Heritage Economic Impact Indicators: Technical report

For Historic England

economic research &
business intelligence

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Prepared by TBR's Creative & Cultural Team

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1. Introduction

In 2016, Historic England commissioned the creation of an interactive data workbook that evidences the impact of the heritage sector to regional and national economies. This built upon initial work completed in 2015, commissioned by the North East Historic Environment Forum (NEHEF) in partnership with Historic England, which resulted in the development of a similar workbook focussed on heritage in the North East of England.

This document aims to share experiences from these projects in order that other interested parties can benefit from this work and determine the feasibility of commissioning similar workbooks. Specifically, it aims to provide:

- A rationale for the creation of an interactive workbook
- The challenges faced
- The approach taken
- Relevant data sources and where they can be accessed

1.1 The rationale for an interactive data workbook

The aim of developing an interactive workbook was to enable the ongoing collection of data on the regional economic impact of the heritage sector in England. Prior to this there was a dependence on drawing evidence from stand-alone reporting, or nation-wide research. The former becomes out-dated quickly, the latter does not always provide the granularity required to understand how the regional economy differs to that of the country overall. The solution was to empower the heritage sector with a mechanism and process by which they could extract meaningful data outputs relating to the regional economic impact of heritage, but also continue to add data to ensure the analysis is current.

It was recognised that the economic value and impact of heritage can come from a variety of areas: from tourism, economic activity in historic buildings, the demand from the construction sector to service heritage buildings[1], conservation and preservation and education. The direct economic impact must also be complemented by the indirect value that heritage contributes. Models to date for heritage impacts make distinctions between direct (revenue and employment); indirect (impacts of the heritage supply chain); and induced impacts (employment and expenditure due to consumer spending out of staff wages)[2].

Specifically, this workbook was commissioned to provide the following:

- To be developed as a *reusable* framework for data collection, analysis and reporting with minimum maintenance needs, providing longevity that a one-off report could not.

- To allow Historic England to develop a longitudinal picture of impact with a workbook which they can continue to update themselves.

- To assess both direct and indirect impacts of heritage.

- To identify regional variations.

- To provide robust/credible evidence for use by Historic England when advocating the value of heritage to those outside the sector.

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[1] Heritage Counts (2014)

[2] e.g. HLF Economic Impact of Heritage Tourism (2013); Arup (2005) An Economic, Social and Cultural Impact Assessment of Heritage in the North East
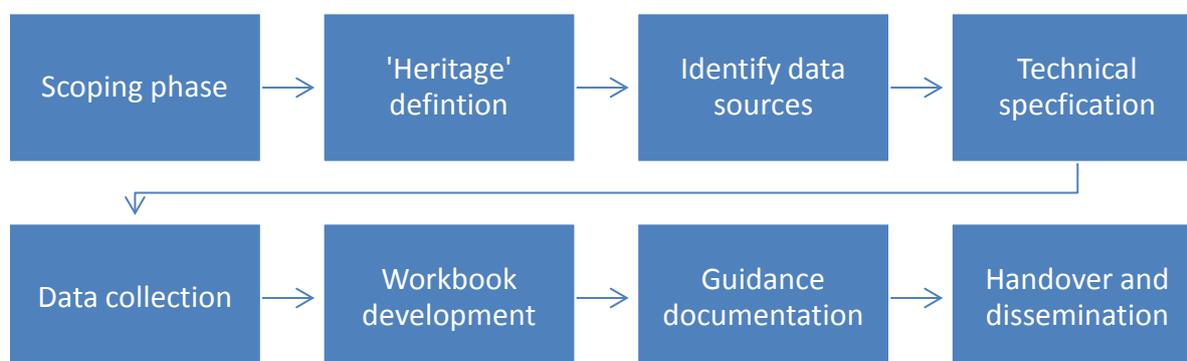
2. Challenges

This section provides an overview of the key challenges faced during the workbook development work.

- **Defining heritage**: The heritage sector has an inclusive definition. Instead of defining heritage, The Heritage Lottery Fund encourages people to identify their own heritage and explain why it is valued by themselves and others. However, a clearly defined scope is needed for this type of workbook. Existing research varies in its sector coverage, so the approach taken for this work was to seek to ensure the breadth of the heritage sector is captured. Producing a theoretical definition, however, is only part of the process and ensuring data are available to fulfil this definition can prove an additional challenge.

- **Secondary data availability**: A key challenge of working with secondary data sources is in trying to isolate heritage within broader categories. For example, Standard Industrial Classification (SIC) and Standard Occupational Classification (SOC) codes are limited in their ability to define heritage. Similarly, where heritage-specific data are obtained it is not always available, or robust, at regional or sub-regional levels.

- **Stakeholder/steering group engagement**: Engagement is an important part of facilitating data collection. It is also key to ensuring acceptance and the subsequent use of the analysis that is delivered through the workbook. It is also, however, important to identify an individual responsible for the ultimate sign off of each aspect of the work during the development process.

- **Meeting the needs of different users:** As well as end users of the workbook, there will be some users who are required to make updates to it in the future and will require separate guidance on how to do this. There may be additional groups to consider, such as if individuals working out with the heritage sector may use it also.

- **Skills and capacity of users to update the workbook**: It is important to recognise potential limitations in the skills of those who will need to update the workbook and how often there will be resources available to make updates.

3. Approach

The workbook development process consisted of the following broad stages:

Scoping phase	→	'Heritage' defintion	→	Identify data sources	→	Technical specfication
Data collection	→	Workbook development	→	Guidance documentation	→	Handover and dissemination

The following sections provide an overview of each of these stages together with the resulting outputs.

3.1 Scoping Phase

This was considered one of the most important stages during the development and resulted in a detailed set of recommendations for the workbook. It was critical in defining what the workbook would look like, what it would include and how it would measure the impact of the heritage sector. It took the form of desk research and consultation with key stakeholders and the themes and questions that were explored are outlined in Table 1.

Table 1: Themes to consider when scoping the workbook

Theme	Example questions
User requirements	What will the workbook be used for? How will it be used? What indicators are needed? Who will use the workbook? What user skills do they have/need? Is there a preferred format? How frequently are updates required? What capacity exists to maintain and update the workbook following handover to the client?
Defining heritage	What definitions exist? How and why do they differ? How do definitions relate, in practical terms, to the indicators needed, and the available data?
Data availability	What secondary data (national, regional and local) relating to the economic impact of heritage is available? How robust is this data in the context of the region? How robust is the data at sub-sector level? What gaps in the available data are evident? Is primary data (potentially) available to fill the gaps identified?
Example workbooks	Are similar workbooks are already used by stakeholders? What are they used for? What are their (perceived) strengths and weaknesses?
Methodologies	What methodologies are used to measure the economic impact of heritage? Are both direct and indirect impacts measured? Are other methodologies used (e.g. in other sectors) which can be adopted?
Engaging data providers	What data are already collected and reported by stakeholders? At what points is it collected? Who is it reported to? Are there examples of good/best practice in engaging local or regional organisations in data sharing, which we might learn from?

This phase resulted in a number of outputs and recommendations as follows:

3.1.1 Definition

An inclusive definition of heritage was formed, as shown in Table 2.

Table 2: Heritage definition

Sector	Sub-sector	Segment (where relevant)
Archaeology	Archaeology: businesses	All archaeology businesses together with all freelance/self-employed archaeologists in all parts of the UK.
	Archaeology: specialised teams	University departments & Local Authorities
Conservation	Conservation: art and artefacts	
	Historic Buildings: Conservation Architects	
	Historic Buildings: Conservation Engineers	
	Historic landscapes: Landscape Architects	
	Historic Buildings: Building Craft Skills	
Planning and other related services for the historic built environment	Town planners	A local authority team
		Specialised teams in planning businesses
	Chartered surveyors with a conservation specialism	
	Conservation officers	
	Analysing and recording buildings history	
Cultural Heritage Institutions/Organisations.	Museums and Galleries	Museums
		Galleries
	Historic sites	Historic buildings
		Historic landscapes
	Libraries and archives	
	Heritage craft	
Managing public and government interaction with cultural heritage	Cultural Heritage membership organisations	
	Statutory staff at Cultural Heritage related Organisations.	

This definition was then applied, where possible, to all relevant data sources in order to isolate the heritage sector.

3.1.2 Identification of data sources

A data matrix was created in Excel to present all relevant sources that had been identified. These were grouped into 5 broad themes:

- Economy
- Workforce
- Tourism
- Property

- Public Investment[3]

Information captured in the matrix for each data source included:

- The data source and measure
- Availability (i.e. is it published or does it need to be commissioned)
- The spatial coverage and levels available
- Frequency of the data and if a historic time series is available
- If, and how, heritage could be isolated from the data

This was then refined in consultation with the steering group and used to define the final data specification for the interactive workbook.

As highlighted previously, applying the definition of heritage to data was a challenge. For some sources, however, data was not manipulated at all. This was because either:

- It was deemed unnecessary as the data source related wholly to heritage.; or
- No suitable method to isolate heritage was identified, but the data was still considered useful for capture in the tool. For example, the steering group considered that identifying the most prevalent countries of residence for international inbound visits would provide useful, contextual information even though the data was not specific to heritage tourism.

Where steps were taken to isolate heritage from data, this was done either by selecting relevant categories within specific data sources (i.e. for Great Britain Day Visits Survey[4], collating data *only* for responses that suggested the visits were heritage-related), or a coefficient was calculated from a secondary source and applied to apportion the data (i.e. Outputs in the Construction Industry[5] were apportioned by calculating a regional coefficient based on the proportion of pre-1919 buildings from VOA[6] data)

Arguably the most complex method used to apply our heritage definition was in calculating employment (and subsequently GVA) for the sector. This approach reflected the DCMS Creative Industries Estimates[7] methodology of combining Standard Industrial Classification (SIC) and Standard Occupational Classification (SOC) codes to consider embedded workers (regardless of organisation) as well as organisational workers. This method was incorporated as follows:

- For sub-sectors of heritage for which we are predominantly concerned with the individuals involved rather than their wider organisations (for example, conservation officers) we utilised the relevant SOC codes (e.g. 2141: conservation professionals) for employment figures. In these instances data from the Annual Population Survey (APS) were used.

- For sub-sectors that we consider the whole organisations relevant (e.g. historic sites, museums etc.) we used the SIC codes to obtain the relevant employment figures. In these instances data from the Business Register Employment Survey (BRES) were used.

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[3] Though information relating to private investment was also of interest, relevant data was not available.

[4] https://www.visitengland.com/biz/resources/insights-and-statistics/market-size-and-value/domestic-day-visits last accessed on 22/03/2016

[5] http://www.ons.gov.uk/businessindustryandtrade/constructionindustry/bulletins/outputintheconstructionindustry/previousReleases last accessed on 22/03/2016

[6] https://www.gov.uk/government/statistics/council-tax-property-attributes last accessed on 22/03/2016

[7] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/394668/Creative_Industries_Economic_Estimates_-_January_2015.pdf last accessed on 22/03/2016

- Where the SIC or SOC was too broad we looked to a secondary source to apply a percentage we deemed best represents the heritage share of the category. The preference was to identify proportions specific to each region, however national proportions were used in the absence of this as the next best measure. For example, *Skills Needs Analysis 2013 Repair, Maintenance and Energy Efficiency Retrofit of Traditional (pre-1919) Buildings in England and Scotland*[8] provided an estimate for how many people were involved in heritage building craft skills in the UK. This was used to create a percentage that could be applied to the relevant SICs to try and isolate heritage from non-heritage building craft skills.

- For sectors which we could not feasibly collate through either SIC or SOC, we looked to secondary sources to obtain employment figures. For example, regional employment figures for Archaeology were extracted from *Discovering the Archaeologists of the United Kingdom 2012-14*[9].

Further detail of this method and a full list of data sources used for this workbook can be found in Section 6.

3.1.3 Technical specification

A recommendation was made for the platform of the interactive workbook to be used at this stage. Microsoft Excel was deemed the most appropriate for the following reasons:

- The interface allows for a mixture of charts and tables, which can subsequently be copied and pasted into reports and other spreadsheets, if required.
- Worksheets can be populated with refreshed data with ease and minimal instruction to facilitate future updates.
- The software is widely accessible.

Screenshots of existing workbooks were also produced to help define the exact format and style (i.e. colours and types of charts) of the workbook.

3.2 Development of the interactive workbook and user guidance

The workbook was then created in line with the agreed specification. Due to the quantity of information included, the data was separated into the themes identified. To assist users further, key messages were extracted from the data and presented at the top of each page with links to the underlying data tables. This should promote consistency in how users are interpreting key results and may also encourage further exploration of the data beyond the key findings.

Two sets of clear guidance notes were also included in the workbook:

- Data guidance notes incorporated into the interactive workbook to inform users where the data are from and any manipulation applied.
- Update guidance notes in the form of a step-by-step guide to making data updates.

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[8] Skills Needs Analysis 2013 Repair, Maintenance and Energy Efficiency Retrofit of Traditional (pre-1919) Buildings in England and Scotland, English Heritage, Historic Scotland and CITB http://content.historicengland.org.uk/content/docs/education/skills-needs-analysis-2013-repair-maintenance-energy-efficiency-retrofit.pdf accessed on 22/03/2016

[9] Discovering the Archaeologists of the United Kingdom 2012-14, Aitchison & Rocks-Macqueen, Landward Research, 2014. http://www.discovering-archaeologists.eu/national_reports/2014/UK%20DISCO%202014%20UK%20national%20report%20english.pdf accessed on 22/03/2016

4. Data sources

The following list provides information relating to data sources that were used in the Heritage Economic Impact Indicators.

Data sources:	Types of indicators available and, where necessary, how to extract heritage specific data:
Accredited Museums, Arts Council England	Number of accredited museums and associated employment
Annual Business Survey and Annual Population Survey, both ONS	Employment (heritage, heritage by activity, broad sector, etc.) A variety of sources were used to create a coefficient to apply to the data from the main sources, as detailed in the following table:

Heritage sector	Data source	SIC or SOC	Multiplier(s) source
Museums	ACE Accredited Museums database	n/a	n/a
Historical sites and buildings	BRES	SIC 9103	SIC x SOC matrix
Archives	National estimates from BRES	SIC 91012	SIC x SOC matrix
Gardens	BRES	SIC 9104	SIC x SOC matrix
Building completion and finishing	BRES	SIC 433	SIC x SOC matrix and English Heritage's *Skills Needs Analysis 2013 Repair, Maintenance and Energy Efficiency Retrofit of Traditional (pre-1919) Buildings in England and Scotland*
Other specialised construction	BRES	SIC 439	SIC x SOC matrix and English Heritage's *Skills Needs Analysis 2013 Repair, Maintenance and Energy Efficiency Retrofit of Traditional (pre-*

activities			*1919) Buildings in England and Scotland*
Archaeologists	Provided by Historic England from a variety of sources and from the Landward Research report *Archaeologists of the United Kingdom 2012–14*[10]	n/a	n/a
Conservation professionals	APS	SOC 2141	SIC x SOC matrix and regional proportion of pre-1919 buildings (VOA data)
Architects	APS	SOC 2431	SIC x SOC matrix and regional proportion of pre-1919 buildings (VOA data)
Town planning officers	APS	SOC 2432	SIC x SOC matrix and regional proportion of pre-1919 buildings (VOA data)
Chartered surveyors	APS	SOC 2434	SIC x SOC matrix and regional proportion of pre-1919 buildings (VOA data)
Building and civil engineering technicians	APS	SOC 3114	SIC x SOC matrix and regional proportion of pre-1919 buildings (VOA data)

The English Heritage report *Skills Needs Analysis 2013 Repair, Maintenance and Energy Efficiency Retrofit of Traditional (pre-1919) Buildings in England and Scotland*[11] reported that 86,880 people were involved in heritage building craft skills in England in 2012. This was divided by total employment in built environment sectors, to give a multiplier of 0.31.

For Architects, Town planning officers, Chartered surveyors, Building and civil engineering technicians, multipliers are calculated based on the proportion of pre-1919 building stock in each region. This is derived from Council Tax: Stock of

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[10] http://www.discovering-archaeologists.eu/national_reports/2014/UK%20DISCO%202014%20UK%20national%20report%20english.pdf

[11] https://content.historicengland.org.uk/content/docs/education/skills-needs-analysis-2013-repair-maintenance-energy-efficiency-retrofit.pdf

	properties, 2015 data from the VOA[12] Where appropriate, these national multipliers were combined with regional multipliers derived from the APS in order to further avoid double-counting between APS and BRES. Using APS data at regional level, SIC x SOC matrices were constructed to examine the distribution of employment by SIC and SOC, and to identify the intersection. APS microdata are required for this analysis, accessed under Special License via the UK Data Service with Approved Researcher status from ONS. To minimise potential issues relating to the reliability of data for small sample sizes, data for the three years examined was collated for analysis and averaged to derive multipliers. For each heritage sector, the same multiplier is then applied to all three years.
ONS Regional GVA Estimates and Annual Population Survey, both ONS	Economic output from heritage is estimated using a method adapted from that used in the DCMS Creative Industries Economic Estimates. The method is similar to that used by TBR to estimate economic output in other activities which are difficult to define using Standard Industrial Classification (SIC) or Standard Occupational Classification (SOC) codes. Our estimate for output from heritage is derived from Regional GVA Estimates (income approach) published by ONS by apportioning the regional estimate based on earnings data from the Annual Population Survey. ONS' Regional GVA Estimates provide estimates at regional level which are broadly in line with the National Accounts (Blue Book) methodology. National GVA is estimated by summing regional estimates. Annual Population Survey microdata are required, as this is the only version of the data which provides data for both Standard Industrial Classification (SIC) and Standard Occupational Classification (SOC) codes in the required detail. Data are accessible under Special License from the UK Data Service; access requires Approved Researcher status from ONS. The Annual Population Survey is used to calculate median earnings for relevant heritage sectors and occupations within the selected region. Median earnings are then multiplied by estimated employment in heritage sectors and occupations (calculated using the same multipliers used in estimating heritage employment) to derive weighted earnings in heritage. This estimate of heritage earnings is then divided by total weighted earnings to calculate the percentage of total earnings which heritage accounts for. This percentage is then applied to the ONS regional GVA estimate in order to estimate heritage GVA.
Input-output tables, The Scottish	This table requires figures for GVA to have been calculated, as detailed in section 7.1.1 above. A Type II multiplier is calculated using the method described in Ecorys' report *The Economic Impact of Maintaining and Repairing Historic Buildings*

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[12] https://www.gov.uk/government/statistics/council-tax-stock-of-properties-2015

Government; ONS Input-Output Analytical Tables	*in England, 2012*. This method combines multipliers published at UK level by ONS, and multipliers published by the Scottish Government. The calculations are as follows: (Output multiplier in the UK / Output multiplier in Scotland) * GVA multiplier in Scotland (Output multiplier in the UK / Output multiplier in Scotland) * employment multiplier in Scotland Multipliers for SIC 91 are applied across all Heritage sectors. The same multiplier is applied to all years.
Council Tax: property attributes (England and Wales), VOA	Heritage property has been defined for the purposes of this work as pre-1919. The property build period indicator can therefore be used to extract this heritage specific data.
General fund revenue account outturn; Local authority capital expenditure, receipts and financing, both DCLG	Revenue expenditure, net total costs, etc. on heritage, museums and galleries, archives, and total cultural and related services. A 'total heritage sector' category can be created by summing heritage, museums and galleries, and archives. Also capital expenditure etc. on culture and heritage and total culture and related services.
Designated Outstanding Collections, Arts Council England	Number of designated outstanding collections.
Family Spending, ONS	Average weekly household expenditure on cinema, theatre and museums, etc.
GB Tourism Survey (GBTS)	Three-year averages of domestic overnight / domestic overnight holiday trips (total and heritage) and domestic overnight / holiday spend (total and heritage). The approach taken to apportion the figures for Heritage-related tourism uses an activities-based approach. GBTS provides a national breakdown of the data by activities undertaken, which allows us to derive a proportion for Heritage activities undertaken as a portion of all activities undertaken by visitors. The following categories were classed as 'heritage' in order to create this proportion: Visiting a historic house, stately home, palace Visiting a cathedral, church, abbey or other religious building Visiting a country park Visiting a garden Visiting a castle/other historic site Visiting an art gallery Viewing architecture and buildings Visiting a beach

	Visiting a wildlife attraction/ nature reserve Visiting a museum
Great Britain Day Visits Survey (GBDVS)	Volume / value of visitors by destination, average spend per visit. The approach taken to apportion the figures for heritage-related tourism uses an activities-based approach. GBDVS provides a national breakdown of the data by activities undertaken, which allows us to derive a proportion for heritage activities undertaken as a portion of all activities undertaken by visitors. This figure has been used as a multiplier to the data to estimate the heritage-related portion of trips and spend. The following categories were classed as 'heritage': Visited a beach Visited a country park Visited a garden Visited a wildlife attraction/ nature reserve Visited an art gallery Visited a cathedral, church, abbey or other religious building Visited a historic house, stately home, palace Visited a museum Visited a castle/other historic site Viewed architecture

International Passenger Survey, ONS	Inbound visits (visits and total spend), international inbound visits by country of origin. The approach taken to apportion the figures for heritage-related tourism uses an activities-based approach. IPS provides a national breakdown of the data by activities undertaken, which allows us to derive a proportion for heritage activities undertaken as a portion of all activities undertaken by visitors. The following categories were classed as 'heritage': Went to countryside or villages Went to the coast or beaches Visited religious buildings Visited museums or art galleries Visited castles or historic houses Visited parks or gardens
Output in the Construction Industry, ONS Also using Council Tax: Stock of properties 2015, VOA	Construction outputs. To obtain heritage specific figures, create a coefficient by calculating the number of pre-1919 buildings as a proportion of all buildings in the region using the Council Tax: Stock of Properties, VOA data. This coefficient can then be applied to the Output in the Construction Industry data.
Taking Part	Proportion of people who have visited a heritage site, museum or gallery, or archive.

5. Further information

For anyone considering the creation or commission of an interactive workbook and who would like further advice, please contact

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