

Economic and Social Impact of Imperial War Museums Duxford

A Final Report by Hatch Regeneris, January 2019

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Executive Summary

Hatch Regeneris was commissioned by Imperial War Museums (IWM) to assess the economic and social value of Imperial War Museums Duxford (IWMD). The contribution of IWM to the East of England economy can be thought of in two ways:

- As an **economic entity** that produces its own output and employs people (*direct*), generates output and employment in other sectors through supply chain (*indirect*) effects and personal expenditure (*induced*) effects, along with spillover effects on the tourism sector through the expenditure of visitors to IWMD in the wider economy.
- As an institution that **delivers social value** that is not fully captured in the value of market transactions or economic statistics. This social value is derived from the wellbeing impact on visitors and volunteers, as well as from its bespoke programme of community activities and education programmes.

These impacts are generated from the full array of activities that IWM carries out. For the purposes of our assessment we distinguish between:

- **Day-to-day operations:** impacts occurring from the core day-to-day activities of the museum (ie visitors to the museum and associated income, staff and volunteers).
- **Events:** impacts from the special events that the IWM periodically hosts, such as the three Air Shows and large conferences
- **Third parties:** there are other third party organisations located at the Duxford site, ranging from aircraft and maintenance engineering companies to organisations associated with military heritage. These companies also generate economic and social impacts, which can to some degree be traced back to the presence of IWM, given IWM's role in attracting visitors and contribution towards maintenance and use of the site.

Summary of Economic Impact

Direct

IWM has a significant economic footprint in the East of England region given its role as an employer and purchaser of goods and services in the economy. In 2017/18¹, IWM employed a total of 125 permanent and temporary staff based at Duxford, equivalent to around **85 Full Time Equivalent (FTE) jobs**, and supported £4.6 million in Gross Value Added (GVA).²

In addition to IWM itself, there are 27 third party organisations located on-site at Duxford operating in a variety of sectors and undertaking a wide range of activities, including aviation support, specialist aircraft maintenance and engineering. It is estimated that these organisations employ around 170 permanent and temporary staff at Duxford, equivalent to around **150 FTE jobs, supporting £8.2m GVA**.

Indirect and Induced

IWM and third party organisations also support economic impact through their significant spend with suppliers, as well as the spend of wages by both direct staff and staff within the supply chain.

¹ Impact figures refer to the 2017/8 financial year

² Note: Gross Value Added is the key measure of economic activity for an organisation, sector or region. It is measured, in broad terms, as the sum of gross operating surplus before tax, interest costs, depreciation and amortisation and employment costs.

In 2017/18, together IWM and third-party companies spent over £17m with suppliers across the UK to support their activities at Duxford. Just over £4m of this was spent with suppliers based in the East of England. This expenditure, plus the expenditure of staff (on food and drink, clothing, transport and so on) is estimated to support around **310 FTE jobs and £11.3m in GVA**.

Visitor Related Impacts

In 2017/18 **IWMD received 389,755 visits**, of which 90,618 were from the three Air Shows held in May, July and September. Around two thirds of these visits were made by residents from outside of the East of England region, and 12% (around 47,000) were from overseas. **1 in every 11 overseas visitors to the region visited IWMD**.

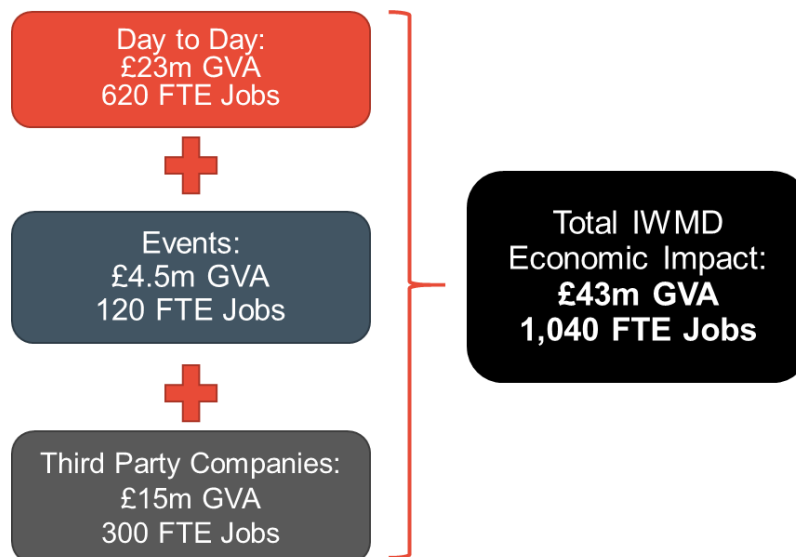
The main economic impact from these visitors arises from their expenditure outside the Museum and the site itself. After taking into account additionality factors (especially the extent to which IWM served to attract visits and spend to the region that would not otherwise have taken place), it is estimated that **IWM brought in around £21m of additional expenditure to the East of England economy**. This expenditure benefited a variety of sectors including hotels, bars and restaurants, shops, and transport companies. Around **£11 million of this came from overseas visitors**.

We estimate that this expenditure related to **IWM supported a net additional 500 FTE jobs and £19m of GVA in the regional economy**.

Total Economic Impact

Bringing the direct, indirect, induced and visitor impacts together, it is estimated that IWM supports **£43m in GVA and 1,040 FTE jobs** in the East of England.

A summary of the total economic impact of IWM in the East of England, split by type of activity, is shown below.



Economic Impact of Flying

A critical asset at IWMD is its fully licensed status and active use as an airfield. Based on assumptions regarding the dependency of economic activity to be able to fly on site, we estimate **that the ability to use the runway for flying at IWMD supports 470 FTE jobs and £20m in GVA, representing 47% of the total economic impact of IWM in this region**.

Social Impacts

IWM generates a range of wider impacts that are not fully captured through market transactions alone. These social impacts bring value to the community beyond that represented by the price of a ticket, including improved learning outcomes, increased social cohesion, increased health and wellbeing, and preservation of heritage.

Learning and Engagement

IWMD is visited by thousands of school children each year. In 2017/18, **47,200 students participated in formal schools' programme activities at IWMD**, mainly at the Key Stage 2 (Years 3-6) and Key Stage 3 (Years 7-9) levels. IWMD is very important to its local area in particular, as **almost one fifth of all schools in the East visit IWMD annually**.

Volunteering

IWM's volunteer cohort plays a central role in the day-to-day function of the museum, making a significant contribution to its operations. With around **284 active volunteers** engaged at Duxford each year³, volunteers contribute **around 55,000 hours annually, valued at around £571,756**.

There is also wide academic consensus on the positive impacts of volunteering on the personal health and wellbeing of volunteers themselves. Participation in volunteering can improve mental and physical health, life satisfaction, self-esteem, and happiness, while lowering depressive symptoms and psychological distress. Some estimates put **the value of relief from depression/anxiety at £36,766 per person per annum**.⁴

The Social Value Bank quantifies the value of regular volunteering at £3,249 per person per annum.⁵ With an average cohort of 284 museum volunteers, **the social value of volunteering at IWMD can be estimated at £923,000 per annum**.

Local Health and Wellbeing

There is wide evidence to suggest that museums contribute to **local health and wellbeing, including placemaking and identity, community engagement and social inclusion**.

IWMD is a significant local asset, with evidence suggesting that **2% of all visits to museums or galleries by East of England residents can be attributed to IWM**. We estimate that **the wellbeing value of visitation to IWMD is between £1.2 million to £2.2 million**.

Heritage and Non-Use Value

Located on the historic Duxford site, IWM provides a continued link to Britain's aviation heritage. Not only does it play an important role in conserving highly valuable collections, but it also provides local and international communities and schoolchildren with access to them. A 2014 study estimates **the well-being value of visiting heritage sites to be £1,646 per person year**.⁶

³ Uses volunteer averages from June quarter 2016 to June quarter 2018.

⁴ Yeung, JWK., Zhang, Z., Yuen Kim, T. (2017). 'Volunteering and health benefits in general adults: cumulative effects and forms'. *BMC Public Health*. Vol. 18, no. 8.

⁵ HACT. *Social Value Bank*.

⁶ Fujiwara, D., Cornwall, T., and Dolan, P. (2014). *Heritage and Wellbeing*.

The Total Economic Value framework includes the concept of *non-use value*, which encapsulates the wider value of the museum even for those who do not, or never intend to, visit it. As a centre for storing, restoring and displaying physical digital exhibits, this is relevant for IWM. It is possible to proxy this via the value of annual donations to IWMD⁷, which stood at **£230,000 in 2017/18**.⁸

⁷ The conventional method to ascertain the non-use value of an institution is to carry out a survey of non-users and ask them their willingness to pay to preserve the museum. In the absence of survey data, it is a standard method to assume that some of the motivation for donating is to preserve the asset for non-users now and in the future. Therefore donations can be used as a proxy for the non-use value

⁸ Based on income from donation boxes at IWMD, individual donations, and Gift Aid.

1. Purpose of the Report

- 1.1. As a branch of Imperial War Museums, IWM Duxford explores the causes, course and consequences of conflict through the combination of a museum, historic site and living airfield. It is home to major exhibits including aircraft, military vehicles and naval vessels. It also stores the IWM's historic collections and carries out a significant range of community engagement activities, extending well beyond its role as a visitor attraction.
- 1.2. Whilst IWM has had economic impact assessments done in the past, there is an inherent value in having more up-to-date evidence that reflects changes and developments in its role, operations and impact. Further, the context has changed markedly since previous assessments – both the funding environment has changed dramatically, and the wider thinking on the role and value of museums and cultural sector organisations has also evolved in recent years. DCMS has placed increased emphasis on the concept of total economic value,⁹ which captures the wider social value of Museums, and the Mendoza Review¹⁰ has stressed museums' important placemaking role. The Heritage Lottery Fund has also recently published evaluation evidence on its own grant giving and there is a growing evidence base on the regeneration effects of culture¹¹.
- 1.3. In addition, as IWM implements its 20-year masterplan for future development of Duxford, and engages external stakeholders in this process, having up-to-date evidence on the economic and social impact of the museum is a useful tool.
- 1.4. Hatch Regeneris has therefore been commissioned to assess the economic and social impact of the IWMD for 2017/18 in the regional economy.

Overall Approach

- 1.5. In broad terms, IWM's economic contribution to the East of England can be thought of in two ways:
 - IWM as an economic entity that produces its own output and employs people, generates output and employment in other sectors through supply chain (*indirect*) effects and personal expenditure (*induced*) effects, along with spill over effects on the tourism sector through the expenditure of visitors to the IWM in the wider economy.
 - IWM as an institution that delivers social value that is not fully captured in the value of market transactions or economic statistics. This social value is derived from the wellbeing impact on day visitors and volunteers, as well as from its bespoke programme of community activities and education programmes. Measuring these elements uses aspects of the Total Economic Value framework,¹² which places emphasis on the value of user and non-user benefits.
- 1.6. A summary of our economic and social impact framework is outlined below, showing the key sources of economic and social value and how these are generated by the IWM's various activities. We have split out the impacts into three main areas:
 - Day-to-day operations: impacts occurring from the day-to-day activities of the museum (ie visitors to the museum, the museums income, staff and volunteers).

⁹ See Bakshi et. al (2014) *Measuring Economic Value in Cultural Institutions*

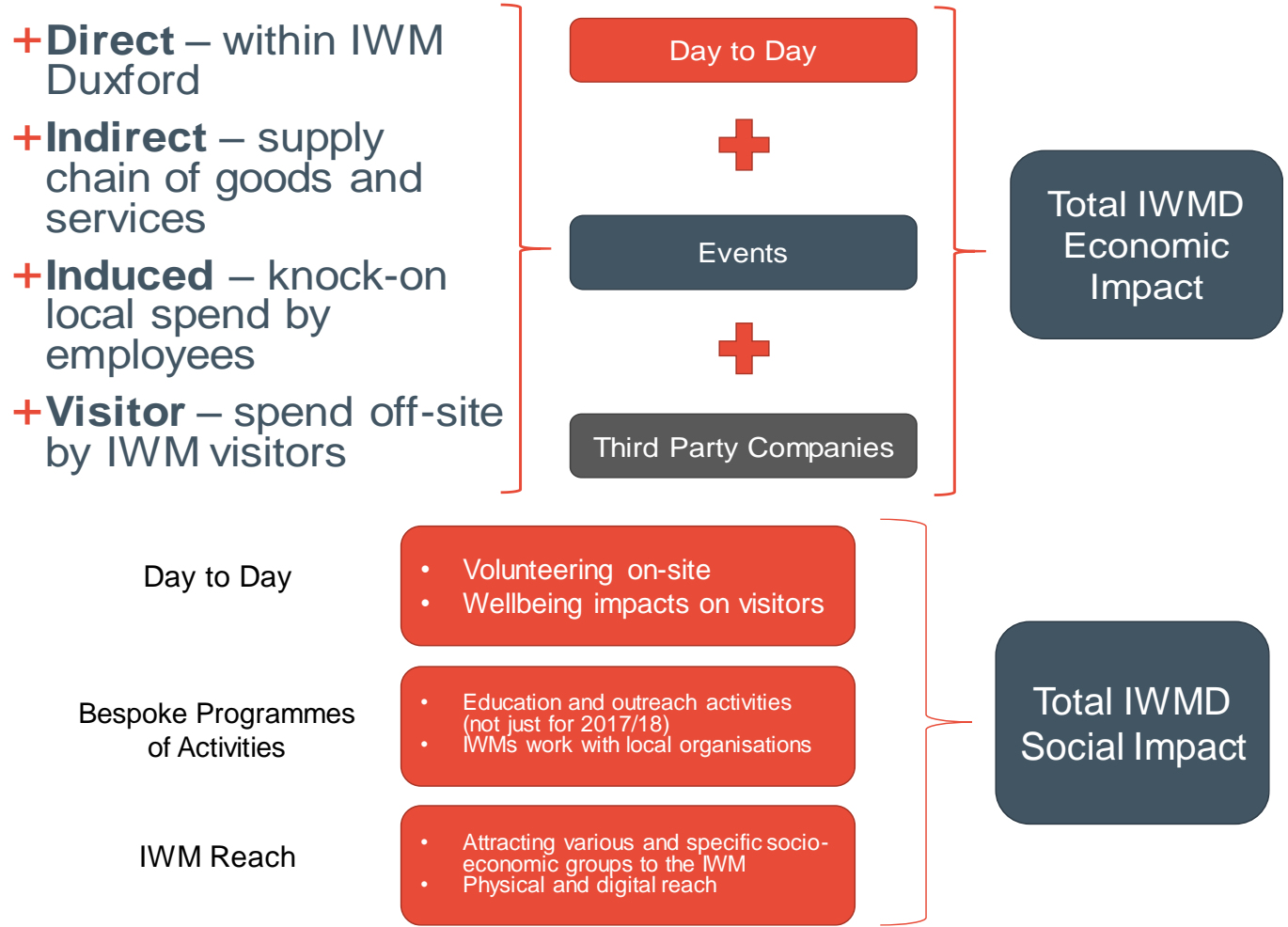
¹⁰ The Mendoza Review: an independent review of museums in England, Neil Mendoza, November 2017

¹¹ Ten Years On: The Impact of the Heritage Grants Programme 2002-2007, Heritage Lottery Fund, Mott MacDonald, September 2017

¹² See Bakshi et. al (2014) *Measuring Economic Value in Cultural Institutions*

- Events: impacts from the special events that the IWMD hosts, such as the three Air Shows and large conferences
 - Third parties: there are other third party organisations located at the IWMD site, ranging from aircraft and maintenance engineering companies to organisations associated with military heritage. These companies will also generate economic and social impacts, which can to some degree be traced back to the presence of IWM.
- 1.7. Our assessment covers these impacts for 2017/18, the latest complete financial year. Economic impacts are expressed in terms of employment and Gross Value Added (GVA)¹³ supported. Social impacts are expressed using statistics on outputs (where available), case studies and measures of wellbeing value, where appropriate.
- 1.8. In assessing the various economic impacts, the study considers the extent to which these are driven by/ dependent upon the ability to fly to and from the site. For many impact-generating activities, access to the working airfield is **critical**.

¹³ GVA is the key measure of wealth creation for an organisation, sector or region. It is measured, in broad terms, as the sum of gross operating surplus before tax, interest costs, depreciation and amortisation and employment costs.



IWMD, Economic and Social Impact Framework. Source: Hatch Regeneris

1.9. The report is structured as follows:

- Section 2 provides an overview of IWMD, outlining the background to the Museum and key activities that take place on site.
- Section 3 sets out the core economic contribution of IWMD (the direct, indirect and induced effects)
- Section 4 analyses the visitors to IWMD and assess the tourism spill-over effects generated by these visitors.
- Section 5 sets out the social impact of IWMD
- Section 6 brings the impacts together and provides a look the future for IWMD.

2. Overview of IWM Duxford

History of Museum

2.1. Duxford is a nationally significant historic site. Originally built in 1917, it was used to train bomber crews during the First World War (FWW). During the interwar period it became a training station for fighter pilots and in the Second World War (SWW) it was a key base for fighter squadrons and specialist units (including the American 78th Fighter Group (USAAF)). Following the end of the SWW it remained an RAF Command Station, until 1961 where upon it closed. Other organisations began to use the site for various purposes and in 1971 IWM began to use Duxford for large object storage. In 1977, IWM bought the site and then the airfield in 2009. Over the decades, Duxford became a full branch of IWM as a museum and visitor attraction.

Site Activities

Core Activities

2.2. The historic site includes over 100 buildings, many of which house IWM's large exhibits including around 200 aircraft and military vehicles, as well as the IWM's collection of historic material such as photographs, artefacts, films and documents. The site includes:

- The American Air Museum –The museum focuses on the relationship between UK and US forces since the FWW. It is the largest and most significant collection of American military aircraft outside of North America, including the Boeing B29 and B52 Bombers, and the iconic Lockheed SR 71 Blackbird.
- Battle of Britain Exhibition – an exhibition focussing on the site's history as an operational RAF airfield from the First World War to the Cold War, housed in a FWW hangar.
- Land Warfare Hall – IWMD's artillery and military vehicle exhibitions alongside the Royal Anglian Regiment Museum.
- Living Conservation – In another FWW hangar visitors can observe museum staff working on conservation projects.
- Air Space – IWM's National Conflict Collection, and aircraft from Duxford Aviation Society's British Airliner Collection
- Air and Sea – IWM's maritime exhibition consisting of boats and naval aircraft displayed in the third original FWW hangar.
- One of the key assets of the site is its status as a licenced and active airfield, with a 1.2km concrete runway. This allows IWM to use it for a variety of key activities such as such as recreational aviation, private charter flights, military training and maintenance, and other vehicle testing (eg Formula 1).

Events

- 2.3. In addition to the day-to-day activities, IWM utilises Duxford's facilities for a variety of events, including:
- Corporate hire for large conferences (eg company/ sector conferences, auctions)
 - Large events, such as the three Air Shows held in May, July and September
 - Smaller events/ facility hire, such as company away-days, team-building activities and Christmas parties
 - The use of facilities for photography and filming.

Third Party Companies

- 2.4. The site is home to 27 third party companies, some of which have been located at the site prior to IWM's ownership¹⁴. These companies undertake a variety of activities, but all have close links to military heritage/conservation or aviation & aircraft restoration. Many are significant companies in their own right (eg the site is home to one of world's revered military aircraft restoration companies), and as such generate significant impact themselves, separate to that of IWM. Further, many of these third party companies are actively involved in the events and day-to-day activities IWM hosts, through the display and operation of their own collections and the maintenance and repair of aircrafts and military vehicles.

¹⁴ Eg Duxford Aviation Society, Essex Aviation Group

3. Core Economic Contribution

3.1. IWM has a significant economic footprint in the East of England region given its scale and its role as an employer and purchaser of goods and services in the economy. This section quantifies the economic contribution to the regional economy, covering direct, indirect and induced effects (so-called *core* economic effects). Section 4 then quantifies tourism impacts. Full details on the methodology used to assess the economic impact are provided in the technical appendix.

Direct effects

IWM

- 3.2. In 2017/18, IWM employed a total of 125 permanent and temporary staff based at Duxford, equivalent to around **85 Full Time Equivalent (FTE) jobs**¹⁵. In addition, the organisation also employs around 142 contracted staff on this site¹⁶ to deliver specific functions (eg security and cleaning) during the day-to-day activities of the museum.
- 3.3. IWM works with event management companies to procure additional staff to work on special events. As these are not core direct staff, the associated impact from this is covered under the indirect impacts section below.
- 3.4. Alongside these direct employees, **284 volunteers give their time to IWM** to support a variety of areas including the day-to-day running of Duxford, the three Air Shows and events, as well as specialist education programmes. Further information on the GVA contribution of this is provided on this in section 5, Social Impact.
- 3.5. The direct contribution of IWM at Duxford can also be measured in terms of Gross Value Added (GVA). This is the key measure of economic output at the level of a firm, sector or region. Estimating the GVA generated by organisation such as IWM is more complex than for purely commercial businesses, given that they receive a public subsidy and do not make an operating profit as such. However, they do make a GVA contribution that is recorded in the national accounts. It is estimated that the direct **GVA of IWMD is £4.6 million**.¹⁷

Third parties

- 3.6. In addition to IWM itself, there are 27¹⁸ third party companies located on-site at Duxford. These companies operate in a variety of sectors and undertake a range of activities, including aviation support, specialist aircraft maintenance and engineering. Using the results of a survey of these companies (see Technical Appendix), it is estimated that they employ around 170 permanent and temporary staff, equivalent to around **150 FTE jobs, supporting £8.2m GVA**. An example of one of these companies is provided below.

¹⁵ This does not include staff who work across all five IWM branches. These staff will spend some time working at IWMD but is difficult to identify the exact amount of time they spend at Duxford.

¹⁶ Contracted staff refers to staff not directly employed by the IWM, but by an external agency

¹⁷ See Technical Appendix for calculation method.

¹⁸ 19 of these companies provided information for this assessment.

Aircraft Restoration Company & Historic Flying

Aircraft Restoration Company provides bespoke restoration, maintenance and operation for a large collection of aircraft based both at Duxford and internationally including North America and Australasia. They are the largest aero engineering company based at Duxford and have been based there since 1981.

They share their Hangar with Historic Flying, who are specialists in the restoration of Spitfires - they have restored approximately one third of the worlds flying Spitfires.



Source: Aircraft Restoration Company

Together, ARC and Historic Flying have a significant economic footprint. They employ around 50 FTE staff on site in a range of roles including management, administration & marketing, engineers, machinists and pilots. They also offer apprenticeships, internships and work experience in key roles such as aircraft engineering and machinists.

The specialist services that these companies offer means that they buy in a substantial amount of goods and services from suppliers. In 2017/18, these companies spent over £5m on parts for aircrafts, cleaning services, as well as other business administration services, of which around £1.3m was spent with suppliers based in the East of England.

The nature of the services these companies offer means they are fully dependent on the ability to use the airfield for flying - for testing purposes, refuelling, and for recreational flying of historical aircraft.

"The airfield is an integral part of what we do. If flying was not allowed here, we would move the complete company to another county."

As well as using the airfield for their own commercial operations, ARC also contributes towards the IWM's events and exhibitions, including the display of their aircraft collection at the three Air Shows.

Indirect effects

IWM

Day-to-Day Activities

- 3.7. In 2017/18, IWM spent around £7.6m with over 550 UK based suppliers on its day-day activities at Duxford. This expenditure was spent with suppliers across the whole of the UK, with around 30% (£2.4m) spent with suppliers based in the East of England.
- 3.8. This expenditure covers a range of sectors, with a significant amount spent in building and landscape activities (ie cleaning and building maintenance), construction, and professional, scientific and technical activities. Over £1m was spent with suppliers in each of these sectors.
- 3.9. IWMD's supply chain expenditure supports jobs within its direct suppliers as well as in the wider supply chain, as IWMD's suppliers themselves spend money on their own suppliers in order to respond to the demands of IWMD, and so on (this is known as the *multiplier effect*). We have estimated that in the East of England this supply chain impact supports a total of **£2m GVA and around 95 FTE jobs**.

Air Shows and Events

- 3.10. The IWM spent an additional £2m with suppliers to support its major events and three Air Shows at Duxford. This includes spend with event management companies, catering, logistics and other hospitality services. An example of one of these companies is provided in the box below.
- 3.11. Of this £2m, around £0.9m was spent with suppliers based in the East of England supporting **£0.7m GVA and 25 FTE jobs**.

Cambridge Marquees

Cambridge Marquees were established over 40 years ago and are located just 5 miles away from IWMD. They are IWMD's current marquee hire company for the three Air Shows, corporate events and functions.

IWM are viewed as a '*prestigious client and partner*' for Cambridge Marquees. They have a 15-year relationship with IWM that has evolved considerably, from originally a small works contractor to providing services for larger events and air shows, particularly over the last 5 years.

The three Air Shows are Cambridge Marquees' biggest event they hire out to. According to Cambridge Marquees, this has resulted in significant publicity and helped them expand their network of contacts. Their aim is to continue to work with IWM and assist them in the continued growth of the three Air Shows.

Third Party Companies

- 3.12. The third party companies located on the Duxford site also spend a substantial amount with suppliers- estimated at £8.3m with around £1.7m (20%) spent with suppliers based in the East of England. Given the specialist services that many third party companies provide, they require bespoke goods and services to be bought in – many of these are located outside of the region.
- 3.13. This supply chain expenditure is estimated to support around **70 FTE jobs, and £4.6m in GVA in the region**.

IWMD's National Supply Chain Impacts

Given the specialist nature of activities undertaken at IWMD (by both IWM and third-party companies), a significant amount of goods and services are bought in from suppliers based outside of the region.

IWM spent £9.3m with suppliers across the UK to support Duxford's day-to-day operations, as well as to support the hosting of events. The third-party companies spent £8.2m with suppliers, resulting in a **total spend of £17.5m with suppliers across the UK.**

This spend supports jobs both with the suppliers as well as in the wider supply chain. It is estimated that **this spend supports over 500 FTE jobs and £31.6m GVA.**

Induced Effects

- 3.14. As IWM's employees and those in its supply chain spend their wages and salaries, this spending on food and drink, clothing, transport and so on supports further economic activity in the region via multiplier effects. We estimate that **40 FTE jobs and £1.4m in GVA** is supported by these effects.
- 3.15. For third party companies we estimate that these induced effects support **80 FTE jobs and £2.5m in GVA.**

Total Core Economic Impacts

- 3.16. Adding together all the elements above shows the significant economic impact IWM makes to the East of England regional economy. In total, IWM and third party companies support **540 FTE jobs and £24m GVA.**
- 3.17. This implies that for every direct FTE job at the IWMD, a further 3.1 FTEs are created in the wider regional economy (1.8 FTEs in third party companies, 0.8 FTEs in the supply chains and 0.5 via induced effects).

4. Visitor Related Impacts

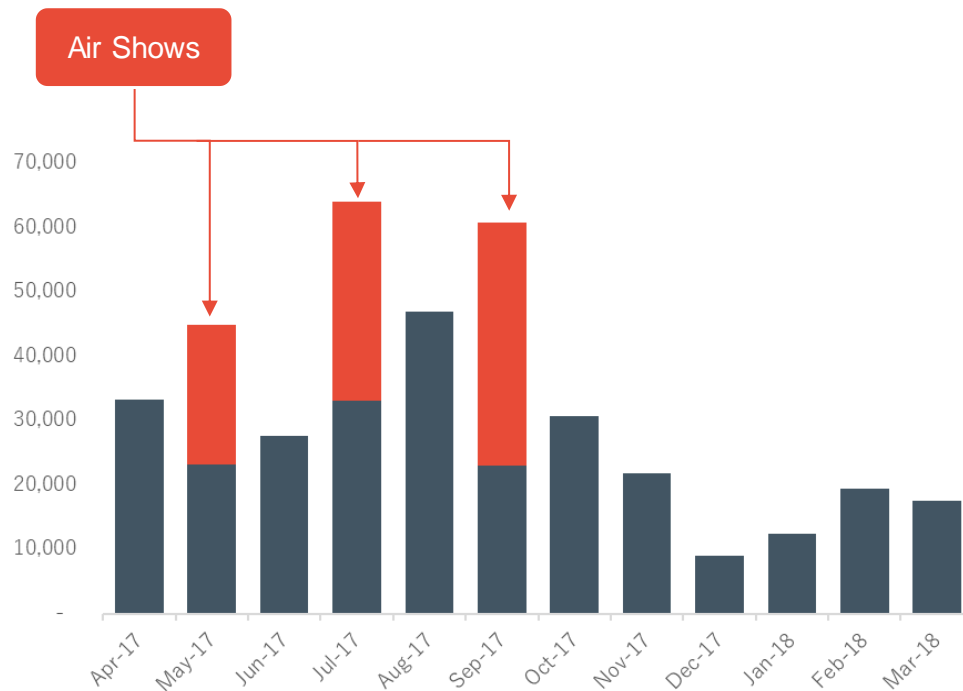
4.1. This section provides an analysis of IWMD’s visitors – both to the museum itself and to the key events – and assesses the consequent economic impacts on the visitor economy.

Characteristics of visitors

Growing visitor numbers driven by events programme

4.2. In 2017/18 **IWMD received 389,755 visits**, of which around 90,618 were from the three Air Shows held in May, July and September, with the rest being day-to-day visits to the museum. The overall number of visitors (both day-to-day and three air shows) has increased by around 2% over this period (equivalent to an extra 6,300 visitors). All of this growth has been driven by the increased popularity of the three Air Shows, where there has been a 6% increase in Air Show visitor numbers in this same period (an extra 5,400 visitors). This compares favourably to the average growth rate of all DCMS supported museums (+1% in this same period).

IWMD VISITOR NUMBERS

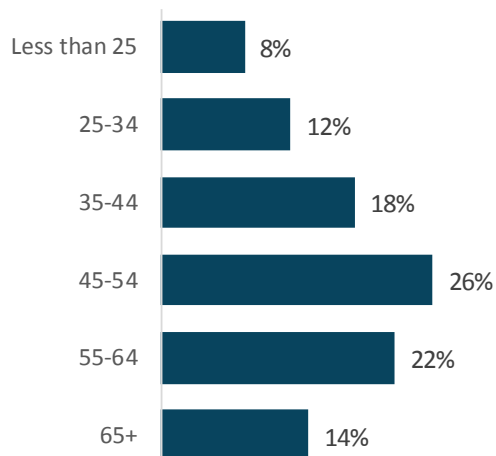


Source: IWM Duxford Visitor Numbers, 2017/18

Visitors from across the UK & from all ages

4.3. IWM has a wide reach across the UK. Around two thirds of visits by both day-to-day and event visitors were made by residents from outside of the East of England region, and 12% (around 47,000) were from overseas. **1 in every 11 overseas visitors to the region visited the IWMD.** However, with around a third of all visitors residing within the region, IWM is also firmly rooted locally.

4.4. IWM engages with visitors of all ages. In particular, IWMD provides an important service for older members of the community, including military veterans. In 2017/18, an estimated 14% of visitors were over the age of 65. Visitors in this age bracket represented **1 in every 65 East of England residents over 65.**



Age Profile of IWMD Visitors, IWMD ALVA Visitor Survey

4.5. The table below benchmarks IWMD's visitor numbers against identified comparators, including the other branches of IWM, other museums in the region, as well as museums with a military focus. IWMD received more visits than both RAF museums, and a similar amount to the Fitzwilliam Museum located in Cambridge (which has free entry).

IWMD AND COMPARATOR VISITOR NUMBERS, 2017

Name	No of Visitors	Free/Charge Entry
IWM London	992,690	F/C
Oxford University Museum of Natural History	768,487	F
Churchill War Rooms	534,723	C
The Fitzwilliam Museum	397,169	F
IWM Duxford*	389,755	C
RAF Museum Cosford	354,314	F
RAF Museum London	345,151	F
Cambridge University Botanic Garden	295,982	C
HMS Belfast	277,911	C
IWM North	245,400	F/C

Source: ALVA 2017

* includes attendance to the three air shows

The American Air Museum

The American Air Museum (AAM) is one of the major exhibits at IWMD. The AAM is home to the largest and most significant collection of American military aircraft outside of North America, including the Boeing B29 and B52 Bombers, and the iconic Lockheed SR 71 Blackbird.



Source: IWM

It was built in 1996-97 to exhibit the best collection of American aircraft outside of North America, focusing on telling the story of US air power and its relationship with the UK. It was redeveloped in 2016 to refresh the offer and reflect the rebranding of the IWM, focussing on the following themes:

- **Empathy:** the AAM places people at the heart of the interpretation and exhibits. History is presented as a series of choices which men and women had to make, rather than a series of passive events they experienced. This allows visitors to make emotional connections with the individuals featured in the exhibition and through them, to see the aircraft differently.
- **Courage:** it is recognised that not everyone agrees about the merits and effectiveness of air power, nor about its use in war. The exhibition presents stories from multiple perspectives and the opening text of the museum challenges visitors to find opinions and viewpoints which are unfamiliar to them
- **Relevance:** the AAM features subjects which will be familiar to visitors and provides context for understanding them more deeply. Displays cover the two decades since 9/11 and feature current serving personnel.
- **Authority:** to support the exhibitions, an ambitious research programme, carried out by IWM staff, unearthed stories and objects that have not been told before. A significant number of oral histories have been added to the museum's collections.

A central aim of the project was to increase participation, and capture community and personal heritage. The project created a network of 'virtual volunteers', using a website to capture, organise and present the work they produced. This includes the development of a web-based database was to encourage both experts and beginners to research and add to the historical record. The focus was to be on individual, achievable work that could be done in the comfort of home, but which connected people with each other and with the past.

Given the AAMs focus, it attracts a significant number of international visitors to the IWMD, particularly those from the US. There were **47,000 overseas visitors to IWMD** in 2017/18, of which 16% (7,600) were from the US. This represents **1 in every 6 visitors to the region from the US.**

Fostering links and relationships with overseas visitors is particularly important in light of Brexit, and ensuring that Britain remains *open for business*. We estimate that in 2017/18, 1 in every 11 visitors from outside of the EU to the region visited IWMD.

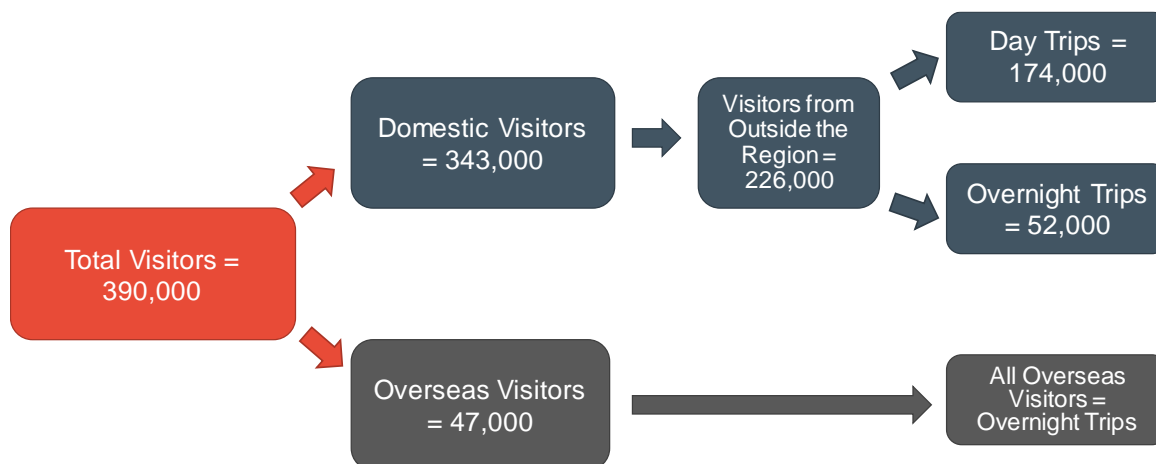
Expenditure & Economic Impact

4.6. The main economic impact from visitors arises from their expenditure outside the Museum and the site itself¹⁹. We have used IWM survey data to estimate the breakdown of visitors (outlined below). Overall, this shows that 77% of visitors are day visitors and 23% are staying visitors.

4.7. To estimate visitor spend²⁰ for both day-to-day and event visitors, we have:

- Applied benchmark average spend figures to each of the cohorts of visitors above to arrive at an estimated total visitor spend of £36m.
- Netted off spend within IWM (as this is accounted for in IWM's direct impacts) to estimate total off-site visitor spend of £32m.
- Used IWM visitor survey data to identify how much of this spend can be attributed to their visit to IWM²¹ (This is estimated at 65%). Therefore, we estimate that **IWM brought in around £21m of additional expenditure to the East of England economy**. This expenditure benefited a variety of sectors including hotels, bars and restaurants, shops, and transport companies. Around **£11 million of this came from overseas visitors**, and hence was net additional income for the UK economy.

IWMD VISITOR BREAKDOWN



Source: IWM Visitor Survey, Hatch Regeneris

Note: Visitor numbers have been rounded

¹⁹ The impact of on-site spend has already been captured in the assessment of direct effects, in Section 4.

²⁰ See the Technical Appendix for further details.

²¹ That is, how much is *additional* spend that would not otherwise have taken place. This takes account of the fact that some of the visitors (and hence their expenditure) would already have been in the region for other purposes.

Economic impacts

- 4.8. This expenditure supports significant economic activity within the visitor economy and beyond through multiplier effects. We estimate that these visits to **IWMD supported a net additional 500 FTE jobs and £19m of GVA in the regional economy.**

Duxford Air Shows

The three Air Shows are the most significant events held at IWM Duxford. Happening regularly since the 1970s, (though taking place as far back as the 1930s) the air shows celebrate and showcase the very best in historic and modern aviation; the bringing together of choreographed display flying and the best show ground entertainment for both a family and enthusiast led audience.

Duxford Air Show, 1955 & 2018



Source: IWM

The Air Shows have historically been a very popular event, however the IWM Duxford Air Shows have experienced a notable rise in popularity over the last few years, with an increase of 6% (+5,400 visitors) over the past 6 years. **In 2017/18, there were over 90,000 visitors to the three Air Shows, representing nearly a quarter of all visits to IWMD in the year.**²²

This rise in popularity is linked to some extent to anniversary events (eg RAF Centenary). However, it is also because of a more proactive approach by IWM and their partners. More resource and budget have been set aside for the shows, focussing on delivering more flying content, and the transition to a three air shows per year model, each having a distinct theme.

- **Duxford Air Festival (May)**- a family focused air show that focuses on a range of aircraft and flying displays.
- **Flying Legends (July)** – Run by a third party, this air show focuses on classic aircraft and vintage flying for enthusiast audiences.
- **Battle of Britain (September)** – Duxford's largest air show which focuses on RAF and British military history and heritage with the Battle of Britain as a primary theme.

Given the large number of visitors, the three Air Shows have a significant economic impact for the region. We estimate that visitors to these three Air Shows in 2017/18 spent around £7.4m off site in the region. **This spend is estimated to support around 90 FTE jobs and £3.6m in GVA in the regional economy.**

²² Visitor numbers to the three air shows continue to rise as over 100,000 people attended the air shows in 2018/19.

The Economic Importance of Flying at IWMD

One of the critical assets at IWMD is its fully licensed status and active use as an airfield, home to both a 1.2km concrete runway and a grass runway. They are used for a range of key activities by both IWM and third-party companies and play a major role in the three Air Shows. They are also used for recreational aviation, private charter flights, military training and maintenance, and other vehicle testing (eg Formula 1).

IWM Duxford Runway



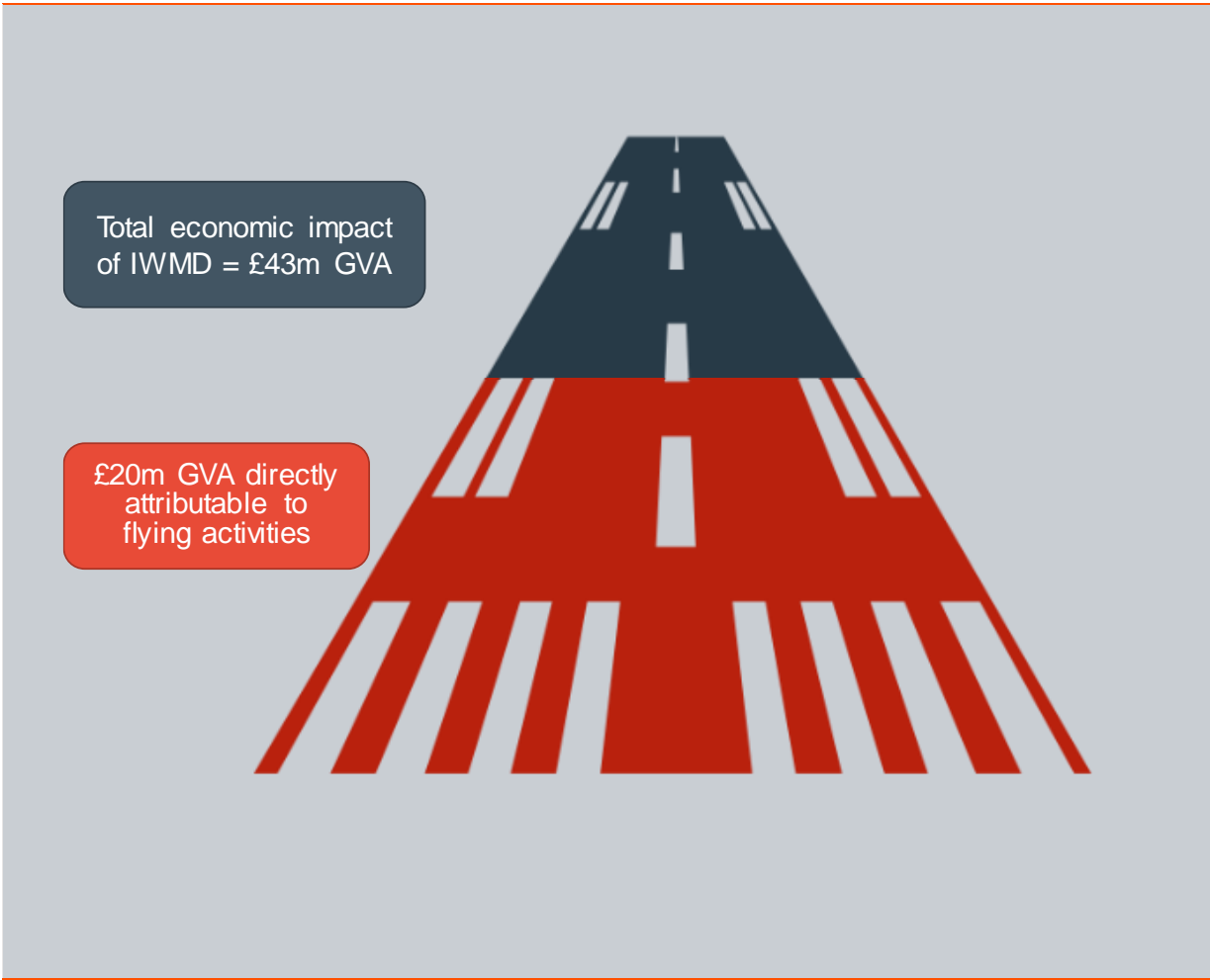
Source: Photo © Thomas Nugent (cc-by-sa/2.0)

To estimate the economic impact of flying at IWMD, we have:

- looked at the proportion of income and expenditure by IWM at Duxford that can be attributed to the ability to fly from the site
- assumed that the economic impact from events/Air Shows can all be attributed to flying, given that the three Air Shows are fully dependant on the ability to be able to use the runway and fly from the site.
- looked at the activities that the third-party companies on site undertake, to assess the number of jobs and amount of supply chain expenditure that can be attributed to flying on site.

The assumptions we have made above look only at activity that can definitely be attributed to flying. There is likely to be other items of expenditure, income, and jobs that are dependent upon flying at the site, such as the opportunity to see historic aircraft flying as a major attractor for day-to-day visitors, but we have not been able to identify with 100% certainty. Therefore this estimate of economic impact is a conservative estimate.

Overall, it is estimated that the ability to use the runway for flying at IWMD supports 470 FTE jobs and £20m in GVA, representing 47% of the total economic impact of the IWM in the East of England.



5. Social Impacts

- 5.1. IWM generates a range of wider impacts that are not fully captured through market transactions alone. These social impacts can bring value to the community beyond that represented by the price of a ticket, including improved learning outcomes, increased social cohesion, increased health and wellbeing, and preservation of heritage.
- 5.2. There are varied approaches that can be used to measure these social impacts. The Total Economic Value Framework stresses the importance of *user and non-user benefits* as the appropriate measures of value for cultural institutions. More discussion is provided on this in the Technical Appendix. Where relevant and feasible, we have applied some of these techniques here, alongside examining metrics for the social reach of the museum, and qualitative case study evidence.

Public engagement and Learning

Activities

- 5.3. The IWM **schools programme** aims to encourage discussion around IWM subject matter and, more generally, conflict. It comprises various guided and non-guided activities, including self-guided tours, a documentary-making challenge and conversations with eye witnesses of conflict experiences. The programme is generally targeted at school children.
- 5.4. In 2017, IWM's Public Engagement and Learning department was restructured, with the intent to establish more creative and immersive programmes.²³ New programmes were developed in collaboration with schools and creative partners, with consideration for relevant key stage school curriculums. For the 'Documentary Challenge', for example, interactive design specialist Non Zero One was engaged to develop the activity in collaboration with schools, with app development support from All Seeing Eye. The activity was trialled with schools and revised before roll-out across Imperial War Museums. The data gathered in this report was during the development of new programmes and will increase over the lifetime of the new strategy.
- 5.5. The core activities provided at Duxford within the IWM schools programme are summarised in the table below. Other activities include 'meet and greet' sessions and the museum's annual hosting of the 'Maths Challenge' regional finals.

CORE ACTIVITIES WITHIN THE IWM SCHOOLS PROGRAMME AT DUXFORD

Activity	Description
Self-guided visit	Students are given the opportunity to autonomously explore and discover the IWMD site, with support from volunteers stationed throughout the museum.
Documentary Challenge	Students are asked to use historical enquiry skills to make a mini-documentary about a piece of content in the museum (KS2 & 3).

²³ Consultation with IWM staff, October/November 2018.

We Were There	Students are given the chance to meet veterans and eyewitnesses of conflict to hear real accounts of their experiences (KS2 & 3).
Shadow of the Future	Using video, game theory and roleplay students explore decision-making in the context of the Cold War (KS4).

- 5.6. The aim of the IWM **families programme** is to encourage intergenerational activity, promoting interaction and communication between families.
- 5.7. The programme includes a number of activities from the schools programme. The core activities of the families programme currently provided at Duxford are summarised in the table below. Non-core activities that were conducted during the first half of 2018/19 also included ‘Dambusters XR’, an extended reality (XR) experience that was trialled at the museum.

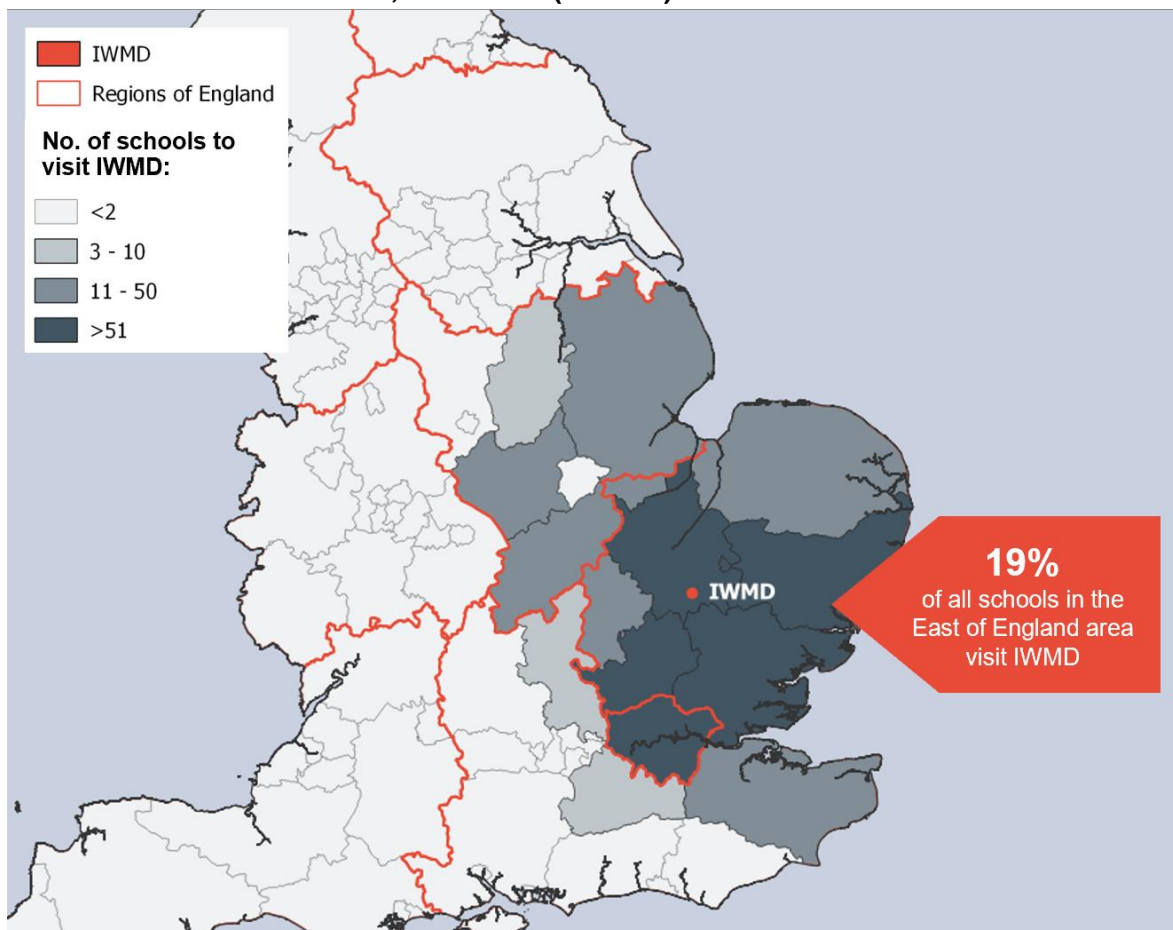
CORE ACTIVITIES WITHIN THE IWMD FAMILIES PROGRAMME

Activity	Description
Paper Plane Challenge	Participants learn the principles of flight in a challenge to design the ‘perfect’ paper plane that will travel the furthest.
We Were There	Participants are given the chance to meet veterans and eyewitnesses of conflict to hear real accounts of their experiences.
Duxford Air Show	An annual series of air show events from May to September.
Documentary Challenge	Participants are asked to use historical enquiry skills to make a mini-documentary about a piece of content in the museum.

Reach

- 5.8. IWMD is visited by thousands of school children each year. In 2017/18, **47,200 students participated in formal schools programme activities at IWMD**, mainly at the Key Stage 2 (Years 3-6) and Key Stage 3 (Years 7-9) levels.
- 5.9. As seen below, a significant number of visiting schools are located in the East of England and Greater London regions. IWMD is very important to its local area in particular, with 525 schools from the East of England region visiting the museum in a single year. This indicates that **almost one fifth of all schools in the East visit IWMD annually**, suggesting that it plays a major role in the local education system.

SCHOOLS VISITS BY LOCATION, ENGLAND (2012/13)



Source: Imperial War Museum Duxford. Chart uses most recent data available.

5.10. 59,000 families participated in formal IWM families programme activities at Duxford in 2017/18.

Impacts

An alternative to classroom-based learning

5.11. There is wide evidence in support of **museums as important learning and identity-building forums for children**. They have the capacity to inspire and engage with learners across all age ranges and genders, stimulate vulnerable students and those that find learning difficult, target and motivate disadvantaged individuals, and provide resources across all curriculum areas²⁴.

5.12. The IWM provides an **alternative learning experience to the classroom** for students in the UK. Museums can be described as “open learning environments – a distinction to more closed learning environments like schools”²⁵. **IWM’s “supportive self-guided”²⁶ tours** provide an exemplary open learning experience, with students given the chance to explore the museum site on their own after a brief welcome and context session.

“Out of classrooms and into galleries ... the impact is huge ... better than a worksheet”.

Consultation with IWM staff
(October/November 2018)

²⁴ RCMG (2004). *Inspiration, Identity, Learning: The Value of Museums*. The evaluation of the impact of DCMS/DfES Strategic Commissioning’, p. 4.

²⁵ ‘Revisiting the Educational Value of Museums: Connecting to Audiences’ (2015). NEMO 23rd Annual Conference, Pilsen, Czech Republic, 5-7 November.

²⁶ Consultation with IWM staff, October/November 2018

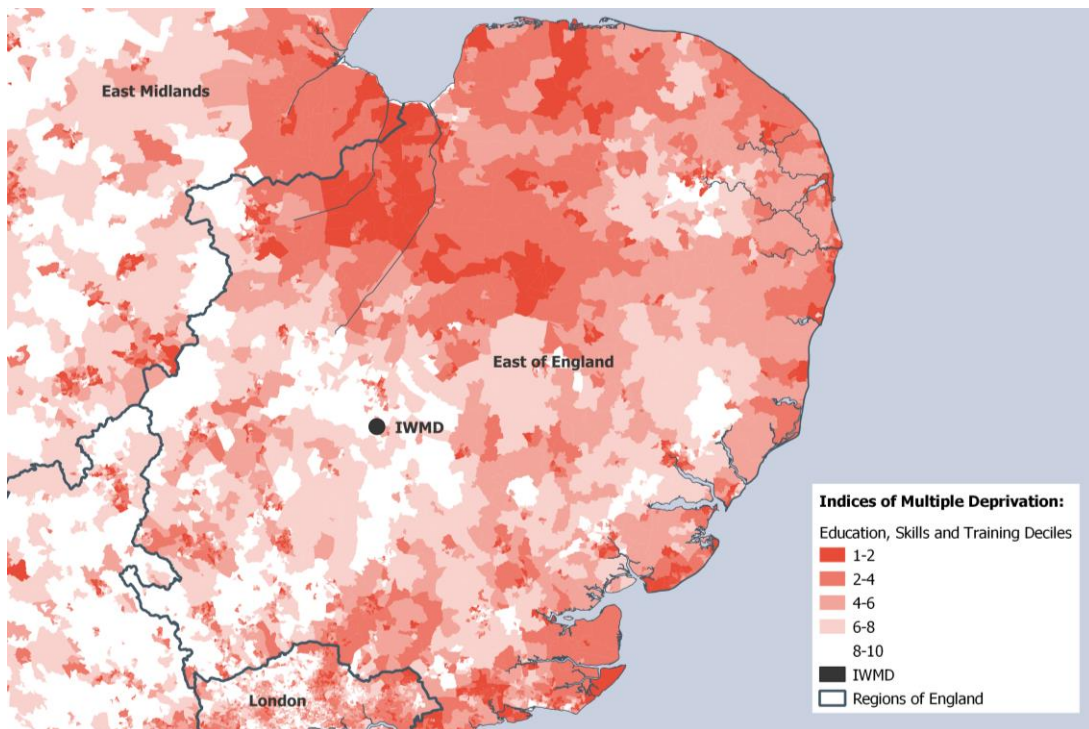
Museum staff and volunteers are positioned across the site, available to provide additional information and assistance where needed.

- 5.13. IWM's Documentary Challenge builds on this opportunity to explore and critically think about the site's collections and heritage. Developed in collaboration with creative partners, schools and students, this activity is designed with pedagogical theories in mind, and reflects the GCSE marking scheme. Students are required to use their analytical skills to choose an important object or theme, build evidence to support a narrative around it, and employ their persuasive writing skills to convince their audience of its importance. The session helps to **develop students' "analytical, social and presentation" skills**, as well as their **capacity to think critically**.²⁷

Motivating and inspiring disadvantaged children

- 5.14. The East of England region has a high level of education and skills disparity across counties, as seen in the charts below.

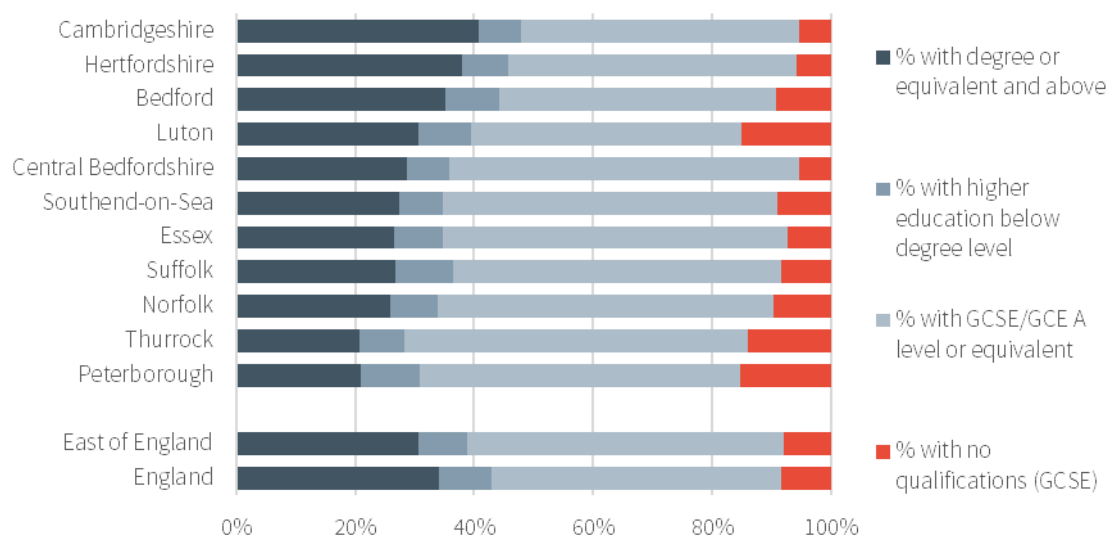
INDICES OF MULTIPLE DEPRIVATION – EDUCATION, SKILLS AND TRAINING DOMAIN BY DECILE (WHERE 1 = MOST DEPRIVED 10% OF LSOAS)



Source: Indices of Multiple Deprivation, 2015

²⁷ Consultation with IWM staff, October/November 2018

GCSE QUALIFICATIONS BY EAST OF ENGLAND DISTRICT (2017)



Source: ONS, 2017

- 5.15. Evidence shows that extra-curricular academic enrichment activities, such as IWM’s Documentary Challenge and ‘Shadow of the Future’, are of particular importance for disadvantaged children. As reported by Arts Council England, a study found that “bright but **disadvantaged students were significantly more likely to go on to get four or more AS-levels** when they had engaged in academic enrichment activities at home, such as ... family visits to museums and galleries”.²⁸
- 5.16. Given the capacity for museums “to engage with children and young people who are often not reached, or stimulated, by more conventional methods of teaching”²⁹, and the high concentration of schools visitation to IWM from the East of England region (as seen in the map above), IWM plays an important role in engaging with children in the area.

Engaging with heritage and history

- 5.17. Not only does the continued operation of IWM ensure the conservation of national heritage (as discussed later in this chapter), it also gives students and other visitors the opportunity to engage and interact with historical artefacts and stories.
- 5.18. IWM’s ‘We Were There’ programme provides people with the opportunity to meet veterans and eye witnesses of conflict, hear their personal stories and ask questions. It gives students and families **the opportunity to “understand the reality of history”** including the consequences of conflict and the diversity of experiences had by those who are exposed to it. Providing a forum to have conversations with eyewitness

“[The session] brought our History learning to life and consolidated many ideas about what WWII must have been like for children”.

Schoolteacher testimonial
(March 2018)

²⁸ Arts Council England (2016). *Every child: equality and diversity in arts and culture with, by and for children and young people*.

²⁹ RCMG (2004). *Inspiration, Identity, Learning: The Value of Museums*. The evaluation of the impact of DCMS/DfES Strategic Commissioning’.

volunteers allows participants to “interrogate history”³⁰ and encounter alternative perspectives to those seen on television or in video games.³¹

- 5.19. IWM also plays an important and unique role in providing access to significant heritage collections, not only through its extensive exhibits and displays, but also by allowing visitors to **view collections in immersive ways**. As a part of IWM’s families’ programme, We Were There sessions are often situated near an object that has meaning to a volunteer. In these sessions, **the museum’s large objects are brought to life**; people can hear “the stories behind” what could otherwise be seen as “lumps of metal”³² The Duxford site’s live airfield also gives visitors the opportunity to witness – and experience – historic aircrafts in flight.

STEM education and inspiration

- 5.20. In addition to its heritage and history-based education offerings, IWMD also provides opportunities for learning and inspiration around science and technology.

“[It] gave us a true understanding of the variety of planes and how they have evolved ...”

- 5.21. Visitors can not only learn about the contextual history of the museum’s aircrafts, but also aerodynamic and the evolution of flight technology. The Paper Plane Challenge, an activity in the museum’s families programme, uses the context of IWM’s collections to educate participants on the principles of flight and challenge them to design a paper plane.

Schoolteacher testimonial
(March 2018)

- 5.22. Real life exposure and engagement with aircraft technology and engineering principles can have a genuine impact on promoting national science, engineering, technology and mathematics (STEM) objectives. While the National Audit Office (NAO) found in its review of STEM initiatives that programmes to improve take-up of STEM subjects at school have had some positive impacts³³, reports indicate that a growing STEM skills shortage is costing businesses £1.5 billion a year.³⁴

- 5.23. The value of museums in promoting STEM is recognised at the UK level. The Northern Ireland Government’s STEM Strategy, for example, ‘Success through STEM’, notes that “an exciting curriculum and inspirational learning experiences are critical to engaging young people and maintaining an interest and motivation in STEM”. It highlights the role of museums and libraries in supporting and enhancing the delivery of STEM skills in schools, and providing inspiring and value-adding experiences and insights for teachers and students.³⁵

- 5.24. Testimonials from schools visiting IWMD support this notion, with one schoolteacher recounting that the museum’s Air Space Hangar “gave us a true understanding of the variety of planes and how they have evolved”.³⁶

³⁰ Consultation with IWM staff, October/November 2018

³¹ Consultation with IWM staff, October/November 2018

³² Consultation with IWM staff, October/November 2018

³³ NAO (2018). *Delivering STEM (science, technology, engineering and mathematics) skills for the economy*. Report.

³⁴ ‘Skills shortage costing STEM sector £1.5bn’ (2018, 17 May). *STEM Learning*.

³⁵ NI Department of Education (2011). *Success through STEM: STEM Strategy*.

³⁶ School staff member testimonial, March 2018

Social cohesion and identity

- 5.25. IWM's families programme aims to foster greater interaction and communication between family members. It is devised with consideration for research commissioned by the museum that found that a key aim for families is 'memory-making'.
- 5.26. An opportunity for one or more families, of varying sizes and ages, to actively participate in group activities, IWM's programme helps to **"create family stories" and "reinforce family identity and family narrative"**.³⁷ It also encourages participation from all family members; anecdotal accounts from museum staff indicate that while "mums" generally take the most active role in most activities, "dads get involved" with the Paper Plane Challenge.
- 5.27. Evidence also suggests that not being taken to museums as a child is the greatest barrier for people visiting museums later in life.³⁸ Given museum participation is shown to increase levels of personal happiness and wellbeing (as will be discussed later in this chapter), IWM's families programme has the potential to have long-term benefits for participants' wellbeing.

"[While only] one link in the chain of lifelong experiences ... museum visits can create strong traces in memory, which can afterwards give meaning and motivation in people's personal lives".

NEMO 23rd Annual Conference,
'Revisiting the Educational Value of
Museums'
(November 2015)

Conclusions

- 5.28. The value of IWM's schools and families programmes is difficult to quantify. However, the level of reach and engagement enjoyed by the museum across both programmes, coupled with schoolteacher testimonials and wide evidence into the benefits of interactive learning and museums participation generally, suggests that the impact of the museum's public engagement and learning stream is high.
- 5.29. While only "one link in the chain of lifelong experiences"³⁹, participation in IWM's programmes can, to some degree, influence childhood skills and knowledge development, help overcome socio-economic and locational barriers, and improve interpersonal relationship-building.

Volunteering

Activities

- 5.30. IWM's volunteer cohort plays a central role in the day-to-day function of the museum, making a significant contribution to its operations and function. At Q2 2018/19, **IWMD had 284 active volunteers, contributing around 55,000 hours annually**. Partner organisations on the Duxford site offer a number of additional volunteer opportunities. The largest of these partner volunteer programmes is the Duxford Aviation Society, which has around 230 volunteers.⁴⁰

³⁷ Consultation with IWM staff, October/November 2018

³⁸ Fujiwara, D. (2013). *Museums and happiness: The value of participating in museums and the arts*.

³⁹ NEMO 23rd Annual Conference, 'Revisiting the Educational Value of Museums' (November 2015)

⁴⁰ Consultation with IWM staff, October/November 2018. Annual volunteer hours have been calculated using the average contribution per active volunteer in Q2 2018/19 at IWMD.

5.31. IWM's volunteering programme ranges across administrative, educational and specialist roles. The museum's volunteering programme falls into four categories: Generalist, Specialist, Technical and Digital as described in the figure below. Air show volunteers comprise an additional, fifth category.

IWMD VOLUNTEERING STREAMS

Stream	Description	Examples
Generalist	Enhancing the customer and learning experience and delivering excellence in customer service.	Membership welcome, schools meet & greet, customer experience, office support, marketing, interpretation and learning programmes.
Specialist	Focused on a higher social purpose to bring understanding of the connections between past conflict and the contemporary world	Veterans and eye witnesses, 'We Were There' programme.
Technical	Supporting the safeguarding, care, access and future of the IWMD collection.	Aircraft, military vehicle and ship conservation, radio station operation, collections support, cataloguing and archiving.
Digital	Improving the accessibility of data in the museum's collections, including digitisation of the collections. It includes remote volunteering opportunities.	'Lives of the First World War', 'War Memorials UK'.

Source: IWMD 2017, 'Rethinking Volunteering: Strategic Volunteer Engagement' DRAFT; Consultation with IWM staff, October/November 2018

Impacts

Value to the museum and visitors

5.32. IWM's volunteer workforce makes a significant contribution to the museum's operational capacity, remit and wider impact. Volunteers not only serve important front of house (FOH) and 'meet and greet' functions, but also provide valuable knowledge and skills across collections management and conservation, as well as, in the case of the 'We Were There' programme, providing an important 'live' link to the museum's content. As stated by an IWM staff member, "the organisation and the staff are the beneficiaries [of volunteering] more than anything".⁴¹

5.33. The wages of salaried museum positions can be used to estimate the value of the time donated by volunteers to IWM at Duxford. Proportion of time spent by IWM volunteers across different duties is shown in the table below.⁴² Recommended baseline pay levels for Assistant level positions from the Museums Association's (MA's) salary guidelines⁴³ have then been applied to each type of work conducted by IWM volunteers at Duxford.

⁴¹ Consultation with IWM staff, October/November 2018

⁴² Based on Q2 2017 IWM volunteering data.

⁴³ Museums Association (2017). *Salary Guidelines 2017*.

IWMD VOLUNTEER FUNCTIONS AND VALUE ASSUMPTIONS

Duties conducted	Proportion of volunteer time spent	MA salary category	MA Assistant level annual salary	Salary as hourly wage
Collections archive/support	4%	<i>Curators and collections management</i>	£20,395	£11.48
Conservation	35%	<i>Conservators</i>	£21,303	£11.99
Fundraising	3%	<i>Fundraising and marketing</i>	£19,046	£10.72
Information/front of house	55%	<i>Attendants, FOH or security staff</i>	£16,477	£9.28
Marketing/communications	3%	<i>Fundraising and marketing</i>	£19,046	£10.72
Office support	1%	<i>Museum technicians and buildings management</i>	£17,666	£9.95

5.34. Using these assumptions, we can estimate that the **55,000 hours volunteered at IWMD annually are valued at around £571,756**. The MA guidelines provide baseline (minimum) salaries, and as such this calculated total is a very conservative estimate of the value of duties performed by volunteers. This total also does not include the value of partner organisation volunteer hours.

Value to individuals

5.35. There is also wide academic consensus on the positive impacts of volunteering on the personal health and wellbeing of volunteers themselves. Participation in volunteering can improve mental and physical health, life satisfaction, self-esteem, and happiness, while lowering depressive symptoms and psychological distress.⁴⁴ With a proportion of IWM volunteers having been involved in traumatic conflict situations, the ability to “tell their stories and verbalise” as a part of the ‘We Were There’ programme is highly beneficial. Some estimates put **the value of relief from depression/anxiety at £36,766 per person per annum**.⁴⁵

“It means that they can tell their stories and verbalise”.

Consultation with IWM staff (October 2018), in reference to IWM's ‘We Were There’ programme

5.36. Volunteer benefits are of particular significance to older adults, who currently comprise the majority of IWM’s volunteer base at Duxford. Studies show that not only do older people who

⁴⁴ Yeung, JWK., Zhang, Z., Yuen Kim, T. (2017). ‘Volunteering and health benefits in general adults: cumulative effects and forms’. *BMC Public Health*. Vol. 18, no. 8.

⁴⁵ HACT. *Social Value Bank*.

engage in volunteering report higher levels of wellbeing,⁴⁶ but that older people who give support to others live longer than those who do not.⁴⁷

5.37. Volunteering also provides the **opportunity to learn** about the museum’s collections and conservation processes. In a one-day ‘Collections Champion’ volunteering trial where volunteers were taught how to clean and conserve large museum objects, participants reported enjoyment around learning about and having more intimate access to the collections (such as getting inside the vehicles), the practical activity of dusting and cleaning, and socialising with other volunteers.⁴⁸

“The ability to get hands on with the planes and vehicles was excellent and was very thought provoking in terms of the history of each item and how it eventually arrived at (in this case) Duxford”.

Volunteer testimonial
(July 2018), Collections Champion
One-day Volunteering Trial

5.38. Looking at evidence from elsewhere, the evaluation of Imperial War Museum North and Manchester Museum’s ‘Inspiring Futures: Volunteering for Wellbeing’ programme found that **for every £1 invested, £3.50 of social and economic value was delivered.** This included 30% of participants moving into employment or other new opportunities for getting into work, and around 60% reporting long-term, sustained increase in their wellbeing.⁴⁹

5.39. The Social Value Bank quantifies the value of regular volunteering at £3,249 per person.⁵⁰ With an average cohort of 284 museum volunteers, **the value of volunteering at IWMD has been estimated at £923,000.**

“Volunteers get to feel like film stars”.

Consultation with IWM staff
(October 2018), in reference to IWM’s
‘We Were There’ programme

5.40. This figure would likely be amplified with the additional quantification of (non-regular) air show volunteers.

Volunteering Social Value Indicator	Value
No of Volunteers	284
No of Volunteer Hours	550,000
Value of Volunteer Hours (per annum)	£571,756
Value of Volunteering Well-being	£923,000

⁴⁶ Morrow-Howell, N., Hinterlong, J., Rozario, PA., and Tang, F. (2003). *Effects of volunteering on the well-being of older adults.*

⁴⁷ Mental Health Foundation. *Doing good does you good.* Available at <https://www.mentalhealth.org.uk/publications/doing-good-does-you-good>

⁴⁸ IWMD (2018). ‘Micro/One day volunteering opportunities: Trial at Duxford’.

⁴⁹ If Volunteering for Wellbeing (2016). *Final Report: 2013-2016: Social Return on Investment.*

⁵⁰ HACT. *Social Value Bank.*

Local health and wellbeing

- 5.41. There is wide evidence to suggest that museums contribute to **local health and wellbeing, including placemaking and identity, community engagement and social inclusion**.⁵¹ Fujiwara's study into 'Museums and happiness' for the Happy Museum Project, for example, found that visiting museums has a positive impact on happiness and self-reported health.⁵²
- 5.42. IWMD's out-of-London location makes its local health and wellbeing impact important to consider. With people living in London 8% more likely than other residents of the UK to visit museums, Fujiwara suggests that "lack of museums or good quality museums" has a negative impact on museum attendance in an area.⁵³ As such, it is likely that **IWM provides significantly improved museums access to local East of England residents**.
- 5.43. IWMD is a significant local asset. Visitation records indicate that 34% of visitors to IWMD in 2017/18 were from the East of England region.⁵⁴ 50-64% of visitors over the past two years lived within a 2 hour drive of the museum.⁵⁵ With 46% of the 6.1 million East of England population reporting that they visited a museum or gallery in 2017/18⁵⁶, this suggests that **2% of all visits to museums or galleries by East of England residents can be attributed to IWMD**.

LOCAL VISITORS TO IWMD



Source: IWMD Data

- 5.44. The museum actively engages with the local area, with members of the local community given free or discounted access to the museum. When a new offer of full IWM membership for £10 to local Duxford residents was recently made, this was taken up by 385 residents (as of April 2018).⁵⁷ Under a previous 'Neighbours of Duxford' pass system, allowing no cost entry to IWMD to residents in local parishes, there were around 700 local members⁵⁸, which suggests that there is potential for increased membership to the new system. These two figures can be used to estimate potential levels of regular visitation from the local community.
- 5.45. Fujiwara estimates that people value the ability to regularly visit museums in their spare time at about £3,200 per annum per person.⁵⁹ By applying local resident membership figures we can estimate that **the wellbeing value of visitation to IWMD is £1.2 million to £2.2 million**.

⁵¹ Mendoza, N. (2017). *The Mendoza Review: an independent review of museums in England*.

⁵² Fujiwara, D. (2013). *Museums and happiness: The value of participating in museums and the arts*.

⁵³ Fujiwara, D. (2013). *Museums and happiness: The value of participating in museums and the arts*.

⁵⁴ IWMD data.

⁵⁵ IWMD data.

⁵⁶ *Taking Part* survey data.

⁵⁷ <http://www.duxfordvillage.com/wp-content/uploads/2018/03/IWM-Neighbours-of-Duxford-scheme.pdf>

⁵⁸ IWMD data.

⁵⁹ Fujiwara, D. (2013). *Museums and happiness: The value of participating in museums and the arts*. Note: The author notes that this likely includes non-use value.

Heritage and non-use value

- 5.46. The Duxford site has a longstanding and sustained history of aviation. With its aerodrome initially built during the First World War, the site was used as a Royal Air Force station, training school and fighter station in the first half of the 20th century, as well as a United States Army Air Force base. Now “the European centre of aviation history”, IWM stores, restores and displays important air force and aircraft collections.⁶⁰
- 5.47. Located on the historic Duxford site, IWM provides a continued link to England’s aviation heritage. Not only does it play an important role in conserving highly valuable collections, but it also provides local and international communities and schoolchildren with access to them.
- 5.48. IWM’s efforts to preserve and provide a connection to history also extends beyond its physical exhibits. Efforts are not only being made to digitise the museum’s collections, but also to film and record the stories of veterans and eyewitnesses of conflict for future generations. This latter initiative is particularly important for those nearing the end of their lives.⁶¹
- 5.49. A 2014 study estimates **the well-being value of visiting heritage sites** (specifically, one or more type of heritage site over the past 12 months) **to be £1,646 per year per person**.⁶² Other studies have shown that heritage can “encourage people to feel more positive about their local area, contributing to a **stronger shared sense of place and increased civic pride**”.⁶³
- 5.50. The Total Economic Value framework (see technical appendix) includes the concept of *non-use value*, which encapsulates the wider value of the museum even for those who do not, or never intend to, visit it. This concept is relevant here as it includes notions of pride in heritage and the value of storing collections for others, including future generations.⁶⁴ In the absence of detailed survey evidence it is possible to proxy this via the value of annual donations to IWMD, which stood at **£230,000 in 2017/18**. A portion of non-use value is also accounted for in the £3,200 per annum per person value cited earlier (see footnote 59).

⁶⁰ www.iwm.org.uk.

⁶¹ Consultation with IWM staff, October/November 2018

⁶² Fujiwara, D., Cornwall, T., and Dolan, P. (2014). *Heritage and Wellbeing*.

⁶³ Historic England (2014). *Heritage Counts 2014: The Value and Impact of Heritage*.

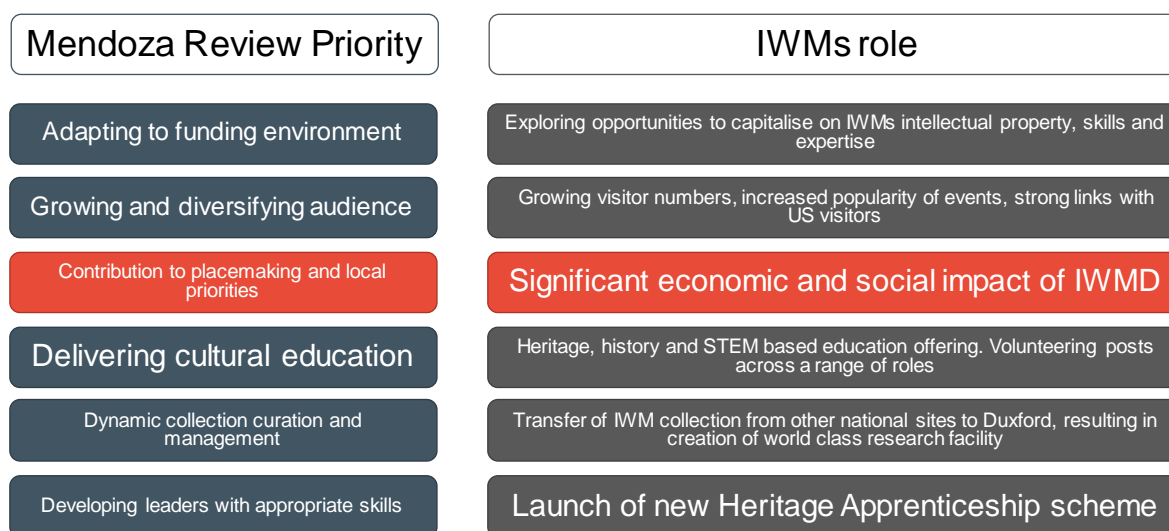
⁶⁴ This has three elements: the **altruistic value** of knowing others will benefit; the **bequest value** of knowing that future generations will benefit; and the **existence value** of knowing that the institution and its services and collections exist (the concept of pride in a renowned institution is relevant here).

6. Contribution to Strategic Objectives

Mendoza Review & the Role of Museums

- 6.1. The Mendoza Review looked at how government can best support the museum sector. As part of this, the review focussed on the role that museums could and should be playing in society and outlined a series of priorities that museums should address.
- 6.2. The review found that the museums can play a **major role in their communities to helping shape place** through the combined assets of heritage, people, buildings and landscape. Museums can play a crucial part in local decisions making and can leverage investment in culture to help deliver on priorities such as health, wellbeing, as well as attracting tourists and businesses to an area. For example, many annual indexes now consider museums when measuring an areas cultural attractiveness and liveability. The contribution of the IWM towards local strategic priorities is outlined below.
- 6.3. The priorities from the review, and the IWMs role in meeting these, is summarised in the figure below.

IWM AND MENDOZA REVIEW PRIORITIES



Source: Hatch Regeneris

Local Strategic Objectives

- 6.4. The Cambridge and Peterborough Independent Economic Review⁶⁵ (CPIER) was produced to provide impartial advice on the Cambridge and Peterborough economy, including to help inform choices, policy priorities and strategic investments. The review suggested three priorities for the future of the area.

Continued high economic growth

- 6.5. As part of the deal for extra powers received by Cambridgeshire and Peterborough, the area committed to doubling its economic output (in terms of GVA) over the next 25 years. This is

⁶⁵ CPIER (September 2018)

equivalent to an average annual growth rate of 2.8%, compared to an average of 2.5% per annum since 1998. The review states that this target is a challenge but is attainable.

- 6.6. IWM can play an important role here. The Duxford site supported around £43m of GVA across the region in 2017/18. As visitor numbers are expected to grow (and as the IWM continues to implement its Duxford masterplan) this will further drive up its economic impact and GVA contribution in the region.

A more inclusive economy

- 6.7. There is a national trend towards focusing on inclusive economic growth, whereby economic growth lifts all communities within an economy. The review states that *“the quality and inclusiveness of growth is just as important as the quantum of growth”*, especially given that Cambridge has been identified as one of the most unequal cities in the UK.
- 6.8. Over the next 3-5 years the IWM intends to move c.20 staff from its London sites to Duxford, as well as over £1.8m worth of its collections. This will result in the IWMD being host to one of the most comprehensive and sought-after collections associated with war and conflict in the world. It will be both a significant research facility and visitor attraction, as well as being home to a research team with world class skills and expertise in this area. Further, as outlined in section 5, IWM is a significant contributor towards social impact in the region, delivering improved learning outcomes, increased social cohesion, increased health and wellbeing, and preservation of heritage.

Blended spatial strategy

- 6.9. The review recommends that the Combined Authority should adopt a blended spatial strategy, to support the important growth of market towns, and to drive clear thinking about the location of businesses and sector clusters.
- 6.10. IWMD is home to a nationally significant cluster of aero and military aircraft restoration companies, as well as a comprehensive (and growing) collection of conflict related material. With growing visitor numbers, driven by the major events, IWM can help drive growth outside of the urban core of the area through its Duxford site.

7. Conclusions and a Look to the Future

This report has shown the significant economic and social impact that IWM makes to the regional economy. A summary by each component of impact, and social value indicator, is outlined below.

	Direct		Indirect (Supply Chain)		Induced (Staff Expenditure)		Off Site Visitor Expenditure		Total	
	GVA (£m)	FTE	GVA (£m)	FTE	GVA (£m)	FTE	GVA (£m)	FTE	GVA (£m)	FTE
Day to Day	£4.6	85	£2.0	95	£1.2	35	£15.5	405	£23.3	620
Events	-	-	£0.7	25	£0.1	5	£3.6	90	£4.4	120
Third Party	£8.2	150	£4.6	70	£2.5	80	-	-	£15.3	300
Total	£12.8	235	£7.3	190	£3.8	120	£19.1	495	£43	1,040

Social Value Indicator	Value
No of visits by children	47,200
No of Families participating in IWMD Family Programme Activities	59,000
No of Volunteers	284
No of Volunteer Hours	550,000
Value of Volunteer Hours (per annum)	£571,756
Value of Volunteering Well-being	£923,000
Local Wellbeing Value of Visits (£m)	£1.2 - £2.2 million
IWMD Non-Use Value	£230,000

We have also looked at the potential economic impact of IWM once the Duxford masterplan has been fully implemented. Day-to-day visitor numbers are expected to increase to 500,000 per annum (an increase of 67%).⁶⁶ This increase will drive up off-site spend by visitors, as well as increase employment on site and IWM's Duxford related spend with suppliers (in order to cater to the needs of a larger visitor base, eg through more maintenance, more staff needed etc).

Based upon this increase, it is estimated that once IWM's Duxford masterplan has been implemented, the total economic contribution of IWM would support **1,400 FTE jobs, and around £54.9m in GVA**, around 30% higher than the current economic contribution of the IWM Duxford site in the East of England.

⁶⁶ This is based on IWMD achieving 500,000 day-to-day visitors (excluding air shows). Current day-to-day visitor figures are 300,000. 500,000 represents a 67% increase.

Total Economic Impact	2017/18	Masterplan Implemented	Absolute Change
GVA (£m)	£43.1	£54.9	+£11.8 (27%)
Employment (FTEs)	1,040	1,400	+360 (34%)

8. Technical Appendix

- 8.1. The methods used in this assessment are standard for this type of assessment and have been informed by the principles set out in the HM Treasury's Greenbook. Where it has been necessary to make assumptions in the assessment we have erred on the side of caution.

Impact Area

- 8.2. The assessment focuses on the economic contribution the museum makes in the East of England region, given that the region will capture the majority of impacts supported. IWMD will support economic benefits in other parts of the UK, however these will be much more dispersed geographically and have not been estimated for this reason.

Measures of Economic Benefit

Direct

- 8.3. Direct benefits refers to the on-site employment and associated economic value that is created by IWM/Third Party Companies.
- Employment numbers have been sourced from IWM and a survey of on-site third party companies for the financial year 2017/18. These are reported as Full Time Equivalents jobs (FTEs).
 - Gross Value Added (GVA) is a key measure of economic output. Estimating the GVA generated by organisations such as IWM is more complex than for purely commercial businesses, given that they receive a public subsidy and do not make an operating profit as such. However, they do make GVA contribution that is recorded in the national accounts. Our approach to assessing IWMD's direct GVA is consistent with the way the Office for National Statistics treats museums and galleries in the national accounts. Here, GVA is measured as the sum of the compensation of employees and consumption of fixed capital.

Indirect

- 8.4. Indirect benefits refer to the economic benefits supported by IWMD's and third party organisations' external operational and capital expenditure on goods and services. This expenditure supports employment and value added within IWMD's immediate suppliers and within all subsequent tiers of the supply chain, as the IWMD's direct suppliers make purchases from their suppliers, and so on.
- 8.5. Expenditure data has been provided by IWM. Information has been provided on the location of expenditure. We have used data from Companies House to allocate this expenditure to sectors, which has then been matched to Hatch Regeneris's input-output model for the UK Regions. The full economic benefits of this expenditure have then been estimated using our input-output model. The model is based on data from the UK National Accounts and allows us to estimate the supply chain multiplier effects from an initial injection of expenditure on a particular sector.
- 8.6. For third party organisations, data on the amount of expenditure in the region has been supplied via a survey of these companies. For these organisations, we have applied regional benchmarks from 2017 Annual Business Survey to estimate employment and GVA.
- 8.7. We have removed spend by IWM with third party organisations to prevent double counting of spend.

Induced

- 8.8. Induced benefits refer to the effects of spending by employees whose jobs are supported directly by IWM at the Duxford site and Third Party Organisations, and indirectly within the supply chain.
- Benefits from the Duxford related expenditure by IWM/Third Party Organisations have been estimated using data on salaries provided by the IWM and the survey of Third Party organisations. These have then been adjusted for taxes, National Insurance, pension contributions and savings rates. Our input-output model has then been used to estimate the multiplier effects from this spending.
 - Benefits from the expenditure by employees in the supply chain have been estimated using the Type 2 (indirect and induced) multipliers within Hatch Regeneris's input-output model.

Visitor Economy

- 8.9. Visitor economy benefits refer to the benefits as a result of off-site visitor expenditure to IWMD. Impacts as a result of spend on-site are already taken into account with direct jobs and GVA supported at IWMD. Benefits from off-site visitor spend have been assessed in the following way:
- Data on visitor numbers, their origin, and whether they stay overnight have been provided by IWM, based on ALVA surveys carried out on-site.
 - Data on average spend on site at IWMD has been calculated based on admission, café and retail income at IWMD (using data provided by IWM) and the total number of visitors.
 - We have then looked at the total average spend data for (i) day visitors (GB Day Visitor Survey for visits to museums, 2017) and (ii) overnight visitors (GB Overnight Tourism survey, 2017). Both of these data sources provide spend figures for visitors to the East of England.
 - Subtracting on-site expenditure at IWMD from the total spend values from the GB Day/Overnight Survey data results in total off-site spend by visitors to IWMD.
 - We have then used data from IWM ALVA visitor survey to determine how much of this spend can be attributed to their visit to the IWM. That is, how much is *additional* spend that would not otherwise have taken place. This takes account of the fact that some of the visitors (and hence their expenditure) would already have been in the region for other purposes.
 - We have applied this additional off-site expenditure to spend categories using the latest UK Tourism Satellite Accounts.

This expenditure is then fed through our input-output model to estimate the total economic contribution of off-site visitor spend.

DATA SOURCES USED FOR ASSESSMENT

Data	Source
IWMD Income and Employment Data	IWM
Third Party Organisation Survey	IWM
IWM Expenditure Data	IWM
Visitor Numbers	IWM
Other Visitor Data (origin, type of visit, reason for visit)	IWM/ALVA
Volunteering Data	IWM
ALVA Visitor Numbers	ALVA
Companies House	Companies House
GB Day Visitor Survey	VisitBritain
GB Overnight Tourism Survey	VisitBritain
IWMD Programme Participation	IWM
Duxford Donation Income	IWM
IWMD Public Engagement and Learning	IWM

