FINDING THE RIGHT SOLUTION

A guide to option appraisal
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Who this guide is for:

- Chief Executives (CEs) of Local Authorities (LAs);
- Chief Education Officers (CEOs) of Local Education Authorities (LEAs);
- Directors of Finance;
- Other officers responsible for strategic planning;
- LEA Capital Programme Officers and Capital;
- Head teacher, Governor and Diocesan representatives on Asset Management Plan (AMP) Working Groups;
- Dioceses and main Foundations;
- Private sector providers of asset management services to Authorities.

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EXECUTIVE SUMMARY

1. After decades of under investment, spending on school buildings is set to increase sharply over the next few years, rising to £3.5 billion in 2003-04. This is a five-fold increase over 1996-97 levels. Over the last four years, much has been done to address the problems created by that under investment. But much more needs to be done. Many schools are in buildings beyond their original design life and are expensive to maintain and operate, as well as being unsuitable to meet the educational and community demands on them. We have yet to move beyond a short-term patch and mend approach, and much building work is still procured on the basis of lowest cost rather than best value.

2. The challenge now is to accelerate the programme to modernise the school estate, so that schools have high quality, flexible and sustainable designs; attractive and well-equipped working environments; fully accessible and secure accommodation, catering for a wide range of users including parents, adult learners, early years provision and support services; and state of the art facilities supporting learning through ICT.

3. School accommodation must support the improvements in standards we seek, underpinning the Transforming Secondary Education and Schools Workforce\(^1\) agendas. It needs to provide for the building implications of specific programmes and policies, such as the moves to increase school diversity, and individualised learning routes at 14-19.

4. Option appraisal is an essential tool to help those managing capital programmes and projects to deliver these goals. Where used effectively, option appraisal will help to target investment to where it will make the biggest contribution towards improving service performance and raising standards. This guidance explains how option appraisal can provide the decision-making framework for defining the investment objectives, identifying the different ways in which these can be achieved, and then examining the important factors before taking a decision on implementing the project.

5. Section 2 of the guidance sets option appraisal in the context of Authorities’ corporate and service strategies, Asset Management Plans (AMPs) and prioritisation. It explains why and when appraisal should be carried out, and how it relates to subsequent project evaluation.

6. Section 3 takes you through the steps of appraisal, illustrating each step by reference to worked examples. One of these shows how a range of service objectives can be ‘joined up’ and delivered through a single modernising project. The section outlines how to develop options that will meet your objectives, to gather the necessary information, and then to assess and report on each option - leading to the selection of the preferred option.

7. Section 3 also explains how to forecast the whole life cost consequences of alternative solutions, and how to compare financial and non-financial costs and benefits through a simple scoring and weighting system. It emphasises the importance of consultation throughout the process, and of identifying and joining up funding sources.

8. Sections 4-5 provide answers to some frequently asked questions, and where to get more detailed information on option appraisal.

\(^1\) Background on the TSE and TSW initiatives can be found, respectively, at \(\text{www.dfes.gov.uk/speeches/}\) and \(\text{www.teachernet.gov.uk/remodelling}\).
SECTION 1: WHAT IS THIS GUIDE FOR?

9. After decades of under investment, Local Education Authorities (LEAs) and schools are receiving increasing levels of capital funding for buildings. In support of the DfES’s capital modernisation and Schools for the Future agenda, capital investment in the schools sector will total some £8.5 billion over the period 2001-04, reaching £3.5 bn in 2003-04, a five-fold increase over 1996-97 levels.

10. This high level of investment makes particularly crucial the need for capital planning decisions by Authorities to be underpinned by rigorous appraisals. These will help to identify best value projects that will make the most effective contribution towards raising educational standards, support inclusion and provide better working environments for pupils and the school workforce.

11. This guide provides a framework to help you to appraise your building projects and select the option that will best meet your requirements. While the examples in this guidance relate to the schools sector, the principles apply equally to asset management in other Local Authority service areas.

12. The guide contains the following elements:
   - an explanation of the reason why we carry out appraisals and the links between appraisal and asset management (Section 2: The Basics);
   - a description of the general approach which should be used (Section 3: The Steps of Option Appraisal);
   - the Key Questions that you may have about option appraisal (Section 4).

13. This is intended as a general guide to option appraisal, which will be enough for some readers. If you would like more detailed information, Section 5 includes some Useful References.

14. This document is available from the DfES website at www.dfes.gov.uk/amps. The website also includes a downloadable copy of the spreadsheet used for the whole life costs table shown in Appendix A.

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2 DfES’s Building Bulletin 95 (BB95), Schools for the Future – Designs for Learning Communities, provides a blueprint for how we see schools being transformed to support the delivery of high class 21st Century education and inclusion.

BB95 outlines the building implications of the recent White Paper, Schools - Achieving Success. This paper sets out the Government’s agenda for transforming secondary education (TSE) and transforming the school workforce (TSW). Other key priorities reflected in the Paper include: increased use of information and communication technology (ICT) in schools; greater flexibility in the curriculum; an emphasis on ‘early years’ provision; inclusion of more pupils with special educational needs in mainstream schools; and extending schools to a range of users.

BB95 also addresses, in the context of school buildings, the major initiatives in the building industry including: the promotion of good design in public buildings; the development of low energy and sustainable facilities; and working to achieve the targets of Rethinking Construction, like reduced wastage, improved delivery and better value for money.
Who is this guide for?

15. This guide is primarily for those who are responsible for planning, implementing and managing capital building projects in Authorities, such as Capital Programme Officers and Capital Project Managers. The guidance should complement the relevant skills that have already been developed in many Authorities through, for example, asset management work connected with schools, Housing Business Plans, the Single Capital Pot, Best Value etc.

16. The guide may also be of interest to others who may not be directly involved in carrying out the appraisals, but who will be taking decisions based on appraisal results. These will include Authority Chief Executives, Chief Education Officers and Finance Officers; elected members; head teachers and governors with responsibility for spending devolved capital in schools; and Diocesan Building Officers.
SECTION 2: THE BASICS

What is Option Appraisal?

17. Option appraisal is a decision making tool for use in defining objectives, identifying the different ways in which they can be achieved and examining all the important factors before taking a decision on implementing a project.

18. An effective option appraisal will help you to answer three questions:
   - Have you taken into account all relevant factors in deciding what the project should be?
   - Should you go ahead with the project?
   - What is the best way to carry out the project?

19. All the decisions that you take will involve some form of appraisal of the options. In some cases, you may consider options totally informally and make a decision based on your feel for the best way forward. In other cases, especially for large capital schemes, you may already have a detailed appraisal procedure. This guide aims to ensure that you use the most appropriate appraisal process for all the capital projects that you carry out.

20. Option appraisal involves a set of principles that you should use to help you make a decision. The scale and nature of a project will influence the level of detail that you will need to build into your appraisal, but all appraisals will follow the same broad approach. The principles of option appraisal are:
   - being clear about what you are hoping to achieve – your objectives;
   - considering the different ways in which they could be achieved – the options;
   - assessing the costs and benefits of the different options;
   - identifying all the pros and cons of the options and quantifying them and valuing them wherever possible;
   - considering any risks and sensitivities;
   - considering the most appropriate and best value use of resources, not just focussing on the lowest initial costs.

Option Appraisal and Asset Management Planning

21. Option appraisal is an integral part of the Asset Management Planning (AMP) process. This is reflected in the guidance issued both by DfES and DTLR. Figure 1 shows how option appraisal flows from the capital priorities identified through the AMP process, which itself is linked into the authority’s own corporate strategies and plans. Option appraisal should form part of a ‘top-down’ process that deals with the strategies and plans on a holistic basis, and ensures that the subsequent projects align with them. Anything less would lead to great risks of underused or misused money.
Finding the Right Solution

FIGURE 1: OPTION APPRAISAL IN CONTEXT

Corporate Strategies and Plans

Service Strategies and Plans

Service Performance

Capital Priorities

Property Performance

Priority Project

Option Appraisal

(i) Define the Objectives
(ii) Develop the Options
(iii) Information Gathering
(iv) Assessing the Options
(v) Analysing the Options

Consultation

Evaluation

Funding Options

Reporting

Decisions

Implementation

Asset Management Planning

Option Appraisal

Formatted
Finding the Right Solution

22. Effective option appraisal, in conjunction with the greatly increased funding for school buildings, should help Authorities move away from the piecemeal ‘patch-and-mend’ policies of the past towards larger, more joined-up, modernisation projects that will deliver best value facilities. This move will inevitably mean that some will have to wait longer than others for investment, but schools now have devolved funding that can be used for smaller scale patch-and-mend capital projects, which will free up the remainder of funding for achieving strategic best value solutions for the highest priority projects.

Prioritisation

23. Whilst the resources available for capital investment have increased substantially, they are still limited. It is therefore important that you are able to prioritise effectively so as to maximise the use of the resources in order to achieve best value. The resources available will provide the basis against which you begin to prioritise and will be an essential consideration in appraising the available options.

24. Through their AMPs, LEAs are building up a significant amount of data on the performance and investment needs of their properties. This must be considered alongside information on service-related issues.

25. Information in these areas would typically include:

- the LEA’s AMP Statement of Priorities. This sets out the strategic priorities for capital investment arising from other LEA plans (such as the Education Development Plan, School Organisation Plan etc), major rationalisations, specific initiatives, and from its stewardship responsibilities for maintaining the fabric of the school building stock. The statement would also explain how local capital investment will align with Government priorities, such as the transforming secondary education (TSE), transforming schools workforce (TSW), and Schools for the Future agendas;

- in the context of the LA’s Community Plan objectives, information on crosscutting issues and on plans for delivering other service outputs through educational facilities. This will help to identify opportunities for developing and extending schools to become focal points for the whole community by providing or hosting a range of family and social services. These might include childcare, health and social services, adult and family learning, recreational and leisure facilities, ICT access, and possibly legal or housing advice;

- available capital resources;

- information on recent and projected trends in the school population across the LEA;

- information on the schools with the most significant condition needs (by reference to DfES Priority 1-4 classifications3) and suitability needs (by reference to curriculum analysis4 and DfES A-D classifications5).

- information on the educational outputs delivered through building investment,

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3 See DfES AMP Guidance Section 3: Condition Assessment
4 Guidance on curriculum analysis is available on the DfES AMP web page at: www.dfes.gov.uk/amps/
5 See DfES AMP Guidance Section 4: Suitability Assessment
including assessments of the contribution that new facilities will make towards raising educational standards, improving staff morale, reducing truancy etc;

- the LEA’s targets for developing or improving the performance of the school building stock.

26. By using the appropriate range of information to prioritise potential capital projects, you will be able to ensure that your capital spending is not simply a reaction to immediate building problems, but takes a longer-term view. Your aim should be to progress towards a situation where school premises are not only in good condition, but where they are suitable for delivering a 21st Century curriculum and where their potential for delivering a range of community services is fully realised.

**Presenting AMP data**

27. The figures below illustrate different ways of presenting AMP data, which can be used to benchmark the performance of buildings. This can help in identifying priority areas and informing the appraisal process.

28. Figure 2 shows a simple ranking of schools in an LEA according to their repair needs per m². Similar analyses can be provided for suitability needs, space standards etc.

**Figure 2. Ranking school needs.**

<table>
<thead>
<tr>
<th>School</th>
<th>Value of Priority 1 &amp; 2 Capital Repairs £/m²</th>
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<tr>
<td>School A</td>
<td>Extensive condition and suitability needs</td>
</tr>
<tr>
<td>School B</td>
<td>Extensive condition problems</td>
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</tbody>
</table>

29. Figure 3 indicates a form of presentation that can be helpful where investment is required to address both condition and suitability needs at the same school, with each need indicated on different axes of the graph. Schools in the upper right quadrant have the best accommodation with the lowest needs. In the example shown below, School A has extensive condition and suitability needs for which it may be necessary to explore the opportunities for complete replacement; on the other hand, School B has only condition problems, which may warrant more modest improvements. This form of presentation can provide a useful basis for tracking the progress of an investment programme, by showing how many schools are ‘moved’ over time from the lower left to the upper right quadrant.
30. Figure 4 shows a ranking of secondary schools in relation to both building needs (condition and suitability) and educational performance as measured by GCSE results.

Figure 4: Combined building needs and educational attainment.

31. Another form of presentation may include plotting on a map the schools with the greatest needs in terms of their accommodation and/or educational performance. This will help to identify their distribution across the LEA and highlight areas where investment can make the biggest contribution towards raising standards.

Why should you do an Option Appraisal?

- to enable informed and transparent decisions;
• to provide a consistent approach to decision-making;
• to help achieve maximum effectiveness and best value;
• to provide a clear basis for review.

32. Carrying out a formal appraisal of the options will help you to make informed decisions about the capital projects that you choose to take forward. It ensures that the decisions you take are based on a clear consideration of the relative merits of all the options and provides a clear justification for the decisions that you take. This will include making explicit any assumptions that you have made and communicating them to your stakeholders.

33. Using a clearly defined appraisal process will mean that consistent decisions can be made by different individuals or groups in the organisation. This is particularly the case where decisions are being made which affect several departments or service areas.

34. The adoption of appropriate option appraisal is good practice in decisions about capital projects. The importance of developing an effective appraisal system is reinforced by it being a requirement for many funding programmes. Best Value seeks to ensure that resources are used to maximise effectiveness and value for money through joining up funding streams and focusing on lowest lifetime costs rather than lowest cost.

35. Used properly, an appropriate appraisal system should lead to better decisions. It will also help you to judge whether the decisions you have taken are the right ones, by providing a clear basis for later evaluation.

When should you do an Option Appraisal?

36. You should carry out an option appraisal whenever you are planning capital projects for which there are a number of possible different approaches to meeting your desired objectives. Other factors that should lead you to carry out an appraisal include:

• where you have any doubts about whether to go ahead;

• where there is a change of use or disposal of a site or building;

• where there might be wider objectives which could be achieved as part of the same project with relatively low incremental cost, and certainly lower than if two or more separate projects were carried out (eg extending the scope of a project to meet the needs of a range of users in line with Schools for the Future principles);

• where there are particular sensitivities about a project affecting a range of stakeholders;

• where there is a high level of risk or uncertainty;

• where the project involves the authority entering into a long term relationship or partnership with another organisation;

• where you need to demonstrate transparency in the decision making process;

• where the long-term solution may be different from the short-term solution.
37. With some capital projects, it is easy to see the benefits of carrying out an option appraisal. For example, a LEA considering amalgamating two secondary schools in support of its TSE/TSW commitments, or as a result of sufficiency, condition or suitability assessments, would be faced with a number of options, such as:

- refurbishment and modernisation of existing buildings on either site;
- new build on one site, with disposal of the other;
- disposal of both sites, with new build on a new site.

38. In each of these cases, there will be further possible solutions relating to designs and specifications. Detailed appraisal of each of these options will help to ensure that the right decision is taken in the light of current circumstances.

39. However, you should not only regard option appraisal as something to be used when large or complex projects are being considered. With less complex projects, the principles of appraisal still apply, but the scale of the process should be proportionate to the planned project.

40. For an option appraisal to be meaningful, you should carry it out well before a final choice has been made on the preferred approach. This is clearly better than deciding on a course of action and then carrying out a retrospective review of the possible alternatives in order to justify the decision. At best, this will be documenting the informal appraisal that has already been carried out. At worst, this is a purely additional activity that adds no value and provides no credible justification for the decision. It is an approach that is likely to lead to a poor value for money end product.

41. By going through the option appraisal process before the decision is taken, you will ensure that each of the options is considered appropriately. This is not to say that each will be appraised to the same level of detail, as you may be able to rule out some options early on in the process.

42. The specific timing of your appraisals will be influenced by a number of factors, including:

- the authority’s planning cycle for capital spending;
- the timing of specific funding programmes;
- the range of priority projects which your authority is considering;
- the nature of the project. A repeat project with reliable data can be appraised relatively quickly. New and complex projects will need more time (and resource);
- the level of sensitivity associated with the project, and therefore the extent of consultation needed;
- planning applications and decisions, eg in relation to Section 77 and Schedule 8
consents etc.

43. These need to take place in sufficient time to enable all options to be considered meaningfully and properly, without any having to be rejected because of lack of time etc.

**What are the links between Option Appraisal and Evaluation?**

44. Option appraisal and evaluation are closely linked. In this context, we are referring to evaluation as the post-implementation review of a project, to assess whether the investment has gone as planned and has led to the expected benefits.

45. Your option appraisal involves the comparison of a range of possible options, considering the hypothetical outcomes of each choice. Evaluation involves reviewing the course of action that you chose, to assess whether the right option was selected and whether it achieved the objectives set.

46. Evaluation also helps in identifying factors that have impacted on performance. Over the longer term, this may include assessing how effective the investment was in delivering the promised educational or other service outputs, e.g. whether educational standards and teacher morale were raised in line with expectations, inclusion objectives met, truancy levels reduced etc.

47. Effective evaluation is the key to the continual improvement of your ability to develop successful capital schemes. The results of your evaluations should provide inputs to your future appraisals, to ensure that you are learning from past experiences (Figure 1).

\[6\] Section 77 of the School Standards and Framework Act 1998, and Schedule 8 of the Learning and Skills Act 2000, which concerns the planning applications for developments on school sports fields and protection of school playing fields and land for new City Academies buildings.
SECTION 3. THE STEPS OF APPRAISAL

How do you do appraisals?

48. Each appraisal that you carry out will involve the same broad steps (see Figure 3). However, the size and nature of the project you are planning will influence the specific activities that you will need to carry out at each step.

![Figure 3: The Steps of Option Appraisal](image)

49. You should remember that whilst each appraisal will include all these steps, in practice, some of the steps would take place simultaneously. Consultation and investigation of funding options are described as separate steps, but in practice are likely to take place throughout the course of your appraisals and will influence each stage.

50. As you generate and analyse new information, you may find yourself revisiting some of the earlier steps as the appraisal develops. The more complex the project you are appraising, the more the process is likely to evolve.

51. The steps are described below. Two examples are used throughout this section to illustrate how the process works at the various stages of the appraisal:

- Example A - a simple project to replace a school boiler;
- Example B - a more complex project involving consideration of major works at an existing secondary school, which are aimed at tackling existing accommodation problems and providing facilities for delivering educational and community services.

Define the objectives

52. Once you have identified your priorities, the first stage in all option appraisals, regardless of their nature, involves defining a clear set of objectives. You should ensure that these are sufficiently wide, joined up and inclusive of all policy interests. This process is key to actually shaping what you are trying to achieve.
53. It is only by having clearly defined objectives that you will be able to identify the different approaches you could take and consider the relative merits of each option. Unless you are clear about what you are hoping to achieve, possibilities may be overlooked, or you may misinterpret the relative significance of different factors. This holds whether the appraisal is for a small-scale building project, or for a large scale cross-service area-wide property review.

54. Local authorities will be seeking to achieve a range of different objectives that have been set at different levels, from the strategic and corporate objectives downwards. The overarching objectives of the authority set the context for the corporate and individual service AMPs. Project level objectives should be considered in the context of their contribution to corporate and service objectives and targets.

55. In relation to devolved capital, schools should have their own longer term strategic plan that identifies the school’s premises objectives in relation to asset maintenance, refurbishment and replacement issues. This plan should be derived from the School Development or Improvement Plan, and be compatible with the LEA’s AMP.

56. The objectives that you set need to be broad enough to ensure that they do not rule out potential realistic options, but they should not be too general. If objectives are too broad, this can create too much flexibility and lead to unnecessary work.

57. In developing your objectives, it is good practice to make them as **SMART** as possible:

- **Specific** – everybody should be clear exactly what is to be achieved
- **Measurable** – a SMART objective provides a clear quantifiable target
- **Agreed** – everybody should agree what is to be achieved
- **Realistic** – your objectives should be achievable
- **Time dependant** – your objectives should include a clear deadline for achievement.

58. By setting your objectives in this way, it will help to ensure that you are clear what you hope to achieve, therefore enabling you to decide on the different options open to you. A clear set of objectives will also mean that it is possible to evaluate the performance of the project once it has been implemented.

59. Your objectives are likely to include some which are regarded as essential and others that are desirable but not as important. In this case, you should set out your objectives in order of priority. These priorities can then be used to decide on the weightings you use in assessing your options.

60. You should aim to have a relatively short and focused list of objectives. It is better to have five or six clear and manageable objectives than a much longer list.
Setting Objectives. Example A - Boiler replacement

A school’s coal-fired boilers have reached the end of their operational lives. They break down regularly and the system is not powerful enough to sustain the required temperatures, leading to frequent disruption to the operation of the school.

The objective is to provide a heating system that is reliable, maintains the required temperature, is fully compliant with the LEA’s energy efficiency and environmental policies and enables the school to remain fully operational.

Setting Objectives. Example B - Secondary school redevelopment

Educational objectives

Curriculum analysis has shown that four of the general classrooms in the school are too small to enable appropriate ICT-based education, and that the science labs are not suitable for some practical work. These accommodation problems are limiting the delivery of the full curriculum. The Authority’s Education Development Plan has identified the need to improve the school’s Key Stage 3 attainment standards in Science and ICT by 10%.

A recent Ofsted report concluded that poor working environment in staff facilities was contributing to low staff morale and problems with staff recruitment and retention.

Condition surveys have shown that major capital repairs to the school’s buildings are required. There are significant problems with water penetration and one of the main buildings needs to be re-clad.

In relation to these issues, objectives for the capital project were identified as follows:

- to provide sufficient new or modernised accommodation suitable for delivering the whole ICT and science curricula. This will eliminate the need to teach pupils in under-sized or unsuitable spaces (currently 110 teaching periods per week, average pupil group size 25, in ICT; and 50 teaching periods per week, average pupil group size 28 in science). The school considers that this would make a significant contribution over time towards meeting its Key Stage 3 improvement targets in ICT and Science;

- to improve staff morale and reduce staff turnover;
- to overcome the need for immediate major repairs;
- to reduce on-going maintenance commitments;
- to improve energy efficiency.

Community objectives

In line with Schools for the Future principles, the LEA and school, in association with the local health authority and social services department, plan to realise the school’s site potential by co-locating a community health and social services centre on a part of the site that is demonstrably surplus to the school’s needs. These services are currently provided in unsuitable accommodation elsewhere.

The objectives are to acquire more suitable facilities to improve the delivery of health and social services, and to bring together different community groups to contribute to neighbourhood renewal.
Develop the Options

61. Once you have defined your objectives, you can then begin to consider the different approaches you could take to achieve them – the options. The objectives set out what you want to achieve; the options describe how you could achieve it.

62. The range of options that you consider will depend on the nature and scale of the project being appraised. For a small-scale project, such as the replacement of a boiler or roof, there won’t be a wide range of alternatives. With a large scale scheme, such as a multi-school redevelopment, the range of possible options will be much wider and will require much more detailed consideration.

63. It is important that you initially consider a sufficiently wide range of options, which can then be narrowed down. This is better than making a decision without considering enough alternatives and then seeking to justify the elimination of options retrospectively. It is likely that some options can be ruled out at a very early stage. Usually only a small number will require full-scale analysis.

64. The time which you have available to carry out your appraisal will be limited, but it needs to be sufficient to allow time for investigating and securing planning consents etc.

65. When planning your project, you should actively consider more radical options in line with Schools for the Future principles. These may include cross-service or partnership use of premises, more innovative designs, or more environmentally-friendly solutions. In association with these, you should also explore the possibility of securing and joining up a range of relevant funding sources.

66. Your set of options should include a “base case” for comparison. This will normally be an option based on doing nothing or doing the minimum (maintaining the existing level of service). In most cases, the do minimum is the best option to use as a base for comparison. Comparing your options with this base case will help you find evidence to support the need for something to be done and identify what you will be unable to achieve if the project doesn’t go ahead.

**Developing the Options: Example A - Boiler replacement**

Through discussions with the school’s management, the caretaker and heating engineers, four possible options were identified:

- let the current situation continue
- overhaul the existing system
- install electric heaters in all classrooms.
- replace the current boilers with new high efficiency boilers of higher capacity and with appropriate controls.
Developing the Options. Example B - Secondary school redevelopment

An event was held at the school to consider the possible options. This involved the headteacher, school governors and parents, as well as LEA, LA, health authority and social services department officers.

This process initially produced a total of 16 options. These included a complete relocation of the school to a vacant site nearby; and a merger with another school, with the merged school housed in a combination of renovated and newly constructed buildings. Both of these schemes would be part-funded through receipts from the disposal of one school site.

Following initial appraisal of the full range of options, however, it was possible to rule out these two options, as the new sites were not large enough to accommodate the school and new health and social services facilities.

Five options were put forward for full appraisal:

- Do nothing
- Do minimum – carrying out essential repairs to existing buildings
- Refurbishment of existing buildings to improve the overall standard of accommodation, including internal remodelling and minor extensions to classrooms to meet space requirements
- Refurbishment and partial replacement - refurbishment of some of the existing buildings, with others exhibiting the most significant condition and space deficiencies being demolished and replaced with new permanent structures.
- Complete replacement – demolition of the existing school and replacement with new permanent buildings that meet all the educational and community objectives.

Information Gathering

67. Once you have decided on your options, you will need to start drawing together the relevant information on each, to enable you to assess them. The information on each option would include:

- contribution to the achievement of your objectives and targets;
- initial capital expenditure;
- any capital receipts generated;
- whole-life capital and revenue costs;
- any expected income generated over the whole life of the asset;
- likely impacts on day-to-day activities of existing facilities during project implementation;
- design quality issues;
• environmental impacts (positive and negative);
• other impacts that will result from pursuing the option.

68. Across all these factors, you will need to take account of differences in scale and timing in relation to each of the different options.

69. Some of the information to make the comparisons will be readily available. In other cases, acquiring the appropriate information may be more time consuming. The key thing to remember is that you should seek to draw together the amount of information and the level of detail that you need to make an effective comparison between the options.

70. Your appraisal will be looking to compare what you expect each of the options to deliver in the future. To be able to do this, you will need to take account of future projections and forecasts.

71. For example, where a local authority currently owns and operates a sports and leisure centre on a school site, appraisal of proposed capital investment in these facilities will need to take account of a range of factors, including:
• the scope for greater use of the facilities by the school and other potential users;
• projected future demand for sports and leisure services by non-school users;
• expectations about competing private sector sports and leisure developments;
• population trends;
• other factors that will influence the demand for the facilities.

72. You will need to build assumptions into your appraisals, especially with larger, more complex and longer term projects. The assumptions you have built in will need to be clearly set out. The degree of uncertainty associated with them will need to be considered. For example, assumed costs based on detailed surveys and bills of quantity should be more reliable than those based on broad industry averages.

73. Your assessment of the likely impact of a proposed scheme should be based on your own experiences with similar projects, on evidence from elsewhere or on your best estimates. The key is to make best use of all the information available to you, using estimates where necessary.

74. It is important to recognise that the impacts of your proposed project will not all be positive. In particular, you should consider how they would be distributed across different stakeholders. For example, relocating a school will impact on the relative distance that pupils will need to travel. This may then impact on the demand for places at neighbouring schools where no significant work has been carried out, and could lead to an increase in traffic and therefore the risk of road accidents, and so on.

75. The actual process of implementing a capital scheme may have a significant impact on service users. For example, when planning a major school renovation, it will be necessary to consider the nature and timing of the works being carried out and whether it is possible to do them whilst the school is open, or if the pupils and staff have to be relocated.
temporarily. These impacts may vary significantly between different options.

76. Where a significant project is planned, the impacts are potentially wide-ranging and complex. In such a situation, you may wish to consider specific research with stakeholders to explore their views on the expected impacts of different options. The results of these consultations can then be built into your assessment.

**Design Quality Issues**

77. Design quality is one of the key issues to consider when carrying out an option appraisal. It is not just about aesthetics – it is much broader. A well designed facility should be functional, sustainable, attractive, and durable – and, of course, it should also be buildable. For new buildings and major refurbishments, the impact on the locality needs to be considered.

78. While all these aspects are important, they will not all have equal rating and their relative importance will vary depending on the project. For example, aesthetics may be a high priority in a new building, but a low priority for, say, a boiler replacement. Before you carry out an appraisal, it is important that you decide which aspects of design quality matter most to you in the project. A scoring and weighting approach can be useful in this regard.

**Environmental Impacts**

79. Your appraisal should consider the potential environmental and sustainability issues relating to each option, including:

- consumption of resources;
- production of waste;
- pollution impacts;
- transport impacts;
- approaches to minimising environmental impact.

80. The extent to which options are consistent with your authority’s environmental policies (e.g. in relation to Agenda 21 issues) will need to be factored into the appraisal.

81. Some projects will have relatively little net environmental impact and so your environmental impact assessment will be relatively straightforward. Where major schemes are planned, your environmental impact assessment will need to be more comprehensive.

82. Specific guidance on incorporating sustainability and environmental impact assessment in option appraisal has been produced by the RICS in conjunction with the Environment Agency.\(^7\)

## Finding the Right Solution

### Information gathering. Example A - Boiler replacement

The information will include:

- the system breakdown record for the existing heating system;
- current costs of maintaining the existing system;
- current staff costs of managing the existing system;
- a survey of the existing system, including information on components that need replacing, estimated costs and availability;
- the specification of a replacement system, including replacement costs, on-going maintenance costs and details of energy consumption, emissions, other running costs for coal, oil and gas-fired systems etc;
- a forecast of the number of teaching periods that will not be lost as a result of heating problems and the number of pupils affected.

### Information gathering. Example B – Secondary school redevelopment

The information will include:

- number of users in each option benefiting from improved or new accommodation;
- assessments of the contribution that capital investment in the option will make towards raising educational standards;
- sufficiency, condition and suitability assessments of existing buildings;
- design standards for each of the options;
- initial capital costs, including demolition costs and professional fees;
- costs of hiring mobile classrooms during construction;
- estimated on-going capital and building maintenance costs for the life of the asset;
- estimated whole-life operating costs, including facilities management, and heat, light and power costs;
- compliance of each of the options with guidance on school accommodation;
- energy efficiency and sustainability issues;
- accessibility and security issues;

The sources of information may include specific estimates, data from similar projects carried out elsewhere in the authority, and advice from experts.
Assessing the Options

83. The assessment of your options can begin as soon as you have reasonably comprehensive information on any aspect of the proposals - it is not necessary to wait until you have all the information.

84. When assessing options you should bear in mind budgeting issues at LEA and LA level and also managing users’ expectations. The focus should be on budgeting for the highest priority best value solutions - less urgent projects may have to wait.

Valuing Costs and Benefits

85. It will be possible for you to place a financial value on many elements of the options you are considering. These will include the costs of actually implementing the scheme and any income that the scheme may generate and the on-going operating costs once the option has been implemented.

85a Key benefits from most projects will include the reduction of maintenance requirements and the partial or total elimination of suitability shortcomings. Notional suitability and condition assessments should be compiled for each option, to show what the position would be on completion of the project. By comparing these notional assessments with the suitability and condition assessments of the existing buildings, the suitability and condition benefits can be identified for each option.

86. You should compare the financial aspects of each of your options on a consistent basis. Wherever possible, they should be valued in “real terms” – the price level that applies at the time of the appraisal. In general, you should ignore the impact of inflation, unless you have good reason to believe that the price of one or more elements will change by significantly more or less than the rate of inflation. For example, land values in some areas may be increasing rapidly, which would make early acquisition of land attractive, or would make it beneficial to delay any disposals.

Discounting

87. When comparing your options, it is likely that you will find differences in the timing of expenditure or income. You will need to be able to take these timing differences into account when considering your options. This will include both the initial capital outlay and the on-going capital and revenue costs of the scheme, plus any income that may be generated over the life cycle.

88. In general terms, it is more attractive to delay expenditure, but to receive income as soon as possible. To take this into account, you should use discounting to consider future costs and income in terms of current values.

89. The impact of discounting will increase the longer the lifetime of the scheme and the bigger the variations in timing between your options. For small scale and short duration schemes, it may not be necessary to use discounting to be able to make appropriate comparisons.

90. Section 4 includes further guidance on how to use discounting. For larger or more complex schemes, you may wish to seek professional advice on this and other more technical aspects of option appraisal.
Non-Financial Assessment

91. You will normally have a considerable amount of non-financial information available to assess your options, some of which will be easily quantified and some which will be much “softer”.

92. The non-financial information for each option should be set out in a consistent format, so that you can make easy comparisons through scoring and weighting (see below) or other approaches.

Risks and Uncertainties

93. You will be using estimates to carry out much of your appraisal. This means that there is a risk that your estimates may be wrong. There may be delays in the timing of a project while planning permission is secured, or funding applications may be unsuccessful, either of which may impact on your ability to deliver the scheme. Certainty can be improved though earlier applications for planning, eg in relation to securing Section 77 and Schedule 8 consents. The DfES has helped to improve funding certainty for LEAs by moving to three-year capital allocations.

As you consider your options, you should assess the degree to which risks and uncertainties vary between them. It may be that a less risky option is preferred over one that has the potential to deliver a broader package of benefits, but with more risk that it may not succeed. Some of the risks that you may face include:

- the need to take a decision to go ahead before designs and costs have been finalised;
- delays in securing planning permissions;
- the need for a development to go to public inquiry;
- failure to secure the required level of capital receipts from a disposal;
- over-runs of construction costs;
- potential delays in completion, especially if this means, for example, that a replacement building is not ready for the start of term;
- increases in maintenance and operating costs;
- failure to meet income generation targets.

94. For simple projects, there are likely to be few major risks and uncertainties. As the options become more complex, it is increasingly important to consider the likely risks. You should make maximum use of previous experience to ensure that you are not being over-optimistic. Whilst it is possible that the outcomes may be better than expected, it is more likely that they will be less successful.

95. When you are considering the risks associated with different options, you should at the outset consider possible counter-measures that could be introduced in order to minimise the risks and keep the project on course.
Changing Options

96. As you analyse the information on your options, this may lead you to develop new ideas or variations. As more information becomes available, you may wish to change the specification of the options, or vary the assumptions you have made. This may include positive changes such as improving the original project specifications, rather than just lowering costs.

97. Appraisal should be a dynamic process. You should adapt the process as necessary to ensure that it enables you to make the right decision based on the information available.

Analysing the Options

98. Once you have gathered all the information you need about each option, you will need to be able to analyse it in a consistent manner. Your aim in carrying out the analysis should be to distil the information down into a form that will enable you to make comparisons.

99. Local authorities (and other public sector bodies) hold properties, in the main, to enable them to deliver services. Decisions on where these buildings are sited and the investment that is made in them will not be made purely on the basis of financial value. It is important to be able to take all factors fully into account in analysing your options. Value for money is clearly critical, but the best value option will not necessarily be the one with the lowest whole life costs or highest income.

Scoring

100. To be able to compare the information that is not easily valued and is essentially qualitative, the commonest approach is to score each option on its contribution towards the objectives. In other words, you are rating each option against the extent to which they deliver what you are seeking to achieve.

101. The scale that you use to score your options should be wide enough to reflect the differences between the different options, even if they are quite small. A 0-10 scale will usually be appropriate, where a rating of “0” is a complete failure to deliver an objective, whilst 10 would indicate that an option delivers an objective in full.

Weighting

102. It is unlikely that all the objectives that you set will be equally important to you. You may regard achievement of some of the objectives as being absolutely essential, whilst some of the others might be less important and be seen as a “nice to have” result.

103. Once all the non-financial elements have been scored, you can then apply weighting factors based on the relative importance of each objective. These weightings help to ensure that the most important factors have the greatest influence on the outcome of the appraisal. Using a weighting of 1-5 for each objective will usually be sufficient to ensure that the appropriate result is achieved.

104. The illustration below shows how scoring and weighting can be applied by setting out in a table the options against the objectives.
### Scoring and Weighting of Non-financial Factors

<table>
<thead>
<tr>
<th>Objective 1:</th>
<th>Weighting Factor</th>
<th>Score</th>
<th>Weighted Score</th>
<th>Option 1</th>
<th>Weighted Score</th>
<th>Option 2</th>
<th>Weighted Score</th>
<th>Option 3</th>
<th>Weighted Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribute to raising educational attainment.</td>
<td>5</td>
<td>8</td>
<td>40</td>
<td>3</td>
<td>15</td>
<td>10</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective 2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support delivery of health and social service objectives</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>20</td>
<td>7</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective 3:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address building condition and suitability issues</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective 4:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design quality standards.</td>
<td>1</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td>26</td>
<td>70</td>
<td>26</td>
<td>51</td>
<td>26</td>
<td>77</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

105. Options 1, 2 and 3 all yield the same total score (26), but Option 3 has the highest weighted score (77), reflecting its maximum rating against Objective 1, the contribution towards raising education attainment, which has the highest weighting factor.

106. If you choose to use a scoring and weighting approach, you must make sure that this does not discourage people from using their judgement in considering the different options. What is essential is that all the influencing factors are taken into account in order to identify a preferred option on the basis of sound reasoning.

**Combining Financial and Non-Financial Factors**

107. The final stage of the analysis is to combine the financial and non-financial factors to help identify your preferred option. Possible approaches to this include:
• applying weighting factors to the results of your financial assessment, or

• by combining the weighted scores for non-financial factors with the Net Present Value\(^8\) of each option, to develop a value for money rating.

108. **Weighting factors approach.** In the example above, the weighted scores of non-financial factors are out of a total possible score of 100. To combine the non-financial and financial factors, you will need to decide on their relative importance. For example, you may decide that achievement of the overall project objectives (non-financial factors) is twice as important as selecting the option with the lowest cost. In this case, where the weighted scores of the non-financial factors are out of a total of 100, the financial factors of each option would be scored out of 50, with the lowest cost option being given the highest score. The preferred option would be the one that yields the highest combined score.

109. **Value for Money Rating.** Once the total weighted score has been calculated for each option, this figure is divided by the total financial cost. The project with the highest value for money rating would be the preferred option.

110. Drawing together the financial and non-financial elements will help you to choose between options that have very similar cost levels, or deliver similar levels of benefits. The Value for Money Rating approach is used in the example below.

**Assessing and analysing the options. Example A - Boiler replacement**

The assessment and analysis of the options was very straightforward.

Letting the current situation continue was ruled out immediately. This would mean that the problems being faced by the school would continue, with continuing disruption and on-going maintenance problems, with the risk of a terminal failure of the boiler at any time.

On investigation, it was decided that overhauling the system was not possible. Due to the age of the system, replacement parts are unavailable and the expected future life of the overhauled system was likely to be limited.

Replacement of the existing system with electric heaters in all classrooms was ruled out, as this would mean complete removal of the existing central heating system, the majority of which is in good condition. This option would cause considerable disruption to school activities during the replacement work. Whilst initially cheaper than replacing the boiler, the operating costs of the electric heaters were expected to be significantly higher than the other replacement options.

Complete replacement of the boiler was the only viable option, as it is the only one that will deliver objectives of the authority and the needs of the school. The decision to replace the boiler then led into detailed consideration of the options of different fuel types. Taking into account whole life capital costs and the on-going operating and maintenance costs, the preferred option was to replace the boiler with a new gas-fired system.

\(^8\) The capitalised value of future costs or benefits - see paragraph 140.
### Assessing and analysing the options. Example B – Secondary school redevelopment.

The financial information gathered on each of the options was entered into a spreadsheet, which was used to calculate the Net Present Value for each option, based on a discount rate of 6% over a 25-year life. Appendix A includes an extract from the spreadsheet for the whole life costs of the construction of the new school, showing the cost headings used in the appraisal (a downloadable version of the spreadsheet is held on the DfES website at: [www.dfes.gov.uk/amps](http://www.dfes.gov.uk/amps)).

The extent to which each option contributed to the achievements of the project objectives were scored and weighted and a value for money rating calculated.

**Do Nothing Option.** Consideration of the option has been limited. The current state of the school buildings mean that the current situation is not sustainable other than in the short term as the buildings are expected to continue to deteriorate and become less serviceable. The education, neighbourhood renewal and health and social service objectives are not met.

- Weighted score = 12
- Initial Capital Cost = £0
- NPV of whole life costs = £5 million
- Value for money rating = 2.4 (i.e. 12/5)

**Do Minimum Option.** This option lowest initial capital outlay, but has higher on-going financial commitments than the refurbishment or replacement options. It addresses the objective to overcome the need for immediate major repairs, but makes little contribution to achieving the educational objectives set for the project. The neighbourhood renewal and health and social service objectives are not met.

- Weighted score = 44
- Initial Capital Cost = £4 million
- NPV of whole life costs = £11 million
- Value for Money rating = 4.0

**Refurbishment Option.** This option scores relatively well in financial terms in comparison with options 4 and 5. However, the scope to make significant structural changes to the existing buildings to address the educational inefficiencies was somewhat limited.

- Weighted score = 125
- Initial Capital Cost = £10 million
- NPV of Whole Life Costs = £15 million
- Value for Money rating = 8.3

**Refurbishment and Partial Replacement Option.** This option was found to deliver significantly more than the refurbishment-only option, because it enabled replacement of the buildings that were exhibiting the most significant problems in terms of both condition and delivery of the curriculum. However, the initial capital outlay for this option was only marginally less than the new build option, whilst whole life costs worked out slightly higher.

- Weighted score = 180
- Initial Capital Cost = £11.5 million
- NPV of Whole Life Costs = £20 million
- Value for Money Rating = 9.0
Complete Replacement Option. This option delivers the highest rating against the project objectives. By constructing a replacement school and associated community facilities, it is possible, in line with Schools for the Future principles, to provide accommodation that meets school and community users' needs and allows flexibility to respond to future demand changes. Whilst this option has the highest initial capital cost, the increased efficiency of operating in entirely new buildings means that the whole life costs are lower than those for the combination of refurbishment and new building.

- Weighted score = 205
- Initial Capital Cost = £12 million
- NPV of Whole Life Costs = £19 million
- Value for Money Rating = 10.7

In conclusion, complete replacement would be the preferred option, despite the initial capital cost being the highest of all the options considered. The final decision to go ahead with this option would depend on ensuring that the authority can meet the initial capital outlay and the lifetime capital and revenue costs. This would include considering the impact on other capital projects of going ahead with this option.

Consultation

111. Throughout the course of your option appraisals (Figure 3), you will need to ensure that you involve people who have an interest in the outcome of the project. A lot of options may be generated through consultation, whilst others may be ruled out as a result of stakeholder feedback before a detailed appraisal takes place.

112. You should seek to involve stakeholders and the community at an early stage of the process and continue to communicate with them as the appraisal continues, especially when new information comes to light as the process goes ahead.

113. Where major changes are planned affecting a school or other community services, it will generally be helpful to the success of the scheme to involve a wide cross-section of stakeholders. This could include school governors, parents, pupils, Dioceses, community and voluntary groups, local business representatives etc. Statutory notices may also need to be issued in relation to education projects.

114. The greater funding certainty offered by the DfES’s 3-year capital allocations provides an opportunity for authorities to begin consultations and planning enquiries earlier and thereby reduce the risk of important options being rejected because of lack of time.

Consultation. Example A - Boiler replacement

The appraisal process involved on-going discussions between staff in the LEA, the headteacher and the caretaker, following the identification of the boiler replacement as a priority project.

The consultation included seeking information from the staff on the problems resulting from the difficulties with the current system (i.e. cold or under-heated classrooms) and input from the caretaker on the control and functions required in a replacement system.
Consultation. Example B – Secondary school redevelopment

The identification of the school as the top priority for the LEA came about as a result of consultation with the board of governors and school management following the condition and suitability assessments carried out on behalf of the authority.

Similar processes had taken place at corporate management level within the Local Authority and at the Health Authority in relation to identifying health and social service priorities and how these might be delivered through a co-located facility.

A steering group was established for the project. This included, to represent school interests, officers from the LEA, one of the school’s deputy heads, a school governor and a representative of the parents. Neighbourhood renewal, health and social service interests were represented by officers from the respective LA departments and agencies.

The steering group organised a public event to discuss the proposed improvements to the school and the co-location of the community services facilities.

The various representatives and the local community were invited to put forward ideas on the options for the proposed redevelopment. These formed the basis for a “long list” which was then reviewed to arrive at the final list of options that were appraised in full.

As the project progressed, the Steering Group draw upon the experiences of a neighbouring authority that had carried out a similar project. This helped in assessing the likely costs, benefits and risks of each of the options.

Funding Options

Considering the most appropriate project options cannot be divorced from thinking about the existing funds available to you for capital spending and possible routes to attracting funds from other sources. This process, along with consultation, must start at the beginning (Figure 3) and then run in parallel with and influence each of the appraisal steps described earlier in this document. Possible funding options will include:

- mainstream capital allocations to the authority;
- dedicated capital resources from central government;
- capital receipts;
- other funding bids;
- capital allocations to schools;
- school fund raising.

115. The different funding routes will be appropriate for different capital schemes, in terms of both their nature and scale.
116. The funds available to you will also lead you to consider different routes to procurement, such as the Private Finance Initiative (PFI), other partnership arrangements and Section 106 agreements. Your option appraisal will need to factor in the impact of different procurement routes on the extent to which different options meet your requirements. Regardless of the procurement route selected, the principles of option appraisal remain the same, although the results may need to contribute to further stages that would not be required with traditional procurement.

117. It is possible that alternative approaches to resourcing a project may enable you to deliver far more than your specific objectives. For example, one of your authority’s priorities for capital spending may be to replace an existing local library with a joint-use facility on a school site. Alternative funding through, for example, a design, build, finance and operate partnership agreement may be able to provide you with the library required, together with a range of additional facilities for the local community.

118. It is likely, therefore, that consideration of the options to fund your capital priorities will actually influence the nature of the projects selected. This highlights the dynamic nature of the appraisal process and reflects the importance of following through all the appropriate options until a clear preference is demonstrated.

119. In the same way that there will be only limited options to carry out some projects, the funding opportunities available to resource some schemes will be very restricted. In other cases, there will be a wide range of potential funding opportunities that will need to be investigated carefully and at an early stage.

120. Your capital schemes should be driven by your priorities for service delivery and capital spending. There is a danger that funding programmes with a set timescale for bidding and delivery lead to opportunistic bids to carry out lower priority projects than would have been carried out if the funds had been available through a non-specific route.

121. Securing Best Value through lowest whole life cost solutions will be a factor when considering funding options. PFI provides a benchmark by requiring appropriate investment in both initial capital works and subsequent maintenance over the life cycle of the project. PFI as a funding and procurement option must be considered at an early stage.

**Reporting**

122. The final output of the appraisal is a report to decision makers, such as authority officers, school governors, elected members or funding providers, which sets out the process that you have undertaken and the results it has produced – in other words, how you have arrived at the preferred option.

123. Your appraisal report will need to be proportionate to the appraisal carried out. It will also need to reflect the use that you will be making of the report. Is it to recommend an internal decision, or is it to support an external funding bid? Where the report is required for the latter, specific requirements may be set by the fund or programme, both in terms of content or format. Your report should present:

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9 Under Section 106 of the 1990 Planning Act, planning authorities have the power to enter into voluntary agreements with developers to ensure certain steps are taken which will assist the development to take place, ameliorate adverse impacts, or fulfill other policy requirements. This mechanism, previously known as planning gain, has increasingly been used by Councils to ensure community benefits are secured through developments.
Finding the Right Solution

- the rationale for the planned activity;
- the specific objectives you are seeking to achieve;
- descriptions of the options and how they were identified;
- summaries of the relative costs and benefits of each option;
- discussion of risks and sensitivities;
- the analysis of the options;
- a description of the preferred option, including the preferred funding route and procurement approach.

124. Your report should be supported by an outline of any underpinning assumptions and a clear description of any weightings that have been used to decide on your preferred option.

125. Your aim in producing the final appraisal report should be to ensure that it includes the level of detail required in order to support your preferred option. If, at any point it is not clear from the report why a particular choice has been selected, then you should include further information. However, you should avoid including information for the sake of it. This will lead to an over-long report, which will be less useful to the readers.

126. Your report should aim to get the key messages across to the readers as clearly as possible. An executive summary should be included, recognising that some people will only have time to read it quickly, whilst others will want to go into much of the detail. Where appendices are used, there should be clear references to them in the main text.

127. Remember, the style and format are important in making it a useful aid to the decision making process.
SECTION 4: QUESTIONS AND ANSWERS

128. Here are answers to a number of key questions that are often asked about option appraisal.

We already plan carefully before we make any capital investment decisions. Why do we need to do appraisals?

129. It is fair to say that all the decisions you take will involve an element of appraisal – you weigh up the different alternatives before deciding what to do. It is possible that you already carry out formal appraisals of your major capital projects, but not others.

130. By using a more disciplined and consistent approach to appraisal, it will help to make sure that you do not miss out anything important in making your decision. Also, it will mean that you can demonstrate a clear justification for all your decisions.

Should we use the same appraisal procedure for all our capital projects, regardless of size?

131. No. You should adapt the process you use to fit the project you are considering.

132. The principles of appraisal will apply whatever decision you are taking, but it is not a standard procedure. The level of detail that you will need to consider for a small extension will be significantly less than for a multi-million pound school reorganisation.

What costs should I include in my appraisal?

133. You will need to include all the expected costs (and any income you expect to generate) over the full life of the asset – either until you expect to decommission the building or you would plan to make further significant investment.

134. You should include the initial and on-going capital costs of each option, together with their respective on-going revenue costs. You need to consider all costs in this way, because the option with the lowest initial capital cost will not necessarily be the lowest cost overall.

135. You should consider the implications of an investment for the users of the building, especially where they have responsibility for ongoing operating and maintenance costs.

136. When you are comparing whole life costs, you should use discounting to ensure that you are comparing like with like.

How do I use discounting?

137. A discount rate is used to reduce the value of expected future costs and benefits to their values today – their Present Value. The normal discount rate used for public sector projects in the UK is 6%, although revised guidance from HM Treasury will be published early in 2002. The discount rate is used to calculate a discount factor which, when multiplied by the future expenditure or income, will give its present value.

138. The formula to calculate the present value at the middle of the base year (Year 0) of a
payment in the middle of Year \( n \) is:

\[
D_n = \frac{1}{(1+r)^n}
\]

\( D_n \) is the discount factor for year \( n \)

\( r \) is the discount rate, expressed as a decimal

139. For example, using a discount rate of 6%, a payment of £100,000 at the middle of year 5 has a present value of:

\[
£100,000 \times \frac{1}{(1+0.06)^5} = £74,726
\]

140. The term *Net Present Value* is used to describe the sum of the discounted future costs minus the discounted future income of an option. HM Treasury’s “Green Book” includes more detailed guidance on discounting and describes a range of different ways in which discounting can be used in appraisals.

141. The electronic version of Appendix A of this document on the DIES website includes a standard Excel function to calculate Present Values using a 6% discount rate.

**How do I take account of inflation in appraisals?**

142. In general, you should assume that inflation would have a consistent impact on all aspects of your proposal. It is therefore normal to express all costs and benefits in real terms at today’s general price level.

143. However, if you expect a particular element to increase or decrease in price at a significantly different rate to everything else, then you should make an adjustment to take this into account.

**What about environmental impacts?**

144. The environmental costs and benefits of your options should be considered as part of the appraisal. Where, on the basis of an initial review, you expect a project to have significant environmental implications your appraisal should include a specific environmental appraisal.
### Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appraisal</td>
<td>The process of defining objectives, examining options and weighing up the costs and benefits and risks and uncertainties before a decision is made.</td>
</tr>
<tr>
<td>Cost Benefit Analysis</td>
<td>Analysis that seeks to quantify in money terms as many of the costs and benefits of a proposal as possible.</td>
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<tr>
<td>Cost of Capital</td>
<td>The cost of money raised for investment, expressed as an annual percentage rate.</td>
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<td>Discounting</td>
<td>The comparison of quantities that are distributed over time by converting them to a present value by applying a discount rate.</td>
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<td>Discounted Cash Flow</td>
<td>An umbrella term for analyses that discount a time stream of costs and benefits to produce a present value.</td>
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<td>Discount Rate</td>
<td>The annual percentage rate at which the present value of a future pound is assumed to fall away over time.</td>
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<td>Evaluation</td>
<td>Retrospective analysis of a project to assess how successful or otherwise it has been and what lessons can be learnt for the future.</td>
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<td>Financial Appraisal</td>
<td>Analysis of cash flows.</td>
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<tr>
<td>Internal Rate of Return</td>
<td>The discount rate that would give a project a present value of zero.</td>
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<tr>
<td>Market Value</td>
<td>The price at which a commodity can be bought or sold.</td>
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<tr>
<td>Net Present Value</td>
<td>The capitalised value of a stream of future costs or benefits. Net Present Value is often used to describe the difference between the present value of a stream of costs and a stream of benefits.</td>
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<td>Present Value</td>
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<tr>
<td>Price Index</td>
<td>A measure of the amount by which prices change over time.</td>
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<tr>
<td>Sensitivity Analysis</td>
<td>Analysis of the effects on an appraisal of varying the projected values of important elements.</td>
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References


Options Appraisal and the Outline Business Case – Public Private Partnerships Programme (4Ps)


Useful websites:

www.dfes.gov.uk/amps - link to DfES guidance on Asset Management Plans


www.rethinkingconstruction.org - link to the report of the Construction Taskforce on the scope for improving the quality and efficiency of UK construction.

### ABC School - Replacement Option

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