

5. Organisational Approaches to the Maintenance of Listed Buildings

5.1 Introduction

Exploratory research (Dann, Worthing and Bond, 1999 and 2002) into selected aspects¹ of the way organisations manage the maintenance of their listed buildings, suggests that there are considerable deficiencies in this. Particular concerns highlighted by these studies were:

- the absence of explicit and formal conservation principles driving maintenance management;
- limited evidence of the use of assessments of cultural significance and vulnerability to develop a methodology for maintenance management;
- the lack of integration in the management of external staff;
- lack of clarity in regard to the purpose, timing and methodology of condition surveys.

The aims of the current research are two-fold:

1. to develop an understanding of organisations' approaches to the maintenance of their listed buildings and to evaluate the extent to which this conforms to best practice as identified in the literature;
2. to identify the key factors which constrain or determine a best practice approach to maintenance.

5.2 Research methods

A postal survey and semi-structured interviews were used to obtain the data for this part of the research. Sixty seven questionnaires were sent to two distinct groups of organisations:

- heritage organisations, defined for the purposes of this research as those who included the care of listed buildings as one of their primary purposes;
- non-heritage organisations, defined as those whose primary purpose did not specifically include the care of listed buildings, but who had responsibility for the care of listed buildings within their property portfolio.

The questionnaire was designed to elicit a wide range of primarily quantitative data regarding the organisations' current maintenance practice. Questionnaires were sent to 19 heritage and 48 non-heritage organisations. Twelve heritage and 20 non-heritage questionnaires were returned.

The sample was chosen to reflect a range of organisational types. This included national agencies, national non-governmental conservation organisations and building trusts within the

¹ These studies mainly examined the use of conservation principles, the employment of external consultants and the role of condition surveys.

heritage sector and dioceses, public, governmental and commercial organisations within the non-heritage sector. The numbers of each type of organisation who responded to the questionnaire are shown in Table 5.1 and Table 5.2.

Table 5.1: Profile of heritage organisations that responded to the questionnaire

National agencies or regional offices of national agencies	4
National N.G.O. s concerned with conservation	3
Building Trusts	5

Table 5.2: Profile of non-heritage organisations that responded to the questionnaire

Dioceses	5
Housing associations	2
Governmental departments	1
Public Authorities	1
Non-governmental organisations	1
Schools	1
Local authorities	2
Commercial	4
Universities	3

Follow-up telephone interviews were conducted with maintenance managers from 11 organisations. The interviews were designed to provide a more detailed insight into attitudes and practice in regards to the maintenance management of the listed buildings within their care. The sample was chosen to reflect different organisational types and, based on the questionnaire data, good and poor performers in relation to the best practice criteria established through the literature review and case studies. Details of the types of organisations that took part in interviews are shown in Table 5.3 and Table 5.4 .

Table 5.3: Profile of heritage organisations that took part in interviews

National agencies or regional offices of national agencies	2
National N.G.O. s concerned with conservation	2
Building Trusts	1

Table 5.4: Profile of non-heritage organisations that took part in interviews

Government Departments	1
Public authorities	1
Non-governmental organisations	1
Commercial	2
Universities	1

5.3 Structure of the report

Data from the questionnaire and data from the interviews is distinguished in the narrative in the following ways:

- in general, evidence from the questionnaire is included first, followed by evidence from the follow up interviews;
- the term ‘respondent/s’ is used when referring to questionnaire data. The term ‘interviewee’ is used when referring to data from the follow-up interviews.

Generally evidence from the heritage organisations precedes evidence from the non-heritage organisations.

5.4 Findings

5.4.1 Introduction

The best practice criteria established by the literature review and the case studies provide the framework for analysis. This section discusses the extent to which the organisations which took part in the research conformed to these best practice criteria. In each sub-section an italicised introduction establishes the context and basis for assessment. This is followed by a summary of the key findings (text in bold) and finally the detailed presentation of results.

5.4.2 Applying conservation principles to maintenance

Conservation principles are the overarching intellectual framework which should inform both the ethos and the implementation of maintenance for listed buildings. The implication from the conservation literature is that the building fabric embodies and represents cultural significance. It follows, therefore, that maintenance of the built cultural heritage should be primarily concerned with the protection and enhancement of cultural significance. The means by which this can be achieved is seen to be through a preventative rather than a reactive approach. Where intervention has to occur this should be on the basis of doing the minimum necessary.

The findings from this research suggest that the failure to use conservation principles as a driver for the ethos and implementation of listed building maintenance is a significant best practice failure. Half of the heritage and nearly all of the non-heritage organisations in this study do not explicitly incorporate conservation principles, as set out in national and international guidelines, in formal maintenance management guidance.

All of the heritage organisations were asked to explain which conservation principles guided their approach to maintenance. Less than half the respondents listed the key maintenance related conservation principle of minimal intervention and only a quarter suggested that the

conservation of cultural significance was a key principle. All but one of the four national heritage organisations listed minimal intervention and the conservation of cultural significance as key principles. This was confirmed by the follow-up interviews, that is, all but one of the national heritage organisations indicated that they made use of assessments of cultural and historical significance when determining maintenance priorities.

Half of the heritage respondents, including all of the large national conservation organisations, indicated that they had incorporated their conservation principles into written maintenance guidance. Only one of the interviewees, however, provided documentary evidence of this when requested. The second group, who had not incorporated their conservation principles into their written guidance, were mostly smaller building trusts.

Only half of the non-heritage organisations responded to the request to list their key conservation principles, and of these ten, only three of the replies indicated some sense of awareness of principles implicit or explicit in national or international conservation guidance. One organisation, a local authority, listed 'conservative repair, minimal intervention, reversibility and matching materials and traditional techniques'. Two others referred to minimum intervention, but only by implication, for example; 'retention of the historic fabric and utilisation of traditional materials' and 'the principle of repairing and maintaining as much of the original material as possible is adhered to'. The rest of the ten replies indicated a rather vague good intent. Some respondents, for example, referred to the need to use 'traditional materials', or to the use of 'a competent workforce' whilst a number of references were made to potentially vague concepts such as 'sensitivity to original structure'. Results from the interviews suggest that the majority were aware of key conservation principles and conservation guidance but only two formally incorporated these principles into their maintenance processes and procedures. One of these organisations was the estate management function of a government department and benefited from substantial supporting guidance and advice. The other had substantial public funding and had benefited from recent thematic studies, which had helped the organisation to develop and apply conservation principles.

One of the non-heritage interviewees, who is responsible for a stock consisting almost entirely of listed buildings, said that there was 'no conservation consciousness' within their organisation.

5.4.3 Attitudes towards maintenance

For most buildings, the purpose of maintenance is to ensure the continuity of function in the most cost effective way irrespective of how much fabric is lost or changed. The literature implies an additional and over-riding facet to the approach for listed building maintenance, that is, to retain and enhance cultural significance as well as retaining functionality. This should be achieved by avoiding unnecessary intervention through a process of preventative maintenance based on careful consideration of the nature and possible consequences of the defect. The implication for organisations with responsibility for the care of listed buildings is that maintenance should have a greater centrality and importance and, that where there is a mixed stock of buildings, the maintenance management service should distinguish between listed and non-listed buildings.

For most of the heritage organisations the purpose of maintenance included the retention of cultural significance. The picture was more mixed for non-heritage organisations. Although the non-commercial non-heritage organisations referred to the retention of historical significance, the language used, for example, 'it's the historical thing' or 'maintaining them for the future' was rather vague and leaves some doubts about the extent to which the concept of cultural significance, and the importance of maintenance in protecting this, was embedded in the ethos of the maintenance function.

For the commercial non-heritage organisations, the purpose of maintenance was more focused on retaining financial value. For all organisations the purpose also related to retaining building function.

Despite some signs of an increased organisational emphasis on maintenance in the heritage organisations, people within maintenance departments felt that insufficient importance was attached to their role by the organisations. Day-to-day maintenance activities in particular being perceived of as being a low status and low interest was also raised. In the four national heritage organisations there was either no direct representation of the maintenance function at board level or maintenance was a small part of a manager's wider portfolio of responsibilities. In non-heritage organisations, the status of the maintenance service was clearly correlated with the immediacy and overall impact of functional failure on their operational objectives (or in one case this was because property was the core business). Maintenance was represented at board level in only one of the non-commercial organisations that were interviewed.

The findings suggest that most non-heritage organisations do not have separate policies and procedures for listed buildings but in practice treated them differently to their non-listed stock. Only two of those interviewed, however, had written formal policies that reflected key conservation principles. Two did not have written policies but demonstrated an awareness of key principles when interviewed, and said that they applied them. The other two had no written policies and seemed unaware of, or disinterested in key conservation principles and the implications that these principles would have for the way in which the maintenance of their listed stock should be treated.

The organisations' attitudes towards maintenance are discussed below in terms of; their understanding of the purpose of maintenance, the status of the maintenance service within the organisation and the approaches of non-heritage organisations to listed and non-listed stock.

5.4.3.1 The purpose of maintenance.

In the interviews, maintenance managers were asked to explain the purpose of the maintenance of their listed buildings. The majority of heritage respondents identified two key issues. One was retaining significance in perpetuity, 'the stitch in time approach...so that we do not end up with major repairs in 5, 10, 15 years time'. The other was a more pragmatic concern with minimising costs over the long term, 'to avoid major sporadic injections of cash'.

For the non-heritage organisations there were a range of definitions of the purpose of maintenance for their listed buildings. There was much more emphasis on the role that maintenance played in supporting organisational goals, this was particularly marked in the comments given by the commercial organisations who identified the following rationales for maintenance:

- upholding value;
- ensuring the long term survival of the organisation;
- maintaining the image of the organisation.

The non-commercial non-heritage organisations placed more emphasis on maintaining the cultural significance embodied within their listed buildings in comparison with the

commercial non-heritage organisations. Comments made by some suggested that the organisation's identity was bound up with the buildings. One interviewee commented,

Firstly, there is the historical thing and the continuity and secondly of course, people are living in them. They are living or working in them so they have to be to the best standard as we can possibly get.

Another said,

They are the future assets and in some senses they are our identity and we must maintain them for the future.

In a commercial non-heritage organisation for whom 'heritage' was a significant part of their business image and, in which listed buildings comprised 90 per cent of their stock, the purpose of maintenance was more grudgingly referred to as 'a necessary evil'. Here the maintenance department's role was to manage and provide advice centrally, the responsibility and budgets for maintenance were devolved to individual regionally based managers who were resistant to spending money on maintenance. The interviewee said that one of his key challenges was trying to demonstrate that maintenance of their listed buildings contributed to the organisation's profitability - something he felt unable to do successfully because of a past lack of a suitable database.

5.4.3.2 The status of the maintenance function.

For the smaller heritage organisations, with a small staff and a more focused organisational aim, the maintenance function appeared to have a greater centrality. As one interviewee said,

We are a key part of the organisation...because the primary purpose is to maintain our buildings.

This is not surprising given the relatively circumscribed aims of the smaller organisations as compared with the complex aims and objectives of the larger ones.

Within the four national heritage organisations that took part in the interviews, it appears that increasing attention has been given to the maintenance service in the last few years and that this has sometimes been supported by an increase in resources. One said,

There is an increasing attention being paid to maintenance issues. In the past we have not been a respected part of the organisation but it is becoming more so, in the past it has not been as well resourced as it could have been.

In one of these organisations the interviewee said that there has recently been increased attention on maintenance issues. They went on to say that this appears to come from a realisation that they had, in the past, not really understood the long-term implication of under funding maintenance. The interviewee spoke of a 'financial time-bomb' that the organisation had had to come to terms with. For the other national heritage organisations a governmental increase in interest in maintenance was implied as the main driver.

Despite the indication that maintenance was receiving increasing attention within heritage organisations, this was not necessarily reflected in organisational culture and structure. In the four national heritage organisations there was either no direct representation of the maintenance function at board level or maintenance was a small part of a manager's wider portfolio of responsibilities. All but one interviewee felt that, despite the increasing attention it was given, maintenance was still not given sufficient priority.

In one of the organisations with no representation at board level, one interviewee explained that maintenance was the ultimate responsibility of the regional branch managers but that at the national level there was no one with a maintenance or contracting background and thus there was 'no champion at a senior level for maintenance'. They went on to say that the maintenance department,

does not necessarily have a great amount of influence over the way things are done, some things we do are not done the way we would choose to do them.

In another organisation there was representation at a national board level for the maintenance function. There was also an increased emphasis on the importance of maintenance within the organisation. This representation at board level covered a very wide remit however, including archaeology, landscape and artifact conservation. Because of the wide remit the interviewee commented that maintenance was not given sufficient priority. He also suggested that the maintenance operations department was not a respected part of the organisation and that maintenance was not given significant recognition or resources, despite the fact that maintenance was represented at board level. This was confirmed during a conversation with a regional building surveyor from the same organisation, and reinforced by several other anecdotal comments from consultants and others with connections to the organisation.

The interviewee went on to say that where maintenance and projects had been divided into separate functions, the day-to-day maintenance side was far less appealing to staff in terms of job satisfaction, was reactive rather than proactive and was generally considered to be less interesting. He made the comment that Chartered Building Surveyors within the organisation would be overly qualified to stay 'just' working on day-to-day maintenance issues. He also pointed out that the split in function not only reinforced an attitude that maintenance was not very exciting, but the separation of the day-to-day operations meant that a substantial amount of information useful to the projects side and vice versa could get lost.

In the non-heritage organisations, most interviewees suggested that the maintenance function was generally a subservient though respected part of the organisation. There was, however, no representation of property issues, including the maintenance function, at board level within the majority of the organisations interviewed. Where property was represented at board level, this seemed to be because there was a correlation between the importance of maintenance within the organisation and the immediacy and overall impact of functional failure on their operational objectives or because property was the core business.

5.4.3.3 Approaches to the listed and non-listed stock.

The majority of the non-heritage respondents indicated that they did not differentiate between listed and non-listed buildings in policy or procedural terms. For example, 16/20 had a combined maintenance programme. Moreover, of the 10 organisations that used performance indicators for their buildings, only one had a separate indicator for their listed buildings. Most carried out condition surveys at the same frequency regardless of whether the building was listed or not.

6/20 of the non-heritage respondents used different criteria for the selection of consultants working on their listed and non-listed buildings, perhaps suggesting that the organisations recognise that there is a requirement for different approaches, but not a requirement to necessarily change their broader policies and procedures. The majority of those interviewed confirmed this, suggesting that the purpose of maintenance for all their buildings was the same and that the buildings were being maintained in order to fulfill a corporate function. One interviewee said,

We do not maintain buildings for the building's sake, we maintain them to suit the purpose of the organisation so we do not differentiate between our listed and non-listed buildings.

Some of the interviewees made it clear that although there were no separate or distinctive policies, there were differences in the form of intervention that would be considered and undertaken for their listed and non-listed stock. For one organisation, the different approach between the listed and non-listed buildings is in the care taken in the specification and extent of maintenance work undertaken. Whilst no distinctive or separate policies existed at an official level there was clearly a different approach taken toward intervention in the built fabric of listed and non-listed buildings.

The people here are well aware of the nature of the buildings they are dealing with. One of the supervisors would go and look at a job we were concerned about. If it was just a straightforward, like a washer in a tap in a grade 1 listed building well we'd just go and re-washer the tap. If it was just doing a repair to a door lock we would just do the repair to the door lock. If it was something more serious, we'd look at it and then determine what was the best way forward and how to deal with it.

Another organisation, with a very significant stock of buildings including a number of listed buildings, made the point that,

Where we do have a listed building, we would be conscious that we will need to treat the external appearance of that building differently than other buildings we care for.

There was no clear sectoral pattern regarding which type of organisations did or did not differentiate between their listed and non-listed stock.

The interviewees from the commercial non-heritage organisations, were the only ones to express a degree of ambivalence in the attitude toward their listed buildings. For them, listed buildings play a positive role in establishing the organisations' image, in helping the organisations achieve their commercial aims and for the income they generate. Conversely they are also seen as a significant constraint and their maintenance requirements are viewed as a significant disadvantage:

Listed buildings are a bit of a bind...its all about money and that's what we're in business for, and I'm afraid they [the listed buildings] are more expensive to maintain.

When asked to justify this statement, however, it became clear that the organisation had never undertaken any assessment of the relative costs of maintaining their listed and non-listed stock.
stages:

Another maintenance manager made the comment;

The listed buildings are not the flavour of the month on the asset management committee because there is a perception that they are expensive to maintain.

5.4.4 A strategic approach to maintenance

The notion of strategic management suggests that the overall medium-long term aims of an organisation should inform both policy and the tactical and day to day activities. The management of property and, in particular the management of maintenance has been regularly criticised for lacking a strategic approach. The identification and integration of property and maintenance management decisions with the corporate objectives is considered to be best practice. Given the importance of maintenance for listed buildings it could be argued that an overarching strategic plan for heritage organisations should have a clear indication of how maintenance is to be managed and where this function resides in the organisational structure. Indeed, for heritage organisations it should be considered one of the key issues that should help drive any strategic plan. Best practice for the maintenance management of listed buildings requires the development of a plan for maintenance which integrates this activity with a wider strategy for the management of the built assets. The strategy should recognise cultural significance and its vulnerability.

Although it might be expected that maintenance should be a central part of the development of corporate planning in the heritage organisations, there is little evidence of this. Protecting cultural significance does not appear to be a driver for maintenance strategy even in heritage organisations, although there is some evidence that at site level, a more integrated approach to strategic management has been developed.

Regional differences in approach and procedure among the large national heritage bodies would appear to work against strategic management of maintenance of their whole stock. There is some evidence of this changing but it seems clear that good practice is not being effectively shared and that financial resources are not being effectively targeted in terms of the organisations' overall stock.

For the majority of organisations, heritage and non-heritage, the notion of a strategic maintenance plan was clearly related directly to planned maintenance as an activity, rather than a long-term plan for the way in which maintenance was integrated in order achieve organisational goals.

Although it is clear from the interviews that the non-heritage organisations do think strategically about maintenance, this tends to be, as one would expect, in terms of their overall corporate goals. That is, the value of the building, whether listed or non-listed, is related to its ability to help deliver business objectives. The protection of cultural significance is not a strategic consideration for most of the non-heritage organisations surveyed. The exceptions to this were a government department and a government agency that had substantial guidance on such strategic issues.

5.4.4.1 The corporate strategic plan and maintenance.

Evidence from interviews with the large national heritage organisations, suggest that there is very little connection between corporate and maintenance strategies. One national body said that the strategic plan did not deal with maintenance at all, and that,

...if you looked at the latest strategic plan you'd have difficulty in spotting where this fitted-in.

The respondent went on to say that maintenance policy had been developed 'in spite of the current strategic plan, not in accordance with it'.

The integration of maintenance with other activities seems to be given more attention at individual building/site level. All of the interviewees from the national heritage organisations explained that at individual building/site level they had devised systems which attempted to integrate management interests related to their buildings. They all had a system of site teams where the various stake-holding interests were brought together on a regular basis to consider the future management of the site holistically. Maintenance was considered to be a central part of all of these plans. In two of these organisations, the management plan explicitly tried to integrate site management with the cultural significance of the site. Both these organisations had conservation plans. The extent to which the conservation plans were useful in determining management action was, however, questioned by one interviewee. In the other organisation the process for developing management plans was not complete, the interviewee commented,

All the components are in place but there is nothing currently pulling this together.

As might be expected, in general, the non-heritage organisations did not refer to maintenance in their corporate strategy. There was one exception to this. For this organisation the past significant under-funding for maintenance and the statutory and safety implications of this have meant that there was a requirement to consider maintenance as a significant corporate objective in its own right.

5.4.4.2 The maintenance strategy².

The majority of heritage and non-heritage organisations reported that they operated a strategic maintenance plan although the proportion of heritage organisations was higher. Protecting and enhancing cultural significance does not appear at present to be the primary driver for this in either group of organisations. Moreover for the majority of organisations, heritage and non-heritage, the notion of a strategic maintenance plan was clearly related directly to planned maintenance as an activity, rather than a long-term plan for the way in which maintenance was integrated in order achieve organisational goals.

When maintenance strategy was discussed in follow-up interviews with the four national heritage organisations, it became clear that strategies for maintenance were regional rather than national. An interviewee from one national body recognised such regionalism as a significant constraint on developing best practice;

A manager in one region may have one view of the best way of managing a maintenance budget, in another region another manager will take a very different view...getting good practice established within one region can be put at risk by the actions of individuals within a different part of the organisation or another region.

Another interviewee said,

We are regionally based and they [the surveyors] all do their maintenance their own way. What we don't have is a structured system across the board.

This clearly has important implications for significant aspects of maintenance implementation. In one organisation, for example, the essential maintenance issue of timing and format for condition surveys was not centrally driven but was devised and determined on

² For the purposes of the questionnaire we defined a strategic plan for maintenance as, 'a plan that is integrated into other aspects of property management and the wider goals of the organisation, and which operates over a 3-10 year period'.

a regional basis. Moreover, there were significant differences in regional approaches to condition surveys and no central means for the collection of such critical management data. In two of the national heritage organisations there were arrangements for regular meetings of the regional maintenance managers and thus there was some sharing of experience and good practice. The regional manager of one of these organisations said that though they had all been undertaking condition surveys in different ways in the past, there were moves to produce a national specification for this and to regulate practice nationally.

Although the majority of non-heritage organisations surveyed reported that they had a strategic plan for the maintenance of their listed buildings, none of the organisations interviewed, were able to provide documentary evidence of their strategy. During the course of the follow-up interviews there was some evidence of a strategic approach to the maintenance of the stock amongst the non-heritage organisations. The majority made the point that the function of the maintenance department was to ensure that the buildings effectively served the purpose of the overall organisation and in general the buildings in themselves had little value other than as a resource for the organisations corporate goals.

5.4.5 Maintenance Implementation

In terms of the implementation of a best practice approach to maintenance, the literature indicates that the following are critical:

- clear and appropriate policies and procedures guiding decision making;
- programmes implementing maintenance;
- an understanding of the nature of the stock, its condition;
- a requirement for effective and appropriate information systems;
- a means of budgeting;
- appropriately experienced staff;
- a performance monitoring process.

This section discusses the results relating to each of these criteria in turn.

5.4.5.1 Policies

Policies provide the framework for decision making and practice and should be a clear statement of objectives and the methods to be employed to meet those objectives. The literature implies that conserving cultural significance and minimal intervention in the fabric of the building should be the primary principles which inform the maintenance policy and its implementation for listed buildings.

Best practice suggests that an assessment of cultural significance is fundamental to the appropriate management of listed buildings and this includes their maintenance. There is also a need to ensure that such assessments are implemented through appropriate management plans. Though the overwhelming majority of heritage organisations undertake assessments of the cultural significance of their listed buildings, there is a lack of formal policies connecting such assessments to maintenance implementation. There is evidence, however, that such assessments inform and guide the management of

maintenance and its implementation, but the connections are neither coherent nor well defined. Management plans derived from assessments are being developed by the national heritage organisations, but it is not clear how effective or coherent these are. An interviewee from a small heritage organisation had conservation plans but had not considered how they could be used to inform maintenance implementation. In terms of the fundamental best practice criteria of assessing significance and using this to determine maintenance policy there was a mixed picture in regards to the non-heritage organisations. Assessments of cultural significance of their listed buildings are only undertaken by half those surveyed. The commercially focused organisations in particular placed little importance on the idea. The evidence suggests that an overriding factor that drives maintenance for these organisations is a concern with the image and aesthetics of the listed building. Those governmental departments and agencies with good sectoral advice do work within a framework of assessments of significance but for one of these organisations it appeared that these had not been translated into effective management plans. In the other the position was unclear.

Best practice also suggests that a minimal intervention policy should be informed and reinforced by management plans that follow from assessments of the cultural significance of the stock. Minimal intervention appears to be a policy which guides decision making in all of the heritage organisations. Despite this, for one national heritage organisation, a serious concern was that such a principle was not sufficiently ingrained in the organisation. Even for heritage organisations there are factors which work against a minimum intervention policy. The constraints on implementing policies for minimal intervention for most heritage organisations relate to the financial and management costs involved and to health and safety concerns. It is inevitable, and correct, that health and safety issues are one such factor, however, the minimum intervention policy is also sometimes overridden because of access and programming issues. Although minimum intervention was an important policy for the majority of the non-heritage organisations it does not have the same degree of importance it does for the heritage organisations. For some this could sometimes conflict with other aspects of their corporate objectives, for others the principle was not sufficiently ingrained. The factors militating against its implementation are again costs and health and safety. There may also be a conflict between such a policy and the corporate goals of the organisation.

Significance: heritage organisations

All heritage organisations reported that they had assessed the relative historic significance of their listed buildings and 11/12 reported that they had assessed the relative historic significance of elements within these buildings and that they took this assessment into consideration when management decisions about maintenance priorities were made. The interviews indicate, however, that even the key national heritage organisations have little in the way of a formal or explicit policy that cultural significance should be the primary driver for maintenance management planning, programming and implementation. There was evidence, however, that in practice, the assessments of cultural significance were used to help determine maintenance implementation within the national organisations, even though this was not a formally stated policy.

During the follow up interviews a number of the heritage organisations explained how they made use of assessments of cultural significance in the management of their maintenance. In three of the national heritage organisations there were individual site/building level management structures, in which maintenance featured. All of the interviewees said that assessments of significance played a key role in informing this management planning. In one national heritage organisation, assessments of significance were used to inform management plans which tried to integrate all the interests, including maintenance, for a particular building. Within another organisation, a building survey report, in which specific

consideration of cultural heritage was undertaken, was used to inform more generic building management processes. There was clear evidence of a connection between the use of the specific assessments of cultural significance and the management of the building/site and this information was used to inform management decisions where maintenance was just one of a number of the organisation's objectives being considered. In the smaller heritage organisations, although they had carried out assessments of the cultural significance of most of their listed buildings, it became clear that they had not considered that such assessments could inform the development of maintenance policy.

For two of the interviewees from large national heritage organisations the proximity of expert colleagues and the individual building/site integrated management processes were considered to be effective for the development of maintenance policies which acknowledged the cultural significance of the site. One interviewee said that they were able to physically take expert colleagues to particular sites and,

..ask the question 'we wish to carry out this work, what are the significance issues for you in regard to this work?'

The other interviewee suggested that the concept of cultural significance was 'well known' to site teams and thus automatically informed procedure. Clearly there are dangers in making what are in effect assumptions about site team knowledge, particularly when there are no formal policies in place.

Significance: non-heritage

In contrast to the heritage organisations, only half of the non-heritage organisations (10/20) had undertaken an assessment of significance. All ten indicated that they had assessed the individual elements within buildings. Only seven out of the ten respondents said that they used this assessment when considering maintenance management priorities. None of the commercial organisations had undertaken any formal assessment of the cultural significance of their listed buildings. Interviews reinforced the impression of a significant split in the attitude adopted toward the assessment of cultural significance between the heritage and non-heritage organisations. One of these organisations saw no necessity or reason for such assessments. The respondent explained that the remit his maintenance department followed was to,

Keep the building in the same state as when it was refurbished.

In two of the non-commercial non-heritage organisations a different attitude was observable. This appeared to be directly related to the existence of official guidance which promoted the assessment of cultural significance. For one organisation, the various listed buildings and structures it cared for had been the subject of a national survey generically identifying the significance of a number of the important listed structures and buildings. Although the aim of the survey had not been specifically related to maintenance, the respondent said that such assessments had already proved to be useful in guiding the general approach to the maintenance of particular structures.

In the other non-commercial organisation interviewed, specific government guidance for the care of their historic buildings was followed. Assessments of significance were routinely undertaken and informed other parts of the property management process. The respondent made a number of comments on how the process of assessment had helped guide decisions relating to major intervention and change of use, but was less confident in explaining how such assessments of significance were used in determining maintenance policy and its implementation.

All the heritage and non-heritage organisations that had commissioned conservation plans (which are, arguably, the benchmark for establishing cultural significance) expressed the concern that these were not currently in a format which lent themselves to the formulation of maintenance policy.

Minimal intervention: heritage organisations

Not surprisingly all heritage organisations surveyed reported that minimal intervention was a policy, yet in response to the request to list key conservation principles, only half referred to this. When asked why they adopted a minimum intervention approach some of the heritage organisations' responses were not particularly reflective and tended to refer to it as being 'best practice'.

The majority of national heritage organisations were generally more eloquent in explaining why they adopted such an approach, and all of them suggested that this was one of the fundamental principles ingrained in their practice. Despite having minimal intervention as a policy, one of the national organisations surveyed suggested that, in reality, it was not a principle that was fully ingrained in the ethos of the organisation. In a follow-up interview, however, it was suggested that, within their maintenance organisation, there was a change in attitude toward maintenance, away from the traditional view of it being a reactive interventionist service.

I suppose its old school and new school, that's the only way I can describe it, that we have a lot of new staff who are coming in with a new culture and we still have one or two old members of staff of the old school that believe if its broken it needs to be fixed.

One of the interviewees from a national heritage organisation suggested that the development and use of assessments of cultural significance had supported a policy of minimal intervention leading to a decrease in the level of physical intervention. This was seen as a challenge to the approach previously adopted by some of the surveyors within the organisation. This was because such assessments had reinforced the idea that doing less was the way to protect cultural significance (for example, wider issues of significance, such as ecological issues had suggested leaving moss and lichen growth on stone work and roofs).

The main factors working against the consistent implementation of a minimal intervention policy were costs, programming problems and health and safety issues. Two thirds of the heritage organisations surveyed suggested that the cost of a multitude of small jobs was a significant or very significant constraint on the implementation of such a policy. A smaller proportion said that problems in programming were a significant constraint. An equal number said that health and safety concerns were a significant factor.

Minimal intervention: non-heritage organisation

Minimal intervention was a policy for 16/20 of non-heritage organisations. Only one of the eight respondents, however, who replied to the open question asking them to list their key conservation principles, mentioned minimum intervention specifically. Two respondents referred to it indirectly, however. As with the heritage organisations, a number of respondents who adopted a minimum intervention policy said that it was best practice, or referred to it being an important conservation principle. Additional reasons included two references to it being an implied statutory obligation and one suggesting that it was more economic, as well as protecting significance. Three of the respondents who adopted a policy of minimum intervention indicated that it would not be adopted in situations where there were tensions with the wishes of the users or with new functional requirements of the organisation. The tension could include issues of image.

The reasons for not adopting the policy were broadly that it could produce problems for the image of the organisation and/or options for reuse/development. These responses came from the two commercial organisations and one large government organisation. On the other hand, one respondent, whose organisation did have minimum intervention as a policy, stated that its value was that it helped ensure that adaptations were acceptable.

Interviews revealed that some of the significant constraints for the non-heritage organisations related to their commercial objectives. One interviewee, whose organisation let property, said that it was the nature of their lease arrangements which affected their ability to ensure that a policy of minimal intervention was completely adhered to. Also at the end of a lease there was usually a need to refurbish prior to the next tenant:

...which sometimes means that the degree of intervention is greater than one might expect.

In another organisation the interviewee implied that the need to be able to redevelop or sell-off their listed buildings was a factor working against a policy of minimal intervention.

For another commercial organisation the need to comply with the regulatory framework which applied to their sector meant that compliance with statutory regulation, particularly fire, took precedence over a policy of minimal intervention.

Other significant constraints on the adoption of a policy of minimal intervention reported by the non-heritage organisations surveyed were:

- the conflicts with health and safety requirements;
- a lack of appropriate knowledge in the organisation;
- the financial and management costs of programming many small jobs;
- that the principle was not sufficiently ingrained in the organisation.

5.4.5.2 Programming

The general literature suggests that there are two distinct types of maintenance: reactive and preventative. The former is characterised as a response to failure. The latter is predictive and, therefore, requires a significant degree of planning. A planned approach to maintenance programming has long been promoted as being effective and efficient in terms of the delivery of a maintenance service. More recently the idea of just-in-time intervention has been promoted as being cost efficient and effective, particularly in the housing sector. The conservation literature stresses that, in order to retain cultural significance, a preventative and, therefore, planned approach is best practice.

The majority of organisations (both heritage and non-heritage) operated a planned maintenance programme. Significantly, only a small minority of the non-heritage organisations operated a separate programme for their listed and non-listed stock. An issue of concern highlighted by the study is the way in which maintenance programmes, as traditionally conceived, develop a logic and momentum of their own (for example, regular cleaning of facades), which may work contrary to the principle of minimum intervention. However the benefits of planned maintenance include economies of scale for the maintenance department, simpler management arrangements, the ability to plan for minimal intervention etc.

The majority of heritage (11/12) and all of the non-heritage organisations operated a planned maintenance programme.

For the heritage organisations the most common reason for implementing planned maintenance programmes was its effectiveness in protecting and enhancing the buildings. One interviewee said,

a planned maintenance programme is both effective and fundamental to good conservation.

Another commented,

a planned maintenance programme is the only effective way we have found in looking after buildings.

The heritage organisations also made reference to the relationship between planned maintenance and financial planning, suggesting that the purpose is to prepare budgets as well as minimise costs and protect fabric. Some respondents made specific reference to the connection between protection and reducing financial costs:

The Trust is ever mindful that it is preferable to carry out routine work now rather than store up major works in the future for which we may not have the resources.

Regular maintenance is a proactive involvement in the condition of a building. Problems identified and dealt with in the early stages can minimise the need for more intervention and costly repairs later on.

One heritage organisation specifically said that the driver for using planned maintenance was that their properties were open to the public and having a planned maintenance programme insured that the buildings were 'well maintained'

Some of the heritage organisations stressed the significant differences between a planned maintenance programme for listed buildings compared to a more homogenous stock such as might be managed by, for example, a housing association. One interviewee suggested that the nature of a planned maintenance programme for them is more concerned with regular inspection rather than regular intervention as might be the case in other sectors.

...we are not a housing association that has 150 units all the same. When they decide to replace a window they replace all of them...most of our maintenance is just regular inspection.

The same interviewee also drew attention to the potentially fundamental conflicts between maintenance programming, as it is traditionally conceived, and the particular requirements of listed stock. They indicated that whilst planned maintenance programmes were useful in terms of management of workload planning and financial planning they can develop a management logic of their own with budgets set being viewed as a budget that requires spending. This can work against the principle of minimal intervention,

...there are two sides to the equation for planning, whilst there may be some cost savings there is also a tendency to spend to do things that you really don't need to.

For the non-heritage organisations the reason for adopting a planned maintenance programme was again expressed in terms of its effectiveness. This tended to be expressed in terms of protecting the functionality of the building or protecting its asset value. For others, planned

maintenance was a statutory or organisational requirement. The financial advantages were stressed by some:

a better expenditure is achieved by proactively maintaining our premises than having to spend money reactively.

Another said,

planned maintenance based on a rationalised programme formulated from knowledge of stock condition and priorities maximises benefit from limited funds.

A third respondent said,

[planned maintenance is a] proactive method of avoiding problems in a cost effective manner.

Two respondents made reference to the role of planned maintenance in ensuring that the buildings projected the right image. One respondent used the phrase 'aesthetic integrity' referring to the visual impression that 'well maintained' buildings gave to occupiers and the public at large. Another linked planned maintenance to the image of the organisation as one that was 'well managed' and said that planned maintenance was important in 'making a statement about the organisation'.

5.4.5.3 Inspections and condition surveys

Best practice suggests that regular inspections are a fundamental part of a preventative maintenance programme. Clarity about the purpose and uses of condition surveys is essential and should be recorded. A condition survey should provide an assessment of condition, identify the optimum moment for intervention, and aid the prioritisation of actions and planning for the future. It is also seen as a useful opportunity for a strategic review of the management of maintenance. Best practice also suggests that there should be interim surveys between the more formal condition surveys. The literature says that condition surveys for listed buildings should be informed by an assessment of cultural significance and that the frequency of inspection should relate to this assessment of significance and vulnerability in relation to the element/component. Best practice suggests that for listed buildings there should be an emphasis on greater incidence of inspections of the fabric with the aims of reducing physical intervention, 'As much as necessary and as little as possible'. This 'just-in-time' approach implies frequent inspections which are tailored to the significance and vulnerability of the element or material.

Generally the heritage organisations were carrying out a range of inspections which could be considered good practice in terms of frequency. There was one national organisation, however, which appeared to be applying such best practice only to their most prestigious buildings. The majority of their stock was not surveyed on a regular and consistent basis. This seemed to be a policy vacuum rather a decision that such surveys were of little value. (Although we are aware of one large national heritage organisation that was reviewing the value of undertaking condition surveys). In some respects the heritage organisations were not complying with best practice for the condition surveys. In particular there was not much evidence that they were formally acknowledging issues of significance and vulnerability in their condition surveys. Most condition surveys were carried out by external consultants. This is sometimes seen as beneficial in that it provides an independent view, however, without information on cultural significance assessments, and knowledge of the organisation's objectives, external consultants could be doing so in a void. At best this seems to be illogical and at

worst, given that condition surveys provide advice on implementation, there is a danger that such advice is inappropriate or misleading, for example, in relation to future action and/or reviewing past activity.

The majority of non-heritage organisations did not distinguish between their listed and non-listed buildings in terms of the frequency or purpose of condition surveys. There was little evidence that (where they were undertaken) assessment of cultural significance was acknowledged as part of this process. Specialists were rarely used to conduct condition surveys and inspection frequencies were not tailored to the particular needs of listed buildings. Generally the listed buildings were inspected less frequently.

Frequency of inspection: heritage organisations

The majority of heritage organisations carried out condition surveys at five year intervals. For one organisation this occurred on a quarterly basis and for another every 3 years. The majority also carried out a range of less formal surveys of the condition of the fabric at much more frequent intervals. A number of the heritage organisations paid twice annual official visits to each of their listed buildings, others had a variety of technical and maintenance staff visiting on a more frequent basis observing and reporting on the condition of the fabric.

The main value of quinquennial surveys was seen to be as a strategic tool in long-term maintenance planning. There was also a suggestion that they were an implicit audit of the maintenance department's effectiveness. The majority of the interviewees felt that the format and long-term nature of the quinquennial surveys meant that they were not particularly useful as a fine programming tool and that it was the annual inspection which was the important device in ensuring minimal intervention and developing an appropriate programme. One heritage organisation explained that their annual inspection process was used to re-prioritise intervention in line with the annual budget set. The quinquennial survey provided the maintenance strategy, the annual inspection the refined implementation of this.

Two national heritage organisations were considering making the interval 7 or 10 years. One of these carried out their quinquennial surveys using in-house staff. They said this was useful as the staff had a sound knowledge of the buildings/sites, but they were hard pressed by competing priorities and were considering changing the formal condition survey routine to 7 years. In another organisation the respondent said that the interval can be pushed from 5 to 10 years if,

the building is in fairly good order...there is no point in continuing the whole quinquennial process.

The interviewee later said that there was also no point in undertaking more frequent formal condition surveys if the funding to undertake the proposed work that comes from the survey was not available. The same organisation said that for the majority of the 'lesser listed buildings' there were no formal policies or system for condition inspection and that information on their condition was reliant on 'casual observation and the use of previous maintenance records'. The interviewee also went on to say that given the differences in regional practice and the differences in the quality of information management, there was no national picture of the condition of this substantial section of their listed stock. In practice this meant that resources were allocated according to insurance valuations of the stock rather than need.

Frequency of inspection: non-heritage organisations

The frequency of condition surveys for non-heritage organisations were significantly more varied than for the heritage organisations. 12/20 of the organisations carried out condition surveys every five years. The single most identifiable group within the 12 organisations were dioceses, where the five-yearly interval is a statutory obligation under the Inspection of

Churches Measure. The remaining organisations inspected their listed buildings at a variety of intervals, for example, one inspected its listed buildings every seven years and another at a 4-yearly interval. The remaining organisations inspect on an annual or 6-monthly basis. 18/20 of them did not differentiate between their listed and non-listed buildings in terms of the frequency of inspection.

In the follow up interviews it was clear that a number of the non-heritage organisations had arrangements for a series of more frequent less formal checks of their buildings interspersed with their more formal inspections. Sometimes these were related to specific sectoral or statutory health and safety requirements. For one organisation there was a long history of a structured regular checking (weekly in certain cases) of their stock.

Purpose

Most heritage and non-heritage organisations identified the same purposes for undertaking condition surveys. These were, in order of most commonly identified:

- identification of the need for repair;
- condition of the fabric;
- prioritisation of the repair needed;
- identification of the costs of repair.

Fewer than half in either sector identified checking the quality of previous work as a reason for undertaking inspections.

The influence of significance

It emerged from the questionnaires and the follow-up interviews that very few organisations in either sector made use of assessments of cultural significance in informing their approach to condition surveys. Only two heritage organisations made some use of the identification of significance as part of their regular inspection regime. One organisation produced merit or significance assessments in order to prioritise works identified in their inspection regime, whilst another felt that they implicitly took account of issues of cultural significance, as the management team had a good understanding of the site (based on conservation plans). Only one non-heritage organisation had formal processes for the inclusion of assessments of cultural significance in their condition survey. The organisation in question has strong formal sectoral management process guidance for their listed buildings.

Using consultants

Amongst the heritage organisations only 2/12 made exclusive use of either internal staff or external consultants to undertake their condition surveys. The remaining 10/12 used a combination of the two. The tendency was for external consultants to undertake the more formal surveys with in-house staff producing the less formal but more frequent surveys. The interviews revealed that the most common reason for employing external consultants was the importance of an independent perspective. In some cases there was a sense that the condition survey was about some degree of external audit of the condition of the fabric and possibly the effectiveness of the maintenance department, as much as it was about planning maintenance activity. In one organisation, the production of the quinquennial condition survey by external consultants was used as a political tool by the regional maintenance department to prove to the centre that the budget allocation and staffing levels demanded was justified. There were some acknowledged inefficiencies in the process of using external consultants for condition surveys. This included one organisation that reprioritised the external consultant's survey in line with corporate priorities.

In non-heritage organisations 2/20 used a combination of both in-house and external consultants, 9/20 used in-house staff only and 7/20 exclusively used external consultants. 18/20 of the non-heritage organisations did not differentiate between listed and non-listed buildings in terms of whether in-house or external consultants were used to complete the surveys. Two organisations used only specialist external consultants for the production of condition surveys to their listed stock. These two organisations were the ones with the most developed policies regarding the maintenance of listed buildings.

5.4.5.4 Informal observations of building condition

Dealing effectively with condition information from building users other than those directly related to the maintenance department is an important part of recommended good practice. The presence of non-technical staff and other users and visitors on a daily basis can provide the maintenance function with vital information regarding condition which would otherwise wait until the subsequent inspection cycle, or until failure becomes impossible to ignore. Listening to and reacting to occupiers' observations is also considered to be good practice beyond the effect that this might have on the condition of the fabric of the building. That is, being seen to value the users' views and experience of the organisation's portfolio is also considered to be important.

The questionnaire included the following individuals as potential informal (that is, outside a condition survey process) observer/reporters of the building's condition: managerial maintenance staff, operative maintenance staff, users (including visitors), consultants, contractors and other staff.

Of the heritage organisations 11/12 indicated that they made some use of informal observations of the buildings condition. Information provided by consultants and other non-maintenance staff was the most frequently used. The least commonly used were the observations from building users. Approximately one third of the heritage respondents made use of all the available sources of informal observation of the stock's condition.

During the follow-up interviews it became clear that for some of the heritage organisations the relative importance given to users views was related to the fact that they let their property for holidays or for longer periods. Here there were clear protocols and arrangements in place for the recording of observations and for subsequent action.

For the majority of respondents there were a variety of means, both formal and non-formal, of recording casually observed condition information. It was not clear how the information was handled and taken account of. During an interview one national heritage organisation said that though they took note of all the views regarding condition, they only recorded those observations that they considered had a 'significant impact' on maintenance planning.

For both heritage and non-heritage organisations, where organisations indicated that they had a policy of minimal intervention there was an increased incidence of the use of views and observations of users and other staff on the condition of the buildings.

A similar proportion of non-heritage organisations indicated that they made use of the informal observations of the condition for the buildings. Nearly half of the non-heritage respondents made use of all potential sources.

5.4.5.5 Prioritisation

General best practice guidance suggests that the prioritisation of maintenance activity should take account of the condition of the fabric. It emphasises, however, the importance of prioritisation in the context of other factors, such as the effect of condition on, for example, overall performance of the particular asset or the overall property strategy of the organisation. For listed buildings this context should include the relative cultural significance and vulnerability.

Most organisations take a number of factors into account, beyond the condition of the fabric, when prioritising maintenance. The two additional key factors are health and safety and financial and budgetary constraints. For most heritage organisations these factors are weighed against assessments of cultural significance. Although all the national heritage organisations said that their assessments were detailed enough to prioritise the different elements and components within a building, the documentary evidence suggests that these assessments are not detailed enough or sophisticated enough to really aid the prioritisation of maintenance in relation to significance.

The majority of non-heritage organisations did not take cultural significance into account when deciding on priorities for maintenance. There are concerns that this lack of assessment means that damage to the cultural significance of a substantial number of listed buildings may be occurring.

Prioritisation: heritage organisations

Despite the theoretical primary role of condition surveys in determining prioritisation, in practice, most heritage organisations re-prioritised the work identified in such surveys. The reasons why this re-prioritisation was required included the setting of annual budgets and also health and safety considerations. There was also, however, the factor referred to earlier, that conditions surveys undertaken by external consultants did not take account of assessments of significance. In order to ensure that the external consultant's decisions are made in line with an organisation's conservation principles, clear communication is necessary. A third of the organisations surveyed, that used external consultants, did not use written contracts to communicate their conservation principles.

One organisation had a two-stage process for the prioritisation of defects identified in quinquennial surveys undertaken by external consultants. In the first stage, the consultant undertook the initial survey and produced a draft report which the external and members of the in-house team would re-prioritise in line with the suggestions of the in-house team.

The one national heritage organisation that undertook their condition surveys in-house use 'merit or significance assessments' as a reference point for their inspection regime. From these assessments, priorities for the individual building/site were set and a maintenance strategy established. The interviewee said that the individual priorities set were then subject to regional priorities and could get lost. He also said that there was no assimilation of the regional priorities at a national level and thus there was no national strategy dealing with the prioritisation of significance issues.

Although all the national heritage organisations said that their assessments were detailed enough to prioritise the different elements and components within a building, the documentary evidence suggests that these assessments are not detailed or sophisticated enough to really aid the prioritisation of maintenance.

Prioritisation: heritage organisations

There were two non-heritage organisations that had some degree of organisation-wide acknowledgement of cultural significance issues related to their stock and that utilised this in

prioritising maintenance implementation. In one of these organisations, a ‘heritage strategy’ had been developed and was in the process of being implemented. The interviewee said that currently there was an implicit acknowledgement of the relative priority given to heritage issues in maintenance planning and implementation and that the heritage strategy would formalise this. In the other organisation there was a formalised structure for prioritising maintenance planning and implementation. Their established set of criteria for prioritisation was developed on a risk management basis. The first priority criteria related to issues regarding health and safety minima. The second highest priority was where the work involved buildings with identified cultural significance. Within the organisation, maintenance responsibility was devolved to individual site/building managers, but they had to work to the organisation-wide set of priorities each site had to work to. The interviewee suggested that without this top down across the board prioritisation, the buildings of cultural significance may not have received appropriate care because they would not have received such a high priority from local managers who might have more pressing user and functional concerns.

5.4.5.6 Budgets and financing

Best practice suggests that budgeting for maintenance works should be established on the basis of a combination of an assessment of the maintenance need and a realistic view of the likely resources available to the maintenance organisation. The budget should reflect and be informed by the maintenance policy.

We were unable to comprehensively explore issues related to the financing and budgetary arrangements. This was partially because of the complexity of the detail of budgetary and financial arrangements and partly because of confidentiality issues. Despite this some pertinent issues were raised regarding the nature of the budgetary processes within some of the organisations we interviewed. Annual budgeting is universal. The money, however, is seldom protected. There is a mismatch between annual budgeting and five year planning. Only one of the heritage organisations was seeking to establish financial planning over a period longer than five years.

All of the major heritage organisations had some degree of certainty over their maintenance budgets for a 12 month period. Though they all had a longer term maintenance programme (generally 5 year rolling programmes developed from their quinquennial surveys), there was limited certainty about such funding. In only one organisation did the interviewee have a ring-fenced budget for the subsequent 12 month period. This same organisation suggested that they were currently developing a 5 year budgetary proposal and could soon ‘look forward to greater budgetary certainty’ over that period. These changes were partly due to a positive re-consideration of the importance of maintenance within the organisation and partly due to new funding arrangements for the maintenance of their ‘lesser grade’ buildings.

All the other heritage organisations interviewed went through some form of annual bidding process to secure annual maintenance funding. In one national body, for example, maintenance budgets were split into cyclical (recurring planned maintenance within a 12 month period), reactive (day-to-day unforeseen maintenance) and projects (longer period cyclical works and/or works which justify a single tendered package of maintenance works). Each of these budgets had an annual allocation that was bid for and, as mentioned previously, none of them were ring-fenced even within the 12 month period. Transferring monies between these three budgets was ‘quite difficult’ and the interviewee said that on occasions the centre had requested allocated maintenance funding back during financially challenging times. He added that though such requests had occurred the maintenance budgets ‘were generally the last to be plundered’. We are aware that in another regional branch of the same organisation, the cyclical budget was ring-fenced and this had provided some certainty and improved maintenance management. We are also aware that, though this cyclical budget was

ring-fenced, other maintenance budgets had, in the recent past, been subject to significant reductions.

In another national heritage organisation the interviewee suggested that the annual budgetary bidding process provoked a reconsideration of the priorities set for maintenance and that, though a challenge, this could be useful in terms of minimising intervention in the short-term. He added that the pressure on the organisation 'to make money' and deliver efficiency savings was ever present but that he felt this had had no impact on the key driver of retaining and enhancing cultural significance.

The uncertainty of revenue funding for maintenance in the heritage organisations was also raised by one of the non-heritage organisations. The only ring fenced maintenance budgets related to activities implemented to ensure compliance with their statutory and sectoral regulation. The setting of all other maintenance budgets was directly affected by income, if the organisation's income reduces then the budget allocation for maintenance also reduces. For the interviewee this fact of life made the organisational aim of moving to a more planned maintenance basis more difficult.

5.4.5.7 Information management

Best practice recognises that because the nature and form of information produced and required by maintenance activity is extremely diverse, maintenance information should be stored on an integrated database. We would also suggest that it is necessary that the information stored is easily retrievable and can be manipulated to inform both tactical and strategic processes. Potentially huge quantities of information can be produced by the operation of a maintenance function and, the information, by its very nature, tends to be unstructured. That is, it is drawn from many different sources and in practice there is often no agreement about a common structure or levels of information. It is also time dependent. A major responsibility for a maintenance manager is to manage the collection, storage, and retrieval of suitable information to ensure efficient and effective maintenance management. This was defined in the questionnaire as 'a system that allows data from most of the following categories to be integrated; structural surveys, condition surveys, post repair inspections, casual observations, planned preventative maintenance programmes, cyclical maintenance and response maintenance'. The importance of information and records for the management of conservation is stressed in the conservation literature. This is because, in addition to enabling good management practice, effective records detailing the historical development of the building, are an integral part of the cultural history of the building. They also help explain how and why the building is significant.

Existing information is not being used optimally. The format of capture for condition surveys, for example, demonstrates this. Organisations cannot do 'what if enquiries' and some are unable to develop work programmes from the information. Though many organisations reported that they had integrated databases there was little evidence that this included the integration with wider property management functions. Most of those who did not have a database currently were in the process of establishing one /developing one. There is evidence of greater development of integrated ICT based means of capture and storage in the non-heritage sector but here there was even less understanding about the importance of records from a cultural heritage point of view.

Maintenance records are not accorded the level of importance that they should be. They are acknowledged as important for maintenance management purposes but not as important archival documentation in relation to cultural history, even in the heritage organisations.

Maintenance records: heritage organisations

5/12 of the heritage organisations indicated that they had an integrated database. The potential problems of a lack of an integrated information system were in evidence in an interview with one heritage organisation. The interviewee explained that each section within the organisation had their own IT systems developed on the basis of their own interests and needs. There were plans to develop a more integrated database across the whole organisation. The interviewee said that the systems used had different means by which data was recorded and categorised. This was not cost effective and it also worked against effective strategic management.

Of the heritage organisations interviewed that had indicated that they had an integrated database, there was a mixture of bespoke and off-the-shelf IT packages. Two had recently purchased packages for facilities/maintenance management and both were in the process of trialing it. Both were concerned with the relevance of the package to their current practice, and both expressed a concern for the degree of staff resource input required to get the system functioning. Two others had developed a system in-house which had been used for a longer period. They seemed to be working well. As the interview developed, however, it became clear that whilst current maintenance activity and future plans and programmes were recorded there were problems resourcing the input of historic maintenance records.

All heritage organisations interviewed that had an integrated database, used this to collect costs and financial information. They also said that, amongst other things, they used this to analyse the cost of maintenance over time. However as the interviews progressed it became clear that the usefulness of the data bases as a management information tool had important limitations. For example, one national heritage organisation (despite having what an interviewee from another national heritage organisation referred to as 'a very well organised and well structured database') said that the database was not effective in allowing financial management suited to the maintenance department's criteria:

At the moment we're unable to say exactly how much money we spent on a particular building over the years because our financial records do not break down the costs in a suitable manner...understanding how much we are spending is very difficult to ascertain.

Maintenance records: non-heritage organisations

A slightly higher proportion of the non-heritage organisations (10/20) indicated that they had an integrated database. During the interviews it became clear that generally the non-heritage organisations had more sophisticated databases and this seemed to be related to the complexity and scope of their operations when compared to the heritage organisations.

In two non-heritage organisations, for example, GIS data base and information systems were being used. GIS is the industry standard system for the management of complex three dimensional data. In one of these organisations the re-organisation of data from a variety of individual departmental databases had recently been superseded by an integrated database using a GIS basis. Considerable effort in inputting past records was being undertaken. The interviewee commented that there seemed to be significant management advantages to the development of the new system despite the fact it meant there was a significant re-learning exercise for those using this combined database.

Hand written maintenance logbooks were kept at each location, though this had recently changed to using a simple spreadsheet system. Logs were completed daily and were kept at the individual building and were then centrally archived on an annual basis. The interviewee said that in the recent past, until they had adopted a more structured approach to the recording of maintenance activity, there had been very poor record keeping. In particular he said that until recently he was unable to plot past maintenance cost trends. The interviewee said that a

major motivation for this increased interest in integrated systems was the setting of realistic budgets to enable a primarily planned maintenance service.

Information storage and analysis: heritage organisations

Most of the heritage organisations that had indicated that they had an integrated database, did not store information on the cultural significance of their buildings on the database. Such information was stored elsewhere, mainly because the assessments were not in a format that enabled ease of use for maintenance. Only one organisation had included an assessment of cultural heritage on their integrated database. Though this was at a relatively superficial level. They had undertaken more formal and thorough assessments of cultural significance but these were not currently stored on the database.

The analysis and storage of data produced, as part of a condition survey, is a critical issue if the substantial sums expended on condition surveys are to be effectively translated into appropriate action and management. All the interviewees used information technology to store the data from surveys but few used such technology to produce an analysis, primarily because of the format in which the information was collected and stored. The interviews revealed that in the majority of heritage organisations, the condition survey data is textually based and recorded in a format that is not helpful to developing works programmes. One interviewee suggested that their condition surveys were entirely stand alone 'hard copy' documents but that as they are moving into more IT based maintenance management systems there is a growing realisation that the current format for them is not appropriate for the management of maintenance. None of the heritage organisations, for example, had a survey format which enabled updating of information on the priorities established in the survey. This had to be done elsewhere in their information systems and changes in priorities had to be dealt with by the subsequent inspection updating the information at the next survey interval. We have had sight of a number of condition survey reports for historic buildings as part of this and other research projects. The common approach tends towards a lengthy textual format. This is valuable as it can provide detailed assessment of historical development to be interposed with data on condition and repair needs. It does, however, produce information which is relatively inaccessible and inflexible. It does not, for example, have numerically coded information. It also makes the analysis of such material complicated and time consuming.

Information storage and analysis: non-heritage organisations

The picture for the non-heritage organisations was mixed. The majority of those interviewed had textually based condition survey format and though they stored the information electronically, this did not enable the manipulation of the information captured. In only one non-heritage organisation interviewed, did the organisation record condition information other than in a textual format. Here the organisation had purchased a maintenance management software package. The interviewee said that the software was very sophisticated. The organisation valued the opportunity the system provided them with to undertake 'what if' enquiries from the data they had recorded. In another research project we had evidence that the same system was used in an estate of exclusively historic buildings and that use of the system in relation to such buildings was limited because of the way in which the system structured data.

Records: heritage organisations

All the heritage interviewees were clear that records, in particular a 'conservation and maintenance' history, were extremely important for effective conservation maintenance. A number of the organisations were candid about the poverty and dis-organisation of their existing and archived records. Concern about the time and resources taken up by systematic recording was expressed, and given as a reason why it was not done well. One interviewee illustrated the danger of not being thorough in recording information. For them, recent management restructuring had seen a number of members of the maintenance and other

departments leave the organisation taking with them substantial unrecorded information. The interviewee said,

We have lost so much knowledge and so much continuity we cannot even get to a new beginning.

Another common area of weakness was that there seemed to be few protocols for recording condition information observed by individuals who were not part of a formal condition survey process. For example, such information was rarely added to databases containing information from other more formal condition surveys and a number of interviewees said that there was an informal filtering process. Where protocols existed they were developed by organisations that let property or where they had a housekeeper and a logbook.

The variable quality and quantity of the organisations' records was also an issue for one of the interviewees. He commented that recent records were quite poor and that sometimes it was easier to get information about Victorian changes than it was about maintenance activity in the last 15 years. In the context of another research project it was observed that one curatorial manager (in a heritage organisation) who was responsible for the management of archival material, was unable to accept that recently completed maintenance work files were a legitimate part of the archive. Many of the comments made by interviewees about records tended to stress their importance in regard to the role they played in the maintenance of the building rather than in relation to their role they played in recording/interpreting the history and development of the building.

The non-heritage organisations generally recognised the importance of records for the maintenance management of their portfolio, but there was little evidence that the majority of them understood the importance of the records from a cultural heritage perspective. The two exceptions were the organisations with a coherent approach to the conservation developed with the support of conservation guidance from the government.

5.4.5.8 Performance monitoring

Performance monitoring does not appear in the conservation literature with the exception of a mention of the need for government departments to submit returns on a biennial basis to the Department for Culture Media and Sport. A culture of management review and measurement of performance is a well-established principle throughout the public sector. Whatever the arguments regarding the usefulness and relative importance of such performance measures, some feedback mechanism for management and other interested parties is regarded as an essential part of best practice in maintenance organisations.

The percentage of organisations that had adopted the use of performance indicators (PIs) was far lower in the heritage sector (one third versus almost one half of the non-heritage organisations). In both sectors, however, such indicators were primarily associated with financial and budgetary information and, significantly, only 2/9 of the non-heritage organisations that used PIs reported that they used indicators specific to their listed stock. The incidence of non-heritage organisations that used performance indicators was no higher among those organisations that said that they had policies in place to ensure that the historic significance of their listed buildings was maintained. This raises the question of how they could be sure that their policies were effective in ensuring that historic significance was maintained. The presence of a strategic maintenance plan appears to make little difference to whether either heritage and non-heritage organisations make use of performance indicators.

There was a significant difference in the proportion of heritage and non-heritage organisations that used performance indicators. Only 3/12 of heritage organisations, compared with 9/20

non-heritage organisations, used performance indicators. Of those 9 non heritage organisations, only 2 used performance indicators that were specific to their listed building stock.

In the interviews two of the national heritage organisations made use of performance indicators and two were considering their use. The two that did use them, suggested that they were related primarily to financial information and had little to do with the condition of the fabric of their stock, or related management issues. Both also explained that the requirement to produce data for the performance indicators was related to a particular funding regime. It seems clear that even heritage organisations have yet to develop performance indicators that relate to the fabric and its management.

Another interviewee from a national heritage organisation said that some aspects of the overall organisation's activities were measured using performance indicators, but none of these were yet applied to maintenance. The interviewee commented that the PIs developed so far tended to focus on easy-to-measure commercial and financial information. Attempts to produce indicators regarding maintenance had tended to focus on 'negative issues' regarding the maintenance performance, of for example, the level of backlog maintenance, and that this had not encouraged their use. He also pointed out that there were concerns expressed in the trialing of PIs about the extent of additional work that the collection of data for the indicators had caused.

Another large heritage organisation is considering the use of PIs. The driver for this is a requirement for some of their funding allocation. This organisation had begun to use PIs for determining progress of projects internally, but other than this, there had been little consideration of what PIs would mean for measurement of management performance.

5.5 Conclusions

5.5.1 Current Practice

Introduction

The results of this research suggest that at present both heritage and non-heritage organisations examined are falling short of a best practice approach to maintenance when measured against all of the criteria identified in the literature search. The areas for potential improvement differ both between heritage and non-heritage organisations and between the commercial and non-commercial non-heritage organisations.

Conservation principles

Heritage organisations, as would be expected, were generally better informed about what constitutes good conservation and there is encouraging evidence of increasing awareness about the relationship between maintenance and retaining cultural significance. There is some evidence that this is being translated into management action by some organisations. However, the formal adoption of the key maintenance related conservation principles into written guidance by such a small proportion of the heritage organisations is of considerable concern.

It is not surprising that organisations such as universities and local authorities, which operate under regimes which are highly process driven, with a culture of internal and external audits and quality assurance, all said that conservation principles guided their approach. It was surprising, however, that this was not universal among the housing associations and governmental organisations that operate in a similar organisational culture to other public bodies. More surprising still was the fact that, of all the public sector organisations that

reported that they were guided by conservation principles, only the governmental organisations and one of the universities had these as part of written guidance.

Within the non-commercial, non-heritage organisations conservation awareness tended to be bureaucratic in character, rather than deeply embedded in organisational consciousness. A deeper conservation consciousness, distinguished by a genuine understanding of cultural significance, seems more likely to ensure that maintenance management embodies the principle of minimal intervention, particularly in decision making processes involving the reconciliation of a number of competing organisational priorities.

There is a worrying absence of conservation consciousness among the commercial non-heritage organisations. For these organisations the primary value that ownership of a listed building contributed to the organisation was related to image. The priority for maintenance activity was, therefore, focused more on retaining the aesthetic appearance of the building and less on a sophisticated assessment of cultural significance. Clearly such emphasis on aesthetics could lead to inappropriate priorities and early intervention.

This lack of awareness and/or engagement with key conservation principles may have a substantial impact on the effective conservation of the cultural significance of the buildings in the care of these organisations. The identification and publication of such principles is an operational and strategic necessity. All need to know what can and cannot be done to the historic fabric and contents in the course of their activities. The development and use of formally adopted conservation principles provides guidance for consistency and coherence of actions for staff, and perhaps more importantly, for external consultants and contractors. Publishing conservation principles can also provide some criteria and opportunities for performance evaluations of the maintenance organisation.

Process drivers

In the organisations studied the approach to maintenance management tends to be driven by process (that is optimising the efficiency of the process) rather than by a clear strategy about what that process is serving. This tends to be the same whatever the sector. Aspects of maintenance management are imported from elsewhere without re-contextualising them for the needs of historic buildings. For example, whilst planned maintenance programmes can provide cost savings, they may work against the principle of minimal intervention where they develop a logic and momentum of their own. This is particularly significant for non-heritage organisations, many of which do not have conservation ideals as an anchor. Minimal intervention at times was at odds with the 'lets do something' attitude of the non-heritage organisations. For some there was a fit between minimal intervention and the notion of generally reducing costs, but there was little evidence to suggest that such a form of prioritisation acknowledged cultural significance. Maintenance programmes should be set within the context of rigorous policies such as the need to retain cultural significance and minimal intervention. Even heritage organisations, however, do not seem to have made best use of the idea of cultural significance as a driver that gives clarity to their maintenance objectives. The findings suggest that there is a clear need for a step-change to ensure that the retention of cultural significance and minimal intervention, set the context for the maintenance strategies of both heritage and non-heritage organisations.

There is a lack of national strategic frameworks for maintenance in the national heritage organisations. This means that there is little guidance to integrate the various maintenance activities undertaken by the organisation and therefore no coherent means for evaluating the effectiveness of its various maintenance activities on the whole of the national stock of these organisations.

Status

Lack of status of the property management function within organisations has traditionally been a problem and within property departments the maintenance role lacks kudos. It might be expected that this would be different in heritage organisations, but the findings suggest that this is not necessarily so. For the larger heritage organisations there does seem to be evidence of an increasing emphasis on the importance of maintenance. This is reflected in the fact that the maintenance service appears to have an increasingly strong voice within these organisations and there is evidence of increased resources being allocated. It is not enough, however, to have representation of the maintenance function at board level, there also needs to be someone who is able to fight the case.

Formal policies

Many non-heritage organisations said that, despite the absence of formal policies, that in practice they treat their listed and non-listed stock differently. Such reliance on informality is clearly of concern. At best it encourages an *ad hoc* approach to maintenance and makes a formal monitoring and evaluation process difficult if not impossible to implement. At worst it might encourage disregard of the particular maintenance requirements of listed buildings. Even heritage organisations were guilty of this lack of formality in regard to maintenance policies. Whilst many heritage organisations had written conservation principles none we interviewed or surveyed were able to provide us with hard copies of their maintenance policies. In general there was a great reliance on getting on with things the way they were with a 'we know what is significant' 'we know the stock' 'we know what we do and how we do it' attitude prevalent. Potentially dangerous assumptions were made about what maintenance teams know, for example, about cultural significance. This was illustrated by the comments of the maintenance manager of a large national heritage organisation who said that cultural significance was 'well known' to site teams and would thus be used in identifying site management proposals.

Information management

The non-heritage organisations often have relatively sophisticated information systems. However use of these have not been developed to specifically identify, and therefore address, the particular maintenance management requirements of listed buildings.

The lack of crossover of best practice maintenance management from sectors such as Housing Associations to the heritage sector is illustrated by conditions surveys. Whilst the former have developed a condition survey technology and format (particularly in relation to the development of digital data on spreadsheets) which enable 'what if'? enquiries, the heritage sector has continued to use textual documentation which is hard to interpret and impossible to manipulate. Although the current condition survey format used by many heritage organisations does have value as a historic record of the building and its condition, the format is not useful as a management tool.

The level of understanding of the importance of records from a cultural heritage point of view was poor. Even within heritage organisations there is also a sense that records of contemporary decisions regarding the fabric are not as important as past decisions.

Budgets

It is clear that some aspects of the financing and budgetary processes conflict with, rather than support, the stated policies of minimal intervention and the protection and enhancement of cultural heritage. Whilst annual budgets are the norm, the failure to consider and provide for the longer-term militates against an effective strategic approach to maintenance. There is a dual problem with annual budgets; they are easy targets for cuts (justified by promises to reinstate them in the following year), conversely they encourage those managing them to ensure that they are spent. In heritage terms this might result in works undertaken which are

unnecessary. The counter argument to this is that the frequent re-prioritisation of planned maintenance may have the effect of producing a minimal intervention approach by default.

5.5.2 Factors influencing a best practice approach and their implications for change

From the discussion above, it is clear that factors influencing a best practice approach to the maintenance management of listed buildings operate at a number of levels. These may be summarised as follows:

- mindset;
- sectoral priorities;
- know-how;
- resources;
- organisational culture and structure.

The factors and some of the implications of these for the changes that will be necessary in order to make progress towards a best practice approach to the maintenance management of listed buildings are discussed below.

Mindset and sectoral priorities

For all types of organisations it is clear that a change in mindset is required. Commercial non-heritage organisations in particular, and to a lesser extent the non-commercial organisations, need a much greater awareness and understanding of the cultural significance of the listed buildings within their care. Such an understanding needs to be organisation wide. For heritage organisations the trend towards a greater understanding of the significance of retaining cultural heritage and the important role of maintenance for this needs to be consolidated and developed.

Clearly one answer to this is a programme of awareness raising and education. This will be necessary for both current and future generations of maintenance managers. This will require the development of appropriate programmes of continuing professional development. It will also require the integration of teaching about best practice maintenance management for listed buildings within general maintenance management courses at undergraduate and postgraduate level in addition to any specialist courses which are developed.

Any programme of education will need to be accompanied by ‘carrot and stick’ initiatives at statutory level. This will be particularly important for non-heritage (particularly commercial) organisations, which have no organisational rationale for maintaining in order to retain cultural significance.

Know how: process

As argued in the literature review, a best practice approach to the maintenance management of the built cultural heritage is more than the sum of individual aspects. Rather than a series of individual elements, best practice should be thought of as a coherent system that integrates the components of best practice identified in the literature and case studies from conception (that is, driven fundamentally by the concepts of cultural significance and minimal intervention) to inception (that is, the policies, programmes, management and practices of the maintenance function). It is perhaps not surprising that the lack of such a comprehensive and

integrated model in the literature was also mirrored in the attitudes and practice to maintenance management in the organisations studied for this research. A clear implication of this research is that there is an urgent need to start developing a coherent system of maintenance management appropriate to the needs of listed buildings. The system will need to be such that it provides an effective means for highlighting cultural significance concerns when decisions relating to potentially competing organisational interests are being taken. Best practice will to some extent be dependent upon the structure and culture of the organisation concerned. Whilst a universal maintenance management model for listed buildings may not be appropriate, the developing of a loose system of processes, which could be developed to different organisational contexts, may be a realistic goal.

Know how: prioritisation

For all organisations there are issues beyond the identified needs of the fabric that affect the priorities for maintenance intervention, that is, statutory and regulatory issues, users and organisational concerns etc. The conservation literature suggests for listed buildings, that the overriding priority should be the cultural significance but provides little discussion or guidance on managing relative priorities.

Conservation plans, which are the current benchmark for assessing cultural significance, have generally not been developed by organisations into coherent management plans to inform and develop maintenance policy. There may be an issue with the way conservation plans are currently commissioned primarily to attain funding. They may not always be briefed-for and drafted in a way that enables useful strategies, policies and procedures to flow easily from them. For example, one heritage organisation did not see how conservation plans could be used for maintenance. There needs to be some development of the conservation plan/statement of significance and its application to act as information for, and a driver of, maintenance policies and strategies. There is also a need for awareness raising, guidance and a suitable methodological framework for non-heritage organisations to be able to have a mini conservation plan /statement for their stock.

Know how: risk management

Risk management as a maintenance management tool is being used increasingly in non-heritage sectors. Conservation plans can be seen as a risk management exercise, that is, they assess the consequences of not taking particular actions. The danger of using risk management for the maintenance of listed buildings is that it could focus maintenance attention onto risks other than cultural significance, a particular problem which is perhaps increased when organisations do not undertake assessments of significance. Further to this, where risk management techniques are applied more strategically, that is, to the whole property management side of an organisation, there could be less investment and concern to carry out maintenance generally. In order for risk management to be translated into a useful management tool for the maintenance of listed buildings, the development and use of assessments of cultural significance within such a framework becomes critical.

Resources

Long term financial planning and ring-fenced budgets for maintenance are essential if coherent and comprehensive maintenance management systems are to be implemented successfully.

Organisational culture and structure

The maintenance function needs to have greater centrality and input into the strategic decision making processes affecting historic buildings.