

The Value of Cycle Tourism

Opportunities for the Scottish economy



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A REPORT COMMISSIONED BY SUSTRANS SCOTLAND

Sustrans Scotland commissioned Transform Scotland to fully investigate and cost the anecdotal evidence we have gathered over many years of delivering the National Cycle Network in Scotland that business from leisure cycling is a much larger income stream to 'Scotland plc' than has been recognised to date. This report clarifies the important role that cycling plays in promoting the offer Scotland makes to visitors and residents, while also creating opportunities for business development throughout the country.

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REPORT DESIGN

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Executive Summary

BACKGROUND, SCOPE AND PURPOSE OF THE REPORT

This report demonstrates the value of leisure cycle tourism to the Scottish economy and highlights opportunities for further expansion of the sector. Through examination of existing research and by means of a business survey, the report delivers a comprehensive evidence-based analysis of the leisure cycling industry in Scotland. The report concludes by setting out a strategic direction for cycle tourism stakeholders in determining investment roles and opportunities within the industry.

FINDINGS

The study identified four major areas of economic contribution from cycle tourism in Scotland. Their combined values range between £117.2 million and £239 million per year, depending on the source used. Separate contributing elements are presented in the table below:

Economic Values	(£ millions)/year
Health benefits	4.0
Leisure cycle events	5.6
Leisure cycle-related infrastructure	1.5
Expenditure by leisure cyclists	106.2 - 228.2
Total economic contribution	117.4 – 239.3

In addition to the monetised benefits identified above, leisure cycle tourism contributes £58.5 million to the Gross Value Added (GVA) of Scotland.

When combined with mountain biking, for which separate prior research has been conducted by Ekos in 2009, the total value of cycle tourism in Scotland is estimated to be between £241 million and £362 million per year, with a cumulative annual contribution to GVA of £129m.



Key Recommendations

The report sets out ten recommendations aligned with the 'Priorities for Action' identified in the Scottish Tourism Alliance's 2012 strategy, *Tourism Scotland 2020*:

STRENGTHENING LEADERSHIP AND COLLABORATION

1. Strengthen leadership and coordination across the sector
2. Deliver better collaboration between local/regional stakeholders

KNOWING OUR MARKETS

3. Establish more comprehensive monitoring arrangements
4. Focus promotional activities on key market segments
5. Brand Scotland as a top destination for cycle touring
6. Develop key themed areas for leisure cycle tourism

MANAGING THE CUSTOMER JOURNEY

7. Continue the development and marketing of cycle routes
8. Enhance information provision and technology integration

BUILDING SUSTAINABLE TOURISM

9. Continue to support cycle events, and extend this support to smaller events
10. Create a development strategy for the growth of cycle tourism



Keith Marshall

Cycle routes – Scotland

- National Cycle Network (NCN) Routes**
- 75 Traffic-free section
 - 1 On road section
 - 82 Regional route
 - 78 Proposed route
 - Other recreational route
 - Ferry route
 - Town with railway station
 - Mountain biking centre

For NCN route updates see the on-line mapping at www.sustrans.org.uk





Introduction

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1. Introduction

This report presents an economic appraisal of leisure cycle tourism, and seeks to demonstrate the value of the sector to the Scottish economy. In doing so, the report sets out a clear evidence base upon which the case can be made for further expansion of the sector in Scotland.

As there is already sufficient existing research on mountain bike tourism, this project complements those findings by focusing on leisure cycle tourism and cycling activities. Putting both sets of findings together, we are able to present a complete picture of all cycle tourism in Scotland. In doing so, the report lays out a strategic direction for cycle tourism stakeholders in determining investment roles within the industry at large.

Although this is not the first attempt to illustrate the value of leisure cycling in Scotland, this report is the first of its kind in terms of its scope. It aims to deliver complete coverage of the economic value of leisure cycling in Scotland, including peripheral activities (such as events and the business side of the industry). Integration of all these elements increases the significance of this report to cycle tourism stakeholders: from public bodies involved in cycling, policy makers, cycle business developers, and of course, cyclists themselves. In addition to delivering insight into leisure cycle tourism, this report identifies gaps in existing research of the industry. This should provide valuable information on where to focus future measures related to leisure cycle tourism.

The report concludes by presenting a list of recommendations that, firstly, identify the overarching issues identified with cycle tourism, and, secondly, highlight the areas of greatest potential for future development.



1.1. Structure and content

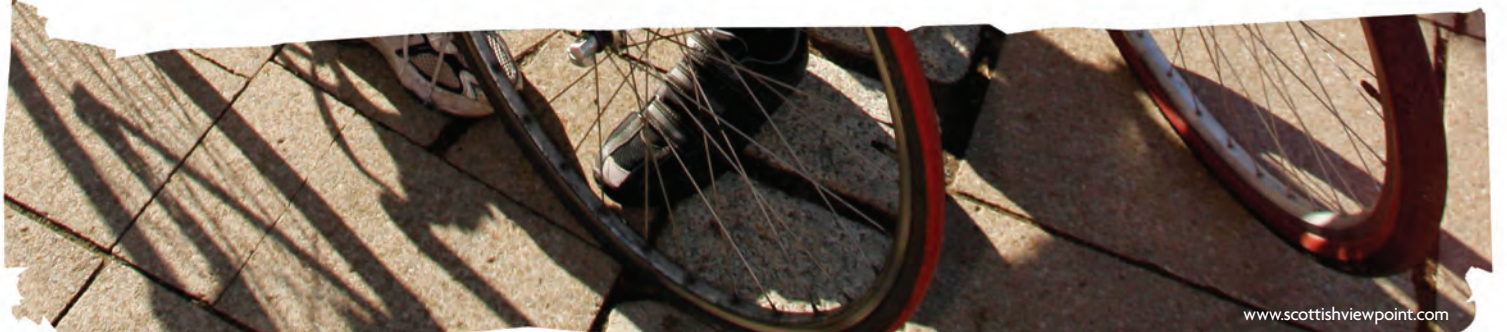
Section 2 provides background information and a review of the current literature on leisure cycling in Scotland, while section 3 carries out analysis of the current economic value of cycle tourism to Scotland. Section 4 presents the results of a survey of businesses, while section 5 highlights a number of 'good practice' examples from overseas that could have relevance in Scotland. In the final part of the document, we present recommendations and conclusions, indicating opportunities for further development of the sector and ways of increasing the economic impact of leisure cycling in Scotland.

The review of the literature offers a better understanding of cycle users' behaviour, patterns of expenditure, and activity preferences, amongst other things. As a result, it should assist stakeholders in understanding current trends and anticipated development opportunities. The report also features updated valuation methodology and calculations concerning leisure cycling. The analysis of the peripheral and direct effects of leisure cycling activities provides a comprehensive view of the contribution of this aspect of tourism in Scotland. Furthermore, the suggestions, recommendations, and evidence of successful cycle tourism industries in other locations around the world will help stakeholders move toward better resource allocation, overcoming identified barriers and enhancing progress.





Background and Existing Findings



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2. Background and Existing Findings

2.1. Concepts

Cycling, as an activity, has been defined in several different ways. Velo Mondial (2010), the European network for cycling expertise, classified cycling into two main categories: utility and leisure, where the former finds purpose upon completion of journey (e.g. commuting), while the latter is instead "...a trip that is undertaken for the purpose of the journey itself and in this sense is not a form of transport". Leisure cycling can be even further compartmentalised based on the level of competitiveness: (I) time trials and competitions, and (II) leisure/family rides. In addition, the cycling industry identifies a small sub-set of leisure/family rides named 'sportives' which add elements of competition designed for more advanced leisure cyclists. Although sportives currently account for only a 20% share of cycle tourism, the potential for an increase is high, as recognised by the Cycle Tourism Forum¹ (2012a).

Another classification of leisure cycling is based on the type of surface upon which the activity takes place: (I) roads, (II) traffic-free paths (generally smooth bound or unbound surfaces and few steep gradients), (III) rougher off-road trails and mountain-based activities. The focus of this report is on non-competitive, non-utilitarian, leisure cycling, i.e. cycle tourism based on quiet roads and traffic-free paths. Leisure cycle activities can be further classified by the duration of holiday activity: (I) day trips, which are the most frequent type of leisure cycling, followed by (II) holiday cycling, where cycling comprises only a part of overall holiday activities, and (III) cycling holidays, using pedal powered vehicles as the main transport mode/activity during the trip.

As a comprehensive report on the economic value of mountain biking (MTB) in Scotland was published by Scottish Enterprise in 2009, there is now a need to understand and quantify the value of the road/path-based segment of leisure cycling. Combined, these reports will provide a comprehensive picture of the value of leisure cycle tourism in Scotland.

The term "leisure cycling" used within this report refers to cycling on roads and traffic-free paths, omitting mountain biking.

The need for support and development of cycle tourism in Scotland has been recognised by the public sector. As a result, a national Cycle Tourism Forum was established in 2010 to enable interested public sector agencies and private representatives to work collaboratively to improve the development, delivery and promotion of cycle tourism in Scotland. The Forum comprises several key cycle and tourism stakeholders such as Sustrans Scotland, Cycling Scotland, Scottish Cycling, VisitScotland, Scottish Enterprise, Cyclists Touring Club, Scottish Natural Heritage, EventScotland, Forestry Commission Scotland, ScotRail, Wild Scotland and Velodays.

2.2. Economics of leisure cycling in Scotland

To understand expenditure behaviours, leisure cycle trips are separated into two groups based on the duration of the activity: (I) single day trips and (II) multiple day tours. Single day cycle trips are almost 100 times more frequent in volume to those covering more than one day. (Eijgelaar, Peeters & Piket, 2011). Including mountain biking, the UK hosted 149 million day-trips and 1.23 million overnight cycle trips, contributing £1.83bn² and £0.41bn to its economy, respectively (Weston et al., 2012). Although overnight trips make up less than 1% of the overall volume, their economic contribution is just under 20% of the total value of cycle tourism. The significant difference between the value and volume can be attributed to the expenditure behaviour patterns and the contribution of accommodation costs to the total expenditure. Expenditure from single-day trips averages £15, and mainly includes the cost of food and refreshments (Adam & Munro, 2009; Ekos, 2009; Sustrans, 2011), while accommodation expenditure for overnight trips alone averages £27 per person per night (Weston et al., 2012). The same authors show that the average multi-day cycle trip is 7.7 days and the direct expenditure per trip averages £350.

As such, it will be beneficial to focus development of leisure cycle activities on multiple day tours rather than single day trips.³ This is mainly due to accommodation expenses, but also to the greater propensity to spend more on multi-day trips. Not only should multiple day tours be encouraged by leisure cycle promoters, but research has shown that larger groups tend to spend more per cyclist per day (Lumsdon, Downward & Cope, 2004). The same study shows that those who are on

1 The Cycle Tourism Forum draft report is unpublished work.

2 All figures derived from Euro (€) are expressed in Pound Sterling (£) using average exchange rate of 0.8046, retrieved from The Financial Times on 15/11/2012.

3 Expenditure on multi-day trips can rise to more than 300% of expenditure for those covering only a single day.

cycle holidays for a longer time (more days) would be likely to spend more money per day per cyclist. To prevent, or at least minimise displacing expenditures from other activities, trips where cycling is the main activity should be preferred over holidays where cycling is just one of many activities (Ekos, 2009).

Given the current absence of relevant data on leisure cycling in Scotland, the following assumptions have been made in order to calculate Scotland's share of leisure cycling within the UK:

- Scottish cycling share is proportionate to its population share in the UK – 8.4%
- The share of leisure cyclists among the total number of cyclists in Scotland is 45%, based on UK wide research completed by Sustrans (2012).
- The share of leisure cyclists among non-utility cyclists (holiday and recreation cycling) is 65%, based on the draft research from the Cycle Tourism Forum (2012a).

These figures will help in providing a value for different aspects of leisure cycling in Scotland.

2.3. Prior research

Several prior studies have attempted to establish the value of cycle tourism in Scotland. Some of them have indicated that the findings are *estimates* (Sustrans, 2011), some covered only one aspect of leisure cycle tourism (Ekogen, 2010), while the others covered only a particular region within Scotland (Highland Cycle Forum, 2004) or paired cycling with other activities like walking (Bryden et al., 2010). Although the attempt to deliver a figure on the value of cycling/cycle tourism/active holidays has been recognised, it lacks integration and definition.

In 2009, the European Parliament published a comprehensive study on the value of the European cycle network (EuroVelo), in which Scotland is represented by means of two routes: the North Sea and Atlantic Sea Cycle Routes. In addition to providing insight on a variety of aspects related to the EuroVelo cycle network, the EU report presents up-to-date figures on expenditures from cycle tourists. It was estimated that there are 2.295 billion cycle tourism trips in Europe with a value in excess of £35.5 billion per annum (Weston et al., 2012). Although overnight trips contribute only 20.4 million trips per year in the EU, their economic contribution of more than £7.2 billion generates significant revenues for the leisure cycle tourism industry.

In 2003, VisitScotland, the Scottish national tourism agency, delivered a report on the expenditure of UK residents' cycling holidays in Scotland, identifying £219 million that was contributed by these cyclists. This report did not include international visitors to Scotland who cycled while on holiday. According to the International Passenger Survey, 2% of overseas visitors to Scotland cycle while on holiday, while the number of overseas visitors that cycle during their holiday in the UK is 1.5% according to the research by VisitBritain.⁴ Although these two resources might be using different research methodology, it is obvious that Scotland attracts more people to cycle while on holiday than the UK average. As these figures include cycle tourism in general, and do not separately account for mountain biking as opposed to leisure cycling activities, care should be taken — since the Scottish MTB industry is well developed, it is possible that it makes higher contribution to this difference in cycle share.

The proportion of cycle tourists from all Scottish tourists varies depending upon the data source, and fluctuates anywhere between 1 and 4% (in some locations even 7%) (Cycle Tourism Forum, 2012a; Velo Mondial, 2010; Lumsdon, 1999; Highland Cycle Forum, 2004). However, in spite of this variation, sources most often cite 3% as the contribution. Therefore, this figure will be used as a base for further calculations within this paper.



⁴ Both figures are cited by Cycle Tourism Forum (2012).

2.4. Trends

In spite of clear negative trends on the volume and value of tourism activities in many Western European countries (Weston et al., 2012), including Scotland, (VisitBritain, 2010), cycle tourism has not been equally affected by recent economic turmoil. In general, cycling is experiencing an upward trend, which is expected to both continue and increase (Intel, 2009; Weston, et al., 2012). Moreover, the change in trend is visible, as the opinion of many experts is that the market for cycle tourism is increasing, denoting a change from previous “static” estimates (Weston et al., 2012). Usage data from the Scottish section of the National Cycle Network (NCN) also supports these estimates. By comparing figures from several Sustrans monitoring reports, there has been an increase of 170% UK-wide in the number of trips on the NCN between 2003 and 2010 (Sustrans, 2003; Sustrans 2007; Sustrans 2012). Although this growth was anticipated, the 7% increase between 2009 and 2010 indicates that the active holiday market is increasing in Scotland, despite other economic difficulties and the global downward trend in the tourism sector. Between 2007 and 2010, growth in the number of cycling trips on the NCN in Scotland has been almost double the national average, 44% compared to 23% across the UK. Assuming a close relationship between the number of cyclists and the number of trips undertaken, it is reasonable to further assume an increase in the number of leisure cyclists.

In 2003, a study on cycle tourism strategy in Scotland counted 1.1 million (non-utility, holiday-related) cyclists (The Market Specialists, 2003). Given the lack of a recent count on the number of leisure cyclists in Scotland, for the purposes of certain calculations within this report, a 60% increase over the intervening decade has been used in order to estimate the number of leisure cyclists in Scotland in 2012. This is considered a conservative estimate given that this represents only 35% of total growth in UK cycling over the same period. Using this assumption, there are a total of 1.76 million holiday cyclists in Scotland. Therefore, in order to examine the leisure cycle segment (excluding mountain biking), 1.15 million leisure cyclists (65% of all holiday cyclists) has been set for all calculations within the report.

2.5. Cycle tourism during times of economic hardship

There are a number of important factors that could cause an increase in cycle tourism during an economic downturn, which would normally be expected to result in a decrease in tourism activities. These include personal financial constraints that encourage people to take fewer overseas and more domestic holidays, thereby increasing the likelihood of taking bikes with them on their trips. As perhaps only 3% of cycle tourists come to Scotland from overseas,⁵ increases in domestic travel will have a greater impact on cycle tourism than losses from potential reductions in cycle tourists from overseas. Furthermore, an increase in leisure cycle activities is not only linked to changes in domestic holiday travel patterns, but also in a greater awareness of active holidays, an increase in the popularity of sportive events, (Cycle Tourism Forum, 2012a) and an increase in the overall number of cyclists (Grous, 2011).

However, care must be taken when estimating additions of value to tourism from an increase in leisure cycling activity. Adding new activities, similar in type to those already present in the market, frequently causes displacement; instead of attracting new users, current ones move from existing activities. Therefore, additional value from the new activity might to a certain extent be at the cost of current ones, distorting the overall value of active holidays (Bryden et al., 2010). Industry experts expect that a significant proportion of future growth in cycle tourism will come specifically from displacing other activities (Ekos, 2009). Noting this factor is important to prevent double counting and inflating the potential additional benefit of leisure cycling.

2.6. Behaviour and market characteristics

According to survey data collected by Sustrans, the majority of cycle tourists travel alone (41.4%) or in small parties of two or three (49.5%) (Lumsdon, Downward & Cope, 2004). The same study shows that leisure cyclists are predominately male (72%) between the ages of 30 and 50 years. Given the current age demographic of cycle tourists, there will be benefit in further market development to attract cyclists of different ages (Lumsdon, 2004). However, care must be taken not to displace economic activity from other types of active holidays. Nonetheless, progress could be made by attracting a younger, affluent population with an already developed propensity towards cycling.

5 Varies depending on the source: Lumsdon, Downward & Cope, (2004) quote 5.8%, Visit Britain and Office for National Statistics, both cited in Cycle Tourism Forum, (2012a) quote 1.5% and 2%, respectively. We are here assuming an average of these figures.

Furthermore, there is an interesting connection between group size and the average expenditure per person per day, whereby an increase in the size of the group results in greater expenditure per capita. Not only does group size relate to the amount of expenditure, it is also linked to the duration of the journey. In other words, the larger the cyclist group the longer it stays, resulting in a higher expenditure per cyclist. Interestingly, there is no link between the experience level and expenditure, suggesting that measures to develop cycle tourism can be equally applied to a wide range of cyclists.

Another important aspect of cycle tourists is their need to travel light, carrying as little as possible on the bike. This has an important effect of generating economic activity in smaller and more remote locations. Motorised tourists, on the other hand, even when their (main) activity is outdoor-based, are more likely to pack necessities at the beginning of the trip and carry them to their destination, thereby reducing the contribution to the local economy. Furthermore, since cyclists consume more energy per day (up to 5000 calories for touring cyclists (Livestrong, 2011)), food and refreshments are going to have a greater share in their budget. Also, since cyclists tend to use rural and low traffic roads they are more likely to visit less-traditional facilities compared to motorised tourists, thus widening income distribution (Highland Cycle Forum, 2004).

Although the vast majority of cycle tourists in Scotland come from within the UK, their share varies dependent on the data source and the destination location. For example, according to research on cycle tourism in the Highlands, overseas cyclists account for around 30% of all cycle tourists in the area. (Highland Cycle Forum, 2004), which is significantly greater than the national average of 2% (Office for National Statistics, 2012). Furthermore, overseas tourists make 20% greater per capita contribution to tourism expenditure than domestic tourists (Scottish Government, 2011). Therefore, cycle tourists from outside the UK should be recognised as a valuable market segment.

2.7. Manufacture, retail, rental and maintenance

Figures provided by the Association of Cycle Traders (2012) show there are around 2,500 cycle shops in the UK (Scottish share not identified), contributing to sales of 3.7 million bicycles worth £1.62 billion (Grous, 2011). Since 2010, there has been a 28% increase in sales, clearly indicating that cycle expenditure is buoyant in spite (or even because of) the economic difficulties. Although the Scottish contribution is not disclosed, applying a Scottish per capita share of 8.4% to the total value of cycle retail (sales, maintenance and accessories), the value of cycle sales in Scotland can be expected to contribute around £200m to the Scottish economy.⁶ However, although more than 95% of cycle tourists visiting Scotland come from within the UK, a great number bring their bikes, as opposed to purchasing them in Scotland. Those holidays where cycling is not the main activity tend to see tourists rent bicycles if they participate in cycling. Since holidays where cycling is just one of the activities make up 90% of all cycling trips in volume (Bryden, 2004), the importance for offering rental services is high.

2.8. Environmental impacts

Cycle tourism brings significant environmental benefits, compared to many other types of tourism, for several reasons. Cycle tourists tend to have a higher propensity to use public transport when reaching the start point for their tour, or for making onwards connections (Weston et al., 2012). Not only do cyclists use personal motorised transport to a lesser extent, but even when they drive to reach cycle starting points, the distance travelled tends to be shorter than ones made by more conventional holiday-makers.

Furthermore, it has been recognised by Gomez et al (2005) that holiday cyclists have a higher propensity towards active type commuting (such as cycling, walking, using public transport) than non-cycle holiday-makers. Cycle holidays thus also serve as a platform to engage people in other modes of cycling, in particular to commuting, where environmental impacts of substituting motorised transport are high.

6 8.4% of UK cycle retail value of £2.47bn, according to Grous (2011).



The Contribution of Cycle Tourism to the Scottish Economy

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3. The Contribution of Cycle Tourism to the Scottish Economy

3.1. Research limitations

Due to the nature of leisure cycling, different sources have recognised that monitoring behaviour or sourcing quantified information is notoriously difficult (Weston et al., 2012; Cycle Tourism Forum, 2012a; Bryden et al. 2010). Leisure cycling is not location based, i.e. cyclists do not require a specific location to perform activities; therefore, this makes monitoring and measuring it a more challenging task. As opposed to other activity based holidays, such as kayaking, golfing, sailing or even mountain biking, there is rarely a “hub” (“base” or “centre”) for leisure cycling. Therefore, it is difficult to access information on leisure cycling due to its fundamental characteristic of being a geographically spread and independent activity. Furthermore, the lack of a body/organisation that controls assets used by leisure cyclists and monitors their economic behaviour compounds this issue even more. As no similar research equal in scope or comprehensiveness to the one represented here has been published yet, the data for establishing the value of Scottish leisure cycling is scarce, scattered and diverse in source. This issue has also been identified by the European Parliament in its most recent report on cycle tourism (Weston et al. 2012). Due to these issues, there is sub-optimal data availability on the economics of leisure cycling in Scotland. However, the analysis conducted in this report does provide a sound basis upon which the value of the industry can be demonstrated. Therefore, and in order to minimise these issues and increase the robustness of the research, several different methodological approaches have been applied to the data presented within this paper.

3.2. Multipliers

When assessing the impact of tourism activity, in addition to direct expenditure, wider economic effects, such as supplier and income effects have been included. The ‘supplier effect’ represents an increase in sales as a result of increased economic activity that will lead to more goods being ordered and thus benefitting supplier(s). An ‘income effect’ reflects an increase in employment or locally spent income as a result of more sales. Adding these two factors to the direct expenditure on cycle related activities results in better representation of its economic impact. Therefore, these income and supplier effects have been represented by a single multiplier value of 1.57. The figure is based on impacts identified from the Scottish Tourism Multiplier Study (STMS). The multiplier is used with some calculations to better reflect cycle tourism’s economic contribution⁷

3.3. Health impacts

It is well-known that active travel provides an extensive range of health benefits, both physical and mental. For example, the Transform Scotland Trust in its 2008 report ‘Towards a Healthier Economy’ calculated the monetised health benefits of moving from Scottish to Continental shares of cycle use. The document concluded that benefits from reduced morbidity were between £1 to £2 billion per annum (Warren, 2008). However, as cycle tourism is not expected to create a significant shift in modal share towards cycling overall, a different methodology is used to monetize the current health benefits from leisure cycling.

A recent study from the London School of Economics (Grous, 2011) indicates UK-wide benefits of £128 million per year from cycle-related savings in absenteeism. The study examines the costs to the UK economy from the lack of physical activity that can be offset by cycling. A similar approach to the one featured in Grous’s report is used here to calculate health related economic benefits of leisure cycling in Scotland.

According to the NHS (2012), 37.2 million people ride a bike every year. Taking the figure of 1.15 million leisure cycle tourists that reside in Scotland⁸, it is possible to calculate the value of health savings from the reduction in absenteeism due to engagement in leisure cycling. The following formula has been applied:

7 The source (STMS) is somewhat dated. However, correspondence with Scottish Enterprise has indicated that more recent input/output table multipliers for “hotels, catering & pubs” (which best reflects where tourists spend their money) has indicated a multiplier of 1.56. As such, we have decided to retain the multiplier value sourced from the STMS.

8 85% of all cycle tourists in Scotland, according to Ekos (2009).

$$VLC = NSC \times VUK / NUK$$

$$VLC = 1,150,000 \times £128,000,000 / 37,200,000$$

Where:

VLC – Value of health benefits to Scottish economy related to leisure cycling

NSC – Number of leisure cyclists that reside in Scotland

VUK – Value of cycle related health benefits to UK economy

NUK – Number of cyclists in UK

This would indicate that the Scottish economy stands to benefit by almost £4 million in savings from reduced absenteeism.

3.4. Leisure cycle events

Cycle events are an important contributor to the promotion, engagement and development of cycle tourism. Their role in contributing to the value of cycle tourism is receiving recognition and a corresponding continued growth in these events' market share is expected.

The concept of cycle events varies from single day cycle-related activities aimed at families and children (such as 'The Highland Perthshire Big Day'), to cycling festivals featuring various cycle-related activities aimed at many types of visitor, to more competitive and specialised multi-day events (such as the 'Tour of Britain'). Regardless of the structure and focus of the event, it is unquestionable that events promoting cycling bring significant contribution to the overall value of leisure cycling in Scotland. Therefore, this report has looked in more detail and examined the role and value of leisure cycle events in Scotland. Research conducted as a part of this project, and featured later in the document, supports the finding that these cycle events provide high value to businesses in their vicinity.

Due to the geographical characteristics of Scotland, and the (recent) strong development of mountain bike tourism, a number of off-road, trail-based events have contributed to many local economies. As mountain bike events are usually less dispersed and geographically more concentrated than road/cycle path-based touring and sportive events, the economic contribution of a MTB event to a particular area is much more obvious. Nonetheless, the contribution of leisure (non-competitive) road/cycle paths-based events to the overall value of leisure cycle tourism is considered to be high. In order to quantify the value, we have identified leisure cycle events in Scotland and established their economic value. As this data is not centrally collected or monitored, this report has relied on the cooperation of event organisers to provide the information required for valuation. Since attempts to source information for this study have received limited response, the figures presented are less robust and precise than we would like. Nevertheless, they provide a good indication of the importance of cycle events.

Event participants are frequently accompanied by their friends and/or family members, who often make an equal if not greater contribution to the expenditure since participants spend most of their time cycling. The report on the economic impact of the 2009 'Caledonian Etape' recognises this and values guests/visitors as significant economic contributors (Adam & Munro, 2009). Therefore, in order to establish the economic value of a cycle event, the total number of visitors (including participants) is included.

Apart from a few larger ones, the majority of cycle events are small in size, attracting a few dozen to a hundred cyclists and have limited staffing. Therefore organisers rarely monitor the economic impact of the event, and can provide only limited, if any, data. As counting participants only will not show the correct value, we estimate the addition of 1.5 visitors per participant is included in the calculation. This number is based on a visitor study of the Caledonian Etape where spectator to participant ratio was 1.6 to 1 (Adam & Munro, 2009). A similar relationship was found with the 2012 'Ride of the Falling Rain' and the 2011 'Tweedlove Bike Week' events. As most often the number of participants per event is an easily accessible figure, the approximation of the total number of people and their expenditure per event is generated. In addition to visitors that attend as participants' guests, a number of general spectators also attend the event, and their contribution is recorded as well.

EventScotland, a government agency involved in supporting events in Scotland, has invested more than £12 million in various cycling events since 2003 (Event Scotland, 2012). Its support for cycling events has increased over recent years, and reached £2.24m in 2011. However, the majority of the events that EventScotland supports are either mountain biking events such as the 'Mountain Bike World Cup' or the 'IXS Downhill Cup', or competitive, specialised road events such as the 'Tour of Britain' or 'UCI Track World Cup'. EventScotland has, however, supported leisure cycling-related events like 'Tweedlove Bike Week' and 'Highland Perthshire Cycling Festival'. These events are comprised of different activities ranging from off-road, trail-based mountain biking to road competitions and family-focused cycle activities.

Apart from direct contributions from cycle events through an increase in sales and economic activities in the area, events contribute to wider, indirect economic benefits through the promotion of cycle routes, destinations, facilities and activities. For example, investment in road signage initiated by a cycling event is expected to increase the accessibility of the route even when the event has concluded, generating more cycle tourism in that area. Holding an event in a less developed area will also increase that location's public recognition through the direct involvement of participants and media coverage of the event. As a result, additional visitors and tourism traffic are expected to be generated in the area. However, events also tend to increase the effect of economic displacement, as people who would otherwise contribute to expenditure are being discouraged from visiting the area because of the event's implications for traffic and the availability of accommodation.

Furthermore, a certain proportion of the expenditure might not stay within Scotland creating a leakage effect, where economic benefits leave the country. For example, if staff involved at the event and organisations involved are sourced from outside Scotland, a proportion of economic benefits from the event will leak outside the country.

Although these implications can in some cases severely affect expenditure and the contribution to the national economy, the quantification of those kinds of indirect and wider economic effects are not covered in the scope of this paper. Nevertheless, it would be reasonable to assume that wider economic benefits outweigh leakage and displacement effects and thus improve the economic picture of a certain area that in some cases might otherwise stay excluded from tourism-related activities.

Another important economic aspect of cycle events is their role in extending the cycling season, decreasing the present issue of seasonality with outdoor-based tourism in Scotland. As the majority of nature/outdoor based tourism activities are held between April and September, placing an event at the fringe, or even outside, of these months can help to lengthen the season and bring more economic benefit due to better distribution of tourism activities throughout the year.

Economic impact of events

Upon analysis of the data provided by event organisers and that available through event related reports, an average estimated expenditure per event visitor has been calculated. Direct expenditure mainly results from food and refreshment, transport and accommodation costs for overnight visitors. Analysis of results found that on average event participants staying away from home overnight spent £65.90 per day, while visitors staying only for a single day spend £16.40.

Values presented in the table below take account of variations across events in terms of such factors as: the ratio of overnight vs. day visits; the number of participants to spectators; and fixed to variable costs. Given difficulties in securing precise data for certain values (e.g. percentage of participants staying away from home overnight or participants' spend on transport), some are estimates based on data from previous research on cycle events and communication with event organisers.

Detailed analysis has revealed the total economic contribution of 17 events featured in table 1 of £5.6 million. In addition to direct expenditure (food, accommodation, refreshments, etc.), it includes estimated costs to the participants and spectators (travel expenses, entry fee, etc.) multiplied by a factor of 1.57 to include wider economic effects. The table does not represent the full list of cycle events. When the value of small events is included, and those where data has not been revealed or received from the organisers, it is anticipated that the total impact of leisure cycle events in Scotland could be easily double the £5.6 million.

Although benefits from professional, spectator-focused competitive events such as the Tour of Britain or Halfords Tour Series are not included within the scope of this report, they positively influence the whole cycle industry, therefore bringing benefits to cycle tourism as well. For example media coverage and related cycle-focused commercial activities aimed to attract spectators to events are expected to encourage more people to get involved in cycling, even as cycle tourists. In 2011, the Scottish stage of the Tour of Britain attracted 12,500 spectators with almost £1 million of net impact to the Scottish Borders and Dumfries and Galloway (Cycle Tourism Forum, 2012b).

Table 1: Sample list of leisure cycle events in Scotland⁹.

Name of the Event	Number of Participants & Visitors ¹⁰ in 2012.	Economic Impact
TweedLove Bike Week	1200	£780,000
Highland Perthshire Cycling Festival	7773	£2,136,000
Ride of the Falling Rain	135	£26,000
Tour O' Borders	400	£31,000
Cycle Fun Day	1550	£68,000
Big Kirkcaldy Bike Day	400	£19,000
Ullapool Sportive	500	£86,000
Pedal for Scotland	16000	£1,028,000
BealachMor	1430	£423,000
BealachBeag	726	£209,000
Skye Sportive	328	£124,000
Stewartry Sportive	468	£137,000
Galloway reCycle Sportive	554	£139,000
Solway Sportive	380	£64,000
The Mull Cyclosportive	370	£129,000
Cairngorm Classic	195	£154,000
Tour the Forth	1000	£80,000
TOTAL	33409	£5,633,000

As seen from this report, cycle-related events are a significant contributor to economic activity from cycle tourism. An estimated direct contribution to the Scottish economy of £5.6 million is only one of several benefits associated with these events. Visible from our business research, among others, cycle events create a positive economic effect in their wider geographical area. Regardless of whether an event is aiming to attract families and lay cyclists, or enthusiasts and competitors, its contribution is unquestionably noticed, in particular in more rural areas where (cycle) tourism is a well-developed source of income. Cycle events serve as a platform not only to engage people in leisure cycling but also to use bicycles for utility/commuting as well (Gomez et al., 2005). This effect creates additional benefits from cycling, reaching beyond the direct economic and health benefits from leisure cycle activity.

Furthermore, cycle events can be a platform to decrease the negative effect of seasonality. By placing cycle events and related programmes outside the months of April and September, economic benefits can be further increased. Also, preventing overlapping and grouping of the events within the narrow summer time period might attract returning cyclists to participate in more events per year as they are more evenly spread.

In order to maximise the potential of cycle events, Scottish industry experts recognise the need to create a funding stream to support smaller events. As EventScotland supports some of the larger cycle events, there is a need to balance this and establish financial support for smaller events. This measure is expected to generate even stronger economic benefit, spreading the impact more widely and involving small local communities. This external funding would also help the organisation of fringe and low-season events.

Cycle events that attract overnight visitors generate significantly higher economic activity. Overnight stays generate on average more than four times the expenditure compared to day cyclists.¹¹

Furthermore, accommodation services (unless privately organised by sleeping in motor homes, wild camping sites, etc.) directly benefit local communities, thus minimising (if not eliminating) the leakage effect, keeping money within the area. Therefore, in order to maximise economic yield, the focus should be on multiday events, or those encouraging visitors to stay overnight.

⁹ The list does not represent every leisure cycle event in Scotland, but the ones listed by Event Scotland, Bikeeventsscotland.com, Sientries.co.uk and Handsonevents.co.uk websites.

¹⁰ In some cases, the number of participants, visitors or impact has been estimated.

¹¹ £65.9 for overnight and £16.4 for day cyclists, respectively

3.5. Infrastructure and employment

It is clear that investment in cycle infrastructure unquestionably benefits not only cyclists, but also the wider economy, as according to Grous (2011) the benefit to cost ratio of investment in cycling infrastructure is 19 to 1. Similarly, a report from the European Cyclists' Federation (2012) indicates that the benefit of investment in cycle infrastructure significantly outweighs development costs. The report found that while the expected cost of building the EuroVelo network is between £1.2bn and £2bn, its direct contribution to the economy is £4-£5.7bn.

However, if the infrastructure is not primarily developed for or used by leisure cyclists, and also accommodates utility cyclists, it is difficult to segregate users and precisely define the contribution from leisure cycling alone. Sustrans has been monitoring some of the 2,100 miles of the National Cycle Network (NCN) routes in Scotland by placing automatic cycle counters along the paths and surveying users by 'intercept surveys' (interviewing people on the route). These reports show leisure cycling in the UK accounts for 45% of all trips on the National Cycle Network, which represents the largest share among all cyclists (Sustrans, 2012). Furthermore, outside urban areas, the share of leisure trips is expected to be significantly higher, in particular on some routes connecting England through the Central Belt to the Highlands and Islands: for example National Routes 1, 7 and 77. Routes passing through western Scotland and the West Coast such as Route 78 are also focused primarily on the accommodation of leisure cyclists touring through Scotland. Sustrans has calculated indicative estimates of leisure cycling on the National routes in Scotland to be £100 million per annum (Sustrans, 2011); this provides a good indicator of the value of leisure cycle infrastructure to the Scottish economy.

According to a report on employment in the sustainable transport sector, an average of £210,000 is spent by each local authority every year on cycling infrastructure in the UK, adding 2.11 full time jobs per authority (Ekogen, 2010). This figure is supported by the most recent report on cycling expenditure by Spokes (2012). It finds that Scottish local authorities spend £7.5m from their own budgets on cycle related capital expenditure, an average of £235,000 per authority.

In order to calculate the value of infrastructure development for leisure cycling, the following formula has been applied:

$$V_{LC} = V_{UK} \times P_p \times P_{LC} \times M$$

$$V_{LC} = £41,000,000 \times 8.4\% \times 45\%$$

Where:

V_{LC} – Value of leisure cycle-related infrastructure in Scotland

V_{UK} – Value of cycle-related infrastructure in the UK

P_p – Percentage of the Scottish population in the total UK population

P_{LC} – Percentage of the leisure cyclist in the total number of cyclists

Although cycling infrastructure is not developed equally throughout Scotland, the average cumulative amounts spent by all 32 local Scottish authorities is greater than £6.5 million, providing substantial benefit to the Scottish construction sector. Furthermore, a study made by the London School of Economics in 2011 (Grous, 2011) on the value of cycling in the UK shows that the economic contribution from cycle infrastructure related employment is £41 million in salaries and £9 million in taxes at the UK level. Salaries from infrastructure related to leisure cycling in Scotland contribute just over £1.5 million per year to the overall value of the industry.

3.6. Value from direct expenditure

As already identified, expenditure related to accommodation (for overnight trips), food, refreshment, and miscellaneous items (i.e. souvenirs, transport to/from cycling start/end point) contribute most significantly to leisure cyclists' expenditure. Forty per cent of spending accrues to the cost of accommodation, with 30% to food and refreshment, and the remainder to miscellaneous goods and services (Institute of Transport and Tourism, 2009). Although purchases like souvenirs and similarly items will be limited by the capacity to carry them on a bike and the need to travel light, this limitation to greater expenditure

is compensated by the need to source provisions locally. This means that businesses along the route and local communities are likely to benefit more from leisure cyclists than general tourists who might purchase food and other provisions at the location of departure. As previously mentioned, the increased consumption of energy for active holiday-makers is expected to generate even more revenue to local businesses. Furthermore, this expenditure has an extended effect on the economy through its impact on the supply and income of the stakeholders involved. Therefore, similar to calculating the value of cycle events and infrastructure, a multiplier of 1.57 is applied to account for this effect.

In order to increase robustness, due to the diverse and deficient data set, several different data sources were used to calculate the value of leisure cycling in Scotland. To calculate the expenditure of leisure cyclists in Scotland, the following formulas are used:

Leisure cycle share from Scottish tourism income

Leisure cycle value based on the value of day and overnight leisure trips

Scottish leisure cycle share based on the value of cycle tourism in the UK

Scottish leisure cycle share based on the value of overnight cycle trips in the UK

$$V_{LC} = V_T \times P_C \times P_{LC} \times M$$

$$V_{LC} = \text{£}3,470,000,000 \times 3\% \times 65\% \times 1.57$$

Where:

V_{LC} – Value of expenditure from leisure cycling in Scotland

V_T – Tourism expenditure in Scotland

P_C – Percentage of expenditure cycle tourists contribute to total tourism expenditure

P_{LC} – Percentage of leisure cyclists in the total number of cycle tourists

M – Supplier and Income multiplier

According to a report from VisitScotland, total tourism expenditure of both domestic and international tourists in Scotland in 2011 was £3.47 billion¹² (VisitScotland, 2011). Applying a leisure cycle contribution of 3% and the income and supplier multiplier, the total value of expenditure from cycle tourism in Scotland is £106.23 million.

To further increase the robustness of these calculations, a different methodology was used, where the calculation was based on the number of leisure cycle trips multiplied by the expenditure involved. The Dutch Centre for Sustainable Tourism and Transport (Eijgelaar, Peeters & Piket, 2011) indicates 149 million and 1.23 million cycle trips for day and overnight tourism-related cycling, respectively, in the UK in 2012 (Weston et al., 2012). Applying an 8.4% Scottish share to the UK figure, Scotland generated 12.51 million day and 103,320 overnight trips. Overnight trips are comparable with values in the 2003 cycle study on Scottish cycling tourism (The Market Specialists, 2003). Although the expenditure of day tourists varies depending on the source, between £9.29 (Sustrans, 2011), £15 (Ekos, 2009), to more than £16 (Adam & Munro, 2009), the value of £15 will be used, being the most recent value featured in a cycling report from the European Parliament (Weston et al., 2012).

Daily expenditure from overnight cycle tourists is between £30 (Sustrans, 2011) and £60.5 (Adam & Munro, 2009), with £46 identified by VisitScotland (2011) as the average day spend for overnight tourists in Scotland. With an average overnight trip lasting 7.7 days, direct expenditure is just over £350.

¹² The report states that the GB/domestic market is valued at £3.018bn and accounts for 85% of the total tourism market in Scotland. Therefore domestic and international markets combined are valued to £3.4707bn.

To calculate the total expenditure of leisure cycle tourists in Scotland, the following formula has been applied:

$$V_{LC} = [(N_{OT} \times E_{OT}) + (N_{DT} \times E_{DT})] \times P_{LC} \times M$$

$$V_{LC} = [(103,320 \times £350) + (12,500,000 \times £15)] \times 65\% \times 1.57$$

Where:

V_{LC} – Value of expenditure from leisure cycling in Scotland

N_{OT} – Number of overnight tourism trips in Scotland

E_{OT} – Expenditure from overnight trips

N_{DT} – Number of day trips

E_{DT} – Expenditure from day trips

P_{LC} – Share of leisure cycling in total cycle tourism

M – Supplier and Income multiplier

Therefore, the value of expenditure from leisure cycle tourism in Scotland using the ‘number of trips’ method is £228 million per year.

Applying similar methodology to the following formula using £2.3bn, the value of UK cycle holidays identified in the study by the EU Parliament (Weston et al., 2012), the Scottish share in the value of leisure cycling is £125.58 million.

$$V_{LC} = V_{UK} \times P_P \times P_{LC}$$

$$V_{LC} = £2,300,000,000 \times 8.4\% \times 65\%$$

Where:

V_{LC} – Value of expenditure from leisure cycling in Scotland

V_{UK} – Value of cycle tourism in UK

P_P – Percentage of the Scottish population in the total UK population

P_{LC} – Percentage of leisure cyclists in the total number of cycle tourists

We have also replicated and adjusted the methodology used in the 2003 report by VisitScotland examining the value of cycle holidays in Scotland. Using the volume and value of cycle trips in UK, we identified the value of leisure cycle tourism in Scotland. The following formula has been applied:

$$V_{LC} = (V_{OT} + V_{DT}) \times P_P \times P_{LC}$$

$$V_{LC} = (£433,580,000 + £1,838,700,000) \times 8.4\% \times 65\%$$

Where:

V_{LC} – Value of expenditure from leisure cycling in Scotland

V_{OT} – Value of overnight cycling trips in the UK

V_{DT} – Value of day cycle trips in the UK

P_P – Percentage of the Scottish population in the total UK population

P_{LC} – Share of leisure cycling in total cycle tourism

The European Parliament identified that the UK hosts 149 million day trips and 1.23 million overnight trips per year. Their value has been estimated at £1,838.7m and £433.58m for day and overnight trips, respectively (Weston et al., 2012). Therefore, applying the Scottish share in leisure cycling to UK cycle tourism activities, the estimated contribution of leisure cycling (excluding MTB) in Scotland is £124 million.

3.7. Total value of leisure cycle tourism in Scotland

As anticipated, direct expenditure accounts for the largest portion of the overall value obtained from leisure cycling. However, as can be seen in the above calculations, the value of this direct expenditure varies significantly depending on the methods and data source used.

Regardless of the approach, the total contribution of leisure cycle tourism to the Scottish economy will be a sum of different factors within the industry. Above we have presented calculations of the value of benefits from cycle tourism events, infrastructure development, direct cyclists' expenditure and health savings. This is now brought together to generate the complete picture. Therefore applying the following formula, the total monetised value of leisure cycle tourism in Scotland is between £117.20 and £239 million per year, depending on the methodology and data used.

$$\sum V=H+E+I+X$$

$$\sum \text{min } V=£3,960,000+£5,633,000+£1,549,000+£106,234,000$$

$$\sum \text{max } V=£3,960,000+£5,633,000+£1,549,000+£228,247,000$$

Where:

H – Savings from health

E – Value of leisure cycle events

I – Value of leisure cycle-related infrastructure jobs

X – Value of expenditure from leisure cycle tourists



Keith Marshall

3.8. Gross Value Added

An important element for the assessment of economic impact is the establishment of the activity in question's role in the value of goods and services produced on a national (Scottish) level. This is most easily understood as Gross Value Added (GVA). It is the value of goods and services produced in Scotland deducted from intermediate consumption, e.g. taxes. When adjusted for inflation, Scottish tourism's 2012 GVA is just over £3bn (Scottish Government, 2010a). In order to calculate the contribution from leisure cycle tourism, the following formula is applied:

$$\begin{aligned} \text{GVA}_{\text{LC}} &= \text{GVA}_{\text{S}} \times P_{\text{C}} \times P_{\text{LC}} \\ \text{GVA}_{\text{LC}} &= £3,000,000,000 \times 3\% \times 65\% \end{aligned}$$

Where:

GVA_{LC} – Gross Value Added of leisure cyclists in Scotland

GVA_{S} – Gross Value Added of tourism activities in Scotland

P_{C} – Percentage of cycle tourists in the total number of tourists in Scotland

P_{LC} – Percentage of leisure cyclists in the total number of cycle tourists

Applying a cycle tourism market share (3% of total tourism expenditure) and the assumption that the value of leisure cycle will follow its market share of 65%, the GVA of Scottish leisure cycling is £58.5 million.



Keith Marshall

3.9. Summary of economic impacts

The table below summarises the contribution from the five different segments of economic impact discussed in the sections above.

Source	Method	Value
Health	Scottish share of leisure cycle related health benefits to the UK economy	£4.0 million
Events	Value of (identified) leisure cycle related event activities	£5.6 million
Infrastructure	Scottish leisure cycle share of the annual value from employment in cycle related infrastructure construction in the UK	£1.5 million
Direct Expenditure	Leisure cycle share derived from the Scottish tourism income	£106.2 million
	Value of leisure cycle derived from the value of leisure cycle trips in Scotland	£228.2 million
	Scottish leisure cycle share derived from the value of cycle tourism in the UK	£125.6 million
	Scottish leisure cycle share based on the value of overnight cycle trips in the UK	£124.1 million
Gross Value Added	Scottish leisure cycle tourism market share in the Scotland-wide tourism GVA	£58.5 million



Business Research

Hugo van Tilborg

4. Business Research

In addition to looking at the value of cycle tourism, attention must be given to the supply side. As already mentioned, the present lack of data highlights the need for primary research. In response to this, we carried out a survey questionnaire. It aimed to receive responses from businesses that provide products and services to cyclists, such as accommodation facilities, food and refreshment providers, bike rentals and cycle tour operators. By acquiring information from those businesses that operate within cycle tourism, it is then possible to better understand some important issues with cycle tourism, such as: (I) factors that prevent stronger development of leisure cycling (and are mainly affecting the supply side), and (II) measures that would benefit not only cyclists (being the demand side of the industry), but also businesses providing services to leisure cyclists.

Although obtaining quantitative information would be preferred, the lack of available data renders this approach impossible at present. Furthermore, it is unlikely that this information can be obtained from local business owners and operators that may be providing services to cycle tourists (e.g. accommodation, renting and retail businesses) because in many cases small business owners are focused on their own operations and ultimately have limited insight into the overall economics and wider impacts of their cyclist patrons. This observation was also confirmed by the questionnaire results.

As neither Scotland nor its sub-regions have a central or official body that monitors the performance of leisure cycle tourism operators, we had to get the information on the value from businesses operating in Scotland. As many service providers are not easily identified, we found that even indexing suppliers would be a task in itself. Our initial research showed (I) difficulties in identifying the share of cycle tourism in businesses' income, and (II) a complete lack of monitoring of economic performance (mainly with small cycle tourism service providers, e.g. B&Bs, small event organisers, family run cafés).

These issues led us to develop a different, qualitative approach to get more useful information from businesses involved in cycle tourism. By sharing thoughts, anticipations, observations and experiences, we have managed to get a better insight into the issue.

4.1. Questionnaire survey

A questionnaire with seven open-ended questions (see appendix [A]) was designed to reach key stakeholders within the cycle industry. The questionnaire was distributed through email and an online survey tool. Respondents were businesses within the hospitality, retail and cycle services (cycle-tour agencies, bike hires, etc.) operating in Scotland.

The questions were designed to provide information on:

- The type of business and its role within the industry.
- Trends within cycle tourism related to the business.
- The role of cycle tourism to the business.
- Barriers and opportunities for the further development of cycle tourism.

4.2. Survey results

As the questionnaire aimed to provide qualitative type responses rather than quantitative figures, a relatively small response sample was sought. From more than 100 questionnaires sent using both email and online survey channels, 37 responses were received, out of which 26 were fully completed, providing sufficient volume of information to engage in qualitative analysis. The largest segment of respondents (46%) operated within the accommodation sector, representing B&Bs, hotels, hostels and campsites, followed by retail, repair and service facilities (bike shops, cafés, food places) and cycle tour operators, with 30% and 23%, respectively. Although responses varied in content length and depth, several distinct conclusions can be drawn.

Trends

A general trend among different cycle-related service suppliers is an observed increase in the total numbers of road cyclists. In some cases this has been at the expense of other activities like MTB cyclists, which indicates the possibility of the displacement effect from these other activities. A further trend is an increase in leisure cyclists, such as families and women engaging in cycling as part of their holiday activity. Cycle tour operators see an increase in novice but more affluent cyclists

looking for a complete package of activities (including transport, repair service, quality accommodation, side activities, etc.). An increase in the number of new cyclist segments combined with a decrease in overseas cycle tourists was recognised by some accommodation providers, and aligns with our earlier expectation of a shift towards more domestic tourism destinations during times of economic hardship.

Products sought

Businesses indicated that customers frequently sought information on bike hire facilities near their place of accommodation. Local area cycling maps were also frequently requested, as well as basic cycle-related facilities such as clothes washing, drying rooms and secure cycle storage. Businesses surveyed also frequently recognised the need to offer services cyclists would like to spend money on, as cycling is sometimes being regarded as being a 'free holiday'. Offering services and setting up commercial facilities should increase the opportunities for cyclists to spend on things which are of value to them.

Obstacles and opportunities for the development of cycle tourism

Businesses recognise the value that leisure cycle tourists bring to their premises. The majority of respondents identified cycle tourists as a *valuable* segment of the customer base and expressed a desire to extend their involvement in this market. However, a significant number of respondents stressed the need for greater involvement from local authorities, tourist agencies, and other bodies responsible for the promotion of tourism. Many businesses feel "too small" to have an impact on increasing the number of cycle tourists. Suggestions to establish partnerships between cycle tourism agencies and business operators or even between businesses themselves have been proposed, as this is believed to bring synergetic benefits.

Greater investment in communicating what (rural) Scotland has to offer to leisure cyclists is the single most frequent suggestion among survey respondents. Mapping long distance (circular) routes to match an increase in the number of long distance cyclists should help to meet the need of this rising cycling segment. Respondents believe that cyclists are unaware of the benefits of cycling in rural Scotland, such as quiet roads, varied landscape, challenging hills, and attractive scenery.

Better integration with public transport has also been recognised as an opportunity to engage more people in holiday cycling. An example was suggested of enabling cyclists to 'hop on/off' buses with their bikes, similar to the opportunity often offered to recreational walkers.

Furthermore, a specific recommendation was introduced by a cycle tour operator with an idea to create a hill-climb challenge similar to those walkers and hikers have. Identifying a handful of hills with good road or path surfaces that every enthusiast cyclist should climb could be a response to an already recognised increase in the number of road cyclists.

4.3. Survey conclusions

The underlying conclusions of the business survey are:

- Stronger engagement is required from local authorities/tourism agencies in communicating and promoting leisure cycle destinations and routes. Similar engagement is wanted in establishing partnerships to promote cycle destinations and routes.
- The need to provide more services that cyclists are willing to spend money on.
- Better transport integration in rural areas to decrease (or eliminate) dependency on private transport to bring cyclists to the start/end point of their cycle trip.



Good Practice



Sustrans

5. Good Practice

Scotland is a well-developed and world-famous tourist destination, attracting great numbers of visitors from both overseas and within the UK. Its attributes of unspoilt nature and pristine landscape are combined with a great cultural and historical heritage. This sets Scotland apart from many countries with similar tourism offerings and provides a strong competitive advantage for outdoor-based active holidays. It also makes active holidays in Scotland, in particular cycling and walking, a product that is “easy to sell”. However, Scotland is not the only destination attracting leisure cyclists for its landscape, scenery and natural heritage. Numerous countries have realized the value of leisure cycling and have developed programmes to capture the benefits that it brings. This report therefore looks at good practice in cycle tourism development strategies from some of the leading cycle destinations in Europe and elsewhere, and suggests where some of these practices could be implemented in Scotland.

5.1. Stakeholder support

A common factor identified across the overseas experience is the high level of the support and cooperation between the industry’s stakeholders: businesses operating in the cycle tourism sector, agencies promoting cycling and tourism development, local authorities, and similar interested parties. Initial engagement to establish, develop and maintain cycle tourism programmes has frequently been set up by a government-related or supported body. Even in the US (or Canada) where the private, market economy is strong and government participation is generally low, successful examples show initial involvement/support from the local authority or state government. Examples supporting the need for public sector engagement are numerous, with examples from Europe as a whole, and specific countries such as Denmark, The Netherlands and Switzerland. However, examples from further afield, such as Minnesota, USA, and Victoria, Australia also clearly indicate these benefits.

Federal support in developing cycle-related programmes in several US states is the best example of close relations between a growth in cycling and public stakeholders’ support. In the last two decades, the number of cycle trips in general in the US more than tripled, reaching the UK modal share of 1% (Pucher, Buehler & Seinen, 2011). Although there are many factors that contributed to this increase, the most significant is federal support in providing funds. Between 1988 and 2009 government spending on walking and cycling increased from \$5 million to almost \$1 billion. A very similar situation is visible in Canada, where growth in the number of cycle trips showed a strong increase and cycle modal share exceeded 1.3% due to support from public sector bodies. Notably, the increase in road safety due to infrastructure development is closely linked with an increase in the number of women cycling.

To further support the argument for public stakeholders’ support, examples where leisure cycle share is low or has even faced a decrease in recent years are strongly related to lack of engagement from the relevant bodies. For example, between 2000 and 2005 Ireland faced a dramatic 53% decrease in the number of overseas leisure cyclists (Fáilte Ireland, 2007). The same report, supported by Sustrans, recognised the difficulties national cycle tourism was facing and therefore developed a set of measures and areas of focus. As a result, the downward trend is now being stabilised and is instead experiencing growth. The predominant reason for change in this trajectory is involvement from cycling development bodies.

Although cycle tourism in Scotland is significantly better developed compared to Ireland (or many other developed countries), the cases identified above show the importance of engagement and support from authorities, government and public agencies.

5.2. Next steps

Laying cycle paths and building infrastructure is only one aspect of stakeholder involvement; the integration of various cycle-related operations is also required if we are to see leisure cycling developed. For example, continuous involvement in the promotion and maintenance of routes is an essential part of developing leisure cycle activity. The example from the US state of Minnesota indicates just how important this is. The lack of marketing and promotion of certain parts of the cycle network have led either to a failure to attract cyclist in the first place or to maintain their number at a later point (Pratte, 2006). This unsurprisingly has resulted in a decline in the overall numbers of cyclists, and subsequent economic activity on the route. Moreover, a Transport for London study (2004) has shown that the number of cyclists doubled after resurfacing roads. Numerous international examples stress the need for an integrated and comprehensive approach involving policies, programmes, information provision, land use planning (infrastructure), etc. Studies show that only combined measures result in a greater increase in cycling activity (Pucher, Dill & Handy, 2010; Pucher et al., 2010).

5.3. Transport integration

The picture in Scotland is mixed with regards to bike-rail integration. On the positive side, bikes are allowed on trains on most rail routes in Scotland free of charge. However, there remains significant room for improvement if cycle tourism requirements are to be met. Key constraints highlighted by stakeholders include (I) that the number of bicycles allowed on a train is typically very limited, and (II) that bicycle carriage often requires mandatory prior booking. These factors are likely to provide a significant discouragement to allowing larger groups to travel together, and reduce flexibility in travel planning (in the event of bad weather, mechanical failures or illness).

We recognise that it is not a trivial task to accommodate the requirements of cycle users. The procurement of new rolling stock, or the refurbishment of the existing fleet, to better accommodate cycle requirements is likely to be costly. However, it would seem appropriate that government and the rail industry raise their expectations regarding bike carriage when procuring new rolling stock for use on lines with significant leisure cycle tourism potential. One of the solutions could be to follow the Swiss initiative to legally require providers of public transport to accommodate bicycles on board on popular cycle routes (Weston, 2012).

Few bus operators allow cycles on board and some place the decision at drivers' discretion. This particularly affects islands and popular places outside the rail network. Uncertainty about the option to carry your bike on public transport in cases of mechanical failure, bad weather, injury or just tiredness might deter some cyclists, in particular families and those new to cycling.

Good examples in transport integration can be found in the US and Canada where buses are an integral part of the cycle network. Three-quarters of city buses in the US and Canada are equipped with cycle racks, while in certain cities, such as Portland, this share increases to 100% (Pucher, Garrard & Greaves, 2011). The same authors show numerous international examples where better transport integration allowing cycles on buses can compensate for gaps in cycle paths and trails (Pucher, Buehler & Seinen, 2011). In addition to increasing the number of cyclists in rural destinations, studies show that bus-cycle integration is a cost-effective measure in bringing more revenue than the initial cost of installing racks (Hagelin, 2005). Therefore, integrating bicycles as part of a wide range of public transport modes is expected to create additional benefits to certain popular, but remote cycle locations in Scotland.

5.4. Information and promotion

Technology development, mainly in terms of mapping, navigation and mobile technology has played a role in developing cycling in many countries. Smartphones and similar portable devices with built-in navigation and internet connectivity functions are suitable platforms for better technology integration allowing cyclists easier access to planning and information on leisure cycle activities. Mobile applications and (often) free mapping (e.g. Google, Microsoft) allows integration of information and creation of centralised hubs for cycle routes, cycle events and similar cycle-related material. Mobile applications allow better technology integration which has led to an increase in the number of (urban) cyclists in Vancouver, Canada, which in turn has enabled better route planning and route familiarity (Su et al., 2010).

Online mapping and route planning, coordinated development of cycle events and special cycle rides promoting leisure cycle activities have contributed to the strong development of cycling in Germany (Pucher & Beuhler, 2007). A doubling in cycle share (from 5% to 10%) between 1990 and 2001 was unquestionably supported by the introduction and implementation of technology. Although a significant share of that increase is associated with utility cycling, the measures implemented benefited development of the leisure cycling industry as well. Similar applications of technology are visible in other urban centres around the world, even within the UK, allowing advanced planning and cycle information feed. Therefore, there is no reason why mobile technology should not be applied to promote ex-urban, leisure cycling, mainly in terms of providing a platform for cycle routes.

It is difficult to identify a single measure that would be applicable and would successfully work in every location. However, all of the examples featured above resulted in an increase in cycling activity and thus give a good indication which measures are more successful than others. Creating a full set that will introduce a variety of approaches and measures (some identified above) would unquestionably result in a stronger increase in cycling activity. As identified by Erik Nijland, director of Netherlands Cycling platform, success in cycle tourism lies in the integration of measures. During the 2012 Cycling Scotland Conference in Edinburgh Nijland presented key success factors in cycle tourism development in the Netherlands (Nijland, 2012). The Dutch recognised and exploited their attractive landscape as a basis for the development of cycle tourism. Building roads and paths (infrastructure) to create a network of routes created access to enable cycle activity. Providing services and developing products to suit cyclists, such as accommodation and refreshment facilities, complemented the initial demand for leisure cycling. Marketing and information provision helped to create cyclists' demand. Surrounding all these measures by a constant pursuit of quality has created additional economic value beyond the provision of cycle infrastructure and refreshment facilities. A single leisure cycling organisation, Fietsplatform, ensured strong coordination between different geographical regions and implementation of measures.



Recommendations

6. Recommendations

The recommendations set out below align with the framework used by the Scottish Tourism Alliance in the strategy document, *Tourism Scotland 2020*.¹³ They are grouped in the four 'Priorities for Action' categories used in the Strategy: (I) 'Strengthening leadership and collaboration', (II) 'Knowing our markets', (III) 'Managing the customer journey' and (IV) 'Building sustainable tourism'.

STRENGTHENING LEADERSHIP AND COLLABORATION

Recommendation 1: Strengthen leadership and coordination across the sector

The opportunities for development of the sector would be greatly enhanced by assigning the coordination and leadership role to a single body. This body's tasks would include implementing and/or coordinating marketing, commercial promotion, monitoring, and other essential elements of leisure cycle tourism development. An option would be to strengthen the Cycle Tourism Forum so that it can take up this role. The Forum already has strong representation from key public and third sector stakeholders, and their support, participation and involvement provides a sound basis for the future development of cycle tourism. Other organisations could take responsibility for delivering certain aspects, working in collaboration with the Forum.

The work of the coordinating body would be augmented by greater private sector involvement. As such, it is recommended that stronger links be forged with the Scottish Tourism Alliance, an industry-led consortium of tourism-related operators, in order to deliver a more comprehensive approach to the development of the sector. Links already exist with the 'Developing Mountain Biking in Scotland' initiative (DMBinS¹⁴) and could be developed further. Whatever model is pursued, there would be a requirement for funding to support and enable the body to develop a strategic work plan and to coordinate delivery.



Recommendation 2: Deliver better collaboration between local/regional stakeholders

Stronger leadership is required to facilitate greater collaboration between local, regional and national stakeholders. Networks and partnerships need to be strengthened. Small businesses (e.g. accommodation providers, event organisers, cycle tour operators, food & refreshment facilities) on their own can have only limited reach in communicating opportunities for leisure cycle tourism. Creating partnerships amongst local/regional cycle-related service providers would increase the recognisability of particular areas, and would assist in attracting more cyclists, and hence more income. Not only does there need to be greater integration between private and public bodies, but there also needs to be greater coordination across public bodies in different geographical regions.

KNOWING OUR MARKETS

Recommendation 3: Establish more comprehensive monitoring arrangements

Attention needs to be given to improving monitoring of cycle tourism, specifically with regard to the economic impacts of cycling and in particular with regards to its wider impacts in more rural areas.

¹³ <http://scottishtourismalliance.co.uk/wp-content/uploads/2012/06/Tourism-Strategy.pdf>

¹⁴ <http://www.dmbins.com>

This report concludes that there is a need for better, more consistent use of cycle counters and associated data collection. There is also a need to gather knowledge to better understand the motivation and expectations of cycling visitors so that Scotland can make better provision for them. Ideally, one organisation would be made responsible for collating, analysing and disseminating data.

We recommend that the monitoring of cycle tourism be considered alongside the refresh of the Cycling Action Plan for Scotland (CAPS). Furthermore, steps should be taken to explore how monitoring cycle tourism could be coordinated amongst partners and groups (e.g., the National Cycling Interest Group and the Cycle Tourism Forum). This would feed into and support the key set of indicators for CAPS at a national level, as well as local authority priorities at a more local/regional level.

Recommendation 4: Focus promotional activities on key market segments

Two key, but quite distinct, market segments display the strongest development potential. Firstly, an increase in the number of 'sportives' will help promote the 'cycle specialists' market.¹⁵ Secondly, and at the other end of the market spectrum, the 'beginners' market (e.g. families, women, and newcomers to cycling) will require a different set of measures (e.g. the provision of safe, off-road cycle routes). Attention also needs to be given to widening the age demographic away from the core 30-50 market. Meanwhile, there should be a greater focus on promoting multiple day tours, given that they are more financially remunerative than single day trips.

Recommendation 5: Brand Scotland as a top destination for cycle touring

Establishing Scotland as a must-see destination for long distance cyclists would serve as a vehicle to attract increasing numbers of cycle tourists worldwide and particularly from across the Continent. A lead organisation should be given the role of working with industry to develop appropriate branding for Scottish leisure cycle tourism. Although Scotland is already well known for what it can offer to mountain bikers, it is necessary to increase the profile of the leisure cycle tourism offer. As opposed to mountain biking, where participants access only one or a few destinations/centres, leisure cycling takes cyclists through different types of landscapes, covering a much greater variety of scenery; it also introduces cultural and historical elements, already very well developed and promoted.

Recommendation 6: Develop key themed areas for leisure cycle tourism

Attention should be given to developing themed areas for leisure cycle tourism. Theming could generate higher economic returns, as cycle tours could be set up to be (i) multi-day, (ii) around rural, less developed tourist areas, (iii) linked to already well-established tourist attractions, (iv) a way to attract new market segments to cycling. The coordinating body could be tasked with, firstly, developing guidelines on theming and, then, working with collaboration with local/regional stakeholders in putting in place themed routes.

MANAGING THE CUSTOMER JOURNEY

Recommendation 7: Continue the development and marketing of cycle routes

In order to meet the CAPS (Scottish Government, 2010) target of 10% of all journeys by bike by 2020, there is a need for local and national government to continue investment in the development of new cycle routes and the maintenance of those already in place. The economic benefits of investment in cycle infrastructure are extraordinarily high, often demonstrating benefit-cost ratios as high as 19:1 (Grous, 2011). Therefore it is clear that even moderate investment in assisting the development of leisure cycle development would create multiple benefits. For example, while two EuroVelo routes currently run through Scotland, (EuroVelo Route 1 – The Atlantic Coast Route and EuroVelo Route 12 – The North Sea Cycle Route), they are not being developed, advertised and promoted to their full extent.

15 Developing "hill-climb" type challenges, discussed above, can also serve to create a continuous demand from specialised cyclists. Not linking those challenges with a particular event would encourage individual or small groups of cyclists to engage independently (the majority of cyclists cycle individually or in small groups). This can be expected to attract more cyclists and would likely spread cycling activity more equally throughout the year.

THEMED CYCLE TOUR OPPORTUNITIES

Scotland's natural landscape is rich and diverse, appealing to a wide range of cyclists. It varies in scenery, terrain challenges and length between service points. The need to identify and communicate these benefits is essential in attracting more people to leisure cycling.

There are numerous examples from around the world where links have been forged between cycling and the natural and/or cultural environment. For example, cycle tours have built up around vineyards in areas associated with wine production. New Zealand, California, South Africa and France link their wine regions' already established wine production reputation with cycling. Cycle routes developed around a specific theme can help create a brand and wider recognition of the area, and assist in reaching new markets that are not already engaged in leisure cycling.

A natural association in Scotland would be to use its worldwide recognition as the birthplace of whisky, along with several other strong touristic associations with rural Scotland, such as culture (castles) and wildlife (birds), amongst others. The development of cycle routes built around whisky distilleries could work well due to several factors: (I) almost all whisky distilleries are set up and situated in rural areas often surrounded by scenic landscape, away from high levels of traffic, (II) a majority of single malt distilleries are concentrated in the Speyside area, making it favourable for the development of less challenging routes of shorter distance, and (III) general whisky tours mainly attract similar age groups to those already participating in touring/leisure cycling.



Recommendation 8: Enhance information provision and technology integration

There is a need for greater centralisation of information on leisure cycle tourism opportunities (as has been provided for mountain biking through the DMBiS project). At present, information is spread around different websites, making finding suitable routes a time-consuming task. A central body could work with local authorities, cycle clubs and cycle operators to identify, create and promote routes, thereby providing cyclists with a better experience in finding information on where to cycle. Work is already underway to improve the cycling information available on VisitScotland.com and to make that information more accessible. In addition, consideration could be given to creating a central web portal to direct users to all sources of cycling information across Scotland.

An opportunity exists to utilise digital technology to access, communicate and understand cyclists' needs and preferences before, during and after their visit; this could increase the efficiency of targeting customers and developing products and services to suit them. Greater integration of these technologies (such as portable GPS-enabled navigation devices and social media channels) with cycle tourism marketing and communications activities could play a significant role in contributing to an understanding of cycle tourism-related market behaviours.

BUILDING SUSTAINABLE TOURISM

Recommendation 9: Continue to support cycle events, and extend this support to smaller events

In order to maximise the potential of cycle events, a funding stream should be put in place to support smaller events. As EventScotland supports some of the larger cycle events, there is a need to balance this and establish financial support for smaller events. This measure is expected to generate strong economic benefit, spreading impact more widely and involving small local communities. The external funding would also help organising fringe and low-season events.

Recommendation 10: Create a development strategy for the growth of cycle tourism

The Scottish Tourism Alliance strategy states that there is a 'need to work together at business, local and national level to maximise the potential of our rich tourism assets'. To coordinate and support further progress of cycle tourism in Scotland, there is a need to have clearly defined goals and objectives. Developing a strategy to support current growth and further progress of cycle tourism is an essential part of progressing with a sustainable tourism agenda in Scotland. If an adequately resourced central coordinating body is established for cycle tourism, this would provide a basis from which to encourage coordination between the industry's key stakeholders and initiate development and delivery of a comprehensive development strategy for the growth of cycle tourism in Scotland.





Summary and Conclusion

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7. Summary and Conclusion

This report demonstrates the economic importance of leisure cycle tourism to the Scottish economy. The sector provides between £106 and £228 million in direct expenditure and £58.5m in gross value added (GVA). Combined with other economic contributors such as health benefits, employment from leisure cycle related infrastructure, and cycle events, the total value is estimated to be between £117.2m and £239m.¹⁶ The value of direct expenditure from leisure cycling aligns with the £119m presented in the economic study of mountain biking in Scotland (Ekos, 2009). Similarly, the mountain biking contribution of £68m to Scottish GVA is comparable to that found by this report.

Taking the economic contribution from the mountain biking and leisure cycle tourism sectors together, the combined value is between £236.2m and £358m per year¹⁷, with the cumulative contribution to GVA of £129m. This represents up to a 63% increase in nominal value from the £219m figure produced by VisitScotland in 2003.



¹⁶ The relatively high difference in values is due to the different data sets used and methodology applied.
¹⁷ 2009 MTB values are inflation-adjusted.

As well as the aggregate economic impact of leisure cycle tourism, the report highlights certain particular facets of the sector. It highlights the role of leisure cycling in improving economic progress of rural, less developed destinations. The report also demonstrates specific characteristics of cycle tourism: where a significant portion of expenditure and overall economic benefits are being retained within the local community, this creates additional (economic) value that other types of tourism activities are less likely to show. Compared to many other types of activity holiday, the overall benefits of cycling are far greater than direct economic impact, reaching from health to environment and a shift away from sedentary lifestyles.

Having established the economic value of leisure cycle tourism, this report goes on to present a set of recommendations that could lead to a systematic and strategic approaches to the development of leisure cycling. A key recommendation is the further establishment of a coordinating body for the sector, to plan and coordinate monitoring, support and development for the leisure cycle sector. Returning to the overall theme of the report, we expect that implementation of these recommendations will lead to a further expansion in leisure cycle tourism's contribution to the Scottish economy.



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References



References

- Adam, J., & Munro, S. (2009). *Etape Caledonia Economic Impact Assessment 2009*.
- Association of Cycle Traders. (2012). About the Cycling Experts. Retrieved from <http://www.thecyclingexperts.co.uk/the-cycling-industry/opening-a-bike-shop/>
- Bike on Tours. (2000). Developing Cycle Tourism.
- Bryden, D. M., Westbrook, S. R., Burns, B., Taylor, W. A., & Anderson, S. (2010). *Assessing the economic impacts of nature based tourism in Scotland*.
- The Market Specialists, N. (2003). *A Cycle Tourism Strategy for Scotland*.
- Cycle Tourism Forum. (2012a). Cycling Research Overview (Unpublished draft).
- Cycle Tourism Forum. (2012b). Email correspondence with Neen Kelly.
- Danish Cultural Institute. (2009). Cycling for a Change. *Cycling for a Change*. Edinburgh.
- Eijgelaar, E., Peeters, P., & Piket, P. (2011). European Cycle Tourism: Tool for Sustainable Regional Rural Development? *aep.wur.nl*, 1–18. Retrieved from http://www.aep.wur.nl/NR/rdonlyres/D3255A0B-D9AB-4EF3-93EE-EE059BA76DAF/141086/036_Piket.doc
- Ekogen. (2010). *Employment in Sustainable Transport*.
- Ekos. (2009). *Economic Value of Mountain Biking in Scotland*.
- European Cyclists' Federation. (2012). Why it pays to invest in cycling tourism. European Cyclists' Federation.
- EventScotland. (2012). Cycling Investments.
- Fáilte Ireland. (2007). *A strategy For the Development of Irish Cycle Tourism*.
- German National Tourist Board. (2012). Cycling in Germany. Retrieved from <http://www.germany.travel/en/leisure-and-recreation/cycling/cycling.html>
- Gomez, L., Sarmiento, O., Lucimi, D., Espinosa, G., Forero, R., & Bauman, A. (2005). Prevalence and factors associated with walking and bicycling for transport among young adults in two low-income localities of Bogotá, Colombia. *J. Phys. Act. Health*, 2, 445–449.
- Grous, A. (2011). *The British Cycling Economy*. London.
- Hagelin, C. (2005). *A return on investment of Bikes on Bus Programs*. Tampa.
- Highland Cycle Forum. (2004). *The Value of Cycling in the Highlands and Islands of Scotland*.
- Institute of Transport and Tourism, & Centre for Sustainable Transport and Tourism. (2009). *The European Cycle Route Network Eurovelo*.
- Land's End John-O'-Groats association. (2012). Cycling impact.
- Livestrong. (2011). The Pro Cyclist's Diet. Retrieved from <http://www.livestrong.com/article/196657-the-pro-cyclists-diet/>
- Lumsdon, L., Downward, P., & Cope, A. (2004). Monitoring of cycle tourism on long distance trails: the North Sea Cycle Route. *Journal of Transport Geography*, 12(1), 13–22. doi:10.1016/j.jtrangeo.2003.10.007
- Lumsdon, L. M. (1999). *EuroVelo The Market for Cycle Tourism*. Brussels: EuroVelo.
- Mintel. (2009). *Cycling Holidays - UK*. London.
- NHS. (2012). Benefits of Cycling. Retrieved from <http://www.nhs.uk/Livewell/fitness/Pages/Cycling.aspx>
- Nelson, A. (2006). *Livable Copenhagen: The Design of a Bicycle City*. University of Washington.
- Nijland, E. (2012). Cycling Tourism in the Netherlands. *Cycling Scotland Conference 2012*. Edinburgh: Netherlands Cycling Platform.
- Office for National Statistics. (2012). *International Passenger Survey*.

- Open Street Map. (2012). Europe/EuroVelo. Retrieved from http://wiki.openstreetmap.org/wiki/WikiProject_Europe/EuroVelo
- Pratte, J. (2006). *Bicycle tourism: on the trail to economic development*. doi: http://pcag.uwinnipeg.ca/Prairie-Perspectives/PP-Vol09/PP_Vol-09-1.pdf#page=68
- Pucher, J., & Buehler, R. (2007). At the frontiers of cycling: Policy innovations in the Netherlands, Denmark, and Germany. *World Transport Policy Practice*, 13(9), 8–57.
- Pucher, J., Buehler, R., & Seinen, M. (2011). Bicycling renaissance in North America? An update and re-appraisal of cycling trends and policies. *Transportation Research Part A: Policy and Practice*, 45(6), 451–475. doi:10.1016/j.tra.2011.03.001
- Pucher, J., Dill, J., & Handy, S. (2010). Infrastructure, programs, and policies to increase bicycling: an international review. *Preventive medicine*, 50 Suppl 1, S106–25. doi:10.1016/j.ypmed.2009.07.028
- Pucher, J., Garrard, J., & Greaves, S. (2011). Cycling down under: a comparative analysis of bicycling trends and policies in Sydney and Melbourne. *Journal of Transport Geography*, 19(2), 332–345. doi:10.1016/j.jtrangeo.2010.02.007
- Scottish Government. (2010a). *Scottish Annual Business Statistics*.
- Scottish Government. (2010b). *Scottish Transport Statistics*. Retrieved from <http://www.scotland.gov.uk/Topics/Statistics/Browse/Transport-Travel/TablesPublications/STS29Ch11#>
- Scottish Government. (2010c). *Cycling Action Plan for Scotland (CAPS)*. Retrieved from <http://www.scotland.gov.uk/Resource/Doc/316212/0100657.pdf>
- Scottish Government. (2011). *Tourism and Culture Statistics*.
- Spokes. (2012). *Annual Cycle Funding Survey*. Edinburgh.
- Su, J., Winters, M., Nunes, M., & Brauer, M. (2010). Designing a route planner to facilitate and promote cycling in Metro Vancouver, Canada. *Transport Research Part A*, 44, 495–505.
- Sustrans. (2003). *The National Cycle Network Route User Monitoring Report*.
- Sustrans. (2007). *The National Cycle Network Route User Monitoring Report*.
- Sustrans. (2011). *Walking and cycling outcomes for Sustrans in Scotland: assessment against Key Performance Indicators*.
- Sustrans. (2012). *The real cycling revolution How the face of cycling is changing*.
- The Dominion. (2011). Rolling Green. Retrieved from <http://www.dominionpaper.ca/articles/4197>
- Transport for London. (2004). *Business case for cycling in London (Draft)*. London. Retrieved from <http://www.tfl.gov.uk/assets/%0Adownloads/businessandpartners/business-case-for-cycling.pdf>
- Velo Mondial. (2010). *Cycling, Leisure and Tourism* (Vol. 685). Amsterdam. Retrieved from http://cordis.europa.eu/fetch?CALLER=MSS_NL_RESU_EN&ACTION=D&DOC=562&CAT=RESU&QUERY=0125c7201b20:08bf:2aeebc49&RCN=45133
- VisitBritain. (2011). *The UK Tourist Statistics 2010*.
- VisitScotland. (2003). UK Residents' Cycling Holidays in Scotland 2003, 1–6.
- VisitScotland. (2011). *The key facts on tourism in 2011*.
- VisitScotland. (2012). Visitor Research - UK. Retrieved from http://www.visitscotland.org/research_and_statistics/visitor_research/uk_visitors.aspx
- Warren, J. (2008). *Towards a Healthier Economy*. Edinburgh. Retrieved from <http://www.stsg.org/star/2011/JolinWarren.pdf>
- Weston, R., Davies, N., Lumsdon, L., McGrath, P., Peeters, P., Eijgelaar, E., & Piket, P. (2012). *The European Cycle Route Network EuroVelo*. Retrieved from <http://www.europarl.europa.eu/studies>

Appendix:

Survey questions used in business questionnaire

Questions	
1.	What is the size of your operations in Scotland? (Please provide an answer with information on number of people employed, customers served or financial turnover.)
2.	What is the value and importance of cycle tourism to your organisation? (Please provide an answer in words, numbers or percentages.)
3.	Do you see any trends in cycle tourists visiting your business? (e.g. change in their number, product/service preferences)
4.	What services/products do cycle tourists demand most from your organisation? (e.g. maps, types of products/services, information on where to cycle, attractions/facilities/events)
5.	Where do you see the most potential for increasing cycle tourism-related business for your organisation? (e.g. type of product/service you offer, market segments of cyclists that you serve)
6.	What do you feel are the key barriers to growth of cycle tourism for your organisation? (e.g. state of cycling infrastructure, road safety, transport integration, price of bicycles and equipment, access or quantity/quality of cycling attractions, number of supporting services (repair shops, cafes, places to eat), or internal factors such as insufficient budget or managerial support)
7.	Do you have any other comments that might help us better understand the value of cycle tourism in Scotland (either related to your organisation or the industry in general)?

Glossary

Active holiday	Holiday where physical activity takes major or important part of holiday time.
Cycling holiday (cycle tourism)	Holidays using pedal powered vehicles as the main transport mode/activity during the trip.
Gross Value Added	The value of goods and services produced in Scotland deducted from intermediate consumption, e.g. taxes.
Holiday cycling	Holiday where cycling comprises only a part of overall holiday activities.
Leisure cycle tourism / leisure cycling	Gravel and road surfaced cycling where a trip is undertaken for the purpose of the journey itself and hence excludes utility cycling. For the purpose of this report, leisure cycling does not include mountain biking.
Mountain biking (MTB)	Cycling off road on mountainous terrain, not including cycling on (cycle) paths.
Multiplier effect	Effect in economics where an initial amount of spending leads to increased consumption spending and so results in an increase in national income greater than the initial amount of spending.
Sportives	Leisure cycle events with added elements of competition (e.g. time challenges), designed for more advanced leisure cyclists, and non-professional cyclists.
Utility cycling	Cycle activities where purpose is found upon completion of journey.



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