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# THE VALUE OF CYCLING TO THE SCOTTISH ECONOMY

Report for Cycling Scotland  
February 2018

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# 1. Introduction

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The purpose of this report is to estimate the value of cycling to the Scottish economy. The Scottish Government has a vision of 10% of all everyday journeys to be made by bike by 2020. Funding is also being put into developing mountain biking and leisure cycle routes across the country.

There is broad acceptance that cycling and improved cycling infrastructure can have a significant contribution to the economy. If the level of cycling increases to meet the Government's vision, then the economic benefits for Scotland will become even more significant.

Various studies have attempted to calculate the economic value of cycling in the UK as a whole, but no study exists that focuses specifically on the cycle market in Scotland. This report aims to help fill this gap in our understanding.

The remainder of this report is set out in the following sections:

- Section 2 explains the research methodology
- Section 3 examines the economic value of the retail sales of bikes and accessories
- Section 4 examines the economic value of bike manufacturing
- Section 5 examines the economic value of cycle tourism
- Section 6 summarises our findings and presents an estimation of the GVA from cycling in Scotland
- Appendix A examines the extent of cycling infrastructure in Scotland
- Appendix B presents an overview of existing literature on the economic value of cycling.

## 2. Methodology

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### 2.1. Research scope

To estimate the economic value of cycling to the Scottish economy, this assessment is principally based on a review of secondary research. The research examines economic data on the major areas where economic benefits are likely to accrue, namely:

- Retail sales of bikes and accessories
- The manufacturing of bikes and accessories
- Cycle tourism (including cycling events).

Certain other economic impacts have been excluded from this assessment, which means that the results presented here for the economic value of cycling to the Scottish economy should be regarded as conservative estimates. Areas of economic activity that have been excluded from the study include the sale of nutrition products, cycle clothing and footwear, as well as:

- Construction and maintenance of cycle infrastructure - construction and maintenance of cycle infrastructure is an investment which creates the environment in which cycling can flourish i.e. it allows economic benefits to be realised. A summary of expenditure on cycle paths and cycle sports facilities in Scotland is included in an appendix.
- Economic contribution of cycling organisations - the work of organisations such as Sustrans Scotland, Cycling Scotland and Scottish Cycling is vital to the continuing success of cycling in Scotland. Sustrans Scotland, Cycling Scotland and Scottish Cycling have a combined turnover of around £27 million. As above, the turnover of organisations is considered an investment rather than an economic benefit.
- Arts and media production - several Scottish media and art companies are involved in the promotion of cycling in Scotland; however due to the wide range of art, media and cultural promotion of these activities, the means of capturing this impact is hard to measure and has therefore been excluded.

The focus is on direct expenditures and hence excludes harder-to-measure, more intangible, and sometimes longer-term benefits such as improved health and reduced congestion and pollution. These wider benefits are extremely important but are outside the scope of this study.

### 2.2. Research stages

The research was carried out between September 2016 and May 2017. It was a desk-based exercise and involved the following stages:

- A literature review of current published evidence and research methodologies on the economic value of cycling in Scotland, the UK and Europe as a whole.
- Stakeholder discussions with organisations that work or hold data on cycling in Scotland, including the Association of Cycle Traders, the Bicycle Association, Cycling Scotland, Cycling UK, Event Scotland, the Forestry Commission, Glasgow Life, Scottish Cycling, Scottish Enterprise and Sustrans Scotland, together with discussions with several cycle businesses. The main purpose of these discussions was to understand what data was available that could inform this research study and to scope out the main economic impacts to include.
- Desk-based review of relevant data. The data came mainly from published sources together with some unpublished data held by stakeholder organisations.
- Data analysis and calculations to fill gaps in our understanding of the economic value of cycling. This was based on a review of secondary data sources, notably the European Bicycle Market 2016 report produced by the CONEBI, the Confederation of the European Bicycle Industries, and modelling assumptions from other sources including the Scottish Government and VisitScotland. The appraisal deployed a consistent method

as that set out the 2016 briefing paper for Scottish Enterprise 'Estimating the Holistic Value of Scotland's Mountain Bike Sector'<sup>1</sup>

- A case study of a Scottish business that has benefitted from cycling in Scotland.

Our research draws on assumptions from a range of publicly available datasets and research. It does not include primary research such as a survey of bike traders or manufacturers, as stakeholder consultations quickly revealed that it would be challenging for traders or manufacturers to share sales or employment data.

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<sup>1</sup> Frontline, *Estimating the Holistic Value of Scotland's Mountain Bike Sector: Briefing Paper for Scottish Enterprise* (2016)

# 3. Retail sales of bikes and accessories

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## 3.1. Data and literature review

In previous studies, the economic value connected to the retail sale of bikes and accessories has been estimated both by considering employment in the sector and by analysing the value of bike and accessory sales.

### Bike retail

In 2011, Grous used UK-wide employment and salary data to estimate that in the UK "employment in the retail cycling sector in 2010 is estimated to have generated around £400m in wages for the local economy and around £80m in income tax and national insurance contributions".<sup>2</sup> He drew upon research published by Ekosgen on 'Employment in Sustainable Transport', which indicated that 20,000 people were employed in the UK cycle industry in 2010 and provided survey data on the nature of employment in the sector.<sup>3</sup>

For Scotland, there is no precise figure for employment numbers or salaries in bike retail. Neither of the two large trade associations – the Bicycle Association and the Association of Cycle Traders – hold data on the number of people employed in the trade in Scotland. There is some data on the number of cycle traders in Scotland. The Association of Cycle Traders has records for 201 retail businesses in Scotland, operating out of a total of 220 outlets.<sup>4</sup> To put this into a UK-wide context, they estimate that there are around 2,800 cycle shops in total in the UK.<sup>5</sup> The Bicycle Association does not have any members based in Scotland, although some members may have outlets in the country.<sup>6</sup>

Further information is available about characteristics of the UK bike retail sector. In their 2016 Bicycle Market report, CONEBI stated that in 2015 "the retail sector for bicycles is estimated, by volume, to be approximately: Halfords (over 400 retail outlets) 33%; Evans (specialist retailer, with c.65 outlets) 8-10%; independent retailers (c. 1400 small outlets) c. 35-40%. The balance is made up by on-line (Wiggle/Chain Reaction), mail order, and supermarkets."<sup>7</sup>

Turning to data on retail sales, there is no publicly available data on annual sales of bikes or accessories either in Scotland or the UK as a whole. This information is not held by the trade associations. GFK (a market research company) tracks sales of bikes across Great Britain, working with retailers to aggregate their sales, and currently cover an estimated 60% of the UK market.<sup>8</sup> However this information is not publicly available. One of the best sources of data on the number of bikes sold in the UK is therefore the previously mentioned European Bicycle Market reports by CONEBI. These provide a detailed annual breakdown of the performance of the UK and European bike markets as a whole. CONEBI report that "[t]he U.K. has no quantified source of information on annual retail sales of bikes, parts, accessories or clothing."<sup>9</sup> They therefore use estimates, based on official import statistics published by HMRC. CONEBI estimated that 3.5 million bikes were sold in the UK in 2015, and that there was €1,020 million in UK bike sales.

CONEBI also provide information on the types of bike sold. They have stated that "informal industry estimates of the split between types of bicycle are: children's 30%; mountain bikes 30%; road 10%; classic/hybrid 26%;

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<sup>2</sup> Grous, Alexander, *The British Cycling Economy. 'Gross Cycling Product' Report* (2011). London: London School of Economics. Commissioned by Sky and British Cycling (p. 9)

<sup>3</sup> Ekosgen, *Employment in Sustainable Transport* (2010). Manchester: Ekosgen. Commissioned by pteg, Campaign for Better Transport and Sustrans

<sup>4</sup> Stakeholder discussions

<sup>5</sup> See <http://www.thecyclingexperts.co.uk/industry/opening-a-bike-shop>

<sup>6</sup> Stakeholder discussions

<sup>7</sup> CONEBI, *European Bicycle Market 2016 Edition* (2016). Brussels: CONEBI

<sup>8</sup> Stakeholder discussions

<sup>9</sup> CONEBI (2016), *op cit* (p. 47)

folding/other 4%”.<sup>10</sup> Regarding e-bike sales in the UK, they state that “The market for electrically assisted pedal cycles (EAPCs) is still extremely small at c. 30-35,000 units.”<sup>11</sup> The Association of Cycle Traders have noted that “The higher-end committed cycle market remains relatively strong” and that “volumes in the mountain bike market have continued to decline, but are being compensated for by the increase in commuter and leisure cycling and the boom in e-bike sales.”<sup>12</sup>

CONEBI reported that in 2015 the average price of a bike in the UK was €300 (£255).<sup>13</sup> They estimated that retail sales in the UK have been relatively stable over the past six years. In his 2011 report on ‘The British Cycling Economy’, for the LSE, Grous used a figure of 3.7 million bikes sold in the UK in 2010, with a total retail value of £1.62 billion and an estimated average price per bike of £439.<sup>14</sup> In their 2016 study on the value of Scotland’s mountain bike sector for Scottish Enterprise, Frontline estimated that the average price of a mountain bike in the UK was £999 (the median price of a mountain bike listed by UK online bike retailer Wiggle). In combination with data from CONEBI on overall bike sales and research by Mintel on the segmentation of the mountain bike market, they estimated that Scotland’s mountain bike retail sector was worth £77 million in 2015.<sup>15</sup>

### Accessories retail

Turning to the sale of bike accessories, in 2010 Grous stated that “no reliable data exists on the value of accessory bike sales in the UK”. He used discussions with industry participants and ONS data to make “an estimated contribution from accessories of £853m in 2010”.<sup>16</sup> This included both equipment such as helmets and pumps, and “soft accessories” such as servicing and repairs. Combined with the value of bike sales, he estimated total retail sector sales of £2.47 billion in 2010. CONEBI have estimated that “bicycle sales account for only about 50% of the total retail value of the U.K. cycle market” with a further 50% deriving from “sales of parts and accessories including tyres, clothing, and from repairs and maintenance”.<sup>17</sup>

## 3.2. Analysis

### Bike retail

We have based our calculations on data collected by CONEBI on estimated sales of bikes and accessories in Scotland. CONEBI estimated that 20.7 million bikes were sold in the EU in 2015, with 3.5 million (16.9%) of these brought by UK customers.<sup>18</sup>

We have used a range of £255 to £850 for the average price of a bike in this assessment. CONEBI estimated that in 2015 the average cost of a bike in the UK was £255. CONEBI estimate that 30% of bikes sold are children’s, and that Halfords, which sells low- to mid-priced bikes for adults and children, has the largest share of the market. Both of these factors will lower the average selling price. However stakeholder consultations revealed that the £255 figure was likely to be conservative in nature and under-value the true value of bike sales. For this reason, we have also used data from UK online bike retailer Wiggle to provide an alternative estimate of the average price of a bike. At the time this analysis was undertaken (June 2017), Wiggle listed 422 bikes for sale, with the most expensive bike listed at £7,000, the cheapest at £20, and the median priced bike at £850. We would suggest that this £850 figure should be used as an upper range figure.

Assuming that Scotland has a 8.4% share of the UK market (based on % share of the UK population) we estimate that Scotland’s retail bike sector was worth around £75 to £251 million in 2015.

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<sup>10</sup> CONEBI (2016), *op cit* (p. 47)

<sup>11</sup> CONEBI (2016), *op cit* (p. 47)

<sup>12</sup> See <http://www.thecyclingexperts.co.uk/industry/opening-a-bike-shop>

<sup>13</sup> Based on exchange rate current as at 10/02/17, using <http://www.xe.com/currencyconverter/convert/?Amount=300&From=EUR&To=GBP>

<sup>14</sup> Grous (2011), *op cit*

<sup>15</sup> Frontline (2016), *op cit*

<sup>16</sup> Grous (2011), *op cit* (p. 10)

<sup>17</sup> CONEBI (2016), *op cit* (p. 47)

<sup>18</sup> CONEBI (2016), *op cit*

**TABLE 3.1. ESTIMATED VALUE OF BIKE SALES IN 2015**

|   |                                   |
|---|-----------------------------------|
| Number of bikes brought in the UK         | 3.5 million                       |
| Average cost/bike                         | £255 - £850                       |
| Total value of UK bike sales              | £896 million - £2,987 million     |
| Scottish share of UK market               | 8.4%                              |
| <b>Total value of Scottish bike sales</b> | <b>£75 million - £251 million</b> |

**Accessories retail**

As CONEBI do not provide estimates of the value of the parts and accessories sales in the EU and the UK, we have developed a method consistent to the one used in the briefing paper for Scottish Enterprise 'Estimating a Holistic Value of Scotland's Mountain Bike Sector'.<sup>19</sup> We assume that in the EU28, the percentage of parts/accessories sales made by UK customers will be the same as the percentage of bike sales, i.e. 16.9%. If the total value of EU parts/accessories sales is £2.131 billion, then the total value of UK parts/accessories sales is therefore assumed to be £361 million. Based again on a 8.4% market share for Scotland, we therefore estimate that Scotland's bike parts/accessories retail sector was worth around £30 million in 2015.

**TABLE 3.2 ESTIMATED VALUE OF BIKE PARTS AND ACCESSORIES SALES IN 2015**

|   |                    |
|---|--------------------|
| Total value of EU bike parts and accessories sales              | £2,131 million     |
| UK share of the EU market in bike parts and accessories         | 16.9%              |
| Total value of UK bike parts and accessories sales              | £361 million       |
| Scottish share of UK market                                     | 8.4%               |
| <b>Total value of Scottish bike parts and accessories sales</b> | <b>£30 million</b> |

**Electric bikes**

Electric bikes are still a small market relative to traditional bikes, but are growing hugely in popularity. Between 2010 and 2015, the total value of EU electric bike sales grew from €588 million to €1.35 billion, while UK sales grew from €20 million to €50 million in 2014. However it should be noted that proportion of electric bikes sold in the UK as a total of EU sales is lower (3.7%) than the proportion for traditional bikes (16.9%).

Following the same sources as in our previous calculations we estimate the total value of the electric bike retail sector in 2015 to be as follows:

**TABLE 3.3. ESTIMATED VALUE OF ELECTRIC BIKE SALES IN 2015**

|  |                     |
|--|---------------------|
| Total value of EU electric bike sales              | £1,086 million      |
| Total value of UK electric bike sales              | £40 million         |
| Scottish share of UK market                        | 8.4%                |
| <b>Total value of Scottish electric bike sales</b> | <b>£3.4 million</b> |

<sup>19</sup> Frontline (2016), *op cit*

# 4. Manufacturing of bikes and accessories

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## 4.1 Data and literature review

The UK bike manufacturing sector is very small, and even smaller in Scotland. One of the main sources of data on the number of bikes manufactured in the UK is contained within the CONEBI annual European Bicycle Market reports which provide a detailed annual breakdown of the performance of the UK and European bike markets as a whole. CONEBI reported that in 2015, bike production in the UK amounted to 53,000 units and that "The main manufacturer is Brompton, with folding bikes; Pashley produces some 'classic' models, as well as 'special needs' bikes. The U.K. market is therefore principally supplied with bicycles imported from the Far East". CONEBI stated that the UK currently accounts for less than 1% of market share for bike production in the EU, in contrast to the year 2000 when 1.2 million units were produced in the UK. CONEBI also provide data on the production of bike parts and accessories, estimating that in 2015 the value of parts and accessories production in the UK was €35 million.

In 2011 Grous used standard industry code classifications and previously published reports to estimate that only around 900 people were employed in bike manufacturing in the UK, and that, based on this figure, "the 2010 contribution of cycling manufacturing was around £22m in salaries and £5m in income tax and national insurance". Ekosgen reported that "The most relevant supply chain activity is therefore distribution, which includes large companies such as Madison and Fisher, which have quite large call centre operations in Great Britain."

In Scotland specifically, although there are no major bike producers there are small, niche manufacturers of bikes and accessories who are creating specialist, high value products, including custom made and bespoke bikes. These include Shand Cycles, which fabricates hand-built custom and production bikes, and Endura, which manufactures clothing at its own facility in Scotland. Endura, which was founded in Scotland in 1993 and supplies clothing and other cycling equipment, is one example of a Scottish business that has seen and taken advantage of the business opportunities in cycling. Endura now employs around 100 people and had a £24.095 million turnover in 2015 (see case study). In addition to manufacturers, there are also distributors of bikes and bike accessories such as 2Pure, which is based in Edinburgh and is one of the UK's biggest bike & bicycle part distributors.

Data provided by Scottish Enterprise lists a handful of companies in the UK that have classified themselves as "Manufacturers of Bicycles" and are registered with an address in Scotland, including Shand Cycles, Kinetics, Theraplay Ltd, Freeflow Technologies Ltd, Veloeye Ltd and Edinburgh Bicycle Repairs Ltd.

Although the bike manufacturing sector in Scotland is low at present, it has the potential to grow, as noted by Frontline who have stated that "there is now once again a movement towards more high-end bikes being built in the UK and Scotland" and that "the mountain bike manufacturing sector... appears to have strong growth potential". Frontline estimated that in 2015 the total value of mountain bike production in Scotland was £0.6 million, and that the total value of mountain bike parts and accessories production in Scotland was £0.3 million.

## 4.2 Analysis

To calculate the value of bike manufacturing in Scotland, we have used data on the average price of a bike and Scotland's share of the UK bike manufacturing market.

According to the most recent edition of the CONEBI report (2016), which was based upon data from 2015, there were 13,140 million bikes produced across the EU as a whole (excluding electric bikes), with 53,000 of these made in the UK.

CONEBI reported that the average cost of a bike in the UK in 2015 was €300. A review of exchange rate figures suggests that this figure equates to an average cost of £255. As noted above, the figure of £255 presented in the CONEBI research is conservative in nature and is likely to under-value the true value of bike sales. To get an upper range figure, we have therefore used a median bike price of £850 from our assessment of bikes for sale by UK online bike retailer Wiggle.

We have based our estimates of Scotland's share of this UK sector value on evidence from the FAME database, which reports that 8 (4.3%) of the 187 UK businesses in SIC 30920 (Manufacturers of bicycles and invalid

carriages) are located in Scotland. Assuming that 4.3% of all bikes produced in the UK will be made in Scotland, this equates to an estimated total value of bike production in Scotland of £580k.

**TABLE 4.1. ESTIMATED VALUE OF BIKE PRODUCTION IN 2015**

|  |                                      |
|--|--------------------------------------|
| Number of bikes produced in the UK             | 53,000                               |
| Average cost/bike                              | £255 - £850                          |
| Total value of UK bike production              | £13.52 million - £45.05 million      |
| Scottish share of UK market                    | 4.3%                                 |
| <b>Total value of Scottish bike production</b> | <b>£0.58 million - £1.94 million</b> |

To get an estimate for the value of the production of bike parts and accessories in Scotland, we have again used data provided by CONEBI. CONEBI estimated that in 2015, the total value of bike parts and accessories production in the UK was €35 million, or £28 million. This is 2.1% of the EU28 market, a higher market share than for bike production. Based on the same 4.3% assumption that was used in the previous calculation, this equates to a total value of bike parts and accessories production in Scotland of £1.2million.

**TABLE 4.2. ESTIMATED VALUE OF BIKE PARTS AND ACCESSORIES PRODUCTION**

|  |                     |
|--|---------------------|
| Total value of UK bike parts/accessories production              | £28 million         |
| Scottish share of UK market                                      | 4.3%                |
| <b>Total value of Scottish bike parts/accessories production</b> | <b>£1.2 million</b> |

# CASE STUDY: ENDURA

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Over 25 years, Livingston-based company Endura has grown from a local company to a global competitor in the production of cycling clothing and accessories. Endura employs around 100 people and manufactures many of its products in its in-house facility in Scotland, using its association with Scotland as a selling point to consumers around the world.

Endura specialises in the design, production and marketing of technical cycle clothing. It exports around 60% of their products into overseas markets such as Germany and the USA. Endura use its Scottishness as a selling point. It associates its brand with traits such as mountains, ruggedness, adventuring and quality products, and use a positive, unthreatening, quirky and interesting image of Scotland to appeal to consumers in overseas markets.

However, companies such as Endura show that there is a place in Scotland for a high quality, innovative and passionate cycling businesses. For further growth, Endura is looking to increase its market share across Europe, start more business-to-consumer sales via the internet, and target China and Korea for online consumer sales. Endura also manufactures custom-printed clothing for cycle clubs, and sees this as another area with significant potential for international sales.

# 5. Cycle tourism

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## 5.1. Data and literature review

Tourism is a vital part of the Scottish economy. Spending by tourists in Scotland contributes about 5% of total Scottish GDP and accounts for around 7.7% of employment.<sup>20</sup> Within this, cycle tourism is an important and growing sector.

Cycle tourism can be broken down into two major categories: mountain biking (off-road trails) and leisure cycling (cycling on roads and traffic-free paths).

In 2009, Ekos<sup>21</sup> estimated that the economic impact of the mountain biking market was expenditure of £119 million, employment of 3,470 FTE and GVA of £68 million. These figures included people where mountain biking was not the main reason or key part of their trip to Scotland, and included all of their trip expenditure. Further analysis for people where mountain biking was the main reason and/or a key part of their trip estimated that the economic impact was expenditure of £46.5 million, employment of 1,360 FTE and GVA of £26.6 million. These estimates included expenditure by day and overnight visitors and used supplier and income multipliers. Recently, Frontline reported that recent research, conducted internally by Developing Mountain Biking in Scotland, indicated that by 2015, the total economic value from people where mountain biking was the main reason and/or a key part of their trip (including day visitors, overnight visitors and local residents) was £90.1 million net of supplier effects, or £141.4 million including supplier effects.<sup>22</sup>

For leisure cycling, in 2013 Transform Scotland<sup>23</sup> used four alternative methods to estimate direct expenditure from leisure cycle tourism. This resulted in an estimated spend of between £106 million to £228 million, depending on the method used.

More recently, Sustrans Scotland and the University of Central Lancashire have developed a Cycle Route Economic Impact Model to estimate the economic impact of cycle tourism and home based leisure usage of cycle routes. The model uses data on the total estimated cycle trips on the NCN in Scotland, the percentage of leisure cycle tourists and the characteristics of these cyclists (e.g. trip distance, group size, trip origin). It estimates expenditure based on trip duration, size of group and whether they are staying overnight or home based. Sustrans estimated that in 2015, the indicative value of leisure cycling and cycle tourism on the National Cycle Network in Scotland was £345 million, with £116 million of this coming from tourists and £229 million from home-based visitors.<sup>24</sup>

Cycle events also have an important economic impact. They vary from mass participation rides, such as Pedal for Scotland, to professional races, dirt and track riding. Event Scotland and Cycling Scotland collect data on the economic impact of events they invest in (see case study), but there is patchy data available on the impact of the myriad smaller and more local events.

## 5.2. Analysis

For leisure cycle tourism, we have used the recent research findings of Sustrans Scotland, which estimated that in 2015, the indicative value of leisure cycling and cycle tourism on the National Cycle Network in Scotland was £345 million, with £116 million of this coming from tourists and £229 million from home-based visitors.

For mountain bike tourism we have used the figure calculated by Developing Mountain Biking in Scotland, which indicated that by 2015, the total economic value from people where mountain biking was the main

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<sup>20</sup> See <http://www.gov.scot/Topics/Business-Industry/Tourism>

<sup>21</sup> Ekos Ltd, *Economic Value of Mountain Biking in Scotland* (2009) (p. 17)

<sup>22</sup> Frontline (2016), *op cit*

<sup>23</sup> Transform Scotland, *The Value of Cycle Tourism - Opportunities for the Scottish Economy* (2013)

<sup>24</sup> Sustrans Scotland, *Leisure Cycling Tourism Guide* (2017)

reason and/or a key part of their trip (including day visitors, overnight visitors and local residents) was £90.1 million net of supplier effects, or £141.4 million including supplier effects.<sup>25</sup>

For events, as we do not have comprehensive data on the numbers of events, visitors and participants, and as many of the economic impacts will be included in the overall tourism calculation, we do not present here a separate calculation of the economic value of cycle events in Scotland.

**TABLE 5.1. ESTIMATED VALUE OF CYCLE TOURISM IN 2015**

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|                                      |                       |
|--------------------------------------|-----------------------|
| Total value of leisure cycle tourism | <b>£345 million</b>   |
| Total value of mountain bike tourism | <b>£141.4 million</b> |

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<sup>25</sup> Frontline (2016), *op cit*

# CASE STUDY: CYCLING EVENTS AND THEIR ECONOMIC IMPORTANCE

Cycling events include mass participation rides and professional races, dirt and track riding. They are organised by many different private and public sector organisations, such as No Fuss Events, Tweedlove, Hands on Events and Enduro World Series.

Many of the biggest events receive investment from Event Scotland. In 2015 these included the Tour of Britain and the Mountain Bike World Cup. The table below presents data from Event Scotland on the results of

| Event  | Audience/<br>spectators | Participants/<br>performers | Staff/<br>volunteers | Economic<br>impact from<br>outside local<br>authority<br>(£m)* | Economic<br>impact<br>from<br>outside<br>Scotland<br>(£m)** |
|--|-------------------------|-----------------------------|----------------------|--|---|
| Etape Loch Ness  | <b>1,468</b>            | <b>3,328</b>                | <b>226</b>           | <b>0.74</b>  | <b>0.51</b>   |
| Selkirk MTB<br>Marathon – British<br>MTB Marathon<br>Championships | <b>1,000</b>            | <b>599</b>                  | <b>70</b>            | <b>0.08</b>  | <b>0.05</b>   |
| Tweedlove Festival   | <b>4,386</b>            | <b>3,967</b>                | <b>308</b>           | <b>0.66</b>  | <b>0.59</b>   |
| Tour Series- North<br>Lanarkshire                                  | <b>5,000</b>            | <b>115</b>                  | <b>45</b>            | <b>0.05</b>  | <b>0.02</b>   |
| Enduro World Series<br>- Round 3<br>Tweedlove                      | <b>3,410</b>            | <b>616</b>                  | <b>200</b>           | <b>0.37</b>  | <b>0.23</b>   |
| Mountain Bike<br>World Cup   | <b>18,186</b>           | <b>1,014</b>                | <b>375</b>           | <b>2.80</b>  | <b>1.00</b>   |
| Tesco Bank Tour O<br>The Borders                                   | <b>5,222</b>            | <b>2,202</b>                | <b>117</b>           | <b>0.56</b>  | <b>0.29</b>   |
| Tour of Britain  | <b>37,500</b>           | <b>120</b>                  | <b>390</b>           | <b>0.48</b>  | <b>1.30</b>   |

\* economic impact generated from visitors within Scotland but outwith the local authority area

\*\* economic impact generated by Rest of UK and World

Another large cycle event is Pedal for Scotland which is organised by Cycling Scotland. They report that in 2015 Pedal for Scotland had an estimated net additional economic impact of £1,107,463. This took into account displacement (money that would have been spent elsewhere in Scotland if the event had not taken place) and supplier and income multipliers. The largest spend for participants was on equipment and preparation for the event.

Other events such as track cycling and cycle-cross are also important in Scotland and growing in popularity every year. Scottish Cycling organises many sports events, which have smaller numbers of participants. In 2015, these included cycling National Championships across a range of disciplines (BMX, closed circuit, cyclo-cross, mountain biking, road race, time trial and track) which attracted a total of 2,848 participants.

## 6. Summary

The following table summaries the impacts that we have been able to calculate within this report. In total, we estimate that in 2015 the economic contribution from expenditure on sales, manufacturing and cycle tourism is estimated to range between £597 million and £774 million. Converting these figures into GVA estimates, based on GVA to turnover ratios by industry division reported in the most recent Scottish Annual Business Statistics, yields an estimated GVA valuation of between £321 million and £367 million.

**TABLE 6.1. ESTIMATED ECONOMIC CONTRIBUTION FROM CYCLING IN SCOTLAND IN 2015**

| Area of expenditure                         | Total economic contribution (£m) | GVA turnover ratio (%) | GVA* (£m) |
|---|----------------------------------|------------------------|-----------|
| Retail sales of bikes                       | 75 – 251                         | 25.8                   | 19 – 65   |
| Retail sales of accessories                 | 30                               | 25.8                   | 8         |
| Electric bikes                              | 3.4                              | 25.8                   | 0.9       |
| Manufacturing of bikes                      | 0.58 – 1.94                      | 25.9                   | 0.2 – 0.5 |
| Manufacturing of bike parts and accessories | 1.2                              | 52.4                   | 0.6       |
| Cycle tourism - leisure cycling             | 345                              | 60.0                   | 207       |
| Cycle tourism - mountain biking             | 141                              | 60.0                   | 85        |
| Total cycling market value                  | 596 – 774                        | -                      | 321 – 367 |

\*GVA (Gross Value Added) measures the is the measure of the value of goods and services produced in an area, industry or sector of an economy. It is the recommended measure of economic impact. Government guidance on economic impact stipulates the importance of using GVA rather than turnover when measuring the economic impact of a sector/activity/region.

Because other economic impacts have been excluded from this assessment, the results presented here for the economic value of cycling to the Scottish economy should be regarded as conservative estimates. Specifically, our estimate does not include: the sale of nutrition products, cycle clothing and footwear; construction and maintenance of cycle infrastructure; economic contribution of cycling organisations; arts and media production; and indirect benefits such as improved health and reduced congestion and pollution.

# Appendix A: Construction and maintenance of cycle infrastructure

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Investment in cycling infrastructure creates the environment in which cycling can flourish. For example, the Association of Cycle Traders note that “Regional variances are impacted by economic influences, market demographics and cycling infrastructure, most notably in London, where the most significant sustainable investment is being made in cycling”.<sup>26</sup>

There are two broad categories of cycle infrastructure: purpose built cycle paths and sports facilities.

## Purpose-built cycle paths

The major providers of cycle path infrastructure are the national cycling charity Sustrans and local authorities.

Sustrans develops the National Cycle Network. Sustrans Scotland has an annual turnover of around £25 million, which is largely match funded. There are approximately 2,371 miles (3,815 km) of National Cycle Network routes in Scotland, including 644 miles of traffic-free routes.<sup>27</sup> Sustrans Scotland also runs a Community Links grant programme, which provides grant funding to local authorities, statutory bodies and educational institutions for the creation of cycle network infrastructure for everyday journeys. There is no readily available data on employment on the National Cycle Network in Scotland that would allow us to calculate economic benefits, although at the UK-wide level Sustrans do report that for the UK “development and maintenance of the National Cycle Network created or sustained 393 jobs in financial year 2014/15, when £114 million was invested”.<sup>28</sup> For Community Links, Sustrans Scotland report that 10 Community Links projects were funded and 11.3 full time equivalent jobs were created, averaging 0.5 full time equivalent jobs per km of route.<sup>29</sup>

For local authorities, cycle campaign charity Spokes prepares an annual survey of cycle funding. In their most recent report they found that in 2013/14 Scottish local authorities spent £8m from their own budgets on cycle related capital expenditure, and that total local authority cycling investment, including externally raised funds, was £18.7 million. <sup>30</sup> According to Ekosgen’s report on employment in the sustainable transport sector, in 2010 an average of £210,000 was spent by each local authority every year on cycling infrastructure in the UK, adding 2.11 full time jobs per authority. <sup>31</sup> In 2011, the LSE estimated an annual employment contribution by UK cycling infrastructure by taking previously published data on the number of people employed and forecasting that these jobs generated almost £80 million in salaries and £19 million in government taxes. <sup>32</sup>

## Sports facilities

In 2014, Scottish Cycling published a facilities strategy which included a list of 130 cycle sports facilities across Scotland. These included 7 track, 12 closed road, 50 mountain bike cross county, 50 mountain bike downhill and 11 BMX facilities.<sup>33</sup> We could not find any data that had been collected on employment in sports cycling infrastructure, although some information is available on expenditure. ‘Developing Mountain Biking in Scotland’ holds data on the total amount of funding that mountain bike centres in Scotland have received, and have recorded that a total of £4.9 million has been invested in a total of 51 facilities, varying from major centres such as Glentress Forest to local facilities in schools.<sup>34</sup>

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<sup>26</sup> See <http://www.thecyclingexperts.co.uk/industry/opening-a-bike-shop/>

<sup>27</sup> See <http://www.sustrans.org.uk/scotland/national-cycle-network>

<sup>28</sup> Sustrans Scotland, *Economic impact of the National Cycle Network - Summary Report* (2015)

<sup>29</sup> Stakeholder discussions

<sup>30</sup> Spokes, *Bulletin 120* (2014)

<sup>31</sup> Ekosgen (2010), *op cit*

<sup>32</sup> Grous (2011), *op cit*

<sup>33</sup> Scottish Cycling, *Scottish Cycling Facilities Strategy* (2014)

<sup>34</sup> Stakeholder discussions

# Appendix B: Overview of existing literature

For this project, we have relied upon several key data sources on the economic value of cycling. In addition, during our research we found several key pieces of literature on the wider economic benefits of cycling in areas such as improved health and congestion and pollution alleviation. The following table presents an overview of existing data that we have consulted during the course of this research project.

## OVERVIEW OF EXISTING LITERATURE ON THE ECONOMIC BENEFITS OF CYCLING

| Name   | Source  | Date    | Description  |
|--|---|---------|--|
| Opening a Bike Shop?                                 | Association of Cycle Traders                            | 2016    | Overview of bike prices and retail trends in the UK.   |
| The Benefits of Investing in Cycling                 | British Cycling   | unknown | Summarises the benefits of cycling to the UK in terms of health, pollution, road safety, psychological wellbeing, poverty, personal independence, local economic activity, liveable cities, journey times, efficiency of the transport network.  |
| An analysis of urban transport                       | Cabinet Office Strategy Unit                            | 2009    | Aims to provide an evidence base for policy decisions to tackle congestion, poor air quality, ill-health, road safety, carbon emissions and unpleasant urban space. Includes data on economic savings from reduced congestion.   |
| European Bicycle Market: Industry and Market Profile | Confederation of the European Bicycle Industry (CONEBI) | Annual  | Annual series of reports on the status of the bicycle market across Europe. Include data on number and value of sales and production of bicycles/ accessories, and number of jobs supported. Provide market breakdown for UK.  |
| Annual Cycling Monitoring Report                     | Cycling Scotland  | Annual  | Annual series of reports on national indicators to inform the national picture of cycling participation in Scotland.   |
| Cycling and the Economy                              | Cycling UK  | 2016    | Briefing on: the costs of 'transport harm'; big v small projects; transport appraisal; overall value of cycling to the economy; benefit-to-cost ratios; how cycling helps the economy; how to promote cycling for economic benefit; tax; capital v revenue funding; role of economic-focused bodies. |

| Name   | Source                     | Date | Description   |
|--|----------------------------|------|---|
| Transport transitions in Copenhagen: Comparing the cost of cars and bicycles                             | Ecological Economics       | 2015 | Shows how transferring from driving to cycling, especially for short trips or in combination with public transport, helps ease these blockages because it makes much more efficient use of loadspace  |
| Economic Value of Mountain Biking in Scotland  | Ekos ltd                   | 2009 | Report on behalf of Scottish Enterprise which sets out the current economic impact generated by mountain biking tourism across Scotland, as well as identifying potential future opportunities for the sector.  |
| Employment in Sustainable Transport. A Report for: pteg, The Campaign for Better Transport, Sustrans     | Ekosgen                    | 2010 | Study to quantify the direct and immediate supply chain employment benefits that could result from investment in walking, cycling and public transport schemes and initiatives. Includes employment directly within or dependent on sustainable transport, but not multiplier effects or the wider catalytic effects which may be achieved by particular investments. Includes employment in cycling infrastructure, manufacture, sale and maintenance. |
| Estimating the Holistic Value of Scotland's Mountain Bike Sector: Briefing Paper for Scottish Enterprise | Frontline                  | 2017 | Estimate of the total current size of the Scottish mountain bike sector, and how large the sector is likely to be in 5 years time, based on current trends. Looks at: production of mountain bikes, parts and accessories; retail/distribution of electric bikes, mountain bikes, parts and accessories; clothing and footwear; sports nutrition; and mountain bike tourism. Based on desk review, business survey and stakeholder interviews.          |
| The British Cycling Economy: 'Gross Cycling Product' Report  | London School of Economics | 2011 | Attempts to chart the full extent of cycling's contribution to the British economy and calculate a 'Gross Cycling Product' of UK plc. Calculates a gross cycling contribution to the UK economy in 2010 of £2.9 billion and a 'gross cycling product' of £230 pa. Examines employment, sales of bikes and accessories and health. Also considers drivers for growth, potential for increase of economic benefits and health benefits.                   |

| Name   | Source   | Date    | Description   |
|--|--|---------|---|
| European cycle tourism: a tool for sustainable regional rural development                                    | NHTV Breda University of Applied Sciences, Centre for Sustainable Tourism and Transport, Netherlands | unknown | An economic impacts model based on direct expenditures for European cycle routes.   |
| The Value of Cycling   | Phil Jones Associates, Department for Transport and University of Birmingham                         | unknown | A review of the literature on the value of cycling which aims to collate the evidence base which outlines the benefits and disbenefits of investment in cycling as a mode of transport. Includes retail revenue, employment effects, public spending efficiencies, health and congestion. |
| Scottish Cycling Facilities Strategy   | Scottish Cycling   | 2014    | High level strategic framework to support decisions on development and investment for facilities for all disciplines of cycle- sport in Scotland .  |
| Annual Cycle Funding Survey  | Spokes, the Lothian Cycle Campaign   | 2014    | Survey of Scottish mainland councils and regional transport partnerships to assess cycle spending.  |
| The Economic Value of the Bicycle Industry and Cycling in the United Kingdom                                 | SQW, for the Bicycle Association   | 2017    | Analysis of data on the economic impact of the bicycle industry and cycling in the UK.  |
| Valuing the benefits of cycling: A report to Cycling England   | SQW  | 2007    | Examines the economic benefits of cycling and the ways in which cycling can contribute to Government objectives. A review of existing research.   |
| Economic impact of the National Cycle Network  | Sustrans   | unknown | Report identifying some of the benefits of the National Cycle Network in the UK, from the wider economic benefits of the whole network to the impact on the communities through which it runs.  |
| Report on the outcomes of the 2012- 2015 Grant to Sustrans from the Scottish Government: third annual report | Sustrans   | 2015    | Assesses progress against six key performance indicators, using annual reports of usage on the National Cycle Network in Scotland, other statistics and reports gathered and published by Sustrans Scotland and Sustrans UK.  |

| Name   | Source   | Date | Description   |
|--|--|------|---|
| Effect of increasing active travel in urban England and Wales on costs to the National Health Service. | The Lancet   | 2012 | Concluded that increased walking and cycling in urban England and Wales could potentially save the NHS roughly £17bn (2010 prices) within 20 years because of its impact on diseases associated with physical inactivity (type 2 diabetes, dementia, ischaemic heart disease, cerebrovascular disease and cancer).                                |
| The GB Tourist Statistics 2015   | TNS, Visit Scotland, Visit Wales and Visit England | 2015 | Principal findings of the Great Britain Tourism Survey.   |
| The GB Day Visitor Statistics 2015   | TNS, Visit Scotland, Visit Wales and Visit England | 2015 | Main findings of the 2015 Great Britain Day Visits Survey   |
| The Value of Cycle Tourism: Opportunities for the Scottish Economy                                     | Transform Scotland                                 | 2013 | Demonstrates the value of leisure cycle tourism to the Scottish economy and highlights opportunities for further expansion of the sector. Estimates a value of between £117 million and £239 million p.a. Includes health benefits, events, infrastructure and tourist expenditure. Based on analysis of existing research and a business survey. |
| Towards a Healthier Economy  | Transform Scotland                                 | 2008 | Calculated the monetised health benefits of moving from Scottish to Continental shares of cycle use, concluding that benefits from reduced morbidity were between £1 to £2 billion per annum.   |
| Scotland Visitor Survey 2015   | Visit Scotland                                     | 2016 | Survey to understand visitors to Scotland through the analysis of their behaviour and an understanding of their visitor experience.   |
| Scotland: The key facts on tourism in 2015   | Visit Scotland                                     | 2016 | A summary of statistics on tourism in Scotland, including the volume and value of tourism in Scotland and information on our major markets.   |

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