

Appendix 1. Three illustrations of maintenance management from the non-heritage sector

1. Three illustrations of maintenance management from non-heritage sectors

1.1 Introduction

The objective of this examination of three non-heritage organisations is to illustrate current maintenance management practice in three different sectors with a view to identifying possible areas of good practice which might be applied to the maintenance of listed buildings. This will be used, along with the literature review to inform the design of the empirical research into organisational approaches to the maintenance of listed buildings. The organisations researched for this section of the report were:

- a housing association;
- an NHS hospital trust;
- a private sector commercial organisation.

1.2 Methodology

An interview was undertaken with a senior maintenance manager in each of the organisations, following an examination of general best practice guidance and related sectoral best practice guidance. Elements of best practice maintenance management (as identified in the literature review) are reviewed for each case study.

The organisations interviewed were identified through existing contacts in the relevant sectoral bodies responsible for regulation and quality issues. In practice this meant NHS Estates and the Housing Corporation. The private sector commercial organisation was a financial institution whose property management approach is not subject to sectoral regulation.

Although it was not an objective, we have included a case study of the housing association.

1.3 A housing association

1.3.1 Introduction

This section of the report examines the maintenance and repair of dwellings owned by Housing Associations. It establishes the Housing Corporation's regulatory framework within which Housing Associations operate, examines the way in which performance is measured and monitored, describes how an association might develop a long term strategy and briefly explains some key principles in setting up response and planned maintenance programmes. This section also reviews the association's maintenance policies and procedures.

1.3.2 The Housing Corporation

Responsibilities

The Corporation is a Non-Departmental Public Body, sponsored by the Office of the Deputy Prime Minister. The Housing Corporation is responsible for investing public money in housing associations— and for protecting that investment and ensuring it provides decent homes and services for residents. It invests in housing associations to provide homes that meet local needs. Through regulation it also seeks to ensure that people will want, and be able, to live in these homes, now and in the future.

Aims

The Housing Corporation's key aims are to:

- to regulate to promote a viable, properly governed and properly managed housing association sector;
- to invest for the creation and maintenance of safe and sustainable communities;
- to champion a resident focus in the housing association sector, and;
- to be a modern, customer-centred, forward-looking organisation, encouraging change in the sector.

In January 2002, the Housing Corporation published its new regulatory code and guidance, applicable from April 2002. This details its new approach to regulating housing associations and sets out new regulatory requirements and procedures. It states that one of a housing association's fundamental obligations is the development and management of good quality homes that seek to meet people's needs and preferences and will require housing associations to ensure that:

- their homes are well maintained and in a lettable condition;
- maintenance is carried out effectively and responsively and in ways that reflect residents' preferences;
- necessary investment in the future of the stock is made a key priority.

1.3.3 Housing associations

Introduction

Housing associations are the main providers of new social housing. There are over 2,000 housing associations in England, currently managing around 1.45 million homes and housing at least twice that many people. Registered Social Landlord (RSL) is the technical name for social landlords that are registered with the Housing Corporation — most are housing associations, but there are also trusts, co-operatives and companies. Housing associations are run as businesses but they do not trade for profit. Any surplus is ploughed back into the organisation to maintain existing homes and to help finance new ones.

Monitoring Housing Association Performance

Housing associations are closely monitored to ensure they are acting in accordance with the requirements of the Housing Corporation. Housing Associations must complete an annual return which contains information (among other things) on:

- the average weekly rent for all properties;
- average increase in rents during the previous year;
- average weekly costs per dwelling on management;
- average weekly costs per dwelling on repairs and improvements;
- emergency repairs completed to target (see later section for more details information);
- urgent repairs completed to target (ditto);
- routine repairs completed to target (ditto);
- percentage of rent lost through dwellings becoming vacant;
- percentage of dwellings vacant and available to let;
- percentage of dwellings vacant and unavailable to let;
- average re-let times for dwellings let in the financial year;
- re-lets as a percentage of stock;
- percentage lettings to black and minority ethnic households;
- average SAP rating of dwellings;
- satisfaction of tenants with overall service provided by their landlord;
- satisfaction of tenants with opportunities to take part in management and decision making in relation to housing services provided by their landlord.

The statistical returns for all associations are available on the Housing Corporation's web site. It is easy to make comparisons with other associations and to compare a particular association against its peer group, or against average regional or national figures.

1.3.4 Managing Repairs And Maintenance

Objectives

The Housing Corporation requires Housing Associations to:

- set a strategic long-term approach to maintain decent, sustainable homes;
- engage effectively with residents about their homes;
- manage effective planned and capital programmes;
- run an efficient responsive repairs service;
- improve performance management and competition.

The context within which the repairs service operates is a complex one and one that has changed significantly during the last few years. No longer is the Housing Corporation providing financial support for major repair and improvement works. This has to be funded mostly through borrowing, reserves, rents, and possibly even through property disposal. At the same time, rent re-structuring (to bring association rents in line with local authorities) is placing limits on the amount of money available from the rent for future repairs. Associations also have to demonstrate a best value approach to decision making and must involve tenants in many aspects of policy formulation and service delivery.

Criteria of a Good Maintenance Service

The Audit Commission has identified a number of key criteria for a successful housing maintenance service. In its Handbook on Housing Repairs and Maintenance (2002) it highlights five key areas.

1. Setting a strategic, long-term approach to maintain decent, sustainable homes

- establishing maintenance needs across properties;
- working out which stock is sustainable;
- business planning and implementation.

2. Engaging effectively with residents about their homes

- involving residents in decision-making, setting standards and selecting contractors;
- empowering residents so that they can help to prioritise mainstream repairs budgets;
- involving residents in performance monitoring;
- allowing residents more individual and group choice within local schemes;
- developing different ways to involve more residents and engage hard-to-reach groups.

3. Managing effective planned and capital programmes

- investing in project management and working with contractors so that budgets are spent fully and on time;
- increasing the proportion of spend on planned maintenance;
- using packaging and call-down contracts to get better value for money;
- managing well-timed and cost-effective cyclical programmes and renewals;
- involving residents in planned and capital works.

4. Running efficient responsive repairs services

- reducing the level of responsive work;
- improving accuracy of diagnosis;
- getting more repairs done on time;
- prioritising performance monitoring;
- increasing customer focus;
- a cost-effective coherent approach to repairs on void properties.

5. Improving performance management and competition

- encouraging competition;
- improving performance monitoring;
- focusing and supporting performance management;
- working towards partnering: developments in partnering and client–contractor splits.

Although the Audit Commission is primarily concerned with Local Authority dwellings its findings and subsequent advice are still relevant. Most housing associations will be well

aware of the guidance and will have adopted policies and procedures which reflect the Audit Commission's recommendations.

1.3.5 A Strategic approach to maintain decent, sustainable homes

Establishing an effective property strategy depends on reliable and up to date information on the stock. This is usually through a combination of theoretical desk-top exercises and a systematic stock survey. A stock survey can collect data on any, or all, of the following:

- establishing disrepair or condition;
- forecasting future repairs needs;
- planning repair and renewal programmes;
- assessing potential improvements;
- stock valuation;
- setting priorities;
- quantifying stock by type or funding mechanism;
- establishing attributes - materials, space, facilities etc.;
- producing an energy audit;
- provide evidence for loan or funding applications;
- best value;
- Decent Homes Standard.

There is extensive guidance on stock surveys from the ODPM, the Housing Corporation, The National Federation of Housing Associations and the Chartered Institute of Housing. The Chartered Institute of Building has also published a number of Information Papers on more practical aspects of condition surveys.

In practice many associations have less than satisfactory experiences of stock surveys. A number of potential problems are highlighted below (Table 1.1).

Table 1.1

Potential Problems	Possible Implications
Survey objectives and therefore, data required, is incoherent.	Data collected may be inappropriate to the task and may not suit real needs of organisation.
Repairs terminology badly defined.	Confusion over scope of survey (eg difference between repair obligations and association aspirations); risk of duplication of data and doubts on accuracy of survey data
Over emphasis on detailed, short term, data.	Data is expensive to collect and will quickly become out of date. Short term data precludes strategic planning.
Unrealistic assumptions regarding data accuracy, particularly component life and component cost.	Inaccurate assumptions on cost and life cycles make it difficult to establish an appropriate maintenance strategy.
Survey methodology complex or confused and not suited to dynamic analysis.	Complex methodologies can produce data which is difficult to analyse or understand. ‘Snapshot’ data will be out of date in a short period of time.
Data collected without any attempt to prioritise.	Scale of work required is far in excess of resources available; further survey work required. Trends in stock condition cannot be monitored accurately.
Sample size inappropriate to task.	Inaccurate data or excess expense incurred.
Inconsistent data due to lack of subjectivity controls.	Significant variations between surveyors may render survey unreliable.
Software not capable of interrogating or manipulating data.	Difficulties in analysis and limitations in data manipulation. Difficulties in setting up appropriate repairs programmes.

1.3.6 Case Study

This case study examines the objectives, survey methodology and output of a recent condition survey carried out by a large urban association which owns approximately 2,300 general needs dwellings. The association has agreed to let us reproduce their data although to preserve anonymity the name of the association has been changed to ABC Housing Association.

1.3.6.1 Stock

The association’s stock comprises purpose-built accommodation developed during the last 30 years, a substantial number of acquired Victorian properties, and a variety of dwellings purchased from a number of local authorities. Approximately 30% of the accommodation is in medium and low rise blocks of flats, the remainder being detached, semi-detached, and terraced housing. The association has, in the past, commissioned condition surveys using external consultants but has been less than satisfied with the accuracy of the data and the user-friendly nature of the database. Following the appointment of a new Technical Services Manager the association decided to develop its own condition survey with outside guidance but largely designed and carried out in-house.

1.3.6.2 Condition survey

Survey Objectives

The main objectives of the survey were to provide ABCHA with:

- appropriate information about the current condition of its housing stock;

- information regarding current disrepair and the need for future component renewals;
- a basis on which to plan future programmes of major repairs and planned maintenance;
- data on attributes such as central heating, double glazing etc.;
- a basis on which to plan future improvement programmes;
- financial information to help long term business planning;
- technical information to feed into a broader asset management strategy.

Operational aims of the survey

At the operational level the purpose of the survey is to help the association plan a five year programme of works. In particular it will enable the Association to:

- identify and cost catch-up repairs;
- plan a five year programme of elemental renewals;
- develop and cost an improvement programme;
- target those properties with specific defects, e.g., condensation;
- develop a 'just in time' approach for elemental renewals;
- review properties with high repair costs or property regarded as poor assets;
- re-inspect those properties which require more sophisticated diagnosis or option appraisal;
- plan an programme of energy efficiency works;
- batch work items for cost effective repairs programme.

Methodology of the survey

The survey was carried out by in-house staff under the guidance of an external consultant who has extensive experience in stock surveys and housing management. The association was encouraged to develop its own life cycles and element costs based on their property records. The association was also asked to consider very carefully how the survey data would be used. Before the pilot survey some of these were refined to reflect other local knowledge and experience. Data was collected against a number of components, the main questions being:

- How much?
- Which element?
- When?

In addition the association developed a simple method of categorising dwellings based on the cost of catch-up repairs and the facilities within each dwelling.

To help the surveyors, and to maintain consistency, a detailed survey guide explained the survey objectives and provided a detailed methodology. It also set out those situations where a surveyor could use his or her discretion in forecasting repairs needs.

The survey ignored cyclical maintenance work and minor day to day repairs but did include 'catch-up' works.

To provide a representative sample the stock was sampled by type and age. 350 dwellings were surveyed plus all communal parts of blocks of flats.

Survey Output – all dwellings

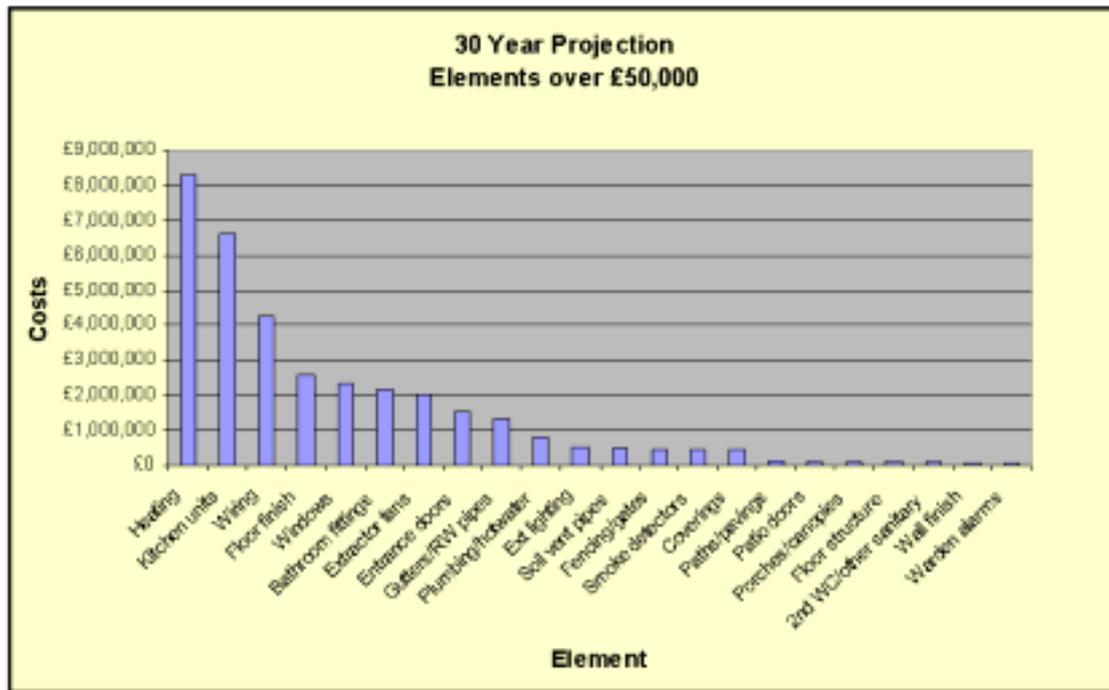
The overall cost projection of the association's stock is shown below (Table 1.2). These figures do not include inflation, VAT or commissioning costs. The gross cost of elemental renewals is £35.2 million: this represents £15,300 per dwelling (over 30 years) or £510 per dwelling per year. An additional £1 million has been identified for potential improvements.

Table 1.2

30 Year Projection												
	Code	: 0 :	: 1 :	: 2 :	: 3 :	: 4 :	: 5 :	: 6-10 :	: 11-15 :	: 16-20 :	: 21-25 :	: 26-30 :
Renewals												
Roof structure	101	0	4,000	600	0	0	0	0	0	0	0	0
Coverings	102	10,000	24,500	16,000	5,000	18,500	23,500	253,500	74,000	10,000	0	0
Verges/parapets	103	1,200	300	0	0	0	100	7,600	0	0	0	0
Chimney	104	0	300	0	300	3,900	0	6,600	1,600	0	0	0
Flashings	105	1,200	0	0	300	4,800	0	13,200	0	300	0	0
Fascias, bargeboards	106	150	0	0	0	4,500	0	8,450	0	12,900	0	0
Gutters/RW pipes	107	3,350	9,450	3,600	4,050	27,850	42,100	387,750	226,250	227,750	86,750	302,450
Walls structure	108	600	0	0	0	0	0	800	0	3,600	0	11,250
Walls pointing	109	0	2,000	0	0	400	0	23,000	20,000	0	0	0
Wall finish	110	8,590	0	0	0	0	0	6,000	10,000	0	39,000	0
Windows	111	136,000	112,200	129,000	75,000	41,500	139,200	210,000	380,050	241,600	603,300	284,000
Patio doors	112	0	0	0	0	0	9,600	16,250	10,700	39,200	10,400	0
Entrance doors	113	14,400	23,200	24,800	10,400	31,200	48,800	64,800	235,200	277,640	740,400	75,600
Porches/canopies	114	0	52,200	1,800	0	3,000	2,800	5,400	5,400	6,400	4,000	600
Balconies	116	0	0	0	0	0	0	3,900	0	0	300	3,300
Soil vent pipes	117	400	0	900	1,200	11,250	10,800	173,600	49,100	43,700	31,750	160,700
Door entry	151	0	0	0	0	8,000	0	5,600	8,000	5,600	8,000	5,600
Warden alarms	152	0	0	0	0	0	0	25,000	0	0	0	25,000
Internal walls/finish	154	1,800	0	0	0	0	0	0	0	0	0	0
Floor finish	156	0	0	0	3,000	3,600	0	0	1,500	3,000	0	1,500
Lighting	158	0	0	0	0	0	2,000	2,400	2,400	4,500	200	0
Fire doors	159	400	0	0	0	0	0	0	0	0	1,600	0
Flat doors	162	0	0	0	0	0	0	0	0	0	1,200	0
Stair finishes	164	0	0	0	0	1,800	0	1,600	9,000	1,800	0	9,000
Communal rooms	165	0	0	0	0	0	0	250	0	0	0	0
Extractor fan	171	0	0	0	0	0	0	233	0	0	0	0
Aerials	175	0	0	0	0	0	0	3,000	0	0	0	0
Garages/car ports etc	181	1,000	0	0	0	0	0	0	0	7,000	0	0
Sheds	182	1,600	1,000	0	0	0	0	10,500	500	0	0	6,500
Boundary walls	183	4,900	0	0	100	1,800	5,400	20,000	0	15,000	100	0
Fencing/gates	184	840	0	0	0	2,900	1,825	79,340	197,520	145,530	5,725	18,790
Paths/pavings	185	10,700	600	20,000	13,320	3,600	2,700	28,900	7,200	5,900	13,250	53,475
Service road	186	1,000	0	0	0	0	3,500	7,500	0	0	0	0
Ext furniture	187	0	0	0	0	0	0	150	0	0	0	0
Ext lighting	188	500	0	16,700	5,800	49,200	23,900	74,300	88,950	107,600	52,300	96,000
Security	189	0	0	0	0	2,400	0	0	1,400	2,400	0	1,400
Floor structure	201	300	0	0	6,300	5,000	0	11,000	9,900	19,000	0	25,000
Floor finish	202	200	38,450	74,000	70,450	69,400	279,200	344,720	485,500	378,170	483,342	346,620
Internal walls/finish	203	5,500	0	800	0	4,000	0	1,200	1,000	4,000	0	0
Ceilings	204	700	0	0	0	0	0	0	0	0	0	0
Internal doors	205	750	0	0	0	0	0	900	0	0	0	7,200
Kitchen units	206	93,000	233,000	878,650	152,900	87,000	228,300	696,200	1,054,850	1,537,750	668,700	962,750
Stairs/rails	207	740	0	0	900	0	0	0	0	0	0	0
Bathroom fittings	208	6,600	8,100	4,500	74,700	18,900	51,300	838,800	381,350	276,300	397,800	104,400
2nd WC/other sanitary	209	0	0	0	4,500	0	0	15,000	19,250	11,350	24,350	1,250
Plumbing/hotwater	210	3,200	2,800	1,200	0	0	10,200	48,400	84,000	120,200	308,050	257,350
Heating	211	93,600	99,150	1,006,190	256,800	29,400	165,450	832,500	1,367,980	1,598,300	1,279,100	1,559,850
Wiring	212	64,000	14,000	0	0	0	2,000	202,000	428,400	704,000	1,697,700	1,146,100
Electrical - White go	213	0	0	0	0	150	0	150	750	0	6,000	12,750
Smoke detectors	214	1,500	7,440	11,175	11,070	12,010	14,150	90,900	50,295	91,485	53,445	93,281
Extractor fans	215	11,150	23,550	190,300	64,450	62,250	58,800	262,800	382,000	290,500	382,000	274,650
Total Renewals		479,870	656,240	2,380,215	760,540	508,310	1,125,625	4,784,193	5,594,045	6,192,475	6,898,762	5,846,361
Improvements												
Heating	301	89,000										
Double Glazing	302	451,800										
Loft Insulation	303	189,025										
Security	304	48,025										
HW smoke detectors	305	130,400										
Wall Insulation	306	75,800										
Extractor Fans	307	21,450										
Safety Glass	308	800										
Total Improvements		1,006,300										

The pattern of projected expenditure is similar to many other associations (Table 1.3). A few elements, namely heating, kitchen units, wiring, floor finishes, windows and bathroom fittings account for the majority of the expenditure (£26 million out of a total of £35.2 million).

Table 1.3



The spread of expenditure is shown in Table 1.4. It shows that the projection for each block of five years is fairly consistent. This, in part, is a reflection of the varied age profile of the stock.

Table 1.4



Survey Output - Profile of an Individual Dwelling

Table 1.5 shows the cost projection of an individual dwelling. 21 Smith Street is a Victorian terraced property originally acquired by the association sometime in the 1970s. The total cost, including potential improvements, is £18,435. From the spreadsheet it is clear that the windows are scheduled for renewal in year 5 (this is actually 2006 – the survey was carried out in 2001), the kitchen units in year 2, and again in year 17 (their agreed life is 15 years). Prior to these dates the individual elements will be re surveyed and, where appropriate, renewal will be instigated or delayed.

Table 1.5

Individual House	Code	: 0 :	: 1 :	: 2 :	: 3 :	: 4 :	: 5 :	: 6-10 :	: 11-15 :	: 16-20 :	: 21-25 :	: 26-30 :
Renewals												
Gutters/RW pipes	107	0	0	0	0	0	0	450	0	0	0	0
Windows	111	0	0	0	0	0	0	3000	0	0	0	0
Entrance doors	113	0	0	0	0	0	0	800	0	0	0	0
Soil vent pipes	117	0	0	0	0	0	0	300	0	0	0	300
Fencing/gates	184	0	0	0	0	0	0	185	0	0	0	0
Floor finish	202	0	0	0	400	0	0	0	400	0	400	0
Kitchen units	206	0	0	1500	0	0	0	0	0	1500	0	0
Bathroom fittings	208	0	0	0	0	0	0	900	0	0	0	0
Plumbing/hotwater	210	0	0	0	0	0	0	400	0	0	0	0
Heating	211	0	0	0	0	0	0	2650	0	0	1700	0
Wiring	212	0	0	0	0	0	0	0	0	0	2000	0
Extractor fans	215	0	0	0	300	0	0	0	300	0	300	0
Totals		£0	£0	£1,500	£700	£0	£5,000	£3,685	£700	£1,500	£4,700	£0

Improvements		
Loft Insulation	303	250
Security	304	250
HW smoke detectors	305	150
Totals		£650
Report total		£18,435

Property attributes

The survey also collected information on basic attributes, for example, provision of central heating, double glazing, existence of any dampness etc. (Table 1.6)

Table 1.6

Reference	SMIST0021
Address	21 Smith Street
Area Code	(R)otheram
Type Code	(G)eneral Needs
New/rehab	(R)ehab
Whole house heating	Full
Double/sec glazing	None
Full loft insulation	Partial
5 Lever locks	None
Smoke detectors	Hardwired
Wall Insulation	None
Extractor fans	Two
SYHA Standard	Partial
Cracking free	Yes
Rising damp free	Yes
Pen. damp free	Yes
Condensation free	Yes
Glass hazard free	Yes
Other hazard free	Yes
Energy rating	?
123456?	5
Asset	Yes
Catch-up repairs	None



Survey Output - Attribute Overview

The condition survey software is flexible and allows easy interrogation of the database. Properties can be selected by type, age, location, category, attribute level, and so on. In addition selection can be made by year or element to enable further inspection and batching of repairs.

It is also possible to provide data to help monitor trends. Table 1.7 shows the % of the stock with central heating, problems of dampness etc., and the number of dwellings within each category. So, for example, 11% of dwellings are fully improved (category 6), ie, they have central heating, double glazing, full loft insulation, good security, hardwired smoke detectors and catch-up repairs of less than £500. Similarly, 79% of dwellings are partially improved (category 5) and 6% of properties have catch-up repairs of between £2,500 and £10,000.

Besides helping monitor long term trends this information enables the association to target their resources to best effect – a prerequisite of a ‘best value’ approach.

Table 1.7

Attributes		
Properties with:		
		%
Full central heating		95
Double glazing		69
Full or partial loft insulation		85
Adequate security		79
Hardwired smoke detectors		31
Hazards:		
		%
Cracking free		97
Damp free		98
Condensation(severe) free		97
Asset:		
		%
Good asset		95
Category:		
		%
1		0
2		6
3		2
4		2
5		79
6		11
	Total	100
Disrepair more than £10,000	1	
Disrepair £2,500 to £10,000	2	
Disrepair £500 to £2500	3	
Not to AHA Standards	4	
Partially/almost to AHA Standards	5	
Fully to AHA Standards	6	
NB Full = Central heating, double glazing, secure, hardwired smoke detectors, well insulated		
NB Properties with high disrepair costs are in categories 1 - 3. These over-ride 4 - 6.		

Attribute	% with
Full central heating	95
Double glazing	69
Full or partial loft insulation	85
Adequate security	79
Hardwired smoke detectors	31

Category	%
1	0
2	6
3	2
4	2
5	79
6	11

Developing a Property Strategy

The association has currently developed a 5 year programme based on the survey output.

The projection shows a forecast of £35.2 million. If VAT and commissioning costs are added this will rise to about £40 million (£1.33 million per year). The available funding is in the region of £1.1 million per year – so effective use of resources is vital.

A brief outline of this strategy is set out below. The association will:

- revisit all dwellings (those originally inspected and in the survey ‘cluster’) where work is required in year 0 to 2 to produce programmes of work. Work scheduled for years 3, 4 and 5 may be included depending on its nature and location within the dwelling;
- ensure that within 3 years all dwellings have full central heating, adequate security, full loft insulation and hardwired smoke detectors. NB single glazed windows will not be renewed before the end of their life;
- re inspect all the properties in categories 1, 2 and 3 for a more detailed option appraisal;
- re inspect all the properties which are not regarded as good assets for a more detailed appraisal; options include redevelopment, refurbishment, patch repairs for short life accommodation, or disposal;
- recognise the need to develop a sales programme;
- develop a ‘partnering’ scheme for supply and fix of kitchen units, bathrooms and windows etc. Ensure a steady flow of work to the new ‘partners’.

Day to Day (Response) Maintenance

ABC Housing Association has a annual budget of approximately £600,000 for day to day (response) and cyclical repairs. This is about £260 per dwelling per year.

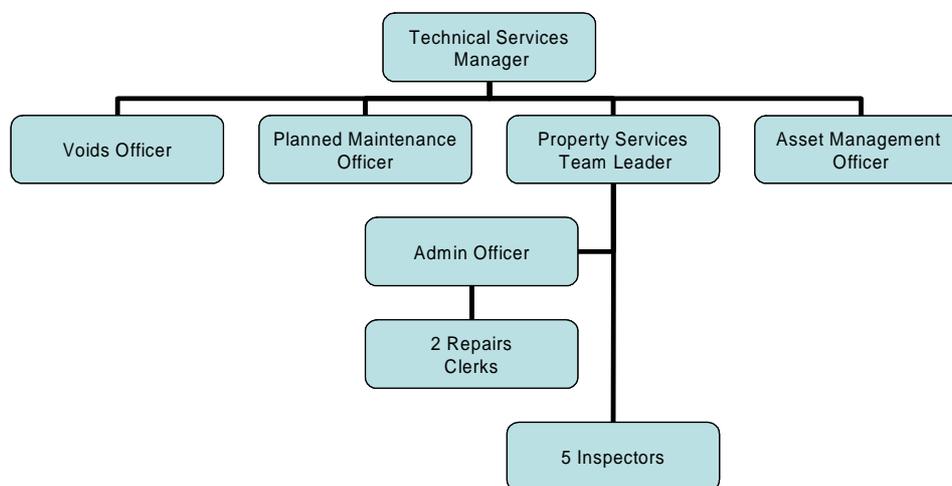
Improvement works and major repairs are carried out by a separate section within the department – all this is informed and planned through the condition survey.

The main areas of work, and their definitions, for the day to day and cyclical section are shown below:

- **day to day repairs** - usually single jobs to individual dwelling generally emergency, urgent, or routine categories;
- **relet repairs** - multiple, often extensive repairs and redecoration before letting;
- **paid repairs** - repairs which are outside the association’s legal and policy responsibilities. Tenants (with their prior agreement) will be charged for these repairs;
- **cyclical maintenance** - work programmed into regular cycles, e.g., external painting;
- **servicing** - to prevent premature breakdown of mechanical and electrical appliances, e.g., alarm systems, boilers, fires etc.

The staff structure is shown in Table 1.8

Table 1.8



Repairs Obligations

ABCHA's responsibilities for repair are partly set out in legislation and partly determined by contract (tenancy agreement). They are also affected by case law. Tenants are advised of this through a Tenant Handbook – part is reproduced below.

ABCHA is responsible for:

- *the structure of the building - the roof, brickwork, chimneys, floors etc.;*
- *drains, gutter and external pipes;*
- *gas piping and any gas appliances fitted by ABC;*
- *water pipes, sinks, baths and toilets;*
- *electrical wiring, switches, power points, immersion heaters;*
- *central heating boilers, radiators, pipes etc.;*
- *repairing anything damaged by defects which are ABC's responsibility, for example, redecoration after roof leaks.*

The tenant is responsible for:

- *light bulbs, fuses, plug tops and all fittings and appliances provided by the tenant;*
- *rubbish clearance, removing leaves from gulleys and drains, dustbins;*
- *gardening (except where covered by a service charge), rotary driers, clothes lines;*
- *internal decorations, minor cracking to walls and ceilings, internal doors, curtain rails, shelving; hat and coat rails and hooks;*
- *draught proofing, sweeping chimneys, hearth tiles;*
- *repairing items which are the tenants, such as cookers, washing machines;*
- *blocked sinks and hand basins, tap washers, plugs and chains, w.c. seat and cover, toilet roll holders, splash back tiling;*
- *door locks, keys, handles and latches.*

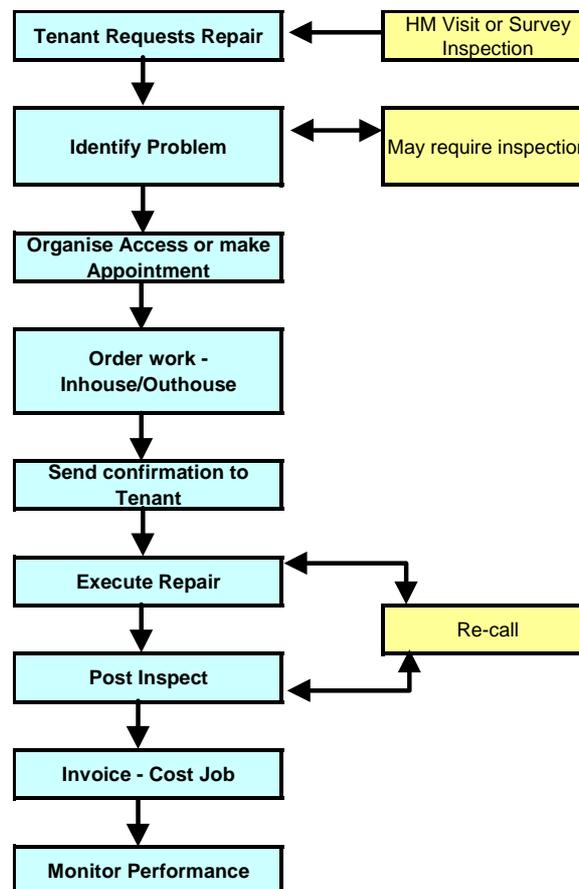
Day to Day Repairs

The day to day budget (excluding cyclical and servicing) is £360,000 per year. On average every house has 2 or 3 day to day requests per year and the average cost of each repair is just over £60.00. Requests for work can be raised through:

- tenant requests;
- housing management (after house visits);
- maintenance inspection team.

A simple flow chart showing the day to day repairs process is shown in Table 1.9

Table 1.9



Contractors and In-House Team

Repairs are carried out by a small in-house team or by a local contractor on a term contract. The term contract is based on a schedule of rates and strict performance criteria. Specialist contractors are used for electrical works and specialist works such as new DPCs. The in-house team tend to concentrate on those jobs where the schedule of rates is not appropriate. This can include void works not large enough to go out to tender (ie jobs less than £1,000) or jobs for vulnerable or elderly tenants who prefer to see recognised faces in their homes. The in-house team and all the contractors have to abide by ABCCHA's Customer care Policy and their work is reviewed regularly (see later section).

Part of Customer Code Care

ABC's maintenance workers and contractors are obliged to carry out their work to a set of standards determined by ABC. Contractors must use their best endeavours to minimise any inconvenience to tenants. For example:

- *dust, debris etc. must be cleared up daily;*
- *homes must be left secure;*
- *dust sheets must be provided as appropriate;*
- *carpets must not be removed without the tenants permission;*
- *where works are extensive the condition of furniture, carpets etc. should be agreed in writing with the tenant before work commences;*
- *workers must be polite and courteous at all times;*
- *smoking is not permitted inside the tenants home without permission;*
- *radios are not permitted without the tenants permission;*
- *contractors must comply with all relevant legislation relating to safety at work and the tenant and their neighbours must be warned in advance before scaffolding is erected.*

The tenants are also given clear advice on the nature and procedure of lodging a complaint, either against the in-house operative, the contractor, or the association.

Pre-Inspection

Pre-inspections of reported day-to-day disrepair are carried out in the following circumstances:

- where further inspection is require to determine the exact nature of the problem;
- where level of expenditure or extent of work is unknown;
- where records show that the number of repair requests is abnormally high;
- where records show that the same item has been repaired recently;
- where there are repair/replace decisions to make;
- where the property has not been visited for a number of years;
- where tenant damage is suspected;
- where there are health and safety implications.

Appointments and JobTtargets

Tenants are sent a job receipt advising them of the intended repair and, where possible, they are offered appointments. The appointment system is new and, as yet, there is insufficient data to draw any conclusions regarding its effectiveness.

Each job is allocated a target for response times:

Emergency repairs to be dealt with within 24 hours:

- no mains water;
- blocked toilets and associated drains;
- gas leaks. Tenants are advised to report direct to British Gas and then to ABC;
- dangerous electrical installations and complete loss of electrical supply;
- serious water leaks - pipes, roofs, toilets, etc.;
- security risks, when not the responsibility of the tenant, damaged front doors, accessible windows, etc.;

- fires;
- hazards affecting tenants immediate safety - e.g. gale damage.

Urgent repairs to be dealt with within a week:

- water leaks not covered in 1 (e.g. overflows);
- blocked drains not covered in 1;
- no hot water;
- no heating;
- electrical problems;
- defects causing a health hazard.

Routine repairs to be dealt with within one month:

- general roof repairs;
- blocked gullies, rainwater pipes, leaking gutters etc.;
- repairs to doors and windows (not replacement);
- repairs to defective plaster caused by other repair works;
- general repairs to garden walls or fencing.

Post Inspection, Tenant Feedback and Periodic Review

Approximately 15% of jobs are post inspected and 'scored' by the maintenance staff. All tenants are routinely asked to complete postage-paid job satisfaction cards. Their opinions are sought on the politeness of the operatives, the speed of the work and its quality.

Monthly reports are produced by the repairs section for the association's various committees. These include an analysis of:

- jobs raised by category, ie emergency, urgent, response;
- jobs outstanding;
- jobs behind target;
- average cost of jobs;
- jobs against the various budgets;
- post inspection and tenant feedback;
- complaints received and complaints resolved.

Contractors (and the in-house team where appropriate) are reviewed annually based on:

- performance;
- tenant feedback;
- proof that the contractor is operating under the Construction Industry Tax Deduction Scheme;
- operation of an equal opportunities policy;
- operation of a health and safety policy;
- proof of public liability insurance.

Performance Statistics 2001 to 2002

The table below (Table 1.10) is a precis of ABCHA's performance in terms of response maintenance. Most of the jobs over £500 were due to re-lets. The table shows that most repairs were completed on time and that the percentage of Emergency repairs is 8% (the Audit Commission recommend a target of not more than 10%).

Table 1.10

Response Statistics	2001 - 2002		
Repairs ordered	5898		
Total Cost	£353,563		
Average cost per job	£59.95		

Categories	% of jobs Ordered	% of Total Cost	% Completed within Target
Emergency	8	21	96
Urgent	65	62	88
Routine	27	17	93
	100	100	

Categories	No of jobs	% of Total Cost
less than £100	5317	45
£100 to £500	437	21
£500 to £1000	101	16
more than £1000	43	18
	5898	100

Feedback	Post Inspections	Tenant
Responses received	836	1200
	Out of 5	Out of 5
Speed of Work	3.9	4.1
Quality of Work	3.8	4.4
Politeness, manner etc	NA	4.6

Other Policies and Procedures

The above summary is a brief explanation of the day to day repairs process. Inevitably, in an organisation managing 2300 dwellings there are a number of other related activities which the section regularly has to deal with. There are for example detailed policies and procedures for all the activities listed below:

- alterations and improvements by the tenant;
- cyclical maintenance;
- tenants right to repair scheme;
- recovery of non-rental debts and pre-paid repairs;
- paid repairs;
- insurance claims;
- relets;
- removal allowances;
- redecorating allowances for new tenants;
- inconvenience payments;
- gas servicing;

- fire alarms;
- office procedure - orders and payments;
- complaints policy & procedure.

1.2.6 Conclusion

This section has briefly examined the regulatory framework within which ABC Housing Association has to operate. It has shown how the association has developed a long term assessment of its repairs needs and how this has been translated into a realistic and manageable five year programme. It has also briefly explained the principles and practice of its response maintenance service. The research team are not in a position to make a comparative assessment of the association's performance although, from our investigation, it appears to satisfy the criteria established by the Housing Corporation. In addition, the policies and procedures of the repairs service are based on generally accepted good practice in maintenance management.

1.4 An NHS trust

Introduction

This section of the report examines the maintenance and repair of property owned and/or occupied by NHS organisations. It establishes the regulatory framework within which the NHS operates and examines the importance that is placed upon building maintenance as part of overall estates strategy.

The NHS has one of the largest property portfolios in Europe with a current use value of about £23bn and around 20% of a trust's income being spent on infrastructure.

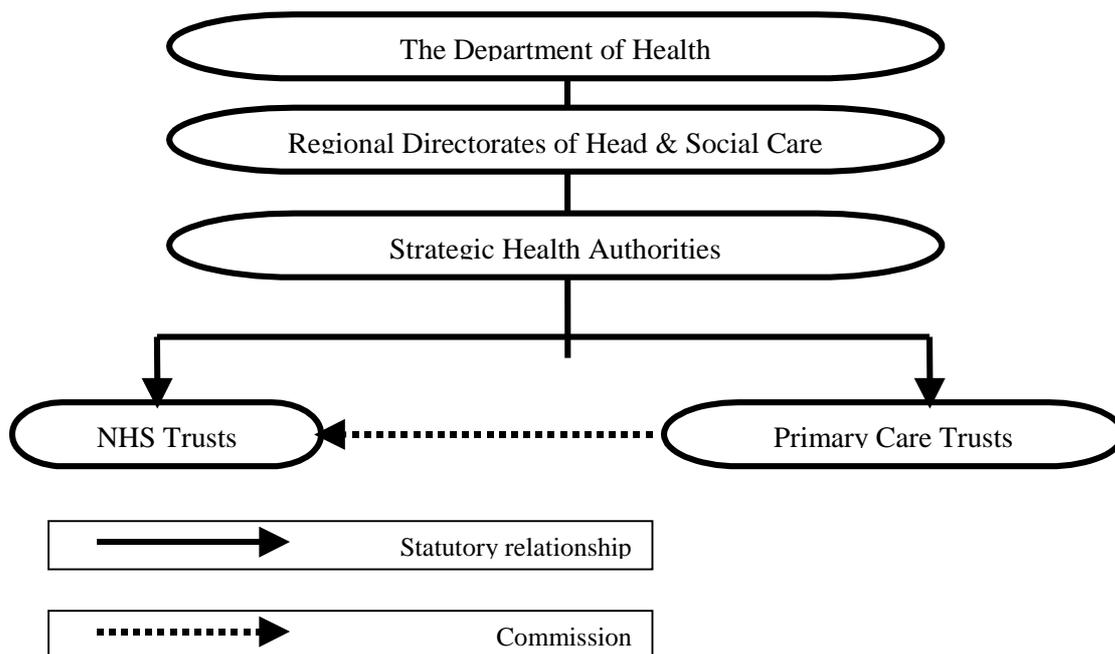


Figure 1.1. The structure of the NHS in England

This examination is based upon current NHS Estates publications and a structured interview with the Head of a Community Estates Services offering a complete range of estates services to a 'home' trust, 4 independent trusts and 3 primary care trusts across the county. Within their 'home' trust the Estates Service are represented on the board via a Director of Facilities. Where they operate on behalf of other trusts they are employed under a service level agreement and represented at senior management level. They will report to the board on an 'as needs' basis.

1.4.1 NHS Estates

NHS Estates is an Executive Agency of the Department of Health and is involved with all aspects of health estate management. The Agency has a dynamic fund of knowledge which is has acquired during 35 years of working in the field. Their aspirations are expressed as 'a modern environment for the NHS to deliver high quality healthcare'

The drive to modernise the NHS has never been more determined than the current programme outlined in the NHS Plan. Patients expect their care to be delivered in well-designed,

managed and maintained environments. The aim at NHS Estates is clear: to meet patients' expectations for better-designed, comfortable, functional and welcoming healthcare environments.

Trusts have a degree of autonomy but operate within set guidelines and benefit of a considerable, although complex guidance. NHS Estates are responsible for the publication of guidance to trusts concerning the strategic management of land and property.

Maintenance management policy is therefore set within the overall context of Facilities Management.

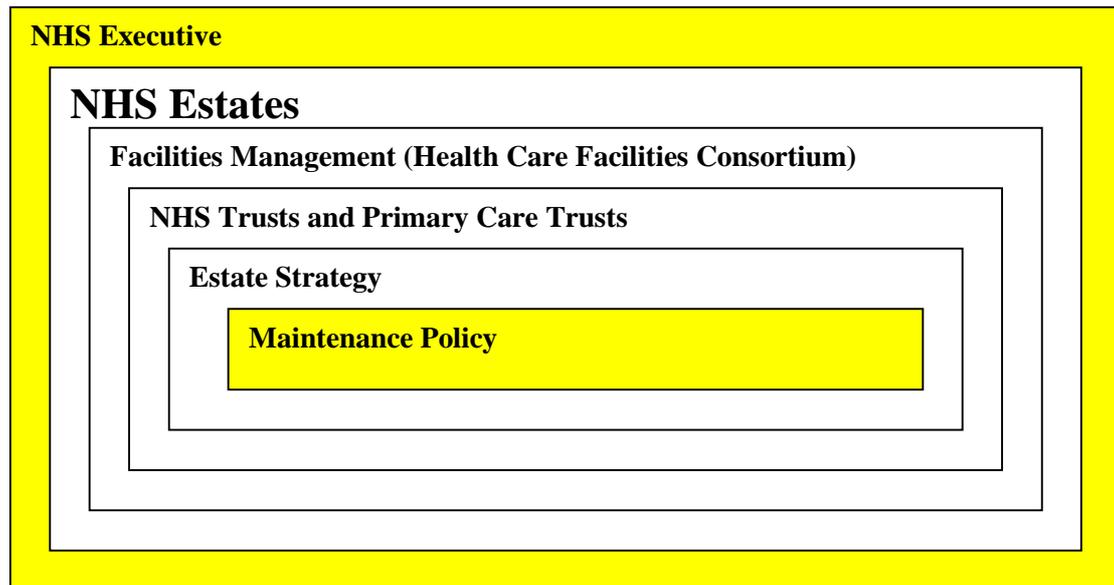


Figure 1.2. The context within which maintenance management operates

What they do

They provide support and advice on the procurement, design, operation and maintenance of healthcare buildings and facilities. Their staff comprises senior managers with NHS experience, professional architects, engineers, surveyors and project managers. Together they have created a centre of excellence for building better healthcare by:

- providing support and guidance to the NHS to ensure best value in the procurement, operation and disposal of the estate;
- leading the modernisation of the built environment to provide safe, secure, comfortable and welcoming healthcare facilities for patients, carers, visitors and staff;
- promoting research and development and identifying advances in engineering, science and technology that can be exploited to improve patient care, and;
- ensuring that plans for modernising the NHS are underpinned by a clear long-term strategy for estates and facilities management, founded on best practice worldwide.

Source: http://www.nhsestates.gov.uk/introduction/index.asp?submenue_ID=the_agency

1.4.2 Controls assurance: The context within which NHS operates

Specific characteristics of the sector

The NHS is a publicly funded service. Whilst it has not been subject to quite the same 'best value' focus as local authorities decisions need to be transparent and accountable. For the NHS this means a very open management system and a culture driven by risk assessment and performance targets.

Management of the estate has to be viewed against the overall management system of the NHS i.e. controls assurance which is essentially a risk culture.

The impact of controls assurance can be seen within the policy guidance published by NHS Estates where issues of statutory compliance are given absolute priority.

Performance indicators are a predominant tool used to gauge the success of delivery and compliance with fire safety and health and safety legislation being among the primary indicators for the estate.

Data collection

Centralised data collection is a long established feature of NHS estates management. The Trust therefore has the benefit of using accurate historic data regarding issues such as maintenance backlog. Historically much of the data has been geared toward issues of physical condition.

The gradual move towards a system of facilities management has developed the need for a wider range of indicators to enable strategic decisions to be made.

Highly serviced stock

The extent of plant and equipment with NHS property is a significant issue. In comparison with other sectors many NHS buildings are highly serviced and have very specific requirements in terms of environmental control. Failure of plant and equipment can carry a very significant risk and maintenance regimes are critical in maintaining performance. The critical nature of plant failure can divert resources from other areas such as maintenance of the fabric.

Patient Care

The most recent issue to be seriously considered is the impact that the environment has on patient recovery.

Asset management is important in terms of both reducing costs associated with assets and maximising the quality of services that those assets are used to produce. An attractive and well – maintained environment also makes an important contribution to the well-being of patients.

Source: Assets in Action 2003

1.4.3 Clear Aims and objectives

The overarching aspirations of the maintenance organisation have to be viewed within the context of facilities management and the overall strategy of the estate. Physical condition is just one of several factors to be considered when assessing need. The six facets of land and property appraisal are:

- physical condition;
- functional suitability;
- space utilization;
- quality;
- fire and health and safety requirements;
- environmental management.

This suggests that there may be a tension between the maintenance needs of the building and the priority given to these needs when viewed against other organisational goals.

In the case of the trusts served by the estates office studied there is a definite strategy of rationalising from old, obsolete buildings into new functional and efficient buildings. The long-term maintenance needs have to be assessed against the predicted programme of replacement. This is a particular issue for listed buildings where the key issue is to keep them occupied and serving a purpose.

The short and medium needs are measured increasingly against risk (statutory, operational of business) and, more recently, the impact on patient care/recovery. It must be noted however that the increasing demands of statutory compliance (e.g. fire precautions and health and safety) and consideration of patient care are not reflected in the provision of 'new money'.

Objectives for maintenance management are therefore set within this overall strategy.

The overall object in undertaking maintenance within healthcare organisations is therefore to ensure that assets are available in good, safe, reliable and effective working order for day-to-day use. The degree and types of maintenance will depend upon the function and cost of individual assets. In some cases it may not be cost effective to do any maintenance because the combination of service dependency and cost of the asset is relatively low and total replacement is the cheaper option (Estate Code 6.16).

An Estates Strategy

The estates office studied is working towards developing an estate strategy in compliance with NHS Estates published guidance on land and property appraisal.

1.4.4 Clear policies and procedures for all maintenance

Whilst trusts are deemed to be responsible for the management of their estate a complex set of guidance is provided through NHS Estates. Key documents are:

1. estatecode - a user manual for managing a health estate: includes a recommended methodology for property appraisals and provides a basis for the integration of the estate into corporate business planning;
2. health building notes: advice for project teams procuring new buildings and adapting or extending existing buildings;
3. health technical memoranda: guidance on the design, installation and running of specialised building service systems, and on specialised building components;
4. health facilities Notes: debate current and topical issues of concern across all areas of healthcare provision;
5. encode: shows how to plan and implement a policy of energy efficiency in a building;
6. firecode: for policy and technical guidance on fire precautions;
7. assets in Action: an asset management guide for non-technical managers;
8. developing an Estate Strategy: assistance in developing a robust strategy;
9. 'facilities management good practice guides: guide No 2; Maintenance Services': the use of performance indicators in working towards a culture of 'best' practice.

The Estatecode document includes specific guidance on asset maintenance under the following headings:

- maintenance systems;
- staffing;
- technical management;
- risk management;
- health & safety management;
- output specifications;
- selection of contract.

The same document also deals with the wider issues of:

- planning strategic investment;
- land and property appraisal (see below);
- management of land and property;
- acquisition and disposal of land and property.

NHS Estates advice, although comprehensive, is inevitably complex. Trusts have to rely on a whole range of interrelated volumes and continual amendment or review in terms of policy or performance indicators.

1.4.5 Land and property appraisals

Undertaking the appraisal – the six facet approach

NHS Estates advises that land and property appraisals should be undertaken on the basis of six facets:

- physical condition (assessed on the basis of the condition of three elements, buildings internal and external, mechanical systems, electrical systems);
- functional suitability;
- space utilisation;
- quality;
- fire and health and safety requirements;
- environmental management.

For strategic planning a high level appraisal of each block should be undertaken and an overall ranking of the physical condition established as follows:

A	as new; built within the last 2 years and expected to perform adequately over its expected shelf life
B	sound, operationally safe and exhibits only minor deterioration
C	operational but major repair or replacement will be needed soon, that is, within 3 years for building elements and 1 year for engineering elements.
D	runs a serious risk of imminent breakdown

X = supplementary rating added to C or D to indicate that nothing but a total rebuild or relocation will suffice (that is, improvements are either impractical or too expensive to be tenable)

Following categorisation, the cost of appropriate measures to upgrade a C- or D -condition building to a B-level building should be recorded.

Condition B is to be considered as an operationally acceptable standard for all building and engineering elements.

The cost of bringing elements of plant and building fabric up to the 'B' condition is an indicator that is used in a number documents to measure performance or define benchmarks.

The remaining 5 facets are judged against similar relevant descriptors.

Advice here is integrated with the principles of the European Foundation of Quality Management and concentrates on the principle of self-assessment against Key Performance Indicators.

Land and property appraisal

This process involves a thorough examination of land and property holdings with the aim of calculating what it will cost to maintain an estate at an *acceptable standard* and where opportunities adaptation and rationalisation lie. The underlying aim of such an appraisal is to ensure that an estate, as a resource, is aligned with the stated service objectives, so that the right facilities are provided in the right place at the right time.

The prime purpose is to help in the operational and strategic tasks of estate management and to identify potentially surplus property.

1.4.6 Management of the historic environment

The NHS and NHS trusts have inherited a rich legacy of historic buildings. Many will make a significant contribution to the character and appearance of historic towns and conservation areas across the country.

NHS Estates provide very specific guidance on the management of historic buildings within the estate within 'Historic buildings and the health service'.

This advice covers the occupation, maintenance, reuse and disposal of historic buildings. Limitations imposed by the restricted nature of the NHS Estates budgets suggest that this is aspirational and, as in all other areas of the estate, risk assessment will direct funds and determine priorities.

Trusts are encouraged to recognise the importance of historic buildings to the national heritage and to set a good example. In the case of the trusts studied emphasis was given to the need for such buildings to serve a viable purpose. Where this was not the case then the buildings were inevitably 'at risk' given due budgetary constraints.

The greatest protection that can be afforded to historic buildings is the securing of an appropriate use. Many of the older buildings of an estate do not meet the wide-ranging demands of the modern NHS. Between 1995 and 2005 the NHS intend to dispose of 100 such buildings that no longer meet their needs.

The published guidance is aimed at ensuring that such disposals are dealt with in a planned and responsible way.

All historic buildings are subject to a quadrennial/quinquennial conservation survey.

1.4.7 Coherent information systems

NHS Estates do not recommend any system in particular but suggest that trusts exercise extreme caution before committing funds to new hardware and software. The NHS 'PRINCE' system can be used to assist in the procurement of such systems. Specific 'one off' systems are to be avoided.

The estates service studied uses the established integrated Works Information Management System (WIMS) to handle data. This system is rather dated. Data collection is often carried out on a paper based system, rather than electronic means. Reports can be constructed through the use of an Access database and Crystal report generator.

The Health Care Facilities Consortium is currently working on a new generation of the WIMS system that will pick up some of the deficiencies and interface directly with Windows (see box below).

A number of more sophisticated systems do exist including those that will link with CAD systems to which data can be attributed.

WIMS Data Management – Available Modules

Strategic Modules

- [Annual Maintenance Plan](#)
- [Common Codes](#)
- [Estate Quality Model \(EQM\)](#)
- [Property Appraisal \(and Condition Appraisal\) Module](#)
- [Property Management](#)
- [Residential Property Module](#)

**Note: If you have access to the Internet the links on the left will take you to:
<http://www.hfc.org.uk/>**

Contract & Financial Control Modules

- [Capital Charges Module](#)
- [Common Codes](#)
- [Contract Control Module](#)
- [Financial Control Module](#)
- [Purchase Order Processing Module](#)
- [Stock Control Module](#)

Operational Modules

- [Asset Management Module](#)
- [Common Codes](#)
- [Electro Bio Medical Engineering \(EBME\)](#)
- [Integrated Job Management System \(IJMS\) Help Desk](#)
- [Integrated Job Management System \(IJMS\) Planned Maintenance Jobs](#)
- [Integrated Job Management System \(IJMS\) Workforce Demand Planning](#)
- [Labour Management Module](#)
- [Redecoration Module](#)
- [Service Level Agreements \(SLA\) Module](#)

http://www.hfc.org.uk/wims/Help_Desk

Example of WIMS module specifications

Annual Maintenance Plan

This module caters for the planning and cost of minor 'capital' works on a site-by-site basis, allowing all costs to be indexed annually giving a 'present value' cost of work.

Records minor works on each site

Holds dates of when work was last done and when next required

Holds projected costs of work

All costs can be indexed by the industry 'cost index' each year

Produces a site by site 5 year plan with indexed costs

Allows planning of minor works to maximise effectiveness

Integrated Job Management System (IJMS) 'Help Desk'

This portion of the IJMS module has been developed to provide a fast, responsive, and flexible maintenance 'Help Desk'.

The system is based upon telephone numbers

Can be operated by non-technical personnel

Utilises the 'user friendly job list' to speed up processing of request, and assigning task times to work

Utilises a unique job reference, which enables fast tracking of jobs throughout the work process

Caters for both simple and complex jobs

Product flexibility enables any type of discipline i.e. *hotel services, portering etc.*

Work dockets can be printed as jobs are requested, or deferred for later print runs

Service Level Agreements (SLA) module

This new module has been provide in response to user request. It enables users to set-up an agreed level of service between themselves and their clients.

User defined levels of service

Integrated with job production systems

Will produce invoices if used with job production systems

Handles combinations of differing payment methods

Ensures job requests are prioritised in line with any SLA in existence

Provides full reporting facility

1.4.8 Comprehensive stock data

It is a mandatory requirement that NHS trusts submit an Estates Return. This provides an indication of the status of Estates & Facilities services in the NHS for the Department of Health. The development of the Performance Management Framework agenda has led to the data now being used to inform a set of performance indicators to measure the performance of a Trusts Estates and Facilities Services. Over time these will permit Trusts to demonstrate year-on-year improvement in line with the NHS Plan.

Trusts are also encouraged to use performance indicators as a measure against good practice and benchmarking against the performance of trusts with a similar estate profile. In the case of the estates office studied this is still an aspiration for the trusts that it serves rather than reality.

The policy within the estates office studied is to inspect plant and buildings once a year. Estate management teams are organised within geographic areas and a pairing of an engineer and a building officer carries out the inspections. Their responsibility is to know the property on their patch, appraise it annually and update the records. These returns are used to feed into the preparation of the maintenance programme, development of the estates strategy and ERIC.

ERIC returns are collected under a set of headings in respect of estate services. Core data is captured annually on the ERIC database for the purposes of generating a set of performance indicators.

1.4.9 Suitable maintenance programmes and prioritisation

The following programmes of prioritization are suitable to cover different situations.

Unplanned reactive maintenance

Typically covers breakdowns and requisition works. The asset manager should assign priority ratings to particular types of assets.

The required action in response to non-urgent small repairs(e.g. dripping taps) will be different to that involving the breakdown of critical items (e.g. air conditioning with an operating theatre). Response times may be defined and agreed under the headings of emergency, urgent and routine.

Planned maintenance

Planned maintenance can be productive if carried out with forethought and control.

Statutory planned maintenance satisfying a regulation relating to performance of safety is declared to be mandatory and recorded to avoid corporate and/or personal liability.

Scheduled Maintenance

This is determined largely by condition and will include a rolling programme over a number of years. It includes substantive items such as roof repairs and rewiring. These works may arise as a result of previous, inadequate, regimes causing 'backlog maintenance'. Knowledge of the organisations asset replacement programme is essential in preventing time and costs being wasted.

Works required to enhance or uplift the aesthetics of an area, or that would enhance commercial value should be undertaken from specific capital funding, albeit in parallel with key maintenance work.

The estates office studied uses a simple coding system for planned maintenance proposals costed within a 5-year plan:

- P1 is for funding this year;
- P2 is that for which funding is desirable this year but that can be deferred for one year;
- P3 is within 5 years.

Codes are used for asset identification and category of work as well as priority and held on the WIMS system.

It is common practice to grade maintenance requests into groups that reflect service needs, patient care/quality and the risk to the organisation. Indicative definitions would be:

Emergency – a fault that is dangerous to the public (incl. Patients, visitors and staff) or which is delaying or disrupting a key business operation:

- urgent – a fault that could develop into an emergency if it is not remedied;
- routine – a fault that falls outside the scope of emergency, urgent or statutory maintenance

Minimum response times would be agreed as part of the service level agreement.

The creation of help desks and customer hotlines are cited as being good practice solutions to aid communication between the customer and the estates office.

1.4.10 Maintenance Systems

Within the NHS a variety of systems are used. Since the introduction of controls assurance there has been a move towards 'risk-assessed maintenance systems. The following systems are currently used within the NHS:

- *planned preventative maintenance (PPM)*
regular inspections are carried out to establish the condition and future requirements. These inspections become more thorough as time elapses. Feedback from inspections is key to considering and correcting the frequency and content. A PPM system of inspection only (that is, no actual repair/servicing work) with work correction to follow has generally proved to be expensive and ineffective;
- *condition-based maintenance*
since the initial introduction of PPM within the NHS, technology and improved design has led to a marked increase in the reliability of building infrastructure, plant and equipment.

In parallel with these advances industry developed a system of maintenance based on the condition of plant and equipment as opposed to the fixed, pre-determined routines of PPM.

The claimed effects of adopting condition-based maintenance are:

- a reduction in maintenance frequencies;
- a reduction in production downtime;
- a reduction in overall costs;
- avoidance of 'damage' by opening up for checking.

PPM schedules were determined by reference to manufacturers information. Under condition-based maintenance the reliability of each item of plant or equipment is assessed individually. This is achieved by examining operating characteristics such as:

- hours run;
- environmental impact;
- performance output.

Measurements of this type require the use of data gained from Building Management Systems (BMS) and Energy & Building management Systems (EBMS):

- *risk-based maintenance*

Plant and equipment failure affects health and safety, and subsequently overall business risk throughput and costs. This has led to the development and adoption of RMB systems

All NHS organisations should have formed controls assurance teams to implement the principles of corporate governance. These teams will use a control framework to manage the research, development, introduction and monitoring of maintenance procedures. The control framework consists of five interlocking elements:

- a. risk management standards;
- b. management models;
- c. risk management processes;
- d. self assessment;
- e. benchmarking.

The risk-based maintenance systems form a fundamental link with all parts of the control framework. Traditional maintenance systems that follow the PPM and condition based systems do not necessarily meet these criteria.

The chosen maintenance strategy will take into account cost, safety, and environment and operational consequences.

- *reliability-based maintenance*

Reliability-based maintenance operates on three levels:

1. it forces a structured evaluation of failure consequences in a way that integrates decisions about safety, operating economics and maintenance costs;
2. it incorporates new findings on the failure patterns of complex equipment into a new approach to the selection of PPM tasks, and actions that should be taken if suitable preventative tasks cannot be found;
3. it combines both activities into a single decision making process.

How the failure occurs, or what its technical characteristics are, is not the issue. The failure is evaluated in terms of the following:

Hidden failure consequences, which have no direct impact but increase the risk of later, more serious failures;

- safety consequences, involving danger to life;

- non-operational consequences whose only impact is the cost of repair.

Overall this system of maintenance is based upon the following principles:

- preventative maintenance is compulsory when there are safety consequences;
- the direct effect on patient care must be fully taken into account and may be the determining factor in some cases of operational / non-operational failure.

1.4.11 Costing the maintenance service

A range of costing data is available internal and external to the trust. Local conditions will determine the risk to which an individual organisation will be exposed through either lack of, *or over-provision of*, maintenance.

The following processes assist in budgeting for maintenance:

- **maintenance audit**

a maintenance audit entails the independent assessment of the effectiveness of the maintenance of a particular building, plant or system.

It concentrates on the assessment of the statutory and safety standards applicable to a particular piece of plant or equipment. It asks fundamental questions such as ‘does this plant need any maintenance?’ and ‘is it acceptable for it to breakdown?’ It should focus back on equipment failure and its consequences on direct patient care and quality of service;

- **assessment of requirements**

budgets will rarely match perceived need and some method must be found to assess priority in balancing service need to available budgets. This situation will lead to risk management on the part of the organisation, which will take advice as to whether maintenance activities can be reduced without an unacceptably detrimental effect on the asset. The Board should be advised formally of the outcome, the basis of the judgement and of any risks. This will usually be part of an estates-wide risk management procedure;

- **risk identification and assessment**

the maintenance regime will entail a number of risks arising out of the design, construction and operation of assets.

It is essential that a risk assessment is undertaken to determine the total impact of any building, plant or equipment failure upon the business of the organisation and that high level risks are attributed within an allocation matrix (attributed to the NHS, the service provider or jointly).

Ultimately such risks should be ranked. This may concentrate on health and safety risks, or may cover business risks. It is recommended that, in the first instance, only the health and safety issues be graded in order of priority.

Many trusts, including those served by the estates office observed now employ risk managers within their estates department.

1.4.12 Competent staff

The directly employed labour (DEL) maintenance team, which may be made up of technical, managerial and artisan staff fulfil four functions:

- act as the informed client (development and management of the maintenance plan);
- manage the maintenance department;
- undertake DEL maintenance tasks;
- keep the asset base of the organisation in an agreed condition.

The size of the DEL team will depend upon the size of the programme and the range of skills required. Specialist surveys or contracts will normally be undertaken by consultants/contractors.

In the case of the estates office studied only 30% of the total maintenance budget is currently carried out by DEL. However, that same DEL was able to operate across a number of NHS organisations within a sensible geographic area offering cost advantage in areas such as decorating.

On the managerial and technical side of operations the estate office employs a staff of 8 split between facility managers, building offers and engineers. Additional; consultants are employed where the volume or nature of work make specific demands that can't be met. Particular examples would be that of access audits for demonstrating compliance with the Disability Discrimination Act or the compilation of Asbestos Registers.

1.4.13 Cost effective procurement systems

Specific guidance is given by NHS Estates regarding the procurement of new works or maintenance contracts.

Service level agreements (SLA) are a key component in ensuring that client expectations and services to be provided are quantified and understood.

SLAs are used not only to specify issues such as the quality of workmanship and materials but also issues such as response times. SLA should be defined and measurable against actual performance.

Typically SLA specifications would include:

- service scope;
- objectives;
- standards: technical, patient's charter, response times;
- service requirements: statutory and client specific obligations;
- performance measures: indicators;
- monitoring arrangements: indicators, measurements, feedback mechanisms;
- standard payment mechanisms.

Environmental issues such as energy use or waste may also feature within the SLA.

Work may be undertaken by DEL or contractors. The advantages of DEL labour include:

- familiarity with assets and the effect on patient care;
- more awareness of the particular requirements of healthcare assets;
- they are on hand, on site, hence offering a fast and knowledgeable response;
- they know the staff and can build up working relationships;
- knowledge of the estate can inform risk management;
- they normally have a high level of personal commitment to the hospital.

Disadvantages of DEL labour include:

- sufficient work must be available to keep them fully utilised;
- they can lack the stimulation of working in different environments;
- they demand commitment to continual training in competencies required.

1.4.14 Methods of measuring performance

Management need to be able to base their decisions on up-to-date and relevant information. NHS Estates' Performance Management Division is dedicated to supporting healthcare managers in this. Key activities include:

- quarterly Monitoring Report;
- reporting on fire compliance and production of the annual fire incident report;
- responsibility for health and safety issues relevant to the estate;
- collecting and analysing data compiled in Trust Financial Proformas as well as providing information to trusts in the form of Estates Returns Information Collection (ERIC) software which includes key performance indicators for trusts.

1.4.15 Summary: lessons and constraints on maintenance best practice

The NHS is exceptionally well provided for in terms of advice and guidance on property management issues. In comparison with the private sector it has a much better handle on historic data and in emerging theories in terms of strategic management of facilities.

To some extent the effectiveness of a target driven organisation has to be queried where the targets risk skewing service delivery. Media attentions on other aspects of the target culture such as waiting lists tend to grab the headlines but similar issues could relate to property targets. There is evidence that the priority given to statutory risk and patient assessment is taking money away from fabric maintenance. New initiatives and way of working do not bring any 'new money'.

The NHS tends to be judged more on the quality of clinical services than buildings and, as with schools, the politics may put maintenance budgets at risk in order to meet more pressing targets.

Specific characteristics of the sector

Organisations within the FSS have no fixed pattern of legal interest or occupation in property. The business objective can often be adequately served as an owner or occupier of premises. Premises typically occupied by the FSS (i.e. city centre commercial developments, high street outlets or business park premises) are commonly those held by investment companies.

The portfolio would normally cover a wide variety of building types with many High St branches being housed within listed buildings and HQ premises being contemporary low energy designs.

The last decade has seen a number of changes within the sector that have an impact on taking a strategic view of property.

“Financial service organisations are currently undergoing substantial change. Many organisations have experienced the need for significant cost cutting as a result of tightened market conditions. They are also responding to the pressures and opportunities created by globalisation, increased transaction speed and new channels of delivery particularly on line banking.”

<http://www.degw.com/clients/financial.html>

The volatile nature of the FSS is such that maintaining a particular strategy for property management is difficult. The merging of companies is a common scenario that causes two potentially different regimes to merge. The outcome of any such merger has often been the closure of some high street branches.

The growth in Internet banking and the use of call centres has reduced the amount of space needed in the high street. A high street presence is still desirable but with less demand on space compounded through regional offices to centralising many of the administrative functions normally undertaken at branches.

The introduction of call centres has created a new demand for a different type of property. Call centres are separate to the customer geographically and are located where labour or development costs are less (even overseas). These buildings will typically be portal-framed sheds. Their occupation is normally a short lease providing maximum flexibility.

Aims and objectives of property management generally and maintenance within the sectorial context

Property issues are not explicit within the companies' mission and strategy statements of the organisation, which concentrate on people and business. Environmental credibility is however, an explicit consideration and this does have significance to property, especially in terms of procurement of plant and buildings (i.e. sustainable development)

“The group is firmly committed to creating strong business growth.

But we're also committed to ensuring this growth is not achieved at the expense of the environment, quality of life or social equity.”

Lower within the organisational structure the manufacturing group mission is to act in support of the company objectives and property, or rather facilities, management (FM) is a key element of support. Key aspects would be the provision of a conducive working environment and a positive public image.

Maintenance policies will be set within the overall context of FM and prioritised according to the consequential risk of non-performance. For example, a failure causing the loss of a data centre would be more significant than a high street outlet. The former would also be resource intensive in terms of plant and equipment.

Maintenance policy is also likely to be an implicit part of departmental activity rather than something expressed explicitly through complex documentation.

Sector specific guidance

Unlike housing or healthcare sectors, the FSS is not subject to external regulation or monitoring in respect of property management. In a similar way there is no central resource for the provision of sector specific guidance on property / facilities management.

One notable exception to this is the issue of corporate social responsibility (CSR). Whilst CSR is not a mandatory concern for the sector its importance is being increasingly recognised and hence the inclusion of 'green credentials' with mission statements. Some within the sector, such as the Co-operative Bank, are making CSR a key aspect of their mission.

Detailed guidance has been published on CSR management and reporting for the FSS (ref). One key challenge identified within the guidance is the issue of balancing longer-term CSR considerations with the short-term commercial goals within overall property strategy. This is a familiar scenario for maintenance and it is possible that the maintenance of historic buildings, in particular, is a CSR issue.

The property/facilities management teams are therefore reliant on generic guidance published by such bodies as IFMA, CIBSE, BMCIS and the RICS (full).

The need to develop best practice is recognised and, in particular, participation in benchmarking activities. In this respect, OPD (full, details?) is useful benchmarking organisation for the sector.

The practice of maintenance management within the sector

The following is based primarily upon the one organisation interviewed but is thought to be representative of the sector. However, the lack of central guidance and control within the sector does allow a divergence of practice. This is illustrated through the variance experienced through the continual mergers being witnessed within the sector.

Clear aims and objectives

The organisation interviewed is not able to go to a shelf and pull off the maintenance policy document that describes an overall strategy. They suggested that they do have strategies but they are implicit within the practice.

There is a clear understanding that the function of maintenance is to support the overall mission and strategy of the organisation. As the maintenance operation is set within a FM context issues such as space utilisation, suitability value and the legal framework of occupancy will be factored into decision-making.

Environmental policies are more clearly defined than many other aspects and particularly feature in the procurement of plant or the design of new buildings.

Clear policies and procedures

One of the major changes within the group has been the recent centralising of the asset planning to team in to one unit within Strategy and Performance Management. The aim of this change is to link the maintenance strategy more closely to the business and to ensure a higher level of consistency in terms of policy and practice.

Anticipated performance indicators will be to benchmark vacant space levels and to achieve a 75/25 planned/reactive split.

Around 50% of the premises occupied by the group are listed or within conservation areas. In many cases this is in the capacity of tenant rather than landlord. Whilst their significance is realised in practice they are considered to be a burden. In terms of priority the group will “only do what they have to do” for statutory compliance. Otherwise the buildings will be maintained as any other part of the portfolio. For sensitive work the group will employ specialist contracts or project managers with suitable experience.

Coherent information processes

Much of the maintenance data currently captured is held by the consultants, suppliers and contractors employed on the maintenance function. The problems associated with lack of ownership of and access to information is recognised.

The procurement of a new, fully integrated property database is seen as an essential tool in setting up the new asset planning team. This will provide an asset register, hold historic data and assist in the logging of condition data and management of the maintenance operation.

The lack of convincing historic information is cited as a difficulty in making the business case for a maintenance strategy. The new system will account for this and incorporate an appropriate coding system for data retrieval.

A help desk has been established to take all requests for response maintenance. Staff is trained to interpret some of the technical issues that arise so that an appropriate works request is sent out. Where there is any doubt, or where repeated requests come through then a surveyor or engineer will investigate.

Whilst work requests are coded the data cannot be easily interrogated. The new asset database will include data on work type and response times.

Comprehensive stock data

Currently data is held in a number of different places and formats. Contractors and suppliers hold a high % of the data. The new system will change this.

No particular period is set for the frequency of surveys although this will be considered within the new strategy. Detailed external condition surveys are likely to be undertaken on a maximum 5 year cycle to bring forward major items such the replacement of roof covering or façade renewal.

Otherwise the rate and detail of inspection is likely to be based upon risk and complexity. Complex items of plant may be under a continuous remote monitoring where maintenance is condition dependant.

Suitable maintenance programmes and prioritisation

A clear distinction is made between planned and reactive maintenance and a target of 75%/25% is set as a goal. The current split is thought to be nearer 60% / 40%.

Likewise clarity exists regarding the separation of 'condition dependant' v 'condition independent' maintenance. The latter requires the use of interim assessments to check whether planned targets for building fabric are realistic.

Complex buildings with high levels of plant and equipment incorporate remote sensors where possible to monitor condition and judge maintenance needs.

Risk assessment plays an increasing role in setting the maintenance budget. Risks may be those arising out of non-compliance with statutory obligations, such as the maintenance of fire equipment, or that affecting critical aspects of the business through breakdown or closure.

Data processing centres are an example of a facility that has an absolute 24/7 requirement. This is the only case where the organisation interviewed has directly employed labour.

Working within a system of facilities management will inevitably have an impact on the priority given to maintenance. FM tends to sharpen the strategy towards meeting business objectives through the inclusion of associated property issues, such as space utilisation and property value. If latent value can potentially be release through sale and relocation into a bespoke building then condition may become less. This may skew decisions away from condition-based assessments in setting appropriate standards of repair.

Competent staff

The company is undergoing a number of changes in the way that the task of property maintenance is managed. Within this change new staff have been appointed and new practices brought in.

The initial shift was to develop a move towards facilities management. This has developed a more strategic approach and has brought some property issues such as major procurement and confirmation of maintenance budgets into the boardroom.

The creation of central strategy and performance team has assisted in the development of centralised systems and a move towards creating an integrated property database.

Difficulties in achieving consistency in the Implementation of policy through condition assessments and making planned maintenance bids is recognised. Systems of training and monitoring are being developed.

The organisation will employ consultants for specialist tasks (e.g. work to historic buildings) or where workload necessitates. No architects are employed in-house and so all design work is outsourced. With the exception of data centres maintenance work is carried out by external contractors. Data centres therefore gain the advantage of acquired knowledge, loyalty and responsiveness associated with directly employed labour in keeping critical sites operational. Conversely there can be a loss in terms of competitiveness especially if staff are not kept gainfully employed.

The establishment of a central help desk facility has proven particularly successful in fielding technical enquiries.

Cost effective financial procurement systems

Information on the basis of maintenance procurement (e.g. schedules of rates) was not captured in detail but systems are being reviewed.

Methods of measuring performance

The lack of, or incompatibility between, data sets is recognised as a key issue in the procurement of a fully integrated asset register. Much of the data that can be made available is held on different systems and is in the hands of the contractor or supplier of services. The new system will bring these disparate data sets together.

The organisation is one of 22 participants in the FM Benchmarking Project being undertaken by the Occupiers Property Databank (OPD). The project is in its second year. It is organised around a quarterly process of defining best practice through data collection, reporting and discussion on an 'open book' basis. The OPD also offer significant advice on building performance measurement.

Similar services are employed through the use of the Investment property Databank to establish benchmark performance against issues such as occupancy cost.

Sectorial or organisational pressures that constrain best practice

A lack of central sectorial guidance can be cited as a reason why best practice might be constrained. To counter this it can be argued that the growth in FM has led to a greater understanding of the relationship between property assets and business needs.

The existence of organisations such as the Occupiers Property Databank and the Investment Property Databank provide a valuable source for benchmarking activities and advice. Whilst these are not specific to the FSS it represents the largest proportion in terms of membership.

The wide geographic spread of the portfolio can also create difficulties in ensuring a consistent approach in delivering the strategy.

The considerable changes that are happening within the FSS present a number of challenges for property management:

- cost cutting across the sector will impact upon maintenance budgets;
- uncertainty may cause short-term priorities to be taken more seriously than longer-term issues;
- constant rounds of mergers bring together different management regimes and cause the need for rationalisation of assets.

Viewed within the context of the organisation these policies are sound. If you view them within the context of the building then a different picture emerges. The strategic nature of assessments are leading towards a process of renewal whereby old, inflexible buildings with a considerable backlog of maintenance are giving way to new PFI projects where maintenance standards are protected.

Non-heritage sites can give way to redevelopment and will often provide a high return in the market – if planning policies are sympathetic. Sites that will suffer are those of a heritage nature – if a suitable new use cannot be found and issues such as listing constrain development.

1.5 A financial services sector organisation

The organisation is a major player within the financial services sector (FSS). It covers three major names in high street banking and has a portfolio of over 3000 buildings across the country. It has a total of eight different trading divisions (brands). The range of building stock is typical of the sector and includes:

- central and regional headquarters;
- high street outlets;
- data processing centres;
- call centres;
- printing and other support services.

The interview took place with a senior manager of Strategy and Performance within a department called Facilities Management and Logistics. This department is part of the Manufacturing division.

The Manufacturing division is one of six divisions represented at board level. It is the 'engine room' of the Group, employing 22,000 staff providing technology, high volume processing and specialist services to the customer-facing divisions and group functions.

The six internal divisions are:

- manufacturing;
- legal and regulatory affairs;
- strategy;
- finance, risk and internal audit;
- communications;
- human Resources.

At the time of the interview the organisation was partway through a process of change within the property / facilities management function.

1.5.1 The sectorial context

Property issues are not explicit within the companies' mission and strategy statements of the organisation, which concentrate on people and business. Environmental credibility is, however, an explicit consideration and this does have significance for property, especially in terms of procurement of plant and buildings (that is, sustainable development)

Lower within the organisational structure the manufacturing group mission is to act in support of the company objectives and property, or rather facilities, management (FM) is a key element of support. Key aspects would be the provision of a conducive working environment and a positive public image.

Maintenance policies will be set within the overall context of FM and prioritised according to the consequential risk of non-performance. For example, a failure causing the loss of a data centre would be of more significance than a high street outlet. The former would also be resource intensive in terms of plant and equipment.

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The property / facilities management teams are therefore reliant on generic guidance published by such bodies as the International Facility Management Association, the Chartered Institution of Building Service Engineers, Building Maintenance Cost Information Service and the Royal Institution of Chartered Surveyors.

The need to develop best practice is recognised and, in particular, participation in benchmarking activities. In this respect the Occupiers Property Databank (OPD) is useful benchmarking organisation for the sector.

The following paragraphs look at maintenance practice within the sector based on the findings of the one organisation interviewed. Although the findings are thought to be representative of the sector, the lack of central guidance and control within the sector does allow a divergence of practice. This is illustrated through the variance experienced through the continual mergers being witnessed within the sector.

1.5.2 Clear aims and objectives

The organisation interviewed is not able to go to a shelf and pull off the maintenance policy document that describes an overall strategy. They suggested that they do have strategies but they are implicit within the practice.

There is a clear understanding that the function of maintenance is to support the overall mission and strategy of the organisation. As the maintenance operation is set within a FM context issues such as space utilisation, suitability value and the legal framework of occupancy will be factored into decision-making.

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1.5.3 Clear policies and procedures

One of the major changes within the group has been the recent centralising of the asset planning to team in to one unit within Strategy and Performance Management. The aim of

this change is to link the maintenance strategy more closely to the business and to ensure a higher level of consistency in terms of policy and practice.

1.5.4 Management of historic environment

Around 50% of the premises occupied by the group are listed or within conservation areas. In many cases this is in the capacity of tenant rather than landlord. Whilst their significance is realised in practice they are considered to be a burden. In terms of priority the group will “only do what they have to do” for statutory compliance. Otherwise the buildings will be maintained as any other part of the portfolio. For sensitive work the group will employ specialist contracts or project managers with suitable experience.

1.5.5 Information processes

Much of the maintenance data currently captured is held by the consultants, suppliers and contractors employed on the maintenance function. The problems associated with lack of ownership of and access to information is recognised.

The procurement of a new, fully integrated property database is seen as an essential tool in setting up the new asset planning team. This will provide an asset register, hold historic data and assist in the logging of condition data and management of the maintenance operation.

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1.5.6 Stock data

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Otherwise the rate and detail of inspection is likely to be based upon risk and complexity. Complex items of plant may be under a continuous remote monitoring where maintenance is condition dependant.

1.5.7 Suitable maintenance programmes and prioritisation

A clear distinction is made between planned and reactive maintenance and a target of 75% / 25% is set as a goal. The current split is thought to be nearer 60% / 40%.

Likewise clarity exists regarding the separation of 'condition dependant' v 'condition independent' maintenance. The latter requires the use of interim assessments to check whether planned targets for building fabric are realistic.

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Working within a system of facilities management will inevitably have an impact on the priority given to maintenance. FM tends to sharpen the strategy towards meeting business objectives through the inclusion of associated property issues, such as space utilisation and property value. If latent value can potentially be release through sale and relocation into a bespoke building then condition may become less. This may skew decisions away from condition-based assessments in setting appropriate standards of repair.

1.5.8 Competent staff

The company is undergoing a number of changes in the way that the task of property maintenance is managed. Within this change new staff have been appointed and new practices brought in.

The initial shift was to develop a move towards facilities management. This has developed a more strategic approach and has brought some property issues such as major procurement and confirmation of maintenance budgets into the boardroom.

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The establishment of a central help desk facility has proven particularly successful in fielding technical enquiries.

Data processing centres are an example of a facility that has an absolute 24/7 requirement. This is the only case where the organisation interviewed has directly employed labour.

1.5.9 Cost effective financial procurement systems

Anticipated performance indicators will be to benchmark vacant space levels and to achieve a 75/25 planned/reactive split.

Information on the basis of maintenance procurement (e.g. schedules of rates) was not captured in detail but systems are being reviewed.

1.5.10 Methods of measuring performance

The lack of, or incompatibility between, data sets is recognised as a key issue in the procurement of a fully integrated asset register. Much of the data that can be made available is held on different systems and is in the hands of the contractor or supplier of services. The new system will bring these disparate data sets together.

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Similar services are employed through the use of the Investment property Databank to establish benchmark performance against issues such as occupancy cost.

1.5.11 Summary: lessons and constraints

A lack of central sectorial guidance can be cited as a reason why best practice might be constrained. To counter this it can be argued that the growth in FM has led to a greater understanding of the relationship between property assets and business needs.

The existence of organisations such as the Occupiers Property Databank and the Investment Property Databank provide a valuable source for benchmarking activities and advice. Whilst these are not specific to the FSS it represents the largest proportion in terms of membership.

The wide geographic spread of the portfolio can also create difficulties in ensuring a consistent approach in delivering the strategy.

The considerable changes that are happening within the FSS present a number of challenges for property management:

- cost cutting across the sector will impact upon maintenance budgets;
- uncertainty may cause short-term priorities to be taken more seriously than longer-term issues;
- constant rounds of mergers bring together different management regimes and cause the need for rationalisation of assets.

Conclusion

Table 1.11 analyses the elements of best practice maintenance management demonstrated by the case study organisations against the generic best practice criteria identified in the literature review.

Table 4.1 Summary comparison of maintenance management in three non-heritage sector organisations

Criteria	Housing Association	NHS hospital trust	Financial service organisation
Clear Aims and Objectives	These are partly imposed by the Housing Corporation and partly by the Housing Association Board. Aims and objectives of Technical Services Department clearly defined and under constant review.	NHS Estates provide extensive guidance to trusts regarding the strategic management of the estate. The aims and objectives of the maintenance function are clearly defined. Maintenance policy is set within the overall context of risk management	Role of facilities management in meeting the business objectives of the organisation is clearly understood. The maintenance policy supports this and although not so clearly defined is under review in line with good practice.
Clear Policies and Procedures	Policies and procedures are well defined and monitored by the Housing Association. They are also made available to tenants in summary form	Policies and procedures are well defined within guidelines published by NHS Estates.	Policies and procedures are in place but the fragmented nature of the organisation causes inconsistencies. New policies and procedures are being developed around a central strategy unit and a new asset register. Indications are that this will follow the essential elements of good practice as defined by the RICS & CIBSE.
Coherent Information Processes	Computer based recording and ordering of routine and planned maintenance allows each discrete stage to be monitored. Monthly reports can be produced showing a detailed analysis of expenditure, budgets, outstanding work etc.	Computer based recording and ordering of routine and planned maintenance allows each discrete stage to be monitored. Monthly reports can be produced showing a detailed analysis of expenditure, budgets, outstanding work etc.	Current recording systems are fragmented and suppliers and contractors hold much of the data. A new fully integrated and computerised database is being procured. This facility will hold condition assessment, assist in retaining historic data, manage planned / response maintenance and enable the prioritisation of future work.
Comprehensive Stock Data	Stock survey carried out in-house every 5 years on a sample basis (10 per cent). Information is collected on repairs and renewals to all elements (to provide a 30 year projection), potential improvements, and now includes the Decent Home Standard.	Stock survey carried out on an annual basis. This information is used to compile the planned maintenance programme and to provide data for the central data return (ERIC)	Historic data is neither complete nor held in a manner that enables effective analysis. Within the new system codification and the use of standard phraseology will provide essential data on condition surveys.
Suitable Maintenance Programmes and Prioritisation	Developed from the stock condition survey. Properties are prioritised using a number of criteria including, health and safety, legal action, the business plan, general asset management objectives.	Developed from the stock condition survey. Properties are prioritised using a number of criteria including, primarily these are risk based being health and safety, legal action, the business plan, general asset management objectives. Maintenance regimes go beyond that of response v planned.	Developed from stock condition surveys. A high proportion of planned, rather than response, maintenance is achieved (60 per cent) but targets are driving this further (70 per cent). Works are prioritised towards statutory and business risk rather than being simply condition focused.
Competent Staff	Senior staff professionally qualified (RICS, CIOB). Junior staff on day release courses. Training monitored by Housing Corporation. Some staff making technical decisions with limited technical expertise.	Senior staff professionally qualified facilities managers, surveyors and engineers. Junior staff provide technical support. Direct labour employed for routine maintenance and repair.	Senior staff professionally qualified and primarily facilities managers, building surveyors and quantity surveyors. Clear separation now achieved between the central strategic unit and service delivers in the regions.
Cost Effective Financial and Procurement Systems	Closely monitored by Board and Housing Corporation.	Clear guidance is provided by NHS Estates regarding procurement and financial control. A robust system of service level agreements provide a clarity of expectation on both sides	More robust systems bring developed.