
Edinburgh Festivals 2015 Impact Study

Final Report

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BOP
Consulting



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Credits

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Photo credits

- Cover pic: Skyline at Dusk, Marketing Edinburgh

The Edinburgh Festivals are:



This Report, together with the full Technical Report and the previous Impact Studies, can be downloaded at <http://www.edinburghfestivalcity.com/about>

Executive Summary

The results of the latest impact study show that the Edinburgh Festivals continue to be Scotland's world-leading cultural brands through:

Attracting audiences of more than four million

- attendances of 4,537,937 were recorded across the 12 Edinburgh Festivals.

Providing unique places of cultural discovery

- 92% of respondents said that the Festivals had given them the chance to see something they would not have otherwise get to see.

Playing a crucial role in year-round audience development

- 68% of respondents said that attending the Festivals had made them more likely to attend another cultural event.

Delivering an unrivalled international platform for companies, artists and thinkers

- 92% of respondents agreed that the Festivals were 'must-see' events.

Investing in the growth and development of individuals and communities

- 57% of respondents said that the Festivals were events that 'brings the community together'.

Creating a sense of civic pride

- 89% of local festivalgoers agreed that the Festivals increased people's pride in Edinburgh as a city.

Positioning the city region as an attractive, creative, international destination

- 94% of respondents said that the Festivals are part of what makes Edinburgh special as a city.

Developing their role as economic powerhouses of the tourism industry

- economic impact was measured at £280m in Edinburgh and £313m in Scotland, representing a 19% and 24% increase on the figures reported in 2010.
- 5,660 new FTE jobs supported in Edinburgh and 6,021 in Scotland compared to 5047 and 4757 respectively in 2010.

Acting as tourism gateways to the rest of Scotland

- Festival visitors are now spending more nights elsewhere in Scotland than in 2010, with the Festivals' role as sole motivation for travel increasing in significance.

Developing innovative environmental programmes

- launched several collaborative projects since the 2010 study, including Creative Carbon Scotland and the Green Arts Initiative, that are now both operating across Scotland.

In 2015, BOP Consulting was commissioned by Festivals Edinburgh to undertake an Impact Study of the twelve Edinburgh Festivals they represent. This 2015 study uses:

- the same overall economic impact methodology to assess the contribution that the Festivals make to the wider economy of Edinburgh and Scotland
- a slimmed down, core set of questions to assess the social and cultural impact of the Festivals, including questions on social impact being asked across all twelve festivals (rather than just seven as in 2010).
- This study repeats many elements of the research that was carried out by BOP five years ago during the 2010 festival season and published in 2011.

1. Introduction

In 2015, BOP Consulting was commissioned by Festivals Edinburgh to undertake an Impact Study of the twelve Edinburgh Festivals they represent. This study repeats many elements of the research that was carried out by BOP five years ago during the 2010 festival season and published in 2011. The first impact study developed a repeatable methodology for assessing the impact of the festivals and this new study is the first update that has been guided by the 2010 study. Specifically, it uses:

the same overall economic impact methodology to assess the contribution that the Festivals make to the wider economy of Edinburgh and Scotland

a slimmed down, core set of questions to assess the social and cultural impact of the Festivals, including questions on social impact being asked across all twelve festivals (rather than just seven as in 2010).

In addition to the smaller set of indicators that were used for the analysis of social and cultural impact, the main differences from the 2010 study are:

work on how the Festivals have addressed their environmental impact has been undertaken by Creative Carbon Scotland (CCS).

the survey focused on audience members and delegates, with fewer other groups covered in the current research. In the first Impact Study in 2010 teachers, volunteers, sponsors, and journalists were all included in the research whereas these have not been included in the current research.

Finally, bringing the reporting of economic impact assessment into line with the reporting of the social and cultural impact, this year's study presents figures only for the collective economic impact of the twelve Festivals. The primary research started with the Edinburgh International Science Festival in March 2015 and ran through until the end of February 2016 to capture Edinburgh's 2015 Hogmanay.

1.1 Background

Edinburgh is internationally renowned for the annual Festival programme which it hosts. Starting with the Edinburgh International Festival in 1947, it has developed a year-round programme of Festivals which is crucial to the cultural, economic and social life of Edinburgh, of the wider city-region, and of Scotland itself.

The Edinburgh Festivals, for the purpose of this study, comprise the twelve Festivals represented by Festivals Edinburgh (see the Technical Report for a detailed description of each of the Festivals). The Festivals are listed in date order below:

- Edinburgh International Science Festival
- Imagine Festival
- Edinburgh International Film Festival
- Edinburgh Jazz and Blues Festival
- Edinburgh Art Festival
- Royal Edinburgh Military Tattoo
- Edinburgh Festival Fringe
- Edinburgh International Festival
- Edinburgh International Book Festival
- Edinburgh Mela
- Scottish International Storytelling Festival
- Edinburgh's Hogmanay

This impact study builds on the previous impact study run by BOP Consulting in 2010 which assessed Edinburgh's Festivals in terms of their collective economic impact. The study estimated that the twelve Festivals

included in the study generated a financial output of £245m at the Edinburgh level and £261m at the Scottish level.¹

Since that time the Festivals have continued to grow and there have been further changes in the Festival 'landscape'. In particular, the *Thundering Hooves 2.0* report (2015) sets out a Ten Year Strategy and Action Plan to ensure that the leading status of Edinburgh's Festivals is maintained.²

1.2 Objectives

This study sets out to take a holistic approach to assessing impact that considers social, cultural and economic effects - thus enabling the Festivals to demonstrate their wider value. This approach of assessing the 'all-round' value of the Festivals was ground breaking in 2010 and the first study of its kind – not just for the twelve Edinburgh Festivals, but more widely in the Festivals and events sector. This current report follows on from the methodology developed in 2010 and provides the first directly comparable data on the impacts of the Festivals at a five-year follow-up stage. The study's main objective was:

To produce an updated impact study for 2015 that looks at economic, social and cultural impacts, and that allows comparison with the earlier BOP impact study for the 2010 festival season, published in 2011.

¹ The 2010 study included a look at learning impacts and media impacts including journalist expenditure which are not included in this current study. Changes in methodology are set out in Section 2: Methodology.

² BOP Consulting and Festivals and Events International (2015). *Edinburgh Festivals: Thundering Hooves 2. A Ten Year Strategy to Sustain the Success of Edinburgh's Festival*, report commissioned by Festivals Forum. <http://www.edinburghfestivalcity.com/about/documents/196-thundering-hooves>

2. Methodology

In 2010 BOP conducted an impact assessment for Festivals Edinburgh which measured economic impacts as well as social, cultural, environmental and media impacts. At that time BOP worked closely with Festivals Edinburgh and steering group to develop a robust evaluation framework and devise new tools for data collection and a repeatable methodology to inform future Impact Studies. This 2010 work expanded on an original economic impact study of the Festivals in 2004/5 conducted by SQW.

2.1 Changes between 2010 and 2015

This current impact study uses the same methodology developed by BOP in 2010. This study focuses on social, economic and cultural impacts with a narrower survey question set and a smaller research cohort of audience members and delegates.³ The 2010 study included a look at learning impacts and media impacts including journalist expenditure which are not included in this current study, but remain researched by Festivals individually according to their own intended impacts.

A general set of questions to be asked across each Festival was agreed and added to the specific audience surveys used by each (where the questions were not already being asked). The survey questions can be found in the accompanying Technical Report.

For overall sample size, the audience surveys received a very high response rate, almost twice the volume of responses received for the 2010 study:

- audience surveys: 29,273 surveys were collected across all 12 Festivals (with the exception of partially completed surveys the average number of responses considered for each question was around 23,500)
- delegate surveys: 1,091 at the Fringe, which were only included as part of the overall economic impact calculations

2.1.1 Refined research cohorts

The 2010 study made some specific recommendations for future impact studies which included reducing the inclusion of the non-audience stakeholders surveyed. The 2010 study introduced new cohorts into the Festivals' research programmes or significantly extended the coverage of these stakeholders, however it was felt that for this study a focus on audience impact would be most important, given the variety of Festivals and the diversity of their intended outcomes.

2.1.2 Satisfaction question

The 2015 surveys also see the inclusion of an overall satisfaction question across the Festivals. There was no common audience satisfaction question asked in the impact surveys in 2010 and 2004/5, rather each festival measured audience satisfaction against a variety of factors such as the Festival programme or against ancillary services (such as booking experience, marketing material, venue facilities or friendliness of staff). A recommendation arising from the 2010 study was that the Festivals should include a common satisfaction question asked across all of the Festivals and this was taken on board in the current impact study.

2.1.3 Social impact questions

The 2010 study focused social impact questions on those festivals who had a specific social impact remit for example a question on quality time spent with family and friends was asked of festivals with a strong family focus (i.e. Imaginate or Mela). The overall response and results from the 2010 study on these social impact question was positive. The 2015 study includes a small set of social impact questions across the audience surveys of all Festivals in 2015.

2.1.4 Inclusion of Art Festival

The Art Festival has been included within the economic impact calculations this year but was not included in 2010 due to a low sample size in terms of audience surveys. The Art Festival has grown considerably since 2010, and now has an

³ The 2010 study included nearly 50 different surveys of general audiences, performers, delegates, journalists, volunteers and some teachers and young people.

annual programme of audience research in place. Consequently, sample sizes did not present an issue this year.

2.2 Outcomes explored in the impact study

The previous evaluation framework and logic model was pared-down based on the more focused approach of this year's impact study. As suggested above, the survey questions measured audience spend and a series of further core festival outcomes:

Economic impact – exploring the amounts audience members spent on food, drink, accommodation and other sundry items during the course of their visit. This is adjusted to account for those who would be spending money in Edinburgh over the period anyway, and is represented as both additional Output (as in the 2010 study) and additional 'Gross Value Added' to the economy, as well as the number of equivalent full time jobs that are supported by the Festivals.

- **Cultural impact** – including an assessment of the overall quality of the festival experience, satisfaction, the extent to which Festivals are regarded as a 'must-see' event, motivation for future attendance, international exposure, and the discovery of new genres and artists.
- **Social impact and wellbeing** – including the extent to which the Festivals bring communities together and create an opportunity for friends and families to spend quality time together, as well as an assessment of the impact of the Festivals on individual wellbeing.
- **Place making and identity** – this explored whether the Festivals had any impact on locals' perception of Edinburgh and if they are central to what makes Edinburgh special as a city.
- **Environmental impact** – this has been conducted alongside this study by Creative Carbon Scotland and is included below.

2.3 Data collection

Using the evaluation framework developed for the 2010 study our current study has two main data collection sources and processes: Festival-specific primary research and management information.

In the current study there was a drive towards creating a simplified core set of questions which were asked across all festivals. While this was largely successful there was some minor variation in the final question sets agreed with each Festival and a breakdown of the final agreed question sets for each festival can be seen in Appendix 2.

Across the twelve Festivals there was therefore a mixture of on-site assisted surveys that were completed during the Festivals, and online surveys completed largely after the relevant Festivals have closed. As in 2010, obtaining reasonable volumes of audience survey responses for those that specifically attend some of the major free, unticketed events, such as the International Festival Fireworks and Harmonium events, again proved difficult.

The results presented here are based upon the primary research and management information from the twelve Festivals. All results are presented as aggregate figures across all Festivals.

There has been an extremely good response rate to the audience surveys with a near doubling in responses from 2010. In terms of response rates, the research findings are highly robust across all the festivals. While some of the observed changes in findings between years are minimal, there are some findings that indicate a significant change from the 2010 survey (these can generally be considered as +/- 2.5%), which are noted in the interpretations.

2.3.1 Management information

While the primary research generates the information for the largest part of the evaluation framework (in particular, the outcomes and impacts sections), there was a set of data that needed to be provided by the Festival organisers themselves in order to establish economic impact. A simplified spreadsheet

template of the one sent out in 2010 was sent out to the Festivals for completion. This was used to collect information on the following areas:

- Financial information on Festival organisers' income – including earned income, public sector funding, fundraising and sponsorship activities
- Financial information on Festival organisers' expenditure – including on staff, year-round premises, performers and other costs related to staging the Festival
- Key Festival outputs – particular attendances to each of the Festivals.
- Where necessary, additional clarification was sought from the Festivals in order to ensure that data was reported consistently across the Festivals.

3. Core Festival Outcomes

3.1 Cultural Impact

Providing an enriching, world class Festival experience lies at the heart of all Edinburgh's Festivals. In the sections below we describe those outcomes that directly arise from the Festival activities or events, as reported by those attending.

The 2015 Edinburgh People Survey indicated that 63% of residents had participated in the Festivals⁴, and was the most common cultural activity for citizens. The survey also showed that those participating in cultural activities in the city were also more likely to have a positive view of the city. This section seeks to build on these findings by exploring the different aspects of cultural and social impact the Festivals have, this includes how it affects visitors' and locals' perceptions of the city.

The continued quality and innovation of the core cultural offer of the Festivals lies at the heart of any wider impact they may have. The 2010 study demonstrated how the Festivals do not just provide great cultural experiences, but also help to increase access to culture and build wider participation and discovery among audiences. These outcomes remain central to the strategies of the Festivals and are repeated in the Thundering Hooves 2.0 document published last year⁵.

3.1.1 Quality, satisfaction and a 'must-see' event

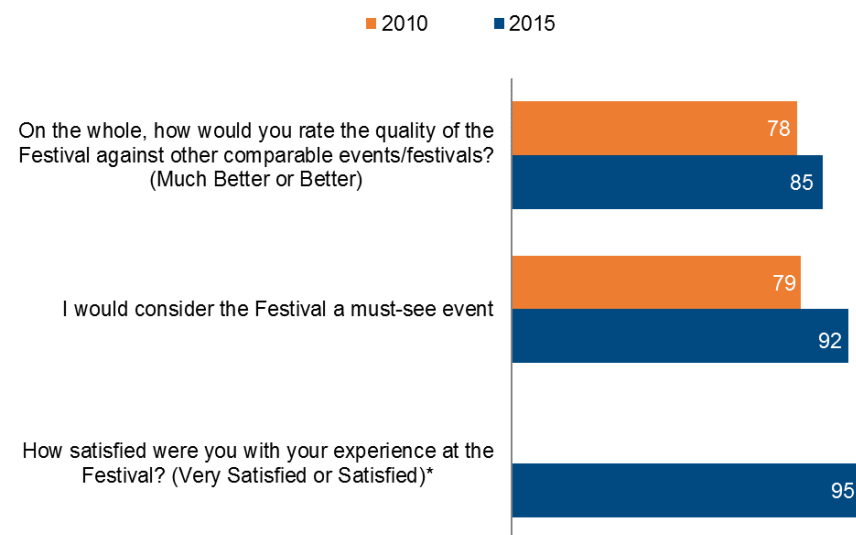
The diversity of the Festival topics and experiences makes measuring quality across them necessarily difficult. Nevertheless, the question we used to extrapolate visitors' judgements of the quality of the Festivals was framed according to other 'comparable festivals or events'.

Another measure of quality came in the form of whether visitors considered the Festival a 'must-see' event. This indicates that they would prize

their experience above other more everyday cultural activity and be more likely to recommend attendance to other people.

In 2010, there was no common audience satisfaction question asked in the impact surveys, rather each festival measured audience satisfaction against a variety of factors such as the Festival programme or against ancillary services (such as booking experience, marketing material, venue facilities or friendliness of staff). A recommendation arising from the previous study was that the Festivals should include a common satisfaction question and this was taken on board in the current impact study. The results for each can be seen in Figure 1 below

Figure 1 - Percentage of the audience at the Edinburgh Festivals agreeing with the statements assessing quality and satisfaction, comparison between 2010 and 2015



Source: BOP Consulting (2016) *No comparison for 2010 as was not asked.

⁴ Edinburgh City Council (2016) 'Edinburgh People Survey Headline Results, p12, http://www.edinburgh.gov.uk/info/20029/have_your_say/921/edinburgh_people_survey

⁵ BOP Consulting and Festivals and Events International (2015) Edinburgh Festivals: *Thundering Hooves 2. A Ten Year Strategy to Sustain the Success of Edinburgh's Festival*, report commissioned by Festivals Forum

The results for quality were very positive: 85% of respondents reported in 2015 that the festival was ‘Better’ (38%) or ‘Much better’ (47%) than other comparable events/festivals. This is an increase from 78% reporting this in 2010.

The findings also show that audiences’ satisfaction with their overall experience was the highest rated outcome in this study with 95% stating they were either ‘Satisfied’ (23%) or ‘Very satisfied’ (73%).

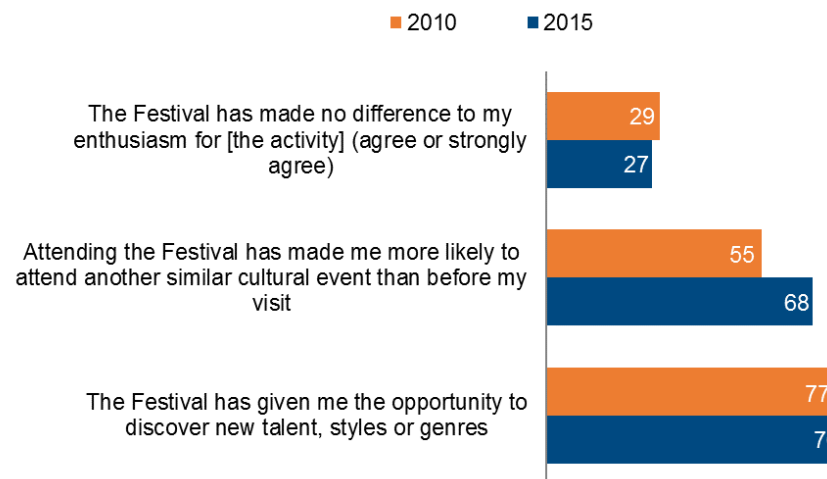
A significantly higher proportion than previously also agreed that the festival was a ‘must-see’ event, with 92% reporting this in 2015 (62% strongly agree and 30% agree) compared to 79% in 2010.

The findings, that over nine out of ten attendees were satisfied with their experience and nearly nine out of ten felt it was a ‘must-see’ event, along with the increase in the number of people finding it better than comparable events each indicate a strong assertion from those attending that they are having a quality cultural experience.

3.1.2 Motivation and enthusiasm for cultural experiences

Much cultural policy in recent years has focused on increasing attendances and engagement in cultural activities. Indeed, Creative Scotland’s 10-year plan has a clear and core ambition to broaden access to high quality arts and cultural experiences⁶. The outcome measures we used in this year’s survey sought to explore whether attending the Festivals had any impact on audiences’ motivation or enthusiasm for engaging in cultural experiences. The results can be seen in Figure 2.

Figure 2 - Percentage of the audience at the Edinburgh Festivals agreeing with the statements assessing motivation and enthusiasm, comparison between 2010 and 2015



Source: BOP Consulting (2016)

In order to minimise positive response bias (where survey respondents simply reply positively to a list of questions without full comprehension) we included two ‘negatively keyed’ questions, which asked respondents to agree to the extent that there has not been an effect. As in 2010, the negatively keyed questions used in the study do attract a ‘cooler’ response from audiences than the positively keyed questions.

In 2015 27% of attendees *agreed* that the Festival had made no difference to their enthusiasm for the activity, 50% of visitors ‘Disagreed’ or ‘Strongly disagreed’ that the festival had ‘made *no* difference to their enthusiasm for the particular art form/activity’ in the surveys (a further 23% were neutral), it is slightly higher than in 2010 (29% agreed it had made no difference

⁶ <http://www.creativescotland.com/what-we-do/the-10-year-plan>

to their enthusiasm), indicating that many attendees report a positive influence on their enthusiasm for the art form/activity as a result of attending.

A higher proportion (68%) 'Agreed' (38%) or 'Strongly agreed' (30%) that attending the festival had made them more likely to attend another similar cultural event than before their visit. This was thirteen percentage points lower (55%) in 2010 – making it the biggest difference between the two years of findings in terms of cultural impact. This is a very positive finding regarding the ability of the Festivals to increase cultural engagement more broadly.

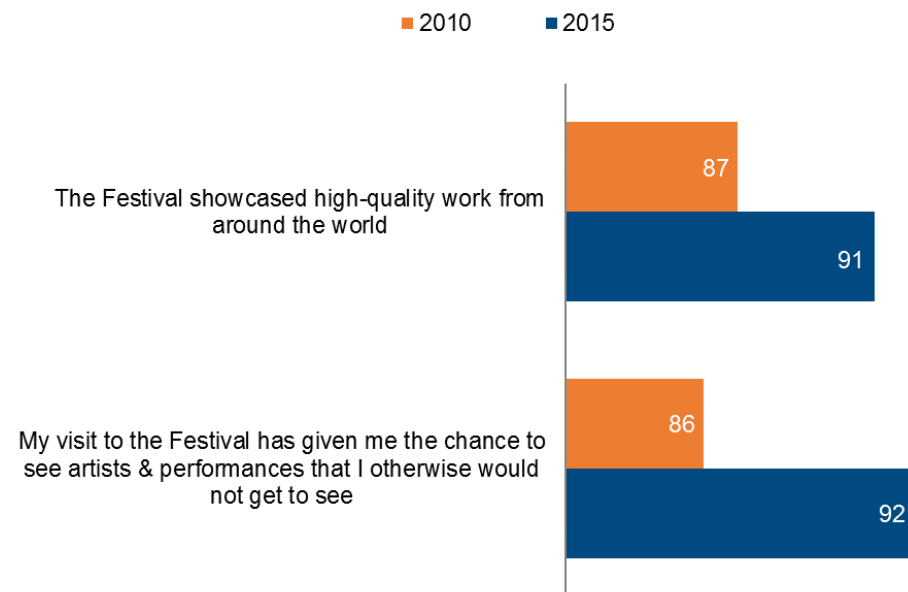
The degree to which the Festivals enabled audiences to discover new talent, genres or styles is almost identical in this year's study compared with five years ago: 76% 'Agreed' (38%) or 'Strongly agreed' (54%) in 2015 compared with 77% in 2010.

A cross-sectional survey such as this does not allow us to measure the longer term impact of attending the Festivals on visitors' motivation and enthusiasm, or indeed whether their cultural engagement increases as a result. However, the findings do show that the Festivals provide new experiences for visitors and that they perceive these experiences as positively influencing their intentions for future cultural engagement. Taken together they indicate that the 'liminal' (i.e. 'out of the ordinary') experiences provided by the festivals are likely to impact on attendees' enthusiasm and motivation for culture in general, as well as enabling them to broaden their cultural horizons. This was explored further in the last set of questions relating to cultural impact.

3.1.3 Discovery and international representation

The final cultural impact questions explored the international elements of the Festivals (i.e. whether audiences experienced art and culture from around the world) and discovery of new artists and performances. These elements of cultural impact also relate to the uniqueness of the experiences audiences were having at the Festivals and indicate the significance of thoughtful programming in engaging audiences. The findings can be seen in Figure 3

Figure 3 - Percentage of the audience at the Edinburgh Festivals agreeing with the statements assessing international representation and discovery, comparison between 2010 and 2015



Source: BOP Consulting (2016)

The findings indicate that 92% of visitors that either 'Agreed' (38%) or 'Strongly agreed' (54%) that the Festivals had given them the chance to see something they would not have otherwise (8 percentage points higher than the 86% recorded in 2010). A further 91% of visitors also agreed (38%) or strongly agreed (54%) that the Festivals allowed them to see high quality work from around the world (slightly higher than the 87% reporting this in 2010).

The findings indicate a moderate change across the cultural impact indicators – the overwhelmingly positive response of audiences in 2010 is repeated again. Indeed, the data shows almost across the board increases when compared with 2010.

Although some of these repeated measures are too close to be noted as statistically significant (i.e. outside of the error margin of each question), overall they do suggest an increased level of cultural impact in 2015 compared to 2010, and show the Festivals are generally judged to be high quality, motivating, unique and international.

3.2 Social Impact and Wellbeing

The 2010 study explored if the Festivals also have a wider social impact. Although not all Festivals included the social impact questions in the first study, the results were sufficiently encouraging to include a small set of questions on social impact across the audience surveys of all Festivals in 2015.

While the presence of a measure of wellbeing in the framework may seem initially unusual, it adds to a growing literature linking participation in cultural activity with increased wellbeing. This includes a population level study published by the Scottish Government in 2013⁷ which showed that those engaging in regular cultural activity reported higher levels of good health and life satisfaction (even when age, economic status, area deprivation and level of education were taken into account).

There are both general and specific health and well-being outcomes that may arise from attending or participating in the Edinburgh Festivals. This research looks at the general well-being effect that may be generated through the stimulation of the event/activity and could potentially be experienced by any member of the public.

The Festivals also provide opportunities for 'informal sociability' (though this varies according to the type of event). This is a phrase used by social capital researchers to describe scenes of face-to-face interaction which generate or maintain social networks; a building block of social capital.⁸ Such

instances of 'informal sociability' would include both interactions with friends or family (representing a 'bonding' experience), and with more distantly connected people (representing bridging social capital) from the same community.

The programmes of each Festival differ greatly with some being more focused on performances, and others seeking to bring individuals and communities together in large and small scale events. The vast majority of festival programmes include some elements of communal activity (before or after a performance, for example), but it is likely that the impact on social capital will be greater within those providing explicitly 'communal' experiences. However, it could be argued that it is the very fact of having a diverse cluster of festivals in Edinburgh that brings community benefits.

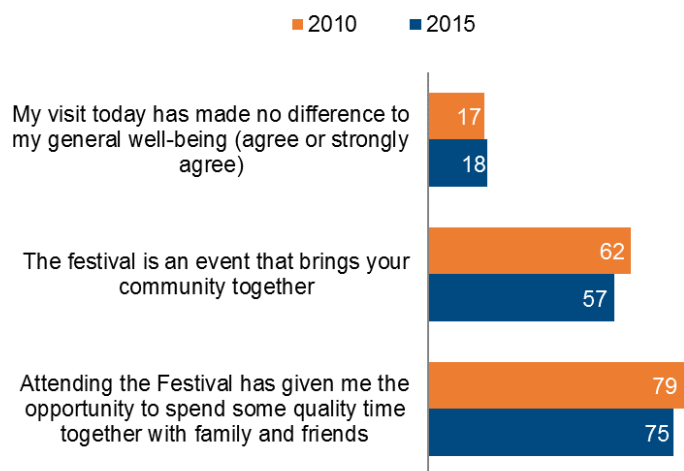
The other outcome measured in this section was interested in the particular benefits of families attending Festival events together. Several of the Festivals include dedicated family events, while others showcase events which are not primarily targeted towards a family audience, but attract a high proportion of this group. It was therefore felt that this element of social impact should continue to be measured, and research suggests that enjoying time together as a family is a key driver in creating stronger bonds and new 'rituals' and behaviours within families. Moreover, there is evidence from a number of evaluations that cultural activities in particular enable families to spend 'quality' time together⁹. We therefore asked audiences at a number of Festivals whether they felt that the event 'had given them the opportunity to spend some quality time together with family and friends'. These findings can be seen in Figure 4.

⁷ Scottish Government (2013) Healthy Attendance? The Impact of Cultural Engagement and Sports Participation on Health and Satisfaction with Life in Scotland, <http://www.gov.scot/Publications/2013/08/9956>

⁸ Hall, P. (1999). 'Social Capital in Britain', *British Journal of Political Sciences*, Vol. 29, No. 3, pp. 417-46., <http://www.abdn.ac.uk/sociology/notes06/Level4/SO4530/Assigned-Readings/Seminar%209.2.pdf>

⁹ RAND Europe (2008) *Vital Communities: Review and analysis of the research*, (Available online: http://www.randproject.org/pubs/technical_reports/TR549/) or United Way of Massachusetts Bay, Harvard Family Research Project & Build the Out-of-School Time Network (2006) *Focus on Families! How to Build and Support Family-Centered Practices in After School*

Figure 4 Percentage of the audience at the Edinburgh Festivals agreeing with the statements assessing social impact, comparison between 2010 and 2015



Source: BOP Consulting (2016)

The 2015 results show that the majority of audiences have experienced a positive effect on their wellbeing and value the social and community dimensions of the Festivals. These findings are not directly comparable to the 2010 study, as the social impact questions were only asked across the seven festivals that explicitly provided family and community events, whereas these results relate to all twelve festivals for the first time.

The wellbeing results were very similar to the previous study. Just 18% of attendees agreed that it had made no difference to their wellbeing (17% agreed in 2010) with 54% having 'Disagreed' (40%) or 'Strongly disagreed' (14%) that it had 'made no difference to their wellbeing' in 2015 (as again this was a negatively keyed question), compared to 55% in 2010. The consistency of this finding indicates that the Festivals are likely having some impact on people's individually assessed wellbeing, although further research would be required to

explore which specific elements of subjective wellbeing are being affected by attending the Festivals.

57% of visitors 'Agreed' (34%) or 'Strongly agreed' (24%) that the Festivals are an event that 'brings the community together' in 2015, compared with 62% in 2010. However, this question was previously only included in the surveys of three festivals that provided particular 'communal' experiences (the Mardi Gras Event at the Jazz and Blues Festival, the daily free Fringe events on the High Street and the Torchlight Procession at Edinburgh's Hogmanay). The updated findings will provide a more useful benchmark for measuring these impacts in the future as they have been applied to all Festivals.

This difference in the number of Festivals that asked the social impact questions in 2010 and 2015 may also account for some of the difference relating to spending quality time with friends and family. A slightly lower proportion of visitors 'Agreed' (39%) or 'Strongly agreed' (36%) that the festivals allowed them to spend quality time together with family and friends (75% in 2015 compared with 79% in 2010). But in 2010/12, only Festivals with a strong family focus asked this question (i.e. Imagine, Storytelling, the Mela, Jazz Festival and Book Festival), therefore this slight decline may be expected.

The above findings remain positive and the comparison with the 2010 numbers is not a strict like-for-like comparison, due to big variations between the two years in the number of Festival audiences that were surveyed.

3.3 Place-making and identity

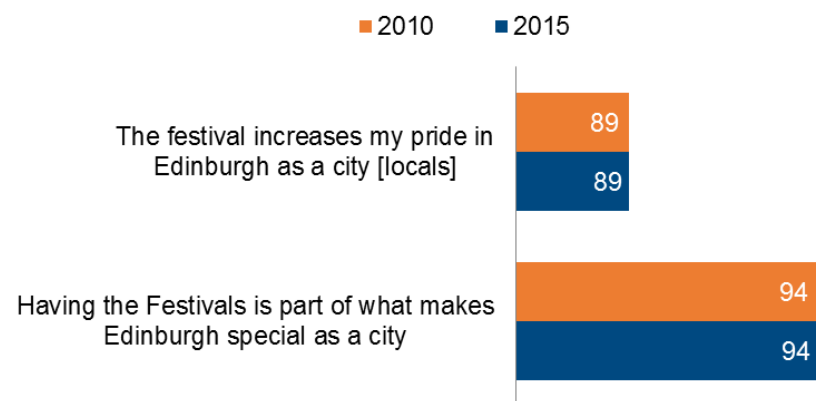
The outcomes in this section relate to locals' perception of their city: the degree to which the Festivals increase residents' feeling of local pride, and whether or not they consider the Festivals help make Edinburgh 'special'.

The image that residents have of the place in which they live is important for a number of reasons. Local pride and appreciation of the area are closely linked to feelings of attachment and a sense of belonging – both of which are seen by policymakers as key indicators of community cohesion. In other words, the more people feel a sense of belonging within a community, the more likely the community is to act collaboratively to maintain and improve the area. In turn,

this is likely to lead to a greater enjoyment of residents living in the area and of feeling safe to do so. Hosting such high profile events throughout the year could also potentially have a negative impact on locals, leading as it does to increased footfall, tourism, and associated demands on the city. However, findings from the Edinburgh People Survey, administered annually by the City Council, indicate that 78% of residents agree that the Festivals make Edinburgh a better place to live¹⁰.

The extent to which locals (i.e. those noting that they live in the City of Edinburgh) feel the Festivals increase their pride in the city, and the extent to which all those surveyed agree that the Festivals are part of what makes Edinburgh special as a city are presented in Figure 5.

Figure 5 Percentage of the audience at the Edinburgh Festivals agreeing with the statements assessing place-making impact, comparison between 2010 and 2015



Source BOP Consulting (2016)

Some of the strongest findings in the first Impact Study related to place-making impact and this year's results reinforce this message. Exactly the same proportion (94%) as previously think 'the Festivals are part of what makes

Edinburgh special as a city' (63% strongly agree and 31% agree). The results for the question relating to the Festivals' 'increasing people's pride in Edinburgh as a city' was also repeated exactly, with 89% of local festivalgoers having 'Agreed' (46%) or 'Strongly agreed' (43%) that this was the case, the same result as in the previous study.

Both sets of responses show that the Festivals have a strong impact on the perception of the city of Edinburgh and are an important aspect of what makes the city unique. This is the case for both locals and the large national and international audiences that the Festivals draw. The identity of Edinburgh as a Festival city and the ability of the festivals to foster local pride are important elements of the Festivals' impact and the consistency in the strength of these findings demonstrates the importance of this to respondents.

¹⁰ Edinburgh City Council (2016) 'Edinburgh People Survey Headline Results, p92, http://www.edinburgh.gov.uk/info/20029/have_your_say/921/edinburgh_people_survey

4. Wider Festival outcomes: economic impact

The 2010 Impact Study demonstrated the large economic impact that the Festivals generate, not just at venues across Edinburgh, but across all sectors of the economy, and spreading out across the rest of the country.

As the Festivals have grown in size and stature, they have become a key contributor to the economy of both Edinburgh and Scotland. As will be seen below, the economic importance of the Festivals lies primarily in the expenditure made by audiences on trips to the Festivals. Most of this expenditure is generated outside of the cultural and events sector, and is made instead on items such as accommodation, food and drink, shopping and transport. In this way, the Festivals' economic impact is larger for the wider economy of Edinburgh and Scotland than it is for the cultural economy.

The economic importance of the Festivals is acknowledged by the key public funders, including City of Edinburgh Council, the Scottish Government, who have funded the Festivals through the Expo Fund, and EventScotland who provide funding to both individual Festivals and Festivals Edinburgh.

The methodology for conducting the economic impact element of this study follows the method used by BOP in 2010. Changes to the methodology have been small:

One or two individual Festivals have changed their survey medium. For instance, the Tattoo has moved from in-person visitor surveys to an online survey. Econometric checks run in 2010 showed no statistical difference in the key economic variables between online and offline surveys.

Journalist expenditure at the Festivals was captured in 2010. This has not been included in 2015 making the comparison with the 2010 figures not quite a like-for-like one, although the overall impact of this change is small in comparison to audience and organiser expenditure.

The Art Festival has been included within the economic impact calculations this year but was not included in 2010 due to a low sample size in terms of audience surveys. The Art Festival has grown considerably since 2010, and now has an annual programme of audience research in place. Consequently, sample sizes did not present an issue this year.

Delegate and performer expenditure has been captured in a slightly different way this year. In 2010, a number of Festivals that had significant numbers of delegates and performers reported their expenditure while at the Festivals in two ways. First, as some Festivals (e.g. EIF) covered most of the performer expenditure themselves, this was included within the Organiser expenditure. A few Festivals that did not cover performer or delegate expenditure (e.g. the Fringe), sent out a survey to their performers, making it able to report a separate figure for Delegates/Performers in the 2010 report. However, in 2015, the Festivals that have significant numbers of delegates and performers chose to only report on the Festival's expenditure that covered this costs, with only Fringe sending out a performer survey. Thus, delegate/performer expenditure cannot be reported separately in 2015. The figures for Fringe performers have been combined with the audience expenditure for Fringe and all other Festival expenditure on delegates and performers has been captured within the overall Organiser expenditure.

The methodology changes then are small. The biggest difference from the 2010 study concerns the reporting of the Festivals economic impact. In 2015, the Festivals have chosen to bring this reporting in line with the reporting for the social and cultural impact and report their collective, as opposed to individual impact.

A more detailed account of how the economic impact has been calculated is contained within a separate Technical Report. The sections in this report therefore summarise the economic impact analysis, highlighting the key contributory factors.

4.1 Overview

Economic impact is interpreted within this report as the contribution made by the Edinburgh Festivals to the economy's output and employment, for both

Edinburgh and Scotland. The calculations for this are based on the analysis of the following strands of expenditure:

- audience expenditure (which also includes expenditures made by performers at the Fringe)
- Festival organisers' expenditure (which also includes any expenditures that Festivals have made on performers and delegates)

The figures for each type of expenditure can be presented as a gross figure. However, a key part of the estimation process is to establish what proportion of expenditure is genuinely additional for each strand, the net value. This means subtracting the expenditure that would have occurred anyway (the 'deadweight') as well as that which is simply displacing or substituting other expenditure. Once the net expenditure has been calculated, the final stage is to estimate how this flows through the economy to generate additional output, GVA and employment. This is calculated by applying multipliers to the direct expenditure.

4.2 Audience numbers

The basis for the economic impact of the Festivals is the sheer number of visitors that they attract. In 2015, over 4.5m attendances were made across the twelve Edinburgh Festivals. This includes both paid events and free events, such as the estimated quarter of a million people that view the Fireworks Concert that closes the International Festival, the daily Free Fringe events on the High Street, or a number of free events at Edinburgh's Hogmanay.

However, in establishing the economic impact of these attendances, it is first important to know how many attendees generated the total number of attendances. Visitors can (and do) attend more than one event per Festival. Once this smaller pool of attendees is known, one can then begin to estimate the other factors that generate economic impact: what they are spending money on per day and how many days and nights their trips to the Festivals encompass.

Figure 6 shows the total attendances and the number of attendees for the 2015 and 2010 studies. The data for attendances has been provided by the individual Festivals. The number of attendees is derived from the survey data on

the number of events attended – per visitor type. That is, the audience is composed of different types of visitors, some on overnight trips, many more that live locally in Edinburgh, and it is important to capture this information. Different visitor types have different attending and spending patterns, and the degree to which their spending is genuinely 'additional' to the economy also varies significantly (see below).

Figure 6 Number of attendances and attendees

Festival	Attendances	Attendees
Total 2010	4,272,228	1,008,390
Total 2015	4,537,937	1,070,954

Source BOP Consulting (2016)

Therefore, the following five visitor categories have been used within all the economic impact calculations:

1. locals – Edinburgh residents
2. day trippers – from elsewhere within Scotland
3. day trippers – from outside Scotland
4. staying visitors – from elsewhere in Scotland
5. staying visitors – from outside Scotland

The first step is therefore to allocate the overall attendances according to the composition of the five visitor types – for instance, if the proportion of locals attending a Festival was 40% and the total number of attendances to the Festival was 100,000, then 40,000 are estimated to be accounted for by locals. If locals attend, on average, 4 events at the Festival, this means that the number of local attendees at the Festival is 40,000 divided by 4 =10,000. This process is then repeated for the four remaining visitor types. These are then summed to produce the total number of attendees. For the 2015 Edinburgh Festivals, this produces an estimate of the number of attendees at a little over 1 million, a figure that shows a small increase from 2010 (c.6%).

This calculation does have a differential effect on the Festivals, as there are very different attendance patterns across the Festivals. For instance, the Military Tattoo is one event, so almost no-one goes twice, and similarly, the large number of visitors to the free Fireworks Concert that closes the International Festival only attend this one event at the Festival. Some of the others only run over a very short space of time, such as the public events for Imagine and the Edinburgh Mela, which both only run over one weekend, so the number of events are few. This contrasts with other Festival activities, such as the paid events at the International Festival and the Festival Fringe, which run for over four weeks and have many events and many more performances. This means that, for these Festivals, visitors are likely to have a higher than average attendance.

The level of attendances and attendees alone suggests that some of the Festivals will have a much larger economic impact than others, as Festivals such as the Fringe simply have much larger audiences than others, but this is, of course, not the only determinant of visitor expenditure (see section 5.6.4 below).

4.3 Expenditure

For each Festival, average daily expenditure for each visitor type is calculated. This includes:

- expenditure made at the Festival venues (e.g. at the bar/café)
- expenditure outside the venues (e.g. shopping, food and drink, entertainment)
- transport expenditure
- accommodation

Ticket expenditure was not assessed through the visitor survey and was instead provided from the Festivals themselves from their actual box office data.

4.3.1 Whole trip expenditure

A factor that has to be defined in the expenditure calculations is how much of the expenditure made during a trip to the Festivals is allocated to the Festivals?

In each of the three studies, the calculation is based on a 'whole trip' expenditure model. That is, if someone from outside Scotland spends a ten-day holiday in Scotland, but spends only six of these days attending the Festival, all of the expenditure will still be attributed to the Festivals if (and only if) the visitor states that their expenditure is additional, by stating in their survey response that they would not have otherwise come to Edinburgh/Scotland were it not for the Festivals. As demonstrated in the previous 2010 study, the Festivals are a huge draw for people to visit the City and Scotland more widely.

4.3.2 Determinants of visitor expenditure

The next sections detail the key drivers affecting the level of expenditure at the Edinburgh Festivals.

Audience expenditure and length of stay

Two of the key components driving the economic impact of the Festivals are the average expenditure made per day made by visitors to the Festivals and the length of stay (of staying visitors).

Figure 7 below shows the average values for these across the 12 Festivals, as well as comparing these to 2010. They are weighted averages in that they reflect the composition of the audience. Thus, Festivals that attract a lot of locals, will have low per person average day expenditures. Locals do not spend on accommodation, may not have to spend on transport, and may also spend a lot less on food and drink (a major item of expenditure for Festival visitors). Conversely, those with a high component of staying visitors from outside Scotland, have high day expenditures (which includes accommodation costs), and longer trips.

What this means is that, for the summer Festivals, we have had to avoid double-counting by only including the expenditure that relates to the specific Festival in question. Audience research shows that festival visitors during the peak August period are attracted by the total experience available in Edinburgh, meaning that any methodology for attributing visitor expenditure to different festivals can only be approximate.

The accompanying Technical Report provides the detail on how this is done, but it essentially follows the exact same methodology that we used in the 2010 study.

Figure 7 Average audience expenditure at Edinburgh Festivals per person per day, and average length of stay in Edinburgh and Scotland, 2015 and 2010

Year	Av daily expenditure per person (£)	Av nights spent in Edinburgh	Av nights spent elsewhere in Scotland
2015	50.1	3.9	1.3
2010	45.4	4.6	0.9

Source BOP Consulting (2016)

As can be seen, average daily expenditure across the Festivals has increased a little between 2010 and 2015. Also, there has been a small increase in the average number of nights spent elsewhere in Scotland, possibly at the expense of nights spent in Edinburgh, which has fallen by approximately 1.5 nights.

Additionality

Following all best practice in economic impact assessment and appraisal, such as that specified by the Scottish Government and HM Treasury – a key stage of the economic impact calculations is to assess the proportion of expenditures made by all visitor types that would not have been made in the city in any case. This entails converting the gross economic impact into the net economic impact.

For example, many residents who attend the Festival might have visited the city and spent money on their trip even if the Festivals had not taken place. Therefore, the expenditure incurred on the trip to the Festival is simply **deadweight** and cannot be considered to be additional.

What is important to note is that additionality varies by the place of origin of the visitors, in connection with the geography of the economy that is being assessed. Thus, a day tripper to the Festival from the rest of Scotland, who would have gone on a trip elsewhere in Scotland if the Festivals had not taken place, would have made expenditure that was not additional to the Scottish

economy (as it simply **displaced** expenditure from elsewhere in Scotland to Edinburgh), but it would be additional to Edinburgh's economy (as it was being made there rather than elsewhere). Similarly, for a Scottish day tripper who would have gone to work or stayed at home, the expenditure made at the Festivals would not be additional to Scotland (as it is assumed that this expenditure is deadweight, as it would have been made in the local economy at a later date), but it would again be additional to Edinburgh as it was spent in the city at the expense of the day tripper's home town. Lastly, for the Festival organisers' expenditure, we also have to account for any **leakage** – that is, expenditure made outside Scotland.

In order to quantify these effects, all visitors were asked what they would have done if the Festivals had not taken place. They were given four options,

1. 'I would have stayed at home or gone to work'
2. 'I would have done something else in Edinburgh/visited the city anyway'
3. 'I would have gone elsewhere in Scotland'
4. 'I would have gone elsewhere outside Scotland'

These responses have been analysed for each of the Festivals, and crucially, for the different visitor types. This is exactly the same question used in the 2004 and 2010 studies. The effect of applying these additionality criteria is very significant. Almost all local visitors answer either option 1 or 2 (stayed home /gone to work, or done something elsewhere in Edinburgh). The vast majority of local visitors therefore get excluded at this stage from the subsequent calculations of net economic value. What this means is that, in addition to the scale of a Festival, simply having a higher proportion of locals attending will significantly reduce the economic impact of a Festival.

Additionality was also applied to the ticket expenditure. As the data on ticket expenditure was not collected through the surveys, and captured instead from the Festivals' actual box office data, this was achieved through a slightly different method. As in 2010, the average additionality generated through the surveys per visitor type (locals, staying visitors etc.) was applied to the ticket

expenditure, according to the composition of the Festivals' audiences (see the Technical Report for more detail).

Gross expenditure to net expenditure

Gross expenditure in Edinburgh is circa £230m, Once the additionality for the Festivals has been established, it is possible to convert the gross visitor expenditures made at the Festival into net expenditure – i.e. the proportion of expenditures that is genuinely additional. As Figure 8 below shows, the difference that the gross to net conversion makes when looking at visitor expenditure is dramatic. For instance, the net expenditure for Edinburgh is approximately £143m from a gross figure of £230m.

What Figure 8 also shows is a fall in the gross expenditures made by visitors to the Festivals, particularly when calculated for Edinburgh. However, the proportion of expenditure that is additional has increased slightly for Edinburgh (though is still roughly on a par with both 2010 and 2004), and quite significantly so for Scotland (some six percentage points). Both of these gains in the additionality of expenditure help to offset some of the fall in gross expenditure when translated into net expenditure. Indeed, in Scotland the extra additionality of the spend pushes the net expenditure just past the 2010 figure.

Figure 8 Gross expenditure (audience, performers and delegates) at the Edinburgh festivals, for Edinburgh and Scotland, 2015 and 2010

Year	Edinburgh			Scotland		
	Gross Expenditure (£m)	Overall Additionality (%)	Net Expenditure (£m)	Gross Expenditure (£m)	Overall Additionality (%)	Net Expenditure (£m)
2015	230.5	62	143	270.8	54.4	147.4
2010	249.1	60.3	150.2	307.8	47.7	146.8

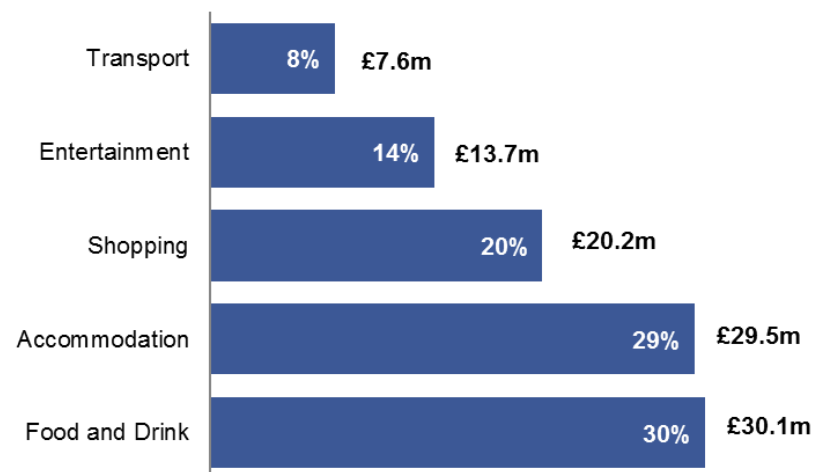
Source BOP Consulting (2016)

Items of audience expenditure

Given that audience expenditure is what drives the bulk of the economic impact of the Festivals, it is important to understand what audiences are spending their money on. The first factor to examine is how important expenditure on tickets is within the overall picture. Looking at the proportion of net visitor expenditure for Edinburgh, ticket expenditure only accounts for 18.6% of the total (though this is an increase from 2010, in which it accounted for 13%).

The remaining 81.4% of audience expenditure is accounted for by expenditure on food and drink, accommodation, shopping, entertainment, and transport. As Figure 9 below shows, two of the five categories account for almost 60% of all non-ticket, net audience expenditure in Edinburgh: food and drink and accommodation.

Figure 9 Breakdown of non-ticket net expenditure for Edinburgh, from audiences to the Edinburgh Festivals, 2015



Source: BOP Consulting (2016)

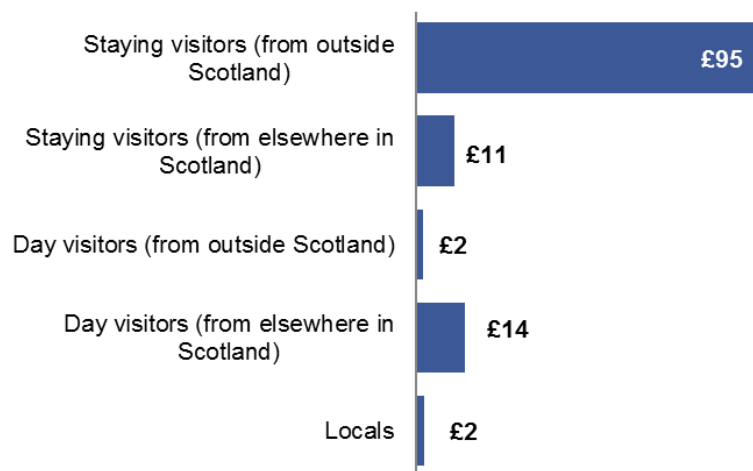
This ably demonstrates the contribution that the Edinburgh Festivals make to the tourist economy, with audiences spending an estimated £30m in

the city's cafes, bars, pubs and restaurants (food and drink), and a further £29.5m on hotels, B&Bs, guest houses etc (accommodation). What should be remembered is that these figures only take into account the net additional expenditure that can be attributed to the Festivals audiences.

Visitor types

The amount spent on accommodation already suggests that one of the major factors that generates the large economic returns from the Festivals is the number of staying, paying visitors that they attract. Figure 10 below therefore presents the net audience expenditure for Edinburgh, according to the differing visitor types that generate this sum.

Figure 10 Breakdown of net audience expenditure for Edinburgh (£m) by visitor type, at the Edinburgh Festivals, 2015



Source: BOP Consulting (2016)

As can be seen, staying visitors from outside Scotland generate the vast bulk of the expenditure (76%), though this a little less than in 2010 (83%). Although much smaller, the next largest category is accounted for by day visitors from elsewhere in Scotland, who are relatively numerous and have a

high average additionality (for Edinburgh). Finally, while locals are the most numerous visitors to the Festivals overall, the fact that their expenditure is almost always not additional, means that they contribute the least to the net expenditure (£2m).

The proportion of staying visitors from outside Scotland is obviously not equally distributed across the Festivals. Some of the Festivals have a much stronger local pull and orientation in comparison to others, and it is this variety that is at the heart of the overall appeal of the Festivals. As Figure 11 shows, staying visitors from outside Scotland accounted for 25% of audience members, when averaged across the Festivals, as opposed to 28% in 2010.

Figure 11: Proportion of staying visitors (audience members) from outside Scotland to the Edinburgh Festivals- average across all the festivals, 2015 and 2010

Year	Av % of staying visitors (from outside Scotland)
2015	25%
2010	28%

Source: BOP Consulting (2016)

4.3.3 Festival organisers' expenditure

In addition to the expenditures made by the audience, the expenditures made by the Festivals themselves have an economic impact. Calculating Festival expenditure is, however, not straightforward and produces results that are at times, counter intuitive. The calculations are based on detailed information supplied to us by the Festivals, each of which is different.

There are several stages in this calculation, the first of which is to exclude ticket revenues from the organisers' expenditure as this has been factored into the audience calculations. This substantially reduces the expenditures allocated to the Festivals. As with the visitor expenditure, we also have to assess the degree to which the expenditure is genuinely additional to Edinburgh and Scotland. In order to do this, we have had to firstly account for leakage. That is, for Edinburgh, to exclude the expenditures made outside Edinburgh, and for

calculating the net expenditure to Scotland, to exclude any expenditure made outside Scotland.

Finally, further additionality analysis is applied to the grants provided by both public and private sector organisations to the Festivals. For the public funding received by the Festivals, we have followed the additionality criteria first outlined in 2004 and repeated in 2010, in assuming that,

‘grants provided by public bodies both locally and nationally should be discounted from the net expenditures at these geographies. It is assumed that if the Festivals had not taken place these revenues would have been used to support projects within the area.’

This means, for instance, that Edinburgh City Council grants are deemed not additional at either Edinburgh or Scotland level, as they would have been made anyway (deadweight). Creative Scotland grants are not additional at the Scottish level – as investing in the Festivals is simply displacing funds from elsewhere in Scotland to Edinburgh, but is additional to Edinburgh. Public funds from outside Scotland, such as the BFI’s support of the Edinburgh International Film Festival, are additional to both Edinburgh and Scotland. In terms of sponsorship from commercial sources, we again followed the additionality criteria used in the last two studies, which are based on similar assumptions to the public funding (these are outlined in full in the Technical Report). Lastly, only cash sponsorship has been included within the calculations, even though some of the Festivals receive significant in-kind contributions and these are acknowledged by Festivals and stakeholders to be of critical importance. This again follows how in-kind contributions were treated in the two previous studies.

What this means is that once the expenditures that would have been double counted if they were not stripped out (i.e. the ticket revenues, leakage has been accounted for, and additionality applied to the sources of funding, there is little net organisational expenditure remaining (see Technical Appendix for more details).

4.3.4 Multiplier effects

The last stage in calculating the net economic impact of the Edinburgh Festivals is to account for the secondary effects that the Festivals have on the economies of Edinburgh and Scotland. The increase in economic activity as a result of the Festivals will have two types of wider “multiplier” effects:

- supplier effect: suppliers to the Festivals will have to make expenditures in order to meet the Festivals demand
- income effect: wages expenditures of Festival staff and a proportion of the wages of Festival contractors and suppliers will be re-spent in the local economy.

The multipliers used in all three studies are based on the Scottish Tourism Multipliers, which is currently a standard methodology, that enables comparability with other major cultural and national events and initiatives that have been evaluated using these same multipliers. It also keeps the continuity with the two previous studies. The Scottish Tourism Multiplier Study (STMS) provides supplier and income multipliers for the tourism sector for Edinburgh and Scotland. The multipliers we have used here are the specific sectoral output multipliers for Edinburgh and Scotland. The employment multipliers come from two different sources. STMS provides information at Edinburgh level while the Scottish Input Output Tables (2000) provide information at the Scottish level.

The Festival organisers’ expenditure is, as in the two previous studies, treated differently from visitor expenditure as it is not likely to go to tourism related businesses, but instead to suppliers involved in the production of the events. This means that the non-tourism multiplier has been used for the Festival organisers’ expenditure.¹¹ Once the multipliers have been applied, the final overall economic impact of the Edinburgh Festivals in 2015 can be established.

¹¹ For more detail on the multipliers used in the study, please see the accompanying Technical Report.

4.4 Overall economic impact of the Edinburgh Festivals

The data presented below in Figure 12 combines all of the expenditure data from audiences, performers and delegates, and Festival organisers. In expressing the overall economic impact of the Edinburgh Festivals, this can be done in two different ways: by showing the net difference that the Festivals make to output and employment for Edinburgh and Scotland. All are derived by applying different multipliers for each of the variables to the same net expenditures from the Festivals.

- Output – the net new sales produced by all sectors of the economy as a result of the various new streams of expenditure
- Employment – measured in terms of Full Time Equivalent (FTE) jobs, which are defined as employment year round for more than 30 hours a week.

Over 2015, the Edinburgh Festivals are estimated to have generated:

- new output of £279.65m in Edinburgh and £312.66m in Scotland; and
- supported 5,660 new FTE jobs in Edinburgh and 6,021 in Scotland

As Figure 12 below shows, the economic impact of the Festivals has increased for both Edinburgh and Scotland. If we compare the figures without the component of expenditure that was accounted for by journalists (which was included in 2010 but not in 2015), then the impact in Edinburgh has increased by 19%. The increase is greater in Scotland, as the impact of the Festivals, in terms of additional output, is 24% higher than in 2010. As shown in the preceding analysis, the difference between the higher figures for Scotland has been driven by higher additionality and more nights spent elsewhere in Scotland than in 2010. As data in the Technical Report shows, Festival visitors that stay elsewhere in Scotland as part of their overall trip state (as in 2010) that the Festivals are overwhelmingly either their ‘sole’ (43%) or a ‘very important’ (28%) reason for visiting Scotland.

Figure 12 Comparison of overall net economic impact of the Edinburgh Festival for Edinburgh 2015 and 2010

Year	Edinburgh		Scotland	
	Output (£ millions)	Employment	Output (£ millions)	Employment
2015	£279.65	5,660	£312.66	6,021
2010	£235.53	5,047	£252.54	4,757

Source: BOP Consulting (2016)

4.4.1 Summary and conclusions

The study confirms and further strengthens the key message from the earlier Edinburgh Festivals Economic Impact Studies: the Festivals are a major contributor to both the local Edinburgh economy and the national Scottish economy. This economic impact spreads far beyond the immediate cultural economy. In fact, the biggest beneficiary businesses in Edinburgh and Scotland are those in the tourism, hospitality, and leisure sectors. The economic impact was assessed according to the principles of the Scottish Government and HM Treasury’s Green Book, which means that only the economic contribution which is genuinely additional has been considered. The overall factors that generate the economic impact of the Festivals are not markedly different from the two previous studies:

- The economic impact is driven by audience expenditure
- Audience expenditure is dominated by staying visitors, as they spend more, stay for longer, and their expenditure is more likely to be genuinely additional. However, Scottish day visitor expenditure is proportionally more important to Edinburgh in 2015 than in 2010.
- The weight of the overall economic impact is generated by the small number of Festivals that attract large audiences, with significant numbers of visitors from outside Scotland.

5. Sustainability and Environmental Impact Statement

To research and describe the environmental impact and sustainability of the Festivals (building from the work conducted as part of the 2010 BOP Consulting Impact Study), we are supported by Creative Carbon Scotland which has been set up precisely for this purpose across the cultural sector in Scotland.

The 2010 BOP Impact Study assessed only the negative impact of the greenhouse gases emitted by the Festivals. Over the last 5 years, there have been major advances in the positive contributions made by the Festivals to their own environmental impact and environmental sustainability.

As part of the 2010 Impact Study, it was recognised that “...*the effective assessment of the environmental impact of [Festival] business practices and business modes is still in its infancy*”, with any impact likely to reflect only negative carbon emissions rather than positive mitigation actions.

Many changes have taken place in the past five years, and this is no longer reflective of the collaborative work being undertaken by the Festivals group to investigate, assess and address their activities as they pertain to environmental sustainability. The diversification of the concept of environmental impact to explore the potential for the arts to make a positive contribution has radically developed the approach of the organisations. As a result, the Festivals are now leading among arts festivals in the UK as they continue to advance their approach in this area.

There is a strong mandate for the continued efforts of the Festivals in addressing environmental sustainability. Climate change will affect the operating, legislative and societal environments in the years to come. However, there are also many social, economic and cultural benefits that arise from engaging constructively in issues of environmental sustainability.

The Festivals are operating at the forefront of the developing environmental sustainability work of the cultural sector.

The arts and cultural sector is still relatively new to addressing environmental sustainability, unlike those industries with a more evident and substantial carbon footprint, such as those directly involved in the extraction of fossil fuels.

There are distinct challenges and opportunities specific to the Edinburgh Festivals. Bringing people together in any way always has some form of physical environmental impact, but this must be balanced against the social, economic and cultural benefits of their gathering. No Festival repeats its precise activities annually, and thus irregular years and irregular output make it difficult to relate progress on a linear timeline. However, equally distinct and burgeoning in development is the recognition of the powerful influence that the arts can have on society as a whole: the ability to change minds and behaviours, and to provoke thought and debate on current affairs.

The Festivals have developed a focused body of work through which to explore and address these challenges, creating a comprehensive five-year Environmental Strategy and a Joint-Festivals Environmental Policy. These are managed by the Environmental Sustainability Working Group, where representatives of each of the Festivals meet to exchange knowledge, ideas and consider joint projects.

More and more, the Festivals are filling the gap created by their own development needs through the creation of tailored projects. In supporting the founding of Creative Carbon Scotland, launching the Green Arts Initiative, and trialling projects like ClaimExpenses.com, they advance the environmental sustainability opportunities available to the sector as a whole. In addition, Creative Carbon Scotland and Festivals Edinburgh have created a joint Environmental Sustainability Officer post who has been instrumental in developing this report.

Comprehensive collection and analysis of carbon emissions data is now taking place, with the development of a model baseline methodology and the use of tailored measurement tools.

Through an iterative process developed by the Environmental Sustainability Working Group, and with support from Creative Carbon Scotland, Edinburgh's Festivals have developed and refined a shared carbon emissions data collection and reporting methodology. In the past, issues in methodology arose due to the multifaceted nature of the Festivals and their control over data collection, often as cultural tenants in the buildings of much larger organisations. In particular, significant progress has been made in distinguishing between direct Festival-related emissions, and non-Festival related emissions (particularly with regards to energy, waste, water and travel), in situations in which a Festival supports (or is supported by) additional or year-round activities.

The below table gives a summary of the change in carbon emissions data collection since the 2010 Impact Study.

Table 1 Measurement of Festival emissions, comparison between 2010 and 2015

Emissions Area	Measured in 2010	Measured in 2016
DIRECT: Festival Offices and Directly Managed Venues	Yes	Yes
DIRECT: Staff/Volunteer Business Travel	Yes	Yes
INDIRECT: Non-Directly Managed Venues	No	Some, and some estimations
INDIRECT: Audiences	Yes	Some
INDIRECT: Productions	No	Research undertaken
INDIRECT: Performers and Crews	No	Yes

Source: Creative Carbon Scotland (2016)

The direct emissions (e.g. owned utilities, business travel) of the Festivals are now very well controlled, and are reported on an annual basis. Indirect emissions (e.g. upstream/downstream suppliers; production materials; crew travel; exterior venues) are currently being addressed by a range of methods, with the Festivals co-ordinating a series of activities to address each emissions from:

Non-Directly Managed Venues: Festivals are influencing (through the Green Arts Initiative; clauses in supplier contracts), estimating (with tenants using

metrics to estimate venue emissions on a per-show basis) and educating (with staff and partners) how to measure, monitor and reduce emissions.

Audiences: In 2010, audience travel was highlighted as a major contributor to overall carbon emissions. Now measuring it specifically, all Festivals are encouraging more sustainable travel to events, with some offering incentives to use public transportation as a behaviour change mechanism.

Productions: As part of the *Where Do You End and I Begin* exhibition at the 2014 Edinburgh Art Festival, the emissions produced as result of different curatorial decisions (including the shipping of works) were investigated as a research project through Creative Carbon Scotland.

Performers and Crews: Many Festivals are now including their artist/performer travel in their overall carbon footprints as direct emissions, expanding ownership of the emissions.

Audience travel, as the most variable, most extensive and least controlled element of the carbon footprint of the Festivals, continues to be a significant challenge in this area, but there is now a more comprehensive and complete understanding its constituent parts.

Recognising the extensive potential positive impact that changing behaviour might have, artist, audience, staff and supplier engagement is now a core focus of the Festivals' environment work. Since 2010 they have launched several highly collaborative projects, including Creative Carbon Scotland and the Green Arts Initiative – now both operating at a national scale.

The qualitative impact of positive environmental sustainability engagement is particularly difficult to measure and present, and the timescale on which such an impact occurs is both varied and complex. However, to ignore this additional 'indirect' impact of the work of the Festivals omits potentially their most wide-reaching effect: engaging others in environmental sustainability through their own work and connected projects. To this end, the Festivals are a continuing base for research and innovation in this emerging area.

Exploring the connections of programmed artistic work that investigates and responds to issues of environmental sustainability, expanding the communication and advice offered to audience members in Festival literature, embedding the concept in staff job descriptions and basing procurement choices on sustainable practices are key ways through which the Festivals have been able to expand their commitments to these stakeholders.

In 2010, Festivals Edinburgh helped to found Creative Carbon Scotland, in conjunction with the Federation of Scottish Theatre and the Scottish Contemporary Art Network, with the aim of leading the sustainable development of the arts sector. The organisation now serves as the primary agency for arts and sustainability in Scotland, providing training, advice, events and opportunities.

Beginning as a guide for improving environmental sustainability that was supplied to Festivals' venues, the Green Arts Initiative is now a community of practice with over 150 arts organisation members across Scotland. Expanding initially to an Edinburgh Festivals venue scheme, it now supports the range of organisations across Scotland committed to reducing their environmental impact, with the twelve Festivals remaining as leading members and sharing their expansive knowledge in the community.

The Festivals continue to trial, test and innovate in the area of environmental sustainability, piloting ISO2012-1 and the Edinburgh Sustainable Development Partnership's Carbon Literacy Project as the challenge foci turns to audience travel and carbon emissions reduction.¹²

With the creation of a coherent carbon emissions methodology, and recognition of their additional potential contributions, the Festivals are now moving towards measuring a process of change, in addition to monitoring and reducing carbon emissions.

The next big challenge for the Festivals will be furthering the expansion of their influence to affect the environmental impact of audience members: both

when attending the Festivals, and in increasing their own environmentally sustainable behaviour through their participation in the cultural events.

Innovation is a key part of this ongoing effort: trialling and testing new models, systems and tools as they arise to fully investigate environmental sustainability in the arts sector. Four Festivals are currently piloting ISO2012-1 (the Sustainable Event Management System developed for the London Olympics and other mega-events), and the group is to be part of the Edinburgh Sustainable Development Partnership's Carbon Literacy Project (a city-wide training programme on climate change) in an effort to create a carbon-literate workforce.

As our knowledge of the drivers and impacts of climate change and environmental sustainability practices continue to develop, so does the work of the Edinburgh Festivals.

¹² For more information on ISO2012-1 go to <http://www.iso20121.org/>