

UNIVERSITY COLLEGE LONDON

MANAGING SPACE UTILISATION

By

GARY SPRING

**A DISSERTATION SUBMITTED IN
PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE
DEGREE OF MASTER OF SCIENCE**

THE BARTLETT SCHOOL OF GRADUATE STUDIES

**LONDON
SEPTEMBER 1998**

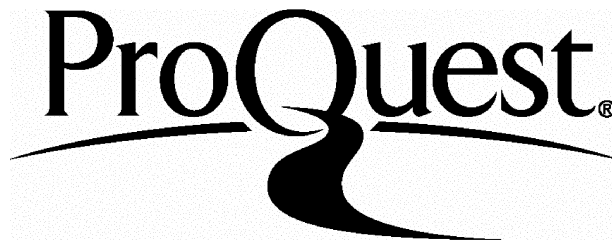
ProQuest Number: U642170

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest U642170

Published by ProQuest LLC(2015). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code.
Microform Edition © ProQuest LLC.

ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

ABSTRACT

LIST OF FIGURES

Chapter	Page
1 INTRODUCTION	
1.1 Background	1
1.2 Scope and Purpose of the Study	2
1.3 Structure	6
1.4 Methodology	6
2 CONCEPTS OF INITIAL ALLOCATION	
2.1 Basic space requirements	9
2.2 Sources of space standards	12
3 CONCEPTS OF REALLOCATION	
3.1 Types of and reasons for change	19
3.2 Space management	21
4 CURRENT PRACTICE	
4.1 Space standards	27
4.2 Audit	28
4.3 Utilisation	28
4.4 Planning for change	29
4.5 Space management	29
4.6 Ability to respond to change	30
5 FUTURE PRACTICE POSSIBILITIES	
5.1 Change	31
5.2 Space Utilisation	31
5.3 Time Utilisation	33
5.4 Direction of change	34
5.5 Summary and conclusions	37
REFERENCES	41

APPENDICES

- A** Extract from Exemplar Estate Strategy
- B** Backgrounds of 8 organisations and opinions of Interviewees
- C** Blank structured interview
- D** Summaries of Interviews

ACKNOWLEDGEMENTS

The author would like to formally acknowledge his thanks to the following people and groups for their help, forbearance and guidance during the research, preparation and presentation phases of this dissertation:

My Bartlett tutors; Bev Nutt for his inside knowledge and constant application of pressure and David Kincaid for his real world viewpoint,

All eight interviewees for giving up their time and opening up their thoughts,

My employer for providing the opportunity and time to study,

My wife and young family for understanding the needs of a part-time student to be alone at weekends.

ABSTRACT

An investigation of the challenges faced by Facilities Management in occupied buildings when trying to match existing physical supply and varying demand for space. It reviews the historical basis of space allocation, how utilisation is viewed, queries linkages between the sector of activity and the provision for change and examines the key indicators or trigger points to change. It seeks to discover best practice and to suggest guidance which may assist Facilities Management to realign physical resources to address changing operational needs.

LIST OF FIGURES

	Page
1.1 Office Utilisation	4
1.2 Elements of Organisational Support	4
1.3 Changing utility values of a facility over time	5
1.4 Methodology utilised	7
1.5 Key questions	8
2.1 Status and space standards	9
2.2 Space budgets for two firms of differing standards	11
2.3 Total space budget	11
2.4 Schedule of Accommodation for an E.N.T. clinic	13
2.5 Treatment Room plan	14
2.6 Notional layout plan for an E.N.T. clinic	15
2.7 Traditional space standards	17
3.1 Sources of change	19
3.2 Reasons for change	20
3.3 Role of the Accommodation Manager	21
3.4 Supply and demand of facilities space	22
3.5 "Pendulum Forces" : Finance v's Operations	23
3.6 Space management model	24
3.7 Typical office workplace footprints	25
3.8 Influences on Space management	26
5.1 Results of office user survey	32
5.2 Some directions of change in space utilisation management	35
5.3 Relative merits of in-house space management	36
5.4 Some guidelines for improving space utilisation management	39

CHAPTER ONE

INTRODUCTION



Winsford Cottage Hospital, Halwill Junction, North [unclear]
(Architect: C.F.A. Voysey, 1899)



CHAPTER ONE

INTRODUCTION

1.1 Background

The allocation, configuration and rearrangement of workspaces is something that individuals undertake for themselves as an integral part of their home life with quiet acceptance. The location of activities; the decision of where to read a newspaper, prepare a meal, where to eat and socialise is resultant on an individual's investment decisions when selecting their home.

The same is true of an organisation; investment decisions determine initial allocation and change through the period of occupation. The process is more complex but the principles are the same. The difference is that the acceptance of compromise is less readily accepted by the same individuals when imposed by others in the workplace.

Compromise is a natural accompaniment to change. In the case of an individual, teaming up with a spouse, plus the frequent consequence of children, means that the initial modest space allocation becomes impractical and, without space to expand, the family unit moves to a new location and takes a fresh set of investment decisions about space utilisation. The parallel of an organisation in its initial growth phase is similar. As revenue increases with increased business, the need for larger premises requires change at the workplace. Unless adjoining space is available, the organisation will relocate to larger and usually better quality premises.

It is at this stage that the parallels diverge. The couple in the family unit will usually chose to stay in the same home when the children leave it because they enjoy the surplus space and the flexibility to be able to accommodate their children and friends for occasional visits. There are, of course, many other factors involved in domestic housing which explain why people don't necessarily relocate when their children leave home. The

couple's income is usually at its highest and the costs of occupation are less important than the comforts of an established home.

A commercial organisation is rarely able to afford the luxury of "two spare bedrooms"; a building capable of accommodating twice as many personnel as regularly use it. External competition and pressures require that space usage is optimised within the brief of current need and future expectations. Stakeholders require that overheads are reduced in order that returns are greatest. The individual answers to their own conscience about the proportion of income spent on accommodation and the enjoyment of its relative qualities. When this process transfers to the workplace, a good balance is essential to contribute to the viability of the organisation and appropriate working conditions are important to maintain staff morale and performance.

1.2 Scope and purpose of the study

The subject of Managing Space Utilisation has been chosen for investigation because although it appears that comparatively little has been published on how to effectively manage the space occupied by an organisation, the process has the potential to restrict an organisations ability to respond to change in a cost effective manner. Logical theories of how to determine initial allocation have been published (reviewed in Chapter 2) but the process of how to maintain utility and utilisation in the post occupation period appears to be under reported. This management process is usually an in-house, revenue funded activity carried out to avoid significant disbenefits and may be viewed by the organisation as an overhead that yields little benefit. The value of a property, or facility in an organisation lies in its utility and ability to support business needs. The average return on capital invested in property in the 5 years to 1996 was 8.5% compared with 16.1% on the U.K. equities market (1). As a result, Ernst & Young is advising businesses to provide their space through leasehold rather than freehold properties. This approach runs counter to the current preference for owning and occupying property.

The period under review spans from initial occupation until the decision that significant resources have to be committed to reconfigure the space, refurbish the fabric or relocate

that part of the organisation. These three processes can be high profile with demonstrable before and after performance characteristics; made clearer by a lack of human and fiscal investment in the old space during the gestation period of the new scheme. Such expenditure can be justifiable to an organisation using cost : benefit analysis. It can also be used as a vehicle for change and thus serve alternative agendas. Managing space utilisation can appear to be an unglamorous, low profile activity, unsuited to the involvement of external consultants and thus a topic unpublished because there is little to be gained by the usual stock of authors and little researched for the same reasons.

Healthcare and Office accommodation in the Public and Private sectors have been selected for consideration to see if best practice guidelines can be established.

Public Sector Healthcare (the N.H.S.) is the largest single employer in the U.K. with approximately 1 million staff. It covers 20,000 ha in England. Land and buildings were valued at £18,000m in 1991. (2) Private Sector Healthcare is often held to be a good example to the public sector. Most hospital wards aim at occupancy levels of near 100%. (Occupancy levels vary according to the length of stay of the medical speciality). Occasionally levels of over 100% are sometimes achieved because beds are used by day patients whilst the overnight occupant is receiving treatment elsewhere within the Hospital or a new patient is admitted to the bed on the day that the old patient is discharged. 90% time utilisation equates to $365 \text{ days} \times 24 \text{ hours} \times 0.9 = 7884 \text{ hours per year}$.

Office work now involves about half of the population in western economies. (3) However, occupancy levels are much lower than Healthcare. A traditional desk will be occupied for 5 days x 48 weeks x 8 hours per year (1920 hours). Sickness and training reduce this figure together with periods spent in meetings and informal discussions. The levels of occupancy can fall as low as 10 - 20% of the working week depending on the type of worker (4) . Bruce Lloyd suggests that real relevant work at an individual workstation only accounts for 5% of potential utilisation. (3)

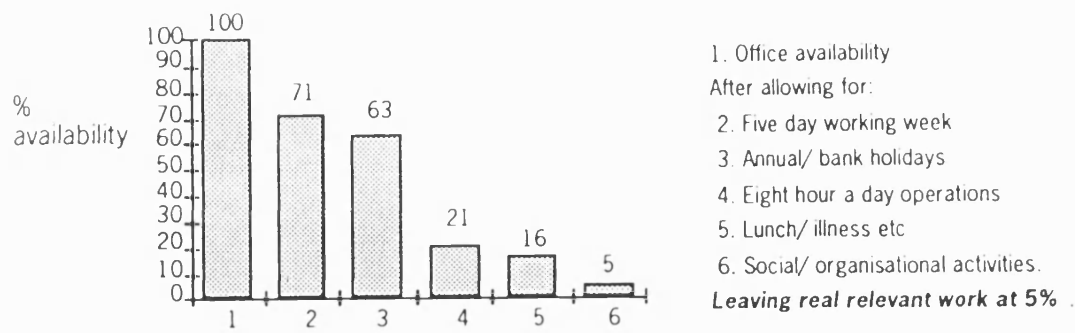


Fig 1.1 Office Utilisation

There appears to be an emphasis in space planning literature on reducing the space allocation per workstation and the total number of workstations available if the workforce is mobile and thus driving down occupancy costs. One issue this paper seeks to address is "What level of capacity do organisations consider desirable in order to avoid lost opportunity costs by not being able to respond adequately to changing circumstances? - Is it linked to the stability of the market being operated within?"

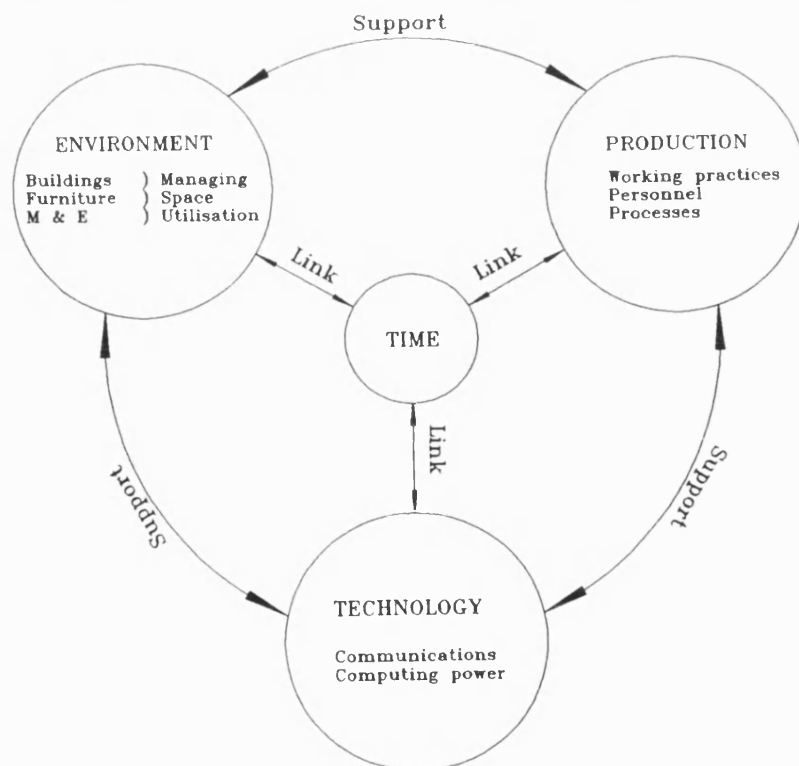


Fig 1.2 Elements of Organisational Support / Facilities Management

An organisation is supported by the physical environment it occupies, the technology available to it and the method by which it deploys human resources to deliver the end product required. Figure 1.2 The connection between these elements is time and time equates to change. Working practices evolve over time to incorporate new technologies. Such change places different requirements on the physical environment.

Element	Effect	Environment
Time =	change	= adjustment / churn (short term)
		= modification (long term)

Performance within a space is dependant on how effectively the environment supports the task being undertaken. Tasks and occupancy change over time and therefore performance usually declines as functionality is lost. There are three tiers of design which contribute to a building's utility; shell design, scenery design and set design.(5) *Shell* refers to the "permanent" structure, cores and service routes. *Scenery* describes the building services, ceilings, partitions and furniture systems. *Set* refers to the way in which the manager of the facility arranges the scenery to match the current needs of the occupants.

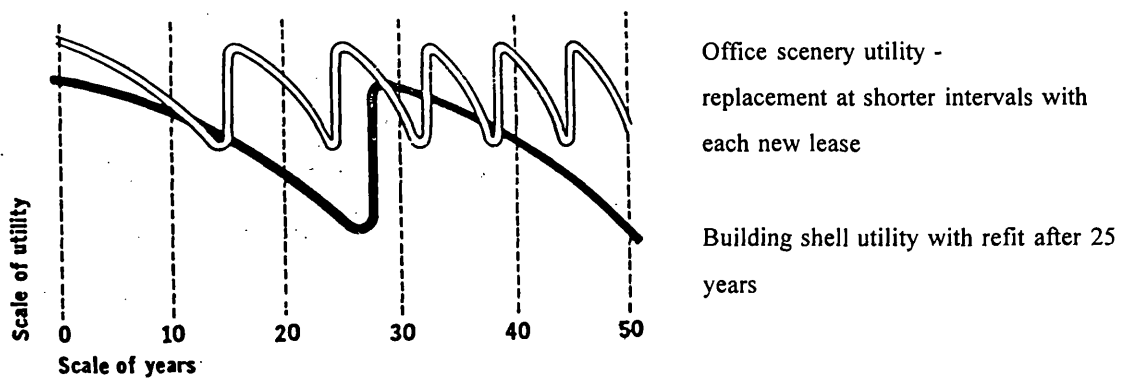


Fig 1.3 Changing utility values of a facility over time (5)

Successful management of churn and small scale adjustment should maintain effectiveness and thus prolong the period until significant modifications are required to a workplace. These modifications can be in the form of reconfiguration, refurbishment and relocation, often in the ascending order of impact upon the organisation. If change is managed successfully, an organisation should be better able to decide when it wants to invest to suit its own circumstances rather than being forced to commit at an inappropriate time.

1.3 Structure

The analysis and findings of this study are presented in three parts:

Part 1 Chapters 2 and 3 describe theoretical methods of allocating and reallocating space in order to meet business needs.

Part 2 Chapter 4 discusses current practice, as established through interviews with practitioners in contrasting sectors.

Part 3 Chapter 5 describes conclusions drawn from the interview process and suggests some potential changes in approaches to managing space.

1.4 Methodology

Three key questions present themselves for consideration:

How should space be managed?	(Past theory)
How is space managed?	(Current practice)
How could space be better managed?	(Future potential)

These questions place the subject as an operational issue of improving current practice or superseding with new methods and techniques (7). A practical issue rather than primarily theoretical.

Initial investigations into the subject did not answer the above questions. Research was therefore needed. Of the two basic approaches to research,(7) Scientific / Positivistic and Interpretive / Qualitative, the latter was though most appropriate.

- | | |
|----------------------------|---|
| Interpretive / Qualitative | <ul style="list-style-type: none"> > Enquiry in the field of interest > Data collection > Analysis & Hypothesis generation > Focused enquiry and data collection > Analysis and cycle repeats |
|----------------------------|---|

Research strategies can be described under three headings; Experiment, Survey and Case Study, equating to Exploratory, Descriptive and Explanatory respectively. The case study approach was selected as being most appropriate for the purposes of this paper because of the understanding of a range of current practice that would emerge from discussion with individuals in the organisations studied.

In order to be able to compare and contrast examples from Office and Healthcare Facilities Management, it was decided to interview two practitioners from public and private sector organisations for both fields; giving a total of eight. Two examples of each sector were considered necessary to improve statistical representation.

RESEARCH THEORY	PRACTICAL APPLICATION	SOURCE / ACTIVITY
Enquiry / Data Collection	Literature Review	FEM lecture notes UCL Papers / FEM Msc Dissertations Published Books Articles in professional journals
Analysis & Hypothesis Generation	Sector selection & Interview structure	Target areas of study Formulate interview questions to test lit. review
Focused enquiry	Interviews	2 F. Managers x sector x accommodation type
Analysis	Analysis	Establish whether issues addressed Draw out best practice
Findings	Conclusions	Propose how best practice might be implemented

Fig 1.4 Methodology utilised

Six topics were developed in order to extract appropriate information from the interviews to inform the data collection process:

0	Background information on the organisation	
1	Space Standards	<p>What are the source(s) of your space standard(s)? How would you describe your use of space standards? How rigorously are standards applied? How long have the current space standards been in place? How are the space standards viewed? How are records kept of space occupation?</p>
2	Audit	<p>Are Space Audits conducted? What is the frequency of Audit? What is the your approach to Space Auditing? Is the organisation activity / headcount changing? Is the area of the estate changing?</p>
3	Utilisation	<p>How are expectations of space utilisation expected to change? How is % space utilisation changing? How is % time utilisation changing? What factors drive change in space utilisation?</p>
4	Planning	<p>Do you have a formal Estate Strategy? Typically how far ahead do you look? Do you have contingency arrangements to address change?</p>
5	Space Management	<p>Who is responsible for the configuration of space Is there anyone responsible for managing utilisation? Are there formal space charging systems? How is the space used by a group funded? What are considered to be key indicators to major change?</p>
6	Response to change	<p>How foreseen have recent space changes been? How formal are your provisions for change? What % would be desirable to allow for change? What % does the organisation actually keep for change?</p>
	Discussion topics	<p>What will happen regarding space utilisation? What should happen regarding space utilisation?</p>

Fig 1.5 Key Questions

A blank copy of the interview questions used, backgrounds of each organisation and summaries of the responses are reproduced in Appendices B, C and D.

CHAPTER 2

CONCEPTS OF INITIAL ALLOCATION

2.1 Basic Space Requirements

Every organisation starts its existence with some sort of decision on where it will operate from. This is inevitably on a small scale because of the embryonic nature of the organisation but as business expands, a time comes when a significant number of staff will transfer from what has become an overcrowded space into a "new" facility; either purpose built, speculatively built or previously occupied. A series of decisions have then to be taken to determine how big the new facility should be. In simplistic terms, the space required for an organisation to perform a task can be defined as:

$$\frac{\text{workspace output} \times \text{time}}{\text{output required}} = \text{number of workspaces}$$

The total area required is a combination of the size of the workspace(s) appropriate for the tasks and the number of each type of workspace required. The area of an individual workspace is a combination of functionality and status. These factors contribute to the establishment of space standards in some organisations, typically growing in area as seniority increases.

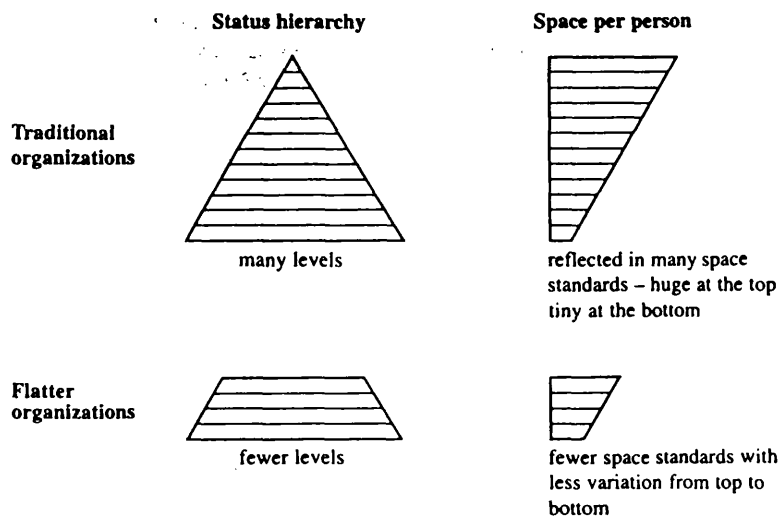


Fig 2.1 Status and space standards (1)

An organisation must be able to state the type and number of workplaces it requires to meet its current and future needs in order for a space budget to be calculated. Purpose designed buildings should be able to exactly match the space budget. However, existing buildings require a percentage "fit Factor" to be applied in order to compensate for the physical characteristics of a building that has been built to address the requirements of a different brief. It can be argued that a % factor for flexibility should be added to a design brief to allow for unknown change in order that a facility can support the organisation over time. This % would apply to planning grids, structural capacities and layout as well as building services and their routes through the building.

A benchmarking survey of banking and non-banking I.T. departments (2) found that despite the vast majority of respondents saying that they used space standards and formal procedures for allocating space, only 43% of banks and 25% of non-banks claimed to have a written management strategy. The survey also found that approximately half of the organisations recognised the need to control space by the use of space standards. Approximately half did so by applying a universal footprint and an increasing number allocated space on the basis of job function rather than organisational grade.

Flexibility of layout in open plan offices has been available for some time through the use of raised floors to distribute building services. Additional capital costs are offset by reduced churn costs per person moved. Such flexibility is possible in healthcare buildings. New pathology laboratories at Great Ormond Street Hospital have been designed with a service strategy to enable maximum flexibility for possible changes of function. (3) Within the first year, open plan offices were converted to laboratories and a number of existing laboratories upgraded to clean room status. This reportedly an easy and economical procedure because of the initial design specification but only possible because of higher initial funding.

Action	Example 1 Accumulating area allowance per person—m ²	Number of personnel	Accumulating total area required	Example 2 Accumulating area allowance per person—m ²	Number of personnel	Accumulating total area required
1 Take sum of workplace areas	10 m ² per person	862	8620 m ²	5 m ² per person	525	2625 m ²
2 Add 10% for access to workplaces (circulation within departments)	10 m ² +10% = 11 m ² per person	862	9482 m ²	5 m ² +10% = 5.5 m ² per person	525	2887 m ²
3 Add area for special, within-department facilities; eg meeting and conference rooms, display or exhibition areas etc	11 m ² +2.5 m ² (say)=13.5 m ² per person *1	882 (additional 20 serving special facts)	11 907 m ²	None provided	—	—
4 Add 15% for inter-departmental circulation	13.5 m ² +15% = 15.5 m ² per person	882	13 671 m ²	5.5 m ² +15% = 6.3 m ² per person	525	3318 m ²
5 Add area for support facilities to office areas—filing registries, archives, vending machines etc	15.5 m ² +3.3 m ² (say)=18.8 m ² per person *2	882	16 581 m ²	6.3 m ² +2.2 m ² (say)=8.5 m ² per person	525	4462 m ²
6 Add areas for special facilities—computer rooms, restaurants etc. Provision varies so much from company to company that no general rules apply. Areas must be determined by preparing rough layouts						
Special facility A	18.8 m ² +1.5 m ² = 20.3 m ² per person *3	882	17 904 m ²	Non provided	—	—
Special facility B	20.3 m ² +1.3 m ² = 21.6 m ² per person *4	882	19 051 m ²	8.5 m ² +0.75 m ² = 9.25 m ² per person	525	4856 m ²
Net usable area (NUA)	21.6 m ² per person	882	19 051 m ²	9.25 m ² per person	525	4856 m ²
	21.6 m ² +20% = 25.9 m ² per person	882	22 844 m ²	9.25 m ² +20% = 11.1 m ² per person	525	5827 m ²
	Example 1: A multi-national corporation having a high proportion of high status personnel and providing high quality space standards and a high level of special facilities			Example 2: A largely clerical organisation providing minimum space standards and few special facilities		

Fig 2.2 Two space budgets of 25.9 and 11.1 sq m per person reflect the disparity in provision between a large corporation with high standards and a "back office".(4)

The importance of the space budget is highlighted by its relative proportion of the overall budget of the organisation; approximately 5% for each of premises costs, I.T. and business support. (5) 80% of the premises costs are relatively fixed property costs and 20% are variable operating costs. Premises costs are a direct result of the area occupied, subject to tenure agreements. A space budget can be calculated for a typical employee. An individual workstation of 7.0 sq m including secondary circulation becomes a gross external area of 20.5 sq m. The workstation being only 35% of the total space budget.

Total = 20.5 m ²		20.5 m ² /person gross external area		
0.5	External walls	20 m ² /person gross internal area		Core
4.0	Core, structure, plant, etc.	16 m ² /person net internal area		
3.0	Primary circulation	14 m ² /person maximum usable area 13 m ² /person designed usable area		
3.0	Support	10 m ² /person designed office area		Support
3.0	Ancillary	7 m ² /person workplace area		Workplace
7.0	Workplace			
	Secondary circulation			

Fig 2.3

Total space budget (6)

2.2 Sources of Space Standards

Space standards can serve at least two useful purposes, they enable the pre-occupancy space budget to be calculated and establish a framework of expectations. The latter is more important following occupation when individuals complain of inequalities when compared with others and inadequate provision for their own needs. An individual is most unlikely to say that their workspace is too big but dissatisfaction regarding the opposite is common.

2.2.1 Healthcare

Public healthcare in the form of the N.H.S. is a very large and regulated body. The Department of Health publishes detailed guidance via an executive agency (N.H.S. Estates) on all aspects of the physical environment required to deliver a health service. This includes The Capital Investment Manual which sets out the process and checks required to be undertaken in order to deliver a new facility. It is a largely prescriptive and formalised process targeted at cost control; avoiding failure rather than achieving success.

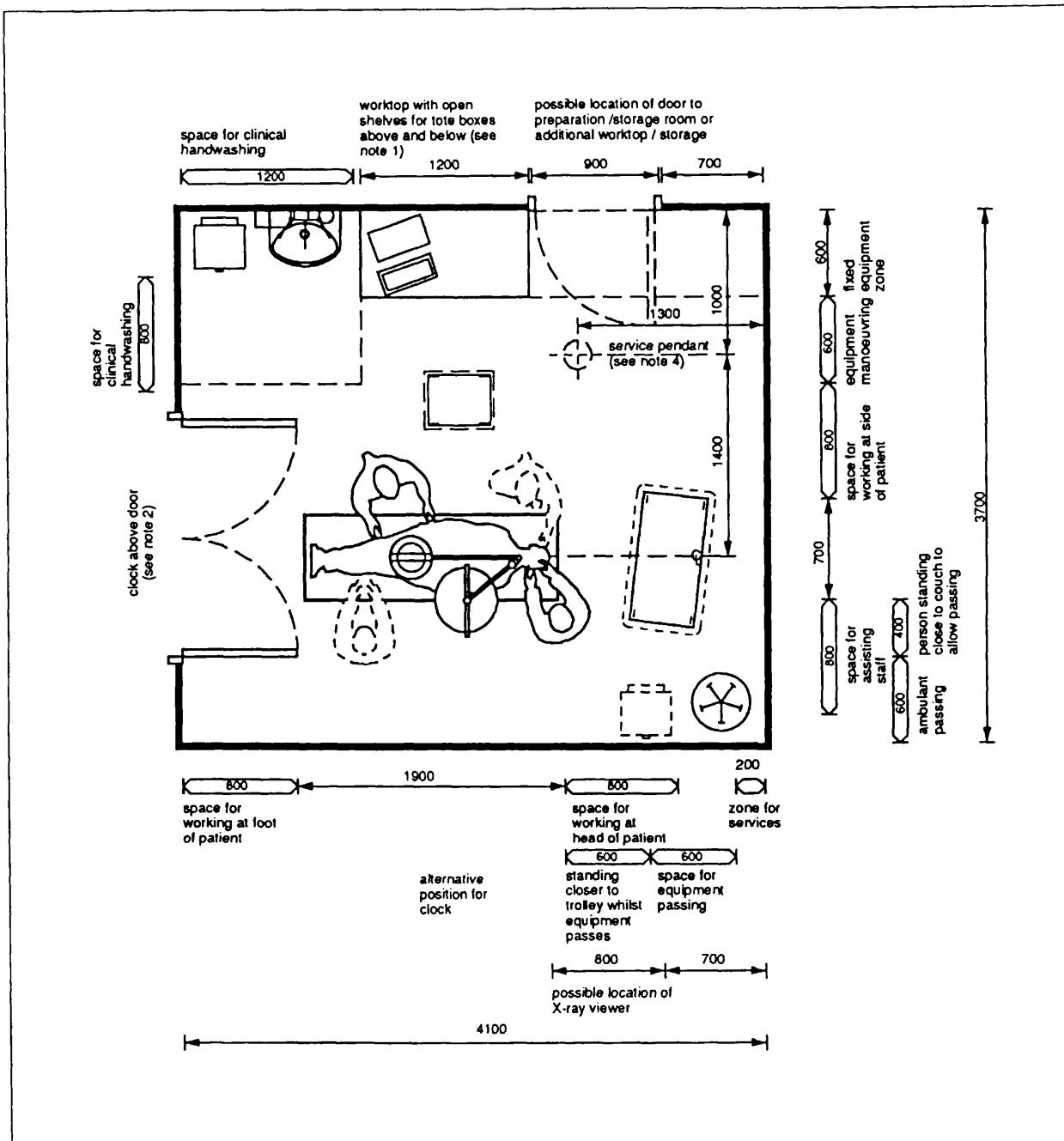
Health Building Notes (H.B.N.'s) set out the type, number, layout and size of rooms for the full range of healthcare activities and how they might be arranged within the "Nucleus" standardised briefing and planning system for health buildings. Figures 2.4, 2.5 & 2.6

It was felt that formal guidance on room sizes was inappropriate at the end of the 1980's and schedules were omitted from H.B.N.'s. It was said that areas should be based on functional analysis rather than slavish adherence to published sizes. (7) However, this did not stop the practice and room areas were reintroduced with a stronger direction against their misuse.

Schedules of accommodation

Para no	Activity spaces	Space area sq m	Number of consulting examination rooms			
			Three		Six	
			Qty	Total area sq m	Qty	Total area sq m
ENT clinic						
Entrance and reception						
4.03	Reception desk	6.00	1	6.00	1	6.00
4.07	Waiting area		1	20.00	1	30.00
4.12	Children's play space	10.00	1	10.00	1	10.00
4.14	WC/wash/nappy change	3.00	2	6.00	3	9.00
4.14	Disabled wc/wash	4.50	1	4.50	1	4.50
Patient areas						
4.18	Consulting/examination room	15.00	3	45.00	6	90.00
4.21	Treatment room	13.00	2	26.00	3	39.00
4.25	Preparation room	7.00	1	7.00	1	7.00
4.36	Recovery room		1	8.00	1	10.00
4.37	Staff base	6.00	1	6.00	1	6.00
4.38	Sub-wait		1	5.00	1	7.00
Utility/support spaces						
4.40	Nursing/administration office	9.00	1	9.00	1	9.00
-	Beverage bay	3.00	1	3.00	1	3.00
4.28	Cleansing/disinfecting room	5.00	1	5.00	1	5.00
-	Switch cupboard	2.00	1	2.00	1	2.00
4.41	Interview room	8.00	1	8.00	1	8.00
Storage/supplies						
4.43	Clinic store		1	5.50	1	6.00
	Net total			176.00		251.50
	Circulation etc			69.80		99.70
	Total			245.80		351.20
	Departmental areas			245 sq m		350 sq m

Figure 2.4 Schedule of Accommodation - ENT clinic HBN 12 Supplement 3 p23



Notes:

1350 (1300)
Preferred minimum: (Restricted minimum, not recommended for general use, see explanatory notes)

© Crown Copyright

1. Open shelving with tote boxes are the most appropriate for storage of medical supplies for the treatment room. Shelves should not be higher than 1700. If shelves

are provided over a 900 high worktop, the worktop should not be deeper than 600, the shelf depth 300 and the max. shelf height 1650.

2. A clock with second hand sweep is required for monitoring the operating procedures.

3. The trolley should be adjustable in height to facilitate patient transfer, especially from a wheelchair, as well as being adjustable for the requirements of the different staff and

treatments.

4. Service pendants are a project option.

5. Patient notes could be made on a writing flap or entered on to a computer which should be on a 800 high worktop to facilitate use whilst standing.

6. An emergency call system for the staff and a nurse call system for the patient should be provided.

Figure 2.5 Treatment Room Plan - HBN 12 Supplement 4 p62

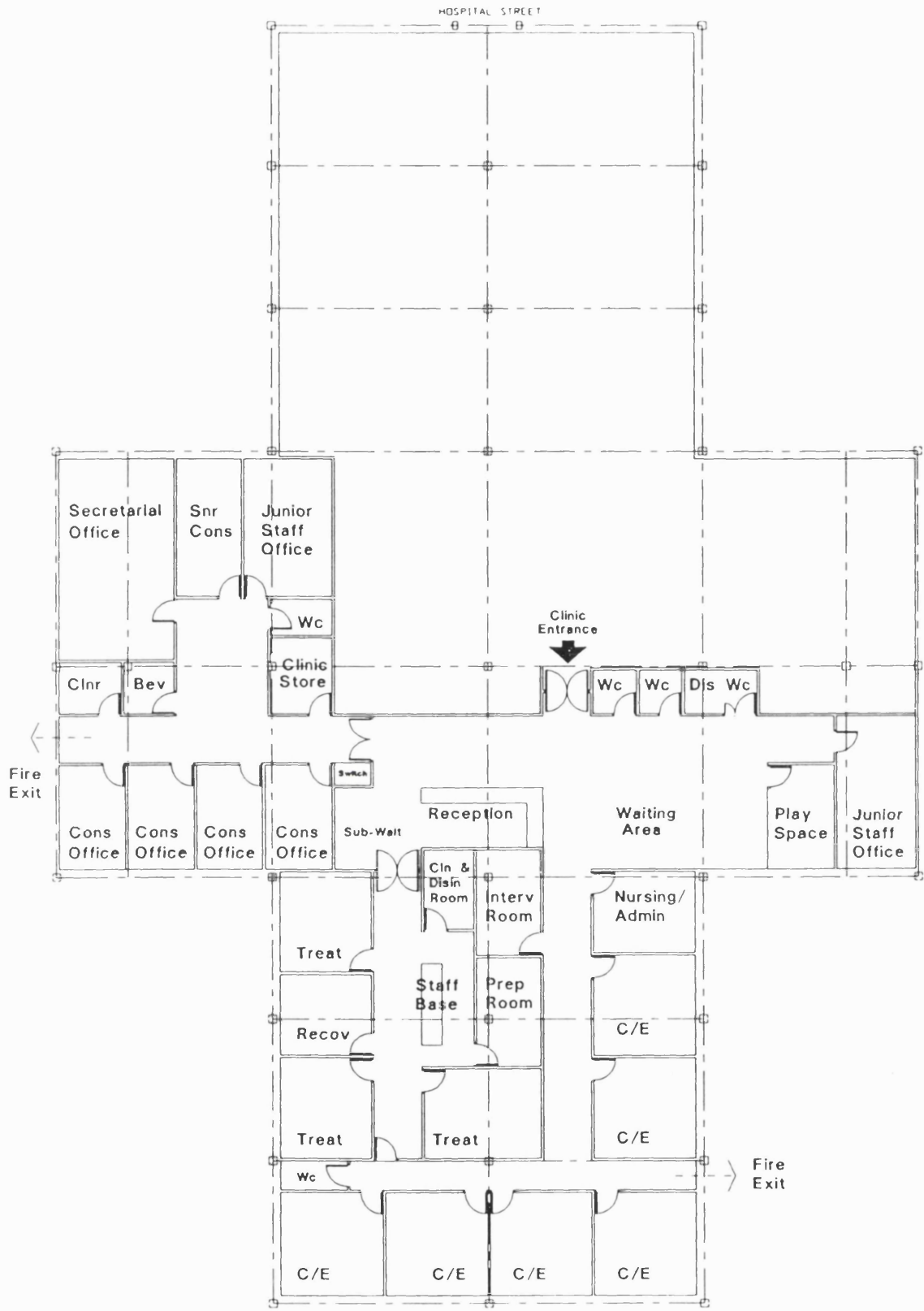


Figure 2.6 Notional layout plan for a 6 consulting room ENT clinic within a Nucleus footprint. HBN 12, Supplement 3, p28

Limited capital availability within the NHS had an influence on the overall size of new facilities. Capital funding was centrally controlled and formula based. A service treating a given number of patients would be described as a Functional Unit. Multiples of functional units attracted an index linked allowance which was geographically adjusted to give a total budget. Budgets were incapable of building the schedules of accommodation arising from H.B.N.'s to the standards required. The system was forced to work in reverse with Project Teams adjusting areas to match the budget at detailed design stage. This also resulted in schemes with little design capacity to respond to change, built to minimal quality specifications so that areas could be achieved.

A change in the practice of space allocation arose with the opening up of the N.H.S. to competition. In services which were competing directly with the private sector for income, commercial pressures brought down overall areas. One N.H.S. pathology laboratory redevelopment was built 40% smaller than H.B.N. schedules to keep accommodation costs down because of strong local competition from the private sector for a large portion of its workload.(9)

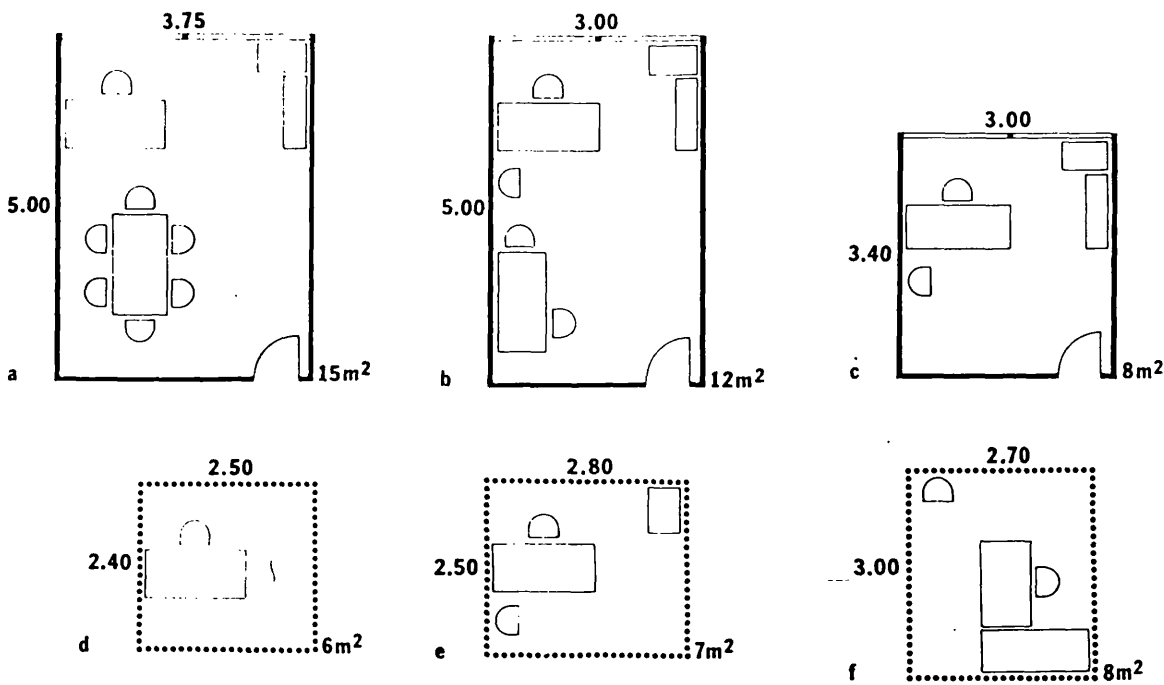
N.H.S. reforms introduced the concept of Capital Charges in order to stop space being considered a "free good". Capital Charges and notional depreciation amount annually to an approximate 10% of property value charge on individual hospital trusts.

The Private Finance Initiative (P.F.I.) is causing the public sector to seek private sector funding for facilities on a lease basis over long (25 - 30yr) periods. This means that life cycle costings are produced for every square metre. Project Teams are forced to closely consider how facilities are utilised in order to keep within the available revenue.

Private sector healthcare space standards are based on N.H.S. publications. Anthropometric and ergonomic data is equally applicable and can be seen as a minimum standard when defending against litigation. Capital is available on a commercial / business case basis and expended on criteria set by individual organisations. Additional space allocation is related to income generation, either linked to efficiencies behind the scenes or patient expectations in more public areas.

2.2.2 Offices

Ergonomic considerations apply equally to office tasks and functions. The minimum area required for a person working at a desk could be considered to be 1.2m wide x (0.8m desk + 0.5m chair depth + 0.6m of shared circulation) = 2.3 sq m. In the United Kingdom, the Health and Safety Executive's 1993 guidance is a minimum provision of 11.0 cu m per person, equating to about 4.6 sq m in an office with a 2.4m headroom and a minimum of 3.7 sq m where ceilings are equal to or higher than the 3.0m threshold. Such guidance determines the lower limit of office space standards. The interpretation of an organisation's functional requirements usually result in open plan space standards larger than 4.6 sq m. Managerial duties and a need for confidentiality increase standard areas.



Solid lines represent enclosed rooms; dotted lines indicate workplaces in an open plan:
a manager b division head c senior research leader d research leader e research officer f secretary

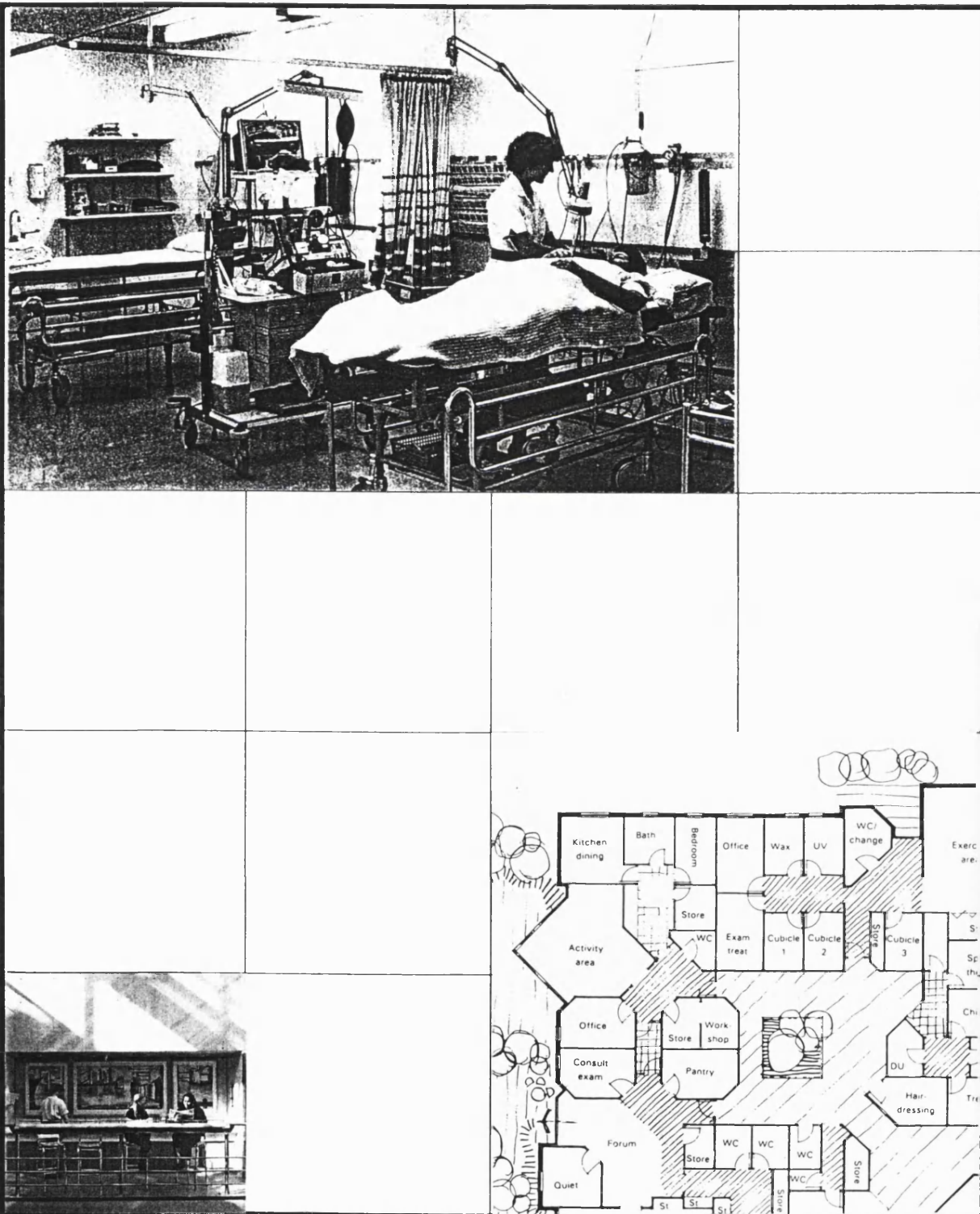
Fig 2.7 Traditional space standards (10)

The design of Call Centres provides an insight into the practical provision of office space. This sector currently employs 1% of the working population and is expected to double by 2001. The function of a call centre operative can be contained within the 2.3 sq m discussed above. Orange, the Telecoms group, have found that workers tend to "burn out" after 18 months because of the monotonous work and poor working environments (11). Staff recruitment and training costs are forcing improved space provision at the workplace, ranging from 5 to 8 sq m depending on the employer, and improved "break out" areas where staff can escape from the telephones. The organisation is thus choosing to increase space provision beyond the ergonomic and statutory minimums for its own commercial reasons of staff recruitment and retention.

Space standards for offices are becoming increasingly open plan based. The new Ministry of Defence, 130,000 sq m office complex at Abbey Wood has only 2% of staff in cellular offices. (12) The approach appears to improve team spirit and communications. However, for those working in open planned spaces, the adequate provision of team rooms, meeting rooms and quiet spaces was an important issue to achieve the right mix of spaces to support the teams. (13)

CHAPTER THREE

CONCEPTS OF REALLOCATION



CHAPTER 3

CONCEPTS OF REALLOCATION

3.1 Types and reasons for change

It can be suggested that the functional content of a building usually changes between the completion of the brief and occupation. This is one of the major reasons for immediately post-occupation modifications. The degree to which physical modifications are needed is resultant on the design's capacity to absorb change and thus the building's use flexibility. Open plan layouts with standardised furniture systems and accessible services should require only individuals to move and desks to be adjusted to facilitate reorganisation. Cellular layouts with non-standard furniture are more costly to adjust. These considerations continue through the subsequent life of a facility.

Change can be initiated by a range of sources:

- Individuals within their own workspaces
- Individuals effecting adjacent workspaces
- Groups or Departments
- Senior Management
- Accommodation Manager
- External forces - Political, environmental, contextual, etc.

Fig 3.1 Sources of change

The reasons for change arise from many sources including:

REASON	EXAMPLE
Tenure	lease expires
Business growth	occupancy rises above capacity
Business contraction	potential for partial disposal
Shift in business activity	relative change in Department sizes
New technology	+ or - space requirement
Employment patterns	proportion of full v's part time new working practices change in "trading" hours
Fashion / Image	relocation of "high tech" firms to high profile new buildings
Organisational change	hidden agenda - means of achieving change that would not otherwise be acceptable

Fig 3.2 Reasons for change

A BIFM survey of Facilities Manager's responsibilities in September 1997 established that average churn in 1996 had been:

Healthcare	7%
Offices	33%

The rate of office churn in both the office and healthcare sector is probably fairly equal given that most healthcare space has a specific clinical function, is therefore specialised, expensive to modify, grouped within a department and thus rarely relocated.

It may be of interest to note that 47% of respondent's organisations had space charging arrangements. Of these, the basis of charging was:

Area occupied	67%
Personnel headcount	10%
Functional identity	5%
Overhead contribution	4%
Other	4%

3.2 Space Management

"Space Management may be defined as the skill of matching user requirements to management objectives within the constraints of built form. It is a continuous process throughout the life of the user organisation." (1) John Worthington went on to suggest that there are two levels of space management, Housekeeping and Strategic Space Management.

Housekeeping	Strategic Space Management
Carried out by the Accommodation Manager	Accommodation Manager's Advice
Day to Day issues	Effects of changing staff numbers
Location of staff	Total amount of space needed
Use of reserves of space	Leasing of additional space
Minor changes to lighting, partitions, etc.	Commissioning of a new building

Fig 3.3 Role of the Accommodation Manager

The role of Accommodation Manager is not always clearly defined, it varies between organisations and depends on circumstances such as size, growth, change, geographical distribution and budgetary control. In practice, there may be a range of individuals with an input into space management: Individuals, an Accommodation Manager, Departmental heads and the Organisation at Board level.

Space management requires facilities provision to respond to the peaks and troughs of organisational demand for space. Demand varies incrementally but supply is a step function. It is not a practical possibility for most Facilities teams to be able to acquire space on a room by room basis. There are at least three exceptions to this rule. Firstly, the hire of true hotel facilities from a local establishment with conference facilities such that the specialist needs of infrequent training and large meetings are provided on a specific need basis without incurring fixed costs. Secondly, arrangements with local organisations to pool and share surplus resources. Thirdly, the use of fully serviced facilities on short term leases such as those proposed by Oliver Jones of Regis (2).

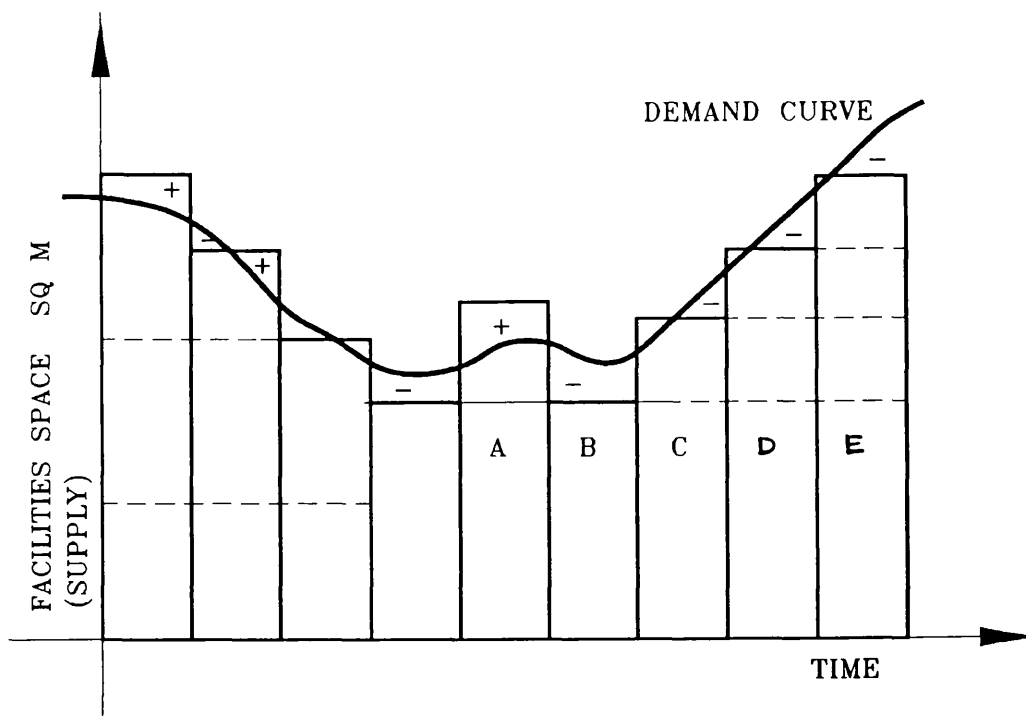


Fig 3.4 Supply and demand of facilities space

Fig 3.4 illustrates the zones of shortfall and overcapacity encountered by a notional organisation as it passes through a cycle of decline and expansion. There are zones of under and over provision identified by the + and - symbols. The role of strategic space management is to make the step changes as smooth as can be afforded whilst the role of housekeeping is to manage utilisation in the + and - zones to minimise the disadvantages associated with overcrowding and excessive churn. This hypothetical illustration shows that supply was probably expanded too far at point "A" and then reduced too far at point "B". A better match has been achieved at points "C", "D" and "E". The short term cost reduction at point "B" could have had serious medium term implications resulting from a constraint of potential. Thus the medium and long term risks of short term space provision must be considered as part of strategic space management.

Experience suggests that practical space management is traditionally addressing the conflicting requirements of the financial and operational elements of an organisation. Financial Directors strive to reduce fixed costs and overheads. Although occupancy costs are usually a minority of the total budget, they can be easier to reduce and offer recurrent savings when compared with staffing costs. Operational issues relating to space revolve

around adequate space to operate effectively, to be able to make changes with minimal disruption to ongoing operations and to be able to maintain facilities within the budget available.

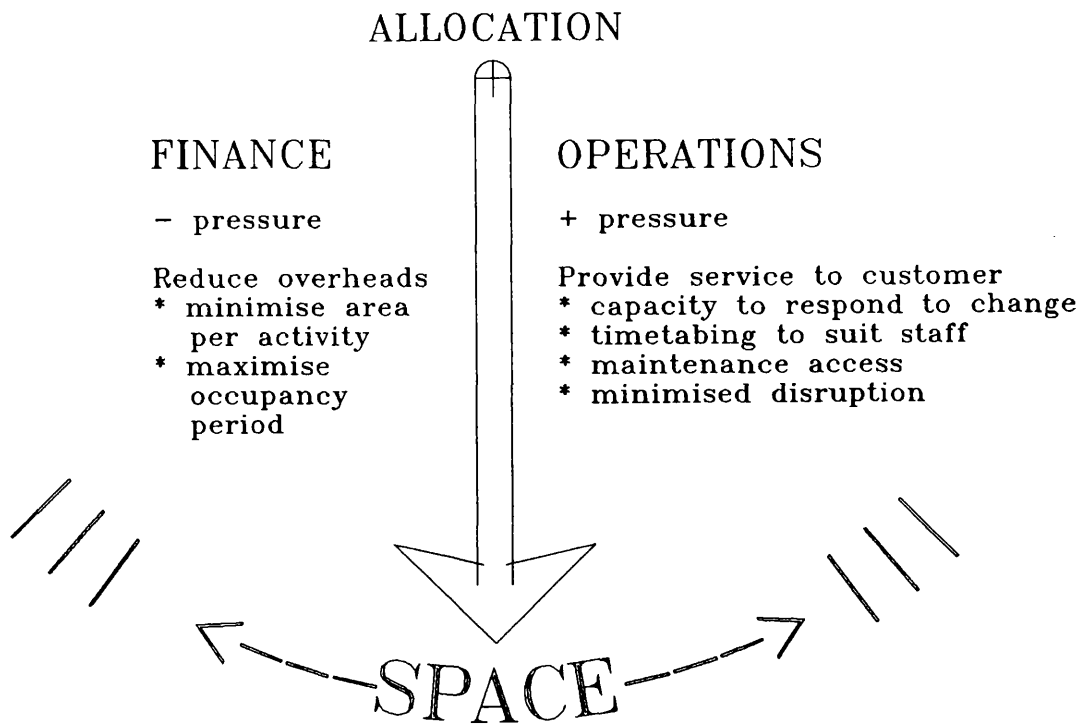


Fig 3.5 "Pendulum" forces: Finance v's Operations

Bernard Williams (3) has suggested that there are two types of space Management; with a capital M and with a small m. Capital M is where people knew what was good for the users and implemented it, where they really understood the relationship between space, its management and its usefulness to the organisation. The remaining 90% of space management was "by people who just fight fires and squeeze people into space that is just totally inappropriate to their needs" on the basis that they had inadequate space or were saving money for the organisation. Williams questioned whether they were really saving money. There is a logical link between inappropriate space allocation and inefficient working practices but formal proof appears to lacking.

It is not just the Accommodation Manager that manages space. Everyone involved in the process as an influence on the management at different levels. Their degree of involvement is illustrated in Fig 3.6. Richard Watts suggests that the formation of User Groups is an effective way of increasing end user involvement and increasing satisfaction levels amongst those who have gone through the change processes. (4)

ISSUE	DEGREE OF CONTROL / INVOLVEMENT				
	Central Management	F.M. / Estates	Department	Group	Individual
Allocation	5	3	3	2	1
Internal relocation	3	3	4	2	1
Utilisation	space	3	5	3	1
	time	3	2	5	3
Planning for change	5	3	3	1	1
Facility Design	Shell	5	4	2	1
	Scenery	3	5	4	2
	Set	1	3	4	5
Workstation configuration	1	1	2	3	5
TOTALS	29	27	32	22	17

Fig 3.6 Space Management Model

Figure 3.6 illustrates a model of space management issues and those involved in the processes. As one might expect, individuals have a low degree of involvement in corporate issues and most involvement in small scale issues and time utilisation. Departments would appear to have the greatest influence overall but this is only within the limits imposed by central management.

Eley and Marmot suggest that space management is made easier as the number of space standards are reduced so that there are less differently sized pieces of the jigsaw to assemble. Less is more: fewer rather than smaller standards make an office more flexible

and more cost effective. They also suggest that a modular approach to planning is advisable so that multiples of space standard "footprints" can be combined or divided to form new layouts to match changing operational requirements.(5) Such modularity, when combined with building grids (structure, fenestration and building services) can be of significant help to space management.

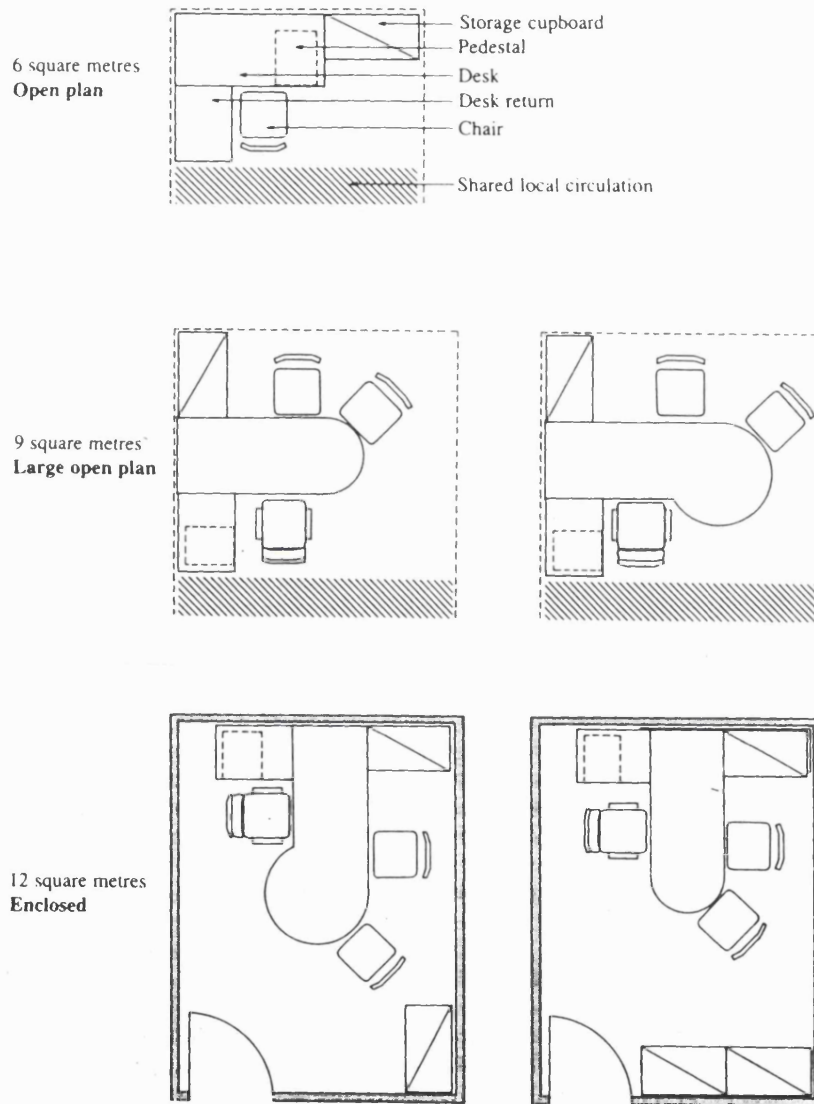


Fig 3.7 Typical office workplace footprints.

There are a number of aspects of an organisation's profile which can influence the way in which space is managed.

FACTOR	COMMENT
Size of organisation	local, national, global
Rate of change / growth	steady or volatile
Degree of specialisation	uniform or specialist use - open plan office or hospital labs
Diversity of location	No. of floors, buildings, sites
Degree of central control	devolved power to departments?
Budgetary arrangements	area based recharging or % overhead
Working practices / technology	low tech or cutting edge

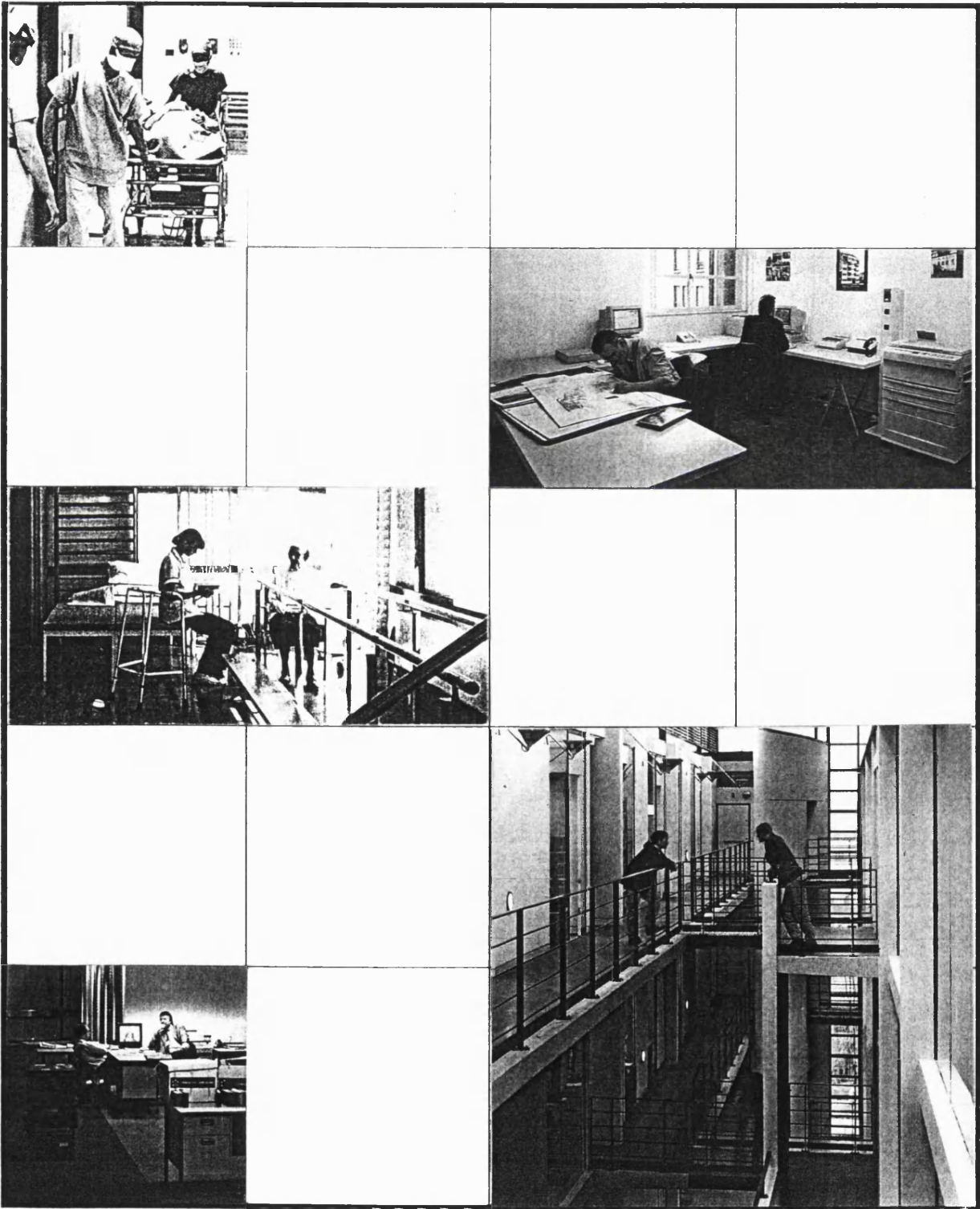
Fig 3.8 Influences on Space Management

The reallocation of land for development has to be considered alongside the reallocation of existing space. The N.H.S. has traditionally been organised on very formal planning principles regarding site development. It is a requirement for each Hospital to have a Development Control Plan which should deliver the trust's Estate Strategy which, in turn, delivers the facilities required by the business strategy. This contrasts with Richard Llewelyn-Davis "step by step" planning philosophy for Milton Keynes which did not attempt to predict the future. Contrasting planning strategies are highlighted by the case studies.

At a smaller scale, churn needs to be carefully planned once the decision to reconfigure has been taken. A reactive approach as a "quick fix" without a clear strategy and planning can create a vicious circle where actual churn becomes unnecessarily high.(6)

CHAPTER FOUR

CURRENT PRACTICE



CHAPTER 4

CURRENT PRACTICE

The conclusions and statements stated below are drawn from the interviews summarised in Appendix D. The number of organisations studied was statistically too small to be considered fully representative of the individual sectors, with the possible exception of Private Healthcare. The resultant conclusions may be skewed by the individual circumstances of the cases studied.

4.1 Space Standards

7 of the 8 organisations studied had recognised space standards in addition to statutory requirements. The eighth (B) had an approach which generally required re-provision to be no greater than existing arrangements.

The use of post-occupation standards was less formalised than pre-occupation in all cases reflecting the increased need for compromise on physical and personnel issues once dealing with real rather than theoretical elements. Standards were considered to be largely "reasonable" and usually at least 3 - 5 years old with an expectation of slow change.

Estate records were all kept centrally and within the year would all be CAD based. The benefits of I.T. based systems was universally recognised as an aid to space management and recharging.

4.2 Audit

Commercial organisations proved to be more likely to carry out space audits. This was usually via the annual business review process rather than visiting areas and recording usage. Detailed space audits appeared to be limited to specific projects rather than a central knowledge of utilisation levels being used to bring about improvement. Central management was on a "hands off" basis with space being a neutral issue unless profitability was suffering.

All Healthcare groups reported increased activity levels reflected in a higher headcount whereas most office users were reducing personnel numbers.

4.3 Utilisation

Pressures on levels of space utilisation were generally expected to increase at organisational level but at a departmental level, the office sector was expected to be constant - possibly reflecting overriding operational pressures to maintain existing provisions.

Cost improvement proved to be the most important factor stimulating space utilisation, with rising workload driving change in public healthcare as they tried to provide additional capacity to meet demands caused by Government initiatives.

Time utilisation in the healthcare sector was expected to continue to increase. 12-hour days, 6 days per week were expected to be the practical limit of time utilisation. Existing senior medical staff were unwilling to extend their N.H.S time from two sessions, 4.5 days per week but new appointees will have to sign up to different working patterns. Patients were also expected to be unwilling to accept routine treatments during anti-social hours. 50% utilisation for 6 days per week (43% overall) will therefore become the limit for non ward areas.

Negative aspects of increased utilisation levels were noted as higher maintenance and management costs. These costs were not considered to be funded when schedules were expanded and quality was detrimentally effected.

4.4 Planning for Change

The only organisations with estate strategies were the two N.H.S. trusts and they were required to have one by the Department of Health. Planning was generally on an informal basis and responded to situations as they arose without formal arrangements to address unexpected change. Healthcare was able to plan further ahead than Offices. This was attributed to long lead times for new technologies.

A study by Ernst & Young in 1993 identified that although occupiers of space were the long term drivers of the property market, the majority had no coherent strategy for identifying their requirements, e.g. a property strategy or premises policy. (1) Organisations tended to be driven by external factors which could not be justified in a rigorous examination of the decision process.

4.5 Space Management

Overall configuration and reallocation of space was managed via in-house F.M. / Estates groups with the exception of the City Hospitals trust which was undergoing large scale redevelopment and where space is being controlled by central management. At a departmental level, everyone used the F.M. / Estates group for advice.

The Healthcare sector felt that space utilisation management was either localised or non-existent; contrasting with the Office sector who used F.M. / Estates input. This correlates strongly with space charging systems, public healthcare being the only group not to charge on an area occupied basis within 12 months. Everyone else charged at departmental level and some charged individual groups within departments as separate cost centres.

4.6 Ability to respond to change.

Recent changes were considered to have been largely "partially expected" (50%) or "foreseen" (37%). One private sector healthcare group felt that change was always foreseen because even though it was unexpected at the first of its thirty-eight sites it could then be planned for at the remaining thirty-seven. The time available to respond to such change would however, not be very long.

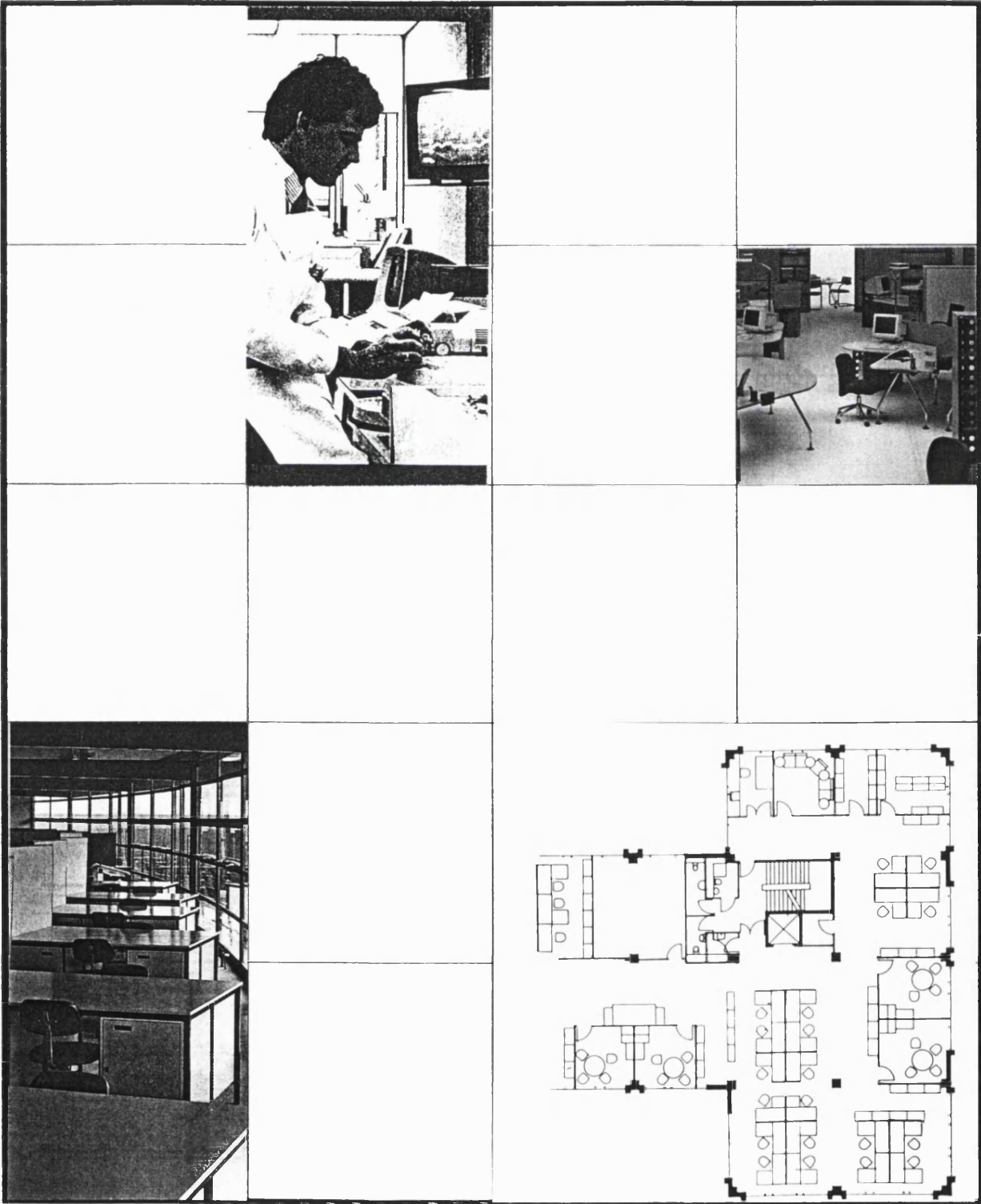
Both public sector healthcare managers felt they would like to keep 2 - 4% of their area available to allow for change. This was linked to their needs for decanting space to refurbish wards as whole units. (If considered as part of a continuous programme, such decanting space would not be considered to be unused). They were also mindful that capital would be unlikely to be available to fund additional space when demands arose. Thus it was better to keep space in reserve. In reality they had either 0% or 1 -2% available.

Managers generally wanted to theoretically keep more space in reserve than they did in practice. The office sector held more space in reserve than healthcare.

The question posed in section 1.2, "What level of (over)capacity do organisations consider desirable...." was answered, not linked to the market being operated within, but rather the sector, The public sector compensated for slow financial responses by planning on a longer term basis. This was helped by longer lead times from their client bodies, central and local government, compared with the private sector.

CHAPTER FIVE

FUTURE PRACTICE POSSIBILITIES



CHAPTER 5

FUTURE PRACTICE POSSIBILITIES

5.1 Change

One of the strongest messages to come though from the interviews was that of avoiding detailed strategic planning but promoting the ability to respond quickly when circumstances demanded. This was qualified by the need to understand the capabilities and potential of existing facilities. To be able to respond adequately, financial and F.M. resources had to be available within the timescale necessary to meet the need.

The public sector expressed limited financial resources and compensated with varying degrees of planning linked to strategic opportunities. Response times were consequently slower. The City Hospital trust was embarking on a large scale realignment of its facilities. This would probably have been undertaken much sooner in the private sector. Indeed, the scheme was only proceeding because private funding was being sought. The resultant output specification approach to briefing and commissioning was seen as a means to procuring facilities that would match the trust's uncertain and changing needs over time without recourse to additional expense and without the limitation of delivering services from facilities that no longer matched needs.

5.2 Space Utilisation

Flexibility and Adaptability appear to be the primary components of successful space utilisation. Space standards have to exceed statutory minimums and usually exceed functional minimums in order to provide environments which staff find conducive for work.

Flexibility can be considered in terms of adjusting sets, the way in which loose items are

arranged and rearranged to suit small scale changes in working arrangements. Open plan layouts are inherently more flexible than cellular, even if the partitions in the latter are supposed to be demountable. Density can be adjusted to suit personnel numbers, tasks and work groups without compromising environmental standards in a well designed open plan area. Flexibility can be further increased by the adoption of standardised furniture and storage systems. Staff relocation costs are minimised as moving becomes a matter of transporting only personal effects.

Adaptability refers to the shell and building services ability to support alternative configurations and use types. A highly adaptable building should prolong the period which the organisation will be able to maintain the utility value through minor refurbishment to meet new functional requirements. This avoids the organisation being forced into taking relocating because the facility is no longer suitable.

A benchmarking exercise conducted by Advanced Workplace Associates (EA) of 21 office buildings discovered a generally positive relationship between the satisfaction score for each building and the space per user. However, one or two buildings bucked the trend with high satisfaction levels and relatively smaller areas. Users were also asked to rank workplace related attributes to indicate the degree of importance they placed upon them.

ASPECTS OF WORKING CONDITIONS	RANK
Office equipment reliability	1
Desk furniture	2
Environmental conditions	3
Office layout	4
Storage space	5
Floor space	6
Office services	7
Office surrounding	8

Fig 5.1 Results of office user survey (EA)

A high dependency on I.T. is the probable reason for equipment reliability's first rank position. It may be that users rank those aspects highest which they have most problems with at the time of the survey. It may also be that as working environments are broadened

by the creation of rest areas and informal meeting rooms, the territory of one's personal workstation becomes relatively less important. Users seem to place emphasis on an efficient environment with a high degree of personal control.

5.3 Time Utilisation

$$\% \text{ Time Utilisation} = \frac{\text{No. of people using the space}}{\text{Capacity}} \times \frac{\text{hours used}}{\text{hours available}} \times 100$$

The pressure to utilise capital assets intensively in industry is linked to profitability. Why then are offices generally considered to be zones for 9 to 5 working?

"People are our biggest asset" is often quoted. People are usually a firm's biggest cost, difficult to manipulate and procure. The term "People" includes senior management who also initiate changes in time utilisation. One potential reason for low utilisation levels in offices is that knowledge workers are becoming more able to state where and when they want to work. If they wish to work elsewhere than their base, it is becoming increasingly realistic to establish full "office" facilities at an individual's home or a customer's office by using portable I.T. and datacoms links to the central data storage.

Healthcare treatment is not yet something that is practical to conduct on a remote basis. Time utilisation is limited to 12 hour sessions, 5.5 days per week because of long term staff and patient acceptability and is thus the practical threshold. Emergency arrangements operate for 24 hours per day but strains on personnel resources are too high to make the practice wider spread.

Successful space utilisation management involves the supply of the minimal effective facility to meet the actual demand on a day to day, week to week and year to year basis. Too many workplaces mean high fixed costs. Too few result in disruption, lost productivity, a diversion of effort from the core business to resolve the problem and could bring down an organisation over time as key staff leave to find better conditions.

Time utilisation in offices will prove to be more difficult to manage well than space utilisation. Performance levels are linked to what is acceptable to staff rather than what is physically possible.

5.4 DIRECTION OF CHANGE

Figure 5.2 sets out current practice and some directions of change across the range of issues reviewed. The list is not intended to be adopted in total but rather treated as a menu and tailored to suit the individual organisation.

Potentially, the most effective single change for many organisations is likely to be the introduction of a degree of space management advice, probably as a single individual. They could champion best practice ideas and act as a point of reference for departmental management and thus achieve the "collective accommodation management with a light touch" mentioned in 5.2. The responsibility for resources should stay close to those who consume them. The space advisor role should improve effectiveness locally and act as a bridge to senior management to contribute to larger scale, strategic decisions about the provision of facilities.

ISSUE	CURRENT PRACTICE	DIRECTION OF CHANGE
Allocation	Localised responsibility for area and configuration	F.M. assistance to develop and maintain efficient and effective use
Audit	Cost based Little space planning advice	Ability to pay and need should be monitored by central management Regular reviews of working arrangements should maintain or improve effective occupancy
Briefing	Short term views Over specific	Loose briefing process to allow flexibility/adaptability Output specification
Capacity	Spare space considered unaffordable & targeted	Provide flexible capacity through fluid layouts (temp overcrowding) or extended hours
Churn	Disruptive and time consuming Reactive	Reduce resources consumed through standardisation Local funding to reduce inappropriate expectations of replacement & reprovision Proactive
Cost of space	Varied charging policies	Make space part of the departmental balance sheet but monitor relative financial abilities
Flexibility	Offices - hindered by furniture, partitions and buildings services Health - hindered by over specific provision and minimal quality	Open plan & standardised furniture reduce costs when change needed. Generic briefing, output specifications Build-in capacity for change
Planning	Lead time linked to sector Compensator for funding shortage	Develop frameworks to ensure site potential maintained Development should be business case led and thus funded Avoid detail and maintain fluidity of response
Response times	Public sector restricted by capital shortages	Create capacity to respond through reconfiguration rather than new build
Risk	Short term planning	Balance of short, medium and long term benefits and disbenefits to be considered before deciding on space provision
Space standards	Many types and applications Unpublished within organisation	Reduce numbers to minimum generic standards Make part of "open process" of space management
Space manage't	Centralised for major decisions Autonomous at department level	Continue with this approach Collective accommodation management with a light touch
Targets	Specific & short term	Climate of incremental improvement for whole organisation
Utilisation	Space - Financial pressures to increase Time - Staff & customer pressures to make more flexible to demand	Space - appropriate standards to be maintained for best overall outcome Time - balance of supply & demand to achieve sustainable service delivery

Fig 5.2 Some directions of change in Space Utilisation Management

Implementation of best practice guidelines should result in improvements in space utilisation management:

CURRENT NORM

lost opportunities
restricted efficiencies
under performance

POTENTIAL OF SPACE MANAGEMENT

costs understood and shared
local management / users involved
appropriate provision for present & future needs

There are advantages for internal and external sourcing of space management advice. The decision should be based on the size of the organisation. A critical mass of property professionals in an in-house team is probably needed before space management is added to the skill mix.

IN-HOUSE

- + Detailed knowledge
- + Continuity

- potentially under-resourced
- outcomes not quantified

EXTERNAL CONSULTANT

- + New / fresh ideas
- + resourced for task

- Detailed briefing required
- discontinuity - users may distrust

Fig 5.3 Relative merits of in-house space management

5.5 Summary and Conclusions

The office or healthcare facilities required for the future become increasingly less certain and therefore more difficult to manage. The need for traditional offices could reduce dramatically as new working practices are adopted. Call centres, teleworking and rising commuting costs could spell the end of traditional urban centre based office buildings. Acute hospitals are also likely to change. The critical size of an acute hospital is rising as specialist services become more complicated and require a larger critical mass. At the same time as patient consultations and minor operations are transferring to the local doctor's surgery, day surgery techniques are drastically reducing the need for bed spaces. The above could mean that strategic opportunities will continue to be the primary way in which space is managed.

Space Utilisation Management can be defined as:

"The manipulation, over time, of an organisation's physical resources to support its means of production within prevailing fiscal constraints". Author

Percentage utilisation has proved to be important up to a point. The delivery of a service is the fundamental requirement for Facilities Management. If the percentage space utilisation is too high, the organisation will be restricted in its ability to respond to small scale changes. If percentage time utilisation is too high, marginal costs will exceed benefits in both personnel and reliability. The delicate balance has to be closely monitored. High utilisation levels may reduce revenue costs at the risk of opportunity costs and cause larger investments to be made at the wrong time for an organisation.

The management of space utilisation appears to be conducted largely at a distance. The emphasis of the organisations studied was on large scale space management and strategic change. The opportunities for fine tuning the performance of space managed were not taken up because of one of two reasons:

- i) lack of management resource**
- ii) minimal interference at local level by the centre**

The key questions established at the outset of this paper have been tested and largely answered. However, as with many forms of investigation, answers have led to further questions. The questions which have arisen are:

To what degree would space management resources be self funding in terms of space savings via improved utilisation?

Would there be benefits to the organisation arising from improved functionality and improved knowledge of the estate when responding to change?

Only one of the managers interviewed, Frank Hennessey of Nuffield Hospitals, thought that his organisation was already doing everything it should concerning the management of space utilisation. Their systems appeared to be the best suited to their business and well managed and incorporated most of the best practice suggestions. Nuffield are unlikely to ever be guilty of complacency but the adoption of one set of guidelines should not be considered to be a final solution to the issue. The potential exists to believe that targets, once achieved, should become the norm. This would be dangerous for the organisation and should be supplanted by the philosophy of continual improvement whilst maintaining a knowledge of objectives, contemporary thinking and an awareness of changing circumstances.

Figure 5.4 describes a range of objectives that have been identified through this paper. They are neither prioritised or exhaustive as a list. The selective of some or all as a focus would depend upon the circumstances of the individual organisation.

Procure facilities with long term adaptability and flexibility designed in
Occupy on a freehold space and lease surplus on a short term basis
Keep long term planning flexible
Expect need for corporate space to decline per person
Establish culture of incremental improvement
Involve users in change processes
Enable users to control their workspace environment
Audit space usage regularly & recharge users
Trial space management regimes and measure benefits
Maintain records on CAFM systems

Fig 5.4 Guidelines for improving space utilisation management.

BT is disposing of 1.1m sq m of its property portfolio and acquiring 0.55m sq m. (1) It considers that owning rather than leasing property gives the benefits of capital appreciation, greater certainty of outgoings and easier disposal. This view was also expressed by Office Group C.

The current practice of space utilisation management appears to be largely based on satisficing individual groups rather than optimising overall potential. This approach may be adequate for the management agenda in many organisations but the degree of lost utility, and thus performance, to the organisation should be a cause of concern. Improved space utilisation management should be at least self funding whilst supporting corporate objectives and assisting in their delivery.

Systems for charging occupiers for their space were shown to be an effective way to control demand and potentially to nurture a climate of understanding the costs of conducting business in particular locations. Charging was on the basis of area occupied and was adjusted on a sq m basis, in some organisations, to reflect higher costs for more highly serviced and specified areas.

A further aim of charging was to encourage departments to release space with the goal of reducing an organisations overall space requirements and overheads. However, space charging is a fairly blunt instrument for controlling demand. A group's space needs and its ability to pay are not always equal and relative inequalities in departmental budgeting could lead to functional inequalities and reductions in performance. For this reason the process should not be without checks and balances to ensure that the organisations agenda is not skewed by its most beneficially funded departments. Space auditing and benchmarking could inform the centre and develop dialogue about relative space needs.

Local autonomy and control of space can also impede corporate efficiencies. Office Group C were experiencing difficulties in rationalising their estate. Some departments were unwilling to leave poor quality buildings because of relatively low occupancy costs. Whilst being an appropriate decision for the department, corporate objectives were blocked by an effective local veto. The degree to which space purchasing is devolved is therefore something which needs to be carefully monitored to deliver the best outcome for the organisation.

This paper makes a case for a high awareness of space management systems within an organisation's F.M. team in order to be able to monitor and judge performance in the field. The decision of whether to acquire the technical ability in-house or from an external consultant should be made on the individual circumstances prevailing and the problem tackled as early as possible to start improving premises performance.

The subject is a complex blend of technical, financial and personnel factors. Its ultimate success can only be judged with hindsight but the likelihood of such success can be improved by thinking of the whole organisation's needs beyond the immediate circumstances to a wide range of possible futures. Those involved have to avoid reliance on single measures and seek collective acceptance of physical or financial good husbandry as a means of preparing for an uncertain future.

REFERENCES

CHAPTER 1

- 1 Ernst & Young calculations reported in News section, "Premises & Facilities Management", June 1998
- 2 "Space to Manage", NHS Management Executive, HMSO, 1993
- 3 Bruce Lloyd, "The responsible Workplace", Butterworth Architecture, 1993. p44
- 4 Joanna Eley & Alexi Marmot, "Understanding Offices", Penguin, London, p15
- 5 Joanna Eley & Alexi Marmot, "Understanding Offices", Penguin, London, p4
- 6 UCL FEM Module 8.5[2] lecture notes
- 7 Colin Robson, 1997, "Real World Research", Blackwell, Oxford, 1993, p18-20

CHAPTER 2

- 1 Joanna Eley & Alexi Marmot, "Understanding Offices", Penguin, London, p58
- 2 Steve Burton, "FM Focus", Eclipse Group, February 1997
- 3 "Premises & Facilities Management" magazine, March 97 p105
- 4 Duffy Cave & Worthington, "Planning Office Space", Architectural Press, London, 1976, p91
- 5 Bernard Williams, "Building Economics", Building Economics Bureau, 1994, p4-7
- 6 Alan Spedding, "CIOB Handbook of Facilities Management", Longman, London, p81
- 7 Dept. of Health & Social Security, H.B.N. 1, "Buildings for the Health Service", p7, HMSO 1988
- 8 Discussion with John Howell of Quantity Surveyors Northcroft, Southampton
- 9 Duffy Cave & Worthington, "Planning Office Space", Architectural Press, London, 1976, p91
- 10 Pamela Buxton, "Hanging on the Telephone", Building Design - Interiors Magazine August 1998
- 11 Gavin Turner, "FM Focus: Space Management", August 1997, Eclipse Group Ltd
- 12 Harvey Young, Procord, Article for the "Architect's Journal", September 1992

CHAPTER 3

- 1 Duffy Cave & Worthington, "Planning Office Space", Architectural Press, London, 1976, p199
- 2 Oliver Jones, Christmas Lecture 1997, FEM Course, UCL.
- 3 Bernard Williams, speaking at FEM Exchange at UCL, May 1998
- 4 Richard K Watts, F.E.M. Lecture 5.9 December 1997
- 5 Joanna Eley & Alexi Marmot, "Understanding Offices", Penguin, London, p60
- 6 Ian Ingrey-Counter, Head of Premises & Facilities at Welcome Trust, "Relocation Directory 1998", British Association of Removers.

CHAPTER 4

- 1 "Facilities Management Guide No 4", Eclipse Group. September 1994

CHAPTER 5

- 1 Interview with Alan White, Director of BT Property, "Premises and Facilities Management", July 1998, p11

APPENDIX A



BLOCK REFERENCE KEY:

- | | |
|------------------------|--------------------------|
| 1. boilerhouse | 46. nurses home |
| 2. incinerator | 47. store |
| 3. store 3 | 48. plantroom ducts |
| 4. store 2 | 49. operating theatre |
| 5. store 1 | 50. sterile services |
| 6. estates offices | 51. accident & emergency |
| 7. mortuary | 52. x-ray |
| 8. linen | 53. icu |
| 9. maternity gf. | 54. day unit |
| 10. maternity ff. | 55. ward 5 |
| 11. maternity 2nd | 56. ward 6 |
| 12. maternity 3rd | 57. rehabilitation |
| 13. midwifery school | 58. pathology |
| 14. stores | 59. medical physics |
| 15. main kitchen | 60. pharmacy |
| 16. dining room | 61. outpatients |
| 17. jackson ward | 62. opd boilerhouse |
| 18. library | 63. fracture clinic |
| 19. ward 3 | 65. gas meter |
| 20. anaesthetics | 66. garages |
| 21. ward 2 | 67. houses 1-7 |
| 22. computer centre | 68. d-residence |
| 23. ward 1 | 69. social club |
| 24. switch room | 70. plantroom |
| 25. ward 8 | 71. c-residence |
| 26. boardroom | 72. gardeners |
| 27. ward 10 | 73. gardeners |
| 28. ward 11 | 74. houses 6-9 |
| 29. admin/personnel | 75. b-residence |
| 30. old hospital | 76. e-residence |
| 31. diabetics centre | 77. garages |
| 34. finance department | 78. a-residence |
| 38. ward 7 | 79. plantroom |
| 39. day unit | 80. education centre |
| 40. gen hv intake | 81. gas meter |
| 43. safe haven | 82. radio room |
| 44. patient info | 83. chapel |
| 45. conference | |

Analysis of the existing estate

2.5 As part of the trust's assessment of its current position, an analysis of its assets and their utilisation has been completed. This included an analysis and interrogation of the trust's existing database, and covered the following aspects:

- the physical condition of the buildings and engineering installations;
- the energy efficiency of the buildings and engineering systems;
- compliance with fire, statutory and non-statutory standards;
- the functional suitability of the estate for its current use;
- the utilisation of existing space.

2.6 This analysis of the existing estate has been carried out in accordance with Estatecode Volume 1.

2.7 Results from the analysis are presented in a series of summarised pie charts and histograms. The main features of the assessment system used in the analysis are as follows.

The assessment system

Physical condition

2.8 The physical condition profile shows the result of the database analysis, which examined the building structure and fabric together with mechanical and electrical engineering installations. It shows what proportion of the building area is in each condition category, and the cost to upgrade these areas to acceptable standards.

2.9 Categories for physical condition are as follows:

- A – new buildings that fully comply with national standards and have a full life expectation (60 years). No immediate expenditure required except for routine operational maintenance.
- B – a building that is in an acceptable condition for its use. No immediate major expenditure required except that for minor repairs and upgrading and routine operational maintenance. The building will have a life expectancy of at least 10 years for its existing use without major repairs and upgrading.
- C – a building that is not in an acceptable condition for its use and requires capital expenditure to bring it to condition "B". This expenditure will not exceed 50% of the replacement cost and would provide the building with an expected remaining life comparable with that of a new building (60 years)

D – a building that is not in an acceptable condition for its existing use and requires capital expenditure to achieve condition "B" of between 50% and 100% of replacement costs.

Energy efficiency

2.10 The energy condition profile shows the result of the database analysis, which examined the building structure and fabric together with mechanical and electrical engineering service installations for energy efficiency. The NHS target for healthcare estate is 45–60 GJ/100 cu m.

2.11 Categories for energy efficiency are as follows:

- A – 45 GJ/100 cu m
- B – 45–60 GJ/100 cu m
- C – 60–80 GJ/100 cu m
- D – 80+ GJ/100 cu m.

2.12 The broad bandings in the ranking are required to reflect the building type, its major specialisations and the mix of accommodation; for example, the proportion of 24-hour occupation with continuous energy use to the intermittent energy use in premises used only in daytime.

Compliance with fire, statutory and non-statutory standards

2.13 There are a wide range of statutory standards relating to hospitals (the most important of which are Health and Safety at Work, and Fire), and a number of non-statutory standards required by the Department of Health such as Health Technical Memoranda and Health Building Notes. This analysis describes what proportion of the building complies with these standards and the costs required to ensure full compliance.

2.14 Categories are as follows:

- A – complies with all standards;
- B – acceptable but with minor non-compliances resulting from recent changes in standards;
- C – serious non-compliances requiring capital expenditure to bring to condition B;
- D – dangerous non-compliances rendering the building, part of building or engineering system unacceptable for its current use. Major capital expenditure required to bring to condition B.

Functional suitability

2.15 The functional suitability analysis describes how effectively a site, building or part of a building supports

the delivery of a specified service. The criteria used in such assessments include:

- space relationships;
- services;
- amenity;
- location;
- environmental conditions;
- overall effectiveness.

2.16 Categories are:

- A – a high degree of satisfaction with the building from users, indicating that it has been planned and designed for its correct use;
- B – although not necessarily purpose-designed and planned for its current use, the building is functionally satisfactory. No major changes in planning, design or layout are considered necessary to enable the users to effectively and efficiently perform their tasks and to provide good-quality patient services;
- C – the building is below an acceptable standard in terms of functional suitability. Capital expenditure is required to change the building to enable users to effectively and efficiently perform the required tasks and to provide high-quality services to patients;
- D – the building is very unsuitable for its current use, and this results in poor-quality and inefficient services being provided to patients.

and would marginally decrease if incorporated into a general upgrading scheme

2.20 All costs are realistic and take account of any secondary consequential work. No allowance has been made for provision of decanting facilities, and costs assume free access to whole departments or significant sections of departments, with only “normal” restrictions on working hours, removal of debris, temporary works, disruption etc.

Space utilisation

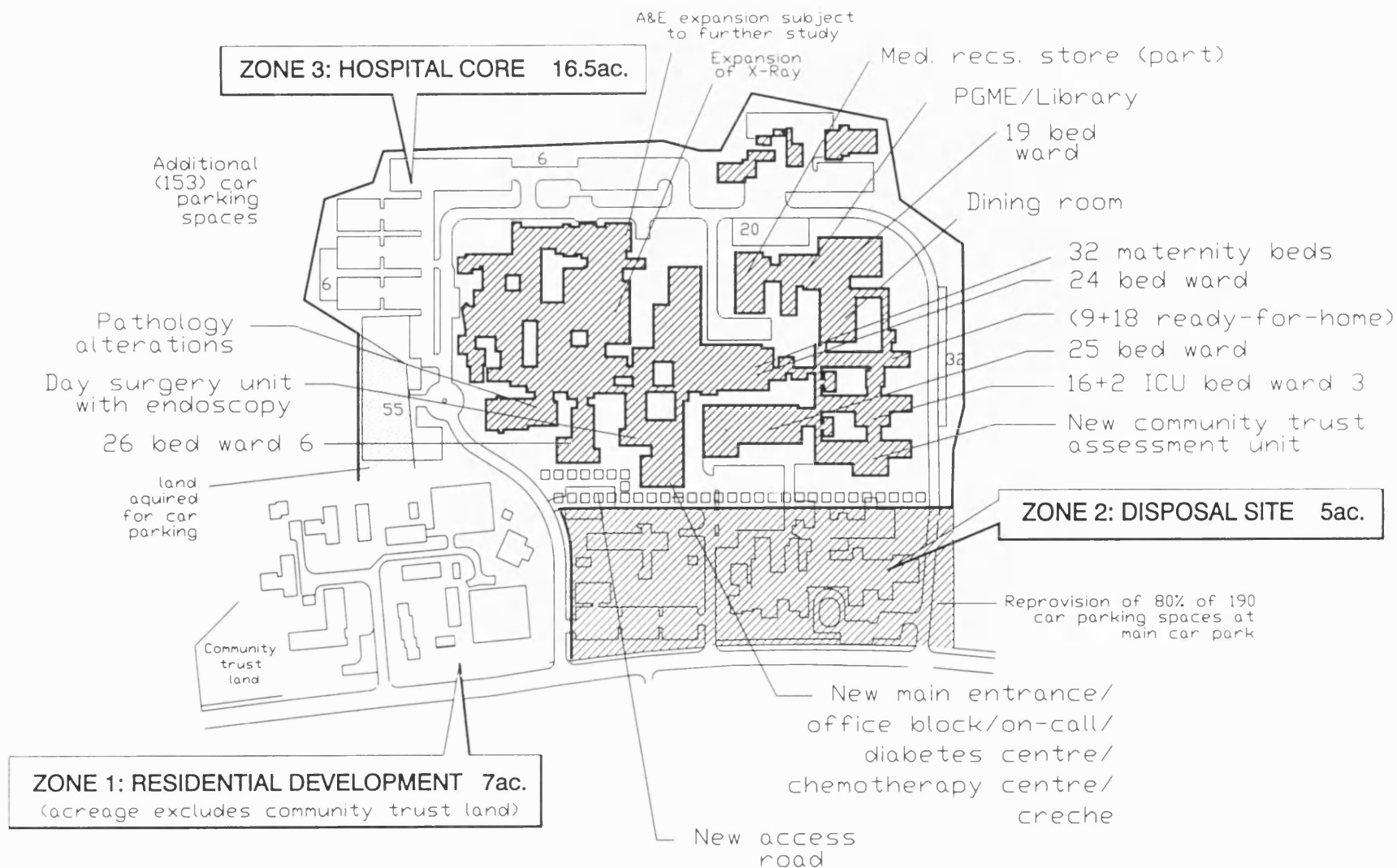
2.17 The space utilisation analysis indicates under- or over-utilised capital assets. However, these spaces may be difficult to release because of their disparate nature and physical barriers to their rationalisation. Under-use of space is serious since it represents a waste in terms of the property overhead costs, that is, energy, maintenance, cleaning, capital charges, rates etc.

2.18 Categories are:

- 1 – empty;
- 2 – underused;
- 3 – adequate;
- 4 – overcrowded.

Costs

2.19 All costings are at 1996 levels and are estimates of funding required to raise all capital assets to an acceptable standard. Within facets the costings are “stand-alone”



DEVELOPMENT CONTROL PLAN HETHERINGLEY DISTRICT GENERAL HOSPITAL

APPENDIX B

Blank interview question sheets.

**M.Sc. in Facilities and Environment Management
Dissertation : "Managing Space Utilisation"**

INTERVIEW WITH OF

BACKGROUND INFORMATION ON THE ORGANISATION

1 SPACE STANDARDS

1.1 What are the source(s) of your space standard(s)?

	Government	Statutory	Internal Benchmark	Other
Organisation Department				

1.2 How would you describe your use of space standards?

	Formal	Semi	Informal	Other
Pre occupation Post occupation				

1.3 How rigorously are the standards applied?

	Very	Partial	Minimal	Other
--	------	---------	---------	-------

1.4 How long have the current space standards been in place?

	0-1 year	1-3 years	3-5 years	5-10 years
--	----------	-----------	-----------	------------

1.5 Are the space standards considered:

	Too large	Reasonable	Too small	No longer appropriate
--	-----------	------------	-----------	-----------------------

1.6 What sort of records are kept of space occupation?

	Central CAD	Local CAD	Paper based	Other
Organisation Department				

2 AUDIT

2.1 Do you conduct Space Audits? Yes / No

2.2 What is the frequency of Audit?

	Monthly	Quarterly	Annually	Other	When necessary
Organisation					
Department					

2.3 What is the your approach to Space Auditing?

	Formal	Semi-formal	Informal	When requested
Organisation				
Department				

2.4 Is the organisation activity / headcount:

Increasing	Static	Reducing	Other
------------	--------	----------	-------

2.5 Is the size of the estate:

Increasing	Static	Reducing	Other
Land - Ha			
Buildings - Sq m			

3 UTILISATION

3.1 Are the pressures on levels of space utilisation expected to:

Increase	Maintain	Decrease	Other
Organisation			
Department			

3.2 Is % space utilisation:

Increasing	Decreasing	Other
Organisation		
Department		

3.3 Is % time utilisation:

Increase	Decrease	Other
Organisation		
Department		

3.4 What is the most important factor driving change in space utilisation?

Cost Improvement	New Work Practices	Workload	Other
Organisation			
Department			

4 PLANNING

4.1 Do you have a formal Estate Strategy? YES/NO

What is the basis of Estate Planning?

	Formal	Semi	Informal	Other
Organisation				
Department				

4.2 Typically how far ahead do you look?

	0-1 year	1-3 years	3-5 years
Organisation			
Department			

4.3 Do you have contingency arrangements to address unexpected change?

	Formal	Semi	Informal	Other
Organisation				
Department				

5 SPACE MANAGEMENT

5.1 Who is responsible for the configuration of space?

	Central	Estates	Outsourced	Localised	Other
Organisation					
Department					

5.2 Is there a group or person who is responsible for managing utilisation?

	Central	Estates	Outsourced	Localised	Other
Organisation					
Department					

5.3 Are there formal space charging systems? Yes/No

	By area	Headcount	Activity	Other
Organisation				
Department				

5.4 How is the total space used by a group funded?

	Central	Department	Work Group	Other
Department				
Work Group				

5.5 What do you consider to be the key indicators prior to major change?

	Strategic Opportunities	Poor Efficiency	User Complaints	Other
Organisation				
Department				

6 **ABILITY TO RESPOND TO CHANGE**

6.1 Have recent space changes been:

Foreseen Partially expected Unforeseen Other

6.2 Are your provisions for change:

Formal Semi-formal Informal Other

6.3 What percentage of space managed **would be desirable** to be available to allow for change / reconfiguration / refurbishment (excluding cost penalties)?

0% .5-1% 1-2% 2-4% 4-7% 7-10% Other

6.4 What percentage of the space managed does the organisation **actually keep / have in reserve** for change ?

0% .5-1% 1-2% 2-4% 4-7% 7-10% Other

7 **ISSUES - DISCUSSION**

A **WHAT DO YOU THINK WILL HAPPEN REGARDING SPACE UTILISATION MANAGEMENT?**

B **WHAT DO YOU THINK SHOULD HAPPEN REGARDING SPACE UTILISATION MANAGEMENT?**

APPENDIX C

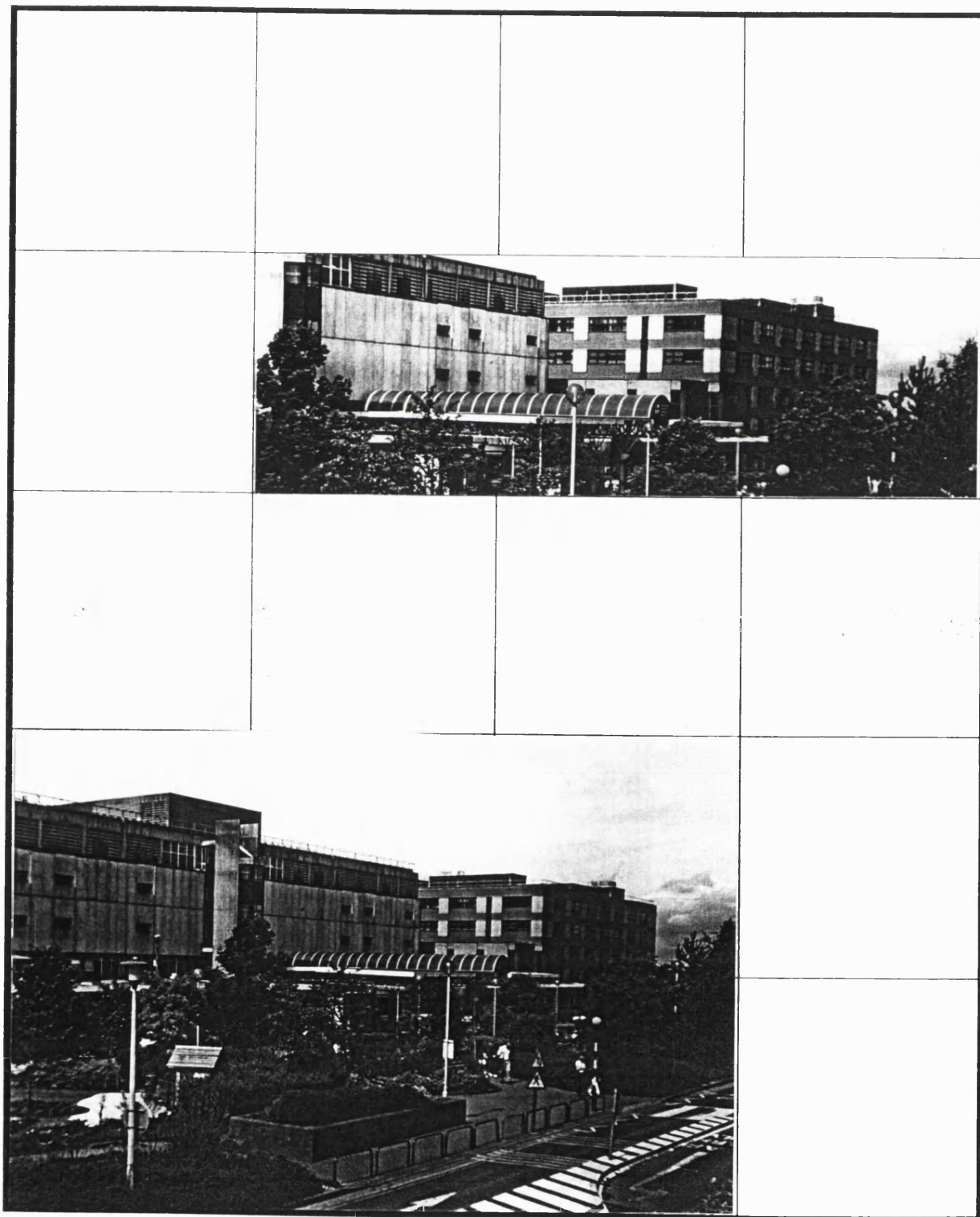
Background summaries of 8 organisations and opinions of interviewees

With thanks to:

Roger Bardsley	Southampton Hospitals N.H.S. Trust
Jim Salmond	Portsmouth Hospitals N.H.S. Trust
T Frank Hennessy	Nuffield Hospitals
Mike Rawlinson	B.U.P.A. Hospitals
Graham Dugan	Hampshire County Council
Caroline Browne	Winchester City Council
Davis Hinton	Automobile Association
Martin White	Racal

Healthcare

Public Sector 1



Healthcare: Public Sector 1
Individual: Service Planning Manager
Organisation: Teaching Hospital N.H.S. Trust
Estate Data: G.I.A. 175,000 sq m

The trust operates 1200 beds spread over three sites within the city;

1. The original General Hospital site located near the centre of the city and comprising a mixture of old and recent building containing outpatient departments, Daycase Surgery, Low dependency surgery, Nurse led care and Cancer services. There is also a Department of Psychology housed in a detached block and occupied on a full repairing lease by an N.H.S. Community Trust.

2. A 20 - 30 year old "new" regional teaching hospital complex in the suburbs. This site houses high tech. services, Accident and Emergency, high dependency surgery and the medical school - established in 1974 and now part of the local university.

3. A stand alone Obstetric and Gynaecology Hospital situated across the road from the General Hospital and now containing intermediate orthopaedics following the identification of spare space because of reducing lengths of stay for childbirth and surgery.

Background:

- * Trust has 4 basic functions:
 - i Regional Specialist Centre
 - ii Local Hospital Services
 - iii G.P. access for diagnostic & therapy services
 - iv Research & Development (N.H.S. funding of £6.0 m p.a.)

- * 70% of trust's costs are people based, 15% consumables, 15% estate overheads
- * Teleworking investigated but found to be unsuitable for the vast majority of staff at present.
- * Government targets for cost improvements of 3% p.a. over the last 10 years have reduced budgets by one third in the same time that required outputs have risen year on year.
- * Full survey of the estate carried out in 1994 by W.S. Atkins established a CAD database of drawings and rated every area using standard N.H.S. categories; Physical Condition, Statutory Compliance, Energy Performance, Functional Suitability (current use) and Space Utilisation.
- * 5 year Estate Strategy first written in 1994 and reviewed in 1997
- * Business split into 3 areas; Clinical, support and commercial. Commercial activities (laundry, T.S.S.U. and Pharmacy) have to be self financing.

OPINIONS EXPRESSED:

General.

One non-executive Director's favourite phrase of "Sweating the Assets" has to be offset against clinical pressures. Ward areas are utilised 24 hours per day but there are limits to the use of diagnostic, therapy and consultation/out patient areas:

- * Medical consultants are unwilling to work for the N.H.S. in the evenings and at weekends because it conflicts with their private practice.
- * Daycase theatres can only be run until approximately 4.00 pm because patients have to recover adequately before being taken home at say 8.00 pm. To stay later involves an overnight stay and thus loses the benefit of being a Daycase.
- * Patients are not prepared to use pre-booked services at anti-social times. Whilst an X-ray machine can be run 24 hours per day, the public are unwilling to have their X-Ray taken at 3.00 am.
- * Higher marginal costs for extended working hours should include clinical staff and additional costs for out of hours maintenance and faster response times to return busy equipment to operation following breakdowns.

Time utilisation has to be balanced against the knock-on consequences when difficulties arise, operations are cancelled and patients have to be scheduled. Primary objectives of delivering a service are more important than achieving utilisation targets.

Waiting rooms are too big - patients don't want to spend their time waiting - an efficient department has empty waiting rooms - provided there is the capacity for times of crisis.

What will happen regarding space utilisation management?:

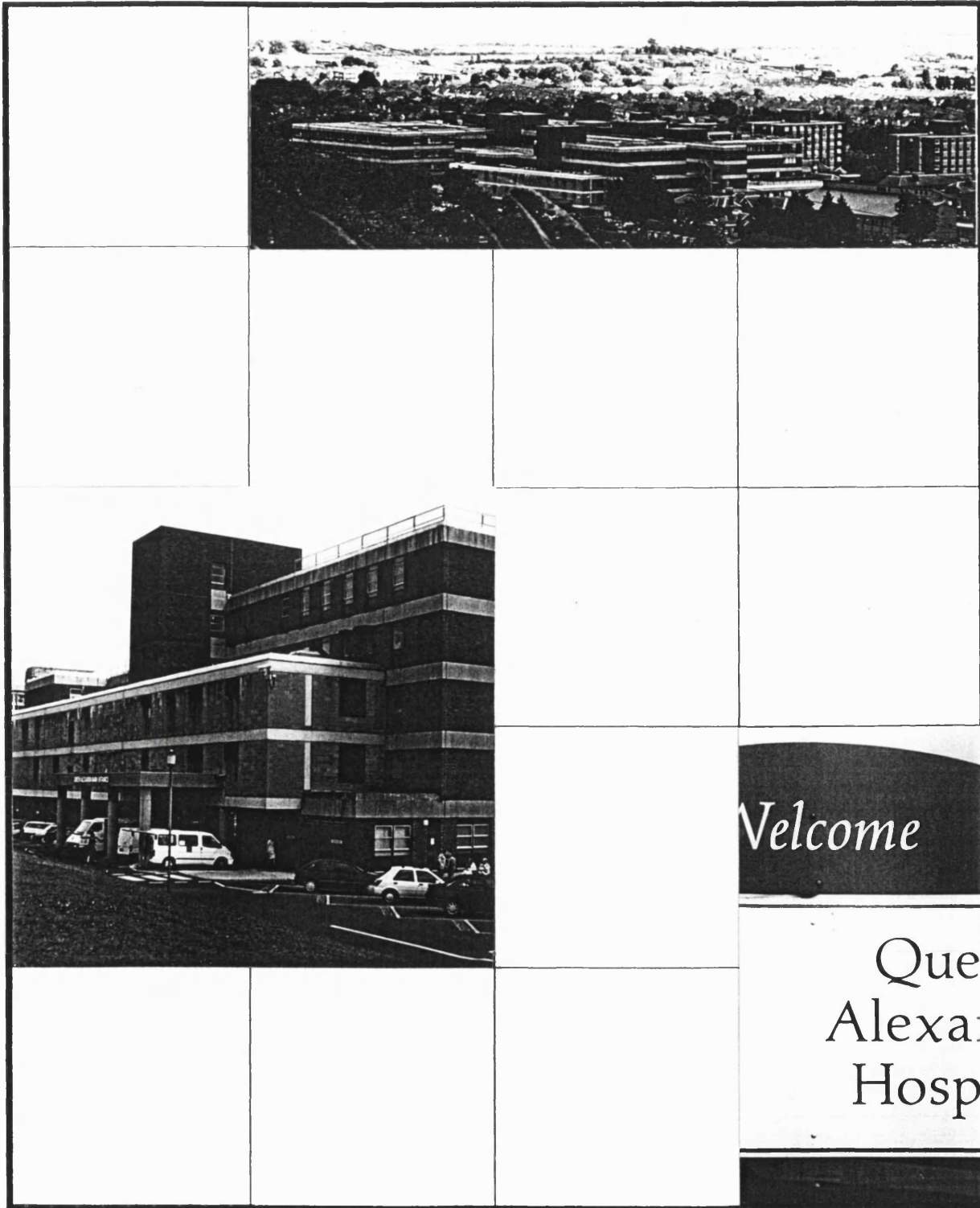
- * Move towards 12 hour / 3 session days in treatment areas.
- * Pace of change is increasing; leading to less planned and more pragmatic responses.
- * Variations in utilisation levels will be used to adjust capacity to respond to changes in demand
- * Space allocation will be based on individual circumstances, not formal standards.
- * Shortage of capital for new build will mean more refurbishment schemes
- * Ongoing Cost Improvement Programmes will:
 - a) force the disposal / demolition of poorly performing buildings and efforts to be focused on relocating services to the remaining stock.
 - b) continue pressure to drive down overheads and increase utilisation rates.

What should happen regarding space utilisation?:

- * Charging of budget holders for the space used - area and space type.
- * Incentives have to be found to control space more effectively
- * Strategy of no single storey buildings becomes more important
- * Foundations in new build to be oversized to allow for extra floors at a future date.
- * Avoid building or creating dead ends to maintain flexibility in space planning.
- * Multi using of space through generic provision of space - less specialisation.

Healthcare

Public Sector 2



Healthcare: Public Sector 2

Individual: Estates Manager

Organisation: City Hospitals N.H.S. Trust

Estate Data: G.I.A. 138,000 sq m

The trust is based on two sites within the city, each of approximately 750 beds;

1. The original, St Mary's (SM) which is located near the city centre and is a mixture of mainly single storey Victorian buildings on the "east wing" site and more recent buildings on the "west wing" site - split by a public road. (To reduce to 300 beds)
2. Queen Alexandra Hospital (QA), a 20 - 30 year old complex on the outermost fringe of the city, housing Accident and Emergency and major trauma services. (To increase to 1200 beds).

Background:

The trust plans to transfer the major acute services to one site, QA, rationalise the SM site by concentrating on the West Wing to form a 300 bed community type hospital and sell off the surplus East Wing. (The process is very similar to the case study used in the "Exemplar Estate Strategy" document produced by the NHS Executive). This is at the proposals stage and is expected to be delivered through the P.F.I. process.

The trust will be forced to review its use and investment profiles for all of its properties because the output specification will require the whole estate to be brought up to and maintained at condition "B" for the duration of the P.F.I. partnership for Physical Condition, Energy Efficiency, Standards Compliance and Functional Suitability. Categories defined Appendix A. The exception being Space Utilisation. There will be a purchaser : provider split to determine delivery of condition B with periodic reviews to monitor performance.

The trust is currently unable to monitor estate standards and utilisation effectively at present because of central government limitations on management levels. The estates group is felt to be low in establishment and unable to divert resources to monitoring and improving space issues. Regional and District levels of estates support have been removed through restructuring. Whereas there were once Regional design teams and District level professional assistance, these tiers have been removed without redistributing the financial resources until estates services only exist at trust level. These have traditionally been focused on maintenance but now are also responsible for strategic management.

White paper on the Health Service proposed that:

- * services should move towards the basis with a greater range of medical services in the G.P.'s surgery.
- * trusts have to obtain the approval of their District Health Authority and local G.P.'s before embarking on new developments - medical service or estate based.

Outpatient utilisation levels are currently low - 9.00 am to 5.00 pm based

Capital funding is cash limited and tends to deliver solutions which have been built down to a price and specifically for the purpose intended. A recent conversion of a fairly new "Nucleus" based ward block at the SM site from Paediatric (children) to Geriatric (Elderly) care cost £2.0 m.

OPINIONS EXPRESSED:

General.

- * P.F.I. will change users approach to space and utilisation because the P.F.I. partner will provide whatever is requested provided that someone pays. The primary users, the clinicians, will have to state their output specifications clearly, including functional suitability and space utilisation levels.
- * Waiting list initiatives are requiring increased outputs for marginal costs. Therefore only additional staffing and consumables are funded and the physical resources will have to be more intensively used.
- * N.H.S. trusts do not have the skills base to negotiate multi-million pound P.F.I. deals with highly experienced, commercially minded, private sector partners. The deal under consideration is for £16 p.a. over a 25 year period = £400 m.

What will happen regarding space utilisation management?:

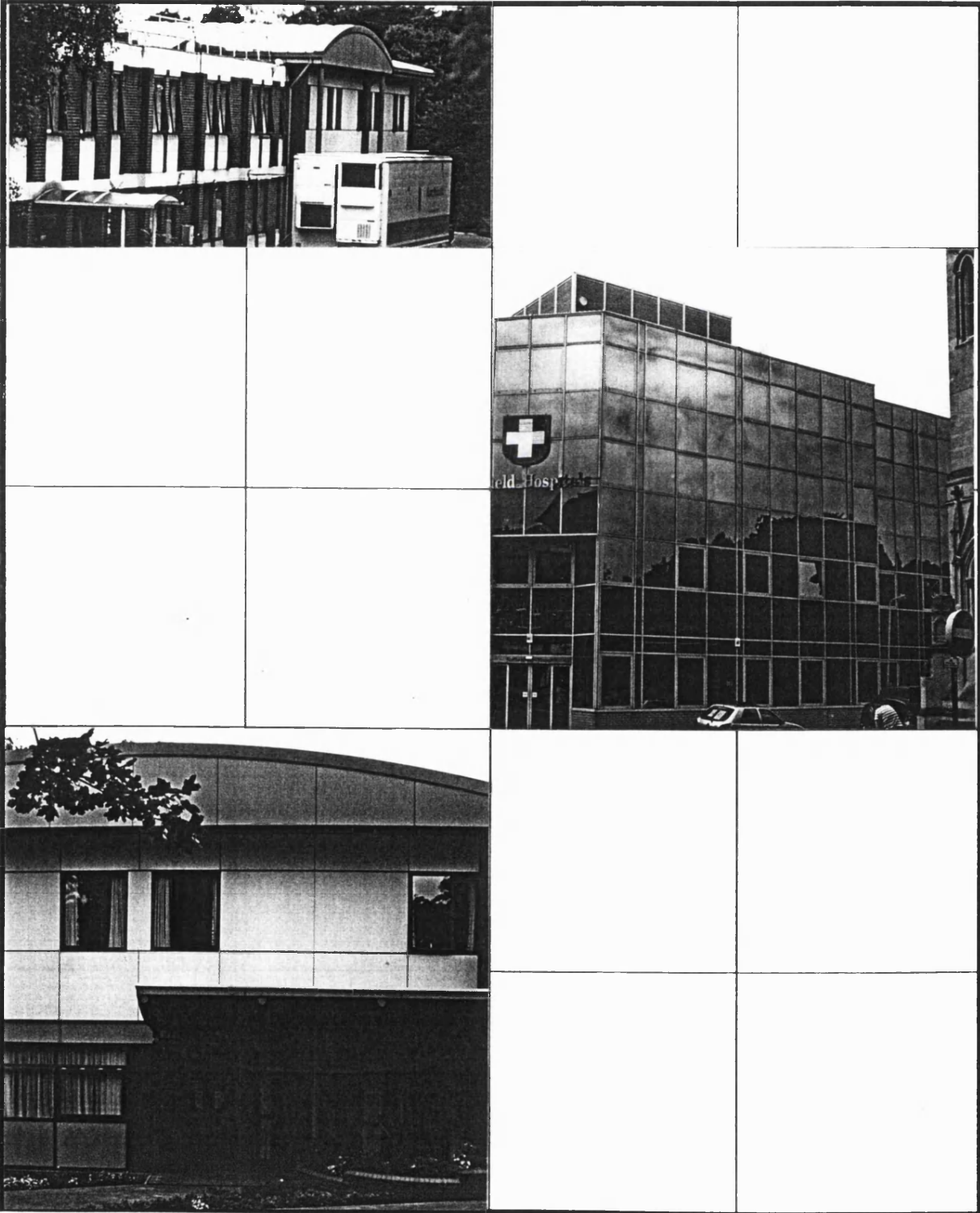
- * P.F.I. process will drive up utilisation rates: output specifications from users, partner produces space to match, users will have to assess for themselves whether it is appropriate.
- * P.F.I. partners will be able to invest on the basis of life time costing. This should improve the quality and durability of materials whilst reducing maintenance input.
- * Outpatients departments will start to run 12 hours per day, 6 days per week.
- * Clinical areas will be expanded by moving admin areas to remote locations and linking with I.T.
- * Contingency space will exist in the form of non-core services which will be moved off site when demands arise for additional clinical areas.
- * Contingency arrangements for clinical workload variations will be provided by cancelling elective work for the period of the crisis.

What should happen regarding space utilisation?:

- * Departments should be charged for space.
- * Space provision should be long term planned rather than specific - generically based and thus multi-functional.
- * Involvement of clinicians (informed users) in management of assets
- * Some local Health Centres and G.P. surgeries should be brought onto Hospital sites to make use of outpatient facilities in the evenings and allow direct access to diagnostic and therapy services which are otherwise unused by the hospital and very expensive to provide on a localised basis.

Healthcare

Private Sector 3



Healthcare: Private Sector 3

Individual: Director of Planning and Facilities

Organisation: Nursing Care Charitable Trust

Estate Data: G.I.A. 160,000 sq m

Background:

The Nursing Homes Trust was established in 1957 by an insurance group in order to make the provision of care separate from its health insurance business. It subsequently reversed this policy 20 years later and is now one of the top 4 private Healthcare providers along with the Nursing Homes Trust.

The Trust operates nationally, treating 700,000 patients per year from 1500 beds spread over 38 Hospital sites in multiples of 30 - 50 beds. It provides a full range of surgical and therapy services. Its headquarters are in a London suburb. It had a turnover of 170 m in 1997/8 and targets 190 m for 1998/9.

The Trust has spent £300 m in the last 6 years on major and minor capital schemes. It expects to spend £220 m over the next 5 years including a new hospital at Guildford which is partly in association with the NHS. The group has bought 6 hospitals in the last 6 months.

The Group's business changed fairly radically about 5 years ago when it decided to change from 2/3 space devoted to beds, to 1/3 bed area and 2/3 surgical and therapy area.

Business is driven forward through its annual accounting review which considers each of the 38 Hospital sites as an individual profit centre. The income generated from each area within a hospital is reviewed and if found to be below expectations, space will be transferred to a speciality that can give a higher return. If an adequate business case is presented which demands additional space, the funding will be allocated. Nuffield is financially very buoyant and not cash limited if profitability is established for a new venture.

Space standards vary across the country depending on local market conditions, the expectations of the local population and the return that can be made on each square metre. Minimum areas required by the Health Building Notes (published by NHS Estates) are achieved and increased if improved efficiency can be demonstrated by the incorporation of space in an individual room.

Space Auditing is not carried out. The annual round of profit / business planning is considered to be an appropriate audit and most suited to group needs. From this process emanates the revenue and minor capital budget for the following year and major capital budgeting for the following 3 - 5 years.

OPINIONS EXPRESSED:

General.

- * The Trust does not and should not have a formal estate strategy. Its business expansion strategy identifies new business opportunities and estate provision follows in order to deliver the facilities required to support the business. This process is occurring in Guildford where a gap in the group's network was identified by unserved high levels of local demand and a new hospital is being built.
- * Local management and financial responsibility for the amount of space used is part of the group's holistic approach to business planning and works well because. The centre should never be able to go to a hospital and surprise them. Local responsibility ensures self knowledge and the commercial desire to improve performance.
- * The group's spread of 38 hospitals enables change which was unforeseen at 1 hospital to be planned at the other 37. This was the case with a specialist operating theatre ventilation system which was installed in all sites within 12 months of one surgeon saying that he was transferring all of his patients to an alternative hospital with the ventilation system because it was clinically better.
- * The group's contingency capacity lies within its ability to respond quickly to changing circumstances rather than holding resources in reserve. It is better to be psychologically prepared to change quickly.

What will happen regarding space utilisation management:

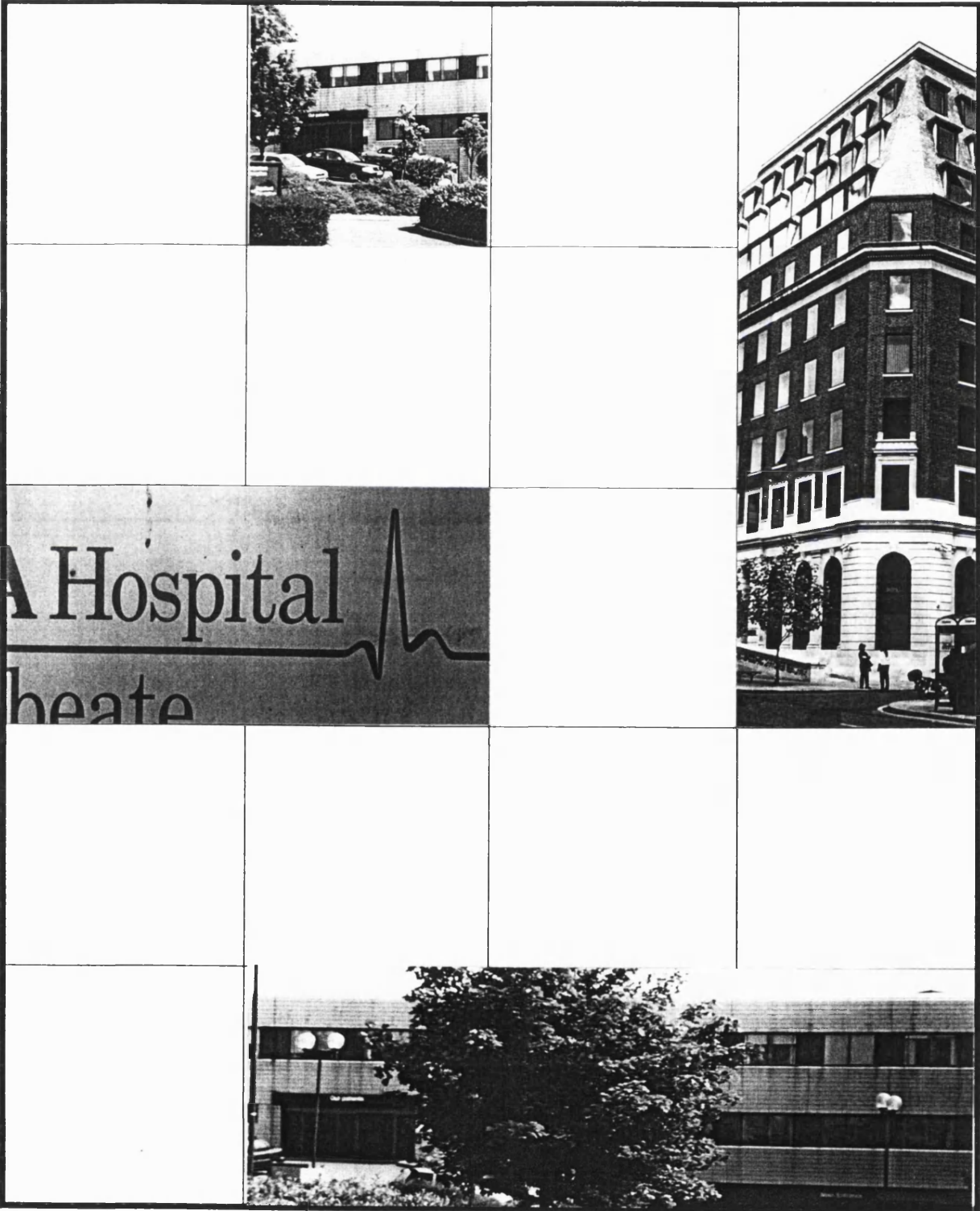
- * Pressure is being applied to become a 3 session organisation - 12 hour days.
- * Existing processes will continue to be driven by Business management

What should happen regarding space utilisation:

- * Nothing - the Trust believes it has the most appropriate management of space utilisation because it is driven by business pressures.

Healthcare

Private Sector 4



Healthcare: Private Sector 4

Individual: Building Projects Manager

Organisation: Healthcare Provident Association

Estate Data: G.I.A. 184,000 sq m

Background:

The Association is formed of three groups: Healthcare Insurance, Hospitals and Nursing Homes. The Nursing Homes group is managed separately and excluded from this study.

The Association has recently rationalised its London offices from 5 sites into one Headquarters building to accommodate its corporate management and national facilities team. The option of relocating outside of the M25 was considered but rejected for reasons of prestige. There are 2 regional administrative centres serving the insurance group for the north and south of the country. There has been recent investment in these centres and the structure of a London headquarters and regional "back offices" is firmly established.

A leasehold property in a south coast town is being used to house some discrete operations of the Association that would ideally be sited elsewhere were it not for the financial commitment to the property.

Telesales operations have been gathered into the regional centres from the previous district office arrangement. This service operates 24 hours per day. Insurance salesmen are now based at the homes rather than an office. No change is expected in this arrangement for at least 5 years.

The Hospital group operates 36 hospitals throughout the British Isles ranging from a 26 bed wing of an N.H.S. hospital to 90 bed stand alone units. Typical bed capacity is about 60 beds. Distribution is based on Private Medical Insurance penetration of the local population. The Association's hospitals are accredited by the Kings Fund Group; an independent Healthcare body, who inspect physical and clinical standards.

The Property Division has recently transferred from the Finance Directorate and is now within the Property and Purchasing Directorate. A new Finance Director has been appointed and is demanding accurate space data.

Drawings are currently paper based and held centrally and locally. No database of areas exists. Space Audits are not conducted. Hospitals are run as overall cost centres. There is no direct space charging system for individual departments within a hospital site.

The Hospital Group does not have a national Estate Strategy but there are semi-formal development control plans for individual sites.

OPINIONS EXPRESSED:

General.

- * Communications technology allows telesales to operate from an individual's home but it is felt that group working in a company office is most appropriate for the business.
- * There is probably an excess of private bed provision in the country. There is probably an excess of private beds in total. There is unlikely to be a need for further beds or hospitals.
- * Some private hospitals are likely to close in response to market pressures.
- * There may be a need for new provision of specialist services. These are most likely to be provided by adapting existing facilities.
- * The Association's core business is the provision of healthcare insurance. This will be facilitated by arrangement with the most appropriate provider; not necessarily with the Association's hospital group.
- * Recent shift from 60 : 40 inpatient (bed) : outpatient services to 40 : 60 ratio is likely to stabilise for a period. This shift is driving changes in space allocation and utilisation.

What will happen regarding space utilisation management?:

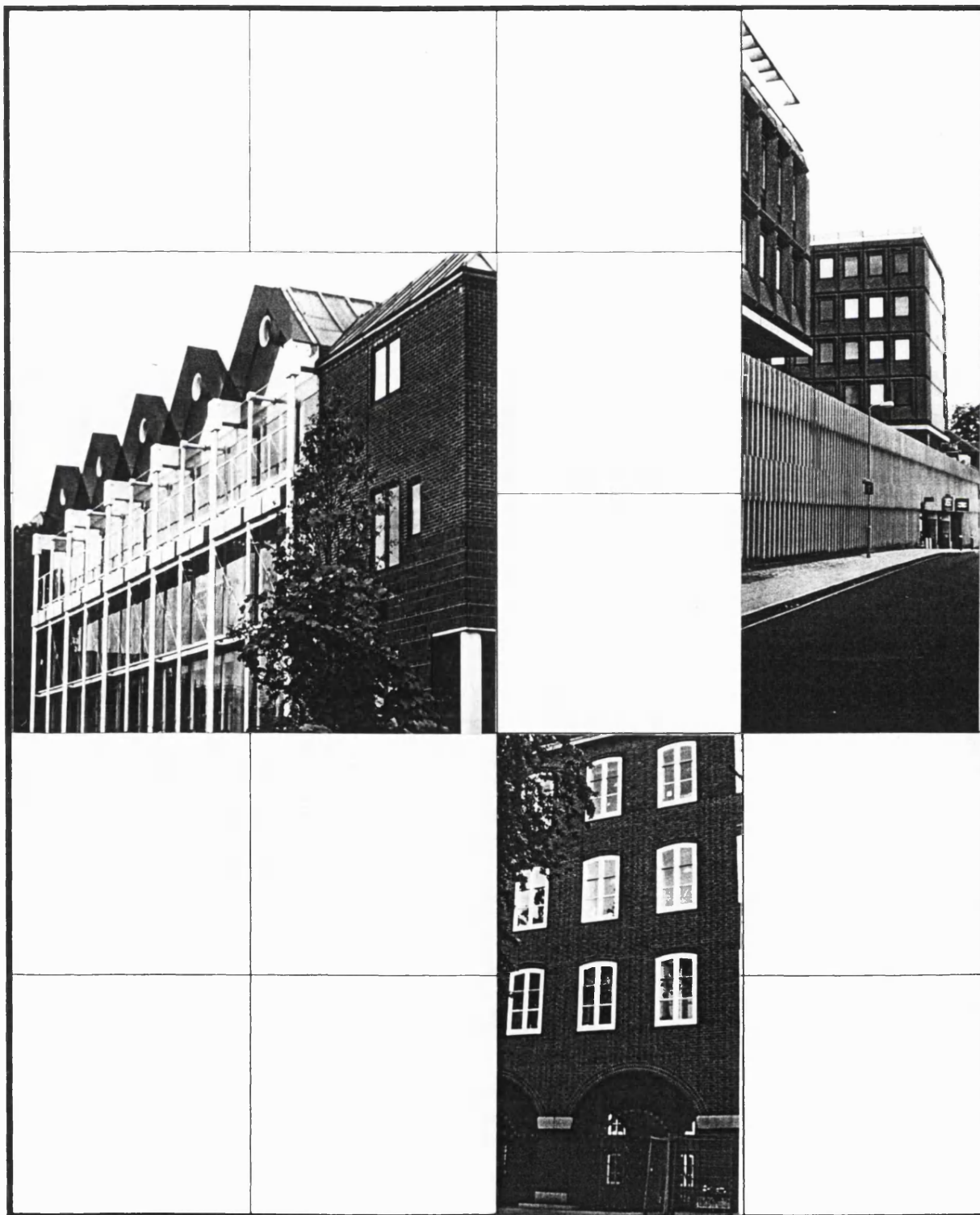
- * CADFM systems will be introduced next year. Space charging systems will be introduced following the CADFM data. These will identify premises costs at department level.
- * Space Auditing will be introduced on a formal basis to meet the demands of the Finance Director.
- * Depreciation of property and equipment will be added to the profit / loss accounts.
- * Efforts to improve time utilisation will be made to fill empty sessions during weekday office hours when medical personnel are occupied by their N.H.S. duties.

What should happen regarding space utilisation?:

- * Most of the above - long argued for by the Property professionals.
- * The Association should take a more commercial approach. Personnel historically drawn largely from the N.H.S. and the mindset continues. The Insurance Group has been tackled and Hospitals will follow.
- * Property decisions should be less reactive and more proactive.

Offices

Public Sector A



Offices: Public Sector A

Individual: Architect specialising in feasibility studies

Organisation: County Council

Estate Data: G.I.A. 1.6 m sq m in 5,000 buildings

The County Council provides a wide range of building types to serve the activities primarily required by Education, Social Services, Libraries and Museums.

Background:

The county was once the largest non-metropolitan county. The recent creation of 2 new unitary authorities has seen the transfer of staff, facilities and resources but leaves a substantial estate. There had been a 3 to 5 year period in the lead up to re-organisation when planning had been on hold. There was also an earlier loss of Police, Fire and Further Education Colleges from the portfolio.

The Architects Department is responsible for the design and maintenance of the estate. It provides audit and utilisation services to all client departments. The Council's Estates Department provides estate management services: lease negotiations, land / asset acquisition and disposals.

A typical space utilisation exercise / intervention is expected to achieve a reduction in space requirement in the region of 20%.

Examples of a utilisation studies:

- A A school site in the north of the county was known to have falling pupil numbers. The study identified large areas of surplus space. Discussions with the Estates Department identified a county council office use in the town which was occupied on a leasehold basis. Plans are now proceeding to transfer the office function to the school site and save the lease costs.

- B A secondary school had been allocated £360k to provide the 4 additional teaching spaces that it had been assessed as being deficient. The cost of building two general teaching, one music and one drama rooms was well in excess of the budget. The audit process identified 4 existing classrooms which could be reconfigured as 6 general teaching rooms. This left £300k for a new build music and drama suite with supporting stores.

OPINIONS EXPRESSED:

General.

There is a greater need for space management than professional capacity within the organisation. Schemes are prioritised and therefore opportunities are lost.

Audit is prompted by specific problems raised by users of the expiry of a lease. The county's broad strategy is to make effective use of the opportunities as they arise but otherwise to be fairly "hands-free".

The county operates fairly traditional working hours. Occupancy periods are being extended but this is generally to serve existing staff who are working longer hours rather than to facilitate new working practises. Part-time working is increasing in support staff roles rather than job sharing.

Education premises have a 7 - 10% excess capacity but it is in the wrong location for the pupils / demand. Government funding is available to reduce any excess above 10% but further improvements have to be locally financed.

All sites are linked to the central I.T. system so that files can be assessed by individual Social Services offices or staff wanting to work at home for the day or in the evenings.

What will happen regarding space utilisation management?:

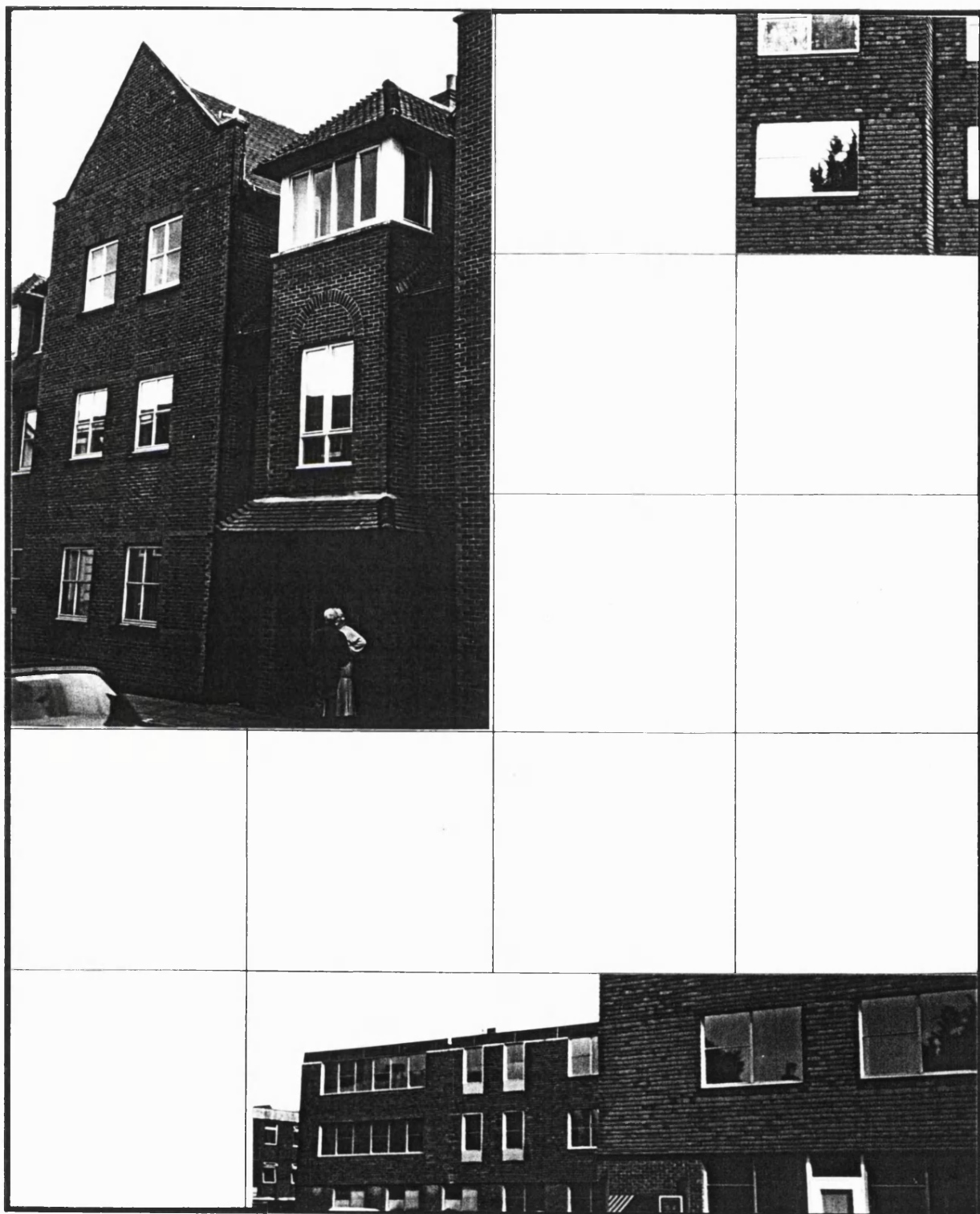
- * Paperless office concept will make it easier to hot desk some sections of the organisation.
- * New working practises will come gradually to some sectors but space provision will be slower to change.
- * There will be a continuing pressure to reduce premises costs.
- * I.T.'s capacity to support remote sites will increase and allow more localised services and the reduction in size of central administration.

What should happen regarding space utilisation?:

- * Most space should be less use specific.

Offices

Public Sector B



Offices: **Public Sector B**

Individual: Facilities Manager

Organisation: City & District Council

Estate Data: G.I.A. 10,400 sq m

The Council's estate is diverse, ranging from a Guildhall to agricultural buildings. Its office accommodation is held on a freehold basis and managed directly by a Facilities Manager reporting to the Director of Finance. Office buildings comprise:

- 5,500 sq m 1970's 3-storey block with early 90's extension - mainly cellular offices
- 3,000 sq m 1990's spec built air-conditioned block - largely cellular
- 1,500 sq m 18th C converted mill - irregular rooms
- 400 sq m late 1970's 1st floor space over city centre retail unit

Space is charged on an area basis to individual departments and in turn to its constituent sections.

Facilities service established 8 years ago when 3,000 sq m building occupied. The Estates Department is self contained as is the I.T. Department. There are no formal co-ordination arrangements between these 3 elements of F.M.

Background:

Churn rate considered to be high: 250 staff have been moved in last 2 years out of a total of 450. This figure excludes moves which did not require a Facilities input. This equates to a 33% p.a. churn rate. A further 100 staff planned to move Autumn 1998. Space vacated in 1997 by outsourcing is to be occupied by a group which has changed its reporting line. Their space will, in turn, be filled by subsequent moves to address known requirements.

There is an informal, strategy to group vacant space with the intention of leasing off the surplus, potentially the 18th century Mill building, to generate income. There have been no formal directions to undertake a feasibility study to see if this goal is achievable.

The situation is complicated by the I.T. section being contracted out at the end of 1998. The new contractor will advise of their office space requirement within the Council's offices - expected to be lower than existing. A further potential change is for the housing section to move out completely following a transfer of all the Council's housing stock to a Housing Association. This should be decided in Autumn 1998 and would create more empty space than the existing Mill on its own.

Departments have to pay for their own relocation costs (excluding F.M. time) unless the move is initiated by the Chief Executive. This focuses Department Heads on the extent and content of work required and appears to keep down aspirations and costs.

OPINIONS EXPRESSED:

General.

The Council has no formal space standards. Individual allocation is a mixture of functionality and historical precedent. Space allocation ranges widely through the Council depending on the policy of the department heads. There is a working assumption that areas should not expand as churn is encountered.

Expansion of individuals area is subject to the department head's decision. There are no attempts made to address existing inequalities within departments. Such reallocations are linked to churn opportunities.

Open plan arrangements are more responsive to change and are encouraged when churn occurs. Standardised desking is also encouraged with the aim of arriving at the situation where only the person needs to move and modifications are limited to readdressing I.T. and communications.

Churn management appears to be undervalued by the organisation. Management input is on an as necessary basis. Lack of clear direction hinders effective planning. No provision for long term maintenance is built into space management.

No time for formal audit process although contemporary occupation and furniture layout records are kept. Space management is limited to an advisory role during churn.

What will happen regarding space utilisation management?:

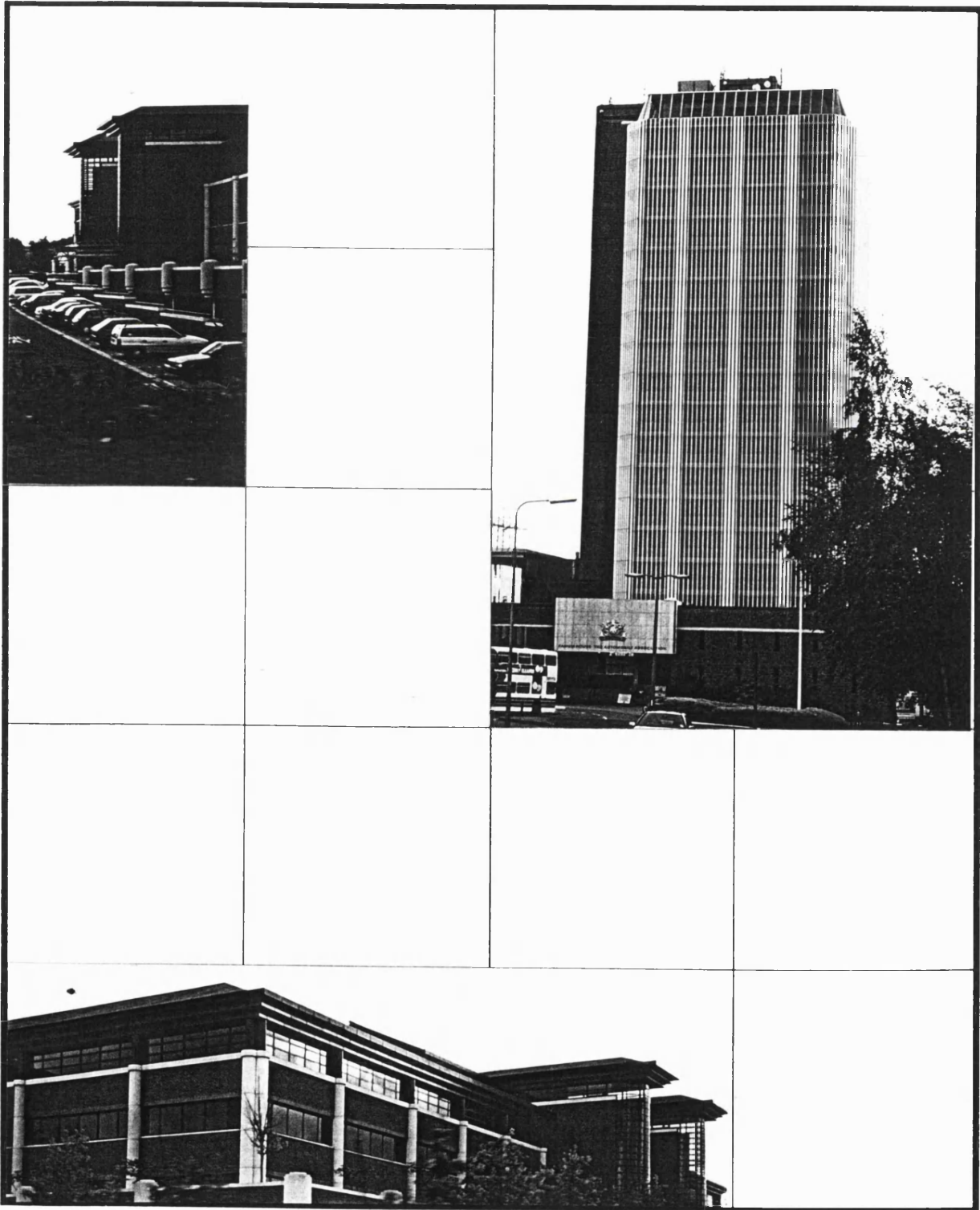
- * Time utilisation will not change. Staff have continued their working patterns despite flexible working hours being introduced.
- * Utilisation and churn processes will continue along existing lines. The Council has very conservative opinions.

What should happen regarding space utilisation?:

- * Storage has to be addressed. Some departments are working towards paperless offices but others are tied to the tradition of creating and keeping extensive paper records. A storage strategy should be adopted to release prime office space by using either off-site storage and I.T.
- * Standardisation of desking systems to minimise physical modifications associated with churn.
- * Facilities Management services should be grouped in order to achieve higher level representation and co-ordination of all aspects of non-core services. This would achieve clearer direction and objectives - a common agenda.
- * Formalised space standards need to be established in order to drive down occupancy costs.
- * Surplus space should be reduced by an effective strategic planning.
- * Open plan should become the norm. Capacity for short term fluctuations would be managed through increasing density levels in open plan areas.

Offices

Private Sector C



Offices: Private Sector C

Individual: Property Services Manager

Organisation: National Vehicle Recovery Group

Estate Data: G.I.A. 100,000 sq m

Background:

The organisation was founded approximately 80 years ago to provide assistance to motorists. It continues in this role through a wide range of building types: traditional offices, call centres, retail shops, vehicle workshops and radio transmitter stations.

The company operates as a series of individual business centres called Divisions; publishing, retail, routes and maps, in car technology, insurance, etc. from a nation-wide estate of offices ranging in size from 6,000 to 14,000 sq m.

Churn / moves are identified by the Facility Manager for each building and then managed through a "moves forum".

The Property Division produces 10 year maintenance plans for each building and disaster plans to deliver 30 day recovery periods.

OPINIONS EXPRESSED:

General.

An office redevelopment was carried out approximately 5 years ago on generic lines using standardised furniture and space allocations for each grade of staff across the Divisions which share the building. The emphasis was on reducing the cost of churn; moving people rather than the building. This has enabled churn cost to be reduced from \$500 to \$60 per person.

The above scheme was considered to be a success and was been adopted as the model for the basis the most recent scheme in the 1960's headquarters building. Through the reuse of existing furniture and the adoption of almost universal open plan configurations, 9,000 sq m of nearby leased space was vacated on the completion on the refurbishment / reconfiguration.

Individual Divisions purchase an annual service from the Property Division to maintain the areas of estate that they occupy. Minimum standards are set by the Company to achieve statutory compliance and to satisfy any lease conditions. These minimum standards have become the maximum levels for Divisions to fund. Such devolved purchasing of property services is considered to be detrimental to sound property management.

Annual premises costs are charged to each Division. Data was formerly provided on a work group basis but found to be unproductive. This process acts as the company's formal annual Space Audit. The Property Division forms an opinion on the utilisation levels of each building and recommends action. There is a link with the Divisional Business Plans which are produced annually to cover the next 3 years but usually only give clear indications for estate requirement for the next 12 months.

A Facilities Manager is based in each major building. They update records on a monthly basis of changes in space occupation. This is fed into a spreadsheet system rather than a CADFM. The monthly reports include statements on the occupancy of each building and its spare capacity. This data is reproduced in the form of "traffic light" reports which highlight problems as they emerge for action.

What will happen regarding space utilisation management:

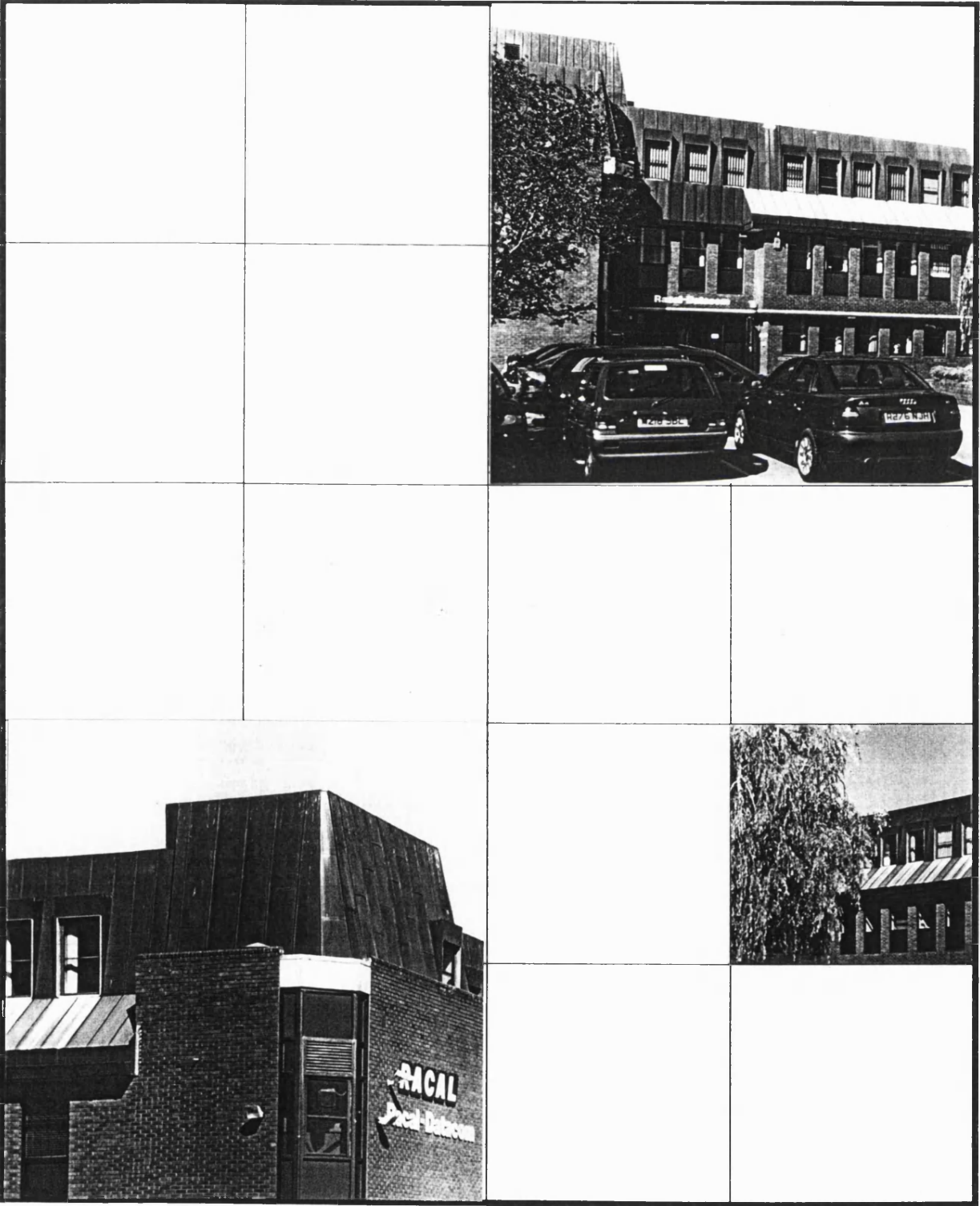
- * The shift towards 12 hour offices will continue. The company already operates a twilight shift to enable part time workers to be employed in the evenings. Call centres already function on a 24 hour basis although demand is greatest during the day and evening. Change is illustrated in the Deployment Centres which used to be a series of personnel to translate a request for help from a motorist into roadside assistance. This is now handled by the person who takes the call and via the I.T. software, satellites and a printer in the van.
- * Planning will become increasing a reactive process as longer terms plans are unable to be formulated.
- * New working practises are being piloted to enable individuals to work from home and call centres to be remotely located. This is expected to lead to move staff being based in an area but through business expansion the total area is likely to remain fairly constant.

What should happen regarding space utilisation:

- * Business cases should be able to demonstrate that some 1960's office stock is undesirable to be occupied. The difficulty is that the existing space is too cheap for individual Divisions to be able to move because the new alternative will be more expensive and thus undesirable for an annually reviewed cost centre.
- * Premises investment decisions should be taken at a corporate level rather than Divisional level in order to achieve consistently higher standards.

Offices

Private Sector D



Offices: Private Sector D

Individual: Facilities Manager

Organisation: I.T. Systems Division of Multinational Group

Estate Data: G.I.A. 12,000 sq m

Estate comprises one Headquarters site of 6,000 sq m and 12 outstations ranging from 200 to 1,000 sq m (Service Centres, Regional Offices and Storage/Distribution points).

A property division of the parent organisation owns all property for the group and leases sites and buildings to all other divisions.

Background:

The organisation is the Datacoms division of a multinational Electronics Corporation with its background in electronics. It has moved out of manufacturing and now assembles and distributes a range of products from modems to complete networks. Following a period of declining profits and finally losses, the Division is in the process of being sold to an American electronics company on the strength of its existing customer base.

The total headcount has reduced from 750 to 250 in a series half yearly reductions over the past few years. Occupancy levels have similarly reduced and a single 10,000 sq ft floor on the headquarters site now stands empty.

Estate functions report to the Finance Director.

Space occupied is charged to one of 2 departments; Networks and Products, via their monthly profit and loss accounts as a single "building services" charge. Space Audits are conducted on a quarterly basis to update records and ensure that capacity exists for new staff and teams to be deployed to match new business.

The existing headquarters office buildings are of late 70's and 80's vintage with relatively deep plans and centralised air conditioning.

OPINIONS EXPRESSED:

General.

The pending sale has halted change. Improvements in efficiency (and some new orders) are being held back to show improvements under the new management.

Existing space standards are too large. New methods of working were being introduced, especially for the sales team.

Operations are basically 8.30 am to 5.30 pm plus a 24 hour telephone helpdesk facility operating from a self contained suite next to the staff catering area.

What will happen regarding space utilisation management?:

The existing 6,000 sq m headquarters function could fit into 3,000. A proposal to purchase an existing office 4,000 sq m site locally is being considered. This would have immediate capacity for the expansion that the division expects to follow its American take-over plus adjoining land to extend.

Space standards will be reduced. This will be accepted by staff because of the prevailing financial circumstances.

The 12 existing outstations are expected to be reduced under new ownership to 2, one serving the south of England and one serving the North and Scotland. The Headquarters function is expected to relocate to a 4,000 sq m building. Service engineers carry very little stock in their vans and at their depots. A selection of likely spare parts are now dispatched by an outsourced spares distributor direct to the customer in advance of the engineer's arrival; he then replaces the appropriate part and returns the surplus parts for restocking and the failed part for recycling.

Sales teams and Product Managers will be home based and will "hot desk" when visiting one of the 3 office sites - North, South or Headquarters.

The trend towards open plan offices will continue with a limited number of senior management cellular offices and bookable meeting rooms. There has been a shift from cellular to open plan in the existing buildings and this has worked well environmentally and the teams have expressed satisfaction.

What should happen regarding space utilisation?:

Service centres should not be required. The 60 engineers serving the U.K. will work from their homes / vans and only visit company offices for briefing and training sessions.

The division should match the opportunities being made available by its own datacoms products and "practice what it preaches".

APPENDIX D

Interview results

Health public 1 - Teaching Hospital N.H.S. Trust
2 - City Hospitals N.H.S. Trust
private 3 - Nursing Care Charitable Trust
4 - Healthcare Provident Association

Office public A - County Council
B - City Council
private C - National Vehicle Recovery Group
D - I.T. Systems Division

Gross Internal Areas (sq m)

		0-50k	50-100k	100-250k	250-500k	over 500k
Health	public	.	.	1	.	.
	private	.	.	3	.	.
Offices	public	B	.	.	.	A (1.6m)
	private	D	C	.	.	.

1 SPACE STANDARDS

1.1 What are the source(s) of your space standard(s)?

	Government	Statutory	Internal Benchmark	Other	Comments
Health Offices	1 2 3 4 (HBN) A	1 2 3 4 A B C D	3 4 1 A C D C	3* B#	* earning capacity # no formal standards

1.2 How would you describe your use of space standards?

	Formal		Semi		Informal	Other	Comments
	(i)	(ii)	(iii)	(iv)	(v)		
Pre occupation Health Offices	2 4 .	1 A	. C D	. .	3 B	. .	
Post occupation Health Offices	. .	. .	4 .	1 A	2 3 B C D	. .	

1.3 How rigorously are the standards applied?

	Very	Partial	Minimal	Other	Comments
Health Offices	. A D	1 2 4 .	. B	3* C#	* minimums must be achieved # depends on building config.

1.4 How long have the current space standards been in place?

	0-1 yr	1-3 yrs	3-5 yrs	5-10 yrs	Other	Comments
Health Offices	. .	. A	3 C D	1# 2# 4 .	. B*	# updates of H.B.N.'s ongoing * no formal standards

1.5 Are the space standards considered

	Too large	Reasonable	Too small	No longer app.	Comments
Health Offices	. D	1 3 4 A C	. .	2* B	* should be individ assessed

1.6 What sort of records are kept of space occupation

	Central CAD	Local CAD	Paper based	Comments
Health Offices	1 2 3 A B C D	. .	4* .	* expected to change to CAD

2 AUDIT

2.1 Do you routinely conduct Space Audits?

	Yes	No	Comments
Health	3*	1 2 4**	* part of annual business planning ** start next year
Offices	A C D	B	

2.2 What is the frequency of Audit?

	Quarterly	Annually	When necessary	Comments
Health	.	3 4*	1 2	* Audits start next year
Offices	D	C	A	B does not audit

2.3 What is the your approach to Space Auditing?

	Formal	Semi-formal	Informal	When requested
Health	3	.	.	1 2 4
Offices	C D	.	.	A
Offices				

2.4 Is the organisation activity / headcount

	Increasing	Static	Reducing	Other
Health	1 2 3 4	.	.	.
Offices	.	A	B C D	.

2.5 Is the size of the estate

	Increasing	Static	Reducing	Comments
Land - Ha				
Health	3*	4	1 2	* acquisitions based on growth
Offices	.	A B D	C	
Buildings - Sq m				
Health	3 4	2	1	
Offices	.	B D	A C	

3 UTILISATION

3.1 Are the pressures on levels of space utilisation expected to

	Increase	Be maintained	Decrease	Other
Organisation				
Health	1 2 3 4	.	.	.
Offices	A B D	C	.	.
Department				
Health	1 2 3 4	.	.	.
Offices	D	A B C	.	.

3.2 Is % space utilisation

	Increasing	Static	Decreasing	Other
Health	1 2 3	4	.	.
Offices	A B C D	.	.	.

3.3 Is % time utilisation

	Increase	Static	Decrease	Other
Health	1 2 3	4	.	.
Offices	A C D	B	.	.

3.4 What is the most important factor driving change in space utilisation

	Cost Improvement	New Work Practices	Workload	Other
Organisation				
Health	1 3	4	2	.
Offices	A B C D	.	.	.
Department				
Health	.	3 4	1 2	.
Offices	A B D	C	.	.

4 PLANNING

4.1 Do you have a stated Estate Strategy?

	YES	NO	Comments
Health	1 2	3* 4*	* Dev. frameworks for individual sites
Offices	.	A B C D	

What is the basis of Estate Planning?

	Formal	Semi	Informal	Other	Comments
Health	1	.	2*	3** 4**	* short & long term formal version is being prepared ** estate solutions to business needs
Offices	.	C	A B D	.	

4.2 Typically how far ahead do you look?

	0-1 year	1-3 years	3-5 years	Comments
Organisation				
Health	.	4	1 2 3	
Offices	.	B C D	A	
Department				
Health	3* 4*	1 2	.	* Local sites respond to central direction
Offices	.	A B C D	.	

4.3 What arrangements exist to address unexpected change?

	Formal	Informal	None	Other	Comments
Health	.	4	2 3	1*	* pragmatic based on collapse of capital
Offices	.	A C# D	b	.	# 30 day disaster recovery plans

5 SPACE MANAGEMENT

5.1 Who is responsible for the configuration of space

	Central	F.M./Estates	Outsourced	Localised	Comments
Organisation					
Health	2* 3**	1 4	.	.	* large scale redevelopment ** national F.M. office
Offices	.	A B C D	.	.	
Department					
Health	3#	1 2 4	.	.	# national F.M. office
Offices	.	A B C D	.	.	

5.2 Is there a group or person who is responsible for managing utilisation?

	Central	F.M./Estates	Outsourced	Localised	No-one	Comments
Organisation						
Health	.	1	.	3	2 4	
Offices	.	A B# C D	.	.	.	# theory - no resource
Department						
Health	.	.	.	1 3 4	2	
Offices	.	A B C D	.	.	.	

5.3 Are there formal space charging systems?

	Yes	No
Health	3	1 2 4
Offices	A B C D	.

If so, on what basis?

	By area	Headcount	Activity	Comments
Health	3 4*	.	.	* next year
Offices	A B C D	.	.	

5.4 How is the total space used by a group funded?

	Central	Department	Work Group	Other
Health	1 2	3 4	.	.
Offices	.	A B C D	.	.

5.5 What do you consider to be the key indicator(s) prior to major change?

	Strategic Opportunities	Poor Efficiency	User Complaints	Other
Health	1 2 3 4	.	1	.
Offices	A B C	.	A	D* * shrinking organisation

6 ABILITY TO RESPOND TO CHANGE

6.1 Have recent space changes been:

	Foreseen	Part. expected	Unforeseen	Comments
Health Offices	1 3* C	4 A B D	2 .	* 38 sites mean only 1st is unforeseen

6.2 Are your provisions for change:

	Formal	Semi-formal	Informal	Other
Health Offices	3 .	1 2 4 C	. A B D	. .

6.3 What percentage of space managed *would be desirable* to be available to allow for change /reconfiguration / refurbishment (excluding cost penalties)

	0%	.5-1%	1-2%	2-4%	4-7%	7-10%	Other
Health Offices	3 4 .	. A C D	. B	1 2.	..	..	..

6.4 What percentage of the space managed does the organisation *actually keep / have in reserve* for change

	0%	.5-1%	1-2%	2-4%	4-7%	7-10%	Other
Health Offices	1 3 4 C	. A	2 B	. .	. .	. .	. D*

* 2/3rds reduction in headcount
- previously 0.5 - 1.0%