REINSTATEMENT COST METHODOLOGY FOR HISTORIC BUILDINGS

The development of a methodology to present
reinstatement costs for historic and/or listed buildings,
with particular reference to family dwellings

by

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Abstract

A review of the current insurance market for domestic residences will be looked at specifically in relation to historic and listed buildings. The number of dwellings that are currently listed and those that are considered historic, but not specifically listed, will be reviewed. Case studies of listed buildings damaged by fire will be analysed with reference to the insurance arrangements and the adequacy, or otherwise, of the pre-loss buildings sums insured. A detailed study of the BCIS Guide to House Rebuilding Costs will be carried out in reference to its suitability to be used for valuations of historic dwellings. In light of the current lack of an 'off the shelf' rebuilding cost guide specifically intended for historic and listed buildings, the possible different methodologies available for a nationally available database of reinstatement rates stated in £ per m² will then be analysed and discussed. It is explained why the introduction of a database for historic and listed buildings is a fundamental need in the protection of the historic environment. In conclusion, recommendations for the favoured methodology will be presented and the different options for funding such a project will be discussed.
Acknowledgements

During my research I carried out a series of face to face and telephone interviews with the following people. I thank them for their input:

1. Keith Baker, CEM Tutor
2. Stephen Boniface, Boniface Associates and chair of RICS conservation panel
3. Joe Martin, Chief Executive BCIS
4. Ian Walker of Bare Leaning and Bare and ex-CEM student
5. Martyn Barrett, Risk Solutions Manager - Valuations, Cunningham Lindsey Risk Solutions (primarily loss adjusters but also offering valuation and risk management of property)
6. John Armstrong, Regional Manager, Specialist Adjusting Network, Cunningham Lindsey (specialist in major fire and flood claims)
7. John Vint, Baker Wilkins (specialist quantity surveyors who have worked on a program of valuations for the National Trust)
8. Tim Harrison, Haywards Surveyors and Valuers (Mortgage Surveyor specialising in historic buildings in the Oxford area)
9. Henry Russell, College of Estate Management
10. Kate Clark, Heritage Lottery Fund
11. Chris Wood, English Heritage
12. Steve Emery, Fire Safety Adviser for English Heritage
13. Ann Owen, Client Service Manager, AIG Private Client Group
14. Kris Coombes, City Manager, Zurich Private Clients
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1 Introduction

‘Once lost, listed buildings cannot be replaced; and they can be robbed of their special interest as surely by unsuitable alteration as by outright demolition. They represent a finite resource and an irreplaceable asset.'\(^1\) The protection of these buildings by suitable risk management and insurance arrangements is therefore vital to protect them for future generations.

The subject of insurance and listed buildings has been covered in recent years in the dissertations of Keith Baker\(^2\) and Ian Walker\(^3\). In revisiting this subject it is aimed to:-

a) review the current insurance market conditions.

b) review some recent fire losses in order to reiterate why change to the current procedures are needed.

c) explain in detail the different methodologies currently in use for the valuation of listed and historic homes for insurance purposes.

d) propose which type of methodology would be most suited to an ‘off the shelf’ system.

e) conduct research into possible avenues open for funding such a project.

The detailed study of the valuation techniques is based on my personal experience of working within the insurance industry for ten years, the last eight years of which have been spent purely valuing buildings on behalf of high net worth insurers. For the purposes of the dissertation, the study is limited to that of domestic buildings.

\(^1\) PPG 15: section 3.3
\(^2\) Baker 2000
\(^3\) Walker 2002
The BCIS (The Building Cost Information Service) publishes the *Guide to House Rebuilding Costs* (hereafter known as the BCIS Guide or the Guide) expressed as rates in £ per m$^2$. These are currently intended for newly built dwellings, 20$^{th}$ century housing stock and the mass built housing stock of the late 19$^{th}$ century. Both Stephen Boniface (Conservation Surveyor and chair of RICS conservation panel) and Joe Martin (Chief Executive, BCIS) advised that when the tables were first launched in the late 1970s, data for historic buildings dating back to the Georgian period was provided, but this was later phased out. Boniface advised one reason for this being that the presentation of the information was far too complicated.

Following the research Ian Walker carried out with the owners of listed buildings and from the various conversations held during the course of the research, it is clear that all remain in agreement that a set of data readily available for purchase ‘off the shelf’ would be very useful. It is also clear, from the work of Ian Walker, that the prospect of producing a standardised database from which surveyors could work, has been mooted seriously since 1993 when Richard Sutch wrote a paper entitled *Approach to Property Insurance and Insurance Valuations for Historic Buildings*. In this paper it was indicated that English Heritage and the RICS were looking to develop and publish tables of rates per square metre for publication in 1994-1995. This has not been forthcoming.

Walker concluded in 2002, that it was largely the availability of funding which prevented the project from proceeding further. The BCIS and various other interested parties, have therefore been contacted in order to ascertain whether this remains the case today. The opportunity has also been taken to approach various alternative potential sources of funding and this is commented on in detail in Section 4 of the dissertation.
2 Industry Experience

2.1 The Current Insurance Market

In a ten year period in the late 1900s, the nation was faced with three very large and highly reported cases of significant loss caused by fire at outstanding Grade I listed buildings, two of which being Royal Palaces. The fires at Hampton Court (1986), Uppark (1989) and Windsor (1992), lead to a review of fire protection procedures in buildings of this nature around the country and resulted in a Government commissioned report under the direction of Sir Alan Bailey entitled, *Fire Protection for the Royal Palaces.*

As well as prompting a review of physical risk management procedures (alarms, fire breaks etc), such large losses also affected the insurance industry as underwriters reviewed the types of property on their books and assessed their value at risk. The reported cost of the loss at Uppark was around £20,000,000. Although it is probable that a pre-loss valuation, without the benefit of hindsight, would not have suggested such a figure, the National Trust was able to rely on the extensive overall capacity for insurance that it buys for all its properties. The loss at Windsor was famously partly paid for through the opening of Buckingham Palace to the public. Unfortunately, the majority of the general public do not have a palace to open as a tourist attraction to raise funds, nor can they rely on specialised insurance arrangements such as those in place for the National Trust.

Thus it is the responsibility of each homeowner to ensure that they are adequately covered by their insurance policy. Traditionally, the building owner has been responsible for providing the sum insured and it was their responsibility to ensure that this was kept up to date when any home improvements were made.
made. This approach has generally applied to all policies for dwellings from the smallest two-bedroom semi, up to the grandest of stately homes.

For those owning significant property, the fires mentioned above may well have caused them to review their fire protection and insurance arrangements. It is fair to say that the current position of stately homes being held in ‘trust’, leaves an onus on the Board of Trustees to ensure that suitable arrangements are in place. This is most likely to result in the preparation of a professional building reinstatement valuation and a subsequent view to be taken on what percentage of the building was likely to be lost in the worse case scenario. Trustees then arrange the appropriate insurance.

However, the majority of the country do not have a team of professional advisors to hand and have tended to rely upon the mortgage surveyor to give an approximate indication of level to set the sum insured at. Mortgage surveyors in turn have relied on data published by the BCIS and the limitations of this data (to be discussed below) has left many owners of older listed or historic buildings significantly underinsured in the event of a serious fire.

Although not specifically related to the fires referred to above, the mid 1990s also saw the introduction of the first of a new style of insurance policy onto the market. Intended for High Net Worth clients, these policies removed the onus on the policyholder to provide the value for rebuilding their home, as long as, they allowed the insurance company’s in-house, or appointed surveyor, to carry out a valuation. Once the valuation had been set, the policyholder was then entitled to

\footnote{For the purposes of this dissertation the terms \textit{listed} and \textit{historic} can be interchangeable as many of the comments and proposals would apply not only to specifically listed dwellings but also those of historic value that e.g. lie in a conservation area or are constructed of largely historic fabric pre-dating the late 19\textsuperscript{th} century.}
receive a 'guaranteed rebuilding cost', i.e. in the event of destruction, the insurance company would pay beyond the policy limit in order to rebuild the home in materials of like kind and quality\(^5\), or as required by the Conservation Officer or English Heritage. The use of such materials is not normally catered for on more generic standard household policies which would propose to reconstruct in modern, readily available materials (e.g. cavity block walls with a brick skin, a softwood roof structure with machine made clay tiles). The market for High Net Worth policies is now quite crowded with Chubb, AIG, Zurich, Oak, Hiscox, NFU etc., all providing variations on a theme.

However, the High Net Worth market with its broader policy wording, only caters for clients with homes of a rebuilding cost of £350,000 plus, raising to £750,000 plus on some schemes, and therefore lots of smaller homes are still insured on the more standard forms with upper limits in indemnity in the case of total loss. (i.e. the insurer would never pay out a sum of money greater than the building sum insured.) Although for modern properties this may not be a problem, for owners of listed/historic homes this can come as a significant shock when a loss occurs.

Notwithstanding the incredible importance of the nation’s Grade I listed dwellings, it is for the majority, the smaller homes that furnish the villages and towns, in which we live. It is these vernacular dwellings that knit together to make the varied pattern of the historic environment. The loss of such dwellings causes scars in the landscape, destroying the rhythm of a streetscape as can be seen e.g. on London streets where properties lost to bombing in World War II, were replaced with modern versions. It is these vernacular dwellings that this dissertation is concerned with.

\(^5\) Allowed by both the Chubb Masterpiece and AIG Private Client Group policy wordings.
2.2 Quantifying the Problem

In 2005 it was estimated that there are 484,647 listed buildings in England. Of this figure the National Monuments Record estimates that 38% are in use as dwellings; this therefore equates to around 184,164 or 0.85% of England’s housing stock. This would appear to be quite a small problem, however when one considers the number of historic properties that are not listed, the problem greatly increases.

The ODPM survey of English Housing 2004/5, estimates that 4% of England’s housing stock was built before 1851 and 15% was built between 1851 and 1918. The table below indicates how this translates into numbers of actual properties.

<table>
<thead>
<tr>
<th>Build date of England’s Housing Stock</th>
<th>Before 1851</th>
<th>1851-1918</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shown as %</td>
<td>4%</td>
<td>15%</td>
</tr>
<tr>
<td>Number of Properties</td>
<td>864,520</td>
<td>3,241,950</td>
</tr>
</tbody>
</table>

From looking at these statistics it is clear that an enormous number of dwellings which are not listed, could be considered of historic value and contributing to the historic landscape and streetscape of the country. What is evident is that in excess of 800,000 dwellings definitely fall outside the scope of the rebuilding cost data provided by the BCIS Guide. Of further interest would be to understand how the 15% of stock dating 1851-1918 is made up. Although no official statistics are available, one can comfortably assume that a large proportion of these dwellings are rows of mass built terrace housing from the late 19th century, and that much

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6 NHTG 2005
7 English Heritage 2004
of such housing will fall within the protection of defined Conservation Areas. Therefore, even those properties built towards 1918, which fall safely inside the BCIS guidelines as regards date of construction, would be potential cases for a specialist review as reconstruction following e.g. a fire, would need to be in traditional materials that reflected the overall appearance of the remains of the road or terrace in which it was situated.

At one end of the spectrum it could be argued that 19% of householders, almost one in five, would benefit from a specialist insurance valuation. At the other end of the spectrum the conservative estimate is that all those dwellings that pre-date 1851 would definitely benefit from a specialist insurance valuation. It should be remembered that this figure is almost five times higher than the number of listed dwellings in England.

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8 See: www.odpm.gov.uk/index.asp?id=1156006 (accessed 16-1-06)
2.3 Loss Case Studies

The loss of one’s home to fire is one of the most devastating things that can happen in an individual’s life. You would imagine that this would lead people to be cautious and pedantic in their insurance arrangements, but regular losses seen by loss adjusters proves that this is far from the case. Many homeowners still operating under the premise … ‘Oh, it will never happen to me …’. The achievement of the lowest possible price would appear to be the biggest driver in policy purchase, as is seen in the majority of advertising campaigns for home insurance. Despite views to the contrary, John Armstrong (Regional Manager, Specialist Adjusting Network, Cunningham Lindsey) advised that insurers are only interested in collecting the correct premium relative to the risk, therefore enabling them to respond in the most appropriate way in the event of a major loss.

When Walker carried out a survey of listed building owners in August 2001, 80% of those asked advised that their insurance policy did not include any special
provision for the listed status.\textsuperscript{9} A similar statistic also was returned for those who hadn’t really sought correct professional advice as regards the value at risk. Of most significance was that 29% relied on the market value and 32% relied on the mortgage surveyor’s value.

If one uses the same statistic to consider those buildings that pre-date 1851 (listed or otherwise) it would transpire that approximately 700,000 dwellings risk unsuitable policies and probable underinsurance. The same risks would apply to the later period of construction and therefore for buildings constructed 1851-1918, the figure would stand at approximately 2,600,000 dwellings at risk.

Steve Emery (Fire Safety Advisor for English Heritage) advised that statistically an individual house burns down once in every 300 year period. Statistics collected regarding fire losses in England, show that 15 listed dwellings were either destroyed or significantly damaged by fire in 2005.\textsuperscript{10}

\textsuperscript{9} Walker 2002: Appendix A
\textsuperscript{10} The statistics Steve Emery provided are not published. Steve can be contacted at Steve.Emery@english-heritage.org.uk
2.3.1 Case Study 1

The timber framed property with brick in-fill and a thatched roof seen in Figure 2 recently was subject to a devastating fire; the cause of which has been attributed to a spark from a wood burning stove landing on the thatched roof. (Please note that due to the request of the owners, the full names and locations of the case study properties have not been included.) On arrival to the scene of the incident, the fire brigade were confident that very minimal damage would be caused. However, their inability to remove the thatch, due to it being under wire netting, meant the total loss of the roof, the almost total destruction of the first floor and significant damage to the ground floor and load bearing walls. After investigation it was noted that this building, following the removal of un-reusable historic fabric had suffered in the region of a 40-50% loss. It is somewhere near this point, where the cost of making good and repairing the remaining structure is equal to the cost of total demolition and rebuilding in similar materials.

Figure 2: Image of Cottage by Andy Haigh in 2001, taken from Images of England website.
Figures 3 & 4: The cottage following the fire. Fig 3 shows the front elevation, Fig 4 the rear elevation.

Figure 5: The other structures on the site

The insurance policy in place at the time of the loss covered both the cottage and the other buildings on the site seen in Figure 5. The building to the rear, a Victorian brick two storey barn, was in the process of being converted into guest accommodation. In 1986 the cottage was given Grade II listed status and was attributed to being built circa 1651. Due to the listed status of the cottage, all other structures within the curtilage are also classified as listed. At the time of the loss the sum insured was in the region of £320,000. It is the job of the loss adjuster to assign what proportion of that figure would have been for the cottage
and the barn. It transpired that the correct reconstruction cost for the barn in its current, partly restored, condition would be around £120,000 (approx. £850 per m²), therefore leaving only £200,000 (approximately £1,100 per m² and based on the purchase price circa 1996, but interestingly also equated to a BCIS Guide¹¹ type rate) in the pot to pay for the restoration of the cottage. A post loss valuation of the cottage for reconstruction in good quality vernacular materials, concurred with the initial estimates received for restoration which indicated a sum insured at £500,000 in total or approximately £2,600 per m². It is therefore evident that if the policyholder wanted to rebuild in materials of like kind and quality, they would have to personally fund the difference. Furthermore, due to the ‘general presumption in favour of preservation of listed buildings’¹² where the Conservation Officer made a legal requirement under the Planning (Listed Buildings and Conservation Areas) Act 1990 to order repair, the homeowner would have to find the extra funds. This is a classic case of underinsurance.

In this case, the local Conservation Officer was presented with the policyholder’s circumstances and the structural engineer’s reports, that the building was totally unsafe and that economically it was not viable for it to be repaired. Therefore, despite the requirements in Planning Policy Guidance 15 of ‘the great importance to society of protecting listed buildings from unnecessary demolition …’¹³ it would appear that a ‘convincing case (has) been made out …’¹⁴ and permission has therefore been given to raise it to the ground. The policyholder will then seek permission to build a new house in its place. If this homeowner had insured for a more realistic figure and had been covered by a specialist insurance policy, it is less likely that this building would have faced demolition. The homeowner and

¹¹ BCIS: p16
¹² PPG 15: section 3.3
¹³ PPG 15: section 3.3
¹⁴ PPG 15: section 3.3
the historic environment are both losers in this case. Another listed building has been lost. Furthermore, having researched into property prices in the subject village, it is apparent that there is a strong possibility that the market value of the new build will be lower than if the thatched cottage had been restored.

It is most concerning to think that chartered surveyors carrying out inspections on behalf of the mortgage companies, continue to use BCIS rates on totally inappropriate buildings. It could be seen that this is a negligent action on their part as the homeowner is largely oblivious to the fact that they are underinsured and the possible effect this could have on their personal circumstances after a major loss.
2.3.2 Case Study 2

The property in Figure 6 was significantly damaged by fire in 2004. The property is one of a pair of Grade II listed lodges which date from 1905. They are situated in the grounds of a Grade I listed property by Lutyens. Due to the importance of the principal building on the site, the client had employed the services of a specialist insurance broker who had organised an insurance policy suitable for such a risk. The policy included provision for cover, in excess of the policy limit, in the event of a serious loss involving the elements of the site that were Grade II listed. As is common with the specialist insurance policies, the policy did limit the levels of indemnity for the Grade I listed elements of the estate.

Interestingly, in both this fire and the fire in Case Study 1, similar percentages of the building were lost. However in this case, the policyholder has had sufficient cover to enable reconstruction in materials that are of like kind and quality to those in the original structure. The property had been valued by an in-house surveyor employed by the insurer and a pre-loss figure of £900,000 (approximately £1,800 per metre) had been set. Interestingly solid brick properties with clay tiled pitched roofs of this type of specification are often found
in suburbs of major cities e.g. Bourneville, Birmingham and Hampstead Garden Suburb, London. If located in such an area and valued using BCIS rates the rate used per metre would be £1,400. The actual cost of reconstructing this building has been £2,100 per metre. Although not aimed at listed buildings, this figure does call into question the BCIS rates aimed for detached solid brick construction in their pre-1920s tables and would concur with the premise that a large proportion of the 15% of the England’s housing stock built 1851-1918 is underinsured.

In the event of the client having had an unsuitable policy, it is less likely that the Conservation Officer would have sanctioned total demolition, as in Case Study 1, due to the lodge being designed by Lutyens and therefore integral to the setting of the Grade I mansion. However, one could argue that the wider historic environment would have been less affected by the loss of this structure than the cottage. The lodge is located a distance from the road and cannot be seen from any public right of way, whereas the cottage is situated in a prominent position in the centre of a rural picturesque village.

It therefore transpires that, despite the legalisation concerning listed buildings, the need to reconstruct following a loss is not a foregone conclusion and may well be dependant on the type of insurance cover that is in place.
3 Different Methodologies

The following methods are currently in use for the valuation of historic buildings:

- Using the BCIS rates and ‘rounding up’
- Matrix Systems
- Segregated Cost Systems
- Volumetric Matrix Systems

With regards to building valuation, the following expression is often heard ‘valuation is an art not a science’. It could be argued that this is the case, in that each property is unique in its own right and should be approached so accordingly. This is more specifically the case when one starts to look at listed and historic buildings. Most methodologies of valuation however are based on a specification. The process of setting up a system of valuation, by definition, leads to standardisation. This standardisation will inevitably lead to certain properties being anomalies that will not fit into a prescribed specification. It is the valuer’s professional duty to ensure that a full working knowledge of the specification(s) is maintained. Across all valuation methodologies the specifications are varied in order to create different standards or classes of property. By understanding fully what each specification would enable you to reconstruct, you are selecting an appropriate class of property and the relevant set of data. It is clear that many valuers place an incorrect rate per m² on a house, by not having a full enough understanding of the various specifications.
3.1 BCIS Rates

3.1.1 The Printed Guide

Traditionally rebuilding costs for domestic property insured in the UK have been calculated using the data tables provided by the BCIS. Over the past 15 years it has become apparent to insurers specialising in the High Net Worth sector that these rebuilding costs are wholly inadequate for clients’ homes. The inadequacy of sums insured calculated using BCIS values for dwellings in this market sector are often only evident in the event of loss as has been shown in the case studies above. In general terms, they do not reflect the increased value of refurbishment work and interior design schemes which clients have invested in their homes, nor are they sufficient when dealing with buildings that contain historic fabric.

In most cases, due to the size and quality of their homes, all owners of listed buildings should be recommended to insure at a level above the BCIS rates. Wholly depending on the BCIS rates or figures below that, places them in a dangerous position as far as underinsurance is concerned as was seen in Case Study 1.

The mistake made by many homeowners and surveyors is to rely on BCIS Guide for data that it doesn’t claim to provide. The small print within the BCIS Guide states that

‘Houses which are not of modern materials and are required to be reinstated exactly are outside the scope of this guide.’\textsuperscript{15}

This would therefore apply to all listed homes which often need to be reconstructed using specialist materials or vernacular techniques. The oldest homes that the Guide deals with are properties that are late Victorian and

\textsuperscript{15} BCIS: p10
Edwardian. It does not offer any costing data for properties that pre-date the late 19th century.

Furthermore, the Guide states the following:

‘The costs do not apply to …

- Houses built of stone
- Houses with more than three storeys
- House of a size greater that those given in the tables (approx 320m²)
- Listed or historic buildings which will have to be built to their original design using identical material’

Under a section specifically related to historic buildings the Guide states:

‘The cost per square metre approach based on the rates in the Guide is not appropriate for older and complex buildings which require a more detailed approach. … Professional advise will be needed to ensure that relevant factors are accounted for.’

Within the BCIS Guide, the fixtures and finishes costed out are not necessarily of the type, quantity or quality expected to be found in a listed building. The maximum quantity of bathrooms is normally two. Often in, for example, a rural listed ‘Manor House’ there would be more bathrooms. Even within the excellent quality grading only vinyl tiles are costed out for bathrooms. The costings do not price for features common to listed and historic buildings e.g.:

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16 BCIS: p12
17 BCIS: p32
<table>
<thead>
<tr>
<th>Examples of specific elements</th>
<th>Examples of historic fabric</th>
</tr>
</thead>
</table>
| **Roof**                    | Hand made tiles, stone tiles, thatch or leadwork  
Complex roof structures e.g. with multiple pitches |
| **External walls**          | Additional thickness in walls for historic construction, vernacular materials such as cob, knapped flint, local stone, wattle and daub, historic brickwork bonds (e.g. Flemish, English), brickwork with stone mullions, timber frame with brick or other in-fill, lime based renders or rough casting |
| **Floor coverings**         | Flagstones, clay tiles, brick pavers, marble or hardwood (plank or parquet) floorings |
| **Wall finishes**           | High quality wallpaper, traditional paints, hard or softwood panelling or marble |
| **Ceilings**                | Decorative timber or plaster mouldings, intricate cornices |
| **Doors**                   | Ledged and braced, hardwood doors (oak/mahogany etc) with carved architraves or details. |
| **Windows**                 | Hardwood frames with leaded lights, hardwood casements, traditional timber sash and cases with original painted timber shutters. |
| **Fireplaces**              | Marble, stone, hardwood, highly decorative carved softwood |
Obviously the costing data for listed homes needs to take exterior details and interior finishes such as those detailed above into account but unfortunately there is no ‘off the shelf’ system that does. In addition, owners of listed homes may have had to spend more money on some or all of the following (currently not factored in sufficiently or at all to BCIS rates):

- A visually sympathetic bathroom or kitchen scheme which could well exceed the allowances in BCIS (e.g. approx £700 for the Small Basic category to £20,000 for the Large Excellent category per kitchen)\(^\text{18}\)
- Fitted bespoke cabinetry, as modern ‘off the peg’ furniture may not fit in the available spaces
- Security and fire protection systems
- High grade locks and security grills or electric shutters
- Commercial grade plant rooms controlling complex heating and hot water supply systems (found in a substantial house or stately homes)
- Integral sound e.g. Crestron, and hi-tech lighting systems e.g. Lutron (found in listed buildings in London)

Despite the apparent flaws of using the BCIS Guide to calculate rebuilding costs for listed buildings, they do continue to be used.

\(^\text{18}\) BCIS: calculated from the elemental costs given on p90
So, one would ask, why is this data used? In the case of mortgage valuations, surveyors have reported that their role is to calculate minimum insurance requirements. The main purpose of the mortgage valuation is to verify market value and the condition of the house on behalf of the mortgage company. Therefore, in the event of repossession, the mortgage provider is confident that they will have a marketable property. As there is no other data available for surveyors to purchase and listed properties do not make up the majority of those that they see, they are left to rely on the BCIS figures; it apparently not being commercially viable for individual firms to commission a set of data.

The surveyors who recognise the inadequacy of the BCIS rates may round them up. This was concurred by Tim Harrison (Mortgage Surveyor, Haywards Surveyors and Valuers.). Harrison advised that little training is offered in the industry specific to the valuation of historic homes for reinstatement purposes. The onus is left to each individual surveyor to apply their local knowledge. Obviously this can therefore be very varied.

Direction in the Guide is given as to what percentage should be increased to e.g. allow for additional wall height. Suggestions are also made that the surveyor should consider factors such as sensitive or restricted locations (often the case with historic dwellings), obviously higher grade fitted kitchens and bathrooms, superior wall finishes etc. However, it is clear that this is not a scientific methodology and not totally condoned for use on historic buildings by the BCIS as can be seen in the excerpts from the guide detailed above.

Raised as a matter of concern by Joe Martin (Chief Executive, BCIS) was the fact that many surveying practices will buy one copy of the Guide and photocopy it for distribution. Often it will only be the data tables that are copied. This action
means that immediately the practitioners are removed from the ability to read and refer back to the specifications, or indeed the guidance notes for properties that fall outside the prescribed specifications. It is therefore likely that, although the Guide does allow for some additional costs to be applied to historic homes if used correctly, this is often not the case.

3.1.2 BCIS Rebuild Online

The online system seeks to address some of the concerns raised with the paper Guide detailed above. Of most interest is that the surveyor can no longer avoid specific elements that can significantly increase a rate per metre. This is due to the system requiring the user to enter information regarding specific location, ceiling height, number of floors, build date and quality, number of kitchens, bathrooms, cloakrooms, existence of security alarms, existence of stonework etc.¹⁹

During a demonstration of the online system, Ian Pegg, of BCIS, advised that when the new system was launched, various stops were put in the software so that e.g. once a build date outside the suggested parameters was entered, an error message was generated preventing the user to continuing with the valuation. Many surveyors called to complain about this and the stop mechanisms were removed. It was therefore clear that many surveyors were, and therefore continue, to use the data on historic or listed buildings.

One disadvantage with any paper-based system is that it is out of date as soon as it is printed. The BCIS publishes indexation tables indicating relevant percentage uplifts applicable month by month, since the date of the last

¹⁹ BCIS 2005
published Guide. The Online system removes the need to refer to the latest index, as the costings are updated automatically.

The Online system also protects the BCIS from infringement of copyright, which is carried out by those who produce photocopies of the document. By having the data online, the user only sees the specific rates relevant to the exact criteria and location of the dwelling they are valuing on that specific day. It is therefore harder for a user simple to print off tables of rates and work from them in the same way that the paper Guide is used. The use of the Online system has to improve the reliability of the pricing a valuer proposes. However, it still is not suitable for historic homes of non-standard construction for all the reasons detailed in 3.1.1.
3.2 Matrix Systems

Within the insurance market various companies have prepared their own in-house matrix systems. The target market of these insurers are generally the owners of larger homes, perhaps listed or with high quality interior finishes. It is therefore relevant to analyse how they work, so as to see whether the methodology would be suited for use in an ‘off the shelf’ database for listed/historic dwellings. For the purposes of this paper a matrix system, should be taken to be a similar methodology as presented in the BCIS Guide. That is, a set of tables giving rates per m$^2$ for different types of property that have been initially calculated by conducting an elemental analysis on a set of specifications. All matrix systems present regional variations on price per m$^2$, splitting the country into different regions the same, or similar, to those as defined in the BCIS Guide.

Although the matrix systems pull away from the BCIS rates and aim to distance themselves from the BCIS Guide, the only method of keeping data up to date is by using the BCIS indexation tables which can be found online. Owing to the fact that the matrix systems are intended for use on specialist dwellings, means that using the index (which is intended for the types of home covered in the BCIS Guide) to update the data, runs the risk that the rates may not actually keep in line with current costs. Therefore, it would be recommended that the base data is updated and recalculated at least every three years.

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20 Chubb, AIG & Zurich all have their own databases. Due to company privacy, I cannot be specific with regards to which matrix works in which way.
21 [www.bcis.co.uk/RebuildingCosts/Index/rebuildingcosts.htm](http://www.bcis.co.uk/RebuildingCosts/Index/rebuildingcosts.htm) – accessed 22/1/06
3.2.1 Matrix Case Study 1

The matrix in Case Study 1 has data tables for three types of construction:

- brick/block
- stone
- brick/render

A specification guide would need to be used in conjunction with the matrix to indicate what type of property is covered by the data and what the differentiating factors between the classes are. For example, Class 2 may be used for a small unlisted Victorian terrace house, while Class 3 to 4 would fit a listed Georgian Rectory. In contrast to BCIS the specifications all would be of a higher quality and take into account elements of historic fabric.

The following is an example:

**Table 1**

<table>
<thead>
<tr>
<th>House Type</th>
<th>Class 1</th>
<th>Class 2</th>
<th>Class 3</th>
<th>Class 4</th>
<th>Class 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brick/Render</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scotland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North East</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North West</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yorks &amp; the Humber</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Midlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Midlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South West</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South East – Zone A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South East – Zone B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South East – Zone C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater London</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In comparison with the BCIS Guide, the tables are not presented according the age of the dwelling, but according to construction type. Therefore, the table for stone is to be used for both a contemporary constructed stone property, and one constructed in the 17th century. To reflect the age, the user would have to move between the different classes. For example, Class 1 being used for a small 20th century dwelling but the same size home that is listed and dates from the 1700s would fall into a Class 2 rate. A large executive style contemporary home may be rated between a Class 2 to 4 dependant on the quality and style of the interior.

The data in Table 1 would overlap with that provided by BCIS as the Class 1 is defined as dealing with a medium to large sized house (of good quality 150-350m²). However, the difference being, that for listed or historic homes of this size the matrix allows for reconstruction in rendered solid brick. Once one looks at Class 2 and above, the houses are getting increasing larger (say 300-700m²). They have increasingly complex exterior and interior features, and/or are listed/historic with historic fabric present.

The matrix systems too depend on the skill of the valuer. In older properties one may find different construction methods due to later additions. The valuer may then select different matrix figures for different areas of the property. In addition the classes can be mixed around according to the quality of the interior finishes.

It may be that the formal reception rooms are rated on a Class 5, but the range of attached outhouses is rated on Class 1 or less.
Positives:

1. Allows for reconstruction in three basic material groups.
2. Allows for greater numbers of bathrooms found in higher valued homes.
3. Allows for more expensive kitchens found in higher valued homes (e.g. £20 - £100k).
4. The data has been custom designed for the needs of the users i.e. an insurance company with an average building sum insured between £500,000 and £1,500,000.

Negatives:

1. The construction types are very broad and would have to be used for quite different methods. For example, the Stone Matrix would be used for all stone properties. Stone can vary in type from the finest ashlar to uncoursed rubble, resulting in vastly different rates. The different classes would take this into account to some extent, but for properties over say 500m², it would become unstable.
2. As can be seen in the discussion above, the data is for all ages of building and therefore it becomes quite complicated when deciding on a class, as one has to consider both the quality and style of the external and internal materials used.
3. Designed specifically for High Net Worth homes, the data is more suitable for historic homes than the BCIS Guide but no specific allowance was made for the factors associated with the reconstruction of listed buildings e.g. ‘temporary support to prevent further collapse or to facilitate the taking down of structures as statutory authorities may require … that sound materials are salvaged and reused … detailed recording of the
remains and the research necessary for an accurate reinstatement.\textsuperscript{22} When using the system, advice suggested to add on a percentage (e.g. 20\%) or use a higher class to take listed status into account.

4. Various vernaculars were not catered for, the most obvious being timber framed buildings.

5. Based on buildings that were built as dwellings, the costings do not specifically look at buildings that have undergone a change of use e.g. this is most often former agricultural buildings - oast houses, stable and barn conversions – but is also seen in previously industrial areas with warehouse conversions.

6. No distinction made between detached, semi-detached or terraced properties.

\textsuperscript{22} BCIS: p32
3.2.2 *Matrix Case Study 2*

This case study looks at a more refined matrix system which takes the above model a stage further. Designed specifically for High Net Worth homes, seven matrices were prepared to deal with the seven most common types of home found. These types consisted of:

<table>
<thead>
<tr>
<th>Type 1</th>
<th>City Town House</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2</td>
<td>Stone Manor House</td>
</tr>
<tr>
<td>Type 3</td>
<td>Georgian style Brick Manor House</td>
</tr>
<tr>
<td>Type 4</td>
<td>Timber Framed House (part brick and part wattle and daub infill)</td>
</tr>
</tbody>
</table>
It was felt that these house types covered a broad spectrum of vernacular materials, construction age and style. This increased the three tables found in Matrix Case Study 1 to seven in Matrix Case Study 2. Detailed specification documents were given to a recognised practice of quantity surveyors to calculate the costings. This information included construction materials, floor plans, information on approximate layout and ceiling height. (Ceiling height is a fact often overlooked and not considered by homeowners. Significantly higher ceilings on historic properties can lead to an increase in costs due to e.g. need to have 30% more bricks.) The interior fit out was specified with detailed information given about the finish to floors, walls and ceilings. The style of interior joinery (doors, staircases, fitted cabinetry and wardrobes) along with prescribed information on e.g. number, type and quality of bathrooms was also indicated. By asking for costings on a very high specification property, it was then possible, with the data that came back from the quantity surveyors, to
modify and simplify some of the interior fit out and therefore arrive at figures for a less elaborate interior. This process was carried out in order to arrive at different qualities or classes of property as seen in Matrix Case Study 1. However, in this methodology, the exterior shell always remains based on the same type of construction.

This is a particularly useful approach when one considers a terraced house in London, which is rated under the City Town House matrix. The basic construction technique is pretty much the same with the more external embellishment appearing in certain streets. The current owners too will have applied different levels of interior embellishment according to their budget. Thus the terrace of e.g. 83 – 102 Eaton Square, London, SW1 with their Grade II* listed status and external embellishment, internal stone staircases and marble fireplaces, would be rated as a Class 5. The more modest terraces in Belgravia e.g. Ebury Street, SW1, have lower ceiling heights, timber staircases and more modest interiors and would therefore be graded as a Class 3.

Figures 6 & 7: 83-102 Eaton Square, London SW1 & Ebury Street, London SW1
Ultimately the matrix tables appeared as in Table 2. A separate table being produced for each building type.

Table 2

<table>
<thead>
<tr>
<th>House Type – City Town</th>
<th>Class 1</th>
<th>Class 2</th>
<th>Class 3</th>
<th>Class 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North East</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North West</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yorkshire &amp; the Humber</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Midlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Midlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Anglia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South West</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South East</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>London Postal Districts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outer London</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wales</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scotland</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These geographical areas reflect those that are used in the BCIS Guide. The grouping of most of the London postcodes into only two areas, is less specific than in Matrix Case Study 1. The prices in London can vary greatly between the different areas. Those areas of ‘prime real estate’ - Kensington, Chelsea, Knightsbridge, Mayfair and around Regents Park - being the most expensive to rebuild in largely due to physical access and the high cost of attracting reliable craftsmen and labour. The valuer using the Matrix Case Study 2 in London would have to be aware of this when applying a rate.
Positives:

1. Allows for data to be specifically related to a construction material e.g. stone.
2. Allows for data to be specifically related to a period in construction history. This therefore allows for typical period detailing, ceiling height and interior features to be included.
3. As the matrices are separated by building type, distinction is made between detached and terraced properties.
4. Allows for data to be specifically related to a method of construction e.g. timber frame.
5. The higher classes allow for higher specification kitchens and bathrooms which owners of listed/ historic homes favour.
6. As the original specifications were so detailed, one can look at them and adjust the figures accordingly taking the subject house into consideration.
7. Has been proven to be adequate and stable on large buildings, say up to approximately 1000m² in size, without the need to turn to a segmental cost method.
8. The data has been custom designed for the needs of the users i.e. in this case an insurance company.

Negatives:

1. Being designed with a High Net Worth home in mind, the data would not be suitable for smaller properties as it assumes a specification too high for a listed rural cottage. However, further data could easily be produced based on a smaller house and lower specification and quantity of interior period details.
2. With only using seven house types (and only five of those are specifically historic and outside the BCIS data ranges), there clearly are some styles
of historic dwelling that are excluded. For example, no data was collected for semi-detached dwellings, flint construction or thatched properties although the quality of roofing specified for Type 2 and 3, was sufficient to absorb the price of thatch.

3. Based on buildings that were built as dwellings, the costings do not specifically look at buildings that have undergone a change of use e.g. this is most often former agricultural buildings - oast houses, stable and barn conversions – but is also seen in previously industrial areas with warehouse conversions.

4. While having a costing for a stone house, clearly stone can vary from uncoursed rubble to ashlar and therefore the valuer is relied upon to use judgement.
3.2.3 Matrix System 3

In Ian Walker’s dissertation he presented a matrix system for listed and historic buildings that was prepared and proposed to the RICS by quantity surveyors Bare, Leaning & Bare in 1999. The system was a proposal to provide three matrices for the following periods:

1. Medieval 1400-1714
2. Georgian 1714-1837
3. Victorian 1837-1901

For each period the matrix would give costings to cover four classes of timber framed, brick and stone properties of detached, semi-detached or terraced construction. They also proposed further dividing the figures into dwellings of small, medium and large size. Table 3 is an extract from their proposal.

Table 3

<table>
<thead>
<tr>
<th>Class</th>
<th>Size</th>
<th>Construction</th>
<th>Detached</th>
<th>Semi-detached</th>
<th>Terraced</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Small (x m²)</td>
<td>Timber Framed</td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brick</td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stone</td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td></td>
<td>Medium (x m²)</td>
<td>Timber Framed</td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brick</td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stone</td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td></td>
<td>Large (x m²)</td>
<td>Timber Framed</td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brick</td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stone</td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
</tbody>
</table>

Not having worked with this matrix, my comments cannot be based on real-life experience. However, it does appear to have answered various of the negative points raised with the other matrices i.e. lack of data for semi-detached houses and the ability to look at, for example a stone terraced property, is something

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23 Walker 2002: Appendix B
neither of the other solutions offer. As with the other solutions, a detailed specification guide would be needed and regional variations would have to be taken into account. What is most interesting is the overall premise that all roof types are machine made clay pantiles and for other finishes the user has to add a figure to the overall cost per m² to take into account e.g. natural stone tiles. Similar additions to the m² rate are also suggested for variances in wall construction. Furthermore, the interior specification differences between the classes and the sizes would also need to be fully understood. Relying on a paper based format may encourage the sharing of the tables and not the specifications as has been seen with the BCIS Guide. Therefore, those carrying out the valuation would need to be familiar with all the different types of material and so, once more, experience of the valuer is a vital component to its correct application.

On first appearance, the matrix does seem user friendly and highly suitable to its application for the valuation of listed and historic buildings. Insurers looking at this would be interested to compare the data with that they have collected from known losses.
3.3 Segregated Cost Systems

3.3.1 The USA’s Marshall and Swift system

Marshall & Swift have been operating in the US for 70 years. They are dedicated to providing the commercial and residential property sectors with the most current and accurate building cost data. It therefore appears that an ‘off the shelf’ tool for dwelling valuation is available online in the USA. The Marshall and Swift website introduces their on-line courses on valuing residential property as follows:

‘Designed for those who need to determine the replacement costs of residential buildings and other improvements in the USA and throughout Canada, the Cost Approach to Residential Appraising online course walks you through the eight essential steps of the cost approach, using the same cost data and trusted methods of the time-honoured Residential Cost Handbook, an industry standard for completing cost approach valuations.\(^{24}\)

This method divides the house into the following components:

Table 3

<table>
<thead>
<tr>
<th>Element</th>
<th>Comment (if needed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation</td>
<td></td>
</tr>
<tr>
<td>Wall frame</td>
<td>In UK this would only be if there was a timber frame. If the wall construction is not framed this would be left out.</td>
</tr>
<tr>
<td>Floor structure</td>
<td></td>
</tr>
<tr>
<td>Floor covering</td>
<td></td>
</tr>
<tr>
<td>Ceilings</td>
<td></td>
</tr>
</tbody>
</table>

| Interior construction | | | | | | 
| Plumbing | | | | | | 
| HVAC | | | | | | 
| Electrical | | | | | | 
| Exterior walls | | | | | | 
| Insulation and sheathing | | | | | | 
| Roof structure | | | | | | 
| Roof cover | | | | | | 
| Lump Sums | Total costs for fitted kitchen, bathrooms, staircases, internal and external doors, fireplaces, cabinetry, wall coverings (paint, wallpaper, panelling, marble etc) security and fire alarms or measures, and any other items not catered for elsewhere. |

Having reviewed the Marshall & Swift system, it is interesting to note that there is no specific set of data available for calculating rebuilding costs on what they label historic homes. In the USA, properties that date before 1900 are classified as historic buildings. Steve Bitterman, a specialist in the valuation for insurance of multi-million dollar homes for AIG Private Client Group in the USA, advised that the Marshall & Swift segregated cost system is really only designed for homes of less than $500,000 and the only way to make the data suitable for their needs is to

(i) drastically increase the ‘percentage’ weightings applied to the specialist and professional fees e.g. architects, designers, engineers etc.
(ii) focus on lump sums, pricing out elements such as hardwood panelling, decorative cornices etc.

(iii) pay particular attention to the ‘local’ weightings, as although an historic home may be in a lower priced area of the country, the required building skills may not be available in that area and therefore any saving does not apply. In his experience, crafts people often have to be flown in, from even as far a field as Europe.

The High Net Worth insurers in the USA also provide free buildings valuations for their clients and indeed it was the American insurance companies who first introduced the current trend in the UK. They also have gathered together their own in-house data.

Therefore, one can see that the current situation in the UK is also mirrored in the USA and it would appear that there is nothing specific to be learnt from their experience. The Marshall and Swift, ‘off the shelf ‘system, needs to be altered by in-house surveyors or insurance appraisers in order to make it suitable to high net worth and historic homes.

Due to the frequent construction of new homes in the USA at the luxury end of the market - which incorporate e.g. bespoke panelling, antique hardwood parquet flooring, specialist paint finishes - Bitterman advised that much of the data used on historic homes is based on the cost of these new-build projects. As in the UK, heavy reliance is made on the experience of the valuer.
3.3.2  UK Segregated Cost Method

Although matrix systems can be applied from printed data tables, the segregated cost method needs to be set up on a computer. It is possible to have a segregated cost calculator set up as an Excel document or it could be developed into an online system.

In the segregated cost method being used for this case study, the user has a choice of five classes of construction from basic to elaborate. For each element of the building, as detailed above in 3.3.1, the user is given a choice of method/material and then can select the quality grade. For example the Floor Coverings choices may include hardwood, marble, limestone, ceramic tile etc. With Class 1 being the lowest price of hardwood and Class 5 being the highest quality.

The valuer needs to collect the following base information:

- Total floor area (m$^2$)
- External wall area (m$^2$)
- Roof area as if it was flat (m$^2$) and its gradient to make an allowance for steeper roof needing more roof cover materials.
- The details regarding the different elements of the building and their respective qualities. The valuer also needs to note what percentage of the house is finished in each element e.g. what percentage of the flooring is hardwood, what percentage marble and what percentage ceramic tile.

The user also has to consider what effect the various factors shown in Table 4 have on the subject valuation.
Table 4

<table>
<thead>
<tr>
<th>Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Fees</td>
<td>This covers all fees – architects, engineers, surveyors, interior designers, consultants etc.</td>
</tr>
<tr>
<td>Current Costs</td>
<td>To show inflation between the point of data capture to the current date.</td>
</tr>
<tr>
<td>Local Costs</td>
<td>To take account of specific location e.g. location within the country, city centre, on an island.</td>
</tr>
<tr>
<td>Listed Building/Contingency</td>
<td>To allow for the extra costs involved with reconstruction of listed buildings e.g. detailed recording of remains and additional professional fees.</td>
</tr>
<tr>
<td>Preliminaries</td>
<td>Contractors site set up costs e.g. appropriate fencing, temporary roads, site office, etc.</td>
</tr>
<tr>
<td>Rebuilding Period</td>
<td>With larger buildings the period of re-building could extend into several years. This takes into account the inflationary costs over this elongated period.</td>
</tr>
<tr>
<td>Contingencies</td>
<td>This allows some flexibility in the budget for any unexpected costs.</td>
</tr>
</tbody>
</table>

The user inputs percentage values for the increase to the cost of the materials and labour that each factor would lead to. For example the professional fees could be set at a point between 15%- 20% depending on the complexity of the dwelling and a 10% increase may be entered for a south east location. Once each factor has been considered, the spreadsheet calculates a final multiplier. This multiplier thus alters the base cost for all labour and materials, according to
all the variable factors that have been taken into account. The overall costing, can be highly effected by the weightings given to the different multipliers.

Once the base information has been entered, the various percentages of each of the elements have been assigned and the lump sums been specified, the valuer ultimately ends up with a total estimated figure and an average price per m². It is also possible to design the system so that it is able to split a property into separate sections thereby one would end up with defined figures for e.g. 17th century Main House, 19th century Service Wing, Stable Wing.

Due to the segregated cost method being based on a large set of specific data points (e.g. prices per m² of hardwood flooring), annual updates would be needed to reflect current costs for specific elements. The reliance on the BCIS inflationary index could prove unstable as it doesn’t make reference to the type of specialist finishes catered for in the segregated cost method.

Positives:
1. This method allows the valuer to be very specific with the elements found in the building.
2. It allows them to feed in specific information they may have. For example if a client has recently had to replace an internal door, the cost of this door can be used as an exact example of what the replacement cost would be.
3. It is clearly the most thorough method of valuing and allows each property to be dealt with on an individual basis. It is similar to the BCIS Standard Form of Cost Analysis. The BCIS advise that ‘the most accurate estimate is likely to be obtained by defining and quantifying all elements of the
building based on the BCIS Standard Form of Cost Analysis and assessing their rebuilding costs.\(^{25}\)

Negatives:

1. This method is time consuming and is therefore perhaps best suited to very unique and high value homes e.g. £5,000,000 – £10,000,000 plus. It is not necessary to be this detailed on smaller properties which would ultimately have a more generic feel to the experienced eye.

2. The quality of the results does depend on the accurateness and quality of the data held and on the knowledge of the valuer with regards to the information needed for the multipliers.

\(^{25}\) BCIS: p32. Full details on the Standard Form of Cost Analysis can be found at: www.bcis.co.uk/ConstructionCosts/Data/construction_data_more.htm
3.4 Volumetric System

One sees the use of a volumetric matrix methodology in Europe, for the valuation of dwellings, and in the UK for the valuation of churches. This methodology may be of use to very large listed dwellings as it would cater for extended ceiling heights found in e.g. a double cube entrance hall or a great hall with a hammer beam ceiling. However, as it is not in regular use in this country by surveyors, it is proposed that the introduction of a system based on $m^3$ as opposed to $m^2$ to the mass market would be too confusing.
3.5 Preferred Valuation Methodology

If a valuation method for listed and historic homes was to progress in the current market place, it is advised that initially the focus should be to provide information for dwellings of similar size as catered for in the BCIS Guide (up to around 320m²). This would therefore ensure that better advice was being given to homeowners who take the most basic type of mortgage survey and probably the most generic type of insurance policy. The reason that it is suggested to focus on the small to medium sized homes is because this is currently a totally overlooked sector of the market. It is also the largest sector of the market and therefore would attract purchase from the majority of surveying companies.

The owners of larger properties may have an insurance policy that provides a free valuation, or may have sourced their own. In addition as a property gets larger, the specification can become more complex and standard data may then no longer apply. Once a system for properties up to around 320m² has been developed, a further system for larger homes could be progressed if it was still felt necessary. Alternatively, the valuation of the larger homes could be directed to the specialist insurers, surveyors and valuation services within e.g. loss adjusters.

Of the systems reviewed it is believed that, even though it is not fully developed and not apparently specifically tested, the Bare Leaning and Bare system presents the most thorough approach. It is the most flexible of the three matrix systems reviewed and allows for the most variation in construction type and house design. It most closely follows the BCIS Guide in layout and so therefore would be most familiar to all involved in dwelling valuation.
It is advised that to protect the data and ensure that the correct allowances are applied for ceiling height etc, an online system similar to the BCIS Rebuild Online, would be most suitable. The use of the online system allows for periodic updates in information, be that inflationary costs or the addition of costings for different materials.

Of most importance for the financial viability of such a project is the ability for the online information to be held securely. The owner of such a system needs to protect their intellectual property and prevent the practice of photocopying data tables to be handed around the office. With an online database there is no need to ever display to a user the entire set of data, or the data tables, upon which the costing is based. Once the user has fed in location, floor areas, ceiling height, materials and the like, the database can present them with an overall cost per m² that can be presented to the client. This figure may be separated out to show the percentage allowance for fees, demolition and debris removal, additional allowance for flint wall construction etc, but it would be unique to that home and could not, therefore, be applied to other properties.
4 Funding

In 2002 Walker concluded:

Lack of funding is perhaps the key obstacle to be overcome. Goodwill towards the proposed guide, whilst widespread, currently stops short of any commitment to funding. This is an issue that needs to be revisited because it does not appear that the case for the guide has been properly made to potential sponsors. Baker’s survey, for example, asked companies whether they would be prepared to sponsor research, which received only a lukewarm response, but there was no indication of the likely extent of funding required, nor the potential number of sponsors amongst whom the cost could be spread.26

The people and organisations who would benefit from such a database include insurers, surveyors and ultimately homeowners. Various possible key sources for sponsorship were contacted. The responses were as follows:

AIG Private Client Group

AIG Private Client Group is one of the leading High Net Worth insurers providing cover to houses with building sums insured of £750,000 to Stately Homes with a total rebuild upwards of £200,000,000.

Ann Owen, Client Service Manager advised that ‘unfortunately AIG Private Client Group would not be interested in investing in a further rebuilding cost matrix, in view of the considerable investment made in to the Gleeds matrix.’ To understand this response it is necessary to realise that in 2003, AIG invested
around £14,000 with Gleeds Heritage, a specialist division within Gleeds International Management & Construction Consultants to prepare a set of data that is available for designated surveyors carrying valuations of the properties AIG insure.

**Chubb Insurance Company of Europe**

Chubb Masterpiece is a High Net Worth product which focuses on clients with building sums insured between £500,000 and £50,000,000. Chubb has its own team of in-house appraisers and the data they have commissioned, again from Gleeds, is solely for use by them. Having both their own matrix and a segregated cost system available, they too would not see the benefit in funding such a project.

**Zurich Private Clients**

Zurich Private Clients provides a similar High Net Worth insurance product to that offered by Chubb and AIG. Kris Coombes, City Manager advised that ‘Zurich Private Clients already commission a firm of historic house buildings specialists to comment and advise on our own in house rebuilding costs. As you might imagine this costs us a considerable sum of money each year and we would not be interested in funding the RICS for a similar undertaking.’

It is clear that the various insurance companies have, to date, all made their own arrangements and that investing in a nationally available data base would not be in their interest as one of their unique selling points is that they provide a valuation service to clients with larger, listed or historic homes. Other providers of valuations, e.g. Cunningham Lindsey, Baker Wilkins, were also not willing to

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share their information or invest in a database as this was seen as an action that could lead to a loss in business. Martyn Barrett (Risk Solutions Manager – Valuations, Cunningham Lindsey) showed concern that it was too simplistic to set up data tables as each building did need to be judged on its own merits. There was some interest however, in perhaps meeting with the BCIS to see if any relationship could be mutually beneficial.

**Other Income Sources**

Kate Clark at the **Heritage Lottery Fund** was contacted. She advised that

The HLF can only support research into:

(i) areas that they provide funding for

(ii) the impact and benefits of their funding

(iii) best practice in grant giving

**English Heritage** would be another potential source but having made contact with John Fidler and Chris Wood, this would seem to be a closed avenue also. Henry Russell, of the **College of Estate Management**, advised that research was something that the College did get involved in, but that currently the research department was under temporary management so it would be difficult to get an ‘in principle’ answer in the period of time available.

**Conclusion**

It would then seem necessary for BCIS themselves to consider investing in such a product, as many smaller surveyors/valuers do not have the funds to commission their own private set of data. As has been discussed, in May 1999 Bare, Leaning and Bare. submitted a technical proposal for a guide to RICS Building Conservation Practice Panel. The outline fee estimate for undertaking
the preparation of the guide was £15,000. This seems a reasonable fee and comparable with the figure that Gleeds charged AIG in 2003.

The question to be posed is why this cannot be seen as a business opportunity for BCIS? If we take the cost at £15,000 for sake of argument, and estimate that a fee of £100 would be charged for the purchase of the guide or an online subscription, it is only necessary to sell 150 guides to reach a basic break-even point. (Obviously this excludes the cost of printing – but does give an indication of what could be seen as a win-win situation.) Joe Martin at the BCIS, advised that if an online solution was sort, the programming cost may double the initial outlay and therefore perhaps the sale of 500 subscriptions might be a fairer break even point estimation. It may also be possible to write off the costs over a longer time period, rather than in just 1 year. However, with annual sales of the Guide at around 3000, it should be possible to achieve a 16% take-up.

It is possible with such a business case, an independent third party, could prepare and market a set of data. However, it would be more satisfactory to see the lead coming from the BCIS who are a wholly owned trading division of RICS Business Services Ltd. The BCIS have their brand firmly established, the weight of the RICS behind them and the opportunity to market a new product to all their current subscribers.
5 Conclusion

From the example losses shown in Section 2, it is clear that problems do exist with the underinsurance of historic and listed homes. The incorrect insurance of the property in Case Study 1, has contributed to its demolition and subsequent permanent loss to the historic environment. It was also shown in Section 2, Case Study 2, that where insured correctly, listed buildings can be repaired sympathetically and saved from demolition following a major incidence of fire.

Although only two case studies were chosen, it has been shown that the position regarding the legal requirements to repair and rebuild after a major loss is somewhat precarious. Indeed to date, no legal case to require repair and rebuild has been tested in a court of law. It has been seen that if the individual is not in a position to personally fund reconstruction, and there is not sufficient insurance in place, the property may well face total demolition. It is therefore clear that, to a large extent, insurance companies are in fact intrinsically involved with the long term protection of the historic environment. It is therefore essential the homeowners are made aware of the need to ensure that their homes are adequately insured. Perhaps a requirement, within the legal framework, for the owners of listed buildings to purchase adequate insurance cover, is something that could be considered?

It has been shown that for properties of a generic type and of a certain size, it would be possible to establish some approximate indications of price per m$^2$ as has been seen in the matrix based approaches in Section 3.2. The creation of a readily available database would contribute to homeowners being correctly insured. Having reviewed the various methodologies, it would be proposed that any database formulated is aimed at the small to medium sized domestic properties e.g. less than approximately 320m$^2$. This would position the database
as an extension to the BCIS Guide and to be used on conjunction with it. Focusing on this size of home would help to ensure stability in the data produced. Furthermore, the target of the database would be the largest sector of the property market and those homes that appear most at risk due to underinsurance.

It is felt that, at this stage, a specialist in insurance valuation for historic properties, should value properties of larger than 320m² as they are open to greater variation in specification. It may be suggested to detail such specialists on the RICS and BCIS websites, as the local chartered surveyors may not be sufficiently experienced in reinstatement valuations to arrive at suitable results. In the long term the availability of an online database for segmental cost analysis would be favoured and would aid the work of the specialist valuers.

Across all the methodologies available, Matrix System 3 was favoured as has been outlined above in Section 3.5. It is clear that for the successful valuation of any dwelling, the experience of the professional is key. The methods and rates have to be applied by someone who has the skill to manipulate the data if necessary.

Since starting this project and speaking to the various people involved, it seems that some impetus has been regained. Joe Martin advised me that, since I last spoke to him in November, he has had a meeting with Stephen Boniface and Adrian Stenning of Bare, Leaning and Bare. However, although all appeared enthused and re-energised concerning the project, little progress has been made since. Stephen Boniface advised that it may well be that the new Home Information Packs that the government has required to be available to all house vendees by June 2007, will be an impetus to get the ball rolling once more. A
statement concerning the valuation of the subject property for insurance purposes will be in the vendor's pack. It is hoped that for listed and historic homes, this statement is not purely based on the BCIS Guide.
6 References and Bibliography


BCIS 2005: *Promotional Leaflet relating to BCIS Rebuild Online*, BCIS 2005


Reports

NHTG 2005: *Traditional Building Craft Skills: Assessing the Need, Meeting the Challenge*, NHTG 2005

English Heritage 2004: *Heritage Counts*, English Heritage 2004

Websites

www.bcis.co.uk

www.english-heritage.org.uk

www.odpm.gov.uk

www.imagesofengland.org.uk