

January 00/04

Good practice

Guidance

An institution's estate is one of its most valuable assets. It creates the first impression of the organisation, so is a key element in marketing. This document provides guidance on the process for developing an estates strategy.

Estate strategies: a guide to good practice

Estate strategies

A guide to good practice

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Estate strategies

A guide to good practice

To	Heads of HEFCE-funded higher education institutions Heads of HEFCE-funded further education colleges Heads of DENI-funded universities
Of interest to those responsible for	Estates; Finance; Strategic planning
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Executive summary

1. An institution's estate is one of its most valuable assets. It creates the first impression of the organisation, so is a key element in marketing the institution.
2. An estate strategy draws its aims from the institution's corporate plan, and establishes the estate needs to achieve these aims. It looks at the buildings and facilities available and addresses potential shortfalls in space, surplus space, and unsuitable or inappropriate space. It also considers opportunities for development, rationalisation or reconfiguration of the estate.
3. Developing an estate strategy is an important process. Given that many institutions will be updating or rewriting their strategies in 2000-01, five years after their original strategies were written, it was decided that a revised guide would be appreciated.
4. The key points of this guidance are:
 - a. An estate strategy needs to be part of the institution's corporate strategy, supporting the achievement of its aims and objectives. There should be identified links with the institution's mission statement and the academic plan.
 - b. As a first step, institutions could develop a specification, based on the overall strategy for the institution, setting out what they want the estate strategy to deliver.
 - c. There may be an early consultation with staff and students on this specification.

- d. The support and ultimate approval of the governing body are essential; institutions might also wish to communicate with the governing body throughout the process.
- e. The development of the strategy should generally be overseen by a small focused group, with representatives from the academic community, finance, estates and planning. This group will need to communicate with, and gain the support of, the governing body.
- f. The estate strategy will generate a large number of options, but comprehensive appraisal (carried out in line with published guidance) should be focused on three or four realistic options.
- g. The estate strategy should contain a full performance assessment of each building.
- h. The estate strategy should be developed in the context of the institution's financial strategy (including sensitivity analysis).

Introduction

5. Developing an estate strategy is an important process. Given that many institutions will be updating or rewriting their strategies in 2000-01, five years after their original strategies were written, we are of the view that universities and colleges would appreciate a revised guide incorporating good practice developed in recent years.

6. Our objective is to provide a document that explains the benefits of an estate strategy, the key processes, and the issues and people to be considered, with an example of good practice.

7. This guidance is not prescriptive; nor does it impose a requirement on institutions to write or rewrite their estate strategies. Institutions should develop strategies to suit their own circumstances.

8. We are grateful to our steering group and to many individuals in universities and colleges for their help in developing this guidance (see Annex C).

Benefits of an estate strategy

9. An institution's estate is one of its most valuable assets. On average, 12 per cent of its income will be used on the estate. The 'look and feel' of the estate has a major bearing on the perceptions of the institution as a whole, by staff, students, and commercial and local stakeholders.

10. In addition, the long lead times of capital projects, the interrelationship between one project and another, and the large sums of money involved mean that developments have to be planned well in advance. It is therefore essential to have a plan for the estate in order to make the best use of physical resources for the benefit of the institution and its surrounding community.

11. A well thought through estate strategy can also play a significant role in attracting external funds, particularly where there is competition for funding.

Developing the strategy

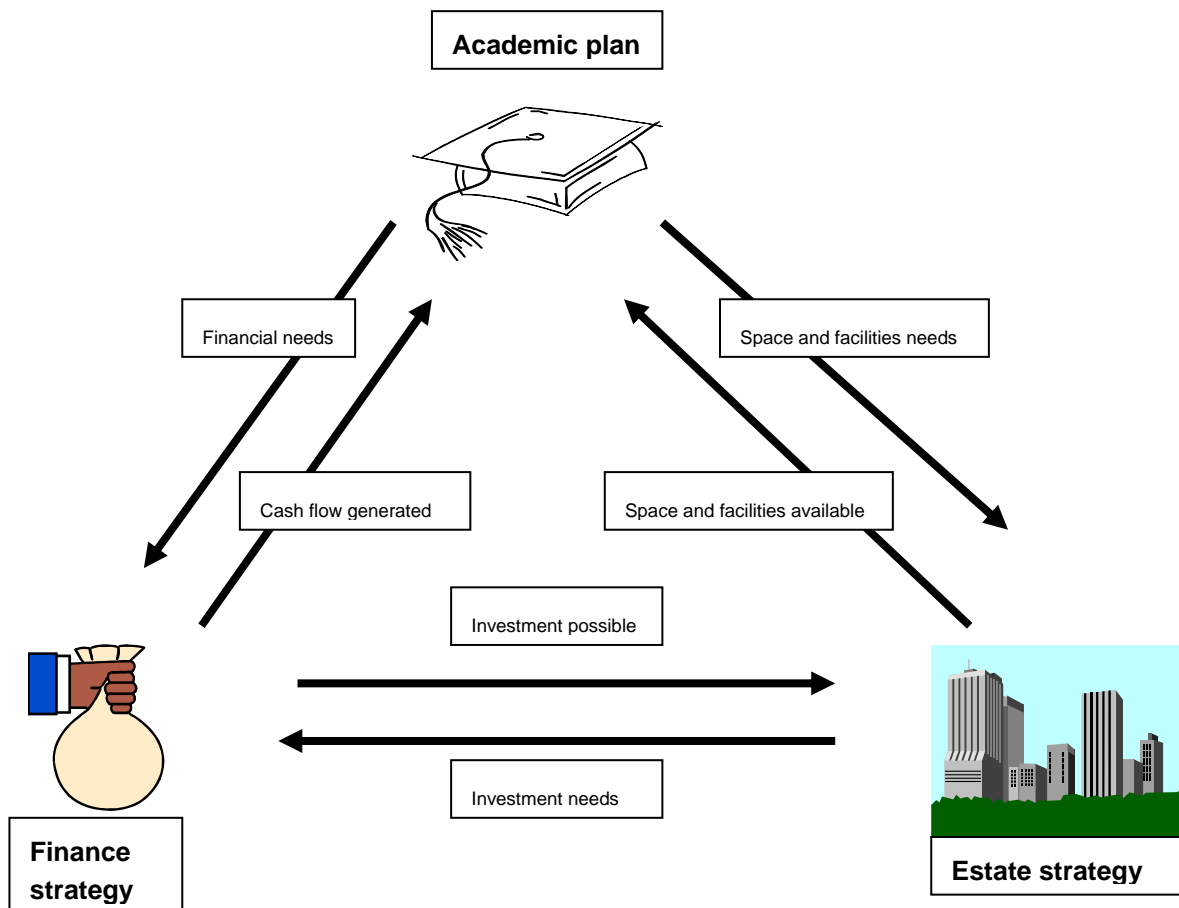
12. Many institutions have found that the process of developing the strategy, involving much of the institutional community, provides a focus for debate and sets long-term targets. However, the production of an estate strategy document is not an end in itself. It has to be rooted in and supportive of the institution's overall corporate plan, and must take account of the financial resources available. It also needs to be reviewed annually.

13. An institution's corporate plan will have a number of enabling strategies and plans, including academic, finance, estates, marketing, human resources and IT. These all support and contribute to the achievements of the institution's aims and objectives.

14. The estate strategy depends on the corporate plan to determine its ultimate objectives. The corporate plan needs an estate strategy to establish what physical resources are available and to ensure its academic aims can be achieved. Linked to both of these is the

finance strategy, since if the funds are insufficient, neither the corporate plan nor the estate strategy will be realised. Similarly, both the estate strategy and the academic plan can input to the finances of the institution by careful planning and management of opportunities. This can be summarised as a 'planning triangle' (Figure 1).

Figure 1 **The planning triangle**



Self-assessment questions

15. The following self-assessment questions may help institutions to focus on key issues when reviewing or developing their estate strategies.

Links to strategic objectives

- Is there a clear fit between the objectives for the estate and the institution's strategic objectives?
- Are there explicit links between the estate strategy and the institution's overall strategy; for example, is there a clear specification of what the strategy is to deliver?
- Does the estate strategy support the institution's strategic aims?

Roles and responsibilities

- Is the role of the governing body clearly understood and defined?
- Is there a logical and clear definition of responsibilities for developing and reviewing the estate strategy, and are all responsibilities allocated?
- Are governors, staff, students and external stakeholders involved in the process?
- Are the necessary resources available to develop the estate strategy, in terms of time and skills?

Communication

- Is there a clear and appropriate approach to communicating with the governing body, senior management team, key academics and heads of support services?
- Is there a consultation process with external stakeholders?

Process

- Are the approach and underlying rationale to developing the estate strategy clearly set out?
- Has the institution critically examined a wide range of options and focused on the most practical ones?
- Is it clear that the institution can afford the estate strategy or preferred option? Have a number of financial scenarios been considered?
- Does the strategy set out the performance of all individual buildings?
- Has the institution prepared a developmental plan which shows what the estate might look like in 10 years?
- Is there a clear process and timetable for monitoring and revising the strategy?

Content and format

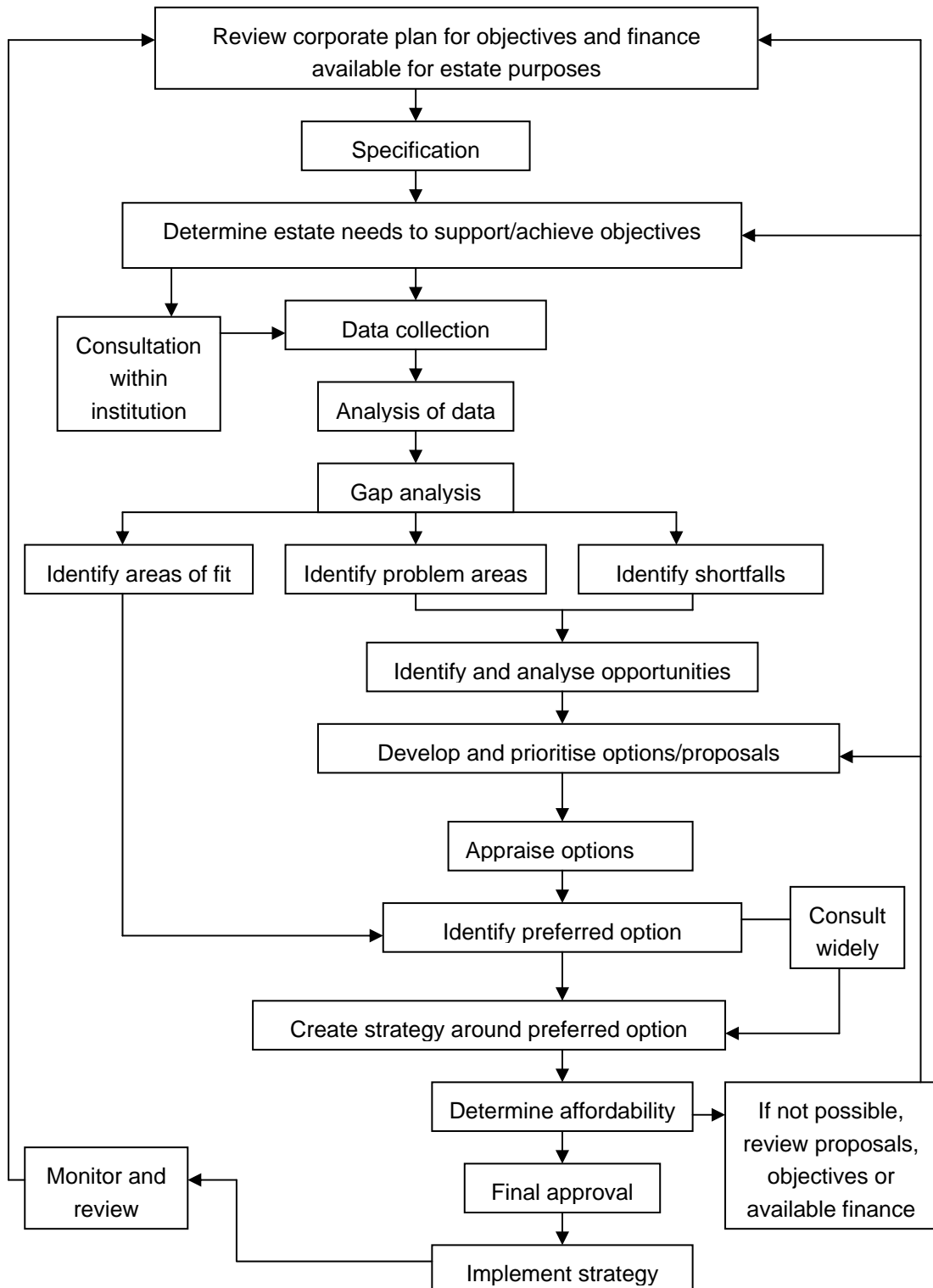
- Would an outsider gain an accurate (and positive?) impression of the institution from the estate strategy?
- Is the estate strategy a clear and useful document?
- Does the document cover all the areas that are important to the institution?
- Does the estate strategy promote the effective management of the institution's estate resources and investment in the most effective manner?

- Does the strategy include clear standards and targets – such as condition of buildings, space utilisation and so on?

Process

16. A wide variety of processes can be used to create an estate strategy. Figure 2 illustrates one possible sequence of processes, which are discussed in more detail below. These are not exhaustive nor necessarily the ideal solution for every institution.

Figure 2 **A process for creating an estate strategy**



Determine estate needs to support objectives

17. The first step is to use the institution's corporate plan, which includes its long-term aims and objectives, to prepare a specification for the estate strategy. This has the benefit of focusing subsequent debate and providing a framework against which different options can be assessed. Institutions will probably want to put this specification to the governing body.

Specification

18. The specification will have a number of elements, and could include:
- a. A guiding vision or statement with which to steer developments and proposals for the very long term. For example, one university believes that its estate should be the physical embodiment of its mission: open, accessible and transparent. Others may wish to make reference to their historic background or their place in the local community.
 - b. Planned changes in student numbers in different disciplines, desired changes in research activity and planned staff number changes over the planning period (normally between five and ten years). It may only be possible to include target ranges rather than precise figures.
 - c. A consideration of the academic delivery systems to establish what additional needs may be generated, for example in terms of space, IT networks and human resources.
 - d. Any locations where the institution must have a presence as part of its mission, for example an outreach presence in a particular community.
 - e. Any constraints and key policies. For example, a number of institutions are hampered by severe planning constraints, others wish to set specific financial and service level targets for the estate, and many are considering the desirability of sustainability targets.
 - f. The desired quality of buildings in terms of finishes, design and space standards.
 - g. The desired spatial connections between different elements of the institution. For example, one institution has determined that it wants to present one of its sites as a business campus, another as the part-time campus. Another institution has prepared a conceptual map showing which disciplines should be grouped together to generate academic synergies. This can be articulated in a master plan or development framework (see Annex E).

Consultation on specification

19. For the estate strategy to succeed, there must be broad support from the various stakeholders. By involving them at the outset, academics, staff and students will feel that

they are part of the strategy and are more likely to support it even if difficult solutions are put forward. Consultation on the specification serves four major functions:

- it involves the widest possible range of people
- it can identify issues and facts that are not known or fully appreciated at the centre
- it creates a sense of ownership of the strategy among staff
- it aids acceptance of the need to prioritise resources.

20. One means of consultation is a circular letter sent to all heads of department and those responsible for support services, requesting feedback on the problems and opportunities for their departments and how they relate to the estate. This could cover overall space shortages, fitness for purpose, possible future requirements as a result of changes in the curriculum or ongoing research, as well as developments in undergraduate studies and proposed future collaboration within departments that could necessitate a relocation. Institutions may find it helpful if the circular letter includes an explanation of the context and purpose of the strategy, together with key elements of the specification.

An example of consultation feedback was given by one institution whereby the academic departments were well catered for in the estate strategy, including an expected growth of 30 per cent in student numbers. However the sports facilities had remained unchanged for 30 years, during which the student population had doubled.

21. A more pro-active approach to consultation could include structured interviews, workshops or senior management team away days.

Data collection

22. The specification sets out where the institution wants to be in terms of its estate. The next process is to assemble the appropriate data. Annex F describes the range of information that can be collected. The list is not exhaustive, nor is it suggested that all items should be included in the final estate strategy document. In many cases it would be more appropriate for the information to be in a separate document or in appendices to the estate strategy.

Analysis of data

23. Data analysis starts with a detailed assessment of the academic plan to ascertain the space requirements of the institution. A schedule can then be drawn up of the amount and type of space required for each function and department. A comparison can then be made, sometimes known as a gap analysis, between the future requirements and the existing estate. This provides a schedule of problems to be solved on the estate, and the opportunities open to the institution to solve them.

24. A gap analysis can be undertaken in a number of ways. Institutions may wish to use one or more of the following:

- a. By academic department or faculty. This requires a wider planning picture and an open mind about moving departments within the institution, or even between institutions if a collaborative arrangement is a suitable solution.

- b. By problem area. As indicated in the sample estate strategy (Annex A), each problem is taken and a number of alternatives given as opportunities, then a proposal given to solve each problem.
- c. By building. Each building is looked at in terms of its existing use and its future potential, with the opportunities outlined to expand or redevelop the building to fulfil its future needs.

Identify options

25. Generally, the strategic options available to institutions at the macro level are quite limited, but it is possible to seek to generate alternatives in a structured way. For example, some organisations run tailored workshops with external input on, say, market conditions, technological developments or social change. This is used to generate new possibilities in terms of what spaces will be needed and where. Initially institutions should attempt to be as creative as possible, and not dwell on constraints. All the options, with a 'do nothing' or 'do minimum' option, should then be critically examined. It should then be possible, quite quickly, to narrow the realistic options down to three or four, and to examine them in greater detail to identify the preferred option.

Appraise options

26. There is a substantial body of information on how to appraise investment options (see 'Appraising investment decisions' HEFCE 99/21). Options should also be appraised against the specification developed earlier and against the aims and objectives of the institution. It is generally not necessary to include details of all option appraisals within the strategy itself; relevant appraisals could be in a separate technical document.

Analyse preferred option

27. Having identified the preferred option, the data analysis can be used to identify the major problems and opportunities. This element of the strategy is where relative priorities can be established. This will form the basis of subsequent operational plans, which have to be developed more frequently.

Determine affordability

28. The institution's corporate plan should have established a financial framework within which the estate strategy can be delivered. This will be in the context of the availability of both capital and recurrent finance. However, at this stage there may be a mismatch between the aspirations developed and the finance available. It will therefore be necessary to review the process, determining which elements need to be changed: the specification, the finance, or the timescales for achievement. Eventually all three will be in equilibrium.

29. However, with the uncertainty that institutions face it is probably desirable to consider a number of financial scenarios. Institutions will need to refer to their finance strategy and financial constraints. Depending on the length of the planning period, they may also wish to consider government policies that encourage growth, consolidation or reductions; and changes in interest rates, building costs and property prices.

Review

30. Having produced a strategy, this will form the basis for preparing annual operational plans. These plans should be formally monitored and kept up to date. The strategy itself should also be kept under review. We would normally expect there to be an annual report to the governing body (or appropriate sub-committee) on the estate strategy changes. There is likely to be a substantial review supported by governors mid-way through the strategy term, but progress with key operational targets may be reported more regularly.

Consultation and final approval

31. It is likely that a working group will be set up to shape and develop the estate strategy. However, when the strategy is in its near final form, approval of the senior management team, estates and buildings committee, policy and resources committee and the governing body will be necessary. Institutions will also have to determine at what stage – for example, before or after presentation to the governing body – to consult with the rest of the institutional community and other stakeholders. A number of institutions prepare a consultative draft for consideration by the governing body, and then report back the results of that consultation before agreeing the final draft. Other institutions may find a more continuous process desirable (see box).

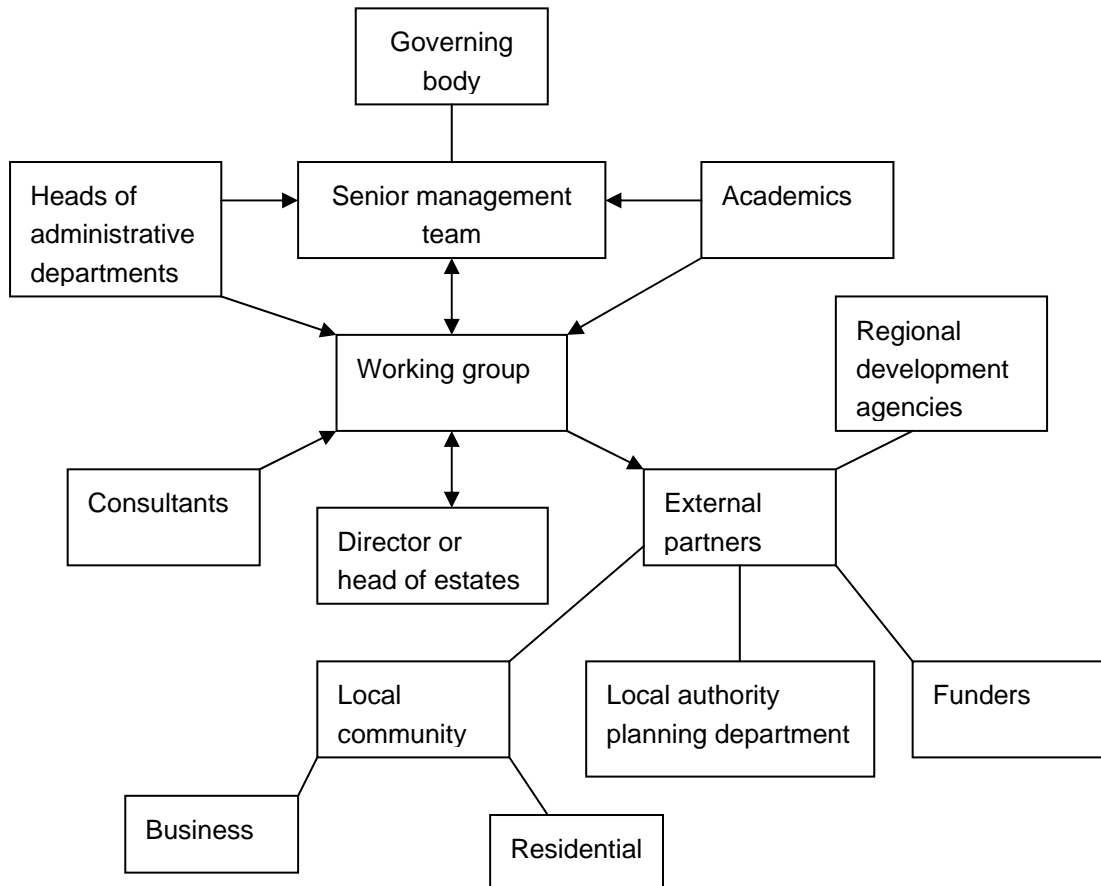
One institution ran briefings every six months to inform all those who were interested about the development of the estate strategy and the key issues that had arisen. This not only had the desired effect of bringing in the support of the academic and non-estates-related staff, but also helped to iron out inconsistencies and queries which had arisen in an open forum session. At the end of the process, the estate strategy was a document that was owned by the institution and reflected a number of issues within the institution as a whole.

Other institutions have adopted a more conventional approach whereby all staff are sent written requests for information and written reports of the progress of the estate strategy, and are invited to comment in writing or via their heads of department or pro vice-chancellor. Most found that there were very few written responses, but that the general feeling of satisfaction and involvement by all departments was much greater than if they had not been invited to comment.

Responsibilities

32. The director or head of estates will be a major contributor to the estate strategy, but it is essential that other people are involved, to ensure that the process and its outcome are owned by the institution as a whole (see Figure 3). This section focuses on some of the responsibilities that can fall to various groups; however, not all will be applicable in every circumstance.

Figure 3 Responsibilities in developing an estate strategy



Role of governing body

33. Institutions should consider how they will communicate with the governing body about the estate strategy. They may wish to involve the governing body from the outset in agreeing the specification. Approval of the strategy will initially fall to the estates and buildings committee (or similar body) but final approval will lie with the governing body.

Use of working groups

34. These responsibilities can be discharged and integrated by using a working group to oversee the production of the estate strategy. The composition of the working group and the use to which it is put is a matter for individual institutions. However, a number of key points arose from discussions with institutions:

- a. Working groups appear to work better when they are small and focused. A large committee-type structure can create delays and stifle creativity.

- b. The working group will probably need to include representatives from the academic community (ideally a pro vice-chancellor), the finance department (ideally the director of finance), the planning department (ideally a director of planning), an estates professional (usually the head of estates). In some small institutions, one person, normally the bursar, may cover several of these roles. The working group should consider how it will communicate with the governing body.
- c. There is no one right way of organising a working group.

One institution described its working group as a small but intense group of people that included the deputy head of institution, the director of planning, the secretary, and the director of estates. They met frequently in an informal setting to allow a greater exchange of ideas in the early stages, and between them produced a high quality estate strategy.

Use of consultants

35. There is a potential role for external consultants. Some institutions may not have the necessary time, resources or range of expertise to produce all areas of their strategy. Further, external consultants can bring an additional, sometimes challenging, perspective to key assumptions and provide opportunities to compare approaches, problems and performance with other institutions and sectors. However, if external consultants have the whole responsibility for producing an estate strategy, they are unlikely to produce something that is sufficiently owned by the institution or rooted in the academic mission to be fully effective. The relationship should be one of partnership. Institutions will need to be clear on the reason for using consultants, to set out the purpose and brief for the assignment, and to actively engage with the chosen consultant to ensure that any outcomes fit the needs of the institution. Above all, the institution should maintain overall control of the estate strategy.

External partners

36. Many people outside the institution will have an interest in the estate strategy, and will need to be involved. These may include:

- a. Planning authorities. The estate strategy needs to be discussed with the planners at an early stage, to identify both possible constraints and opportunities for resolving them, for example by generating planning gains. Institutions also need to engage with their Regional Development Agency to ensure that there are no regional planning guidelines or local regeneration issues that might inhibit their strategy.
- b. Local community. It is important at the outset to consider the advantages of involving the local community, both residential and business, and other relevant interest groups.
- c. Funders. Institutions can draw on information from external funders about future opportunities, and need to be aware of the various funders' expectations as to the content of an estate strategy.

Collaboration between institutions

37. Institutions are increasingly seeing the benefits of collaboration. For example, in the Manchester Higher Education Precinct Area (involving UMIST, University of Manchester, Manchester Metropolitan University and the Royal Northern College of Music), major facilities schemes have been procured at a lower overall cost to each institution. Academic collaboration can result in very large savings in capital and running costs. Collaboration is not dependent on physical location, but requires individuals at institutions to initiate and co-operate in joint schemes.

Estate strategy format

38. There is no ideal template for an estate strategy: it should meet the needs and circumstances of each institution. This section describes one possible format, which has been used for the sample estate strategy at Annex A.

Executive summary

39. This is an overview of the document, generally no longer than one or two pages, and is normally directed at senior non-estates people. It should highlight the main points of the estate strategy giving key indicators of the estate such as gross size, overall condition percentages, a broad outline of development proposals, and a brief description of the major problems and opportunities. It should be drafted without jargon, reflecting its likely wide audience, and should only make reference to information in the body of the strategy.

Introduction and overview

40. This sets the tone of the estate strategy and gives an overview of the institution. It will often include a brief history of the institution and how it has developed.

Strategic objectives

41. The strategic objectives of the institution are crucial to the estate strategy. This section, normally not longer than one page, draws out the relevant points in the corporate plan and the mission statement which influence the estate and hence the estate strategy. It is mainly concerned with where the institution wishes to be in the long term.

42. This section should include targets such as projected student numbers, statements about the expected quality of teaching and research, and goals that the institution is aiming for.

43. There are unlikely to be issues of confidentiality since this summary provides only the broad aims of the institution rather than detailed analysis of how they will be achieved.

44. It may be helpful to include some consideration of what the key drivers of change may be. These are factors that will affect the objectives of the institution and can cause a change in direction in the corporate plan. They could include changes in teaching and learning methods, in modes of attendance, or in government policy.

Estate data

45. Descriptive data will help operational decisions and inform strategic planning. Data could be collected on the following aspects of the estate:

- size
- condition
- age
- value
- use

- fitness for purpose
- space utilisation
- tenure
- running costs.

Size

46. Size should be measured on a net internal and gross internal basis, in accordance with the Royal Institution of Chartered Surveyors (RICS) code of measuring practice, and should be consistent throughout. Ideally, space should be measured in each building, distinguishing between teaching, research and support space. It is suggested that the measuring practice given in Annex B of this document and consistent with HEFCE Circular 1/93 be followed.

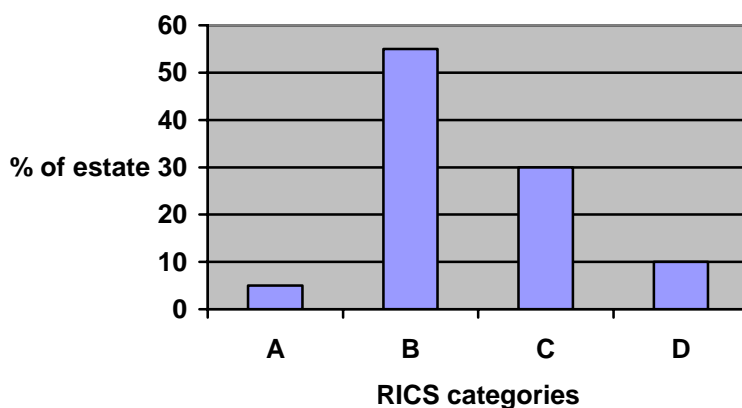
Condition

47. Condition should be shown for each building, using the RICS building maintenance indicators:

- A = new or as new
- B = sound, operationally safe, exhibiting only minor deterioration
- C = operational but major repair or replacement needed soon
- D = inoperable or serious risk of failure or breakdown.

The percentage of the whole estate in each category can then be shown graphically, as in Figure 4.

Figure 4 **Condition of the estate**



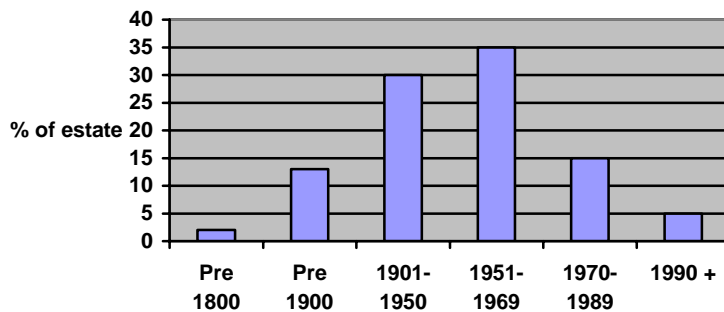
48. Institutions should keep the condition survey up to date. Many institutions undertook surveys of their estate in 1992, funded by the HEFCE (the Hunter and KDK surveys). These will not provide an accurate picture of the condition of any institution in 1999-2000 and are likely to seriously understate the amount of work required to remedy faults.

49. Although it may not be appropriate to include a full planned maintenance programme in the estate strategy, mention should be made of the annual and total budgets required to bring the institution's estate to the desired condition.

Age

50. The condition of the estate is linked with its age. It may be helpful to show any correlation between age and condition, using graphs.

Figure 5 **Age of the estate**



Value

51. Within the estate strategy, it is enough to state the overall value for balance sheet purposes and the basis of valuation in accordance with the RICS 'Appraisal and Valuation Manual'. This section could highlight properties which have a particularly high or low value and which it may be appropriate to sell off or to retain and develop in-house. Institutions should also consider the opportunity cost of properties, particularly those with limited use.

Use

52. If an estate plan is prepared showing the use to which each building is put, it can demonstrate which departments have certain size holdings and where. This can then be used to understand the context of future development.

One institution has undertaken a spatial analysis of its estate, on the basis of whether departments that work together are located in a similar area. This has resulted in reduction in the amount of space used and in the duplication of services.

Fitness for purpose

53. Any buildings that are inherently unsuitable should be identified, along with consideration of alternative uses. These may include administrative or social as well as academic purposes. Changes in technology, increasing expectations, and limited flexibility may lessen the suitability of a particular building for its current use, but again there are often alternatives.

54. It is also worth considering the fitness for purpose and capacity of the infrastructure, such as roads, substation mains and drainage, and whether these can support new developments.

Space utilisation

55. It is good practice for institutions to have a space strategy, which will typically look at standards, utilisation rates, options for remodelling, management techniques, targets and monitoring. Such a strategy can be annexed to the estate strategy.

56. Whether or not there is a space strategy, it is often beneficial to make separate mention of the institution's existing space practices and utilisation levels, with aims and future requirements.

Tenure

57. Information on the tenure of buildings and title restrictions should be included to inform the decision-making process. Details of covenants, mortgages, grants, any listed buildings, and the length of any leases may affect decisions on whether to retain, develop or dispose of a property.

Running costs

58. Ideally running costs should be calculated for each building, and should focus on total property cost including maintenance, as suggested in the report on estate management statistics (HEFCE 99/18). Data can be presented in a number of ways: one is to list all the cost elements on each building, perhaps giving one full page to each building with a photograph.

59. Institutions may also have an energy policy, which could be annexed to the estate strategy. Issues such as recharging departments for actual consumption may be highlighted in the strategy.

Building performance assessment

60. The performance assessment looks at how each building compares with others in terms of its overall performance. In addition to the current condition, use, utilisation rates, value and fitness for purpose, it is also worth noting any likely future changes that will affect the overall performance. These data will enable the institution to work out the contribution of each building to the estate, and how it will support the institution's strategic aims and objectives.

61. A matrix table such as the one in Figure 6 could be used to compare the elements of building performance. Institutions may wish to widen or narrow the indicators chosen, or use alternative measures (such as statutory compliance or value) to identify good or bad performance. Such a matrix can be used to focus investment and as a performance target for the estates department.

Figure 6 Comparisons of building performance

Building	Suitability for existing use	Flexibility	Condition	Space utilisation	Size	Running costs	Tenure	Fitness for purpose	Overall assessment
Building A	3	1	3	2	1	3	3	2	2.25
Building B	5	4	4	3	3	5	5	4	4.13
Building C	1	1	2	1	1	1	1	2	1.25

Key 5 = excellent 3 = average 1 = poor
 4 = above average 2 = below average

62. Guidance on estate statistics highlights a number of key estate ratios, by which an institution can gauge the performance of its buildings. See the 'Estates management statistics project' report (HEFCE 99/18).

Future requirements

63. This section outlines what the institution will need in estates terms in the future to satisfy its strategic objectives. The level of detail and the likelihood of achievability will vary from institution to institution.

64. It may be appropriate to use this section as a long-term 'wish' list and then focus on aspects that are achievable in the shorter term within the resources available. They should be prioritised with reference to academic need and the strategic objectives. This leaves scope for more ambitious plans should money become available or circumstances change.

65. Another approach is to produce a rigid set of requirements based upon the institution's corporate plan, and to prioritise them with estimated completion dates. There should also be an estimate of future maintenance needs.

66. The size of the future requirements will to some extent depend upon the existing state of the institution. An institution that has been through a rapid growth period and is now in a state of equilibrium is unlikely to have major development requirements, but will have an increasing maintenance load.

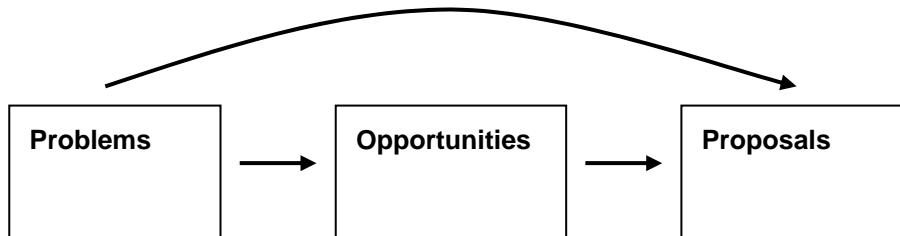
67. It is likely that providing flexibility for the future will be among the long-term requirements.

Problems, opportunities, proposals

68. This part is often undertaken in three distinct sections: problems, opportunities and proposals. However, one of the best estate strategies submitted to the HEFCE in 1995 linked the three together and produced a very effective diagrammatical representation of the three items. It helped to see the issue through from the problem, to the opportunity and proposal stages on each individual building, rather than looking at the problems of the institution as distinct from its opportunities and consequently its proposals. There is no right

or wrong format to follow; however, institutions should ensure that problems, opportunities and proposals are all covered within their estate strategy.

69. Many institutions and consultants would refer to this section as a gap analysis that highlights the shortfalls of an estate. It looks for options to address these shortfalls, and results in a proposal to rectify the situation.



70. Due to the variety of formats which can be adopted to represent problems, opportunities and proposals, institutions may wish to illustrate this section with tables and flowcharts, or alternatively to present the narrative building by building, or problem by problem.

Problems

71. Problems to be faced might include:

- insufficient overall accommodation
- insufficient teaching/research/support accommodation
- wrong size teaching rooms
- unsuitable building/space
- buildings in poor condition
- insufficient specialised accommodation
- insufficient library or sports facilities
- insufficient residences
- lack of flexibility in building configuration
- inadequate disabled access
- inadequate IT and telecommunications services
- high running costs.

72. All problems, both existing and potential, should be identified in the estate strategy. There may be alternative solutions, and a wide range of opportunities should be explored before settling on any proposal.

Opportunities

73. There are often opportunities for solving problems from within the existing estate, as well as opportunities for disposal or acquisition of properties outside of it.

74. Opportunities available to an institution within its existing estate include:

- re-allocation of space

- re-modelling and refurbishment of existing space
- improved space management
- extension of an existing building by adding a floor or by in-filling courtyards or balcony areas
- new-build on land within the institution's ownership
- disposal of surplus land or property, particularly with high development value, in order to fund a new development.

75. There are also opportunities outside the institution's direct sphere of influence. These include:

- collaboration between institutions
- acquisition of new development land or existing buildings (freehold or leasehold)
- collaboration with other non-educational institutions such as local councils, sports providers, art galleries, civic or local libraries, museums, research establishments and industry (most notably manufacturing, medical and engineering research businesses)
- partnership with private companies
- acquisition of freeholds of leased properties
- remodelling of roads or car parks.

Proposals

76. As a result of the analysis of problems and opportunities, a number of proposals or options will arise to solve each problem. In some cases, there may be only one proposal as well as the 'do nothing' or 'do minimum' option; however, in most cases there will be a number of solutions.

Evaluation of options

77. There will normally be more than one way to resolve a problem. The estate strategy should demonstrate that a range of options has been costed and evaluated, and that the preferred option is chosen as a result of these evaluations.

78. The preferred option may be constrained by the limitations of the estate and the institution's financial and other resources. The overall strategy must be achievable, not an ambition which depends on unrealistic assumptions.

79. Normally, there would be a number of options which would include:

- a. A 'do nothing' or 'do minimum' option to set the base position against which other options may be judged.
- b. A high level option which looks at the most extreme and ambitious solution to the problem. This could be, for example, moving the entire institution to a greenfield site. However, unrealistic options will undermine the value of an option appraisal, since the outcome is almost predetermined, so all options should normally be realistically affordable.
- c. A number of mid-range realistic and achievable options.

80. There are some basic steps that should be considered when conducting an appraisal:

- a. Identify the objectives to be achieved.
- b. Explore all possible options, thinking as broadly as possible and utilising external as well as internal solutions.
- c. Only consider the costs and benefits that impact on the institution.
- d. Identify, quantify and value the costs, benefits, risks and uncertainties associated with each option.
- e. Analyse the information.
- f. Include non-financial as well as financial benefits.
- g. Conduct a sensitivity analysis that will demonstrate the impact of changes in the underlying assumptions of the options.
- h. Consider the affordability of each option.
- i. Present the results and make recommendations.

81. More detailed guidance is given in 'Appraising investment decisions' (HEFCE 99/21).

Preferred options

82. From the appraisals, the preferred option or options will emerge.

83. Given the broad nature of the estate strategy, it is not necessary to elaborate upon the preferred option to the level of detail of a project specification. However, it may be useful to highlight the proposed timescale, the estimated cost in time and money, and the outputs that the preferred option will achieve.

84. In order to realise the preferred option it will be necessary to undertake detailed project specifications and an implementation plan. It is useful at this stage to gain the approval and acceptance by the governing body of the preferred option. This will give more credibility to the implementation plan and financing which follow.

Implementation

85. The implementation plan will break down the overall preferred option into a number of manageable proposals to achieve the aims of the strategy. The plan is the link between the strategy and the individual projects. It is often helpful to represent it as a critical path diagram: from establishing the problem, following through the opportunities, proposals, options and preferred options, to implementation and completion.

86. One way of delivering an implementation plan is through a comprehensive business plan, which may include a departmental strategy.

87. The estate strategy must include a realistic assessment of the levels and sources of funding available to finance the preferred options. If necessary, it should also highlight shortfalls. If there are insufficient funds, the estate strategy should highlight what impact this will have upon the fulfilment of the implementation plan, indicating which projects would be delayed or postponed and their impact on the strategic objectives.

88. The specific source of funds for a particular proposal often cannot be determined in advance. However, an institution should be able to form a judgement about its overall ability to meet the financial needs of the preferred options.

Appendices

89. Some or all of the following could be annexed to the strategy, or may exist as supporting documents:

- maps, plans and photographs
- estate terrier – a schedule of all properties
- maintenance plan (see 'Building repairs and maintenance study in the HE sector' HEFCE 98/30 and 98/31)
- building use and floor space schedules
- space planning and utilisation model (see the National Audit Office report on 'Space management in higher education' 1996)
- valuation information
- major works programme
- environmental policy; transport and parking policies
- option specifications and appraisals (see 'Appraising investment decisions' HEFCE 99/21)
- running costs (see 'Estate management statistics project' HEFCE 99/18)
- development plan (see Annex E).

Converting an estate strategy into an annual plan

90. The estate strategy will normally take a five to ten year view of the estate, relating it to the strategic objectives of the institution. It is not an operational, day-to-day document that will enable the projects to be completed. Therefore, the estate strategy should be converted into an annual operating plan, which can be broken down into a series of project plans and scheduled month by month.

91. To do this, it is necessary to take a step back and to pull out all the actionable items. These should be reorganised into priorities and given estimated commencement and completion dates.

92. The institution's operating plan will normally look two years ahead (the second year may be indicative only) to enable more stable activity and resource planning. It would be more beneficial if estates departments could be informed of their likely budget 12 months in advance, to enable accurate work planning to be done. This is particularly important since many estates budgets and plans are agreed in the late summer term, just as much of the estates work is about to start.

93. From this point the institution can choose whether the project plans are divided up into different timescales, or for different buildings, or by discipline (construction works, timetabling, Health and Safety legislation, and so on). These project plans are then distributed to the personnel responsible, with co-ordination usually by the head of estates.

Conclusion

94. Developing the estate strategy is a key process. The estate is a major element of any institution's overall costs, and it is essential that only buildings and land that most effectively support the objectives of the institution are owned and maintained.

95. The estate strategy will provide the framework within which the institution's aims can be developed and realised, and ensure that limited resources are invested in the most effective way.

Annex A

Sample estate strategy

University of Northavon 1999-2009

Contents

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Problems, opportunities, proposals	42
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Appendices (not included)

- Maps, plans and photographs
- Data terrier
- Maintenance plan
- Building use and floor space schedules
- Space planning model
- Building valuation information
- Major works programme
- Option specifications and appraisals
- Running costs
- Development plan
- Master plan

Executive summary

1. The university is on three sites in north-west Bristol. The main site at Northavon Valley is a 200 hectare campus built primarily in the 1960s. The two smaller campuses, two and six miles away from the Northavon Valley site, consist of Victorian and 1930s properties respectively. The estate is explained in more detail in the aerial photograph, maps and plans in the appendix [*none of the appendices referred to are included in this sample document*].

2. The purpose of this document is to review the development of the estate in order to achieve the university's mission and to support its academic plan. The university has a commitment to quality in both teaching and research. During the 10 year period covered by the estate strategy, it is anticipated that growth in student numbers is likely to be 20 per cent, resulting in 12,000 full-time equivalent (FTE) students by the end of the period. This is in line with the university's aim of increasing student numbers to over 10,000 in order to gain economies of scale and cover a broader range of subjects.

3. Analysis has identified:

- the need for expansion in the second campus
- that buildings A, C and D are not suited to their purposes; they account for 24 per cent of our net space and must be improved
- a need for an additional 1,200 bed spaces
- an opportunity to dispose of the city centre properties, which are now in a poor state of repair and which would command a high value on the open market for office use
- that the overall condition of the estate is generally good, with 20 per cent being poor or very poor
- a need to invest in a planned maintenance programme of £2 million a year.

4. The results of the analysis indicate that the preferred option for the university is to consolidate, rationalise and develop the existing estate.

5. The university is confident that the estate strategy is affordable from its own resources. This is backed up by work already carried out in connection with its borrowing capabilities. However, it will seek to exploit additional funding opportunities, since this will enable improvements to be carried out sooner. The capital development programme envisaged over the next 10 years is estimated to be £52 million. This will enable the estate to support the high quality teaching and research already being undertaken, in buildings appropriate to the high academic standards of this university.

6. The university is currently drawing up implementation plans to put the estate strategy into place, so as to fully support its academic strategy.

Introduction and overview

7. An estate strategy can be defined as:

‘A long-term plan for developing and managing the estate in an optimum way in relation to the university’s academic plan and business needs.’
8. It aims to describe in one document:
 - a. The link between the academic strategy and the estate strategy.
 - b. The university’s existing estate, its condition and performance.
 - c. The current and future requirements of the estate, and the changes required to implement those requirements.
 - d. The problems of the estate.
 - e. The opportunities for development and rationalisation.
 - f. The options available to the university.
 - g. An evaluation resulting in a preferred option.
 - h. Implementation of the estate strategy, including the financing and how this strategic document can be converted into annual plans which enable delivery.
9. Understanding what buildings and facilities will be needed to deliver the academic plan for the university in the twenty-first century is essential in managing the estate.
10. The estate strategy covers a 10 year period from 1999-2000 to 2009-10. It has been prepared in collaboration with the senior management team, a number of pro vice-chancellors and leading academics, and the vice-chancellor. In addition, there has been wide consultation with staff, the community and local planners.
11. The estate strategy has been approved by the governors and senior management of the institution. It is considered affordable while attempting to be flexible and capable of adapting to future needs.
12. The university has for many years recognised the value of its estate, and the contribution that its unique blend of historic and more modern accommodation in a superb landscaped setting makes to its success.
13. The estate strategy will take into account external and internal changes affecting the university. The estate should facilitate these. The strategy, although setting down parameters for the use of the estate, can also change with the changing needs of the university and is flexible enough to accommodate new demands.
14. The purpose of this strategy is to take a broad overview of the estate needs and policies of the university in order to support its academic strategy, and to ensure that there is consistency between strategic direction in estate terms, effective management of assets, and a forward programme of intended projects. It is also essential that opportunities for both development and rationalisation are taken into account and planned for.
15. The estate strategy will be reviewed regularly as part of the university’s business planning cycle. Implementation will be reviewed annually, and with a major review in 2004.

This will ensure that changes to the estate and investment plans are in line with the university's long-term and short-term objectives.

University overview

16. The university was founded in 1963 and has developed rapidly, gaining a strong reputation for science and engineering. In 1998-99, the university had 11,264 student enrolments equating to 9,820 FTEs. At present, 65 per cent of these are undergraduates and 35 per cent postgraduates.

17. Academic accommodation is on three campuses eight miles north-west of the city centre (see plan). The largest site, campus A, is 200 acres of purpose-built university property constructed in the 1960s. The academic buildings are in four quadrants, each roughly covering arts, social sciences, science, and engineering. There is a central core of university administration and student service facilities. This encourages interaction between students of different disciplines and avoids duplication of facilities. It also improves access for all students and reduces distances between core functions.

18. The university provides a range of undergraduate and postgraduate courses through 14 different schools. It has traditionally been based in the science and engineering subjects, although the arts and social sciences are rapidly developing, which has produced a greater balance between disciplines.

19. There is a great commitment to quality in both teaching and research. The university is well known for providing excellence in research, as evidenced by its high scores in the 1996 RAE. Undergraduate courses are also in great demand, many of which have a strong professional focus and backing.

20. Nationally, the university is in the top 10 research institutions in the country and is ranked in the top eight of teaching institutions, as evidenced by the Quality Assurance Agency reports and gradings.

Estate strategy structure

21. The strategy is based on an analysis of the estate, the academic plan, current resources and future opportunities. It is structured as follows:

- a. An outline of the strategic and academic objectives of the university encompassed in the 1998-99 academic plan, taking into account expected future proposals for academic development.
- b. A concise assessment of the existing estate. (Greater detail is in an appendix.)
- c. The performance assessment, highlighting the current and future requirements of the estate in order to satisfy the strategic aims of the university.
- d. A table linking the problems, opportunities and proposals.

- e. Evaluation of the options. (Full details of option appraisals are provided in an appendix.)
- f. The implementation plan, showing how the proposals put forward in the estate strategy will be achieved.
- g. Appendices giving location plans, photographs, data on the existing estate, and detailed option appraisals.

Strategic objectives

22. The university's mission is:

'To achieve and sustain excellence in teaching and research, particularly in science and engineering, in close association with industry and commerce.'

23. The university's vision is:

- to be the best higher education institution providing degree level courses
- to provide access for all those who wish to study
- to work always in the first instance in partnership with its students.

24. The university's strategic objectives are to:

- promote access to higher education for a diverse range of students
- ensure that its approach to teaching and learning is responsive to the needs of all its students
- develop and maintain the high standards and quality of its education
- provide innovative methods of learning that encourage the development of autonomous learners
- to maintain its status as a research centre of excellence and develop further research departments.

25. The university's strategic plan proposes that it should grow to approximately 12,000 FTE students by 2009. This is a 20 per cent increase on the current numbers. This will allow the development and maintenance of a cost-effective critical mass in the schools. The fixed costs will be spread across a broader base of student numbers, which will enable more university-wide facilities to be developed.

26. The university is intending to develop its curriculum provision, in particular to focus growth in arts-based courses to complement science and engineering, its traditional core subjects. The university also intends to expand its part-time provision to 4,000 FTEs, particularly in postgraduate business and management courses.

27. The university is intending to increase its collaborative arrangements, in particular with local colleges of higher education, and the incorporation of the county's colleges of health.

28. The university's social facilities have not been developed in recent years and are now lagging behind those of its competitors. Sports facilities in particular, which are a key attraction to new undergraduates, need further investment. During the period of the estate strategy, the university proposes to spend £15 million on a new sports pavilion and swimming complex, together with outdoor physical recreation facilities.

29. The provision of on-site residential accommodation is a significant draw to potential students. The university intends to increase its provision to allow for 30 per cent of student FTEs to be accommodated within university-owned halls of residence.

30. To support the above institutional strategy, our estate strategy will enable the university to:

- a. Develop the estate to achieve the university's mission.
- b. Manage physical resources effectively and efficiently.
- c. Demonstrate that provision, maintenance and development of the estate and related services are consistent with the university's strategic plan, and to secure value for money.

31. These strategic objectives will be reflected in the process of assessing the current estate and generating and evaluating the estate strategy options.

Estate data

32. The preceding sections focus on the future direction of the university, as defined by its strategic objectives, and the accommodation needs resulting from this. In order to determine these needs fully, it is necessary to be aware of the scope of the existing estate. This section gives key data on the estate, with more detailed information in an appendix.

Areas

33. The university's estate comprises some 237 hectares of which:

- 86 ha are part of the operational estate
- 19 ha are playing fields
- 30 ha are woodland and riverbank
- 43 ha are tenanted agricultural land
- 79 ha are for other uses, including student residences.

34. The operational estate comprises some 143 buildings, the size of which is summarised in Figure 1.

Figure 1 **Size of operational estate**

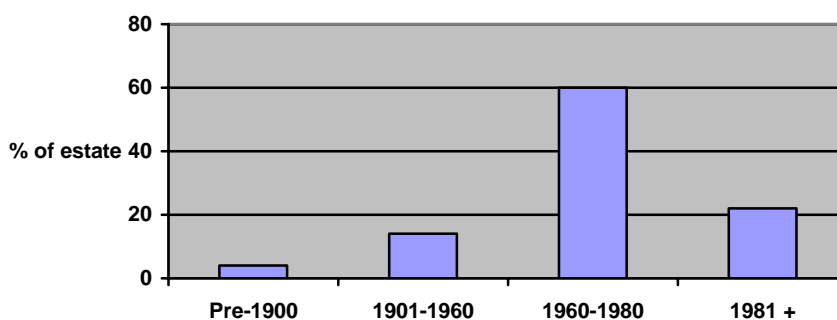
	No. of buildings	Usable m²	Balance m²	Gross m²	Bed spaces
Academic & central services	81	91,602	21,680	113,282	
Residences	37	86,196	18,970	105,166	4,106
Other properties	25	7,862	1,450	9,312	
Totals	143	185,660	42,100	227,760	4,106

35. A more detailed analysis of areas by building and use is attached in an appendix.

Age

36. The university has buildings ranging in age from 1830 to 1999. The distribution is shown in Figure 2.

Figure 2 **Age of buildings**



Ownership

37. The university owns the freehold of 95 per cent of its property.

38. The only leased properties are the Victorian buildings on campus B, which are mainly owned by the city council. The university has full repairing responsibilities for these properties.

Condition

39. The university has a planned maintenance programme, a précis of which is reproduced in the appendix.

40. The university has a backlog maintenance liability of £1.8 million, much of which is for mechanical works, in particular to lifts, and also for concrete cladding failures. It has a maintenance investment plan which aims to eliminate this backlog within five years, and to undertake the works outlined in the planned maintenance programme.

41. The physical condition of the estate was assessed in 1998 and is summarised in Figures 3 and 4. The RICS building maintenance definitions apply:

A = as new

B = sound, operationally safe, exhibiting only minor deterioration

C = operational, but major repair or replacement needed soon

D = inoperable or serious risk of failure or breakdown

The university has a commitment to maintaining all of its buildings to RICS condition A, B or C, in proportions of 10 per cent A, 70 per cent B and 20 per cent C.

Figure 3 **Condition of the institution's estate (1998)**

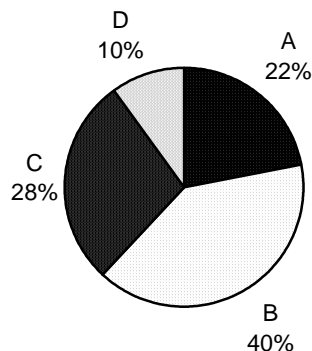
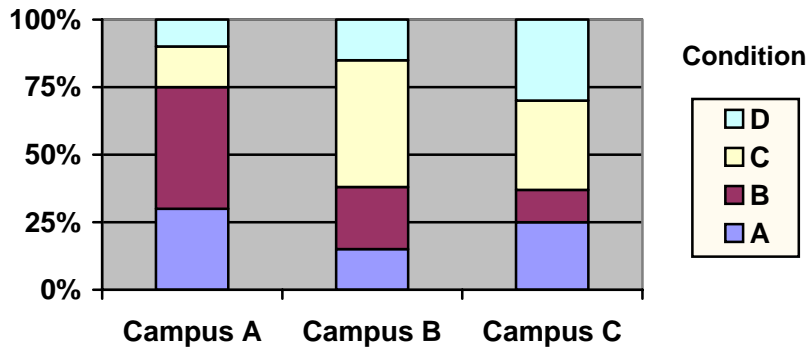


Figure 4 Condition of the estate by campus

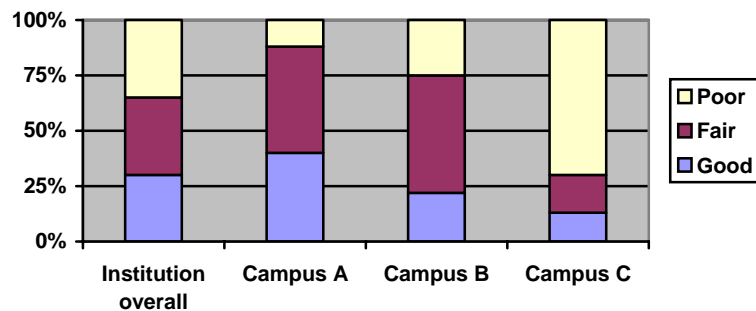


42. The majority of maintenance works required are to buildings built in the 1960s, particularly those using pre-cast concrete and the CLASP building system. In addition, a number of the Victorian buildings on campus B are being refurbished to accommodate the changing requirements of the university's academic structure.

Space utilisation

43. The university undertakes space utilisation surveys every term to update its space use records. Detailed information on space utilisation rates is given in the appendix; rates range from 8 to 47 per cent. There is a wide variation between buildings and between campuses as shown in Figure 5.

Figure 5 Space utilisation



44. The best space utilisation is achieved in the existing lecture theatre block.

45. The rate of space utilisation has been graded as good, fair or poor as follows:

- good is equal to or greater than 35 per cent utilisation rate
- fair is 25 to 35 per cent utilisation rate
- poor is equal to or less than 25 per cent utilisation rate

where utilisation rate is measured by occupancy x frequency, in accordance with the 1996 NAO report 'Space management in higher education'.

46. Overall, campus A utilisation is good because the buildings were purpose built in the 1960s. However, there is scope for increased utilisation, particularly with the lecture theatres not in the central lecture theatre block.

47. Campus B utilisation is fair, although the configuration of the Victorian buildings is a barrier to better space utilisation. Significant refurbishment and re-modelling is required to improve these rates.

48. Campus C has poor utilisation, primarily given its distance from the main campus, which makes it unattractive for both students and teaching staff.

Running costs

49. The property operating costs for each building are shown in the appendix and vary from £35 to £97 per m² per building. The higher rates are generally associated with campus C and the lower rates with campus A and the new buildings on campuses A and B. The mean property costs are £68 per m².

50. The university uses the key estate ratios described in the report on the 'Estate management statistics project' (HEFCE 99/18) and compares well to the average of the results.

51. The university has recently started following a planned maintenance programme and has secured an annual budget of £1.2 million to reduce the backlog situation.

Value

52. The university has commissioned a firm of independent chartered surveyors to undertake a full open market valuation of all its buildings. This is available in a separate confidential document.

53. Overall, campus A, which has limited alternative use, has a relatively low market value of £4 million. The value to the university is much greater; it would be uneconomic to sell the site with its current planning restrictions, and to move elsewhere.

54. Campus B, which is closer to the city centre, has a higher market value. However, the opportunity cost of relocating is very high, particularly since the university has invested heavily in remodelling the space.

55. Campus C, which is in the city centre, has a high open market value for alternative uses, particularly offices and prestige waterfront apartments. If planning permission was secured for these alternative uses, the university should consider whether moving out of the city centre, which would be unpopular with students and academic staff, would be a viable alternative.

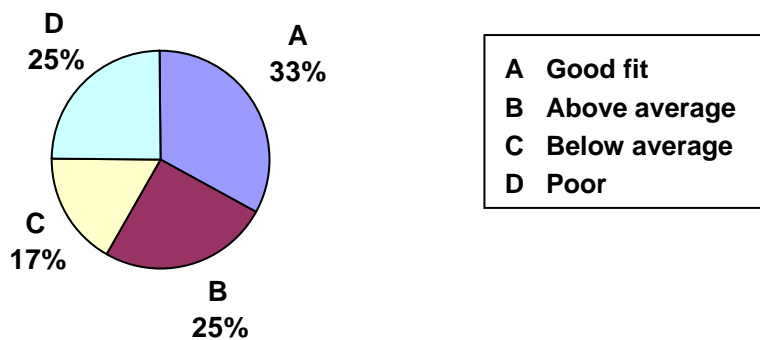
Fitness for purpose

56. The fitness for purpose of each building has been assessed using four categories from good to poor. Details of the schools for each building are given in the appendix.

57. The majority of the university's buildings are graded as satisfactory or average, with 33 per cent being good and 25 per cent being poor. Most of the unsatisfactory buildings are on campus C.

58. Figure 6 shows the overall fitness for purpose of the estate.

Figure 6 Fitness for purpose of the university's buildings



Summary

59. In summary, the university has a good estate which, in the main, provides adequate services for high quality teaching and research. However, there are areas that could be improved and these are highlighted in the next section. In addition, there are opportunities within the university's estate to provide better quality buildings in order to improve the teaching and learning experience.

Performance assessment

60. This section highlights the current and future requirements of the estate in order to satisfy the university's strategic aims. It looks at the requirements for all activities including academic floor space, support floor space and residential accommodation, and addresses deficiencies in the current facilities.

Academic floor space requirement

61. In order to satisfy the university's academic aim of increasing student numbers by 20 per cent to 12,000 FTEs, it is essential that additional academic space be developed. In order to assess the amount required, the university has developed a series of space standards and policies. In outline, these are:

- to use the former University Grants Committee (UGC) norms discounted by 10 per cent
- to use the HEFCE space weighting ratios
- a target utilisation rate of 40 per cent
- open plan space to be the norm
- support staff space to be provided on the basis of 9 m² per employee.

62. On this basis, the university's space requirements are shown in Figure 7.

Figure 7 Floor space requirement

	Space requirement m ² 1999-2000	Space requirement m ² 2009-10
Academic, projected requirement	93,700	106,600
Academic, actual floor space	91,600	91,600
Surplus (deficit)	-2,100	-15,000
Percentage surplus/deficit	-2.3%	-16.4%

63. Assuming no change in the estate, there will be a deficit of 15,000 m² by 2009-10.

64. The projected figures exclude the need to replace buildings that are currently classified as poor or very poor in condition or fitness for purpose.

65. Within this space requirement, one of the most pressing needs is for a new central lecture theatre block that will serve all the academic schools. It will reduce duplication and will release space within schools that is needed for research or faculty seminars.

66. It is necessary to address these issues now and ensure that local planning considerations and land ownership issues are resolved in sufficient time.

Support accommodation requirement

67. The current accommodation for student support services and physical recreation and social facilities is not adequate for the existing 10,000 FTEs. With the proposed increase in student numbers, the demand and load on these facilities will become unmanageable and

the quality of life at the university will begin to deteriorate. It is therefore essential that the support facilities be built up before the expansion in student numbers, to avoid problems of overcrowding and student dissatisfaction.

68. The main areas for development are a new sports pavilion and swimming pool, together with a number of outdoor all-weather pitches. Discussions are under way with the National Lottery fund and it is likely that a joint project will be undertaken within the next two to three years.

69. The existing library/learning resource centre is also on the margins of the acceptable ratio of one to six for reader spaces to students, as outlined in the Follett report. Current ratios are one to seven, although the planned expansion would increase this to one to eleven.

Requirement for residential accommodation

70. In line with the university's strategic plan, there is a need for an additional 1,200 bed spaces to provide 30 per cent of student FTEs with university-owned residential accommodation. At present, the demand for university places outstrips supply by a factor of five to two, and research has suggested that up to 50 per cent of student FTEs would wish to live in university-owned accommodation. The university has already identified sites on the periphery of campus B that are suitable for residential accommodation. Discussions with the local planners have indicated that they would be receptive to such development.

Current facilities deficiencies

71. Although the university is generally well served by its buildings, there are two outstanding features which it has wanted to improve. The engineering workshops are now out of date and are not easily converted to take account of modern technology. Given the existing links with professional bodies and the continuing growth in engineering courses, it is essential that the university is at the leading edge of practices in science and engineering. Consequently, new engineering workshops should be built which are fully automated and computer linked in order to maintain the high quality and profile of this department.

Summary

72. The floor space and quality of university properties are sufficient to fulfil its existing academic plan. However, with changes in future technology and the expected growth in demand for places at the university, action has to be taken now to ensure that the university is not left vulnerable in three to four years' time.

73. There is a need to remodel or re-equip at least 15 per cent of the university's space to accommodate changes in teaching methods. There is also a need to maintain and improve the quality of the general environment to attract and retain staff and students.

74. It is essential that support services, in particular the library and sports facilities, are upgraded to continue attracting students over our competitors. The growth in student residential accommodation is also important to attract students, notably overseas students, and will itself raise valuable income for the university, particularly through conference trade.

Problems, opportunities and proposals

Approach

75. This section examines the problems and opportunities of the university and suggests proposals to maximise the potential of the estate. For convenience, this has been presented in a table indicating the links between the problems, the opportunities and the subsequent proposals for each of the following:

- academic space
- central facilities
- residential accommodation
- infrastructure
- planning/local community/industry and commerce.

Option appraisal

76. After defining and identifying options, an appraisal of the options is required before the preferred solution can become a firm proposal. Details of the option appraisals are to be found in the appendices.

Implementation of proposals

77. The proposals outlined in this section are translated into action via a series of operational plans, supported by codes of practice for service delivery, which ensure that:

- the day to day operation of estates and buildings reflects the university's wider policies and needs
- the service is customer-oriented
- targets are set and met
- procedures and responsibilities are clearly defined
- emphasis is on quality and value for money
- there is a clear flow of operational and financial information between all parties concerned.

Academic space

Problems	Opportunities	Proposals
<p>Physics and chemistry</p> <ul style="list-style-type: none">• Obsolete accommodation split between nine buildings• Inadequate teaching and research facilities• High running costs of laboratory space	<ul style="list-style-type: none">• Provide adequate high quality teaching and research space• Conform to statutory requirements• Release building M for adaptation to another use	<ul style="list-style-type: none">• Link existing physics and chemistry buildings by first floor enclosed corridors• Provide new laboratory space in the centre of building M linking to all physics and chemistry buildings
<p>Engineering departments</p> <ul style="list-style-type: none">• Shortage of specialist engineering workshop space• Lack of computer-linked equipment and specialist laboratories to house it	<ul style="list-style-type: none">• Provide additional purpose-built workshop space• Incorporate new technology into proposed new workshop building with possible sponsorship from local industry	<ul style="list-style-type: none">• Build building P adjacent to existing engineering block
<p>Social sciences/Business school</p> <ul style="list-style-type: none">• Insufficient floor space to satisfy growing student numbers• Shortage of office space• Shortage of small business unit space to link with commerce	<ul style="list-style-type: none">• Convert adjacent redundant administration block and refurbish to provide required facilities	<ul style="list-style-type: none">• Re-model adjacent administration block to provide mock-up law courts, small business management offices and academic staff offices

Central facilities

Problems	Opportunities	Proposals
<p>Library</p> <ul style="list-style-type: none"> • Pressure on reader spaces as a result of existing and proposed growth in student numbers • Need for IT-based information systems • Demand for 24 hour service • Pressure on book storage space 	<p>Extend main university library to provide:</p> <ul style="list-style-type: none"> • additional reader spaces • additional open access IT facilities • 24 hour access to self-contained security-controlled first floor area • rolling book storage in basement of existing library which is currently under-used 	<ul style="list-style-type: none"> • Build additional library extension
<p>Sports facilities</p> <ul style="list-style-type: none"> • Pressure on existing facilities due to increase in student numbers • Lack of internal swimming pool complex • Inadequate external artificial all-weather pitches 	<ul style="list-style-type: none"> • Upgrade/enhance sports facilities • Replace existing grass pitch with all-weather pitch and upgrade floodlighting • Promote links with other organisations 	<ul style="list-style-type: none"> • Develop partnership arrangements for use in development of facilities • Seek external funding, particularly Lottery and Millennium Fund • Proceed as funding becomes available
<p>IT facilities</p> <ul style="list-style-type: none"> • Demand for additional open access workstations • Demand for 24 hour service 	<ul style="list-style-type: none"> • Incorporate open access IT facilities in general teaching space in building N • Increase IT workstations in library extension 	<ul style="list-style-type: none"> • Build library extension to provide 24 hour access to IT workstations • Convert second floor of general teaching area in building K to IT workstations with secure access via the corridor link area

Residential accommodation

Problems

- Need to accommodate 30 per cent of student FTEs in university-owned accommodation
- Need to attract postgraduate students and particularly overseas postgraduate students
- Demand for improved quality of accommodation (for example en-suite)
- Need to sustain and develop commercial use of residential accommodation, particularly vacation and conference periods

Opportunities

- Provision of approximately 1,200 additional bed spaces within the next five years
- Ensure that new facilities are of a high quality particularly en-suite in order to attract commercial trade during the vacation period

Proposals

- 1,200 bed spaces added, of which 1,000 are en-suite

Infrastructure

Problems	Opportunities	Proposals
<p>IT network</p> <ul style="list-style-type: none"> • Shortage of capacity for voice services • Provision of comprehensive data network 	<ul style="list-style-type: none"> • Enhance existing voice system capacity • Provide enhanced service (for example voice automation) • Closer integration of copper and fibre networks 	<ul style="list-style-type: none"> • Split out existing single switch to main plus three satellites to increase capacity to meet all known needs • Link exchanges using fibre network • Provide voice automation system
<p>Disabled facilities</p> <ul style="list-style-type: none"> • Inadequate access for people with mobility problems • Insufficient (or no) facilities for people with hearing and visual impairment 	<ul style="list-style-type: none"> • Provide induction loops in reading areas • Provide disabled facilities (on a percentage basis) in residences and in all public buildings • Provide fire alarms for hearing impaired in designated areas • Provide handrails/ramps to facilitate movement around sites 	<p>Rolling programmes to provide:</p> <ul style="list-style-type: none"> • induction loops in teaching rooms • toilets for disabled people • bedroom facilities for disabled people • better parking facilities for disabled people • handrails and access ramps
<p>Traffic and parking</p> <ul style="list-style-type: none"> • Pressure at on-site facilities • Pressure at off-site locations next to university sites • Security problems at all university car parking sites 	<ul style="list-style-type: none"> • Better control of use of facilities on-site to include swipe card controlled car parking with designated spaces • Charging for car parking spaces on a graded scale • Liaison with local authorities with regard to on-street facilities and traffic • Promote alternatives to the car for travel to and within the university • Provide additional security systems and CCTV and improve crime awareness in the university 	<ul style="list-style-type: none"> • Provide controlled access to main car parking sites by use of swipe cards and a graded charging mechanism • Continue existing liaison with local authorities regarding on-street parking and alternative transport policies • Extend CCTV coverage to a greater area of the university

Planning / Local community / Industry and commerce

Problems	Opportunities	Proposals
<ul style="list-style-type: none"> Existing town and country planning constraints Ensuring the university is properly represented in local planning process and the best use of the estate is facilitated 	<ul style="list-style-type: none"> Increased recognition of the strategic role of the university in the region Obtaining recognition of the value of the university and its estate within the local community 	<ul style="list-style-type: none"> Input to the county structure plan Liaison with regional agencies To develop good relationships with the local authority and other agencies To ensure the university's role and needs are properly reflected in consultation on the city local plan
<ul style="list-style-type: none"> Ensure the university and its estate is properly represented with local community and amenity groups Local community perception of the university and its estate 	<ul style="list-style-type: none"> Foster better relationships with the local community Improve perception of the university and the estate 	<ul style="list-style-type: none"> Continue to encourage and maintain effective community links To increase awareness of the university's role and its contribution to the local community
<ul style="list-style-type: none"> Ensure the university plays a major role in local and regional commerce and industry Improve revenue from external use of estates and buildings managed facilities 	<ul style="list-style-type: none"> To improve the existing links through the engineering research centres and the university science park To increase use of other university facilities To support PR based liaison activities Increased revenue Increased community involvement 	<ul style="list-style-type: none"> To manage and maintain the engineering research centre to a high standard To promote development of the university science park To provide and maintain other high quality facilities and support services for commercial use To promote external use of the university's recreational and sports facilities

Evaluation of options

78. Although the university is well served by its current estate and is perceived to be an attractive and high quality institution, it is seeking to confirm that it is adopting the best strategy for its estate by considering a number of options. These options are deemed realistic, having ruled out the 'blue sky' options in previous analyses. They may be summarised as follows:

- take no action
- consolidate on a single site in the city
- relocate to a new site outside the city
- consolidate, rationalise and develop the existing estate.

Option 1 Take no action

Strategy:

- maintain the estate on a needs only basis, that is, essential maintenance only with no improvements
- no new developments.

Advantages:

- initially no additional resources required
- fewer planning problems to address
- least disruption to existing staff and students.

Disadvantages:

- progressive decline in quality of estate eventually leading to increased running costs
- closure of certain facilities (for example, engineering workshops, some residences, and buildings A and C) because of failure to meet statutory requirements
- inability to cope with increase in student numbers
- serious implications for volume and quality of research activity
- decline in potential for commercial use and other external revenue
- irresponsibility both as custodian of the university and to the local community.

Conclusion:

Not tenable.

Option 2 Consolidate on a single site in the city

Strategy:

- rationalise the existing estate
- develop all main core facilities on one main site
- dispose of surplus properties.

Advantages:

- more compact site and replacement of obsolete properties should reduce running costs

- may produce better teaching and research facilities
- may be more attractive for commercial use
- reduction in travelling time and distance for staff and students
- reduce duplication of services, particularly administrative
- increase space utilisation by greater frequency of use of general teaching areas.

Disadvantages:

- very high initial costs
- disposal costs of surplus properties would not meet with replacement costs
- problem with planning consent for change of use of existing city centre properties
- possible congestion both on and off site due to inadequate existing road infrastructure
- negative impact on city centre
- loss of some good quality facilities especially on campus B, the value of which would not be realised on disposal.

Conclusion:

Not practical and not cost effective.

Option 3 Relocate to a new site outside the city

Strategy:

- wholesale relocation to a greenfield site in the region, possibly with grant aid from various sources.

Advantages:

- entirely purpose-built facility
- more efficient use of space and reduced running costs
- new image to promote
- positive economic impact on local areas surrounding new site
- likely to be less stringent planning requirements.

Disadvantages:

- highly negative impact on current site locations and city centre, in particular for employment, service industries and housing market
- loss of current 'value-added' by present site, and associated difficulty in transplanting links with local community
- locality of proposed site may be less attractive and less accessible to both students and commercial markets
- development cost (about £300 million) would be far in excess of the total realisable disposable value of existing site (about £65 million)
- massive disruption to activity, with loss of revenue and need to build new markets
- relocation and/or redundancy costs additional to development costs
- possible reduction in attraction to students in the early years.

Conclusion:

Not financially viable, loss of ethos and markets and major practical problems.

Option 4 Consolidate, rationalise and develop the existing estate

Strategy:

- optimise use of existing facilities
- develop new facilities where that is the most cost-effective solution
- rationalise any surplus or redundant assets.

Advantages:

- makes best use of existing facilities and builds on existing strengths
- targets expenditure to most cost-effective solutions
- removes assets which are not cost-effective
- maintains the current value added and ethos of the university
- positive impact on the local community and economy
- promotes and encourages commercial use
- lowest capital cost of options 2, 3 and 4
- over the long term, reduces the unit cost of space
- minimal disruption.

Disadvantages:

- the cost of the capital programme
- the university will continue to operate within severe planning constraints.

Conclusion:

The only tenable, practical, achievable and affordable strategy.

Overall appraisal of the strategic options

79. Figure 8 provides a summary of the option appraisals.

Figure 8 **Summary of option appraisals**

Option	Description	Net present value (NPV) £k	Non-financial score	Ranking (financial)	Ranking (non-financial / qualitative)	Overall ranking
1	Do nothing	-28,700	75	1	4	2
2	Consolidate onto single city site	-80,500	175	3	3	3
3	Relocate to new out of city site	-110,800	250	4	2	4
4	Consolidate, rationalise and develop existing site	-50,600	350	2	1	1

80. Option 4 is the preferred option, taking into account the following key factors:

- direct and indirect costs
- academic needs, present location and value added by current location
- problem in disposing of the current estate
- effects on the local community and economy.

81. The non-financial score is arrived at by looking at intangible benefits. The four most applicable to the university were allocated marks as shown in Figure 9.

Figure 9 **Scores for non-financial factors**

	Effect			
	Nil	Minimal	Significant	Major
Disruption	75	50	25	0
Effect on morale of staff and students	0	50	100	150
Potential impact on prospective staff and students	0	50	100	150
Improve institution's competitive edge	0	50	100	150

82. The financial rankings hold greater weight than the non-financial ones, and have influenced the overall ranking to a greater extent.

Implementation plan and financing

83. A full implementation plan is included in the appendices. This shows the timing and project management of the elements within option 4 (the preferred option) which are necessary to realise the full potential of this estate strategy.

84. The implementation plan is broken down into a number of operational plans that are working project management briefs used by members of the estates team. These are available on request.

85. Funding for the implementation of this estate strategy is set in the context of declining units of resource from public funding. The university anticipates a reduction in real terms of about 3.7 per cent during the period to 2003-04.

86. The option appraisals have been modelled with inflation of 3 per cent a year and interest rates of 6 per cent. A sensitivity analysis has been undertaken and confirms that even if these parameters change by 200 per cent, the priority ranking of the options stays the same.

87. A further constraint is the need to make capital provision for both buildings and equipment out of revenue; this inevitably places further pressure on the funding of the estate. A considerable recent expansion of the scale of the university's activities has been funded at or below common marginal costs; it has nevertheless been possible to use some of the extra resources obtained during this period to implement change and expand facilities.

88. In particular it has been possible to justify borrowing to invest in additional revenue-generating facilities, particularly residences.

89. The university's success in attracting external funding has also made it possible to invest in new and replacement academic facilities. The university has made a range of bids for Lottery and Millennium funds to support many of the proposals in its strategy.

90. The university's development office will play a key role in identifying sources of external funding and attracting funds for specific projects.

91. The income and expenditure provision made in the university's strategic plan 1999-2000 for the capital programme are shown in Figures 10 and 11.

Figure 10 Expenditure provision for capital programme

	1994-99 £	1999-2004 £	2005-09 £	Total 1999-2009 £
Expenditure				
New residences	1,200,000	4,000,000	2,000,000	6,000,000
Academic projects	5,500,000	8,500,000	7,300,000	15,800,000
Engineering workshops	0	1,200,000	900,000	2,100,000
Library	0	0	5,450,000	5,450,000
Science laboratory extensions	0	1,300,000	2,000,000	3,300,000
Business school refurbishment	0	1,750,000	1,600,000	3,350,000
Sports facilities including pool complex	0	900,000	6,200,000	7,100,000
All-weather outdoor pitches	0	250,000	100,000	350,000
Total	6,700,000	17,900,000	25,550,000	43,450,000

Figure 11 Income provision for capital programme

	1994-99 £	1999-2004 £	2004-09 £	Total 1999-2009 £
Funding				
Bank loans	0	1,000,000	10,500,000	11,500,000
Capital grants	2,100,000	4,000,000	2,500,000	6,500,000
Sale proceeds	750,000	8,000,000	5,000,000	13,000,000
Reserves and provisions	5,000,000	7,000,000	8,000,000	15,000,000
Total	7,850,000	20,000,000	26,000,000	46,000,000

Conclusion

92. The university is committed to the delivery of its estate strategy. It has set itself challenging but achievable targets, some of which are summarised below, and it believes that the estate will be an even greater asset in 2009 than it is in 1999.

93. Following the development of the planned maintenance programme, which led on from the KDK surveys, the university has earmarked an additional sum for backlog maintenance each year. It has specific policies on maintenance, to budget for 1.5 per cent of the value of the properties to be spent on maintenance each year. In addition, any capital project must budget an additional 1.5 per cent of its value for maintenance, set aside each year over the life of the building.

94. The university has environmental targets to:

- reduce energy consumption by 20 per cent by 2009
- reduce CO₂ emissions by 0.5 per cent each year
- promote 'green' transport policies and give priority to public transport and cycle-paths
- design sustainability into buildings.

95. Key performance indicators will be adopted in line with the HEFCE 'Estate management statistics project' (99/18).

96. The disposal of property that is redundant or not cost effective will continue, with the proceeds of sale applied to the estate. The development of the science park will also generate income that will be reinvested in the estate.

97. Any new residential development will be funded by disposals and long-term loan finance. The residential refurbishment programme will require funds of around £8.5 million during the next five years. This programme will be partially funded by loan finance in the short term, which will be covered in the longer term by increases in rents for the accommodation.

98. The university is confident that the preferred option, option 4, is deliverable and achievable and financially viable from the current resources available. However, to expedite the proposal it will be pursuing additional funding resources from external funders.

Annex B

Measuring practice

1. Reference should be made to the RICS code of measuring practice to ensure a consistent approach.

Gross internal area

2. The gross internal area of a building is the area within the inside faces of external walls and includes areas occupied by internal walls and partitions.

Net space

3. The net space is the gross internal area less the balance areas; it is the floor area planned or provided for the primary function of the building, for example teaching, research, libraries, and administration. It includes, for example, academic stores, service rooms, workshops, kitchens, chair and bar stores, changing rooms and showers, porters' offices or kiosks, first aid and staff rest rooms. Allowance should be made for these in assessing space need.

Room areas

4. For space management and other purposes, institutions often measure the areas of individual rooms to the faces of internal walls and partitions. Any removal of such walls or partitions will thus have an effect on the total area of rooms, whereas it would make no difference to the gross internal area and net space measured as defined unless balance areas are thereby brought into net space. If records contain only room area, allowances should be added to arrive at an accurate assessment of net space.

Balance areas

5. Balance areas are the floor areas planned or provided as part of the gross internal area to enable the building to function, for example corridors, stairways, entrance lobbies, foyers, lifts, lavatories, cloakrooms, cleaners' stores, plant rooms, ducts, boiler houses, calorifier chambers, and fuel stores.

6. Where buildings provide open plan spaces, for example libraries, the whole space, including circulation space, is included in net space except only those areas which, without structural alteration, are solely and irrevocably providing for the functions that are properly balance areas.

Annex C

Estate Strategy Advisory Group

Chair

John Rushforth Head of Estates, HEFCE

Members

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Contributions

Group members reviewed a wide range of documents and spoke to a number of people, to whom they are grateful. They drew particularly on contributions from:

Anglia Polytechnic University

University of Durham

University of East London

Falmouth College of Arts

Imperial College of Science, Technology and Medicine

University of Leicester

University of Plymouth

College of St Mark and St John

University of Sunderland

University of Surrey

University of Wolverhampton

Association of Heads of University Administration

Association of University Directors of Estates

British Universities Finance Directors Group

Chesterton

Committee of Vice-Chancellors and Principals

Royal Institution of Chartered Surveyors

Standing Conference of Principals

Standing Conference of Principals (Estates Group)

Annex D

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NAO (1996) Space Management in Higher Education: A Good Practice Guide. London: National Audit Office.

NHS (1996) An exemplar estate strategy. London: National Health Service Estates.

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Annex E

Development frameworks

1. When developing an estate strategy some institutions find it useful to have an overall picture in mind of what the institution will look like. This will include architects' drawings and specifications in terms of finishes and design standards.
2. The planning of an institution's estate, whether greenfield or urban, cannot be seen in isolation from planning and investment decisions by other public or private agencies. A development framework which provides a three-dimensional context to an institution's estate hinterland or sphere of influence can generate a number of costs and benefits.
3. Sometimes termed master plans, townscapes or landscape plans, development frameworks provide the backcloth for several interconnecting environmental, economic and functional initiatives. These include:
 - a. Creating an attractive environment for students and staff, an increasingly important feature of institutional life.
 - b. Providing the physical context for:
 - i. Planning by local authorities, to assist them in the development of local plans, traffic flows and so on. Often such plans can be prepared and held in confidence by local authorities prior to public consultation and adoption, and possibly included as supplementary planning guidance.
 - ii. The institution's physical development plan, identifying the scope of the physical environment for rationalisation, disposal, expansion or integration of different parts of the campuses.
 - c. Identification of new sites or opportunities for development, especially in urban contexts, giving indications of footprints, massing and scale.
 - d. Providing the context for grant applications to English Partnerships, RDAs, the National Lottery, Single Regeneration Budgets and so on.
 - e. Investment through joint ventures, private funding initiatives, or realisation of assets through private disposal. There is evidence that institutions which have created inspiring and innovative development frameworks have achieved a number of the above objectives, but they have also provided a stimulus to private investment in infrastructure which can directly or indirectly benefit the institution.

Annex F

Technical estate data

Property terrier

1. The property terrier contains basic information for each building. It should include size (net and gross internal areas), tenure, ownership, use, and whether any mortgages or grants are attached to the building. For rented property, it should also give basic details of any lease, title restrictions, the year of construction, and other pertinent facts such as services, running costs or health and safety issues.
2. It is often helpful to include a photograph and/or description of the building.
3. The NHS guidance on estate data collection gives a good pro forma for a data terrier.

Plans

4. Institutions should have floor plans of all their properties, either computerised or on paper. The benefit of computerised drawings is that they can be readily adapted to show possible internal changes of use to increase efficiency. They are also useful for schematic drawings of new proposals.

Utilisation survey

5. Following the 1996 NAO report on space management, institutions are becoming aware of the increased need for and benefit of information on space utilisation. This may take a variety of forms, most commonly with spot audits undertaken, say, once every term, often by students or caretakers, feeding into a survey showing the frequency and occupation rates of general teaching rooms in an institution.

Valuation

6. Every institution will need valuations of its properties for both insurance and balance sheet purposes. Valuations should be undertaken in accordance with the RICS guidelines on appraisal and valuation, which may result in different valuation methods for different buildings.
7. An example submitted to the HEFCE in 1995 with an estate strategy gave a full valuation report undertaken by a firm of valuers which identified every building with a colour photograph, a floor plan, a description of the property and a value. This was not required by the HEFCE, but it provided a very useful reference document for the institution.

Fitness for purpose survey

8. There is no set format for a fitness for purpose survey. It will vary according to the institution's perception of fitness for purpose. It may include elements of suitability, flexibility,

fitness for existing or proposed use, and even popularity. Many institutions choose an A–D grading scale, and rank all buildings accordingly.

Health and Safety survey

9. In a period of increasing legislative requirements, it is important that institutions have surveyed all their properties to ensure compliance with Health and Safety legislation. The legislation goes beyond basic issues such as fire, asbestos and safety regulations, and encompasses disabled access and workplace regulations. A separate Health and Safety survey should be undertaken on all residential properties.

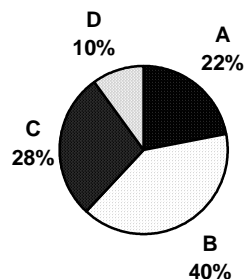
Access survey

10. The Disabilities Discrimination Act imposes a number of requirements upon institutions in respect of disabled access. A first step towards complying with the Act would be to survey all buildings to assess their current accessibility. One institution hired a wheelchair-bound architect to visit all its buildings and to report back on their accessibility. This produced a well thought out and accurate survey that has enabled the institution to plan a series of projects to assist disabled staff and students.

Maintenance survey

11. All institutions should have a maintenance survey and plans showing the condition of each building and the maintenance works that are required for each element. This should also include the approximate cost of remedying the faults and also a projected timescale in which the work will be completed. (For further details see the value for money reports on 'Building repairs and maintenance study in the higher education sector' HEFCE 98/30 and 98/31.)

12. The estate strategy itself should refer to a maintenance survey, and ideally give the condition of each building using the RICS categories A–D, and as percentages of the estate as a whole, as shown in the diagram below.



- A = as new
- B = sound, operationally safe, exhibiting only minor deterioration
- C = operational, but major repair or replacement needed soon
- D = inoperable or serious risk of failure or breakdown

13. The strategy should include an estimate of the future maintenance load, for example an explicit statement as to whether the condition of the estate is likely to improve or deteriorate over the life of the strategy. This should be on the stated assumption that the maintenance plan will be funded. In subsequent years, the head or director of estates should provide an annual statement to senior management and the relevant governing body committee on the condition of the estate stock. This should be in the context of the estate strategy and the amount of maintenance funding compared with the plan. This report should include the head or director of estates' professional opinion on whether the estate condition is stable, improving or worsening (perhaps in different areas) and how s/he expects this to develop in the foreseeable future.