites, there are a lot of hotel chains, such as Scandic, Sheraton, Radisson SAS, Scanticon and so on and a number of individual hotels, also smaller hotels, in step with the introduction of environmental audits and green concepts. The last named happens especially within the framework of *The Green Key*. A company with the support of, amongst others, the Ministry of Trade (Ehrvervsministeriet) has developed the concept of environmental improvements for hotels. There are 7 *Green Key* hotels on Bornholm and a comparable number on Fyn, where more are on the way (they are currently being environmentally audited). Environmental improvements in hotels is undertaken not just to appeal to (certain) customers, but also because environmental management saves money.

Hotels and inns (from here on called simply hotels) are damaging in the same areas as camp sites.²⁴

1. Water use: hotels use a large quantity of water for, for example, laundry, washing up, cleaning, swimming pools, sanitation/bathing. food preparation and so on.
2. Energy use: hotels use energy for lighting, heating, audio-visual equipment, electrical appliances, ovens and stoves, television etc.
3. Waste and waste water: The refuse from the hotel comes mainly from the kitchen, but also from offices, visitors (especially related to meetings and the like) etc.
4. Traffic and noise: the damage from hotels is limited to transport to and from the hotel (visitors and staff).
5. Influence on the landscape: most hotels are in heavily built up areas and so do not affect the landscape, but hotels in open countryside are rarely attractive.

There is a difference in the use of resources and effect on the environment between hotels and camp sites. Hotels use considerably more resources and impact more because of the larger volume of refuse and are also more obtrusive in the landscape than camp sites. Of course, the green concepts mentioned will reduce the use of energy and water, and the volume and nature of refuse.

24 Vor fælles fremtid, De danske husmoderforeninger (Our common future/the Danish association of housewives), 1992. Hopfenbeck, W., P. Zimmer, 1993.

The environmental impact of hotels is an extremely well described international theme, which is reflected in the current very extensive checklists for environmental improvement. It has not been possible to identify research which shows the damage from hotels per guest in each area of impact (1 - 5). Therefore, unfortunately, it is impossible to put an exact figure on the effect, so that the damage from hotels is directly comparable with camp sites, holiday homes and so on.

Re.1: Water Use

The use of water in a hotel is shared between several departments within the hotel: the kitchen, the rooms, cleaning and offices/other locations.

The opportunities for savings are mainly through the use of economizer nozzles on taps and showers, less water for flushing toilets and cleaning and preventing taps running or dripping.²⁵

Teaching/training staff to be aware of saving water has achieved big savings in many hotels.²⁶

Re. 2: Energy Use

Hotels use a lot of energy, especially for the kitchen (ovens, stoves and electrical appliances and lighting (reception, hall, restaurant, corridors, rooms and conference rooms etc.).

Examples of areas where a lot of money can be saved are: changing ordinary light bulbs to low energy bulbs; introducing a standard temperature - cooler in unused rooms; switching on the oven and hot-plates when they are used, not before, automatic switches in the corridors; etc.

The project *Bornholm - Green Island - Green Accommodation* (Grøn Ø - Grøn overnatning) shows that the average electricity consumption for a hotel was 96,000 Kwts in 1992, although this covers a range from 16,000 Kwts to 257,000 Kwts.²⁷

Especially in relation to energy use, hotels are environmentally damaging to a far greater extent than other forms of accommodation, even though the consumption per guest is not known.

Re. 3: Waste and waste water

Hotels dispose of a large quantity of refuse every day. The waste comes from the kitchen (packaging and organic refuse), the offices (paper, newspapers), conference rooms (paper

25 Checkley, A., 1992.

26 Hopfenbeck, W., P. Zimmer, 1993.

27 Own calculations on the basis of HORECON, Destination Bornholm, 1995. HORECON, 1995. Unfortunately, different regional methods of calculation and the absence of calculations of averages make it impossible to produce figures for water use, refuse volumes etc.

and packaging) as well as from the rooms (packaging, paper, plastic). Even though the kitchens buy in bulk, with less packaging than in a domestic household, they throw out a lot of cardboard boxes, plastic, cans, glass etc. There is also a lot of leftovers from the restaurant, waste from food preparation, fats from frying etc.

Reductions can be made by restricting soap packaging and recycling/separating for example paper, newspapers, tins, organic waste, motor oil, plastic, bottles, coat-hangers, print cartridges and by moving away from small packs of jam and butter and using butter and jam in dishes and jars instead.

In a Canadian hotel with 70 rooms, the cleaning staff collected, in one year 12,120 beer bottles, 36,564 beer cans and 21,040 soft-drink cans.²⁸ A really huge quantity of refuse, which could be separated and mainly recycled. In the same hotel, there was a collection of office papers and newspapers which corresponded to 200 trees. Under a system of sorting and recycling procedures in another Canadian hotel in the same chain, it was possible to reduce the output of *solid waste* in 1992 to an eighth of what it was in 1990. In short, hotels are clearly more damaging in terms of waste and waste water than other types of accommodation. How much the impact of each guest is, is not known.

Re. 4: Traffic and noise

Traffic and noise pollution related to hotels is limited to transport to and from the hotel (visitors and staff).

Hotels are obviously less noisy than, for example camp sites, since visitors largely stay indoors (i.e. no noise from visitors, radios etc.)

In other words, hotels are more damaging to the environment than camp sites with regard to energy consumption waste and waste water.

Youth hostels

Youth hostels can be included with hotels/inns as a number of the central services and facilities are the same. Especially the more recent youth hostels look more and more like hotels in terms of services, facilities etc. (the degree of luxury has increased) and so the energy consumption will also increase. At the same time it should be emphasised that youth hostels are here considered more environmentally friendly than hotels and inns in general. The energy consumption is less due to such things as that the amount of rooms per person which need illumination is smaller. Added to this is the fact that youth hostels generally do not use the same amount of energy and water in the kitchen as hotels and inns because of different working procedures.

28 Checkley, A., 1992.

Summary

Cycling tourists who choose to stay at hotels and youth hostels have at the same time chosen a less environmentally friendly type of accommodation than the cycling tourist who chooses to camp. There are no directly comparable values available, however, for the degree of environmental impact.

Holiday Houses

The last category of accommodation types analysed is the holiday houses. A total of 9% of cycling tourists use either their own holiday house (1%) or a rented holiday house (8%). The holiday houses are very different from basic summer houses to luxury houses equipped with pool/jacuzzi, consequently they have a very different consumption of energy. No national audits or environmental controls have been carried out on holiday homes, but several local projects have been started in places such as West Zealand and Møn.¹⁵⁰

Holiday homes are environmentally damaging through:¹⁵¹

1. Energy consumption
2. Water consumption
3. Sewage
4. Refuse.

Re. 1: Energy consumption

Analyses¹⁵² have shown, that the shorter a holiday house let is, the higher the energy consumption. Also that holiday houses do not use as much energy as ordinary houses, as they are not used as frequently and because they do not have the same facilities, and also because they are primarily used during the summer. The luxury holiday houses with swimming pools are consume considerably more resources other holiday houses.

The energy consumption of the holiday houses increases, and is particularly the share of the energy consumption of the luxury houses has increased heavily. During 1992 the number of holiday houses increased by 7.5% while the energy consumption increased by 104.4%.¹⁵³

Energy consumption per person per annum:

- | | |
|--|------------------------|
| - in an ordinary house, excluding electric heating | 1,143 - 1,714 kwt/p.a. |
| - in an ordinary house with electric heating | 4,286 - 5,714 kwt/p.a. |
| - in a holiday house with a consumption < 20,000 kwt
(ordinary holiday house) | 734 kwt/p.a. |
| - in a holiday house with a consumption > 20,000 kwt (luxury
holiday house) | 4,078 kwt/p.a. |

151 Rambøll, Hannemann & Højlund, 1994.

152 Rambøll, Hannemann & Højlund, 1994.

153 Rambøll, Hannemann & Højlund, 1994.

Because the holiday houses have not been built for use during the winter they have a high consumption of resources and consequently very high emission counts for carbon dioxide, sulphur dioxide etc. This will, of course, increase with the tendency of increased letting of holiday houses during the winter months.

As shown, the holiday houses on an annual basis are less damaging than ordinary houses, but if the consumption per person per day is calculated holiday houses are more damaging than ordinary houses.

Re. 2: Water consumption

Holiday houses have approximately the same water consumption as ordinary houses,¹⁵⁴ but the luxury summer houses do have a higher consumption due to such additions as sauna, jacuzzi, swimming pools and having more people under the same roof.

Water consumption per annum:

- for ordinary summer houses	115 - 178 m ³
- for luxury summer houses	311 m ³
- for ordinary houses	220 - 280 m ³

The consumption of water per person per day is thus higher in the holiday houses than in ordinary houses.

Re. 3: Sewage

Most holiday houses have a septic tank with a drainage system.¹⁵⁵ The problem with septic tanks is whether they are emptied often enough or whether they are *over strained* due to too many people in a holiday house. In areas with sewers the luxury holiday houses can, due to a heavily increased use, result in blocking the drain pipes, as the number of people per house per day is generally higher than in an "ordinary" holiday house.

If the holiday houses are to be used more frequently throughout the year, it is necessary to connect them to larger public or private sewers. Only this will ensure the necessary treatment of the sewage.

Re. 4: Refuse

Tourists in holiday houses produce considerably more refuse than people in ordinary houses and twice as much refuse as people in rural areas.¹⁵⁶ Luxury holiday houses in particular account for an increased amount of refuse.

154 Rambøll, Hannemann & Højlund, 1994.

155 Rambøll, Hannemann & Højlund, 1994.

156 Rambøll, Hannemann & Højlund, 1994.

Holiday houses produce 29% (120 kg) more refuse than ordinary houses. Holiday houses produce an increasing amount of refuse and this will increase even more when the holiday houses are used outside the summer season.

Summary

Holiday houses produce more refuse, consume more energy and water and have less safe sewage systems than ordinary houses. The tourists who use holiday houses are consequently damaging the environment. As the number of cycling tourists staying in holiday houses is rather low (in both absolute and relative numbers) compared to the number of leisure tourists in general, cycling tourists can be said to be less damaging through this accommodation type.

8.3.8 Conclusion - Accommodation

The weakness of the analysis of cycling tourists' choice of accommodation and the resource consumption, damage and direct and indirect pollution of the types of accommodation, is that it has not been possible to identify the key figures of refuse amounts, resource consumption, traffic and noise pollution per person per accommodation type. Only through this a true picture of how environmentally friendly the cycling tourist vs. the ordinary leisure tourist can be drawn up.

The analysis has shown, however, that the cycling tourist in some areas, through choice of accommodation is less damaging than the average tourist. This is especially due to the extensive use of camping and basic camp sites, which can be regarded as less damaging for nature and the environment than hotels and holiday homes.

8.4 The impact on flora and fauna of cycling tourists

Earlier in the analysis it was shown that the cycling tourists are particularly attracted by countryside and beautiful landscapes, but it was not proven that they spend a large amount of time in open country (this is defined as moving away from roads and marked routes). Cycling tourists primarily stay on their bikes and look at the landscape as they cycle. i.e. they do not move around the countryside, alongside streams, marshes and ponds, through forests, etc. much. Consequently there is no reason to assume that cycling tourists damage flora and fauna more than other tourists. Perhaps, on the contrary, as they are surrounded by impressions of the countryside from the bicycle they do not need to go directly into it. This analysis can consequently assume realistically that the cycling tourist damages flora and fauna to a lesser extent than other tourists. There is little basis for comparison, however, regarding the movements of other tourists.

8.5 Traffic and noise

The analysis of the behaviour of tourists, their awareness of the environment and the observations of cycling tourists on Fyn and Bornholm do not lead to assumptions that cycling tourists are more or less noisy than other tourists. On the contrary, cycling tourists can be said to be less noisy than other tourists, as cycling tourists use a soundless vehicle - a bicycle - as opposed to cars, motor bikes, motor boats etc.

8.6 Nature as a basic need

Nature can mean five things:¹⁵⁷

1. The vital importance of nature: Nature is the basis of our lives. To live we have to rely on nature and natural resources.
2. The aesthetic importance of nature: Nature is simply beautiful to look at, from the wild landscapes to flowers on the window-sill.
3. The utilitarian importance of nature: Nature as a useful green surface/area - from the garden plot to sports grounds and recreational areas - which becomes more and more important to the people of big cities and concentrated city areas.
4. The ecological importance of nature: Clean air, pure water and unpolluted soil are important features of environmental quality.
5. The ethical importance of nature: To understand nature as an asset worth keeping and to feel responsible for nature in one's own behaviour and attitudes.

Cycling tourists match several of these categories, but as they generally use nature as a *backdrop* their view must be considered mainly aesthetic. An aesthetic view of nature which also tends to be ethical, as cycling tourists are generally more environment conscious than ordinary tourists and thus have chosen to take on responsibilities and be more environmentally aware - to be responsible for nature. A responsibility which is primarily demonstrated in choice of environmentally friendly type of transport at the destination, and secondly by choosing types of transportation to and from the destination which are less environmentally damaging than other types generally used by tourists. Added to this, there are strong indications that cycling tourists choose more environmentally friendly accommodation than other tourists.

Finally the analysis also seems to show that cycling tourists do not damage flora and fauna more than other tourists, on the contrary, a number of other tourists groups, including intensive users of nature such as anglers, divers, botanists, ornithologists, canoeists, motor-boat sailors, surfers etc. can probably be considered more damaging. How consciously cycling tourists take on the responsibility is uncertain, but one of the theses of this research seems to be disproved: That cycling tourists inflict wear and tear proportionally more on nature. Whether cycling tourism can be labelled as sustainable/viable will be debated in the next chapter, where the economic dimension is examined.

8.7 The environmental awareness of cycling tourists

The environment is no longer an issue exclusively for left wing activists, who are members of Green Peace and who want to save baby seals, whales and Latin American rain forests. The environment is a factor within the tourist industry just like other competitive selling point when selling destinations to business and leisure tourists.¹⁵⁸

157 Translated from Opaschowski, H.W., 1991.

158 Such as Tagungs-Wirtschaft, 1993. Delegates, 1993. S.I.T.E., 1993.

This has meant, for example, that a number of destinations around the Mediterranean have been granted a limited number of years in which they must sort out their sewage and refuse problems, just as a number of hotels and holiday centres have been rejected (i.e. contracts have not been renewed) as they do not meet the demands of the trend-setting tour operators (the more serious ones, that is). Several South European destinations have actively started doing something about the sewage, savings on drinking water etc.¹⁵⁹ That tour operators and hotels are active regarding environmental issues is due both to the sector acknowledging the need to change things and to the increased pressure from the customers to improve matters.

It is therefore interesting to look at the environmental awareness of cycling tourists, including the importance of environment in choosing a holiday country and destination, and whether different nationalities have different attitudes.

8.7.1 The importance of environment when choosing a holiday destination.

In a German analysis it was concluded that 2/3 of the German population are not aware that there is a connection between leisure, tourism and environment.¹⁶⁰ The same analysis shows that there is clearly a connection between education and environmental awareness, and that only every fifth German finds it important to have information on environmentally friendly leisure and holiday behaviour, while far more would like to know more about environmentally aware behaviour in their daily lives. Limitations on leisure are taboo, but there is a strong willingness to change personal daily attitudes.

The table below shows the importance of the environment to cycling tourists when choosing a holiday destination.

Table 40. Cycling tourists and the importance of environment when choosing a holiday destination in %

	Extremely important	Very important	Neutral	Less important	Not important	Don't know	Total
Danish	50	39	8	3	-	-	100
German	66	34	-	-	-	-	100
Swedish	74	24	3	-	-	-	100
Norwegian	56	22	22	-	-	-	100
Dutch	53	47	-	-	-	-	100
Other Europeans	44	44	12	-	-	-	100
Rest of the World	50	33	-	-	-	17	100
Total	57	36	5	2	-	-	100

There is no doubt that the environment is an extremely important factor in choosing a holiday destination. Especially amongst the Germans and the Dutch there is no doubt, as all of those

159 Steinecke, A. (Ed.), 1994. Steinecke, A., M. Treinen, 1994. WWF, 1992.

160 Opaschowski, H.W., 1991.

interviewed indicate that is extremely or very important. Only a few Scandinavians - especially Norwegians - answered that they are neutral towards the importance of the environment in their choice of holiday destination.

At the same the time cycling tourists attitude to the environment in choosing a holiday destination can be seen as an argument for cycling tourists being more environmentally aware than other tourists and thus more critical if there are shortcomings at the destination.

If the result is compared to the above German analysis there does not seem to be a correspondence. This could be explained by a shift in attitudes from 1991 to now (1996) towards a higher degree of environmental awareness, this is supported by another analysis which showed that environment was important when choosing a holiday destination for 22% of German tourists in 1985, while it was 54% in 1991.¹⁶¹

When the age of cycling tourists is compared to the importance of a clean environment the following pattern appears:

Table 41. Importance of environment in choosing a holiday destination. Age spread in %

Age in years	Extremely important	Very important	Neutral	Less important	Total ¹⁶²
Below 15	62	32	6	1	101
15 - 24	59	36	4	1	100
25 - 49	60	33	5	1	99
50 - 65	56	36	6	1	99
Above 65	57	36	5	2	100

It appears that there are not big variations regarding the importance of environment in choosing a holiday destination between the various age groups. So something indicates that cycling tourists, irrespective of age are more environmentally aware than other tourists, as the German analysis mentioned concludes that environment is far more important for young Germans than for older Germans.¹⁶³ This age-dependent difference cannot be seen among cycling tourists.

The German analysis also shows, that there is a difference in attitude towards environmental issues which depends on education and professional standing.¹⁶⁴ The higher the education the more environmentally aware.

Cycling tourists show the following pattern.

161 Hopfenbeck.W., P. Zimmer, 1993.

162 Due to the rounding up/down of figures the total is not 100% for all age groups.

163 Opaschowski, H.W., 1991.

164 Opaschowski, H.W., 1991.

Table 42. Importance of environment in choosing a holiday destination. Education and occupational standing, %

	Extremely important	Very important	Neutral	Less important	Total
Self employed	63	33	4	-	100
Unskilled workers	54	39	7	-	100
Skilled workers	61	32	5	2	100
Clerical	60	31	7	1	100
Executives	61	34	2	1	100
Others	49	41	5	3	98

The table seems to confirm the German analysis in part. Even though almost all of the professional categories place great importance on environment, there are fewer unskilled workers and persons of other occupations (such as housewives, OAPs etc.) than amongst the other professional categories. The category of self employed is the group which places the greatest importance on environment in choosing a holiday destination.

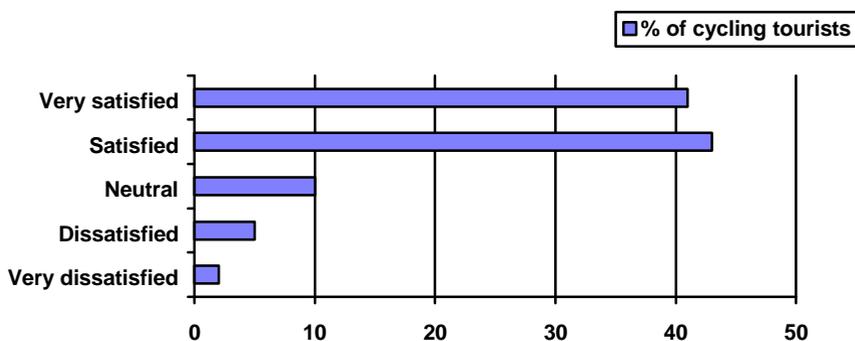
It can be concluded that the environment plays an truly vital part in the choice of holiday destination for cycling tourists.

8.7.2 Cycling tourists and their attitude to beaches and swimming.

Following from the above it is interesting to look at how cycling tourists estimate the current environmental standards on Fyn and Bornholm in a number of areas.

It was shown earlier that cycling tourists greatly enjoy swimming in the sea. The quality of the sea water is rated as follows.

Figure 21. Evaluation of sea water among cycling tourists



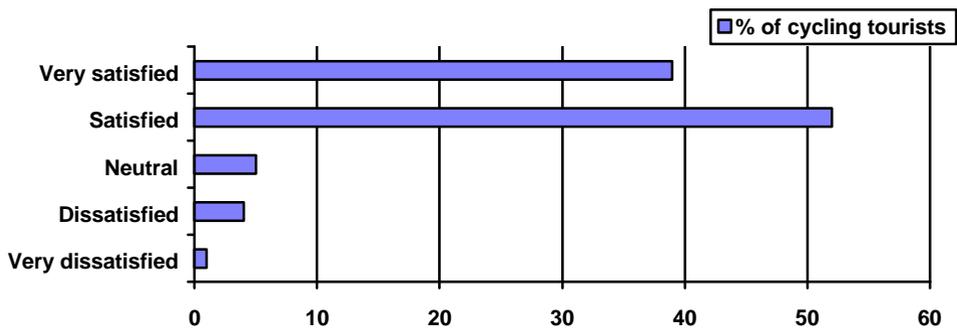
The level of satisfaction with the quality of the sea water is mainly positive, more than 80% express that they are satisfied or very satisfied, while only just below 1/6 are dissatisfied, very dissatisfied or neutral: in total, 16%.

If this is compared with the analysis of Danish and German holiday house and camping tourists on the West Coast the same trend is seen.¹⁶⁵ There is still a trend towards greater dissatisfaction with the quality of the sea water among cycling tourists - 7% in total - than among leisure tourists at the West Coast, where between 1.6% and 2.9% are dissatisfied. The difference may occur because the sea water actually is of a higher quality along the West Coast than on Fyn or Bornholm, where there are only a few sandy beaches (Dueodde, Balka, Ristinge, Båring Vig, Hasmark, Kerteminde and a couple more). Or it could be because cycling tourists are more aware of the issue.

8.7.3 Cycling tourists and keeping nature clean

It is difficult to estimate the amount of, for example, coeli bacteria in the sea water, as they are invisible to the human eye. Keeping nature clean is rather more visible. This does not mean, however, that visible pollution is a more important issue than invisible pollution. The importance of keeping woods, beaches and other areas clean is estimated as follows:

Figure 22. Cycling tourists and their satisfaction with the cleanliness of nature



It appears that cycling tourists are very satisfied or satisfied with how the countryside is kept clean. Only very few are neutral, dissatisfied or very dissatisfied with the efforts made on Fyn and Bornholm. The efforts in picking up refuse, cleaning the beaches, woods etc. are in other words done well. A few say that they are impressed with the very limited amount of refuse such as paper, foil, beer and soft drink bottles etc. found along the cycling routes.

For comparison, the level of satisfaction with the cleanliness of the beaches along the West Coast among Danish and German holiday house and camping tourists is more varied - between 4.1% and 10.6% are dissatisfied or very dissatisfied - and all together there is a trend towards more satisfaction with the cleanliness of the countryside on Fyn and Bornholm, than of the West Coast.¹⁶⁶

165 As virtually no analyses have been carried out regarding environmental attitudes within tourism in Denmark, this analysis is used for comparative purposes: Hjalager, A., 1995.

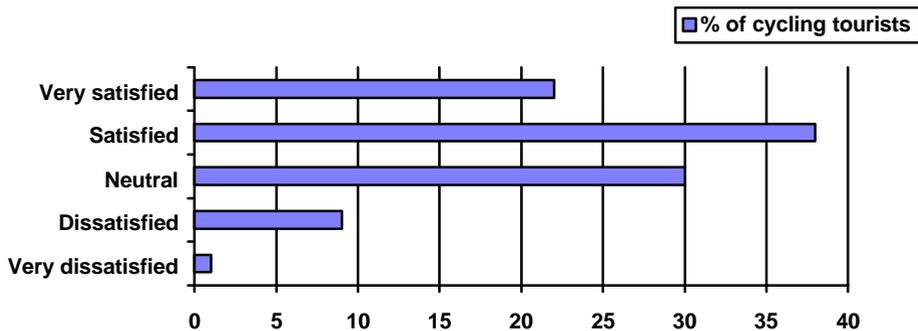
166 Hjalager, A., 1995.

8.7.4 Cycling tourists and waste water issues.

Sewage was the next issue that cycling tourists were asked about in the analysis. Discharging sewage directly into lakes and the sea close to the shore¹⁶⁷ is instantly detectable due to unpleasant odours during warmer periods for example. On the other hand draining and treating sewage at purifying plants or by filtration is not noticeable, and so hardly registered by the tourists.

Cycling tourists have the following attitudes to the issue of waste water treatment.¹⁶⁸

Figure 23. Attitude of cycling tourists to waste treatment



The majority of the tourists are satisfied or very satisfied with the treatment of waste water. The large group of missing and neutral responses have been taken as showing a lack of knowledge about sewage treatment.

At the same time, the fact that cycling tourists themselves have not noticed any problems with sewage on the islands should be seen in a positive light as any visible problems would naturally be shown by the responses.

On the other hand, the 10% of those who responded dissatisfied with sewage treatment should not be disregarded. This group is larger than the group of Danish and German holiday house and camping tourists along the West Coast, where 0% or 6.3% were very dissatisfied or dissatisfied.¹⁶⁹

This is interesting because the analysis of the tourists on the West Coast explains that *When it comes to sewage the Danes are for once more dissatisfied with the solutions than the Germans. This could be explained by the fact that the Danes - especially those who own the summer houses -*

167 There is hardly any sewage discharged into the water on Fyn or Bornholm any more.

168 This question was answered by 1/3 of the interviewees. The majority felt unable to answer the question and so did not.

169 Hjalager. A., 1995.

have a greater knowledge of the sewage conditions. On the other hand there are hardly any dissatisfied campers.¹⁷⁰

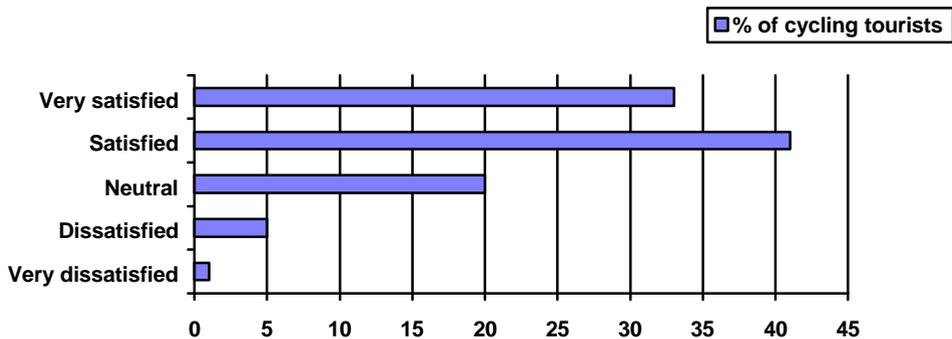
Why cycling tourists are more dissatisfied is unclear, and the explanations and results from the West Coast do not apply here. Cycling tourists are mainly campers and only very few actually live on Fyn and Bornholm. They can so be assumed to have no knowledge of local sewage conditions. Still they are more critical than the tourists on the West Coast. The only plausible explanation must be that cycling tourists simply have a greater knowledge of environmental issues in general, which often entails a more critical attitude and more attention towards the issue.

8.7.5 Cycling tourists and water supply

There is shortage of water in certain parts of the world. Lately, even Denmark has had to realise that there is a problem with the water supply in certain parts of the country. On Bornholm there are potential problems whereas there are no problems on Fyn. An increase of tourists will not lessen the problems and there is a need for introducing controlling and saving measures.

Certain tourism sectors are heavy consumers of energy and water. This applies especially to hotels, but also to visitors in holiday houses, youth hostels and holiday centres. On Bornholm several hotels have received *Den Grønne Nøgle* (*The Green Key*), which is awarded when a certain number of energy and water saving measures have been introduced. On Fyn some of the first have just received this *green* certificate.

Figure 24. Satisfaction among cycling tourists on water saving measures



The majority of cycling tourists are satisfied or very satisfied with the water saving measures, while a limited 7% show direct dissatisfaction. It is noteworthy, however, that 20% are neutral about the question, which could be due to a limited knowledge of the issue.

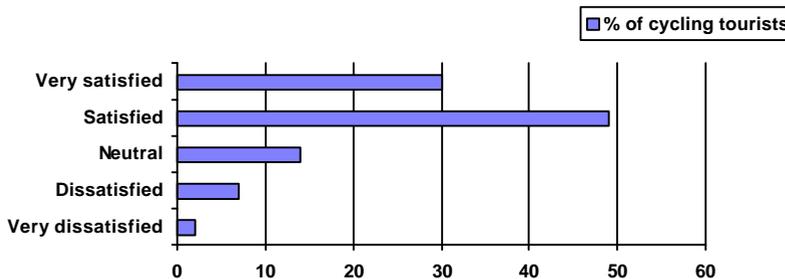
170 Hjalager, A., 1995.

Among Danish and German holiday home and camping tourists along the West Coast a slightly different pattern is seen. 4.8% and 7.3% of the Danes are dissatisfied while 9.9% and 13.6% of the Germans are dissatisfied.¹⁷¹ German tourists on the West coast are also more dissatisfied with the water saving measure than cycling tourists in general and Danish tourists on the West Coast.

8.7.6 Cycling tourists and energy saving measures.

Energy saving measures can be compared to water saving measures as they are both often directly visible: for example, economizer nozzles for taps, energy saving light bulbs, automatic switches etc.¹⁷²

Figure 25. Satisfaction with energy saving measures



More than 80% of cycling tourists are very satisfied or satisfied with the energy saving measures while only very few are dissatisfied.

In this connection it could be important that the summer 1995 was, by Danish norms, extremely hot, which means that the majority of cycling tourists mainly stayed outside most of the day. As it stays light late, the need for using energy of different kinds was limited.

By comparison, 17.4% of German holiday house visitors and 14.1% of German camping visitors on the West Coast are very dissatisfied or dissatisfied with the energy saving measures, while 8.3% of Danish holiday house visitors and 4.8% of Danish camping tourists are very dissatisfied or dissatisfied.¹⁷³ There is therefore much greater dissatisfaction among the German tourists on the West Coast with the energy saving measures than among cycling tourists and Danish West Coast tourists. This could indicate a greater awareness of energy saving measures among the Germans than among other tourists.

171 Hjalager. A., 1995.

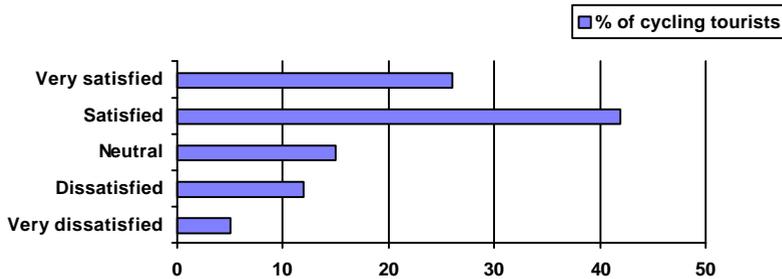
172 Approx 1/3 of the interviewees answered this question.

173 Hjalager. A., 1995.

8.7.7 Refuse handling and recycling systems

In Germany there are several regions (*Bundesländer*) where more refuse items are sorted than is usual in Denmark. It can therefore be assumed that more will be dissatisfied with the refuse handling, which also includes the supply of refuse bins, than with the other environmental issues listed.

Figure 26. Satisfaction of cycling tourists with refuse sorting



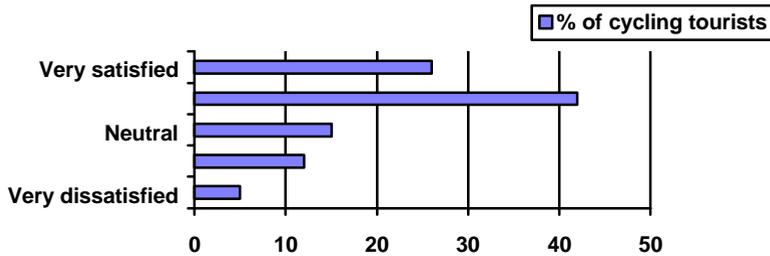
The majority of cycling tourists are satisfied or very satisfied with the refuse sorting, while below 10% are dissatisfied. Of these relatively few Germans but quite a few Danes. At the same time there are fewer neutral than for water saving measures, which could be because of the visibility of refuse sorting.

For comparison the holiday house and camping tourists on the West Coast are of the same opinion.¹⁷⁴ Here 2% of German camping tourists and 11.1% of German holiday house tourists are dissatisfied, while the Danes go from 3.2% to 6.2%. So all in all around 1 in every 10 tourists is not satisfied with the refuse sorting.

When directly questioned about the satisfaction of recycling systems on Fyn and Bornholm the following answers were given:

174 Hjalager. A., 1995.

Figure 27. Cycling tourists satisfaction with recycling systems



The majority of cycling tourists are very satisfied or satisfied. It should be noted that almost 17% are dissatisfied or very dissatisfied and that 15% are neutral. Among the dissatisfied and very dissatisfied are many Germans and Danes. Several add spontaneously that it is especially at the camping sites that the refuse handling is unsatisfactorily. They also mention frequently inadequate capacity for refuse, that it is not sorted and that there are too many over-filled containers and refuse bins.

Also at several beaches, many cycling tourists say, there are not enough refuse bins. During a hot summer like 1995 where the analysis took place it gave many visible problems with flies, as well as unpleasant odours from the refuse bins.

When comparing the satisfaction among cycling tourists with tourists from the West Coast a certain difference is apparent. 1.6% (camping visitors) to 8.7% (holiday house visitors) of the Danes are dissatisfied while it is 9.1% (camping visitors) to 20.1% (holiday house visitors) of the Germans who are dissatisfied with the recycling systems.¹⁷⁵

In the West Jutland analysis it is concluded that the Germans are generally more environmentally aware than the Danes and that the holiday house tourists are more environmentally aware than the camping tourists.¹⁷⁶ For comparison cycling tourists are generally more environmentally aware than the camping tourists on the West Coast, while German holiday house visitors are the most environmentally aware tourists.

All in all a mainly positive attitude to the Danish environmental measures in the areas mentioned can be detected. When this is added to the fact that the attitude of cycling tourists that environmental issues are important in choosing a holiday destination the two counties must be said to meet the environmental criteria of cycling tourists.

175 Hjalager. A., 1995.

176 Hjalager. A., 1995.

On the other hand there is some indication that there is a difference in the environmental awareness of cycling tourists and their knowledge of and requirements for environmental measures. This is shown, for example, when some cycling tourists themselves note that they have not noticed the conditions of the above mentioned environmental issues. This could be regarded as an imbalance between what cycling tourists would like to signal and their actual knowledge of environmental issues.

8.8 Cycling tourists and their own environmental efforts

In the above analysis focus was put on the destinations and their environmental efforts and the attitudes of cycling tourists to these. It is also relevant, on the other hand, to look at what cycling tourists themselves do to be more environmentally friendly along the routes, at the accommodation centres etc. The following chapter is based on interviews with cycling tourists on Fyn and Bornholm where cycling tourists themselves gave examples of their own environmental behaviour.

A German analysis of German attitudes to the environment and environmental issues, including own initiatives concluded:¹⁷⁷

- Grosszügig ist die Bereitschaft, auf *kleine Laster* zu verzichten (z.B. wildes Campen, Rauchen im Wald).
- (Large is the readiness for abstaining from little vices (such as wild camping, smoking in the woods).
- Trotzig die Ablehnung von Einschränkungen der Persönlichen Freiheit in der Freizeit (z.B. Fahrverbote, Wanderverbote in Naturschutzgebieten).
- (Stubborn is the refusal to limit personal freedom during free time (such as driving prohibitions, hiking prohibitions in nature reservations).
- Breit is die Zustimmung für drakonische Massnahmen, insbesondere Geldstrafen für *Umweltstünder* (z.B. Flaschen, Dosen, Picknickreste liegen lassen).
- (Broad is the agreement for drastic measures, especially around fines for *environment sins* (such as leaving bottles, cans, picnic leftovers).

The analysis below will show that the cycling tourists interviewed generally are aware of behaviour and conduct considering nature, environment and local inhabitants. It is actively agreed that each individual cycling tourist himself can take steps in order not to damage nature and the environment.

Earlier in the analysis it was mentioned that the cycling routes are mainly free from refuse and discarded paper. This should be credited to the public authorities and cycling tourists themselves. All cycling tourists interviewed state that it was a question of honour to pick up your

177 Opaschowski, H.W., 1991.

own refuse. A Lithuanian girl of 19 expressed it like this *And they (the other cycling tourists) are all picking up their garbage and sometimes they walk over 50 metres to put it in the garbage container. We would never do that in Lithuania, but now I've seen it and will go home and tell my friends and family.*¹⁷⁸

A couple of the families interviewed stress that they pay great attention to clearing up their own mess and thereby show their children that nature is only on loan. They have also found examples of refuse left by *litter bugs* which they showed to their children to illustrate how ugly refuse in nature is.

Several also point out that they take care not to break off the branches of trees and bushes along the routes, at basic camp sites and such places. Many also stick to paths when walking in the woods, the dunes and on the rocks (on Bornholm) in order not to frighten animals and birds and to destroy vegetation. In this manner these cycling tourists prove that they are aware of a number of written and unwritten rules around how to move around in and behave in the countryside and that these rules should be obeyed.

The Germans, in particular say that they sort their refuse when possible. But at the same time several find, as mentioned above, that the opportunities for refuse sorting are bad, especially at the camping sites. Consequently suggestions for putting up refuse bins and more containers will be made as ways to improve environmental measures.

A few also point out that they protect the countryside by only driving on roads and marked paths. i.e. this behaviour has been conscientiously chosen to protect the surroundings they pass through.

Furthermore, several of the cycling tourists have chosen to ride a bicycle to avoid using the car, and thus reduce contribution to CO₂-exhausts, fuel and energy consumption. The choice is motivated through the idea that traffic and transport during holidays are ideally unnecessary, and therefore the use of polluting means of transport should be avoided, if there is any need for transport at all.

Cycling tourists are also conscious of the need for clearing up after themselves, there is a special awareness of taking care of nature. The degree of consciousness seems somewhat higher than for other tourists, *Das Umweltverhalten vieler Freizeitnutzer ist mehr durch Gedankenlosigkeit (unabsichtlich, Unbewusst) als durch Problembewusstsein gekennzeichnet. Beim Problemkreis Flur- und Waldschäden deutet sich ein persönlicher Konflikt an zwischen der Einsicht, sich in der natur disziplinierter zu verhalten, und dem Wunsch nach individueller freier Gestaltung der Freizeit*¹⁷⁹ (Environmental behaviour of many recreational users is characterised more by thoughtlessness (negligence, inadvertence) than by problem awareness. Regarding the problems of damage to vegetation and woods there seems to be a personal conflict between awareness of

178 Interview at Egeskov Castle, 17.07.1995

179 Opaschowski, H.W., 1991.

how to behave in a disciplined manner in nature, and the wish for individual freedom and movement in their leisure time).

Alone the conscious choice of the bicycle as a means of transport demonstrates an environmentally friendly attitude and the will to clear up after oneself etc. i.e. very tangible and visible environmental measures. On the other hand, it cannot, on the basis of the material available, be concluded whether cycling tourists in fact have a real environmental awareness. There are indications that the German analysis also fits cycling tourists - that you clear up after yourself etc. but, on the other hand, one is not willing to compromise regarding choice of transport to and from the destination. Here the car is especially used for transport, as opposed to the more environmentally friendly means of transport such as trains and busses. The essence of individual freedom and comfort apparently overshadows the actions towards environmental awareness and friendliness.

8.9 Carrying Capacity

A central issue in connection with sustainable tourism is carrying capacity, indicating the upper limit of a destination for the amount of tourists in relation to the impact on nature and environment, the local inhabitants, cultural influences etc. The relationship between tourists and the destination must balance.

There are no models or fixed limits for when the carrying capacity of a destination has been exceeded. Still certain factors can be taken into account to help estimate whether there is a balance between the number of tourists and the capacity of the destination to assimilate the tourists. The estimation will always, however, be rather subjective. The carrying capacity for a tourist area can be estimated in three areas:¹⁸⁰

1. Biological/Ecological carrying capacity

I.e. the maximum use before resulting in unacceptable depletion of ecological value, often defined through diversity of species.

2. Social carrying capacity

I.e. the maximum use before resulting in unacceptable decrease in the quality of outdoor enjoyment, defined from the average point of view of the users.

3. Economic carrying capacity

I.e. the Maximum use of an area before causing unacceptable economic losses.

The issue in this investigation is whether there are too many cycling tourists on Fyn and Bornholm or whether it is estimated that the destinations can carry more cycling tourists.

180 Ballegaard, T., 1994.

It is important to point out that the carrying capacity debate is not a discussion of whether it is desirable to increase the amount of cycling tourists on Fyn and Bornholm. This will be discussed in the conclusion.

Studying the behaviour and environmental impact of cycling tourists has shown that cycling tourists generally are not as damaging as other tourists. From an environmental point of view the number of cycling tourists is consequently not too high, on the contrary. As cycling tourists only spend a limited time in the countryside, off routes and roads, their presence must be regarded as non-threatening for nature. A more thorough study of cycling tourists and their wear and tear on vegetation, disruption of animals and birds etc. should eventually clarify this.

The analysis has not directly looked at the local inhabitants and their attitudes towards cycling tourists. But based on media coverage and other debates about tourism on the island it cannot be said that cycling tourists have had any impact on the local inhabitants and the quality of their open air activities. A more intensive research of this part of cycling tourism and the carrying capacity on Fyn and Bornholm should be conducted before it can be finally established whether the social carrying capacity has been exceeded.

Chapter 9 will show that cycling tourists also are profitable. i.e. the income exceeds the (included) investments, and it can therefore not be claimed that the economic carrying capacity is out of balance.

No places have been found on Fyn and Bornholm where cycling tourists conflict with the local inhabitants or places where there are concentrations of cycling tourists in such numbers that this causes problems for traffic or local inhabitants.

In this manner cycling tourists themselves are not a problem for Fyn and Bornholm. There is another problem, though, which only applies for Bornholm. If the number of cycling tourists visiting the island increases Bornholms Amt(County) as a consequence will have to revise their current aims that the number of tourists should not exceed the number of local inhabitants. Currently this limit is almost reached during the summer season, but not, by far, outside of the season. i.e. the number of cycling tourists cannot be increased during the summer season without exceeding the stated limits of the county.

The consequence is thus that if the current limit is kept the number of other tourists should be decreased during the summer season in a number matching the increased amount of cycling tourists, or the amount of cycling tourists can only increase outside the season.

This debate does not belong here, where the aim is solely to raise issues. It seems clear, however, that the current number of cycling tourists has not exceeded the carrying capacity of Bornholm and by no means the carrying capacity of Fyn.

8.10 Summary

This chapter has clarified:

- that cycling tourists, in terms of transport to and from the destination mainly go by car, but that there are comparatively fewer cycling tourists than other tourists who use a car for transport
- that cycling tourists are more environmentally friendly during their stay than other tourists, because bicycles are used in preference to fuel consuming vehicles
- there are differences amongst the nationalities and their preference for vehicles, where Danish and German tourists are the most environmentally friendly as more of these use a bicycle to and from the destination and ride a bicycle during their stay
- that cycling tourists due to the choice of non-fuel consuming vehicles, especially at the destination, are less energy consuming than the average tourist
- that cycling tourists especially due to the choice of transport at the destination emit fewer harmful substances
- that cycling tourists cause less damage through their choice of accommodation, concerning energy consumption, water consumption, refuse and sewage, traffic and noise and visual pollution, as more cycling tourists choose the more environmentally friendly camping accommodation as opposed to hotel and holiday house accommodation than tourists in general
- that cycling tourists damage flora and fauna to a lesser extent than other intensive countryside using tourist and tourists in general
- that the environment is extremely important/very important in choosing a holiday destination for the majority of cycling tourists, almost irrespective of nationality, age and occupation/education
- that approx. 8 out of 10 cycling tourists are very satisfied/satisfied with the quality of the sea water
- that 90% are very satisfied/satisfied with how nature is kept clean
- that 60% are very satisfied/satisfied with the treatment of sewage while 30% are neutral regarding the issue
- that three quarters are very satisfied/satisfied with the water saving measures
- that more than 80% are very satisfied/satisfied with the energy saving measures
- that just below 80% are very satisfied/satisfied with the refuse sorting
- that just below 70% are very satisfied/satisfied with the recycling systems
- that cycling tourists can be described as environmentally friendly with a will to clean up after themselves. But there is no basis to say whether this is a deeply rooted environmental awareness, as many still use cars as opposed to choosing more environmentally friendly means of transport such as trains and busses
- that cycling tourism does not seem to have exceeded the carrying capacities on Fyn and Bornholm regarding 1. Biological/ecological carrying capacity. 2. Social carrying capacity. 3. Economic carrying capacity.

This analysis of the environmental sustainability of cycling tourism has, at the same time, indicated the need for more research in a number of areas such as the biological/ecological carrying capacity and the social carrying capacity. A need for calculating the environmental impact of the various types of accommodation in a number of areas (energy consumption, water consumption, refuse/sewage, traffic/noise) measured per person per day/year was also demonstrated. There also seems to be a need for in depth research into environmental awareness of cycling tourists. Finally there is a great need to start research into the environmental impact, environmental awareness etc. of the ordinary tourist, in order that analyses like this can have a point of reference.

9. The economics of cycling tourism

9.1 Introduction

Tourism is an export business with a high foreign currency income, and tourism is therefore, regarded as beneficial from an economic point of view, especially for the government.¹⁸¹ The key question is whether all types of tourism are profitable.

One of the main theses in this study is that cycling tourists have a low daily expenditure and are not therefore an economically attractive type of tourist compared to others. In this chapter the economic viability of cycling tourism will be analysed, including profits, employment effects as well as the impact on the local areas. These are important factors as the funds and resources invested in cycling tourism perhaps could be put to better use elsewhere.

In the analysis of the development of tourism there will be several areas, apart from the purely economic, which are important, a tourism product, for example, is not only developed for foreign tourists but often just as much for Danish tourists. Here the authorities play a vital part, as it is important to take into consideration those who cannot afford to go abroad and alternatives should be made available. An evaluation of cycling tourism should include all such considerations.

9.2 Daily Expenditure

One of the vital aspects of this analysis is to clarify whether it is economically beneficial to attract cycling tourists. The income generated from tourists is measured in daily expenditure, i.e. the amount of money the tourist spends per day per person on accommodation, food and beverages, transport during the stay, experiences and activities as well as other entertainment.

In some instances transport to and from the destination is included, which, for technical reasons,¹⁸² is not done in this analysis.

Cycling tourists in this analysis who were willing to answer questions about money (92.9%) had spent a total of DKK 93,684 before the interview. So the daily expenditure of each cycling tourist can be calculated as:

181 Rafn, T., 1996.

182 The cost of the journey itself rarely generates more income in the local areas, as the transport companies, oil and petrol companies and travel agents often have their main offices situated outside local areas. I.e. the business of these companies is based on the local area but does not stimulate the local economy, and should therefore not be included in the calculation of daily expenditure when the aim is to study local economic effects. The reason some state a high daily expenditure is quite obvious.

Table 43. Daily expenditure of the cycling tourist

Daily expenditure:	DKK 257.37
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The assumption that cycling tourists do not spend a lot of money is true, as the daily expenditure is lower than that of a German holiday house tourist, who is normally at the bottom of the expenditure scale with DKK 290 per day.¹⁸³ By comparison, the international business tourist is at the top of the scale with DKK 2,400-2,600 per day,¹⁸⁴ while a German tourist staying in a hotel spends DKK 812 per day.¹⁸⁵

Earlier analyses have shown differences in the daily expenditure of cycling tourists, for example DKK 165.10 (1990),¹⁸⁶ DKK 350 (1994).¹⁸⁷ This analysis, however, does prove that cycling tourists do not spend a lot of money. It should be noted, however, that the daily expenditure has increased from 165,10 in 1990 to DKK 257.37 in 1995. An increase of approx. DKK 100 is rather a lot, especially for a low expenditure tourism group. There are no immediate explanations of this increase, neither in terms of methodology nor target group.

The daily expenditure of the cycling tourist on Fyn and Bornholm has been calculated to demonstrate whether it can be assumed that cycling tourists who have paid for transport to Bornholm are also willing to spend more money during their stay:

Table 44. Daily expenditure of cycling tourists on Fyn and Bornholm

Fyn	DKK 266.30
Bornholm	DKK 250.30

It appears that cycling tourists on Fyn spend DKK 16 more per day. The daily expenditure can still be said to be more or less the same for Fyn and Bornholm, which could indicate that the level of the daily expenditure is realistic.

At the same time it is shown that the assumption that willingness to pay for expensive transport is also reflected in a higher daily expenditure is not true, on the contrary, it seems that savings are made instead.

183 Danmarks Turistråd, 1993.

184 Danmarks Turistråd, 1995.

185 Danmarks Turistråd, 1993.

186 Friluftsrådet, 1990.

187 Fyns Amt/FynTour, 1994a. Please note that the amount is an estimate not a calculation, and it was estimated based on answers from questionnaires returned by the purchasers of cycling route maps, and that travelling expenses have been included in the daily expenditure.

9.3 Daily expenditure of cycling tourists on individual items

A well known saying within the tourist industry is that the retail sector benefit from tourism without contributing to marketing etc. The *free-rider* issue is met throughout the country (and abroad), but only very few have actual facts to support their complaints.

Therefore, the expenditure has been divided into individual categories, in order to see how the cycling tourist actually spends his money. The first table shows how many of the total of those cycling tourists interviewed spend money on a particular item. Please note that the figures (when added vertically) exceed 100% in total as cycling tourists could have spent money on several items and consequently marked several categories:

Table 45. Expenditure of cycling tourists on individual categories

	Fyn	Bornholm	Total
Accommodation	45.6%	39.6%	85.2%
Everyday Necessities	36.9%	34.2%	71.1%
Kiosk Goods	15.9%	24.0%	39.9%
Selected goods	3.9%	5.1%	9.0%
Restaurants	18.9%	20.1%	39.0%
Entrance fees	7.2%	10.8%	18.0%
Other	0%	0.6%	0.6%
Total	128.4%	134.4%	262.8%

It appears that 85.2% of cycling tourists spent money on accommodation the day before the interview, which supports the fact that cycling tourists choose types of accommodation where bills settled on a short term basis and where stays are short, such as camping, youth hostels etc.

71.1% of cycling tourists spend money on everyday necessities, i.e. goods bought in shops not normally defined as tourist businesses.

39% spend money on restaurants and kiosk goods - such as ice creams, magazines, confectionery etc. - whereas only a few spend money on selected goods. The latter is not surprising, as cycling tourists who move from place to place cannot carry large amounts of luggage, and this limits the amount of shopping cycling tourists can do.

When comparing Fyn and Bornholm there are no big differences, although more cycling tourists on Bornholm seem to spend money on accommodation, while more cycling tourists on Fyn spend money on kiosk goods and other consumer items.

The table shows the average expenditure per person for each individual item, where figures from a West Jutland analysis have been included.¹⁸⁸

188 Average for German and Danish tourist calculated on the basis of Hjalager, A., 1995.

Table 46. Expenditure in DKK per day on individual consumer items

	Bornholm	Fyn	Total Fyn + Bornholm	Holiday house guest West Jutland	Camping guest West Jutland
Accommodation	89.93	96.06	93.00	134.00	48.50
Everyday necessities	58.06	58.90	58.50	57.00	42.50
Kiosk goods	16.42	20.04	18.23	11.50	8.00
Selected goods	11.77	17.62	14.69	35.50	18.50
Restaurant	56.74	59.83	58.28	16.50	15.50
Entrance fees	6.27	17.85	12.06	5.50	6.00
Other	-	1.50	0.75	-	-
Total	239.19	271.08	255.51	260.00	139.00

The expenditure per person shows that even if there are no apparent differences on Fyn and Bornholm when looking at each individual category the difference in total quite considerable, a good 10% which the cycling tourist on Fyn spends more than the tourist on Bornholm.

When the cycling tourist figures are compared to the figures from West Jutland it appears that the camping tourist at the West Coast spend half as much as of the cycling tourist on Fyn and considerably less than the cycling tourist on Bornholm. The holiday house tourist on the West Coast spend approximately the same amount as cycling tourists.

It can consequently not be claimed that cycling tourists spend less money than other well known tourism types and definitely no less than the holiday house and camping tourists on the West Coast, who, as is well known, represent the quantity of Danish tourism.

On the other hand, these tourists have been called discount tourists (in this analysis we will not discuss this somewhat negative label), and cycling tourists do not have a daily expenditure which is vastly higher, unlike for example the city and hotel guests. It is consequently logical to group cycling tourists in the category of tourists with a low daily expenditure.

If the consumer categories are divided into *tourist* and *non-tourist* groups, where the latter includes daily necessities and selected goods to cycling tourist spends the following:

Table 47. Daily expenditure of cycling tourists divided in non-tourist and tourist related products

- Tourist related products	DKK 181.57 = 71.3 %
- Non-tourist related products	DKK 73.19 = 28.7 %

Cycling tourists spend a considerable large amount of their total expenditure on non-tourist related products. A facts which is also seen in other parts of the country.¹⁸⁹ The

189 Hattesen, K., 1994.

cycling tourism therefore helps stimulate the turnover at the retailers even if these only to a very limited extent contribute to marketing etc., efforts which attract tourists.¹⁹⁰ These are free-riders, i.e. companies who benefit without contributing correspondingly.

the effect of the turnover of cycling tourism in the two areas is difficult to calculate. The direct turnover will go to the tourist industry, where the indirect effect will be from the part spent on salaries, interest, etc. This leads to increased consumption in the local areas and thus an increase in demand (multiplication process¹⁹¹).

The local (local = Fyns Amt and Bornholms Amt) consumption and demand effects can be calculated by calculating the total turnover of cycling tourism and multiplying by the ability of the local area to tie DKK 1. The difference between the average local consumption quota (c) and the average local import quota (m) will give the factor (c -) to multiply with. If this factor is assumed to be 0.2, i.e. for every kroner turnover, 80 øre will leave the area (taxes, import, rents and savings). The remaining 20 øre will generate positive effects.¹⁹²

A cycling tourist will generate a turnover of DKK 257 per day. DKK 257 multiplied by 0.2 is DKK 51.40. So the local consumption/demand is increased by DKK 51.40. In the second phase of the process the effects will also be 0.2 X DKK 51.40 and so on.

The model does not, however, clearly indicate how large the total profit is, as investments in the development of cycling tourism products have not been included. It will consequently, in the following be sought to calculate whether there is a profit or deficit in cycling tourism on Bornholm and Fyn.

9.4 The economic effects of cycling tourism (by Birgitte Jørgensen)

The aim of this chapter is to analyse the economics of cycling tourism on both Bornholm and Fyn. The chapter contains calculations of the income derived from cycling tourism and the money spent on cycling tourism in the two counties as well as the employment effect of cycling tourism.

The income is defined through calculating the Gross Factor Income (GFI)¹⁹³ of cycling tourism. This calculation is based on a calculation of the turnover of cycling tourism derived from the daily expenditure of cycling tourists. The analysis also contains a calculation of the costs of cycling tourism in the two counties. Here the focus is mainly on costs in connection with building and maintaining bicycle paths.

190 Hattesen, K., 1990.

191 Please see, amongst others, Armstrong/Taylor, 1978.

192 The factor is set at the level of Lolland, as both Bornholm and the coastal areas and well as the islands around Fyn where the majority of cycling tourists are, have a structure similar to that of Lolland. Hattesen, K., 1994.

193 Gross Factor Income (GFI): This term is used as shorthand for Gross Domestic Product *at factor cost*. [trans.].

Finally the employment effect of cycling tourism is calculated using the input-output table from Danmarks Statistik. As this input-output table expresses both direct as well as indirect effects, and as these are not necessarily local effects, the calculated employment figures are not to be seen as employment effects in the two counties but as nation-wide employment effects.

9.4.1 Income

The income derived from cycling tourism is based on the daily expenditure of cycling tourists. From the questionnaires it has been calculated that cycling tourists on Bornholm have an average daily expenditure of DKK 250 and on Fyn DKK 266.

The analysis also showed that cycling tourists on average stay 9 days on both Bornholm and on Fyn. In chapter 5 the number of cycling tourists on Bornholm has been calculated to be 20,000 and 33,000 on Fyn. The number of cycling tourist bednights has also (in chapter 5) been calculated to be 177,000 on Bornholm and 300,000 on Fyn. Based on this information the turnover of cycling tourism in the two counties has been calculated. The calculation is shown in the table below.

Table 48. Cycling tourism turnover on Bornholm and Fyn

	Bornholm	Fyn
Number of cycling tourists in 1,000	20	33
Number of bed nights in 1,000	177	300
Average length of stay in days	9	9
Daily expenditure per cycling tourist in DKK	250	266
Turnover of cycling tourism in DKK 1,000	45,000	79,000

As seen the turnover of cycling tourism in 1995 was DKK 45 million on Bornholm and DKK 79 million on Fyn. The turnover is as mentioned the base for the calculation of the GFI derived from cycling tourism in the two counties which is used as a measurement of the income of cycling tourism. The GFI is a total of employment salaries, employer and remaining income, and therefore a growth in value.¹⁹⁴ The GFI of cycling tourism has been calculated by assuming that the cycling tourism's GFI proportion of the turnover is the same as the GFI proportion of the turnover of the total tourism. Unfortunately these figures are only known for Bornholm. For Fyn it has been assumed that the GFI part of the turnover is the same as on Bornholm.

The total GFI of tourism on Bornholm was in 1992 28% of the total tourist turnover.¹⁹⁵ Based on the above, the GFI of cycling tourism on Bornholm is calculated at DKK 12 million and on Fyn at DKK 22 million in 1995. Furthermore, it can be calculated how large a part of the tourist turnover was derived from cycling tourism on Bornholm. The

194 Rafn, T., 1995.

195 Rafn, T., 1995.

total tourism turnover amounted in 1992 to DKK 1.2 billion on Bornholm.¹⁹⁶ When this turnover is up-dated to 1995 prices using the consumer price index,¹⁹⁷ it amounts to a total tourist turnover of DKK 1.3 billion. It can consequently be calculated that the cycling tourist turnover amounted to 3.5% of the total tourist turnover in 1995, assuming that the total tourist turnover was the same in 1992 and 1995 when allowing for inflation.

9.4.2 Cost of cycling tourism

The counties' expenditure on cycling tourism is derived from the extent to which the cycling routes have been built for cycling tourists and the costs of building the cycling routes. Bornholms Amt has furthermore stated administration costs and marketing costs for cycling tourism, while Fyns Amt have the cost for running Cykelnetværk Fyn (Cycling Network Fyn). In connection with costs of building cycling roads it must be emphasised that the roads can, of course, be used by both tourists and local inhabitants, and it is therefore not quite accurate to allocate the total financing of the cycling roads to cycling tourism. In practice, however, it is impossible to calculate how large a part of the financing is to be allocated to cycling tourism and to what extent the local inhabitants use the roads.

The table below shows the amounts invested by Bornholms Amt in cycling roads during the period 1977 to 1995.

196 Rafn, T., 1995.

197 Danmarks Statistik. The consumer price index was in 1992 85.50 and in November 1995 196.90.

Table 49. Investments in cycling roads, Bornholms Amt, 1995 prices in DKK 1,000¹⁹⁸

Year	Amount in DKK 1,000, 1995 prices
1977	1023
1978	847
1979	3572
1980	2403
1981	3626
1982	5052
1983	5289
1984	4964
1985	4238
1986	5319
1987	2201
1988	3406
1989	4630
1990	2768
1991	364
1992	423
1993	5337
1994	7316
1995	5993
Total	68772

The amounts invested have been converted to 1995 prices using the price index for asphalt works.

In 1995 prices a total of DKK 69 million has been invested on Bornholm on cycling roads during the period from 1977 to 1995. That the amounts invested in 1991 and 1992 are small compared to the amounts invested in the previous years is, according to Bornholms Amt, because the grants from Vejdirektoratet (The Road Directorate) were small in those years.¹⁹⁹ On the other hand the grants from Vejdirektoratet (The Road Directorate) were larger than normal in 1993 and 1994. At the same time in 1993 and 1994 the building of cycling paths along the main roads was intensified. Furthermore the Bornholm Package influenced the proportionally large number of investments in 1994.

Regarding future investments in cycling roads Bornholms Amt²⁰⁰ have announced that another three stretches are planned, total budget is DKK 40 million.

The next table shows the Fyns Amt's investments in cycling roads. Fyns Amt have, during the period 1992 to 1995 had expenses of DKK 4.5 million on building cycling roads. The cost of the cycling route map is included in this calculation because it is an expenditure

198 For Bornholms Amt the figures are stated by Ib Møller in letter of 09.01.1996 as well as in telephone conversation of 15.01.1996. The figure for 1995 is a preliminary accounting figure. For Fyn the figures were obtained from Fyns Amt on 21.01.1996.

199 Bornholms Amt, Ib Møller, 15.01.1996.

200 Bornholms Amt, Ib Møller, 15.01.1996.

which Fyns Amt have incurred in connection with building the roads. It is an expense incurred only once.²⁰¹

Table 50. Investments in cycling roads, Bornholms Amt, 1995 prices in DKK 1,000²⁰²

Year		Amount, DKK 1,000
1992	Building cycling roads	1481
1993	Building cycling roads	362
1994	Building cycling roads	411
1995	Building cycling roads	368
1995	Signs	700
1995	Purchase of Vodrup Klint	300
1995	Enebærødde	400
1995	Cycling Route maps	450
	Total cost	4473

The invested amounts have been converted to 1995 prices using the price index for asphalt works.

It is evident that Bornholms Amt have invested a far greater amount in building cycling roads than Fyn. It is important to emphasise that the Bornholm cycling road net has been built for both tourists and local inhabitants. A factor called *built up areas* was included in the planning of the cycling road net, this factor takes the daily cyclists into consideration.²⁰³ Examples are residential areas, places of work and schools. Example of the latter are the paths between Årsdale and Svaneke and Tejn and Allinger which at least every Spring and Autumn are used by a large number of school children.

The amounts invested in cycling roads on both Bornholm and Fyn cannot be directly compared. Fyns Amt have built cycling roads which are solely intended for tourists and not the local inhabitants, but it cannot, of course, be assumed that the local inhabitants do not use these cycling roads. The cycle paths which have been built in the town areas of Fyn and which are mainly used by the local inhabitants on their way to work and school have been built by the municipalities of Fyn.²⁰⁴ The net of cycling paths built by Fyns Amt is, in other words, only a small part of the total net of cycling paths on Fyn. The net is also based on small and already existing roads. In a few exceptions the surfaces have been changed. The only places where new paths have been built are Vodrup Klint and Enebærødde.²⁰⁵ This is, of course, a sharp contrast to Bornholm where during the years 1993 and 1994 large amounts were invested in building paths along the main country roads. On Fyn investments are planned for 1996 in the range of DKK 400.000.

201 Information received during telephone conversation with Lis Ebberup, Fyns Amt, 29.01.1996.

202 For Fyn the figures are from Fyns Amt, on 21.01.1996.

203 *Cykelveje på Bornholm, Plan for regionalt net af cykelveje* (Cycling roads on Bornholm, Plan for regional net of cycling roads) Bornholms Amt Technical Department, March 1981.

204 From telephone conversation with Lis Ebberup, Fyns Amt, 29.01.1996.

205 From telephone conversation with Lis Ebberup, Fyns Amt, 29.01.1996.

It is assumed in the following that the cycling roads built by Fyns Amt are only used by cycling tourists, while it is assumed for Bornholm that 75% of the users of the cycling roads are cycling tourists.

Bornholms Amt have expenditure on the cycling roads through maintenance, administration and costs of finance on the amounts invested. The cost of maintenance has only since 1995 been entered as a separate accounts item, and is consequently only available for 1995, where approx. DKK 400,000 were spent.²⁰⁶ The above assumption that 75% of the users of the cycling paths are cycling tourists entails that only 75% of the other expenditures of the county are debited to cycling tourism. The marketing efforts, however, are solely aimed at cycling tourists and these are therefore attributed 100% to cycling tourism.

The administration costs for cycling roads are not itemised separately, but are estimated to amount to DKK 50,000 in 1995.

The cost of finance for the cycling roads built is calculated as the actual interest paid on the invested amounts in 1995 prices and a real interest of 6%.²⁰⁷ The cost of finance has been calculated based on the repurchase price and, in other words, amounts to 6% of the invested amounts in 1995 prices.

Table 51. Bornholms Amt's expenditures on the cycling road net

	Annual expenditure in DKK 1,000
Maintenance of the cycling road net	300
Administration	38
Finance costs of investments	3000
Marketing	40
Total expenditure	3,378

The table shows that the total expenditure on the cycling road net in the Bornholm Amt amounts to DKK 3.4 million in 1995, of which the largest item is the finance costs amounting to DKK 3 million.

The costs of cycling tourism on Fyn are shown in the table.

Table 52. Expenditures on Fyn on cycling tourism

	Annual expenditure in DKK 1,000, 1995-prices
Finance costs	280
Cykelnetværk Fyn (Cycling Network Fyn)	1,800
Total	1,080

206 Bornholms Amt, letter of 09.01.1996.

207 It can, of course, be discussed how high the actual interest is. In this paper the actual interest has been calculated as follows: As a target for the nominal interest, Nykredit bonds have been used. Their nominal interest was 7,96% on 11.01.1996 (Jyllandsposten) the rate of inflation is calculated as the relation between the GNP first half of 1995 in 1995 prices and the GNP first half of 1995 in 1980 prices, from Danmarks Statistik 25.01.1996.

The cost of finance is, as for Bornholm, calculated with a real interest of 6%. The total annual expenditure on Fyn in 1995 prices amount to DKK 2.1 million.

As can be seen the GFI of cycling tourism is DKK 12.6 million on Bornholm and DKK 22 million on Fyn. The expenditure on cycling tourism is 3.4 million on Bornholm and DKK 2.1 million on Fyn. This gives an income from cycling tourism respectively of DKK 9.4 million and 19.9 million in the two counties. The earnings on Fyn are clearly considerably larger than on Bornholm. The reasons are partly cheaper building costs on cycling roads and partly a larger number of cycling tourists with a larger daily expenditure.

9.4.3 Effects of cycling tourism on employment

The fact that during 1995 respectively 20,000 and 33,000 cycling tourists stayed on Bornholm and Fyn has naturally had some effects on employment. These effects will be estimated based on the turnover of cycling tourism divided into separate consumer categories and choice of accommodation. The following calculations have been based on the input-output table of Danmarks Statistik, which is based on the national accounts, and therefore average employment figures for the whole year. It should be emphasised that it is the total employment effects, i.e. for the entire country. Cycling tourism does not only have an employment effect in the two counties, but also in the rest of the country through indirect effects. In the estimate of the employment effects the employment effect of the construction of the cycling roads has not been taken into account.

The effects are separated into two categories, firstly the employment effect of cycling tourists and their consumption of goods and services, and secondly the employment effect of cycling tourists through accommodation.

Table 53. Employment effect of cycling tourism

Turnover of separate categories	Employment, Bornholm	Employment, Fyn
Everyday necessities DKK	19	31
Kiosk goods DKK	7	14
Selected goods DKK	3	9
Restaurants DKK	30	53
Entrance fees DKK	3	14
Total employment	63	121

As seen from the table the cycling tourism on Bornholm, when disregarding the accommodation of cycling tourists, created employment for 63 people in 1995.²⁰⁸

The largest employment was created in the restaurant sector, where cycling tourism gave employment to thirty people. The second highest number of jobs was created within the everyday necessities business, where cycling tourism gave employment to 19 people.

The effect of cycling tourism on employment was somewhat bigger on Fyn, responsible for 121 jobs. Naturally, this is the result of a larger turnover on Fyn within each of the individual categories, which is due in part to a higher daily consumption per cycling tourist on Fyn and in part to the larger number of cycling tourists.

However, on Bornholm, the smallest effect on employment was from entrance fees, whereas the smallest on Fyn was in selling selected goods.

The above calculations show the employment created by cycling tourism excluding places of accommodation. Just as cycling tourists' consumption in shops and restaurants generates an employment effect, their staying in different places does the same. This employment effect can be calculated from the input-output table²⁰⁹ for the categories hotels, youth hostels and camp-sites, which comes to 386,370 of cycling tourism's total of 477,000, or 81%.

Table 54. Employment from cycling tourist bed-nights

Category	Bornholm	Fyn
Hotels, thousand bednights	16	27
Camping, thousand bednights	99	163
Youth hostels, thousand bednights	31	50
Total bednights (thousands)	146	240
Average price DKK per bednight	90	96
Turnover in DKK 1000s	13140	23040
Employment effects	38	68

The table shows that cycling tourism through bednights on a national level created employment for 38 people on Bornholm and 68 on Fyn. The employment is calculated from

208 Based on the turnover figures for the different categories as well as the input-output table 5.D.2 from Input-Output tables and analyses 1991, Danmarks Statistik. The calculation of the employment figures is based on the turnover of each consumer category. For everyday necessities a weighted calculation has been made on the categories *foods and beverages & tobacco* in the input-output table. As a weighting, the category's proportion of the total consumption in Denmark has been used. Thus it is assumed that the consumption of goods from the two categories gives the same proportion of consumption for cycling tourists as for non-tourists. For kiosk goods, the category *books, newspapers and magazines* from the input output table has been used.

The category *selected goods* is calculated from a weighting of the categories *clothing and shoes* and *sports and camping equipment* in the input-output table. The weighting has been made on the same basis as for everyday necessities, and the same reservation applies.

For restaurants, the category *restaurant visits* from the input output table has been used and for the category entrance fees, the *entertainment's etc.* from the input output table has been used.

209 According to Danmarks Statistik, in a telephone conversation of 2nd February, the category *Hotels etc.* in the input-output table is an aggregate of use of hotels, youth hostels and campsites.

the total turnover which is shown in the table. That total turnover is, however, in all probability too low, since it is calculated from the average overnight cost for all types of accommodation. It is likely that the remaining accommodation categories: stays on pleasure boats or basic camp-sites, would bring the average down. The turnover for the three bed-night categories would therefore probably be higher than that shown in the table.

The table does, nonetheless, give an indication of the employment effect on the accommodation sector. In other words, the total employment effect of cycling tourism is 101 jobs on Bornholm and 189 on Fyn.

9.5 Summary

In summary, it can be stated that in spite of a large investment in construction, especially on Bornholm, the economy of cycling tourism brings a positive income both on Bornholm and Fyn. The turnover from cycling tourism produces a modest part of the total tourist turnover on Bornholm, i.e. 3.5%. At the same time, cycling tourism gives employment to 101 people in the course of a year on Bornholm and an average 189 people a year on Fyn.

When using the measuring methods generally used in connection with economic effects of tourism there are positive effects of cycling tourism.

The current research is not, however, sufficient to be able to produce a complete evaluation of whether the income from cycling tourism in the two counties is positive.

The question is whether the large investment in cycle routes produces an increase in tourism at all, or whether the tourists who come as cycling tourists would come anyway. That cannot be answered from this study.

Moreover, it should be considered whether the large amount the two counties have invested in cycle routes could have been put to better uses and purposes. In other words, it is impossible to conclude from this study whether the economic effects of cycling tourism are positive.

10. Conclusion

10.1 Introduction

In this chapter the results of the study will be discussed in comparison with its aim: to analyse cycling tourism to see whether it is economically and environmentally sustainable. In other words: is cycling tourism the ideal tourism form with high income and few environmental costs?

The discussion will move through the following points, all based on the results of the analysis:

- Can cycling tourism be called a sustainable type of tourism, which considers nature and the environment, i.e. a form of tourism which does not pollute and damage the relationship between the tourist industry and the authorities and the areas where the tourists go?
- Can the economics of cycling tourism be regarded as more beneficial than other types of tourism?
- Can cycling tourism be called both economically and environmentally sustainable?
- Can cycling tourism be called a desirable type of tourism for Fyn and Bornholm compared with other tourism potential?

10.2 Environmental sustainability

Compared to ordinary tourists, cycling tourists are apparently more environmentally aware and cycling tourism is less harmful, as cycling tourists choose less damaging accommodation than other classes of tourist. Added to this is the fact that cycling tourists quite clearly cause less damage than tourists who use fuel driven vehicles precisely because they use bicycles as a means of transportation at the destination. Cycling tourists also use more environmentally friendly vehicles to and from the destination to a greater extent than other tourists. The vehicle cycling tourists and other tourists prefer - the car - causes a lot of damage. But more cycling tourists use bicycles, trains and busses for going to and from the destination than do other tourists. 25% of German cycling tourists interviewed on Fyn, for example, used the train.

Cycling tourism can therefore be said to be *green* tourism. But to call cycling tourism in its current form an ideal type of tourism would not be fair. To be perfect, a type of tourism should have only minimum impact. Cycling tourism, with its extensive use of the car for transport to and from the destination and for transport at the destination, does not meet this requirement.

Whether it is realistic to make more cycling tourists use trains and buses to and from the destination and thus lessen environmental damage is uncertain. But despite the very lim-

ited marketing efforts of DSB (Danish State Railways) and Deutsches Bundesbahn, for example, to make cycling tourists take the train to Fyn, it is food for thought, that so many Germans still use the train to Fyn. This could indicate that a conscious effort and targeted marketing of the train as additional transport could increase the amount of cycling tourists from Germany travelling by train. Especially if this effort is supplemented by improved opportunities to take the bicycle on the train. This would quite clearly make cycling tourism even more environmentally friendly.

Whether cycling tourism can definitively be called an environmentally sustainable tourism form depends on the criteria set for sustainability. Compared to the most popular Danish form of holiday - holiday house tourism - cycling tourism is more environmentally friendly and has a higher degree of environmental sustainability. But to label cycling tourism in its current form as ultimately environmentally sustainable is probably an exaggeration. There are still far too many improvements to be made concerning the environmental damage from the accommodation sector and the transport modes, such as park and ride, and to increase the use of trains and busses as opposed to cars, using environmental audits (EMAS, BS 7750, ISO 90014) within the accommodation sector, which would reduce heating and energy consumption as well as waste amounts (and make savings for the accommodation providers).

10.3 Economic viability

The analysis of the economics of cycling tourism shows that cycling tourists have a daily expenditure of DKK 257. This is approximately the same as for the ordinary leisure tourist. By contrast, this is substantially lower than the daily expenditure of the types of tourism which use hotels for accommodation, such as city breaks and incentives. The daily expenditure of the cycling tourists can be said to be low.

Despite the low daily expenditure of cycling tourists, cycling tourism had an annual turnover of DKK 45 million on Bornholm and DKK 79 million on Fyn. From this cycling tourism generates profits of DKK 9.4 million on Bornholm and DKK 19.9 million on Fyn. It should be added that it has not been possible to include all the costs of cycling tourism (such as building the path net) using the measuring tools available. The profits calculated should be considered as broad indications.

Cycling tourism also has an employment effect of 101 jobs on Bornholm and 189 jobs on Fyn.

In total cycling tourism thus generates income and employment on the islands. Measured in this manner cycling tourism is economically viable.

On the other hand the cycling tourists' extensive use of camping sites, basic camping and youth hostels generates far less turnover and employment, than if they stayed mainly in hotels. Thus, cycling tourism can be regarded as a type of tourism which is profitable, but

at the same time does not generate the profit and employment which Europe's perhaps most beautiful and best cycling routes ought to generate.

The broad marketing of the industry aimed at *everyone who wants to cycle on Fyn and Bornholm* means that more exclusive groups are not targeted and therefore to a great extent not attracted. The analysis has shown that only a limited number of the cycling tourists have been influenced by the broad marketing efforts - exhibitions and brochures - so the money spent on these activities should perhaps have been channelled through more targeted activities for attracting a group of cycling tourists with a higher daily expenditure and consequently a higher profit and employment effect.

From an economic point of view there seems to be an imbalance between product and marketing. An imbalance which may mean that cycling tourism currently can be considered economically viable, but that a higher viability could be created for the local areas. This could happen, for example, through developing flexible packages, consisting of a standard package with opportunities to purchase extra services (luxury). On top of that, new markets and target groups who use the more expensive types of accommodation, rent bicycles, dine at restaurants etc., should be identified. The broad marketing should be made more precise and targeted etc.

10.4 Is cycling tourism economically viable and environmentally sustainable?

Nationally and internationally a type of tourism is sought, which is both profitable and environmentally sustainable. Cycling tourism on Fyn and Bornholm in its current form and to its current extent is close to being both environmentally sustainable and economically viable, but whether cycling tourism itself is the perfect type of tourism is another matter.

The analysis has shown that a number of factors should be incorporated when estimating the sustainability of tourism. It was also shown that cycling tourism does create profit and jobs, and that cycling less environmentally damaging than ordinary tourism. The conclusion of this analysis is still that cycling tourism is not economically and environmentally optimal. Because for as long as there are so many improvements to be made regarding transport and accommodation, then cycling tourism cannot be called environmentally sustainable and economically viable and is therefore not the perfect type of tourism. It is possible to make improvements without extensive investment. The fact that cycling tourists do have a low daily expenditure is not in favour of cycling tourism either.

10.5 Is cycling tourism a desirable type of tourism?

Because a type of tourism is sustainable it does not necessarily mean it is desirable for a destination or a region.

A well developed route and path system with good route descriptions, landscapes made for cycling tourism, and a wide range of small and middle sized attractions and sights, as well as accommodation of various types and sizes and suited for various wallets, all form a good basis for cycling tourism on Fyn and Bornholm. It would actually be very difficult to find destinations with a wider and more developed cycling product both nationally and internationally. Added to this is the fact that both the counties on Fyn and Bornholm are positive towards and active within the development of cycling tourism. The base is solid and cycling tourism has been adjusted to fit in with other tourism on the two islands.

But despite these positive physical and political conditions, it cannot be unequivocally determined whether cycling tourism is desirable for Fyn and Bornholm. First it is necessary to clarify: desirable in relation to what? Nature and environment? Economy? Other types of tourism? Other strategic industry development or in relation to tourism as an industry at all?

This analysis has shown that cycling tourism in relation to economy and environmental issues has a number of advantages compared to ordinary tourism. But this does not mean that cycling tourism can replace other tourism. Only that cycling tourism is one of several alternatives to ordinary tourism. The tourist alternatives²¹⁰ which make tourism on Fyn and Bornholm many-faceted and which give the impression of destinations with several possibilities. Cycling tourism is desirable in this way because it attracts tourists who (probably) otherwise would not have chosen Fyn and Bornholm and can thus be a supplement to ordinary tourism.

Cycling tourism, on the other hand, is not desirable when you look at the seasonality. Cycling tourism mainly happens during the summer months, because the Danish weather is too unreliable during the Spring and Autumn for cycling holidays. Rain and wind naturally lessen the appetite for cycling. So the problem is that cycling tourists come during the period where there are most tourists. In the case of Bornholm there is no more room for tourists during the high season if the regional objectives are to be followed. The consequences are that cycling tourism also increases the pressure on the tourist industry during this period, where there is no need for increased pressure. As it is also a fact that cycling tourists mainly stay in the same places as other tourists, the idea²¹¹ of spreading the tourists geographically and seasonally has not been achieved and is probably not realistic either.

In the case of Bornholm the problem of more tourists during the summer season, as mentioned earlier, is indeed very topical. Aiming at more cycling tourists would be at the expense of other types of tourism, as Bornholm is *sold out* during the summer season. If cycling tourism is to replace other types of tourism it must be because cycling tourism is

210 Regarding definitions and descriptions of alternative tourism please see (Eds.) Smith, V.L., W.R. Eadington, 1992. Pearce, D.G., 1994. Butler, R., 1994. de Kadt, E., 1994 as well as Pigram, J.J., 1994.

211 Danmarks Turistråd et al., 1992.

clearly either environmentally or economically advantageous or both. The analysis has shown that cycling tourism is no more profitable than other types of tourism. Cycling tourism thus has no clear and distinctive advantage for Bornholm.

In the case of Fyn things are a little different, because Fyn has room for far more cycling tourists than Bornholm. An increase in numbers should, however, happen in a controlled way (visitor management) when looking at Ærø and Langeland where there are already a lot of cycling tourists. Experiences from the Fyn Lystfiskernetværk (Angling Net Work) and the waves²¹² created around this should animate the Cycling Net Work Fyn to consider how problems of overcrowding, conflict with the locals etc. can be avoided.²¹³

For both Fyn and Bornholm it is important that strategies for cycling tourism - and tourism as a whole - are formulated in which growth aims, *risk of success* parameters, limits for numbers of cycling tourists, management tools etc. are incorporated. The strategies for Fyn and Bornholm will not be the same but should be adjusted to local and regional conditions. In this manner harm can be prevented instead of treated (cf. the problem of anglers on Langeland).

The industry, local inhabitants, counties, kommunes and politicians should debate which tourists do we want to attract, how many tourists we want and which tourist groups we should aim at in terms of marketing and product development. This debate is important because it qualifies (and modifies) the tourism efforts. Only when the debate has been settled can it be determined whether cycling tourism is desirable for Fyn and Bornholm.

And finally the issue, which this analysis has also emphasised, that the main tourism products in Denmark including Fyn and Bornholm are aimed at groups of tourists with a low expenditure, especially families with children. These are the products which tourists are offered anyway. But by offering and emphasising these products and marketing them broadly the industry and authorities involved have neglected the more profitable tourism groups. By aiming at the *safe* tourists, characterised by low expenditure on restaurant visits, shopping or expensive accommodation, they have ignored a group of tourists who do spend money and so ensure jobs and income. The industry, counties and kommunes do not seem to be aware of this. The Tourism Strategy for Fyn²¹⁴ and Danish tourism policy²¹⁵ do consider aiming at more profitable tourism groups and types, the efforts made do not support the nobly formulated thoughts. There is quite simply an imbalance between the strategies and the actual efforts. This imbalance should be removed, either by acknowledging the broadly-oriented tourism (families with children), or by aiming more specifi-

212 As mentioned earlier local anglers have complained about the Germans who show little or no regard for and have not learnt about Danish angling culture and etiquette. The complaints have been voiced in the media, newspapers, radio and TV.

213 The discussion of management tools is too extensive for this project, but a range of literature is available such as Williams, A.M. (Ed.), 1996. Uzzell, D., (Ed.), 1992.

214 FynTour et al., 1991.

215 Ministeriet for Kommunikation og Turisme, 1994.

cally at other types of tourism. The problems the new regional tourism groups have in raising funds from the industry show that there are a lot of problems with joint efforts, and that there is not a large amount of money to work with within Danish tourism. Consequently the available funds which are spent on marketing, for example, should be targeted more. This requires a consensus between strategy and politics on the one hand and activities on the other. The current cycling tourism on Fyn and Bornholm is a good example of the current activities - aiming at families with children and low-expenditure groups - and can thus be regarded as a desirable type of tourism for Fyn and Bornholm. But in relation to the strategic aims of increasing daily expenditure, increased employment, prolongation of the season and geographical spreading tourists, the current cycling tourism is not desirable for Fyn and Bornholm.

10.6 Summary

The debate as to whether cycling tourism is a desirable type of tourism has not finished. Here some of the issues have merely been raised. The consequence is that it cannot be finally assessed whether cycling tourism is a definitely desirable type of tourism. Especially as there is not enough knowledge of other types of tourism to compare with cycling tourism and which could be used for comparison in this study.

There are strong indications that cycling tourism is important for Fyn and Bornholm. Cycling tourism is not a fashion phenomenon. Specific trends now and for the years to come indicate that cycling will become even more popular. On top of this both the EU,²¹⁶ the Danish government²¹⁷ and others have identified the bicycle as one of the means of transport of the future, especially for transport within city areas etc. These initiatives will obviously carry influence for choosing the bicycle as holiday transport.

Fyn and Bornholm have in many ways shown the way in which cycling tourism can be developed. These experiences can be useful for the tourist industry both nationally and internationally. The analysis had also shown, though, that Fyn and Bornholm still have a long way to go before cycling tourism on the islands can be regarded as both economically viable and environmentally sustainable.

216 EU, 1992b.

217 Please see Trafikministeriet, 1993. Energiministeriet, 1993.

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Appendix

Amt:	Denmark is divided up into around 15 Amts, each of which has responsibilities for i.e. roads, health and the environment as well as a strong influence on tourism.
Bornholmerpakken:	A state initiative for Bornholm to develop employment etc. It was established because Bornholm has a status as a peripheral region. Bornholm also receives support from the EU's structural grants
Cykelnetværk Fyn:	A network on Fyn consisting of accommodation centres, transport companies, bicycle dealers, kommunes and Fyns Amt (County), to develop and market Fyn as a destination for cycling tourists
Cykeltræfpunkt Fyn:	A network of local companies in the village of Årslev (Fyn), which have come together to create a meeting place for cycling tourists. The meeting place contains a range of services specially designed for cycling tourists.
Danmarks Statistik:	The national bureau of statistics
Danmarks Turistråd:	A national, state supported body which markets and develops Denmark as a destination for tourists both domestically and abroad
Dansk Cyklistforbund:	A national interest organisation for cyclists in Denmark. It influences the development of the cycling tourist product in Denmark
Energiministeriet:	The ministry with responsibility for supplying energy
Erhvervsministeriet:	The ministry for developing trade and commerce in Denmark
Erhvervsfremmestyrelsen:	An independent body within the Erhvervsministeriet with a responsibility also to develop trade and commerce amongst other things.
Forskningsministeriet:	The ministry responsible for applied research and, along with the ministry of education, for basic research.
Friluftsrådet:	A national umbrella organisation for a wide range of lobbies and interest groups, especially concerned with outdoor activities.
Grøn Nøgle:	(Green Key). A company with state support set up to certificate hotels and youth hostels for environmental friendliness.
Kommune:	There are more than 200 kommunes in Denmark, a lower level than the Amts, responsible for a wide range of public services, such as refuse disposal, culture, education etc. They have a very powerful influence on local

Local, regional, National:	tourism. Correspond, in this study to the kommune (local), the Amt (regional) and the National government (national)
Miljøministeriet:	Ministry for the Environment
Ministrie for Kommunikation and Turisme:	(1992-1994) A ministry responsible for developing tourism and communications (e.g. post, telecommunications etc.)
Netværksordningen:	A fund under the Erhvervsministeriet , from which local, regional or national companies, public institutions and individuals can seek grants for developing networks, such as Cykelnetværk Fyn, Cykeltræfpunkt Fyn etc.
Nykredit:	A finance and credit institution which primarily finances house purchases
Regionale (turisme-) selskaber:	State supported companies with the objective of developing and marketing the regions, especially geographical areas of 1 - 3 amts. Currently there are five regional companies in Denmark, and there will be 8 or 9 in the course of 1997.
Trafikministerie:	Ministry for transport and infrastructure
Turismens Fællesråd:	National organisation of tourist interest organisations
Turistexportgrupper:	Regional companies set up to market regional tourism. Most come under the regional tourist companies
Vejdirektoratet:	Independent state organisation, under the Trafikministeriet, with responsibility for road development etc.

Part II

Tourist mobility in destination areas - the role of the bicycle

A case study of Bornholm

by

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Author's Preface

The research for this paper was undertaken during a four week visit as a guest researcher to The Research Centre of Bornholm in August 1996.

As a Transport Planner who has been working in a Department of Tourism for over 10 years, I have developed a research interest in demand for mobility in tourist destination areas. The principal objective of this research paper was to undertake a case study of the demand for transport services on the resort island of Bornholm. Bornholm proved a particularly interesting case study because the author identified three separate key influences.

Initially the principal motivation for the study was the reputation of Bornholm as a cycling destination. The author has developed a research interest in the potential role cycling can play as part of an integrated transport policy in the UK. However, there is a huge difference in the relative position of cycle policy in the UK and Denmark. Cycling forms a much higher percentage of all journeys in Denmark (18%) than in the UK (2.5%) and Denmark has a national cycle network of 3000kms. Even within this cycle orientated culture Bornholm has a strong reputation and is probably one of the *two most visited cycling tourist destinations in the country* (Simonsen & Jørgensen, 1996). The author therefore wished to observe and understand the policy framework that encouraged such high levels of cycle use. What lessons can be learned for the implementation of a national cycling strategy in the UK?

The author was also interested in tourist use of cycle facilities. Who used the facilities, how often did they use them, how far did they travel and what were their requirements? Much of the current literature seems to distinguish artificially between a cycling strategy aimed at increasing cycle journeys often at the expense of car trips for everyday purposes and the use of cycling for leisure and tourism trips. Bicycle route facilities both in Denmark and the UK are shared by both types of users and many of their requirements particularly in the field of safety are the same. There seems considerable scope to convert people introduced to cycling in a leisure environment into more regular cyclists in their home area, although not surprisingly many who do cycle whilst on holiday already cycle in their home areas.

A second key theme to emerge in the case study of Bornholm was that the cycling infrastructure is an element of the tourist attraction in its own right. Brochures constantly refer to the network of 220 kms of safe cycle routes and the author attempted to measure the impact of such facilities on the decision to visit Bornholm. However, the importance of the cycling infrastructure to Bornholm as a destination stretches far beyond measuring the percentage of tourists who cycle during their visit. It is equally important, perhaps subconsciously, to visitors who have no intention of cycling. Chapter 2 of this study undertakes a detailed review of the current tourism product and how it is marketed. The main motiva-

tions to visit Bornholm have in many respects remained unaltered since tourism first developed just over 100 years ago. High levels of cycling clearly help protect the physical product for all visitors in an age of high car ownership.

The third key theme to emerge was the specific circumstances created by Bornholm's peripheral location. Tourism to Bornholm is growing at a slower rate than tourism to Denmark as a whole because of its peripheral location and limited transport access, despite the strength of the tourism product. Chapter 2 assesses policies for future tourism growth and outlines their limitations. What is the role of cycling tourism in overcoming the disadvantages of a peripheral location?

This paper is principally a discussion paper based on observations made during a 4 week study visit. The author undertook no primary data collection, but he was given access to two key sets of primary data. The paper uses data collected from a visitor survey of 1750 visitors to Bornholm undertaken by interview on a random sample between 1 July and 31 September 1995 by The Research Centre of Bornholms. I am indebted to Professor Wanhill for access to this data. The author also had access to the key findings of a survey of 197 cycle tourists undertaken between July and August 1995 for the Simonsen & Jørgensen study.

I am indebted to Svend Lundtorp (Centre Director) and Professor Steve Wanhill (Director of the Tourism Project) for financing this study visit and for arranging publication of this discussion paper alongside the Simonsen & Jørgensen study. I am also indebted to all members of staff at the ForskningsCentre for their hospitality, advice and assistance especially with the translation of official statistics from Danish. Special mention must go to Ann. Hartl-Nielsen for not only her hospitality to me but also to the whole family which I hope to repay when she visits the UK. I will remember my summer on Bornholm with great affection.

However despite all this assistance and access to data final responsibility for the content of this paper is as always mine and mine alone.

Derek Robbins
Bournemouth and Bornholm

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11. Introduction

11.1 Context of Study

11.1.1 Transport Demand and the Dominance of Car

The last 20 years has witnessed greatly increased demands for mobility generated by tourists. In particular tourists expect much improved mobility within destination areas as well as mobility to destination areas. The growth of tourism worldwide, at around 5% per annum, has increased the total number of all tourist trips. The market share of tourist transport as a percentage of all transport movements within main destination areas has also increased.

Small islands, unlike mainland destinations, have firmly fixed boundaries which rigidly define the destination area. Tourists perceive the whole island as their destination, rather than the just the location of their accommodation.

In the developed countries of Northern Europe, the dominant mode of transport for domestic tourism and also for shorter distance international tourism to neighboring countries is the car. In the UK there are a number of separate sources on transport used for UK domestic tourism, each giving slightly different figures, but they all produce a similar picture with the car accounting for around 77% - 80% of all trips to and from holiday destinations (Table 1). Bornholm displays a similar level of car dominance amongst tourism arrivals as evidenced by the 75% of tourists who use car to travel around the island (Tables 7 and 10).

Table 55. Transport used to travel on holiday in the United Kingdom 1995 (percentage)

Holiday Type	Car Source	Bus & Coach	Rail	Other
Holiday 4 + nights	78 UKTS	10	7	4
Holiday under 3 nights	83 UKTS	07	6	5
All Holidays	80 UKTS	08	7	4
Holidays 4+ nights	77 BNTS	13	7	3
Holidays/day trips	79 NTS	08	5	8

Sources: UK Tourism Survey, British National Tourism Survey, National Travel Survey.

Indeed, increases in car ownership levels in European countries is a significant *causal* factor, which has accelerated the growth of the tourism industry, alongside other important causal factors such as increases in average disposable income and increases in paid holiday entitlement and leisure time.

Over recent years, this dramatic growth in car use for all transport purposes, including tourism, has become an issue of concern. To meet the increased traffic levels, Govern-

ments have sought to improve the road infrastructure, building new roads and supplementing the existing network by adding extra capacity with schemes such as expansion from single to dual carriageway, or junction improvements. However, such expansion has resulted in inevitable environmental damage. Furthermore, in areas of high traffic generation, congestion has not been eliminated despite the additional infrastructure. In fact, it is now widely accepted in the UK that improvements to the road infrastructure actually generate additional journeys and hence accelerate the rate of road traffic growth.²¹⁸ The policy of forecasting future traffic levels and attempting to build an infrastructure to accommodate the forecast, therefore becomes self defeating.

The second concern is one of pollution, in particular the emission of Carbon Dioxide (CO²) one of the key greenhouse gasses. In the UK surface transport now accounts for 21% of CO² emissions and the car for around 87% of these transport emissions.²¹⁹ Despite improvements in engine technology and efficiency, the total CO² emission by cars is at best static and probably increasing, due to traffic growth at a time when CO² emissions from other main sources such as electricity generation are falling.

11.1.2 Alternatives to the Car

In the UK there has been a definite shift in policy objectives. New road building to accommodate traffic growth has been cut dramatically and a number of policies to reduce the rate of traffic growth have been proposed. Cycling has been seen as part of the solution. The recently developed National Cycling Strategy aims to double the number of cycle trips by 2002, followed by a further doubling by 2012.²²⁰ Others have proposed a target to increase the share of cycle trips for short journeys of under 3 miles, from 2.5% of all trips now to 10% by 2005.²²¹ Currently 40 % of such trips are made by car.

There is also an expectation that cycling for tourism and leisure purposes will increase in the UK. The National Charity Sustrans is designing and promoting the construction of a 2500 mile cycle network by the year 2000 with an additional 4000 miles to be completed by 2005. This National network will be built to published design standards,²²² benefiting from the experience of European networks such as those in Holland and Denmark. It has set itself bold objectives, such as attracting over 100 million trips per year, of which 40% will be leisure trips.²²³ The network will also be used for shorter local everyday trips, such as for the journey to work and personal business, especially where it serves built up areas. These will account for the remaining 60% of trips.

²¹⁸ Dept. of Transport, 1994.

²¹⁹ Royal Commission on Environmental Pollution, 1994.

²²⁰ Dept. of Transport, 1996b.

²²¹ Royal Commission on Environmental Pollution, 1994.

²²² Sustrans/Ove Arup, 1996.

²²³ Sustrans, 1996.

The UK is significantly behind other European countries in this respect, particularly Denmark. Cycling forms a much higher percentage of all journeys in Denmark (18%) than in the UK (2.5%) and Denmark already has a national cycle network of 3000kms. The high level of cycling participation, in the case study area of Bornholm, is already in excess of targets set for the UK.²²⁴ The author will attempt to identify what lessons can be learned for application in the UK to obtain maximum benefit and use for the new national cycle network.

11.2 Bornholm as a Case Study

11.2.1 Peripheral Location

Bornholm's location as an island in the Baltic sea, and the most easterly county of Denmark, is widely regarded as peripheral. As with all small island destinations, which attract the majority of their visitors by surface modes of transport, it has problems of access. With the exception of those islands close enough to mainland areas to be joined by a fixed link such as a bridge or causeway, island destinations must involve an additional ferry journey which places them at a disadvantage in contrast to competing mainland destinations. The extra journey incurs an extra monetary and time cost, which will usually, but not always, increase with distance from the mainland. Furthermore, policies that improve transport access to the embarkation points, will bring equal if not greater advantages to competitor mainland destinations close to the embarkation points, as they will to the small island itself. As a result of its location, Bornholm appears to have missed out on a modest growth of international tourism to Denmark. On the other hand, its ability to retain visitor numbers over the last 15 years can be seen as a significant achievement for a peripheral location. The resurgence in visitor numbers in the 1990s following the decline in the mid to late 1980s correlates to some degree with its growing reputation as a cycling destination.

11.2.2 Transport around Bornholm

Car is the dominant mode of transport for tourist arrivals to Bornholm. Twining-Ward and Twining-Ward²²⁵ estimated at least 70% of all tourist arrivals are by car and Hartl-Nielsen et al.²²⁶ show that the figure must be higher, as 75% of tourists use the car as their main mode of transport around the island. Such heavy use of the car can damage the tourism product itself and therefore an integrated transport policy, which encourages responsible use of the car, is important. Cycling has emerged as the main alternative on Bornholm.

11.3 Objectives

The objectives of this case study are to:

²²⁴ Dept. of Transport, 1996b.

²²⁵ Twining-Ward and Twining-Ward, 1996.

²²⁶ Hartl-Nielsen et al., 1997.

- ascertain the total size and identify recent trends in the tourism market to Bornholm
- ascertain the main modes of transport used by tourists to travel around Bornholm
- estimate the percentage of that tourism market who cycle during their visit
- identify the characteristics of tourists who cycle and establish whether there are significant differences between tourists who cycle and tourists who do not
- calculate the percentage of tourists for whom the existence of cycle routes is a significant element in their choice to visit Bornholm
- assess the quality of the cycling infrastructure on Bornholm
- contrast the characteristics of the small cycling enthusiast market identified in previous research by Simonsen & Jørgensen²²⁷ with the market of tourists who cycle occasionally
- assess the overall contribution of cycling to the destination's tourism product and its potential to assist in future policies of growth.

The author set himself the additional objectives of using the Bornholm case study to establish:

- the prospects for significant growth of the leisure and tourism cycling markets in the UK
- additional policy options that can be transferred successfully from Denmark to the UK.

11.4 Methodology

The author undertook a study visit of four weeks duration between 3 August and 31 August 1996 at the Bornholms Forskningscenter. During this visit the author undertook a qualitative data collection exercise. In-depth interviews were conducted with the respondents listed in Appendix A.

The author also used the study period to incorporate observational research. He cycled along significant sections of the Bornholm cycle network to experience the traffic levels, the degree of cycle segregation, including the continuity of the network, and finally to experience the quality of the road/cycle path surface. It was not possible to cycle the whole network during the study period and it proved necessary to drive to certain key locations to observe the wider network in operation.

²²⁷ Simonsen & Jørgensen, 1996.

The author was given access to the results from the first 1,750 responses to a survey of visitors to Bornholm undertaken during the summer quarter from 1 July - 31 September 1995. This element of the survey had been coded and collated at the time of the study visit and the author undertook further analysis using the SPSS for windows package. The survey operated for a full 12 months from 1 July to 30 June 1996 and the full results have been published separately.²²⁸

Finally the author was given access to the findings of a previous study undertaken by Simonsen & Jørgensen,²²⁹ which incorporated a survey of 197 cycle tourists. The author identified that the Simonsen & Jørgensen²³⁰ study incorporated a sample dominated by tourists for whom cycling was the main mode of transport. The author therefore set out to contrast this small niche market with the larger market of tourists, for whom cycling is a small but nevertheless important element of the holiday.

11.5 Contents and structure

The introduction sets out the rationale for this paper, defines the objectives and outlines the Methodology.

Chapter 2 examines Tourism on Bornholm. It investigates the size and seasonality of the tourism market, the origin of visitors and recent time-series trends in visitor numbers. The section investigates the strengths and weaknesses of the tourism product using visitor questionnaire data. It discusses the contribution high levels of cycling activity make to this tourism product. The chapter also offers a perspective on the potential for the growth of tourism to Bornholm and the associated policies required to achieve it.

Chapter 3 examines in greater detail the contribution of cycling to the tourism product. It analyses what percentage of tourists cycle, their characteristics, considers the benefits and disbenefits of this activity to the destination, and investigates the importance of cycling infrastructure in the choice of Bornholm as a holiday destination.

Chapter 4 examines recent policy objectives in the UK to reverse the decline in cycling. It explores the differences between the UK and Denmark in terms of the cycle share of the market, cycle infrastructure and socio-cultural factors. It evaluates what lessons can be learned for cycling policy in the UK from the success of Bornholm.

Chapter 5 summarises the main findings and draws conclusions about the contribution of a cycling policy to a green tourism destination.

²²⁸ Hartl-Nielsen et al., 1997.

²²⁹ Simonsen & Jørgensen, 1996.

²³⁰ Simonsen & Jørgensen, 1996.

12. Tourism on Bornholm

12.1 Introduction

Bornholm is an island of 587 square kilometres located in the Baltic Sea at 15 degrees east and 55 degrees north, virtually the same latitude as Newcastle-upon-Tyne. It has a low population density with a resident population of 45,000. Bornholm has a diverse coastline. The Southern coastline between Nexø and Rønne (see Map 1) are largely sandy beaches marketed as an ideal location for family holidays with safe and clean bathing waters. However it is classified as a cold water destination and, as this paper outlines, it cannot be predominantly be regarded as a *Sun, Sea and Sand* resort despite the fact that the island has more hours of sunshine, longer summers and less rainfall than any other Amt (Regional Council area) in Denmark.

Bornholm is the most easterly county of Denmark, located 150 km from Copenhagen. The ferry crossing from Copenhagen takes seven hours. However geographically Bornholm is closer to Sweden (36 km) than to the remainder of Denmark (Map 2). There are ferry links from Sweden (Ystad), Germany (Neu Mukran, Sassnitz) and seasonal fast ferry links Sweden (Simrishamn) and Poland (Swinoujscie & Kolberg) in addition to Copenhagen.

12.2 The Tourism Product

Bornholm has been developed as a green destination.²³¹ Its main attributes are natural scenic ones. This is clearly demonstrated in the Tourist brochures marketing the island.

*Studies of why tourists choose Bornholm show the majority come to experience the island's nature, tranquillity and charm.*²³²

The brochure goes on to argue that for a small island there is a wide variety of landscapes. The island has encouraged the reputation enshrined in its long standing local nickname *Scandinavia in a nutshell*. Marketing material keeps alive the mythological story of Bornholm's creation.

*After God created Scandinavia he was left with a little of all the beautiful features that now typify Scandinavia. He gathered them altogether, threw them out into the Baltic Sea and thereby created Bornholm.*²³³

This approach offers a powerful image of an island destination with a variety of landscapes and forms, over a small geographical area unrivalled elsewhere in Scandinavia. The island offers two additional natural attributes. It has a unique geological make-up

²³¹ Bornholms Amt, 1993.

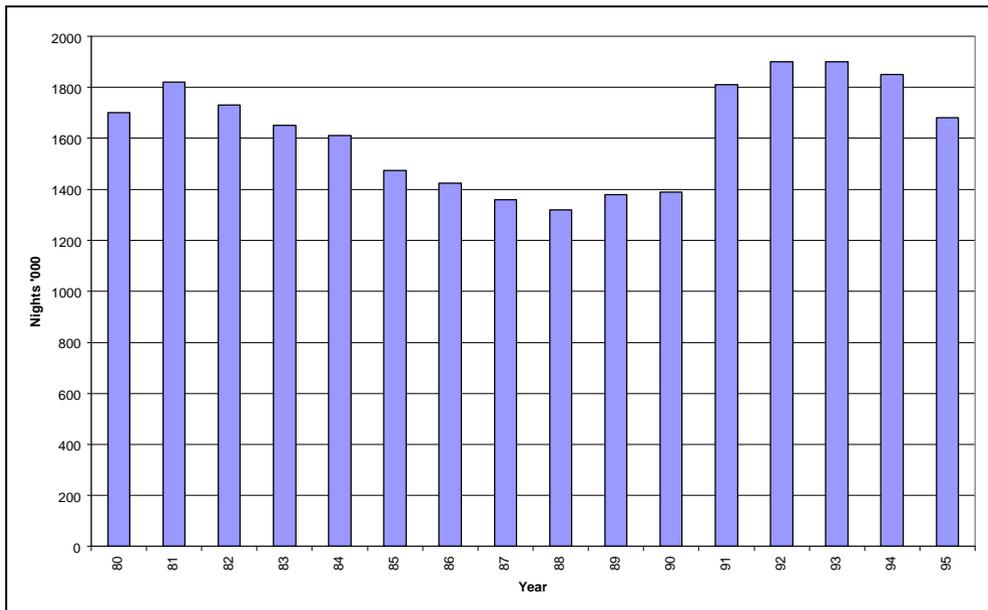
²³² Bornholms Velkomstcenter, 1996.

²³³ Bornholms Velkomstcenter, 1996.

transversing a wide time-span. The North is characterised by a bedrock of granite 1,500 million years old, whereas the South of the island consists of a stratum of sandstone 550 million years old. This helps create the diversity of landscapes outlined above, but also results in flora and fauna that is either rare in the remainder of Scandinavia or indeed unique to the island. The second attribute is climatic. The combination of a mild summer climate with more hours of sunshine and less rainfall than any other part of Denmark is followed by a long mild autumn which enables the growth of plants and fruits more commonly associated with the Mediterranean than with Scandinavia. Bornholm has also been marketed as *A Mediterranean island in the Baltic*. The Bornholms Forskningscenter survey confirms the importance of nature and natural landscapes as a tourist attraction. Nature, landscapes and atmosphere are important pulling factors for over 60% of all tourist arrivals (Table 2).

Bornholm therefore has a number of Unique Selling Points (USPs) to distinguish it from other Scandinavian destinations also aiming at green environmentally friendly visitors. However, as this paper will demonstrate, it requires these USPs to offset the relative inaccessibility of the destination and to maintain its current visitor market. Visitor numbers to Bornholm have not grown over the last 5 years, whereas visitor numbers to Denmark have (see Figure 28 and Table 59).

Figure 28. Visitor nights to Bornholm



One of the greatest threats to this *green* tourism product is the sheer number and the activities of the tourists themselves. Noise, visual intrusion and air pollution will all ad-

versely influence the overall enjoyment of the landscape and atmosphere of the island and the future prosperity of Bornholm as a tourist destination is dependent on controlling these elements. Therefore, there is a need to calculate the realistic carrying capacity for the destination and ensure this is not exceeded.

In particular widespread use of the car has the potential to cause deterioration of the overall tourism product in all three respects and, as Table 7 shows, three-quarters of all visitors during the peak summer months use the car as one of their three main modes of transport. One important element of the strategy to foster the image of a green destination is the development, since 1981, of a network of bicycle routes, now totaling approximately 220 kms.

Table 56. How important were the following in making your decision to visit Bornholm

Factor	Very Important %	Important %	Total %
Nature	47.5	15.8	63.3
Landscapes	43.4	19.4	62.8
Atmosphere	42.7	18.6	61.3
Fishing Villages & towns	21.5	30.2	51.7
Beaches	22.7	22.2	44.9
Cultural History	11.9	28.9	40.8
Walking	15.5	21.0	36.0
Art & Craft workers	8.9	23.7	33.6
Cycle routes	15.9	13.6	29.5
Restaurants	6.1	19.4	25.5
Fishing	2.7	3.4	6.1
Golf	1.7	0.8	2.5

Source: Bornholms Forskningscenter Summer Survey July - Sept 1995.

12.3 Current Pattern of Tourism to Bornholm

12.3.1 Number of Visitors

Despite the importance of knowing the visitor numbers for a *green* destination such as Bornholm, the exact number of visitors to Bornholm is very difficult to calculate. Official Danish data is collected solely in terms of bednights. In 1995 a total of 1,681,000 bednights were spent on the Island.²³⁴ It is surprisingly difficult to convert this number of bednights into an annual number of visitors.

The Bornholms Forskningscenter survey²³⁵ calculates the average length of stay for each nationality and it would seem a relatively simple calculation to divide the number of bednights by the average length of stay to suggest around 182,000 tourists annually (Table 3).

²³⁴ Danmarks Statistik, 1995.

²³⁵ Hartl-Nielsen et al., 1997.

Although there is no systematic gathering of data on inbound visitor numbers to Denmark at border crossings, it is available for Bornholm. As an island all visitors to Bornholm must arrive by air or sea and hence there is data available on the number of trips to and from the island. Analysis of the transport arrivals confirms this estimate of 182,000 tourists for 1995 are far too low. Even allowing for the fact that tourists make return journeys (e.g. two trips) BornholmsTrafikken alone accounts for 1,128,700 trips or over 560,00 return journeys (Table 59). BornholmsTrafikken do not keep detailed figures on the percentage of journeys which are inbound and the per cent which are outbound journeys by Bornholm residents but inbound traffic accounts for well over half the total. A pessimistic 50% split would result in BornholmsTrafikken alone carrying 280,000 tourists per annum, to which one must add the tourists carried by DFO, plus the small number carried by Maersk Air and Lufthansa (Section 2.4.2).

Table 57. Estimate of visitor numbers to Bornholm

Country	Nights (%)		Average Stay	Visitors	% Share
Germany	924,550	55	13	71,119	39
Denmark	403,440	24	8	50,430	28
Sweden	235,340	14	5	47,068	26
Rest	117,670	7	9	13,074	7
Total	1,681,000		9	181,691	100

The large discrepancy occurs because the official bednight statistics are also far too low. Independent calculations undertaken by the Bornholms Forskningscenter show the number of nights at 3,900,000 (Appendix B). There are a number of reasons for the underestimation of visitor nights by the official statistics. In the first place they exclude all hotels with less than 40 beds, all camp-sites with less than 75 pitches and all summer-houses (chalet style summer residences) not rented through an officially registered agency. The official statistics incorporate 54 hotels (7,413 beds) but there are approximately 40 small hotels excluded from these statistics. It is further estimated that there are at least as many summer-houses are rented privately outside the agency system and the Bornholms Forskningscenter survey adds further evidence to this view.

There is also a significant Visiting Friends and Relatives market (13% of the market in the Bornholms Forskningscenter survey). There are also small numbers of visitors staying on farms, other bed and breakfast establishments, youth hostels and yachts, all of which are excluded from the official bednight statistics.

Traditionally tourism officials have estimated that between 400,000 and 500,000 tourists visit Bornholm annually. More recently the Unit of Tourism Research at the Bornholm Forskningscenter have used the 1995/96 survey of visitors to calculate annual visitor numbers. For 1996, they calculated that 86,000 visitors stayed 3.9 million nights. The methodology used is included in Appendix B. 486,000 tourists per annum is consistent with the number of passengers carried on ferry and air services.

12.3.2 Peak Period Tourist Numbers and Carrying Capacity

In addition to the number of tourists who visit Bornholm, a calculation of the number of visitors on the Island in any one peak week is equally important. The key attraction of the Bornholm product as *a scenic, tranquil, picturesque green eco friendly* destination which will decline in popularity if it becomes overcrowded. As such it has a maximum carrying capacity and the need to apply a maximum carrying capacity for this type of destination has been accepted by the county authority who have decreed that the number of tourists staying overnight on Bornholm cannot exceed the resident population, currently around 45,000.²³⁶ It seems illogical to set a maximum ceiling for the number of visitors when the current number is not measured by official statistics and such data looks likely to remain unavailable. For instance, does local or central government know whether planned future growth in visitor numbers can be accommodated during the peak summer period or will it require policies to extend the season?

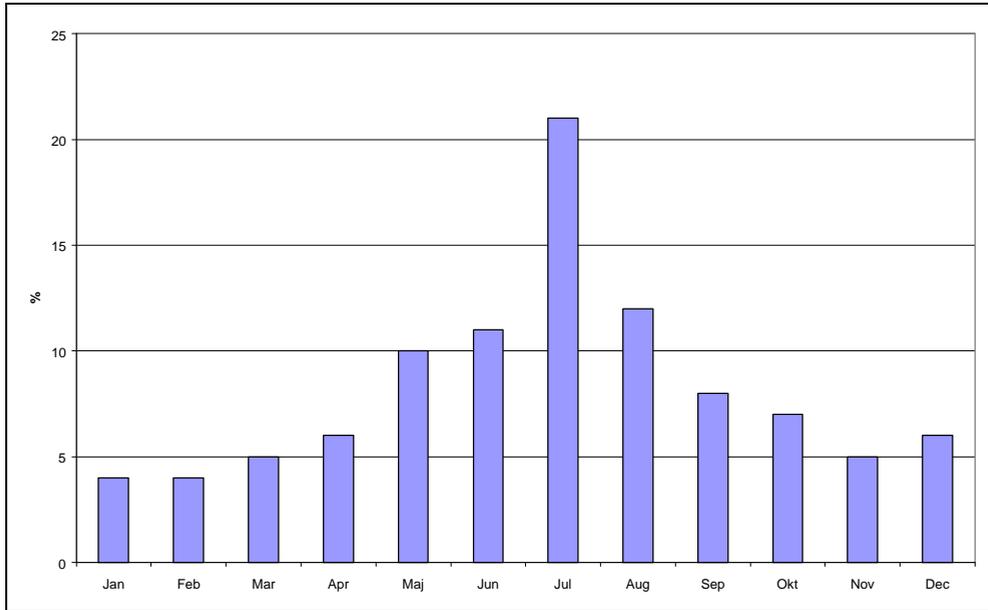
An accurate peak week total is also required to calculate the occupancy level of tourist accommodation during the peak period. This again will identify if there is scope for growth in visitor numbers during the peak period within the existing accommodation stock. The total population on the island at any one time will of course influence the pressure placed on the island's, transport services and infrastructure. This is particularly true of the pressure placed on the islands roads by the volume of visitor cars.

The market is clearly very seasonal. 21% of BornholmsTrafikken Ferry passengers travel in July (Figure 29). Although this includes outbound trips by Bornholm residents, the dominant market is inbound travel. The key reason for this pattern in a cold water destination is the climate itself. The peak is also heavily influenced by the timing of school holidays. The profile of visitors to Bornholm is analysed later, but the family market with school age children is an important element accounting for 25% of all visitors.²³⁷ In fact the peak period also extends to the first two weeks of August, although Danish school holidays have often finished. In Germany, school holidays are staggered from region to region throughout the summer and in some regions schools are still on holiday throughout August. The first two weeks in August are more dominated by the German market than the overall pattern shown in Table 57. This does not show up on Figure 29, because the Neu Mukran route only accounts for around 5% of the BornholmsTrafikken market, with a significant share of the German market (around 70%) carried by DFO. Furthermore the demand in the final two weeks of August falls sharply, deflating the overall monthly figure.

²³⁶ Bornholms Amt, 1993.

²³⁷ Bornholms Forskningscenter, Survey 1995.

Figure 29. Percentage of passengers carried by BornholmsTrafikken, per month



This pattern of demand is confirmed by Twining-Ward and Twining-Ward.²³⁸ They refer to the 1976 survey of visitors,²³⁹ which found more than 50% of Danish and Swedish visitors came to Bornholm in the last two weeks of July, whereas German visitors came slightly later (34% in July, 50% in August). The high season is reflected in a number of ways. Summer-house bureaus price accommodation according to a high, mid and low season. The high season is 8 weeks incorporating the last week of June (commencing around 22nd June), July and the first two weeks of August (ending around 17th August).²⁴⁰ Admission prices to the Brændesgaardshaven theme park are 33% higher during the same 8 week period. Supermarket opening hours are also extended with closing times at least 30 minutes later every day over the same 8 week period.

One technique to calculate the number of visitors during the peak period would be to estimate the total bedstock. However the official statistics only include this data for hotels of over 40 beds. The number of beds available is at best a crude estimate. Table 4 estimates a bedstock of around 35,000. Current peak visitor numbers remains significantly below the maximum of 45,000²⁴¹ and sources argue this target was set during a period of rapid summer-house development and is now unlikely to be reached.

²³⁸ Twining-Ward and Twining-Ward, 1996.

²³⁹ Andersen, 1976.

²⁴⁰ Twining-Ward and Twining-Ward, 1996.

²⁴¹ Bornholms Amt, 1993.

Table 58. Estimate of total visitor bedstock on Bornholm

	Beds	%
Hotels of 40 or more Beds	7,413	18.9 - 22.3
Approximately 40 Hotels with less than 40 beds (40 x say 20 - 30)	1,200	3.1 - 3.7
Approximately 3,400 Summer-houses (3,400 x 4 to 3,400 x 6)	13,600 - 20,400	41.9 - 51.9
Minimum of 15 Campsite with 75 pitches plus at least 5 campsites of under 75 pitches	8,250*	21.0 - 25.4
Others (Youth Hostels, yachts, etc.)	2,000	5.1 - 6.2
Total	32,463 - 39,263	100

* Estimate provided by Destination Bornholm based on their files on campsites.

A second approach is to use the transport data and accept that approximately 21% of all visitors arrive during the month of July. Assuming that the visits were spread evenly across the whole month of July, then there are approximately 29,000 visitors on the island at any one time over the peak period. The calculation is as follows: 20% - 21% of 486,000 would be 100,000 visitors staying around 900,000 nights, so on any one night in July there will be 29,000 visitors i.e. 900,000 visitor nights divided by 31 nights.

To conclude, despite the imperfect data, a pattern is emerging where the peak number of visitors to Bornholm is estimated to be under 30,000. Some visitors are Visiting Friends and Relatives, and so there is scope for an increase in visitor numbers to be accommodated at peak times within the current infrastructure. Approximately 75% (22,500) of these visitors will use the car as one of the three main modes of transport (Table 7). Assuming an average load factor of between 2.5 and 3 passengers per car this represents an additional 7,500 - 9,000 additional vehicles undertaking trips during the peak holiday weeks. This is a significant addition to local traffic flows and policies to encourage local responsible use of these vehicles is critical. Table 7 demonstrates relatively low levels of bus use. However in excess of 10,000 visitors will also cycle during their visit and as the vast majority of these (71.2%, Table 11) are also car users, the substitution effect between car and cycle, especially for short journeys is important.

12.3.3 Recent Trends of Visitor Numbers to Bornholm

Despite the limitations of the data on visitor bednights, the official statistics are valuable in identifying time series trends. Figure 28 shows that over the last 15 years, whilst there have been yearly fluctuations, the level of demand has stagnated at around 1,680,000 nights. Whilst the year on year decline in visitor nights in the mid to late 1980s was halted in the 1990s, there is no sign of a pattern of sustained growth. One may argue that the nature of the product as a green island destination means growth is a mixed blessing, as too many tourists at any given period will damage the very product itself. However tourism growth is a policy objective outlined in the 1993 regional plan²⁴² and the importance of tourism to the local economy is undisputed. It is the third most important industry on

²⁴² Bornholms Amt, 1993.

Bornholm. Denmark itself is achieving tourism growth as a *green destination* by relying on its clean image to attract the ever-growing numbers of environment-conscious tourists. Although it does not offer a countryside as spectacular as other Nordic countries, it should appeal to cyclists and hikers, mainly families with small children and visitors in the 40 - 60 age group.²⁴³

Although Bornholm retains a very strong product mix for the environment-conscious tourist (Section 2.2), it is missing out on this recent growth. Figure 28 shows that between 1991 and 1995, visitor nights on Bornholm fell by approximately 7% (from 1,806,000 to 1,681,000), whereas over the same period visitor nights in Denmark rose by 15% (Table 5). Whilst one can argue that the performance of Bornholm as a destination during the 1990s is very creditable given its peripheral location, there is clearly scope for further improvement in the performance of Bornholm as a destination.

The reputation as a cycling destination has contributed to the recovery during the 1990s. Later analysis will show that cycling infrastructure is the fourth most important consideration in the decision to visit Bornholm for those visitors who do cycle, and tourists who cycle are also more likely to make repeat visits.

Table 59. Visits to Denmark 1991 - 1995 (nights thousands)

	1991	1992	1993	1994	1995
Foreign	23,017.2	26,856.6	27,454.2	27,049.5	27,166.6
Domestic	15,423.9	15,951.3	15,936.3	16,741.2	17,050.4
Total	38,441.1	42,807.9	43,390.5	43,790.7	44,216.5

Source: Travel & Tourism Intelligence, 1996.

12.4 Destination Development

12.4.1 The Development of Tourism to Bornholm

Tourism to the island commenced with the introduction of a regular steamship link from Copenhagen in the 1860s and a regular service began between Bornholm and Germany in 1906. By 1906, 11,000 tourists per annum were reported to have visited Bornholm, of which the largest market was Germany followed by Denmark and Sweden.²⁴⁴ Table 3 clearly demonstrates that Bornholm is still serving the same three key markets. The German market accounts for 55% of all visitor nights although a smaller per cent of visitor trips, Denmark for 24% of nights and Sweden 14%.²⁴⁵ The main attraction of the island as a natural, quiet scenic destination is also virtually unchanged over this period. Indeed, Bornholm developed as a green environmentally friendly destination long before the concept became either established or fashionable.

²⁴³ Travel & Tourism Intelligence, 1996.

²⁴⁴ Twining-Ward and Twining-Ward, 1996.

²⁴⁵ Danmarks Statistik, 1995.

12.4.2 The Role of Transport Links

The failure of Bornholm to diversify its market over a period of 130 years results from a combination of its lack of product development, its geographical position and its scheduled transport links. Bornholm historically has served its three closest markets, Germany, Denmark and Sweden. Today these three countries collectively account for 93% of all visitor nights. As an island in a peripheral location, Bornholm is heavily dependent on its ferry links. In 1995 air transport accounted for less than 7% of all arrivals.²⁴⁶ There is only one year-round scheduled service, operated by Maersk Air between Bornholm and Copenhagen 5 - 6 times daily. In addition, Lufthansa operate summer only services from Dusseldorf, Hamburg and Berlin. Less than 1% of air arrivals are on Charter flights,²⁴⁷ showing the complete absence of this market.

BornholmsTrafikken is the state owned and supported ferry company providing year-round services to Bornholm on three routes (Table 6 & Map 2). The route to Copenhagen takes 7 hours, Ystad (Sweden) 2 hours 30 minutes and Mukran (Germany) 3 hours 30 minutes. Interestingly, the shortest crossing between Ystad and Bornholm carries the most passengers and yet Sweden is only the third largest originator market. In fact, the Swedish market in terms of visitor numbers is under-estimated by the official statistics. The average length of stay of Swedish visitors at 5 nights is much lower than the German and Danish markets (see Table 3), perhaps reflecting that it is the closest market. The relative market share of Swedish visitors has also declined over the last five years, largely as a result of unfavourable movements of the Swedish currency against DKK. However, it is clear that of the Ystad crossing serves a wider market. It is a popular route for Danish visitors to Bornholm. Danish visitors from Sjælland travelling by car can opt for a crossing from Dragør (near Copenhagen) to Linhamn (1 hour), followed by a 60 km drive to Ystad (approximately 1 hour) and the 2 hours 30 minutes crossing from Ystad. This route is both cheaper and potentially quicker than the ferry from Copenhagen and has the added advantage that duty free sales are permitted.

²⁴⁶ Analysis by Twining-Ward & Twining-Ward, 1996.

²⁴⁷ Danmarks Statistik, 1995.

Table 60. Passenger trips to Bornholm on BornholmsTrafikken Routes

Route	1991	1992	1993	1994	1995
Passengers					
Copenhagen	358,000	371,000	346,900	348,300	375,500
Ystad	853,200	923,200	768,300	773,900	712,300
Mukran			29,100	46,900	58,900
Total	1,211,200	1,295,000	1,144,300	1,169,100	1,128,700
Cars					
Copenhagen	43,000	45,200	42,100	45,000	45,800
Ystad	123,300	130,900	110,800	107,600	101,800
Mukran			8,800	13,000	18,400
Total	166,300	176,100	161,700	165,600	166,000
Cycles					
Copenhagen	19,800	23,200	21,400	20,000	19,900
Ystad	8,300	13,200	9,400	10,300	7,900
Mukran			400	400	1,500
Total	27,700	36,400	31,200	30,700	29,300

Source: BornholmsTrafikken Annual Report 1995.

In addition to the three routes operated by BornholmsTrafikken, there is a longer established year round service operated by Deutsche Fahrgeschaft Ostsee (DFO) between Sassnitz and Bornholm, which is in direct competition to the Bornholm - Neu Mukran route.

The limitations of this transport infrastructure are a major factor in determining the present size, seasonality and geographical spread of the visitor market and will also continue to be a barrier to future growth.

12.5 Policies for Growth

There are in the author's view three key approaches to encouraging a period of sustained growth of visitor numbers.

12.5.1 Lengthen Tourism Season

One key policy objective outlined in the 1993 Regional plan is to encourage tourism growth through lengthening the season.²⁴⁸ However, the dominance of tourist arrivals by ferry, the dominance of car as a means of travelling both to Bornholm and around Bornholm, and the lack of a significant range of scheduled air routes, makes the policy objective very difficult to achieve. Clearly, the greatest prospects for growth are May, June, the last two weeks of August and possibly early September. The attraction of second and third holidays would be a key option, but these are often of shorter duration (three and four nights) and the relatively slow ferry crossings place Bornholm at a significant disadvantage over rival destinations. It has been argued that improvements in the transport infrastructure within Scandanavia and Germany may bring Bornholm within reach of a larger

²⁴⁸ Bornholms Amt, 1993.

catchment population. The completion of the Øresund bridge will improve accessibility on the Ystad route. Likewise proposals to improve the coast road from Hamburg to Neu Mukran, through the former East Germany, from single to dual carriageway will improve accessibility on all German routes. However, journey time improvements will also accrue to other destinations such as the Baltic coasts of Germany and Sweden, and Bornholm will continue to suffer the disadvantage of the additional time required for the ferry crossing. Whilst leisure tourists are not naturally time sensitive and the extra journey time would not prove a significant barrier to visitors planning a holiday of 9 to 14 days, a slower journey time takes on a much greater significance to short break tourists, who are much more time sensitive.²⁴⁹

The market is also price sensitive and the high travelling cost also places Bornholm at a disadvantage. This disadvantage is exacerbated by the pricing policy adopted by BornholmsTrafikken. On both the Copenhagen and Ystad routes the price does not vary with season. A crossing in, say, March will cost exactly the same as a crossing in the peak month of July, despite the fact that load factors vary considerably. The development of a shoulder peak and off peak tourist market requires the impetus of much lower fares, perhaps calculated to cover only direct operating costs of the Ferry Crossing (fuel, labour and port dues), without making any contribution to the Ferry Operators fixed costs such as depreciation. The logic of the current cost based pricing policy adopted by BornholmsTrafikken is not clear to the author, but the Company is heavily subsidised and offers an essential social service during the off peak months in terms of freight as well as passenger services. BornholmsTrafikken argue that it would be inequitable for residents of Bornholm to have to pay more to make essential journeys in the peak months. However, the author is proposing reducing fares in the off peak rather than raising them in the peak and the argument does completely ignore the potential economic benefits for the whole economy of Bornholm from a growth in the tourism market. The price elasticity of demand for off peak ferry services to Bornholm is at this stage a complete unknown. However, a significant decrease in fares must generate some extra traffic.

The promotion of Bornholm as a cycling destination will prove of little assistance in a drive to promote extra visitor numbers outside the peak period. Leisure cycling is at its most popular in the summer months and, as Table 7 shows, the use of bicycles by tourists on Bornholm is much more seasonal than the use of other modes of transport.

²⁴⁹ Robbins, 1995.

Table 61. Modes of transport used by visitors on Bornholm by season

	3 rd Qtr 1995	4 th Qtr 1995	1 st Qtr 1996	2 nd Qtr 1996	All year
Sample	1409	378	334	737	2858
% Visitors					
Car	75	76	71	78	75
Walk	42	34	30	36	38
Bicycle	34	17	07	18	25
Bus	17	16	20	15	17
Coach tour	08	04	01	10	07

Source: Hartl-Nielsen, Rassing & Wanhill 1997.

12.5.2 Increase Peak Demand

A second option for increasing the tourist market is to increase demand over the peak period. However as the profile of visitors will show, peace, tranquillity and scenic appeal are the key attractions of Bornholm. An increase in demand during the peak months must be accommodated within the current bedstock or it will otherwise detract from the attractiveness of the product itself. Section 2.3.2 indicates the author's view that there is scope for growth within the current bedstock and within the maximum carrying capacity of 45,000 set by the local authority.²⁵⁰

However, even at current levels of tourist demand, there are some problems of ferry capacity with many weekend crossings, in particular, being fully booked. Increasing peak period ferry capacity for a period of six to eight weeks by acquiring additional ships does of course beg the question of what to do with that capacity outside the six weeks and is not an economically viable option. Increases in peak period visitor numbers must be accommodated within existing ferry capacity largely on less full mid-week crossings. Again this could be encouraged by some form of price discrimination with lower fares for mid-week crossings and a higher surcharge fare at weekends. For such a policy to work, accommodation providers would also need to be more flexible. Currently, several major accommodation providers, such as summer-house agencies, insist on bookings running from Saturday to Saturday.

The key threat from increasing peak period demand is that the majority of additional arrivals will be by car and this will increase traffic levels during the peak period. Assuming that the reputation of Bornholm as a cycling destination is a key motivator in attracting additional tourists, the percentage of tourists who cycle will remain high, which should partially offset this threat. However, a large increase in visitor numbers during the peak period is not a risk free strategy.

²⁵⁰ Bornholms Amt, 1993.

12.5.3 Geographical Spread

A third option for increasing the tourist market is to diversify the range of tourism originating countries. It is difficult to identify obvious additional markets easily serviced by ferry links. Geographically, Poland offers the greatest scope and there are transport links between Bornholm and Poland via a catamaran service between Allinge in North Bornholm and Swinoujscie in Poland. Currently, this service brings a welcome flow of excursionists from Poland and the market has grown rapidly since 1995, from around 300 visitors to 8,000 by 1997, but the Polish Market is yet to make an impact on the visitor nights data (Table 3). Whilst one may question whether the Polish economy can yet support mass international tourism, the potential is certainly recognised by tourism professionals on Bornholm. They point out that the population is approximately 84 million and calculate that an estimated 10% of that population have a good standard of living that is capable of supporting international travel. The Baltic states of the former Soviet Union also offer the most potential, but the economic climate in these countries indicates that such diversification will be long term in comparison to Poland.

Currently, the market between the UK and Bornholm is virtually non-existent. A car journey between the UK and Bornholm will exceed 60 hours and involve 3 ferry crossings via the Harwich to Esbjerg route. The alternative, a crossing by ferry or Le Shuttle from Dover to Calais will be quicker, but will involve a very considerable drive across mainland Europe to Sassnitz or Neu Mukran in the former East Germany, from where one can catch the ferry to Bornholm. By air, the journey involves an interchange at Copenhagen. The development of a mass market from the UK and indeed much of Western Europe would be impossible without the development of a much increased range of direct air services. It is perhaps surprising that Bornholm's reputation as a cycling destination does not attract more visitors from Holland, but again accessibility is the key issue.

13. The role and relative importance of cycling

13.1 The Cycling Market

It is not the objective of this paper to identify and quantify the contribution of a sub-market defined as *cycling tourists*, as is attempted by Simonsen & Jørgensen.²⁵¹ The author wishes to consider a more holistic picture examining the contribution of cycling to the visitor market as a whole.

Simonsen & Jørgensen define the cycling tourists as follows:

A cycling tourist is a person of any nationality, who at some stage or other during his or her holiday uses the bicycle as a mode of transportation, and to whom cycling is an important part of the holiday. Short trips to the corner shop etc. are not included. They use this wider definition in preference to a narrower definition;

A cycling tourist is a tourist who uses a bicycle as his/her main mode of transportation,

because the wider definition best includes the variations that make up current holidays and activities and the narrower definition will exclude large numbers of cyclists. Simonsen & Jørgensen go on to argue that cycling tourists could be further defined according to the number of days they plan to use the bicycle in relation to the length of the planned stay. In their words,

the larger the part of the holiday that is to be spent on a bicycle the more the tourist can be called a genuine cycle tourist.

In fact, to measure *the larger the part of the holiday that is to be spent on a bicycle* one needs to consider not only the number of days spent on a bicycle, but also the average length of time per day. A visitor cycling short distances every day could easily be wrongly classified towards the enthusiast end of the scale and an occasional tourist who cycles on only one or two days, but undertakes a longer whole day excursion will have the relative importance of the cycling underestimated.

Figure 30 is reproduced from Simonsen & Jørgensen and shows a continuum from *Cycling Enthusiast* who they would define as *genuine cycle tourists* to *Occasional Cyclists* over whom they would have greater doubts. The continuum is a good model of the current position. However, what is also beyond doubt is that, in terms of participation, the occasional cyclists far outnumber the enthusiasts. The wider definition used by Simonsen & Jørgensen would still appear to exclude some occasional cyclists and in the author's view has

²⁵¹ Simonsen & Jørgensen, 1996.

13.2 The Potential Benefits From Cycle Tourism

Bornholm clearly seeks to attract additional visitors by promoting itself as an ideal destination for cycling. The brochures stress the bicycle-route network of more than 200 kms²⁵³ and the very establishment of that network since 1981, indicates the emphasis placed on making Bornholm an attractive destination for cycling as a key strategy to retain and, if possible, increase visitor numbers to Bornholm. What then are the potential benefits of such a policy?

13.2.1 Attracting Cycle Enthusiast Tourists

There is a visitor market who use bicycles as their only mode of transport whilst on holiday. These are the *Enthusiasts* identified by Simonsen & Jørgensen (Figure 30) and constitute a minority market. It was estimated that Denmark attracted approximately 160,000 such cycle tourists, mainly domestic tourists, spending around 1 million bednights in 1992.²⁵⁴ This represents around 2.3% of the total bednights spent in Denmark. This relatively small market is expected to double in size by 2002.²⁵⁵ The market is relatively low spend and the analysis of the wider cycling market by Simonsen & Jørgensen, emphasizes that this market tours around the island rather than remaining at one base and predominantly uses campsites as the preferred means of accommodation. In Denmark, cycles are commonly fitted with trailers that enable cyclists to carry large amounts of luggage, making camping a viable option.

This market makes a very minor contribution to the existing visitor pattern on Bornholm. The exact size of this market is unknown, but BornholmsTrafikken make a charge for bicycles accompanying passengers and hence they keep a record. BornholmsTrafikken carry approximately 30,000 cycles annually in both directions combined, and this figure does include bicycles carried from Bornholm by residents. This represents only 15,000 passengers making return trips with cycles and if as many as two thirds are inbound visitors then, this represents 10,000 visitors from a total market in excess of 486,000 tourists, or 2% of the total. There are additional cyclists arriving on the DFO route, where a further 4,900 bicycles are carried in both directions. This represents a maximum 2,450 additional visitors. Some touring visitors may hire a bicycle on Bornholm, although Simonsen & Jørgensen²⁵⁶ show only 10% of a wider group of cyclists hire their bicycles. Overall the Cycle Enthusiast represents under 3% of the total market to Bornholm, which is similar to the 2.3% share of visitor nights for Denmark as a whole. Thus Bornholm attracts approximately 13,700 Cycle Enthusiast tourists per annum. This estimate is very similar to Simonsen & Jørgensen.²⁵⁷ They calculate a wider cycling market of 20,000 - 26,000 cycling

²⁵³ Bornholms Velkomstcenter, 1996.

²⁵⁴ Danmarks Turistrad et al., 1992.

²⁵⁵ Danmarks Turistrad et al., 1992.

²⁵⁶ Simonsen & Jørgensen, 1996.

²⁵⁷ Simonsen & Jørgensen, 1996.

tourists, of whom 55% use the bicycle only. So they calculate between 11,000 - 14,300 visitors are using the cycle as their sole means of transport around Bornholm.

Assuming these visitors spend DKK 250.00 per day, which is the average spend for the wider cycling market as calculated by Simonsen & Jørgensen,²⁵⁸ and impose low environmental costs, then this is a contribution to the economy that is worth having. The long term viability of tourism to Bornholm is, however, not dependent on this small specialist market.

13.2.2 Attracting Tourists Who Travel to Bornholm by Other modes of transport but for whom the Opportunity to Cycle during the Holiday is Attractive

There is no systematic collection of data on the mode of transport of arrival in Denmark by the Danish Tourist Board *but it is safe to presume that short haul family groups arrive mainly by car and ferry.*²⁵⁹ In the case of Bornholm, data from the key carriers establish that the vast majority of arrivals are by ferry (93%), as opposed to air.²⁶⁰ It is more difficult to break down the modal split of the ferry share, although, clearly, the car dominates the market. Twining-Ward & Twining-Ward²⁶¹ suggests car passengers make up 70% of ferry passengers and 75% of all tourists explore Bornholm by car.²⁶² Many of these tourists who use other modes of transport, also cycle during their visit. Bicycles are carried on car racks and these are not counted separately by the ferry companies. Approximately 30% of all vehicles carried one or more bicycles on the two crossings used by the author.

This category of occasional cyclists far outnumber the cycling enthusiasts. Some are included in Simonsen & Jørgensen's estimate of 20,000 - 26,000 cycle tourists as is reflected in the fact that 45% of Simonsen & Jørgensen's cyclists use other modes of transport and 38% use car (including 1% using an autocamper van). However, there are many more visitors at the occasional end of the continuum (Figure 30) who have been excluded from the Simonsen & Jørgensen analysis, because they were not classified as cycle tourists (see Section 3.1 for definitions).

The Bornholms Forskningscenter survey found that 34% of visitors used a bicycle during the main holiday quarter, as one of the three main modes of transport during their visit and 84% of these visitors counted cycling as a leisure activity they participated in. Not surprisingly, the later surveys show a lower cycle share in the three off-peak quarters, to produce an all year cycle share of 25% (Table 7). The author therefore calculates that around 125,000 - 135,000 visitors cycle, most of them only very short distances or only occasionally, during their visit to Bornholm.

²⁵⁸ Simonsen & Jørgensen, 1996.

²⁵⁹ Travel & Tourism Intelligence, 1996.

²⁶⁰ Analysis by Twining-Ward & Twining-Ward, 1996.

²⁶¹ Twining-Ward & Twining-Ward, 1996.

²⁶² Hartl-Nielsen et al., 1997.

The real omission of data is detailed information about the importance occasional cyclists place on Bornholms facilities and the island's reputation as a good cycling destination. How important a consideration was it in their decision to choose Bornholm as their holiday destination? All of them said that cycle routes were important or very important in making their decision to visit Bornholm, but then there were many other important factors such as Landscapes, Fishing Villages, Beaches and so forth, and one cannot conclude that without the cycle routes these 125,000 - 135,000 would cease to visit Bornholm. Nevertheless, it is this large market of visitors who are occasional cyclists where a continued reputation as an ideal destination for cycling will help retain or even increase visitor numbers.

13.2.3 Contribution to the Tourism Product

The development of a network of 220 kms of well-signed cycle routes around the whole island at a cost of DKK 69 million (1995 prices) is itself product enhancement. Brochures constantly refer to the network stressing its role in promoting Bornholm as a pleasant and safe place to cycle. It is an additional feature to the product over and above the key elements of nature, scenic beauty, tranquillity and so forth, but it is also a complementary feature, enabling the other attributes to be enjoyed more easily by bicycle.

The other aspect, which is perhaps less obvious, is the contribution cycle facilities at the destination make to non-cyclists. The main attraction of the island to this market is the scenic beauty and tranquillity. Currently, there is insufficient data to ascertain what percentage of the cycle trips might otherwise have been made by car, but the very high level of cycling, much of which is undertaken by car users, must play a role in deflating the level of traffic growth and hence preserving the tourist product itself. There is a clear substitution effect.

The use of bicycles by car users can also have negative environmental impacts. The author has already discussed the high percentage of visitor cars fitted with racks to carry cycles (around 30%) and there is scope for visitors to drive to picturesque areas of the island from which they may *park and ride*. Hence, some cycle trips can increase rather than decrease the number of car trips. The author observed this pattern of behaviour for access to the forest area of Almindingen. Almindingen is the third largest forest in Denmark and contains a wide arrange of flora and fauna, including a deer population. It is crossed by cycle routes 3 and 4 as well as other numerous small cycle tracks and its location in the centre of the island (Map 1) makes it relatively inaccessible by bicycle from the bulk of the visitor accommodation, which is located on the coast.

During August this drive plus *park and ride* activity was limited. Between 10.00 - 12.00 in the morning, car parks in Almindingen contained between 20 - 30 vehicles with bicycle racks. The vast majority of cycle trips by car owners were not preceded by a car journey.

13.3 Policies for Cycling

13.3.1 Cycle Routes

In 1981, the County of Bornholm, Bornholms Amt, began to establish a network of bicycle routes around the island. This network has been expanded in increments and now totals approximately 220 kms (see Map 1). These bicycle routes virtually circumvent the island, although there is one missing coastal section between Svaneke and Gudhjem, but expansion of the network is continuing and will incorporate this stretch. Indeed, the circular coastal bicycle route has also been designated National Bicycle route 10 by the Danish Government (part of a 3000 km national network) despite the fact there is a missing section. Other bicycle paths intersect the island to provide access to key tourism areas, such as Almindingen Forest and the famous round church at Østerlars. As Map 1 shows, there are 8 separate routes and three of these routes (Numbers 1, 6 and 8) combine to form the National route number 10.

13.3.2 The Design Criteria

In a country as bicycling active as Holland, where around 30% of all trips are by bicycle, in 1987 the highway authorities stated unanimously that there was insufficient knowledge in the field of cycling infrastructure.²⁶³ The underlying purpose of developing a cycle network is *that the quality of bicycle travel is brought up to the same level as other forms of road transport* and this requires modification of the road network. The expertise and practical experience available in delivering cycling infrastructure was considerable but scattered, so, more recently, this expertise has been collated into specific design manuals including *Sign up for the bike - Design Manual for a cycle-friendly infrastructure*²⁶⁴ and *The National Cycle Network - Guidelines and Practical Detail*.²⁶⁵ Bornholm, with its development of a network dating from 1981, is a pioneer. Much of the network predates the subsequent emergence of a consensus for infrastructure design and it is not surprising that, in the author's view, the Bornholm network has some shortcomings.

When designing facilities for cyclists the factors set out below must be considered.²⁶⁶

Bicycles are powered by muscle

In a cycle friendly road design energy losses are kept to a minimum.

Bicycles are unstable

Bicycles only have two wheels. Stability is maintained by light steering and body movements and is attained by speed. A bicycle can be kept stable with little effort at speeds of 20 km/hr and over, but it requires greater effort and body movement. The lower the speed,

²⁶³ CROW, 1993.

²⁶⁴ CROW, 1993.

²⁶⁵ Ove Arup/Sustrans, 1995.

²⁶⁶ See CROW, 1993.

the more body movements are needed to attain balance. In addition to low speed, side-winds, the slipstream of goods vehicles and unevenness in the road surface, all influence stability and help determine the necessary room for bicycle manoeuvre.

Bicycles have no crumple zone

Hence cyclists are very vulnerable when in conflict with vehicular traffic, and so a key role for cycle priority measures is to improve cyclist safety by creating a *spatial crumple zone*, which gives the cyclists space for emergency manoeuvring.

Bicycles have hardly any suspension

A smooth road surface wherever possible is a requirement for bicycle friendliness.

Cyclists are social beings

Cyclists should be able to ride two abreast, particularly when cycling for recreation or pleasure. In addition, this also gives parents a greater opportunity to safely supervise their children.

Cyclists are not machines

There are limits to the number and complexity of tasks which can be carried out by a cyclist and network design must respect these limitations and not over-burden the cyclist. Account must be taken of less experienced cyclists.

All requirements and wishes of cyclists can be placed under five main headings:

1. Coherence
The cycling infrastructure should form a coherent unit linking all desired departure and destination points with a minimum number of breaks.
2. Directness
The cycling infrastructure should offer as direct a route as possible, with detours kept to a minimum. In Britain, Sustrans discourage segregated cycle routes which involve a detour that increases the distance cycled by more than 10% of the original road route. Preferably, new cycle routes should decrease the distance travelled by the cyclists.
3. Attractiveness
The cycling infrastructure should be designed and fitted into the landscape in such a way as to make cycling attractive. This takes on greater significance for leisure cyclist in scenic areas.
4. Safety
The cycling infrastructure should ensure the road safety of cyclists.
5. Comfort

13.3.3 Composition of the Network on Bornholm

During the four week study period, the author sampled significant elements of the cycle network both on bicycle and also, due to the constraints of time, by car. Although there is a significant element of subjective judgement, the author attempted to assess the Bornholm network and the extent to which it meets these five key requirements.

A range of design criteria have been used to create the network.

1. Cycle Paths along roads

Alongside several main roads there are cycle paths. Wherever possible these paths are segregated from the road, often by grass verges such as the segregated path along Route 6 between Nexø and Årsdale.

2. Cycle Lanes

In places, cycle lanes are painted onto the road with no effective segregation of bicycles from road traffic. In some places, cars are discouraged from encroaching onto the cycle area with the addition of ridged curbs, but such provision is not universal. Along some routes, including stretches of Route 6 between Pedersker and Rønne, the paths are narrow (around 1.5 metres). In other places, such as on Route 6 between Årsdale and Nexø, the paths are much wider. Some cycle lanes within towns are also narrow, such as the cycle lane within Svaneke.

3. Cycle Paths on Disused Railway Lines

Bornholm used to possess three railway lines, the last of which closed over thirty years ago. Stretches of former railway line have been converted into segregated bicycle tracks, particularly on Route 2 between Rønne and Klemensker, and Route 5 between Rønne and Lobbæk.

4. Segregated Cycle Paths

There are a number of other segregated cycle paths. Plate 1 shows a path across a field on Route 5 between Nexø and Åkirkeby, and Plates 2 shows a segregated cycle path on Route 6 between Snogebæk and Nexø. One feature of segregated cycle paths is the barriers at the end where they meet the road network. They are designed to slow down cyclists at the point where they come back into conflict with vehicular traffic (Plates 1 & 3).

5. Lightly Trafficked Roads

The section of Route 5 between Åkirkeby and Nexø simply makes use of lightly trafficked municipal roads, which cyclists share with vehicular traffic. Sustrans planning guidance in the UK suggest this is appropriate for minor roads where vehicular traffic is less than 1,000 cars per day.²⁶⁷ Vehicle counts undertaken by the author in the peak month of August revealed vehicular flows much below this level (at 200 vehicles or less per day). These municipal roads are relatively narrow as well as lightly trafficked. Plate 4 shows cyclists using Route 5 between Åkirkeby and Nexø. The obstruction is the author's car.

²⁶⁷ Grimshaw, 1995.

6. Forest Paths and Roads

In Almindingen, the third largest forest in Denmark, Routes 3 and 4 incorporate forest paths and roads which are segregated from vehicular traffic, although at times they did not offer a smooth ride (Plate 5).

13.3.4 Complementary Bicycle Friendly Policies

1. Cycle Signing

All routes are clearly signed. There is a coordinated standard format for signing, using green signposts with white writing, which are easy to read and understood. These signs include distance as well as destination (Plate 6).

2. Cycle Parking

There is significant provision of cycle rack facilities. Town centres such as Rønne and Nexø, (Plate 7 shows the main square in Nexø), supermarket car parks (Plate 8), tourist attractions, beach car parks (Plates 9 and 10), all provide parking facilities for cyclists.

3. Cycles on Buses

All bus routes will accept cycles at half the adult fare. Although this is not uncommon elsewhere in Denmark, bicycles are traditionally carried inside the vehicle and hence most vehicles are limited to one or perhaps two bicycles at a time. In Bornholm, each vehicle can carry up to six bicycles using a unique pull down rack attached to the back of the bus and laying the cycle flat on the rack (Plate 11). The author is not aware of any other bus operator in Europe using this ingenious approach. Bornholms Amts Trafikselskab carry 4,000 cycles per annum, although this should be seen in the context of a total of 2.5 million passenger trips per annum.

13.3.5 Limitations of the Bornholm Network

The Bornholms Forskningscenter summer survey showed that 95% of cycle users found the facilities excellent. The Simonsen & Jørgensen²⁶⁸ study confirmed that more enthusiastic cyclists also rated the cycle facilities as excellent and the majority of them did use the cycle network. Simonsen & Jørgensen found a hard core of 18% of cyclists who preferred not to use the specialist cycle facilities. Thus any comments on the network must be seen within the context of this high level of satisfaction.

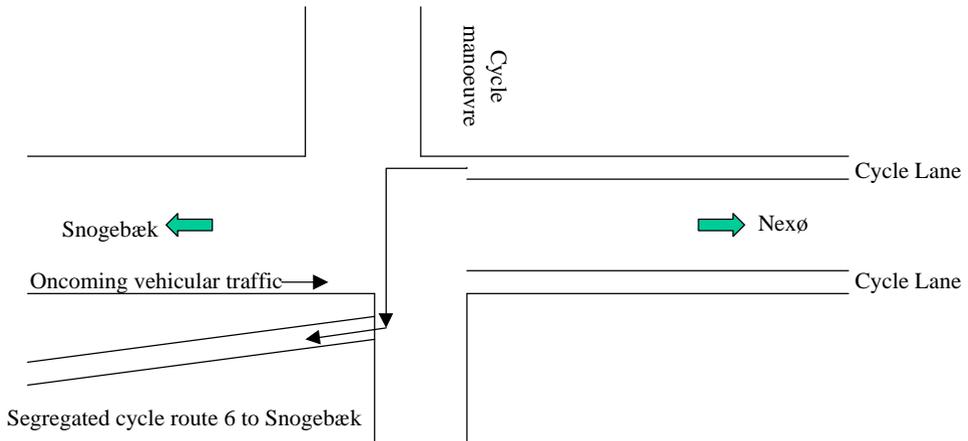
The author did find some shortcomings in terms of policy coordination. In Denmark there are divisions of responsibility between local authorities. The development of the bicycle network was a policy of Bornholms Amt and it is noticeable that cycle lanes running between towns cease to exist when one crosses the border and enters the town itself. A particular example occurs along Route 6, which the author cycled. Approaching Nexø from the south one is initially on a segregated track (along the alignment of a former railway line), which ends 0.5 kilometres outside Nexø. There is a simple cycle lane on the main road for the remaining 0.5 kilometres, which suddenly ceases at the town border even though the road does not narrow noticeably. A segregated cycle track begins as the road

²⁶⁸ Simonsen & Jørgensen, 1996.

leaves Nexø to the north. In reality, this did not prove a problem to the author, because, on the non-segregated section, car drivers still gave all cyclists a wide berth, reminiscent of UK driver behaviour 30 or more years ago. However, there is no obvious reason why cycle facilities should be less available in towns. The inland town of Åkirkeby is also noticeable for the lack of cycle lanes. The largest town, Rønne, does have significant cycle priority measures, including cycle priority measures at roundabouts. The differences are largely explained by the policies adopted by each town council.

The author also found a particularly awkward road junction south of Nexø, where the segregated track ended. Travelling north towards Nexø there was no problem as the segregated track was on the right side of the road. However, travelling in the opposite direction to leave the main road and join the segregated track, the cyclists has to undertake a left turn, crossing the main flow of traffic in the opposite direction. To make the manoeuvre even more awkward, there was a T junction at the beginning of the segregated track, requiring the cyclists to cross this road also (Figure 31 and Plate 12). As in the UK cycle facilities sometimes have to fit the road structure and can end at the point where they are most required, which is a failure of network coherence as defined in Chapter 3.3.2.

Figure 31. Junction between Nexø and Snogebæk where the segregated section on cycle route number 6 ceases bringing cycles into conflict with vehicular traffic



Most cycle routes are a tarmac surface, but some of the segregated tracks, particularly along the alignment of former railway lines, are gravel and this surface was the other most common complaint from cyclists. The forest paths in Almindingen also did not provide a smooth ride, but clearly a tarmac surface would not offer an environmentally sympathetic alternative.

Overall in terms of Directness, Attractiveness and Safety, the Bornholm network is excellent as is reflected by the consumer response. Cycle accidents in Bornholm are rare with 1 fatal accident and 45 other incidents in 1995,²⁶⁹ although this is further assisted by the low population density and low traffic levels on the island. However, there is scope for improvement in the coherence.

13.4 The Visitor Market

The analysis in this section is based on a large scale visitor survey undertaken in the summer of 1995. Analysis has been restricted to those surveys undertaken in the third quarter covering the peak season. There were 1,750 interviews, which represents a large sample size.

The author has used cross-tabulation analysis to contrast the attitudes, actions and characteristics of the cycle market with those of the visitor market generally. Where appropriate, the author contrasts the attitudes, actions and characteristics of his wider group of all cyclists with the findings of Simonsen & Jørgensen.²⁷⁰ The existence of significant differences is explained by the sample selection techniques used in the Simonsen & Jørgensen study. Interviewers targeted cyclists carrying large amounts of luggage, particularly those with trailers able to carry a whole days provisions or indeed able to carry camping equipment. This approach reflects the Simonsen & Jørgensen definition of *cycle tourists* and indeed explains why 55% of their sample use bicycles as their sole means of transport around Bornholm. This analysis highlights the differences between *cycle enthusiasts* and *occasional cyclists*. The two surveys are therefore complementary.

13.4.1 Why Visitors Choose Bornholm

Table 8 shows what factors are the most important to respondents in their choice of Bornholm as their destination. It confirms the importance of the environmental product as the main attraction, with Nature and Landscapes emerging as the most important factors.

Although the existence of cycle routes emerges as the ninth most important consideration, it nevertheless is a significant element of the tourism product for almost 30% of visitors, most of whom (82%) actually do cycle during their visit. This represents a group of around 150,000 visitors for whom the existence of cycle routes was important or very important in their choice of destination. Indeed, for cyclists themselves, the existence of cycle routes was the fourth most important reason for choosing Bornholm (Table 8), only marginally behind the existence of scenic landscapes and pleasant natural areas .

Simonsen & Jørgensen²⁷¹ argue that the cycling market is environmentally aware and places emphasis on enjoying and preserving the environment. Analysis of why the *occa-*

²⁶⁹ Danmarks Statistik, 1995.

²⁷⁰ Simonsen & Jørgensen, 1996.

²⁷¹ Simonsen & Jørgensen, 1996.

sional cyclists choose Bornholm, shows that the *occasional cyclists* also place greater emphasis on enjoying the landscapes and nature of Bornholm than the visitor market in general (contrast Table 2 and Table 3).

Table 62. How important were the following in making your decision to visit Bornholm (only cyclists answers analysed)

Factor	Very Important %	Important %	Total %
Nature	65.0	21.8	86.8
Landscapes	59.5	27.5	87.0
Atmosphere	59.7	25.2	84.9
Fishing Villages & towns	26.3	43.2	69.5
Beaches	36.0	30.9	66.9
Cultural History	8.5	40.5	49.0
Walking	20.3	30.7	51.0
Art & Craft workers	11.2	33.3	44.5
Cycle routes	50.0	30.1	80.1
Restaurants	5.7	23.5	29.2
Fishing	3.2	4.9	8.1
Golf	1.5	1.1	2.6

Source: Bornholms Forskningcenter Summer Survey 1995.

13.4.2 Activities Undertaken by Visitors to Bornholm

Table 9 shows the activities undertaken by visitors. Exploring in the island by car, foot or bicycle all feature prominently, as do visits to the beach. A number of visitors who used the bicycle as one of their three main modes of transport, did not regard this as a leisure activity in its own right. Hence 34% of the total sample used the bicycle as a mode of transport, but only 23% of the total sample regarded it as a leisure activity they participated in.

Analysis of the cyclists show them to be more active than the overall visitor profile. They are much more likely to eat out, go to the beach, swim in the sea. Indeed, interestingly, they are more likely to explore the island by car than other visitors.

Table 63. Activities undertaken during the visit to Bornholm

	All visitors %	Cyclists %
Going to the Beach	43.5	65.3
Driving around	42.1	50.0
Eating Out	39.8	55.7
Swimming in the Sea	38.0	61.6
Walks	24.3	35.3
Cycling	23.1	100
Boat Trips	10.5	14.4
Guided Coach Trips	6.3	6.6
Music Recitals	4.3	7.2

Source: Bornholms Forskningscenter Summer Survey 1995.

13.4.3 Internal Transport Used by Visitors to Bornholm

Table 10 shows that internal transport by tourists around Bornholm is dominated by the car. Around 75% explore the island by car, and as Table 9 shows, this is a leisure activity in its own right for 42% of tourists. Another characteristic is the virtual non-existence of a commercial car hire market. Only 3.4% of all visitors to Bornholm hire a car. This is partly because the cost of car hire is very high by European standards. Weekly car hire rates for a 3 door salon car such as an Opel Corsa are DKK 2,640 (around £275), with a daily rate of DKK 620 (£65). There would need to be a more developed car hire sector if the share of arrivals by air rose significantly. Bornholm shows the characteristics of an island dominated by ferry services.

Cycling is the next most important mode of transport ahead of the bus. Over 34% of visitors make some of their trips on bicycles and use the bicycle as one of their three main modes of transport.

The Bornholm Public Transport Authority (Bornholms Amts Trafikselskab) has developed a specialist service for tourists with 5 *theme* buses. These include the Handicrafts tour (Kunsthåndværkerture), the Farm tour (Bondegårdsbussen), the Green bus (Den grønne bus), the Vintage bus (Veteranbussen) and the Garden bus (Havebussen). Whilst this innovative approach is marginally profitable (depending to some degree how fixed costs are allocated), it has not encouraged mass use of the bus network either for these specialist services or more generally. The network currently carries around 50,000 passengers per week and, although visitors continue to offer a potentially valuable source of revenue to the Authority, the high percentage of visitor arrivals by car will continue to make progress difficult, in spite of the fact that a switch from car to bus is environmentally beneficial.

Unfortunately, Table 10 does not show an accurate modal split for visitor transport. Because 34% of visitors cycle, one cannot conclude that cycling forms 34% of all passenger kilometers or 34% of all passenger trips. To estimate the modal split of the cycling share, one would need to undertake detailed travel diary research, recording all trips made by a representative sample of visitors, including the time and length of trip. What one can conclude from the Bornholms Forskningscenter Survey is that the vast majority of cyclists also explore the island by car (Tables 9 and 11). Furthermore only 14.5% of cyclists indicated that cycling was their most used means of transport, with 70% indicating it was the second most important means of transport. In contrast, 88% of car users suggested that the car was their most important means of transport. It is clear that car dominates the market, accounting for a much greater figure than 75% of all passenger kms. The cycle share of passenger trips will be higher than passenger kms, but an accurate estimate is not possible.

Further analysis reveals that 17.6% of visitors from Denmark cycle and 19.9% of visitors from Sweden cycle, whereas a staggering 52.4% of visitors from Germany cycle. The German market also shows a high propensity to drive. Subsequent analysis of the visitor survey indicates the cycle share for the whole year is 25%, with a dramatic fall in cycling

during the off-peak quarters,²⁷² so a crude estimate indicates a total market of around 120,000 visitors who cycle.

Table 64. Modes of transport used by visitors on Bornholm

	% of Visitors	
Car	75	
Walk	42	
Own bicycle	20	
Rented bicycle	14	Total Cycle 34%
Bus	17	
Coach tour	8	

Source: Bornholms Forskningscenter Summer Survey 1995.

Table 65. Other modes of transport used by visitors who cycle on Bornholm

	% of Visitors who cycle	
Car	71.2	
Walk	50.9	
Bus	22.5	
Coach tour	2.1	

Source: Bornholms Forskningscenter Summer Survey 1995.

13.4.4 Car Parking

From a UK perspective, one may expect a requirement for a policy of car restraint to achieve high levels of cycle participation. The most obvious form for such a policy is car parking restraint at key *honeypot sites*. The author was surprised to find that all parking was free and also relatively plentiful during the peak period at all locations, including the centres of the largest towns (Rønne and Nexø). There were maximum 2 hour time limits in both Rønne and the picturesque fishing village of Gudhjem, but this was the only constraint encountered. In essence, the high level of cycle participation by visitors was achieved solely with positive policies of providing cycling infrastructure. There was no accompanying *stick* in the form of negative policies discouraging car use.

13.4.5 Other Characteristics of Visitors Who Cycle

In many respects, the profile of visitors who cycle does not differ from the overall profile of visitors. Tourists who cycle have a very similar accommodation profile. Approximately 37% stay in summerhouses, 16% in hotels and 13% visiting friends and relatives. Relatively few stayed in campsites (8%) or Youth Hostels (3%).²⁷³

However, there is a marked contrast in the profile of *cycle enthusiasts* surveyed under a different methodology by Simonsen & Jørgensen,²⁷⁴ and the overall profile of visitors to Bornholm. Their analysis showed a much greater propensity of *cycle enthusiasts* to camp (54%) or stay in Youth Hostels (17%). They also found that the enthusiasts' market were

²⁷² Hartl-Nielsen et al., 1997.

²⁷³ Bornholms Forskningscenter Survey, 1995.

²⁷⁴ Simonsen & Jørgensen, 1996.

largely from Denmark (50%), with only 28% from Germany, whereas 54% of all cyclists in the Bornholms Forskningscenter survey were from Germany.

Table 66. Nationality of visitors to Bornholm

	Visitors who cycle (%)	All visitors (%)
Denmark	34.4	51.4
Sweden	8.4	9.8
Germany	50.8	28.2

Source: Bornholms Forskningscenter Summer Survey 1995.

Visitors who cycle seem slightly more likely to make return visits. Although such hypothetical questions must be treated with caution, Bornholm does attract a high percentage of repeat visits and 36% of those who cycled said they were certain to return and a further 29% said they were likely to return. In contrast, 29% of all visitors said they were certain to return and a further 25% said they were likely to return. Whilst not conclusive, the cyclists' market does seem to offer a slightly greater degree of product loyalty.

Although the degree of missing data makes analysis difficult, there is little distinction between the income profile of visitors who cycle and all visitors (Table 13) or indeed the age profile (Table 14).

Table 67. Income of visitors to Bornholm

	Visitors who cycle (%)	All visitors (%)
Under 200,000 DKK per year	15.3	15.7
200,000 - 400,000 DKK per year	38.6	32.5
400,000 - 700,000 DKK per year	26.7	20.3
Over 700,000 DKK per year	6.4	3.9
Missing	13.1	27.7

Source: Bornholms Forskningscenter Summer Survey 1995.

Table 68. Age of visitors to Bornholm

	Visitors who cycle (%)	All visitors (%)
16 - 24	7.4	5.0
25 - 34	18.2	14.2
35 - 49	38.6	27.3
50 - 59	21.8	18.5
60 - 69	9.5	10.7
Over 69	1.5	5.0
Missing	3.0	19.3

Source: Bornholms Forskningscenter Summer Survey 1995.

14. Lessons for the UK

14.1 Introduction

Cycling activity in the UK has declined dramatically over the last 50 years, from a peak of around 24 billion kilometres per annum in 1949 to the present level of approximately 4.5 billion kilometres or just 1% of all road traffic, but 2% of all trips.²⁷⁵ Perhaps more disturbing is the fact that this decline in the amount of cycling is most pronounced among the very young. The National Travel Survey (NTS) reveals that the distance cycled by 5 - 10 year olds has fallen by over 40% between 1975 and 1993 and the decline for 11 - 15 year olds is 37%. The causes of this decline have not been fully researched, but are widely regarded to be closely related to the dramatic increases in traffic levels in the UK, giving cycling the perception of an unsafe activity to parents. The increasing concern over *Stranger Danger* is also felt to have a mild impact on this decline.

On the positive side, two groups do show an increase in cycling between 1975 and 1993. These are males between 16 - 20 (up 10%) and males between 21 - 29 (up 50%). These are the age groups traditionally regarded as showing the greatest potential for growth in Britain, although a contrast with the experience of leisure cycling on Bornholm shows cycling can be popular with a much wider range of age groups (Table 14). More unique to the UK is that this growth in cycling by males between the ages of 16 and 29 is accompanied by a decline in the distance cycled by females in these age groups.

14.2 Government Policy

Increased emphasis is now being placed on cycling as a potential solution to the current transport problems of increased congestion and pollution, particularly in urban areas. A staggering 75% of all urban car journeys are under 5 miles in length²⁷⁶ and 50% are under 2 miles.²⁷⁷ A switch in mode of transport for many of these short journeys from car to cycle or walk will bring environmental dividends. Furthermore, the Government does not regard the continuing decline of the cycle share of the market as inevitable:

*The UK has neither an unusual geography, climate or economy. In Switzerland, there are more hills, Sweden has colder winters and Germany higher car ownership; yet each has five times the share of bicycle trips than the UK.*²⁷⁸

Denmark, with around 18% of trips by bicycle, is a strong potential role model for British policy. The Government has now developed a National Cycling Strategy, which aims to

²⁷⁵ Dept. of Transport, 1996a.

²⁷⁶ Royal Commission on Environmental Pollution, 1994.

²⁷⁷ Dept. of Transport, 1996b.

²⁷⁸ Dept. of Transport, 1996b.

double the number of cycling trips by 2002, with a further doubling by 2012.²⁷⁹ Clearly the dramatic expansion of cycle routes will play a major role in this National Cycling Strategy, although the Government is rather short on detail as to how these targets will be achieved.

14.3 A National Cycle Network

In a separate development to encourage cycling, the National Charity, Sustrans, is designing and promoting a National Cycle Network. An initial 2,500 mile network will be completed by the year 2000, at a cost of £172 million. Funding includes a £40 million grant from the National Lottery (Millennium Commission), in addition to the active involvement of 400 local authorities. The planned network is 6,500 miles (costing £400 million). The additional 4,000 miles is scheduled for completion by 2005.

One significant 140 mile link in the national network has recently been completed and was subject to a visitor monitoring project over the summer and autumn of 1996.²⁸⁰ Route C2C stretches from the Irish Sea, on the West Coast of Northern England, to Tyne and Wear on the North Sea. It is estimated that between 12,000 - 15,000 users cycled C2C during 1996. In contrast to market penetration in Bornholm, this appears low, although it makes a useful and significant contribution to the local economy. Average daily spending has been estimated at £30, resulting in total revenue of £1.5 million.²⁸¹ Perhaps of greater concern is the relative small range of users, with 50% of all users aged 26 - 40 and 75% of all users male. There was a virtual absence of users over 56 (1%).²⁸² The need to widen the user base has already been acknowledged.

The national network will be expected to meet two distinct and separate needs. The research by Cope²⁸³ focuses on the longer distance cycle enthusiasts' market which appears to be young adult males. However, Sustrans acknowledge that much of the national network must also serve the local short trip market. Commenting on C2C, it acknowledges *its local sections, through densely populated areas also attract a substantial volume of commuter, school and shopping users*,²⁸⁴ although this is monitored in less detail. It is expected that some 60% of trips on the new national network will be such local trips.

There is a clear complementary relationship between an increase in leisure cycling and an increase in the use of cycling for essential local journeys. An increase in one will lead to an increase in the other. The Bornholm network is characterised by heavy use of the local population, in addition to the leisure use. What is not so clear is the main impetus that the new national network will have. Is the expectation that initial increase in local use will encourage more leisure and tourism trips, or is the expectation that people exposed to cy-

²⁷⁹ Dept. of Transport, 1996b.

²⁸⁰ Cope, 1996.

²⁸¹ Cushing, 1997.

²⁸² Cope, 1996.

²⁸³ Cope, 1996.

²⁸⁴ Network, 1997.

cling as a leisure activity will then switch to bicycle use for more essential short trips? A clear policy focus needs to emerge. Supplementary policies to the development of cycle priority measures must not be overlooked. In particular, town and city centres in Britain possess a total absence of appropriate bicycle parking facilities.

14.4 Lessons to be Learnt from Europe

Evidence of cycle routes in Europe is often quoted to justify the targets for the new national network in UK. It is estimated that the new network will carry over 100 million journeys per year, of which 60% will be journeys to work, school or shopping and 40% will be leisure journeys. It is further estimated that UK users will spend £200 million per annum directly in relation to the network and overseas visitors an additional £150 million.²⁸⁵

However, direct comparisons between cycle networks in Europe, such as the one on Bornholm, and the UK are difficult. There are significant cultural differences. It is estimated that 3% of children cycle to school in the UK reflecting the decline between 1975 - 1993, whereas the figure is close to 60% in Denmark.²⁸⁶ There is some safety training for school children, but it is not as formalised or on the same scale as the traffic school system in Denmark. Although there are an estimated 21 million bicycles in the UK²⁸⁷ for an adult population of around 47 million and a total population of 57 million, this compares unfavourably with the estimates of around 8 bicycles for every 10 people in Holland and Denmark. Hence there is less of a tradition of cycling as a way of life. This perhaps explains why the initial users of route C2C come from such a narrow age and sex range.

The safety element of cycling is also significantly different. Accident rates per 1,000 kms are ten times higher for cyclists in the UK than in Denmark.²⁸⁸ Whilst partly a function of the much higher traffic levels in the UK, these figures would be significantly reduced by a policy of safe cycle routes segregated from other vehicular traffic.

Denmark is also characterised by lower levels of car ownership. In Denmark, as in the UK, the largest costs of car use are at the point of acquisition rather than at the point of use (purchase price, insurance and other fixed annual costs). These costs are higher in Denmark, resulting in lower levels of car ownership. On Bornholm, 42% of households do not have access to a car, although this is slightly lower than the figure of 45% for the whole of Denmark.²⁸⁹ In the UK 39% of households do not have access to a car. On the other hand, Germany is characterised by a higher level of car ownership than the UK and yet manages a 10% share of all trips by bicycle.

²⁸⁵ Sustrans, 1996.

²⁸⁶ Sustrans, 1996.

²⁸⁷ Sustrans, 1996.

²⁸⁸ Sustrans, 1996.

²⁸⁹ Danmarks Statistik, 1995.

However, following the successful £42 million grant from the Millennium Commission of the National Lottery, there will be a significantly increased network of cycle routes by the year 2000. Although the provision of long distance segregated routes does generate demand, the author does not envisage that the provision of segregated routes will alone generate the mass use on the scale seen in Bornholm for either leisure use or for local journeys. This view is shared by Wardman,²⁹⁰ who examine how commuters' mode choices might be affected by improved cycle facilities in Leeds, Yorkshire. They conclude: *Although investment in such facilities could lead to significant increases in cycle demand, that even costly investments may be worthwhile in economic terms, our results indicate that they could not on their own achieve targets of increased cycle use.*

Certainly, an important first stage in the UK must be to construct the cycle infrastructure. This process is some 16 years behind Bornholm (and Denmark generally). However, alone this will not produce mass cycle use. It needs to be accompanied by a policy of re-introducing a culture of cycling, perhaps beginning with enhanced cycle training in schools. But the key lesson from Bornholm is not to under estimate the contribution from the occasional cyclist, who may only wish to travel short distances, and design the infrastructure to accommodate their requirements.

²⁹⁰ Wardman et al., 1997.

15. Conclusions

Tourism to Bornholm has stagnated over the last 15 years, although that represents a credible performance following a sharp decline in visitor nights between 1985 and 1990. The early 1990s represent a period of recovery. Nevertheless Bornholm is missing out on a period of growth in tourism numbers to Denmark generally. This is largely due to its peripheral location and relative inaccessibility as an island destination. It also has the reputation as a high cost destination, partly reflecting the higher transport costs for visitors to reach the destination.

During this period Bornholm has retained its image as scenic, tranquil *green destination* and, since 1981, has sought to enhance this appeal by developing a reputation as the premier destination for cycling within Denmark. In the author's view, the importance of the cycling product in the recent performance of Bornholm as a destination cannot be overstated. There is a very small specialist market of tourists who undertake holidays by bicycle for whom the bicycle is the predominant mode of transport. This pure cycle enthusiast represents a large share of the sample examined by Simonsen & Jørgensen²⁹¹, but forms a very small share of the overall visitor market (certainly under 4%).

However, a very much larger number of visitors (34% in the peak season) use the bicycle as one of their three main modes of transport during their stay on Bornholm. This represents an approximate market of 120,000 visitors, for whom the existence of the cycle routes is one of many attractions that influences their choice of Bornholm as a destination. It would be now too hypothetical to ask whether they would come to Bornholm if there were not any cycle routes, as the network is so well established, but there can be little doubt that the network has enhanced the tourism product for this group. The existence of cycle facilities emerges as the fourth most important factor influencing their decision to visit Bornholm. Additionally, these cycle tourists are more active during their visit and are more likely to make return visits than the overall visitor market.

Additional work is required to estimate the modal share of car and cycle trips. Certainly it is unlikely to be above the 20% share of trips by bicycle that is found elsewhere in Denmark and figures of 30% that have been claimed for Holland.²⁹² It is not clear also to what degree cycle trips are made as substitutes for trips that would otherwise be made by car. However, overall cycling has been a positive experience for Bornholm.

The UK is now embarking on the construction of a National Cycle Network at a cost of £400 million. It aims to attract over 40 million leisure passenger trips. It will take some considerable time to build up and nurture a market of this magnitude, and it will not be achieved solely by developing cycle priority facilities. A combination of imaginative mar-

²⁹¹ Simonsen & Jørgensen, 1996.

²⁹² CROW, 1993.

keting, widespread cycle parking facilities, excellent signposting facilities and good access to public transport for cyclists, are all elements in the Bornholm product that are essential complementary facilities to bring about a change in attitude to cycling and a significant increase in use.

Further, Bornholm has developed a reputation as a *cycling destination*, hence attracting tourists who wish to undertake some cycling, although this has been actively marketed and achieved in a relatively short time span (since 1981). Other destinations could equally develop a similar pro-cycling image. Nevertheless, Bornholm has a number of factors coming together to create this spiral of success, which are not all present in the UK.

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Appendix A

Interviews on Bornholm

Interview number: 1
Name: Svend Torben Jensen
Position: Marketing Director
Organisation: BornholmsTrafikken

Interview number: 2
Name: Peter Margnussen
Position: Marketing Coordinator
Organisation : Destination Bornholm

Interview number : 3
Name : Jørgen Hammer
Position Managing Director Chair
Organisation : Bornholms Amts Trafikselskab Destination Bornholm

Appendix B

Method used

The essential data are:

- N = the total number of contacted parties leaving Bornholm in the period (The Research Centre of Bornholm)
- N_{sea} = the total number of contacted parties on the departing ferries (The Research centre of Bornholm)
- N_{air} = the total number of contacted parties on the departing aeroplanes (The Research Centre of Bornholm)
- PV_{sea} = average party size among the visitors on the departing ferries (The Research Centre of Bornholm)
- PV_{air} = average party size among the visitors on the departing aeroplanes (The Research Centre of Bornholm)
- PR_{sea} = average party size among the residents on the departing ferries (The Research Centre of Bornholm)
- PR_{air} = average party size among the residents on the departing aeroplanes (The Research Centre of Bornholm)
- R_{sea} = the number of Bornholm residents among the contacts made on the departing ferries (The Research Centre of Bornholm)
- R_{air} = the number of Bornholm residents among the contacts made on the departing aeroplanes (The Research Centre of Bornholm)
- V_{sea} = the number of visitors among the contacts made on the departing ferries (The Research Centre of Bornholm)
- V_{air} = the number of visitors among the contacts made on the departing aeroplanes (The research Centre of Bornholm)
- S = the total number of passengers departing Bornholm by ferry (Danmarks Statistik)
- A = the total number of passengers departing Bornholm by aeroplane (Danmarks Statistik)
- L_{sea} = average length of stay among the visitors departing by ferry (The Research Centre of Bornholm)
- L_{air} = average length of stay among the visitors departing by aeroplane (The Research Centre of Bornholm)

It is seen that the following equation is valid

$$N = N_{\text{sea}} + N_{\text{air}} = (R_{\text{sea}} + V_{\text{sea}}) + (R_{\text{air}} + V_{\text{air}})$$

The total number of people represented in the interviews made on the ferries and aeroplanes is:

$$\begin{aligned} P_{\text{total}} &= P_{\text{sea}} + P_{\text{air}} \\ &= ((R_{\text{sea}} * PR_{\text{sea}}) + (V_{\text{sea}} * PV_{\text{sea}})) + ((R_{\text{air}} * PR_{\text{air}}) + (V_{\text{air}} * PV_{\text{air}})) \\ &= (RPR_{\text{sea}} + VPV_{\text{sea}}) + (RPR_{\text{air}} + VPV_{\text{air}}) \end{aligned}$$

The **total number of visitors** (T_{total}) to Bornholm can now be calculated using the information above.

$$\begin{aligned} T_{\text{total}} &= T_{\text{sea}} + T_{\text{air}} \\ &= ((VPV_{\text{sea}} / P_{\text{sea}}) * S) + ((VPV_{\text{air}} / P_{\text{air}}) * A) \\ &= (TV_{\text{sea}} * S) + (TV_{\text{air}} * A) \end{aligned}$$

The **total number of overnights** on Bornholm during the period 1 July 1995 - 30 June 1996 can be calculated as:

$$O_{\text{total}} = (L_{\text{sea}} * T_{\text{sea}}) + (L_{\text{air}} * T_{\text{air}})$$