

England's Cultural Heritage still at risk 30 years on

Charlie Harris, National Fire Adviser for Historic England, examines the risk of fire in England's cultural heritage and considers how safe the heritage is now.

The term "Cultural Heritage" can be described in various ways, Historic England (HE) describes it as "Inherited assets which people identify and value as a reflection and expression of their evolving knowledge, beliefs and traditions, and of their understanding of the beliefs and traditions of others." Historic England goes further stating that Heritage is "All inherited resources which people value for reasons beyond mere utility."

Fire is still the greatest single risk to our cultural heritage. Once established and without robust control measures in place, a fire has the potential to destroy the historic fabric completely, with the inevitable damage to valuable contents. We should ask the question: "Are those with a responsibility to protect our cultural heritage doing enough and are the lessons being learned from previous disasters to preserve our cultural heritage for generations to come?"

Let's go back over 30 years ago to 1986, when two disastrous fires engulfed Hampton Court Palace and York Minster; disasters so severe that it prompted a working party on fire safety in historic buildings. It brought together 23 national and other organisations in the heritage field to produce a document on the dangers of fire. The subsequent publication "Heritage Under Fire" (1990), is a notable source of information that has stood the test of time.

The next few years saw numerous fires in heritage buildings across the Home Nations. Many were completely destroyed or severely damaged during fire incidents. These could have been prevented or at least had the damage reduced if protection measures were adopted. It was not until November 1992, when Windsor Castle suffered a similar fate of the all-consuming phenomenon of fire, that action was taken.

The enormous damage reverberated across the country at the scale of the loss, devastation



and destruction caused. The Bailey report was commissioned to assess the adequacy of fire protection measures for the royal palaces and residencies that the Secretary of State had responsibility for. A loss of this magnitude being repeated would be considered highly embarrassing. The investigation and subsequent report underpins the template for historic assets since its introduction in 1993. Sir Alan Bailey's findings are well acknowledged and should be considered for all historic buildings.

It concluded that the main lessons learnt from the fire were;

- the need for effective training of all staff in basic fire risk management and the actions to take in case of fire;
- the need for the earliest possible detection of fire by a reliable automatic fire warning system;
- the need for fire separation or compartmentation to reduce the spread of fire.

Just over a year ago an international cry was heard worldwide as Notre Dame Paris, this 850 year old building, a Unesco World Heritage Site and one of France's most iconic structures, became another victim to the ravages of flame, heat and the inevitable structural damage that results from a severe fire. Media agencies proclaimed it a national disaster while second guessing the cause of the fire to various unconfirmed theories. The resulting human outcry on this loss to the French nation reverberated worldwide, with numerous experts in the UK, comparing the loss to similar iconic structures of our own, as a tragedy of immense proportions. Images of the fire were sent around the world, and in response, almost 100 million Euros (£850m) was donated.

The cost of reinstatement and restoration following a fire can be enormous. Factors to consider are specialist, chartered quantity surveyors, building surveyors, architects, structural engineers, specialist contractors and artisans to name but a few. It is likely there will be contamination issues, not forgetting that once heritage is lost it is lost forever. It is preferred that the original fabric is protected in the event of an incident occurring to prevent a pastiche emerging from the flames.

The importance of Heritage to the Economy

Historic England's study "Heritage and The Economy 2018" value the heritage sector to an equivalent to 2% of national gross value added (GVA) to the economy. In 2018 this was £29bn. With every £1 of GVA directly generated; an additional £1.21 of GVA is supported in the wider economy.

The historic sector employs over 459,000 people and for every direct job created, an additional 1.34 jobs are supported in the wider economy.

Our Heritage attracts millions of domestic and international tourists each year. The number of visits to heritage sites in 2018 was 236.6m. These tourists spent £16.9bn. Seven out of the top 10 of the most visited paid attractions in England in 2017 were heritage attractions.

Clearly our Heritage is important and it shouldn't be viewed just from an economic value. Heritage has cultural, social and environmental values as well and makes this country an international venue.

Fire Statistics in Heritage Buildings

The Heritage sector is desperate to have reliable data on where, when and how fires are occurring. Despite previous requests there are still no real statistics to allow professionals in the historic sector

to interrogate trends, causes and types of properties where fires are occurring, to enable strategic protection of the heritage-built environment. The Home Office statistical data set has no detailed information on incidents of fires that occur within the heritage-built environment.

Historically the number of fires occurring in heritage property has always been estimated, initially identified as an issue as far back as 1989 due to:

- No European Fire Statistics other than UK and Sweden
- Most countries have no data at all
- UK statistics are very reliable but do not include any data on heritage

The EU's Co-operation in Science and Technology (COST Action 17 2002) was to address the significant physical and cultural loss of Europe's built heritage to the damaging effects of fire. The distribution of fires recorded in that research estimated that, across the UK (excluding Scotland) were;

- Grade I 21
- Grade II* 12
- Grade II 117

Historic England's research in 2019 indicates that there were over a 1000* incidents in the historic built environment requiring a Fire & Rescue Service (FRS) attendance (for England only).

Types of premises

- Grade I = 15
- Grade II* = 47
- Grade II = 343
- World Heritage Site = 16
- Conservation area/Locally listed = 554
- Thatch = 47
- Place of worship = 72
- Mills = 40
- Stately Homes/mansion houses = 17
- Premises with a licence for alcohol = 205
- Residential premises = 423
- Commercial premises = 257
- Derelict = 56
- Other (bridges, piers, docks, collapsed ceilings) = 19

Causes

- Chimney fires = 96
- Deliberate = 205
- Electrical = 136
- Cooking = 98
- Smoking materials = 24
- Sparks from wood burner embers = 4
- Sunlight/Candle = 17
- Contractors on site = 3

- Accidental – 68
- Unknown – 412 (Due to lack of data on most probable cause)

Relevant Persons involvement under the Fire Safety Order (FSO)

- Fatalities – 6
- Rescues – 51
- Casualties – 49

(*HE estimates this figure could be as much as 20-30% higher if more accurate data was available)

How Safe is Our Heritage Now?

Major fires in heritage buildings have resulted in fire investigations, reports and guidance to improve our understanding, whilst offering best practice advice. The question I would ask to all those responsible for protecting our heritage is; are we protecting our heritage built environment any better now? In many ways yes; mainly due to the technical advances made in fire protection equipment, the ability to detect fire earlier has vastly improved and where fitted, the ability to suppress a fire in the development stage has ensured faster detection times and slow development of fire. However, much more could be done.

It is essential that fire safety risks are managed sympathetically while observing the principles that fire safety strategies and disaster management must be robust. Whether you are a homeowner or a large heritage organisation responsible for conservation, you are all custodians and it is vital that you, along with regulators, advisers and architects work together to preserve our heritage. There is a common goal for everyone to preserve our Nations Heritage for generations to come. This requires close co-operation, co-ordination and, above all, positive discussions between all interested parties to ensure that the risk of fire is appropriately assessed, with a mind to reduce the risk to an acceptable level to protect the historic fabric. We must learn to understand that fire protection measures which may be required to save life and property, will not always mean the character of the building is ruined. Conservation officers will have to accept that to preserve our past history, some reversible measures and minor damage to the fabric is inevitable to preserve it for future generations.

Hollywood movies (the *Die Hard* effect) has done little to help with the introduction of suppression systems into vulnerable historic buildings. The myth that all heads are actuated in a fire scenario has confused the non-practitioners in fire prevention that water damage is inevitable and of immense proportions. Suppression systems are not the

panacea for all buildings but can compensate when used as part of an integrated fire strategy.

All FRSs are required to carry out their own Integrated Risk Management Plans (IRMP) which should include Heritage risk, with operational risk collected via the Site Specific Risk Information (SSRI) process, to include those buildings which have National or International importance from the National Monuments Record maintained by Historic England. It is not unreasonable to assume that each and every FRS should be aware of where their heritage risk is. A recent Freedom of information request (FOI) for fires that have occurred in heritage buildings to all FRSs in England demonstrated that not all FRSs are in a position to understand completely where their heritage risk is.

It is a tragedy that response times for attending incidents are now below the attendance times when

Table 1 Major Fires in England's Cultural Heritage over the past 10 years (taken from HE Data)

Heritage Asset	Listing	Year	Town
Hereford Town Centre	Mixture	2010	Herefordshire
Hastings Pier	Grade II	2010	East Sussex
Dartmouth Town Centre	Mixture	2010	Dartmouth
Sydenham House	Grade I	2012	Devon
Cupola, Bury St Edmunds	Grade II	2012	Suffolk
Cumin Museum	Grade II	2013	London
Clandon Park House (National Trust)	Grade I	2015	Surrey
Battersea Arts Centre	Grade II*	2015	London
Randolph Hotel Oxford	Grade II	2015	Oxford
Sudbury Town Centre	Mixture	2015	Suffolk
Wythenshawe Hall	Grade II*	2016	Manchester
Royal Clarence Hotel	Grade I	2016	Devon
Daresbury Hall	Grade II	2016	Cheshire
Woolsington Hall	Grade II	2016	Newcastle
Cosgrove Hall	Grade II	2016	Northamptonshire
Kirklees New House Hall	Grade II*	2017	Yorkshire
Parnham House	Grade I	2017	Devon
Preston Alston Hall	Grade II	2017	Lancashire
Saxmundham Kelsale Hall	Grade II	2017	Suffolk
Haslington Hall	Grade I	2018	Cheshire
Fry Building	Grade II	2018	Bristol
Royalty Cinema	Grade II	2018	West Midlands
Scalesceugh Hall	Grade II	2019	Carlisle
Shires House	Grade II	2019	Bedford
Claremont Hotel	Grade II*	2019	Eastbourne
Tolly Cobbold Brewery	Grade II	2020	Suffolk
Chalmington House	Grade II	2020	Dorset
Bristol Guildhall	Grade II*	2020	Avon

Risk category	Number of Pumps	Time limits for attendance by pumps		
		1st	2nd	3rd
A	3	5 minutes	5 minutes	8 minutes
B	2	5 minutes	8 minutes	-
C	1	8-10 minutes	-	-
D	1	20 minutes	-	0
Remote rural	1	No national recommendations yet		
Special risks		No national recommendations yet		

Source: Fire Service Circular 4/1985 – Report on the Joint Committee on Standards of Fire Cover (Home Office Department, May 1985) ¹

¹ <https://depositedpapers.parliament.uk/depositedpaper/2199618/details>

major fires in heritage buildings resulted in guidance being produced to protect them. Let's go back again over 30 years ago when fire cover was based upon the risk that was present. The risk was classified into several categories with attendance times at a national level:

In 2009, a report for Communities and Local Government (CLG) by Grenstreet Berman Ltd² (Review of Fire and Rescue Service response times Fire Research Series 1/2009) looked at response times to primary fires (dwelling fires, other buildings fires, larger outdoor fires and road vehicle fires). These were examined for the period 1996 to 2006. It concluded that response times had increased 18% from 5.5 minutes to 6.5 minutes and recommended that Fire and Rescue Services review their strategies for responding to incidents through the IRMP.

The latest 2018/19³ Home Office figures for fires attended by fire and rescue services have not seen any improvement in attendance times to primary fires. The average response time to fires in England was 8 minutes 49 seconds, up 11 seconds since 2017/18 and 33 seconds since 2013/14. A very worrying situation when speed and weight of attack are vital components in saving life and restricting fire damage to the minimum possible, which is particularly important to the heritage-built environment.

The Fire Brigades Union⁴ (FBU) are also concerned at increased attendance times, and while acting for their members it is right to ask why. The reduction in FRS departments of experienced protection personnel coupled with the pressure on resources and the inevitable reduction in fire safety visits a worrying trend. This undoubtedly places enormous pressure on FRSs and I feel their pain in the struggle to maintain effective, proportional advice and enforcement.

Her Majesty's Inspectorate of Constabulary and Fire & Rescue Services (HMICFRS) first tranche of inspections 2018/19⁵ found that of the 14 fire and rescue services that were inspected, only five were graded as good at protecting the public through fire safety regulation. Eight services require improvement

and one was judged as inadequate. These are the lowest grades of all the questions within the effectiveness pillar. They were concerned that in too many services, protection is not a priority. They do not devote enough resources to the risk reduction activities set out in their IRMPs. The second tranche by HMICFRS gave the lowest grades for protection in Tranche 1 and they remain concerned following their findings in Tranche 2⁶, a similar conclusion was found in the remaining tranche. Improvements to the findings are being made which is evident in recruitment advertisements across the country for fire safety officers.

Fire safety has always been the poor relation when it comes to funding. Most of the measures implemented are not seen or understood as to why they are vitally important for the protection of life and property. Some members of the public would rather see money spent on a refurbished tearoom with cake in abundance rather than roof void protection they cannot see. The coronavirus pandemic has caused major funding issues for many organisations in the heritage sector; this will result in savings having to be made. It is inevitable, in my opinion, that many long and short-term fire protection projects will be delayed indefinitely or cancelled completely as a result. Could the repair and maintenance programs of organisations be affected? Possibly, but at what cost to the heritage fabric?

² <http://www.communities.gov.uk/documents/fire/pdf/frsresponsetimes.pdf>

³ <https://www.gov.uk/government/statistics/response-times-to-fires-attended-by-fire-and-rescue-services-england-april-2018-to-march-2019>

⁴ <https://www.fbu.org.uk/news/2020/01/16/increase-fire-response-times-could-be-%E2%80%9Cdifference-between-life-and-death%E2%80%9D>

⁵ <https://www.justiceinspectors.gov.uk/hmicfrs/publications/fire-and-rescue-service-inspections-2018-19/>

⁶ <https://www.justiceinspectors.gov.uk/hmicfrs/publications/fire-and-rescue-service-inspections-2018-19-tranche-2/>




These images, taken in Schönbrunn Palace, are of a fire protection Totem, containing a suppression system, emergency lighting, public address system and a fire alarm sounder together with a sprinkler head in a decorative ceiling. Would you consider them a blight on the space?
(Images courtesy of Schönbrunn Palace)

What direction is now required to preserve our Heritage?

Could insurance companies assist with the reduction in insurance premiums for those with robust strategies in place and the provision of innovative fire detection and suppression for the protection of the historic fabric? Should there be better collaboration between insurance companies and the FRSs where risks are high or intervention by firefighting crews will be delayed due to extended distance from available firefighting resources to the risk?

The Home Office does not require any specific fire statistics from FRSs where a heritage building is concerned. What is obvious is that if FRSs were compelled to provide statistical returns on all incidents where there is a heritage asset, not only would we have reliable data on where when and how they are occurring, but FRSs would have more reliable data sets of where their heritage risk is. In an ideal world this would be at point of contact on receipt of a 999 call. Knowing at the point of contact would enable the dispatching control centre to inform the responding appliances that there is a heritage value placed on that building. Incident commanders of responding appliances should then be able to ask the correct and relevant questions applicable to a heritage risk.

Is the protection of our heritage a simple task? The answer to that has to be “No” as experience tells us they are still occurring and we are losing buildings at an alarming rate. I will leave you with a thought; or a declaration, to the people of Austria, to demonstrate that the custodians of Schönbrunn Palace are doing their utmost to protect Austria’s heritage by openly showing the protection measures that are in place. I say this because the trend in England is to conceal and disguise the safety measures we put into buildings rather than to champion them.

I, for one, would rather have all the fire protection measures in place in a vulnerable heritage building, even if it meant that these were visible, than to see this on the early morning news;  charles.harris@historicensegland.org.uk



Clarence Hotel Exeter, Claremont Hotel Eastbourne

