

INTRODUCTION

This toolkit provides AIM members with a straightforward approach to help museums in estimating the impact they might have on their local economy. The Toolkit was produced in 2010, and **revised in 2014 with updated tourism spend metrics, and more detailed geographic assumptions for day visits.**

Estimating economic impacts is a specialised and technical task, which can often involve a range of complex assumptions. Whilst it does not represent a full independent economic impact assessment, this toolkit does present an approach that can be used by museums to estimate their economic value for the purposes of advocacy and making a case to economic and tourism stakeholders. It is important that for each stage, the most accurate available information and data is used, which in an ideal situation would include the collection of museum specific information (e.g. visitor surveys).

The Toolkit is structured into three levels as follows:

- **Level 1 - Tourism Impacts:** This stage is for those museums who want to express the impact of visits to their museum in terms of the economic value to their local and regional economies.
- **Level 2 - Employment Impacts:** This stage is for those museums who want to express the impact of their employees (if they have them) in terms of the economic value to their local and regional economies.
- **Level 3 - Impacts of Spend on Goods and Services:** This stage is for those museums who want to express the impact of their spending on goods and services in terms of the economic value to their local and regional economies.

The DC Research team are happy to discuss the toolkit with AIM member museums, and provide summary help and guidance as appropriate. However DC Research Ltd accepts neither liability nor responsibility for its use, or the implications of its use, by AIM member (or any other) museums. It should also be noted that the data and assumptions in Tables 1A and 1B and 2 will change over time as new data and impact methodologies become available, and as such, data and assumptions included within this toolkit will need to be refreshed on a regular basis to ensure it is up to date.

Collecting data

The robustness of the toolkit, and of its use, depends on the museum specific information and data that is used. In all instances, information and data that is accurate and relates specifically to the individual museum using the toolkit is the best approach to adopt. In instances where museum specific data is not readily available, an alternative approach is for museums to make judgements based on their experience. However it should be borne in mind that such estimates are secondary to museum specific data, and the generation of specific information and data should always be considered as the preferred approach (particularly in regard to the number and composition of visitors).

For each level of the toolkit, it is important that museums set out where information and data has come from and, where judgement has been used in the absence of such information and data, a brief explanation of the supporting rationale.

Where reference is made to museum size, AIM's standard approach has been used:

- Small (0 to 9,999 visitors per annum).
- Medium (10,000 to 49,000 visitors per annum).
- Large (more than 50,000 visitors per annum).

Level 1: Tourism Impacts

This stage is for those museums who want to express the gross impact of visits to their museum in terms of economic value. The calculation of economic value of visitors to a museum is relatively straightforward, through following the steps below:

1. Establish the total number of visitors to the museum for the last complete year and, importantly in terms of impact, separate out the number of adult and number of child visitors.
2. Establish the proportion (and subsequently the number) of adult visitors that are 'local' (i.e. from the local community of the museum), 'day visitors', and 'overnight visitors' (i.e. those who have stayed in the area overnight). In doing this, the following might be helpful:
 - a. A split between day and overnight visitors can be estimated based on analysis of postcodes from museum specific Gift Aid data (where travel time to the museum of more than three hours can be assumed to equate to an overnight stay, calculated by analysing a sample of post code data). Alternatively, estimates of the proportion of day, overnight and local visitors can be derived from museum specific visitor surveys.
 - b. Where specific visitor information (e.g. through surveys) is not available, the proportion of visitors that are 'local' is a matter for the judgement of the museum. As a guide, survey evidence suggested that the mean average proportion of local visitors for a small museum is 47%, for a medium museum 44% and for a large museum in 31%.
3. Select the area that the museum is located in from Table 1A or 1B. You can either select your region from Table 1A, or if you want to use a more local level of geography for local and day visits, select your local area from Table 1B.
4. To calculate the gross impacts of visitors to the museum: multiply the number of local visitors by the relevant information in Table 1A or 1B ('spend by local visitor column'); the number of day visitors by 'spend per day visit'; and the number of overnight visitors by 'spend per night'. Summing these three values up will provide the total gross economic impact of visitors to the museum.

Level 1 – Tourism Impacts Example:

A museum in Leicestershire (East Midlands) had 13,500 visitors in the last financial year (2012/13), of which 10,000 were adults. The museum estimates that 40% are local visitors, 40% day trippers and 20% overnight visitors.

- Local visitors: $4,000 \times £13.97 = £55,880$
- Day trippers: $4,000 \times £27.94 = £111,760$
- Overnight visitors: $2,000 \times £56.50 = £113,000$

Total gross visitor impacts of £280,640 in the local economy in 2012/13.

Level 2: Employment Impacts

This stage is for those museums that employ paid staff and want to express the wider economic impacts (referred to as the indirect and induced impacts) of their employees on local and regional economies. The estimation of the economic value of museum employees is driven by a number of assumptions and is set out through following the steps below:

1. Establish the number of full time equivalent (FTE) employees for the last complete year.
2. Determine the proportion of FTE employees that **do not** live locally (say in the local authority area where the museum is located).
 - a. If for example this proportion is 25%, this gives the museum an employment 'leakage' ratio of 0.25.
 - b. It is preferable that leakage is calculated from museum specific information. However if this is not possible, then museums can use the relevant employment leakage ratio from Table 2.
3. Using Table 2, decide on the most appropriate 'displacement ratio' assumption relevant to the museum:
 - a. Displacement for a museum that is of moderate or low significance to their local visitor economy should be 25% (i.e. a ratio of 0.25).
 - b. Displacement for a museum that is a key attraction, or is of major significance to their local visitor economy should be 37.5% (i.e. a ratio of 0.375).
4. In order to calculate the wider impacts of employment at the museum, the total number of FTE staff needs to be applied to a formula that takes account of deadweight, leakage, displacement and multiplier factors.
5. This can be expressed as follows: Net wider economic impacts of employment (i.e. Indirect and Induced Employment) = number of FTE staff x (1-deadweight) x (1-leakage) x (1-displacement) x (Multiplier). For each ratio this needs to be expressed in the calculation as a number (e.g. 25% as 0.25).

Level 2 Employment Impacts Examples:

A medium sized museum that is of major significance to its local visitor economy employs a total of 15 full time equivalent staff (10 full time and 5 part time).

Indirect and induced jobs = $15 \times (1-0.25) \times (1-0.26) \times (1-0.375) \times 1.2 = 6.2$

Total direct, indirect and induced employment value of 21.2 jobs.

A small museum of moderate significance to its local visitor economy employs a total of 5 full time equivalent staff (3 full time and 2 part time).

Indirect and induced jobs = $5 \times (1-0.25) \times (1-0.21) \times (1-0.25) \times 1.2 = 2.7$

Total direct, indirect and induced employment value of 7.7 jobs.

Level 3: Impacts of Spend on Goods and Services:

This stage is for museums who want to express the impact of their spending on goods and services in terms of economic value to their local and regional economies. The estimation of economic value of museum spend on goods and services is driven by a number of assumptions and is set out through following the steps below:

1. Establish the total amount spent on goods and services (excluding spend on employment) for the last complete year.
2. Determine the proportion of spend on goods and service with suppliers that **are not** based locally (say in the local authority area where the museum is located).
 - a. If for example this proportion is 50%, this gives the museum a spend 'leakage' ratio of 0.5.
 - b. It is preferable that leakage is calculated from museum specific information on supplier location. However if this is not possible, then museums can use the relevant spend leakage ratio from Table 2.
3. Using Table 2, decide on the most appropriate 'displacement ratio' assumption relevant to the museum:
 - a. Displacement for a museum that is of moderate or low significance to their local visitor economy should be 25% (i.e. a ratio of 0.25).
 - b. Displacement for a museum that is a key attraction, or is of major significance to their local visitor economy should be 37.5% (i.e. a ratio of 0.375).
4. In order to calculate the wider economic impacts of the museums spend on goods and services, the total value of spend on goods and services needs to be applied to a formula that takes account of deadweight, leakage, displacement and multiplier factors.
5. This can be expressed as follows: Net wider economic impact of spend on goods and services (i.e. Indirect and Induced Spend) = spend on goods and services x (1-deadweight) x (1-leakage) x (1-displacement) x (Multiplier). For each ratio this needs to be expressed in the calculation as a number (e.g. 25% as 0.25).

Level 3 Goods and Services Examples:

A medium sized museum that is of major significance to its local visitor economy spent a total of £200,000 in the last financial year.

Indirect & induced spend = £200,000 x (1-0.25) x (1-0.5) x (1-0.375) x 1.2 = £56,250

Total direct, indirect and induced spend of £256,250.

A small museum of moderate significance to its local visitor economy spent a total of £50,000 in the last financial year.

Indirect & induced spend = £50,000 x (1-0.25) x (1-0.55) x (1-0.25) x 1.2 = £15,188

Total direct, indirect and induced spend of £65,188.

ASSUMPTIONS

Table 1A: Regional Visitor Spend assumptions			
Region	Spend per 'local visitor' (50% of day visit)	Spend per day visit	Spend per night
Northern Ireland	£13.75	£27.50	£46.59
East Midlands	£14.99	£29.97	£56.50
East of England	£15.18	£30.36	£52.97
London	£20.40	£40.80	£100.51
North East England	£16.48	£32.96	£64.75
North West England	£15.86	£31.73	£70.11
South East England	£15.40	£30.80	£60.02
South West England	£16.97	£33.94	£55.45
West Midlands	£15.29	£30.57	£59.61
Yorkshire and The Humber	£13.48	£26.96	£59.64
Scotland East (Perthshire; Angus & Dundee; Kingdom of Fife; Edinburgh & Lothians)	£15.22	£30.44	£62.20
Scotland North (Highlands & Islands; Aberdeen & Grampian; Western and Northern Isles)	£17.05	£34.09	£63.08
Scotland South (Dumfries & Galloway, and Scottish Borders)	£14.71	£29.43	£79.93
Scotland West (Argyll, The Isles, Loch Lomond, The Trossachs, Glasgow & Clyde Valley, Ayrshire & Arran)	£16.68	£33.36	£49.19
North Wales (Anglesey, Conwy, Denbighshire, Flintshire, Wrexham, Gwynedd North (former Arfon and Dwyfor))	£14.39	£28.78	£38.43
Mid Wales (Ceredigion, Powys, Gwynedd South (Meirionnydd))	£18.96	£37.92	£38.57
South West Wales (Neath/Port Talbot, Carmarthenshire, Swansea, Pembrokeshire)	£22.49	£44.98	£67.36
South East Wales (Bridgend, Rhondda Cynon Taf, Merthyr Tydfil, Caerphilly, Blaenau Gwent, Torfaen, Vale of Glamorgan, Cardiff, Newport, Monmouthshire)	£15.30	£30.61	£51.19
<p>Source: DC Research analysis of various regional/national tourism volume and value datasets, 2014 http://www.detini.gov.uk/tourism_statistics_by_local_government_district_2011-2012.pdf http://www.visitengland.org/insight-statistics/major-tourism-surveys/dayvisitors/index.aspx http://www.visitengland.org/insight-statistics/major-tourism-surveys/overnightvisitors/index.aspx</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Domestic night value used as proxy for one night's domestic and/or overseas spend 2. Full detail set out in 'Economic Value of Independent Museum Sector' DC Research for AIM, 2010. 3. Spend assumptions will need to be updated as and when data is released 4. Value for a 'local' visitor has been assumed to be 50% of a full day trip following workshop discussion at the 2010 AIM Conference. Museums can adjust this to reflect bespoke circumstances based on scale and average visitor duration. 			

Table 1B: Local Area Visitor Spend assumptions (local and day visits only)					
Locality	Spend per 'local visitor' (50% of day visit)	Spend per day visit	Locality	Spend per 'local visitor' (50% of day visit)	Spend per day visit
England			Scotland		
Bedfordshire	£8.90	£17.79	Aberdeen City	£22.23	£44.46
Berkshire	£13.72	£27.44	Aberdeenshire	£13.29	£26.58
Bristol/Bath area	£15.79	£31.57	Angus	£7.80	£15.59
Buckinghamshire	£22.68	£45.35	Argyll and Bute	£11.54	£23.07
Cambridgeshire	£17.99	£35.98	Clackmannanshire	£10.63	£21.25
Cheshire	£17.99	£35.97	Dumfries and Galloway	£13.07	£26.14
Cornwall and Isles of Scilly	£17.88	£35.76	Dundee City	£19.18	£38.36
Cumbria	£17.61	£35.21	East Ayrshire	£13.92	£27.85
Derbyshire	£13.40	£26.80	East Lothian	£15.19	£30.37
Devon	£14.80	£29.60	Edinburgh	£23.95	£47.90
Dorset	£21.72	£43.45	Eilean Siar	£13.96	£27.91
Durham	£14.18	£28.35	Falkirk	£18.44	£36.88
East Sussex	£20.32	£40.64	Fife	£16.80	£33.61
Essex	£12.91	£25.82	Glasgow City	£22.45	£44.90
Gloucestershire	£25.59	£51.18	Highland	£33.30	£66.60
Greater Manchester	£18.22	£36.44	Inverclyde	£10.37	£20.74
Hampshire	£16.14	£32.28	Midlothian	£9.97	£19.94
Herefordshire	£13.23	£26.45	Moray	£19.60	£39.21
Hertfordshire	£11.29	£22.59	North Ayrshire	£16.43	£32.86
Isle of Wight	£16.21	£32.43	North Lanarkshire	£11.44	£22.89
Kent	£16.94	£33.88	Perth and Kinross	£31.47	£62.93
Lancashire	£13.76	£27.51	Renfrewshire	£12.78	£25.56
Leicestershire	£13.97	£27.94	Scottish Borders	£11.77	£23.54
Lincolnshire	£14.19	£28.38	South Ayrshire	£14.96	£29.93
London	See Table 1A		Stirling	£20.52	£41.04
Merseyside	£14.29	£28.57	West Dunbartonshire	£14.69	£29.39
Norfolk	£14.08	£28.16	West Lanarkshire	£9.41	£18.82
North Lincs /Humberside	£12.86	£25.72	West Lothian	£19.88	£39.77
North Yorkshire	£15.34	£30.69	WALES		
Northamptonshire	£14.40	£28.80	Blaenau Gwent	£8.73	£17.46
Northumberland	£13.60	£27.19	Bridgend	£12.67	£25.33
Nottinghamshire	£25.48	£50.97	Caerphilly	£10.01	£20.02
Oxfordshire	£14.11	£28.22	Cardiff	£27.18	£54.36
Rutland	£17.61	£35.22	Carmarthenshire	£10.88	£21.77
Shropshire	£15.70	£31.41	Ceredigion	£11.82	£23.65
Somerset	£18.70	£37.39	Conwy	£17.31	£34.61
South Gloucestershire	£12.13	£24.25	Denbighshire	£10.47	£20.95
South Yorkshire	£14.42	£28.84	Flintshire	£9.05	£18.10
Staffordshire	£17.00	£34.00	Gwynedd	£14.19	£28.37

Table 1B: Local Area Visitor Spend assumptions (local and day visits only)					
Locality	Spend per 'local visitor' (50% of day visit)	Spend per day visit	Locality	Spend per 'local visitor' (50% of day visit)	Spend per day visit
Suffolk	£12.86	£25.73	Isle of Anglesey	£28.46	£56.93
Surrey	£12.50	£24.99	Merthyr Tydfil	£12.50	£25.01
Tees Valley	£7.31	£14.62	Monmouthshire	£15.88	£31.77
Tyne and Wear	£13.94	£27.89	Neath Port Talbot	£11.55	£23.11
Warwickshire	£13.16	£26.31	Newport	£20.78	£41.56
West Midlands	£14.40	£28.80	Pembrokeshire	£13.66	£27.32
West Sussex	£13.39	£26.79	Powys	£18.08	£36.15
West Yorkshire	£11.77	£23.53	Rhondda, Cynon, Taff	£12.10	£24.19
Wiltshire	£12.74	£25.49	Swansea	£16.88	£33.75
Worcestershire	£16.12	£32.25	The Vale of Glamorgan	£11.59	£23.18
			Torfaen	£9.80	£19.60
			Wrexham	£10.60	£21.20

Source: DC Research analysis of various regional/national tourism volume and value datasets, 2014
http://www.detini.gov.uk/tourism_statistics_by_local_government_district_2011-2012.pdf
<http://www.visitengland.org/insight-statistics/major-tourism-surveys/dayvisitors/index.aspx>
<http://www.visitengland.org/insight-statistics/major-tourism-surveys/overnightvisitors/index.aspx>

Notes:

1. Domestic night value used as proxy for one night's domestic and/or overseas spend
2. Full detail set out in 'Economic Value of Independent Museum Sector' DC Research for AIM, 2010.
3. Spend assumptions will need to be updated as and when data is released
4. Value for a 'local' visitor has been assumed to be 50% of a full day trip following workshop discussion at the 2010 AIM Conference. Museums can adjust this to reflect bespoke circumstances based on scale and average visitor duration.

Table 2: Employment and Spend Assumptions and Ready Reckoners		
Factor	Value	Rationale
Deadweight (employment and spend)	25%	Rationale based on established status of individual museums in their locations
Employment leakage (use only if information on home location of employees is not available)	Small museum = 21% Medium = 26% Large museums 25%	Based on survey evidence split by size of museum
Spend leakage (use only if information on home location of employees is not available)	Small museum = 55% Medium = 50% Large museums 61%	Based on survey evidence split by size of museum
Displacement (employment and spend)	25% or 37.5%	<ul style="list-style-type: none"> 25% for museums that classify themselves as being of 'low' or 'moderate' significance in their local visitor economy. 37.5% for museums that classify themselves as being of 'major' significance, or a 'key attraction' in their local visitor economy, or those that did not classify themselves.
Multiplier (employment and spend)	1.2 (Type II indirect and induced)	A conservative sector specific multiplier. Assumes low indirect multiplier and higher induced multiplier – reflecting mainly national procurement patterns and local employee residential locations.

Source: DC Research adapted from English Partnership Additionality Guidance (3rd Edition, October 2008) and Scottish Enterprise Guidance Note (November 2008).

Note: Full detail set out in 'Economic Value of Independent Museum Sector' DC Research for AIM, 2010.

Key terms and definitions

Deadweight	Value or impact that would have occurred without the museum.
Direct effects	Actual jobs and spending created by a museum.
Displacement	The proportion of museum value or impact accounted for by reduced value or impact elsewhere in the local area.
Indirect and induced effects	Supply chain linkages, and income multiplier effects on local employment and incomes created in local areas as a result of the activities of a museum.
Leakage	The proportion of value or impact that benefit those outside of the museum's local area.
Multiplier effects	Further economic activity (jobs, expenditure or income) associated with additional local income, local supplier purchases and longer term effects.
Ready reckoner /ratio	An economic assumption used in the absence of museum specific data.
Source: DC Research adopted from English Partnership Additionality Guidance (3rd Edition, October 2008) and Scottish Enterprise Guidance Note (November 2008).	

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