

# National Audit of Scotland's Sports Facilities

## Summary Report



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# Executive Summary

**Following a recommendation of the Sport 21 Review Forum, sportscotland commissioned an audit of sports facilities with funding from the Scottish Executive. The main purposes of the audit were to establish the general condition of Scotland's sports facilities, to estimate where necessary the capital cost of bringing them up to an acceptable standard and to estimate the costs of maintaining them in an acceptable condition.**

The audit follows a similar approach to that developed in *The Ticking Time Bomb* (sportscotland 2001) report. This estimated the level of investment required to keep Scotland's public swimming pools open and provided guidance on the choice between refurbishment and replacement.

The commissioning of the audit recognised the fundamental role which facilities play in meeting the targets set out in Sport 21, the national strategy for sport. The availability, accessibility and quality of facilities influence whether people take part in sport, which sports they play, how often they play and how well they perform. Yet providing sports facilities is an expensive business: they are generally costly to build, maintain and operate.

This audit provides a snapshot of the condition of our sports facilities at one point in time. It does not imply that the way forward is simply to upgrade every single facility identified in the audit. What we need to ensure is that we have the right quality and mix of facilities across the country to provide opportunities to participate in a range of sports and to do this in such a way that we can increase participation and support those who wish to compete at a higher level. Facility operators will need to undertake detailed condition surveys of individual facilities before investing in upgrade or replacement, but investment decisions should always be based on a strategic assessment of long term needs, priorities and sustainability. This approach must recognise changing patterns of demand for different types of facilities and changes in the way particular sports are being developed as well as demographic changes at national and local levels.

The ways in which sports facilities are provided are also changing. Local authorities remain the key providers of many sports facilities for general community use, but most facilities operate at a deficit and this has to be squared with councils' requirement to achieve best value in their expenditure. Several councils have established Trust companies to manage their sports facilities. The commercial leisure sector has expanded rapidly over a relatively short period in areas such as fitness suites, swimming pools, indoor tennis courts and 5-a-side courts, often competing directly with public sector providers.

Our schools are major providers of sports facilities, both indoor and outdoor. It is important that school children have access to good quality sports facilities and that the investment in

such facilities is fully exploited by allowing them to be used by the wider community. A major effort is being made to raise physical activity levels in school children through the Active Schools programme and the introduction of a minimum two hours of PE per week for every pupil; both initiatives will have significant implications for facility requirements.

The audit covered facilities operated by clubs, schools, further education and commercial sectors as well as by local authorities. This encompasses over 6,000 facilities and represents an enormous estate in terms of both buildings and land. It is therefore not surprising that the costs of maintaining this estate are commensurately high. The age of much of this stock, the quality of initial design and construction, and the level of investment in both refurbishment and maintenance over a long number of years all contribute to current and projected costs.

The overall picture provided by the audit is one of an ageing stock of sports facilities, yet there are many good examples of high quality facilities throughout the country. There are many factors to consider in addressing the issues raised in the audit: the changing patterns of demand; customer expectations have risen across the service sector; and, with improved standards of living, many people are increasingly less prepared to accept substandard sports facilities. Quality is important, and facilities judged as inferior are likely to have a negative impact on participation in sport.

### **Outdoor Facilities**

The audit highlighted a very wide range in the quality of outdoor facilities with a significant number being rated as poor. This is particularly the case for natural grass pitches where much of the current stock was inadequately constructed and has received low maintenance. This inevitably results in playing surfaces of poor quality, particularly in wet weather. Much of the changing accommodation at pitches is similarly poor.

### **Key Findings**

- 74% of natural grass pitches, 61% of synthetic grass pitches, and 50% of tennis courts require replacement or significant upgrading.
- Many sports pitches have poor surface quality due to inadequate drainage systems and overuse in relation to their playing capacities, leading to frequent cancellation of matches.
- Grass pitches suffer from poor drainage, generally resulting from poor construction methods and lack of remedial maintenance.
- Many of the older artificial grass pitches were classed as unsatisfactory due to poor original construction specifications and inadequate maintenance.
- There are inadequate levels of routine and remedial maintenance on all types of pitches, including newly constructed and refurbished facilities and artificial grass pitches.
- The costs of rejuvenation and refurbishment of artificial grass surfaces and periodic maintenance of associated fencing and floodlighting are equivalent over 25 years to the initial capital costs of constructing the facility itself.
- There are still around 400 mineral pitches in existence, a surface which no longer meets sports' requirements or user expectations.

- Club owned facilities tend to be in better condition than local authority facilities although many school based facilities have improved following the school PPP programme.
- Changing accommodation for sports pitches is often too small and in very poor condition with inadequate showers, ventilation and heating systems; 49% of changing pavilions require replacement or significant upgrading.

### **Golf Facilities**

The audit of golf facilities involved a wide ranging study into provision for golf. Assessment of the physical condition of courses and clubhouses, and review of the associated costs of upgrading and maintaining facilities formed only one element.

The majority of Scotland's golf courses (73%) are operated by course-owning golf clubs. The audit recognised that the long-term sustainability of golf facilities in Scotland is likely to depend as much on the robustness of their finances and their management structures as on the physical condition of their courses and clubhouses.

Over 90% of the total expenditure required to keep Scotland's stock of golf courses in good condition is spent on ongoing course maintenance – and the majority of course operators are able to meet this cost from their own resources. Less than 10% of total expenditure consists of funds required to put right current or anticipated problems, many relating to course drainage, problems which could be exacerbated if climate change results in wetter summers. Although the golf sector is in good health in comparison with other types of sports facilities, the audit did highlight a number of issues.

### **Key Findings**

- 45% of course-owning clubs have income below the level required to maintain their facilities to a good standard on an ongoing basis.
- Around 100 courses, largely in the municipal sector and among the smallest members' clubs (and including some smaller commercial courses), are likely to need improvement works which their operators are unlikely to be able to afford.
- Many municipal operators have insufficient maintenance budgets and this is having a detrimental effect on the quality of their courses.

### **Indoor Facilities**

About 46% of all indoor facilities were constructed in the 1970s and 1980s. Many sports centres and swimming pools built in this era were built to design specifications and construction standards which would not now be considered acceptable. While some have already been refurbished, many now require significant levels of re-investment to upgrade their condition and keep them operational. The audit highlights the need to review this re-investment against a background of the changing nature of demand for facilities.

### **Key Findings**

- Many indoor facilities have a worn out and unwelcoming appearance due to inadequate expenditure on maintaining their fabric.

- Emphasis is often on reactive maintenance rather than preventative or planned maintenance with maintenance budgets generally being inadequate.
- Standards of changing accommodation were often poor. Common problems identified by the audit were inadequate showers and ventilation, shabby decor, particularly in relation to floor and wall tiles, damaged lockers and poor basic design resulting in a lack of privacy for users.
- Indoor facilities in older secondary schools were often in very poor condition.
- Older ice rinks are typically under-maintained and under-funded, using old and inefficient plants and at risk of closure from plant failure.
- Conversely to other areas in this sector, indoor bowls and tennis halls are generally well maintained and in good condition.
- Competition from the commercial sector in the provision of fitness facilities has led to better maintenance standards and regular replacement of equipment in public facilities.

### **Financial Implications**

The clear issues that emerge from the audit: one, there is a huge buildings and land estate in Scotland – some 6,000 facilities; two, the cost of maintaining this estate is high; three, there is a gap between the money needed to refurbish or replace existing facilities and the money available to do so; four, quantifying the funding gap is difficult as it is not known what proportion of current spend is directed at facilities.

The audit provided estimates for three things. First, the capital costs of upgrading all existing facilities to a safe and acceptable standard; second, the costs of maintaining facilities to this standard over a 25 year period; third, costs for routine maintenance (normally covered by revenue budgets).

The cost of upgrading and maintaining all the facilities over a 25 year period is equivalent to £110m per annum. The annual figure consists of £26m for outdoor facilities, £6m for golf and £78m for indoor facilities. Routine maintenance costs would be additional to this.

The two key bearers of this cost are local authorities, who would take responsibility for almost half the costs at £51m, and facility-owning sports clubs at £15m. In reality this is not an option as investment in facilities needs to be directed to meet the nature of demand for sport which has changed since most of this initial stock was put in place.

Other sectors are in a better position. Facilities in local authority schools account for £20m of required expenditure. However, significant improvements have already been made under the Scottish Executive's school rebuilding programme, whilst further improvements will be secured from other school projects currently underway. The further education sector is also investing substantial sums in new and upgraded sports facilities.

The commercial sector accounts for a significant proportion of the indoor facility costs. It needs to maintain its facilities to a high standard in order to attract customers and remain viable.

Clearly part of the capital costs identified by the audit are already being spent by facility operators and are helping to make a difference. Since the introduction of the National Lottery in 1995, **sportscotland** has made 774 awards for facility projects with a total value of £141m. These awards contributed to various refurbishment, replacement and new build projects with an estimated total value of £458m. Many more sports facility projects have been implemented without Lottery funding.

However, evidence from the audit suggests that with many facilities in need of major refurbishment, local government and its partners need to take a more strategic approach to facility planning and investment.

The figures in the audit represent a snapshot of facility provision as it currently exists. In reality, many facilities should be replaced rather than refurbished, and the replacement facilities could differ in scale and specification from those they replace if they are to best meet modern demands. In addition, new facilities will be required in areas of under-provision. The levels and pattern of facility provision should also be assessed in terms of current and future demand, taking account of both demographic trends and the participation targets set out in Sport 21. All of these factors should influence future investment strategies.

Refurbishment of facilities needs to be undertaken in a programmed manner to reflect the life cycles of different building components. Investment would have to be phased over a long period to reflect levels of available funding. Furthermore, it should be based on a strategic assessment of priorities in local areas across all facilities along with full consideration of the options for refurbishment or replacement of individual facilities.

### **Planning for the Future**

Tackling the issues identified by the audit will require the commitment of all those involved in operating and funding sports facilities. As well as identifying the issues, this audit seeks to stimulate and inform the debate on what needs to be done. There are a number of areas which require close consideration and debate:

- The development of local facility strategies.
- Co-ordination of investment strategies to support local facility development.
- Supporting national governing bodies of sport and local sports clubs in quantifying and defining future needs for access to facilities across the country.
- Developing partnerships between the public, private and voluntary sectors.
- Promoting good practice in design, maintenance and refurbishment and the management of facilities.

This report brings together key findings from each of the audit reports: copies of the individual audit reports can be downloaded from **sportscotland**'s website [www.sportscotland.org.uk](http://www.sportscotland.org.uk).



# Section 1: Background to the Audit

## Introduction

1. Sports facilities are fundamental to the goals of Sport 21, the national strategy for sport. The availability, accessibility and quality of facilities influence whether people take part in sport, which sports they play, how often they play and how well they perform. Yet providing sports facilities is an expensive business: they are generally costly to build, maintain and operate. And while there are many examples of well built and well maintained sports facilities throughout the country, there are many more facilities that need to be refurbished, upgraded or replaced to bring them up to an acceptable standard. In order to quantify the extent of the problem, **sportscotland** commissioned a National Audit of Sports Facilities.
2. The purposes of the audit were threefold. First, to establish the general condition of Scotland's sports facilities; second, to estimate the capital cost of bringing them up to a safe and acceptable standard; and third, to estimate the cost of maintaining them in an acceptable condition over the next 25 years.
3. The audit was approached in a similar way to that developed for *The Ticking Time Bomb* (**sportscotland** 2001). This report estimated the level of investment required to keep Scotland's public swimming pools open and provided guidance on the choice between refurbishment or replacement. *The Ticking Time Bomb* estimated the total cost of maintaining, upgrading and refurbishing all of the country's public pools at £540m over a 20 year period. This is clearly a huge sum when compared with current local authority budgets for sport and recreation. It highlighted the need for a wider study of other facilities which are used for sport in order to identify other areas of concern and establish the context for future investment in sports facilities. Support for such an audit was corroborated by the Sport 21 Review Forum.

## Background and Trends

4. The audit provides a snapshot of the provision of sports facilities at one point in time. However, the ways in which facilities are provided and the demand for them are constantly changing.
5. Demand for sports facilities is affected by both demographic changes and trends in the popularity of different sports. While Scotland's overall population is predicted to decline slightly over the next 20 years, there will be significant regional variations with some areas of the country expected to grow over this period. An ageing population and a decline in the

number of school-aged children will also affect demand, although again there will be local variations in these trends. The impact of Sport 21 and related programmes in maintaining and raising participation levels will also have to be monitored and considered in facility planning.

6. Data on sports participation seems to indicate an increase in popularity of individual activities, such as going to the gym or cycling, at the expense of some of the traditional team based sports. The nature of participation in some sports is also changing. In football, for example, there has been growth in adult 5-a-side play, a major switch in youth football to small sided games like soccer sevens and rapid growth in participation by girls. Such changes have implications for the ways in which existing facilities are used and the need for new types of facilities.
7. The ways in which sports facilities are provided are also changing. Local authorities remain the key providers of many sports facilities for general community use, but most facilities operate at a deficit and this has to be squared with councils' requirement to achieve best value in their expenditure. Several councils have established Trust companies to manage their sports facilities. The commercial leisure sector has expanded rapidly over a relatively short period in areas such as fitness suites, swimming pools, indoor tennis courts and 5-a-side courts, often competing directly with public sector providers.
8. The complexity of current trends can be illustrated by what is happening with schools. Our schools are major providers of sports facilities, both indoor and outdoor. It is important that school children have access to good quality sports facilities and that the investment in such facilities is fully exploited by allowing them to be used by the wider community. While the dual use of school sports facilities has improved there is still much room for improvement. The extensive school building programme now underway through Public and Private Partnership (PPP) provides a tremendous opportunity to improve facilities for sport but it requires careful planning by the local education authorities to ensure that such facilities will be accessible to the wider community out of school hours. Rationalisation can result in school closures with consequential loss of access to facilities for local communities. A major effort is being made to raise physical activity levels in school children through the Active Schools programme and the introduction of a minimum two hours of PE per week for every pupil and this will have significant implications for facility requirements.

## Audit Approach

9. Due to the large number and wide range of facilities used for sport, the audit was subdivided and separate consultants were appointed for each section, as follows:

### Indoor Sports Facilities

- Sports Halls
- Fitness Facilities
- Gymnastics Halls
- Squash Courts
- Indoor Tennis Courts
- Indoor Bowling Halls
- Ice Rinks
- Climbing Walls
- Ancillary Changing and Social Facilities

**Lead Consultant:** Kit Campbell Associates

### Outdoor Sports Facilities

- Sports Pitches
- Multi-Sports Courts
- Tennis Courts
- Athletics Tracks
- Bowling Greens
- Changing Pavilions

**Lead Consultants:** Professional Sportsturf Design and Tim Cruttenden Associates

### Golf Facilities

- Golf Courses
- Driving Ranges
- Clubhouses

**Lead Consultant:** Mike Williamson Associates

10. It was originally intended that this audit include countryside sports facilities but this proved to be problematic for two key reasons. First, many countryside sports require natural resources where access is a key issue and it is not easy to define the level of built facilities required to support them. Second, there is a huge variation in the size and type of facilities used for many countryside sports and there is no comprehensive database on such facilities. Although some progress was made on compiling a database of facilities for countryside sports, it was not possible to adopt a similar approach to that used in the other audit studies to develop cost models. Thus, as reliable conclusions could not be drawn about the levels of capital investment required, these facilities have been excluded from the summary report of the audit. Further work and a different approach will be required to assess the facility issues currently facing countryside sports.

## Methodology

11. It was not feasible to carry out a detailed condition survey of every sports facility in the country. Instead a common approach was adopted in the separate audit studies based on the development of cost models for different facility types which were then used to extrapolate figures to establish a national picture. The approach adopted both suited particular types of facilities and provided a common basis for comparing the findings across separate studies. A full explanation is provided in the individual audit reports. It should be noted that this methodology and the assumptions underlying it represent only one approach. The general approach is briefly summarised below.

- 11.1 **Site Visits.** Around 500 site visits were carried out to inspect a sample of different types of sports facilities from various parts of the country. The inspections were undertaken by teams of surveyors, engineers and specialists and the resulting data was used to establish typical forms of construction and to define the range and frequency of maintenance works required to keep the facilities at a safe and usable standard.
- 11.2 **Cost Models.** Using the data from the site visits and costings from specialist building professionals, a number of cost models were developed for each of the different facility types. Costs were disaggregated into a number of separate components and then aggregated in various combinations to reflect the type and scale of the particular facility.
- 11.3 **Questionnaires and Interviews.** The detailed site surveys were complemented by self completion questionnaires sent to facility operators and interviews with facility managers. This information was used to establish the type and condition of the facility stock. Through a combination of site surveys and questionnaires, data was obtained for 536 indoor facilities (representing a 46% sample), 2,823 outdoor facilities (27%) and 197 golf courses (41%).
- 11.4 **Facilities Database.** Information from the questionnaires was used to update sportscotland's national database on sports facilities and establish the quantity and quality of facilities.
- 11.5 **Audit Findings.** By applying the cost models to the facilities database it was possible to estimate the overall costs of refurbishing and upgrading different types of sports facilities to bring them up to a safe and usable standard and then maintain them in an acceptable condition to the year 2025. This provides an overview of the scale of investment required. It identifies some of the key issues facing facility providers and the challenges which will have to be addressed if the goals set in Sport 21 are to be achieved.



# Section 2: An overview of Scotland's Sports Facilities

## Introduction: Appropriate and Sustainable Facilities

12. Information from the audit has been incorporated into **sportscotland's** main database of sports facilities. Figure 1 overleaf provides an overview of the total numbers of different types of facilities, updated to September 2005. It is apparent from these figures that the capital cost of establishing this stock of facilities over a number of years has been considerable. It is therefore logical to assume that the costs of maintaining these facilities and bringing them up to a safe and acceptable standard will also be considerable. The primary purpose of the audit was to test such assumptions and to provide an estimate of anticipated costs.
13. Each facility type was modelled separately in this audit. But their condition was assessed against general parameters which all facilities must meet if they are to be considered appropriate, safe, usable and sustainable. These included:
  - 13.1 meeting the size and technical requirements of the appropriate national governing bodies of sport;
  - 13.2 providing sufficient changing and storage facilities;
  - 13.3 complying with health and safety guidelines;
  - 13.4 being maintained adequately and regularly so that buildings, services, playing surfaces and equipment are kept in good condition; and
  - 13.5 being designed appropriately and constructed with appropriate materials to ensure that they can be maintained in a sustainable manner over their design life.
14. Other features which are less easy to quantify, such as location, image, external appearance and environmental surroundings, can have a significant impact on levels of use and consequently on the appropriateness of the facility. Levels of use will determine the cost per user of operating a facility while an assessment of its 'cost effectiveness' will depend on criteria defined by each operator. These criteria could include non-financial factors such as health, social inclusion and the intrinsic benefits of sport to the community. Rising customer expectations must also be taken into account: people are less inclined to put up with low

quality facilities, and where new facilities of high quality are provided these standards become the expected norm. As with any built facility sound planning, design, construction and maintenance are required to make sports facilities fit for purpose.

**Figure 1: Number of sports facilities in Scotland**

	Total	Local Authority: Community	Local Authority: School	Club	Other
<b>Outdoor</b>					
<b>Pitches</b>					
Football: Natural Grass 11s	2201	1473	373	184	171
Football: Natural Grass Small Sided	613	293	282	13	25
Football: Mineral 11s	304	173	125	0	6
Football: Mineral Small Sided	269	38	231	0	0
Unspecified Pitches	431	255	95	28	53
Rugby	637	181	167	144	145
Hockey: Natural Grass	268	66	137	15	50
Cricket Wickets	241	75	22	65	79
Full Size Synthetic Grass	130	47	43	9	31
Small Size Synthetic Grass	47	19	8	1	19
<b>MUGAs and Courts</b>					
Synthetic MUGA (Multi Use Games Area)	40	21	6	2	11
Synthetic 5-a-side Courts	193	63	5	4	121
<b>Tennis Courts</b>					
Synthetic Grass	428	57	12	256	103
Bitmac	400	160	84	119	37
Mineral	353	148	32	136	37
Polymeric	157	48	0	76	33
Unspecified Courts	835	382	91	190	172
<b>Bowling Greens</b>					
Natural Grass	1269	307	3	912	47
Synthetic Grass	12	4	0	7	1
<b>Athletics</b>					
Polymeric Tracks	35	27	5	0	3
Mineral Tracks	33	20	7	1	5
Outdoor Training Areas	5	1	0	1	3
Indoor Training Areas	5	5	0	0	0
<b>Golf</b>					
9 Hole Courses	163	18	0	117	28
18 Hole Courses	386	53	0	274	59
Driving Range	66	9	0	8	49
<b>Indoor</b>					
<b>Sports Halls</b>					
3 courts	288	85	171	2	30
4 courts	205	86	97	2	20
6 courts	30	17	6	0	7
8+ courts	34	29	1	0	4
<b>Swimming Pools</b>					
Small Pools (<25m)	89	36	0	5	48
25m Pools	128	108	0	1	19
50m Pools	4	3	0	0	1
Leisure Pools	33	30	0	0	3
School Pools	126	0	114	0	12
<b>Indoor Bowls Halls</b>	57	17	0	28	12
<b>Indoor Tennis Courts</b>	86	24	0	6	56
<b>Squash Courts</b>	642	161	30	198	253
<b>Climbing Walls</b>	29	12	2	0	15
<b>Ice Rinks</b>					
Skating/Curling	24	13	0	3	8
Curling Only	8	0	0	0	8

## Outdoor Sports Facilities

### Introduction

15. A series of construction and maintenance models were formulated for the most common types of playing surfaces for each facility type. Self completion questionnaires were sent to facility operators to obtain information on the type and quality of facilities. This data was validated by the consultants through some 400 detailed site surveys and complemented by interviews with senior managers responsible for the management of outdoor facilities in over half of Scotland's local authorities. Estimates of aggregate costs of upgrading facilities to a satisfactory standard have been produced by extrapolating results from this large sample.
16. For most types of outdoor facilities, their condition was classified into three grades:  
 Grade 1: Requires Refurbishment or Replacement  
 Grade 2: Requires Rejuvenation/Renovation/Patching  
 Grade 3: Satisfactory Standard  
 Natural grass pitches and changing pavilions were graded into five categories to reflect the variety of construction types in existence (see paragraphs 20 and 90).
17. Once facilities are created, it is essential that they are maintained properly. Maintenance can comprise two elements: routine maintenance and periodic maintenance/ongoing refurbishment. Ongoing refurbishment/periodic maintenance involves work outside the scope of routine maintenance – work that might be required at times to ensure the longevity of facilities. These costs have been estimated by the audit on a cumulative basis over a 25 year period for all artificial grass pitches, courts and greens. Because of the difficulties of predicting the extent and frequency of periodic maintenance requirements for natural grass pitches, these elements have been included as part of the routine maintenance costs.

### Sports Pitches

#### Natural Grass Pitches

18. The vast majority of grass pitches are used as winter sports pitches for football and rugby. Some hockey is still played on natural grass, mostly at schools, although much of the sport is now played on synthetic grass. Shinty and lacrosse also use grass. Cricket pitches are dealt with separately in the audit. Many playing fields are multi-functional areas of open space, which can be used for different sports as well as other functions.
19. Although the ball and mode of play might be different for each of the pitch sports, similar construction specifications are required to achieve the necessary playing characteristics and ensure that facilities are appropriate, safe, useable and sustainable. Once facilities have been created, maintenance regimes need to be adjusted to ensure that playing surfaces which meet the requirements for specific sports are maintained.
20. Each grass pitch site is different and standards of construction and maintenance can vary widely. Natural grass pitches were classified into five grades (Figure 2) based on information collated from a wide range of research into construction standards and maintenance practice.

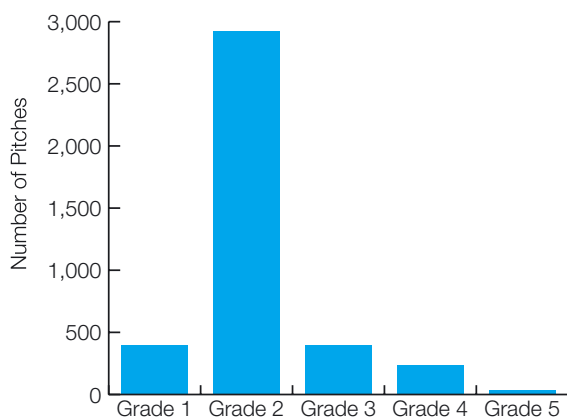
**Figure 2: Classification of natural grass pitches**

- **Grade 1: Undrained/Unimproved pitch**  
 Typical problems of waterlogging, uneven surface, loss of grass cover, and inconsistent ball reaction. Generally provide a poor quality playing surface, unless formed on a naturally well draining sandy soil. Difficult to maintain and unable to sustain more than occasional use without serious damage to the grass sward.
- **Grade 2: Poor Quality pipe drained pitch**  
 Drainage varies from old agricultural tiles to modern plastic pipes, but functions ineffectively for various reasons such as: soil conditions not allowing water to reach the drainage system, a damaged system; incorrect maintenance. Exhibits similar problems to Grade 1 pitches although less severe. Generally provides a poor quality playing surface.
- **Grade 3: Satisfactory Standard pipe drained and sand slit pitch**  
 Set as the desirable Satisfactory Standard, able to accommodate a number of games per week without serious deterioration in playing quality. Drainage system is maintained appropriately to ensure efficient functioning.
- **Grade 4: High Quality sand rootzone pitch**  
 Incorporates a very efficient drainage system giving a high quality pitch, but requires high maintenance and an irrigation system.
- **Grade 5: Elite Quality reinforced sand rootzone pitch (suspended water table)**  
 Represents the highest specification providing a high quality pitch for use at elite level. Expensive to construct and requiring intensive maintenance. Rootzone reinforcement may be added where a pitch is required to sustain high levels of use.

21. The Grade 3 category pitch has been identified as the desirable Satisfactory Standard for natural grass pitches used in education, public recreation and club contexts.

22. In terms of full sized grass pitches, that is pitches which meet the minimum dimensions set by the relevant governing bodies of sport for adult play, 83% fell below the recommended Grade 3 Satisfactory Standard (Figure 3) as a result of inefficient drainage and poor quality playing surfaces. For small size pitches, which included a lot of school pitches, the situation was even worse, with 92% failing to meet the recommended Grade 3 Satisfactory Standard.

**Figure 3: Condition of natural grass pitches**



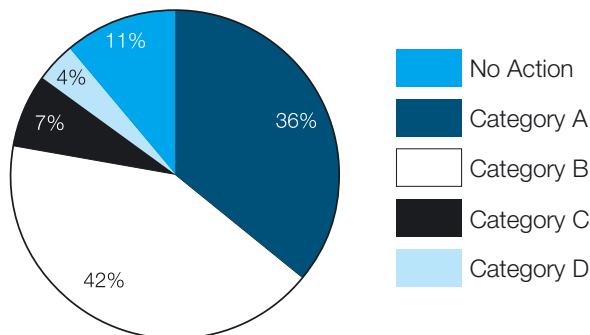


23. The audit revealed that there is significant variation in the work required to bring Grade 1 and 2 grass pitches up to the recommended Grade 3 standard. Four categories of works were defined and costed (Figure 4).

**Figure 4: Upgrade works – natural grass pitches**

- **Category A Works**  
 This is the most basic level of intrusive works which would be required to bring a Grade 2 pitch up to Grade 3 standard by the installation of a sand slit system to complement the existing drainage. The construction is deemed to be adequate in terms of gradient, surface evenness, soil composition and pipe drainage.  
 The average cost of Category A works is £2.88 per m<sup>2</sup> – £17,280 for a 6,000m<sup>2</sup> pitch.
- **Category B Works**  
 Pitches requiring Category B works have been deemed to be satisfactory in terms of gradient, surface evenness and soil composition but have inadequate structural drainage systems. Works would comprise the installation of a pipe drainage system and sand slit system.  
 The average cost of Category B works is £5.41m<sup>2</sup> – £32,460 for a 6,000m<sup>2</sup> pitch.
- **Category C Works**  
 Pitches requiring Category C works have inadequate drainage systems and poor soil composition. Works required to bring them up to the recommended Grade 3 standard comprise the installation of a pipe drainage system, improvement of the top soil characteristics by sand amelioration and the installation of sand slits to link the surface drainage to the pipe system.  
 The average cost of Category C works is £13.74m<sup>2</sup> – £82,440 for a 6,000m<sup>2</sup> pitch.
- **Category D Works**  
 Category D works comprise complete reconstruction of a pitch including earthworks, installation of a pipe drainage system, installation of sand slits, top soil amendment and establishment of the grass sward.  
 The average cost of Category D works is £16.43m<sup>2</sup> – £98,580 for a 6,000m<sup>2</sup> pitch.

**Figure 5: Works required to upgrade Grade 1 & 2 natural grass pitches to Grade 3 Satisfactory Standard**



24. Not all Grade 1 and 2 pitches are unfit for purpose. The audit indicated that some 11% of Grade 1 and 2 pitches are adequate. This includes pitches which are laid out on naturally free draining sandy soil or machair, able to recover sufficiently after rainfall to allow reasonable levels of use. Other pitches in rural locations, although without installed drainage or the benefits of naturally free draining soil, have such low levels of use that they too are able to sustain current levels of use. Therefore, for the present, no improvement works are considered essential although if levels of use increase or drainage and soil conditions deteriorate the position regarding these pitches will need to be reassessed.

25. The outline design specifications and cost models are indicative only: each site is unique and its upgrade would require a full evaluation of the site, soil and ground conditions as the basis for preparing a full design specification and schedule of works. Nevertheless, using the survey data, the model design specifications and outline schedule of upgrade works, an estimate was made of the capital costs required to bring the remaining stock of pitches up to the Grade 3 Satisfactory Standard (Figure 6).

**Figure 6: Capital costs of upgrading full size natural grass pitches**

680 grass pitches Graded 3, 4 and 5 are in satisfactory condition and require no immediate action 680 pitches at £0	£0
365 grass pitches Graded 1 and 2 require no immediate action because of their ground conditions or low levels of use 365 pitches at £0	£0
36% of grass pitches Graded 1 and 2 require Category A Works 1,196 pitches at £17,280	£20.7m
42% of grass pitches Graded 1 and 2 require Category B Works 1,396 pitches at £32,460	£45.3m
7% of grass pitches Graded 1 and 2 require Category C Works 233 pitches at £82,440	£19.2m
4% of grass pitches Graded 1 & 2 require Category D Works 133 pitches at £100,260	£13.3m
<b>Total</b>	<b>£98.5m</b>

Note: Totals may not sum exactly due to rounding

26. A similar calculation was made for small sized grass pitches (those which fell below the relevant governing body's requirements for adult play) which produced a total upgrade cost of £7.6m. This figure does not include all small pitches as many are used primarily as informal kick-about areas. Yet the increasing demand for the playing of small sided games such as soccer sevens and mini rugby, most of which is currently met by playing across full size pitches, means that small sized pitches could potentially play an increased role in meeting that demand in certain areas.

### Maintenance Costs

27. The audit identifies an outline maintenance programme and indicative annual costs for each grade of pitch. As a general rule, the more sophisticated the chosen method of construction, the more intensive the maintenance has to be to keep the system in a stable and usable condition. Appropriate levels of routine maintenance are essential if pitches are to be kept in good condition. It should also be recognised that, while the required maintenance programmes might be implemented, if the facilities are not managed properly and overplay or use in inappropriate conditions is not prevented, playing surfaces and structures can be

damaged. Management and maintenance are therefore intrinsically linked and there should be close co-operation between those responsible for these functions.

28. Maintenance cost estimates were based on a programme of works including both routine and periodic components. The estimated maintenance cost for all grass pitches is currently graded at £41.0m per annum. These costs would rise to £55.2m if all pitches were improved to a minimum Grade 3 Satisfactory Standard.
29. Inadequate maintenance is one of the reasons why so many grass pitches do not meet the Grade 3 standard. While tasks such as grass cutting appear to happen reasonably frequently, other tasks required at longer intervals such as application of fertiliser, top dressings, deep aeration (vertidrainage), sand banding, and repairs to damaged areas are often inadequate. Audit findings revealed that many pitches are not fertilised frequently enough, or in enough volume; are not annually top-dressed, nor in sufficient quantity; are vertidrainaged only once per year; and sand banding to open up slit drainage systems is often not carried out for several years, if at all. It is estimated that these omissions reduce the actual maintenance spend on the various grades of pitches by some 28% (£11.1m).

### **Mineral Pitches**

30. Most of the mineral pitches in Scotland are surfaced with crushed burnt pit shale (red blaes), with a small number of proprietary brands. They were designed to withstand the rigours of extensive wear and high levels of rainfall. However, they are not the 'all weather' surfaces which it was hoped they might be – in periods of cold weather they can be subject to 'frost heave' and, like natural grass surfaces, they can become water logged and unplayable. The playing characteristics of these surfaces are quite different from natural grass and injury from falls is a concern. They also require frequent maintenance. Until the development of artificial grass and polymeric surfaces they fulfilled a useful function; but modern synthetic surfaces are more user friendly, cope better with adverse weather conditions and are increasingly better suited to the sports for which they have been developed and tailored. As a result mineral pitches are unpopular with users while football and hockey authorities have progressively taken action to prevent their use for competition purposes.
31. Only 18% of full size mineral pitches meet the Grade 3 Satisfactory Standard. Some 38% are Grade 2, requiring renovation of the playing surface, and 44% are Grade 1, requiring reconstruction. The situation is even worse for small size mineral pitches, with only 9% achieving the Grade 3 Satisfactory Standard and over half (52%) classed as Grade 1.
32. Using a similar methodology to that used for natural grass pitches as outlined above, the capital cost of upgrading all mineral pitches to the Grade 3 Satisfactory Standard is estimated at £28.6m.
33. However as mineral pitches are no longer considered to be a suitable surface for sport, it is recommended that, over time, mineral pitches are converted to either artificial or natural grass. This would be at considerable cost as the pitches would have to be totally

reconstructed. The estimated cost of converting a full size mineral pitch to natural grass is £98,600 and to sand filled artificial grass £363,800. These figures can be used to estimate the costs of various scenarios for converting mineral pitches. As an illustration, if 20% of existing mineral pitches were converted to artificial grass and 30% were converted to natural grass, the capital costs would be £97.4m, as shown in Figure 7.

**Figure 7: Illustration of capital costs of converting mineral pitches to other surfaces**

30% of full size mineral pitches converted to natural grass 239 pitches at £98,580	£23.6m
30% of small size mineral pitches converted to natural grass 83 pitches at £58,485	£4.9m
20% of full size mineral pitches converted to sand filled artificial grass 160 pitches at £363,480	£58.2m
20% of small size mineral pitches converted to sand filled artificial grass 56 pitches at £191,170	£10.7m
<b>Total</b>	<b>£97.4m</b>

Note: Totals may not sum exactly due to rounding

**Maintenance Costs**

34. If they are to be kept in good condition and suitable for play, mineral sports pitches require a rigorous and detailed maintenance programme. A high quality smooth and firm mineral playing surface is achieved by encouraging the particles used in the surface to bind through a combination of watering, brushing and rolling. Very few blaes pitches receive the required standard of routine maintenance. When surfaces dry out, the blaes material tends to be blown away by the wind. If the surface materials are not kept at an appropriate depth, the sub base can infiltrate the surface and provide a hazard to users. Remedying this is not easy. Considering the previous comments on the future of mineral pitches, it is likely that these surfaces will be phased out by the end of the 25 year audit timescale, but if we assume that 50% of them will be retained over at least part of this period then the annual maintenance costs are estimated at £2.8m.

**Artificial Grass Pitches**

35. The number of artificial grass pitches in Scotland has grown dramatically over the last ten years and they are likely to play an increasing role in the future. Artificial grass pitches can be used in most weather conditions and can withstand levels of play which natural grass surfaces cannot match without surface deterioration. First developed in the 1960s, artificial grass sports surfaces are now in their third generation. First generation pitches were a dense carpet of nylon or polypropylene fibres, surfaces which suffered greatly from being over firm, very fast and from high friction values which could cause burns to players' skin. Lack of ballast lead to surface instability and problems with split joints, ripples etc. as the carpets moved through expansion caused by atmospheric conditions or poor base construction.



36. In order to overcome these shortcomings, a second generation of artificial surfaces was developed which saw the introduction of shock pads and a ballast of sand infill to encourage the artificial grass blades to stand up and to provide playing surfaces which more accurately mimicked good quality natural grass. Unfortunately, the yarns used in the carpet also tended to fold over at the surface interface thus locking in the sand and increasing the firmness and ball speed. Furthermore, the abrasive nature of the infill caused the pile to fibrillate and erode and often the polypropylene residue and airborne silts would combine to cause ongoing drainage problems. This problem was exacerbated as, very early in the development of artificial pitches, it was widely believed by site managers that low maintenance meant no maintenance.
37. Considerable progress has been made in overcoming these problems and creating surfaces which more closely match the playing characteristics of natural grass and meet the performance requirements of different sports. A number of different systems are available with the most basic distinction being between filled and non-filled artificial grass systems. In filled systems, the pile of the artificial grass is filled with a fine granular material such as silica sand. Sand dressed systems are a development of the filled system – the carpet pile being denser and shorter and with a reduced quantity of infill. This produces a more player friendly surface as it slows the ball and allows the boot or stick to get under it. Non-filled surfaces consist of carpet alone and play takes place entirely on the fibre. The pile of the carpet has to be much denser per unit area to support the player and the stresses of play. This type of carpet is used almost entirely for hockey and the ball speed is regulated by watering the surface.
38. Third generation carpets have been developed to more closely mimic the playing characteristics of good quality natural grass surfaces. The pile length is longer and more open and the infill uses rubber crumb. Manufacturers have developed a range of carpets that are more sport specific and new yarns and carpet constructions are evolving constantly. The four basic types of surfaces currently in use are listed in Figure 8.

### **Figure 8: Artificial grass pitch types**

- **Sand Filled**  
Generally for multi-purpose pitches able to cater for a variety of sports including football, hockey, basketball, netball, volleyball and tennis.
- **Sand Dressed**  
Pitches have an exposed pile and allow greater skills development as play takes place 'in the carpet' and not 'on top of the carpet' as is the case in sand filled pitches. Sand dressed pitches can be used for a range of sports but are more suitable for hockey than football.
- **Water Based**  
A non-filled system with play taking place entirely on the surface of the carpet. Consequently, the pile of the carpet has to be much denser per unit area in order to support the player and the stresses of play. Water is added to these surfaces before play in order to reduce player/surface friction and reduce the speed of the ball. Water based pitches have been developed principally for hockey.
- **Third Generation**  
Surfaces comprise a shock pad arrangement which mirrors that of natural grass and long pile artificial grass strands infilled with a mixture of sand and rubber granules. Although they have been developed principally for football, the pile length and infill can be modified to suit other sports.

19 39. The condition classification for artificial grass pitches is shown in Figure 9.

**Figure 9: Condition of artificial grass pitches**

- **Grade 1: Requires Refurbishment**  
The carpet surface has become completely worn out and needs to be replaced, possibly with the same carpet type and possibly with a more modern or sports specific surface. Repairs to or, exceptionally, renewal of the sub-base, might also be required.
- **Grade 2: Requires Rejuvenation**  
The surface does not deliver the required performance and playing characteristics.
- **Grade 3: Satisfactory Standard**  
The pitch has been constructed in accordance with recognised technical and performance specifications and has been maintained appropriately so that the required performance and playing characteristics have been preserved.

40. Given the high levels of capital investment involved and the relative newness of most of the stock, it is disappointing that only 45% of full size artificial grass pitches meet the Grade 3 Satisfactory Standard. As much as 20% of artificial grass pitches require refurbishment (Grade 1), generally meaning that the carpet needs to be replaced, while 35% require rejuvenation works (Grade 2).

41. The capital costs of bringing all full size artificial grass pitches up to Grade 3 Satisfactory Standard are shown in Figure 10.

**Figure 10: Capital costs of upgrading full size artificial grass pitches**

Refurbish 24 Grade 1 pitches £154,500 per pitch	£3.7m
Rejuvenate 42 Grade 2 pitches £26,100 per pitch	£1.1m
<b>Total</b>	<b>£4.8m</b>

Note: Totals may not sum exactly due to rounding

42. The above capital cost estimates are based on an assumed national stock of 120 full size artificial grass pitches at the time of the audit. It should be recognised however, that a considerable number of new facilities are under construction or are planned, primarily as a result of the new schools building programme under the PPP (Public and Private Partnerships) and PFI (Private Finance Initiative) schemes, the New Opportunities Fund's PE in Schools programme and **sportscotland's** Building for Sport programme.

**Maintenance Costs**

43. The life of artificial grass sports facilities can be prolonged by proper routine maintenance and periodic rejuvenation and refurbishment works. If properly maintained, and provided that levels of use are not inordinately high, it is not unreasonable to expect an artificial grass carpet to last for 12 years before refurbishment is required and the carpet replaced. To achieve this life span, rejuvenation would be required after about seven or eight years.

Over a 25 year period, an artificial grass pitch would need rejuvenation during years seven and 19, carpet replacement at years 12 and 24 and two refurbishment programmes to ensure it operates at its optimum over this time.

44. Many of the older artificial grass pitches are fenced with light rolled weld mesh or chain link fences. Unfortunately, these have proved unable to withstand the rigours of use and are vulnerable to vandalism. Consequently it is necessary to replace parts of ball stop/boundary fencing every three to five years. Most of the newer artificial grass pitches have been provided with higher quality bar mesh fences with longer life spans and this has become the recognised standard. Floodlight installations were generally in sound condition.
45. In relation to routine maintenance, there is a common misconception that artificial grass surfaces are maintenance free. If surface quality and playing characteristics are to be maintained, it is essential that planned and regular maintenance is carried out in accordance with the manufacturers' recommendations. Failure to do so can greatly shorten the life of a carpet and result in the need for more frequent capital reinvestment than would be the case if proper maintenance was carried out. The indicative annual cost for maintenance is estimated to be £15,100 per pitch, although it is recognised that many sites could considerably reduce this cost through using non-specialist on-site staff. Based on this figure, the routine maintenance costs for all pitches would be £1.8m.
46. The total annual maintenance costs for full size artificial grass pitches (including carpet replacement) would be £4.2m as shown in Figure 11.

**Figure 11: Artificial grass pitches – ongoing refurbishment, periodic and routine maintenance costs**

<b>Periodic Maintenance over 25 years:</b>	<b>£</b>
Artificial Grass Carpet	43.3m
Fencing	5.4m
Floodlighting	10.3m
<b>Total</b>	<b>59.0m</b>
Average Annual Cost	2.4m
Annual Routine Maintenance	1.8m
<b>Total Maintenance Costs per annum</b>	<b>4.2m</b>

Note: Totals may not sum exactly due to rounding

47. Although the costs of annual and periodic maintenance regimes may appear high, if appropriate schedules are implemented, the life of facilities can be extended, resulting in long term capital expenditure savings. With the number of artificial grass pitches expected to increase steadily, this could impact quite quickly on capital programmes and revenue expenditure requirements. In theory, those artificial grass pitches which have been, or will be constructed under PPP/PFI should have adequate funds allocated to them through the inbuilt management contracts to ensure proper life cycle maintenance, but this has yet to be demonstrated. Providers need to be aware that the periodic capital costs associated with

maintaining a facility (rejuvenation and refurbishment of artificial grass surfaces and periodic maintenance of fencing and floodlights) over 25 years are approximately the same as the initial capital costs of providing the facility and that routine maintenance costs will be additional to this.

### **Cricket Pitches**

48. Cricket pitches comprise of a wicket and outfield area. For economy of land use, the outfield is often combined with winter sports pitches. The audit considered only the condition of cricket squares and did not differentiate between stand alone cricket grounds and those with shared outfields. It has to be acknowledged that many shared outfields are less than ideal, with rutted surfaces and poor drainage being common problems.
49. Formal cricket wickets are constructed using techniques which differ greatly from most other natural grass facilities. The performance aim of a cricket wicket is for a regular surface which will have the capability to allow a ball to rebound from its surface without absorbing too much of the downward force applied by the bowler. Consequently, the surface must allow for a regular bounce and should be true to line and level to avoid dangerous conditions. Providing the desired playing characteristics and a natural grass surface which is capable of draining and sustaining grass growth is very difficult to achieve. Climatic conditions in parts of the country make it even more difficult.
50. Because of the high levels of wear which cricket wickets can experience, artificial wickets are often laid alongside the natural grass cricket table to facilitate play in adverse weather conditions and for practice purposes. Artificial wickets are used extensively for junior and casual games as they can sustain heavy play, even in poor weather conditions. Artificial wickets are also often used with practice nets on the outfield boundaries of cricket grounds.
51. The main problems a cricket square is likely to experience are an unsuitable gradient, surface unevenness, poor surface drainage, poor surface quality leading to surface break up and loss of grass cover. The actions needed to bring all squares up to the Grade 3 Satisfactory Standard are varied and site specific. Nevertheless the audit identified the costs of typical schedules of work that could be required for total or partial reconstruction of squares.
52. In the case of artificial wickets, replacement is a fairly straightforward process, involving the removal and disposal of the old carpet, the levelling of the base and the fitting of a new carpet. Indicative costs for an 85m<sup>2</sup> carpet would be in the order of £3,500. In view of this relatively low cost, it is suggested that the most cost effective way of bringing all artificial grass wickets up to the Grade 3 Satisfactory Standard would be to simply replace the carpet surfaces.



**Figure 12: Capital costs of upgrading cricket squares**

1 Grade 1 grass square totally reconstructed 1 square at £26,103	£0.03m
3 Grade 1 and 7 Grade 2 grass squares partially reconstructed 10 squares at £23,463	£0.23m
64 Grade 2 grass squares surface upgraded 64 squares at £9,025	£0.58m
30 artificial grass wickets replaced 30 wickets at £3,500	£0.11m
130 new score boards/boxes 130 score boards at £5,000	£0.65m
<b>Total</b>	<b>£1.6m</b>

Note: Totals may not sum exactly due to rounding

### Maintenance Costs

53. Natural grass cricket wickets have no particular periodic maintenance requirements due to the nature of their construction. This is not to suggest that problems will not arise which will require remedial works but it is not possible to predict these. If serious problems arise, they are likely to need major works to rectify as previously detailed. Minor problems should be able to be rectified by routine maintenance.
54. Artificial grass wickets eventually wear out and need to be replaced. It is assumed that the life of an artificial grass wicket (and practice wicket) is about eight years although it is accepted that many are made to last considerably longer. In addition the ends of the wickets should be repaired every four years. This would mean that over a 25 year time span, the ongoing and periodic maintenance costs for artificial grass wickets would be £0.7m. When the costs of maintaining artificial practice net wickets are included, the total ongoing and periodic maintenance costs would be £1.7m or £66,000 per annum. Routine maintenance for grass squares is labour intensive and hence expensive: to maintain all pitches to a high standard, including wickets and outfield, would cost as much as £29,500 per pitch, equating to £6.0m per year for all cricket facilities.
55. The total annual maintenance costs for cricket pitches would be £6.1m as shown in Figure 13.

**Figure 13: Cricket pitches – ongoing refurbishment, periodic and routine maintenance costs**

<b>Periodic Maintenance over 25 years:</b>	<b>£</b>
<b>Artificial Grass wickets</b>	<b>1.7m</b>
Average Annual Cost	0.1m
Annual Routine Maintenance	6.0m
<b>Total Maintenance Costs per annum</b>	<b>6.1m</b>

Note: Totals may not sum exactly due to rounding

### **General Findings on Sports Pitches**

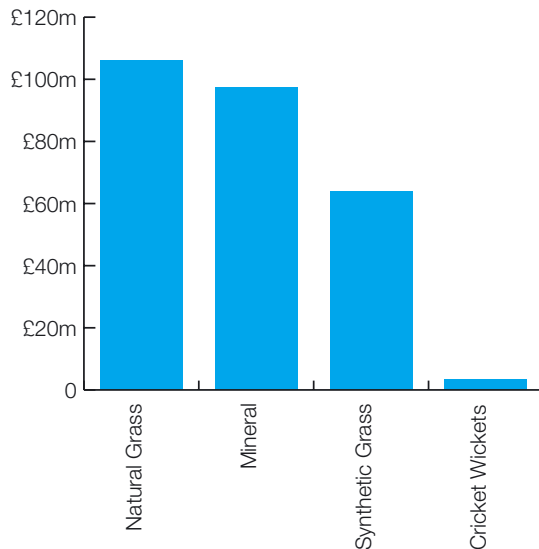
56. Key findings from the audit of sport pitches:

- 83% of natural grass pitches fall below the recommended Grade 3 Satisfactory Standard;
- 55% of artificial grass pitches fall below the recommended Grade 3 Satisfactory Standard;
- overplay of grass pitches is causing deterioration of playing surfaces;
- grass pitches are unsuitable for play for prolonged periods in a year;
- there is poor drainage on grass pitches, generally resulting from poor construction methods and lack of remedial maintenance;
- construction specifications for grass pitches are inadequate for the levels of use expected;
- all types of pitches, including artificial grass, suffer from low and inadequate levels of routine maintenance;
- insufficient periodic and remedial maintenance on all types of pitches, including newly constructed and refurbished facilities results in the deterioration of their condition;
- mineral surfaces are subject to flooding, scouring and frost heave; and
- mineral pitches no longer meet sports' requirements and user expectations.

57. School pitches were generally found to be in poorer condition than other council run pitches, and unlikely to be able to withstand additional community use. The advent of the PPP/PFI school rebuilding programme has provided a mechanism for the improvements of pitches at many schools. There is no doubt that there are some excellent examples of quality sports pitch developments in new schools but there are also examples of recent provisions which have been poorly planned and executed. Problems identified included:

- insufficient quality of facilities to meet the demands of schools and their wider communities;
- inadequate design and construction specifications or poor supervision of works;
- changes of specifications to lesser design and construction specifications after initial planning approvals and funding agreements have been secured;
- the use of mineral based surfaces at a time when there is a general move away from this surface in favour of artificial grass surfaces;
- pitches and courts of inadequate size to support match play and community use; and
- inadequate and inappropriate fencing around pitches and courts, thereby reducing flexibility and exacerbating wear.

**Figure 14: Sports pitches – total upgrade and periodic refurbishment costs over 25 years**



### **Multi-Courts and Multi-Use Games Areas (MUGAs)**

58. A wide variety of sizes and surfaces are used as small sized multi-purpose areas for sport. The audit adopted the definition used by Sport England and the Sport and Play Construction Association (SAPCA) of a Multi-Use Games Area (MUGA) as any facility of less than 3000m<sup>2</sup> surfaced with macadam, polymeric or synthetic turf. The sports most commonly played on MUGAs are football, basketball, netball, tennis, and hockey but they can also be used for general training, touch rugby, athletics practice, volleyball and roller hockey. There is no one surface which provides the performance requirements of all of the above mentioned sports and certain surface types are more suitable than others for different sports. This range of demands causes a need for facilities to be as multi-purpose as possible and this in turn leads to a need for compromise, particularly in terms of dimensions and the playing characteristics of the surface. Most of these facilities are enclosed with a ball stop fence or ball rebound wall.
59. For costing purposes, the audit has only considered those hard surface facilities which are primarily used for sport. Facilities such as school playgrounds which serve wider purposes have been excluded because of the difficulties associated with identifying their primary purposes and the types of surface most appropriate to them.
60. Open textured porous macadam (Bitmac) was found to be the commonest surface, accounting for over half (56%) of all MUGAs. Around 29% were artificial grass, with smaller numbers of porous concrete (8%), mineral (6%) and polymeric (1%) surfaces.

61. The audit estimated that 28% of all MUGAs fell below the Grade 3 Satisfactory Standard. The figure was slightly lower for artificial grass MUGAs, of which 21% were below Grade 3. This probably reflects the young age of many of these facilities. 34% of Bitmac and 31% of concrete MUGAs were below Grade 3, but for mineral surfaces the figure rose to 91%. All of the polymeric MUGAs met the Grade 3 Satisfactory Standard although they are few in number.
62. In estimating the capital cost of upgrading MUGAs to the Grade 3 Satisfactory Standard the provision of more artificial grass and polymeric surfaces, more popular with users and providing greater flexibility of use, has been factored into calculations. One possible scenario might be to convert all of the mineral MUGAs and those concrete MUGAs below the Grade 3 Satisfactory Standard to artificial grass; for those Bitmac MUGAs which were below Grade 3, 10% could be converted to artificial grass or polymeric surfaces with the remainder being upgraded. Such a scenario would require the following capital investment.

**Figure 15: Capital costs of upgrading and converting MUGAs (Scenario)**

41 Grade 2 Bitmac MUGAs patched and upgraded to Grade 3 41 MUGAs at £4,120	£0.17m
28 Grade1 and 2 Bitmac MUGAs converted to sand filled artificial grass 28 MUGAs at £17,582	£0.49m
28 Grade1 and 2 Bitmac MUGAs converted to polymeric surface 28 MUGAs at £20,020	£0.56m
25 Grade 1 and 2 concrete MUGAs converted to sand filled artificial grass 25 MUGAs at £25,190	£0.63m
30 Mineral MUGAs converted to sand filled artificial grass 30 MUGAs at £36,803	£1.10m
30 Mineral MUGAs converted to 3rd Generation artificial grass 30 MUGAs at £29,055	£0.87m
34 Grade 1 artificial grass MUGAs refurbished 34 MUGAs at £14,170	£0.48m
27 Grade 2 artificial grass MUGAs rejuvenated 27 MUGAs at £2,827	£0.08m
<b>Total</b>	<b>£4.4m</b>

Note: Totals may not sum exactly due to rounding

### Maintenance Costs

63. The requirements for ongoing major expenditure will depend upon the type of surface provided. It has been assumed that those Bitmac and porous concrete facilities which are or have been upgraded to Grade 3 Satisfactory Standard will remain usable over a 25 year period. However, artificial grass and polymeric surfaces will need to be rejuvenated and refurbished at regular intervals.
64. Bitmac and concrete MUGAs are hard wearing and require relatively little routine maintenance. The main requirements are to keep the surface free from debris, moss and algae which could impair drainage performance. Polymeric surfaces need to be cleaned

regularly. Artificial surfaces are more expensive to maintain as they require regular brushing and treatment.

65. The total annual maintenance costs for MUGAs, including floodlighting, would be £4.2m as shown in Figure 16.

### Figure 16: MUGAs – ongoing refurbishment, periodic and routine maintenance costs

Periodic Maintenance over 25 years:	£
Artificial Grass MUGAs	15.2m
Polymeric MUGAs	1.3m
Fencing	4.1m
<b>Total</b>	<b>20.6m</b>
Average Annual Cost	0.8m
Annual Routine Maintenance	3.4m
<b>Total Maintenance Costs per annum</b>	<b>4.2m</b>

Note: Totals may not sum exactly due to rounding

### Tennis Courts

66. The vast majority of tennis courts in Scotland are of three types: sand filled artificial grass (35% of courts), Bitmac or Macadam (34%) and mineral (blaes) (29%). There are very small numbers of porous concrete, polymeric or natural grass courts. Each surface has different construction and maintenance requirements and performance characteristics, which are summarised in Figure 17.

### Figure 17: Tennis court types

- **Sand filled artificial grass** provides ball reaction similar to natural grass, it being fast and low. The surface is usually laid on porous straight-run Bitmac and, while water may drain rapidly, it can take some time for the surface to dry out with resultant impacts on balls and rackets.
- **Bitmac or Macadam** surfaces come in a variety of forms. Sealed Bitmac surfaces are not normally free draining and shed water by means of a fall or slope in the construction but porous Bitmac surfaces allow water to permeate through the construction medium. Bitmac surfaces can have a colour acrylic or polyurethane finish coat applied to improve both the aesthetics and performance of the surface.
- **Mineral** surfaces (normally blaes) provide slow surfaces which require high levels of maintenance. Mineral surfaces are traditionally common in Scotland but have been steadily replaced by harder wearing surfaces with lower maintenance requirements.
- **Porous concrete** surfaces are very durable and hard wearing with a slow to medium surface.
- **Polymeric** surfaces comprise a mixture of rubber in a polyurethane binder laid on an open-textured porous Bitmac surface. They can be impervious or porous and cushioning can be incorporated into the construction to provide a more comfortable surface than say Bitmac or porous concrete. Polymeric surfaces are not affected by frost, can be played on throughout the year and are virtually maintenance free.

67. The audit estimated that 51% of all tennis courts fell below the Grade 3 Satisfactory Standard. Of the three main surface types, Bitmac courts tend to be in the worst

condition, with 78% below Grade 3. 59% of mineral courts were also below Grade 3. Artificial grass courts, which are more modern and are used by many tennis clubs, fared much better although 18% were still below Grade 3.

68. Restoring an existing tennis court to its original condition may be a straightforward operation if the court is in relatively good condition. Older courts and those in poor condition may need more significant upgrading, including tackling the underlying construction. Changing the surface of a court to another surface type may well require works akin to the construction of a new court.

69. Average costs have been identified for a range of improvements appropriate to different types of courts. In formulating improvement proposals, the advantages of synthetic grass for all year and all weather play were recognised. The approach reflected value for money in upgrading facilities based on the following assumptions, with costs for such a scenario shown in Figure 18:

- Grade 1 Bitmac surfaces should be converted to artificial grass rather than be reconstructed in Bitmac;
- Grade 2 Bitmac courts to be patched rather than resurfaced on the assumption that they are used for casual rather than match play;
- in view of the difficulty and costs associated with their maintenance, all Grade 1 and 2 mineral courts should be replaced with artificial grass;
- floodlighting can have the beneficial effect of extending playing times and season and is particularly suited to maximising the benefits of all weather surfaces. The audit estimated that 43% of polymeric and artificial grass courts had floodlights. An estimate of installing floodlights at 80% of the remainder has been included in the capital costs.

**Figure 18: Capital costs of upgrading and converting tennis courts (Scenario)**

Convert all Grade 1 Bitmac courts to sand filled artificial grass 352 courts at £17,460	£6.15m
Repair all Grade 2 Bitmac courts by patching 244 courts at £3,862	£0.94m
Convert all Grade 1 and 2 concrete courts to sand filled artificial grass 22 courts at £20,010	£0.44m
Refurbish all Grade 1 and 2 polymeric courts 11 courts at £6,330	£0.07m
Refurbish all Grade 1 artificial grass courts 35 courts at £10,740	£0.38m
Rejuvenate all Grade 2 artificial grass courts 103 courts at £2,610	£0.27m
Convert all Grade 1 and 2 mineral courts to sand filled artificial grass 385 courts at £26,430	£10.18m
Installing floodlighting on 80% of artificial grass and polymeric courts without lights 119 sites at £29,538	£3.52m
<b>Total</b>	<b>£21.9m</b>

Note: Totals may not sum exactly due to rounding



### Maintenance Costs

70. Ongoing major expenditure on periodic maintenance will depend upon the type of surface provided. It has been assumed that those Bitmac tennis courts which are, or have been upgraded to Grade 3 – Satisfactory Standard, will remain usable for 25 years. Similarly, mineral surfaces which meet the Grade 3 standard should remain usable over this period provided that they are maintained appropriately. However, artificial grass will need to be rejuvenated and refurbished and polymeric surfaces retextured at regular intervals. On average, over a 25 year period an artificial grass court will require three rejuvenation and two refurbishment processes, while a polymeric court may need to be resurfaced once and retextured every four years.
71. Tennis courts are normally enclosed with a ball stop fence of plastic coated chain link. If properly maintained, this type of fence should have a lifespan of 25 years. However, in some locations with security issues it may be necessary to enclose courts with a robust weldmesh type fence of the type being used to enclose MUGAs. For the audit costings, it is assumed that only the lighter chain link fence is used and that all courts will need to have fencing replaced once in the 25 year time span covered by the study.
72. Bitmac, concrete and polymeric courts are hard wearing and require relatively little routine maintenance. The main requirements are to keep the surface free from debris, moss and algae which could impair drainage performance. Polymeric surfaces need to be cleaned regularly. Mineral tennis courts can only be kept in good condition through the rigorous implementation of a detailed maintenance programme, rarely achieved in practice. Maintenance of artificial grass courts is particularly important and neglecting the recommended schedule can have serious long-term consequences for surface quality and drainage even if, in the shorter term, the court does not appear to suffer.
73. The total annual maintenance costs for tennis courts would be £13.3m as shown in Figure 19.

**Figure 19: Tennis courts – ongoing refurbishment, periodic and routine maintenance costs**

<b>Periodic Maintenance over 25 years:</b>	<b>£</b>
Artificial Grass courts	55.1m
Polymeric courts	0.7m
Fencing	9.2m
<b>Total</b>	<b>65.0m</b>
Average Annual Cost	2.6m
Annual Routine Maintenance	10.7m
<b>Total Maintenance Costs per annum</b>	<b>13.3m</b>

Note: Totals may not sum exactly due to rounding

## **Bowling Greens**

74. Bowling greens require a true flat surface which provides the correct amount of bias and resists indentation and permanent deformation. Dimensions are generally a square of 36.5 metres, although smaller and irregular sized facilities are found at some older locations. The problems most often encountered on natural grass bowling greens in Scotland are typically:
- loss of surface levels – caused by the collapse of ditch boards, poor initial construction, collapse of green formation or drainage system;
  - loss of surface drainage – due to failure of piped drainage system, compaction of stone or binding layer, collapse of the topsoil structure and/or surface contamination;
  - poor sward vigour – due to poor surface water drainage, poor maintenance, loss of structure, disease etc; and
  - collapse of soil/turf green embankments.
75. The audit estimated that 31% of bowling greens fell below the Grade 3 Satisfactory Standard. However, only 6% were classed as Grade 1 where the playing surface had deteriorated to such an extent that it required complete reconstruction.
76. Various cost models were formulated to reflect the range of typical upgrade works. If the problem is a structural one such as a collapse of the green due to the failure of the drainage system or some other default which will require intrusive works, it may be necessary to disturb the entire green. Where the underlying drainage system and layers are intact and the problems are caused by the build up of impervious layers within the topsoil, there are ongoing maintenance works which can assist in relieving these problems. However, the problem can reach a stage where conditions have degenerated to such an extent that the only solution is to partially reconstruct the green by removing the contaminated layer and amending it before reinstatement. If the problem is an agronomic one where there has been a failure of the topsoil/rootzone causing poor surface water drainage or sward vigour, less intensive and intrusive rejuvenation works may be appropriate. It was estimated that 15% of Grade 1 greens needed full reconstruction.
77. Although ideally all greens should meet the minimum standard for club play in some situations it might not be practicable to increase their size. Smaller size greens may not be fit for expansion due to site constraints or lower levels of use that would not justify the necessary capital expenditure. For costing purposes, it has been assumed that 50% of small greens should be reconstructed to minimum standard and 15% should be subject to rejuvenation works (Figure 20).
78. The audit found that 37% of greens had replaced their embankments. For future maintenance purposes it would be beneficial if all greens had their embankments replaced with concrete block and artificial grass and this has also been costed.

**Figure 20: Capital costs of upgrading bowling greens (Scenario)**

Fully reconstruct 15% of Grade 1 greens 9 greens at £64,944	£0.58m
Partially reconstruct 85% of Grade 1 greens 52 greens at £34,056	£1.77m
Rejuvenate all Grade 2 greens 305 greens at £6,763	£2.06m
Reconstruct and extend 50% of undersized greens 32 greens at £78,527	£2.51m
Rejuvenate 15% of undersized greens 11 greens at £3,510	£0.04m
Provide replacement embankments 807 greens at £8,750	£7.06m
<b>Total</b>	<b>£14.0m</b>

Note: Totals may not sum exactly due to rounding

### Maintenance Costs

79. Grass bowling greens require regular and specialised maintenance, and if this is carried out appropriately there should be no periodic maintenance costs. There are a handful of artificial grass bowling greens in the country and these will require regular rejuvenation and replacement of the carpet: for 12 artificial greens the total periodic maintenance costs over 25 years would be £0.7m, or £0.03m per annum.
80. To maintain the high quality surface required for bowls, greens need intensive routine maintenance. Costs were estimated on the basis of regular maintenance being carried out in-house with a part time employee and allowing costs for machinery, with specialised maintenance being carried out under an annual agreement with a specialist contractor.
81. The total annual maintenance costs for all bowling greens was estimated to be £15.8m, as shown in Figure 21.

**Figure 21: Bowling greens – ongoing refurbishment, periodic and routine maintenance costs**

<b>Periodic Maintenance over 25 years:</b>	<b>£</b>
<b>Artificial Grass greens</b>	<b>0.7m</b>
Average Annual Cost	0.03m
Annual Routine Maintenance (all greens)	15.8m
<b>Total Maintenance Costs per annum</b>	<b>15.8m</b>

Note: Totals may not sum exactly due to rounding

### Athletics Tracks

82. The audit concentrated on polymeric tracks, which is the preferred modern surface for athletics competition and training. A number of mineral (cinder or blaes) tracks remain and

although they do not provide the performance characteristics required for serious competition and training and are expensive to maintain, they can provide a useful resource for schools and casual use if they are properly maintained. Temporary tracks typically marked out on grass or mineral playing fields at schools in the summer term were not considered in the audit, although improvements in the general quality of playing fields would have consequential benefits for these seasonal facilities.

83. Around 50% of athletics tracks in Scotland are polymeric. The number of lanes and provision for field facilities vary according to the intended level of use and competition. A small number of polymeric “J” tracks (half tracks) have been provided for training purposes. These comprise a straight and a bend, normally four lanes wide.
84. The audit found that 57% of polymeric tracks fell below the Grade 3 Satisfactory Standard, with 14% requiring replacement. Where the construction is basically sound but the surface is poor, the cost of refurbishment works will largely depend on whether the entire track or only parts of it need to be retextured with polyurethane material.
85. In relation to mineral tracks, the costs of refurbishment are unlikely to represent value for money given the preference for polymeric surfaces. It might be appropriate to convert some mineral tracks to polymeric, as has happened historically, provided they are in appropriate locations to attract sufficient use. Because of this, no costs for mineral tracks have been assumed in the audit. However, indicative construction costs for converting a mineral track to an eight lane porous polymeric track with two sprint straights, a full range of field event facilities and satisfactory infield would be in the order of £0.5m.
86. The audit found that 83% of polymeric tracks are floodlit. Estimated costs of installing floodlights at the remainder have been included in the capital cost estimates (Figure 22).

**Figure 22: Capital costs of upgrading athletics tracks**

Reconstruct all Grade 1 polymeric tracks 5 tracks at £160,544	£0.80m
Rejuvenate all Grade 2 polymeric tracks 15 tracks at £19,662	£0.29m
Installing new floodlighting at unlit tracks 6 floodlight sets installed at £93,000	£0.56m
<b>Total</b>	<b>£1.7m</b>

Note: Totals may not sum exactly due to rounding

### Maintenance Costs

87. Polymeric surfaces have a reasonably long life, are quite hard wearing and require low levels of maintenance. However, as the surface is used, parts of it will become smoother and polished, which will result in some impairment of the foothold when the surface is damp, while the continuous action of spiked footwear in heavy use areas will cause the surface to

deteriorate. To combat these problems, regular programmes of deep cleaning, retexturing, over lining and relining need to be carried out until it becomes necessary to lay a new surface. On average, the track surface may need to be replaced once over a 25 year period.

88. Athletics tracks tend to be fenced for security and control purposes. For the audit costings, it is assumed that on average fencing will need to be replaced once in the 25 year time span covered by the study.
89. Polymeric tracks require a modest degree of routine maintenance but this basic maintenance is of vital importance if the surface appearance is to be retained, consistent in performance, safe for the athlete to run and jump on and long lasting. Regular cleaning is required to maintain the surface and retain free drainage. The total annual routine maintenance costs for polymeric tracks would be £0.2m.
90. The total annual maintenance costs for athletics tracks would be £0.6m, as shown in Figure 23.

**Figure 23: Athletics tracks – ongoing refurbishment, periodic and routine maintenance costs**

<b>Periodic Maintenance over 25 years:</b>	<b>£</b>
Polymeric tracks	7.1m
Fencing	2.1m
<b>Total</b>	<b>9.2m</b>
Average Annual Cost	0.4m
Annual Routine Maintenance	0.2m
<b>Total Maintenance Costs per annum</b>	<b>0.6m</b>

Note: Totals may not sum exactly due to rounding

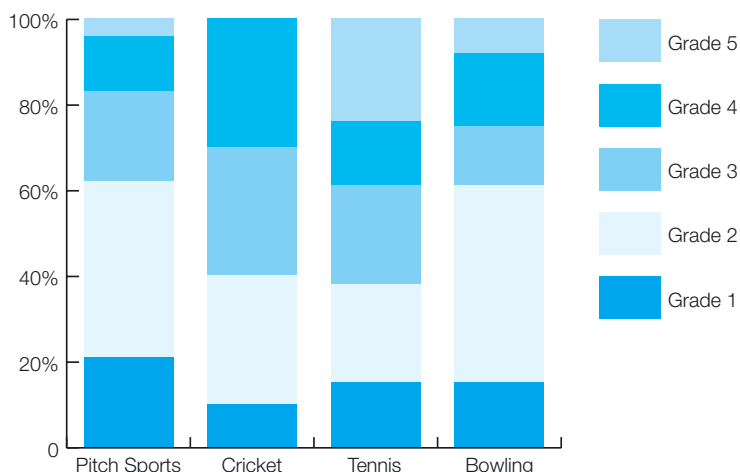
### **Pavilions**

91. Providing accurate estimates of the costs of upgrading pavilions and changing accommodation through the sampling methods used elsewhere in the audit proved very difficult because of the wide range of different types of pavilions. There is considerable variation in the age, size, condition, construction methods, design, materials and provision of social areas in pavilions. The audit received a limited response on pavilions and a cross-check by qualified surveyors found that the self-completion questionnaires contained a relatively high level of inaccuracy with most seriously underestimating the amount of refurbishment and maintenance required to both bring pavilions up to an acceptable standard and to maintain them in this condition. Another problem was the lack of a comprehensive database on pavilions which made it difficult to extrapolate the audit results to reflect the national picture.
92. The approach adopted for estimating upgrade costs was based on an average pavilion size for each sport. In the case of pavilions for sports pitches, the number of pitches per site was used to estimate the size of pavilion and number of changing rooms required. The audit results were used to classify the condition of pavilions, and the costs of upgrading them to a satisfactory standard, estimated for the country as a whole.

Pavilions were classified into five grades on the basis of their condition as shown in Figure 24:

- Grade 1** Requires replacement
- Grade 2** Requires major refurbishment
- Grade 3** Requires moderate refurbishment
- Grade 4** Requires minor refurbishment
- Grade 5** Satisfactory standard – no work required

**Figure 24: Condition of pavilions**



93. Pavilions for pitch sports were generally found to be in the poorest condition, with 21% of them deemed to have deteriorated beyond repair and thus needing to be replaced. Many bowling green pavilions are in poor condition with an estimated 61% requiring replacement or major refurbishment. Given that most bowling pavilions do not have showering facilities, this is a surprising finding. Tennis pavilions were found to be in the best condition.

94. In addition to basic structural problems with buildings, the most common deficiencies from a user's point of view are:

- inadequate number and condition of showers, including inadequate hot water supply;
- inadequate heating systems and insulation;
- inadequate ventilation;
- accommodation that is too small;
- the services, equipment and facilities provided do not comply with current standards;
- inadequate inspection of electrical equipment and absence of emergency lighting and fire alarms;
- damage caused by vandalism; and
- absence of any changing accommodation at many outdoor facilities.

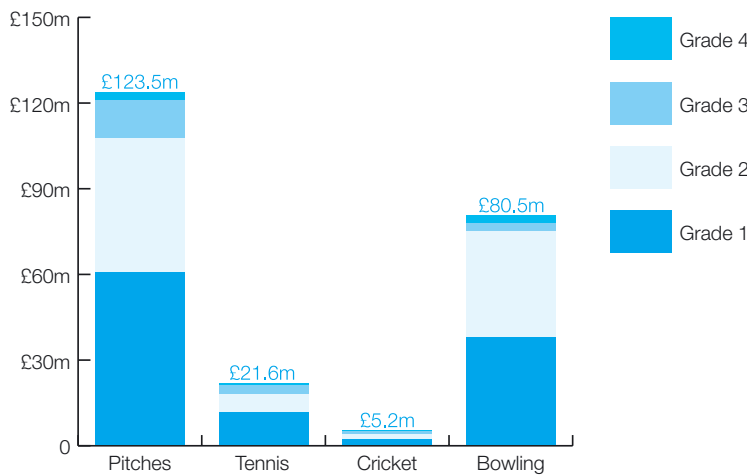
95. In view of the difficulties associated with the cost models for pavilions, only the indicative upgrade costs are included here. It must therefore be considered that the costs of periodic and routine maintenance would add considerably to the total costs of maintaining pavilions in a satisfactory condition over 25 years. Another cost to be factored in is that of providing



pavilions at those sports pitches sites which currently lack one; this will add significantly to the costs outlined here. The case for providing pavilions at such locations will require a local needs assessment.

96. In estimating costs where replacement has been identified as necessary, it has been assumed that the new building would be a sustainable modern construction suitable for the purpose and not a like for like replacement. Upgrade and replacement costs for pavilions, totalling £230.9m across all sites are summarised in Figure 25 below.

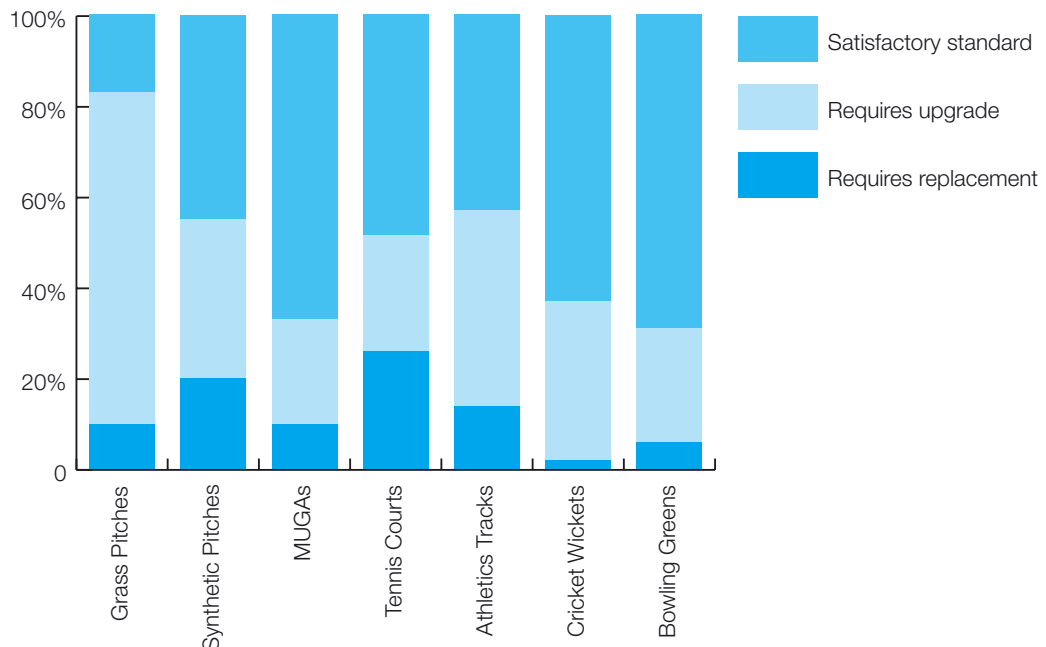
**Figure 25: Upgrade costs for pavilions**



## Conclusion: General Condition of Outdoor Sports Facilities

97. Figure 26 illustrates the relative condition of outdoor facilities. The cost implications of bringing all outdoor sports facilities up to an acceptable standard and maintaining them in this condition over a 25 year period are summarised in Figure 27 and 28.

**Figure 26: Condition of outdoor facilities**



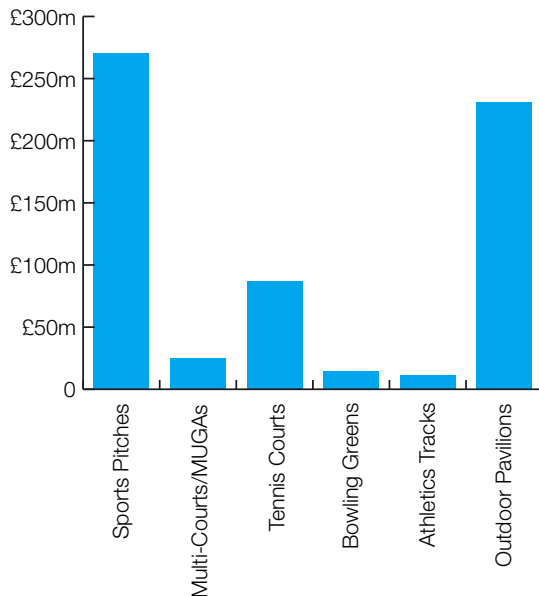
**Figure 27: Cost summary – outdoor facilities**

Outdoor Facilities	Upgrade costs	Refurbishment and Periodic Maintenance costs over 25 years	Routine Maintenance per annum
<b>Sports Pitches</b>			
Local Authority	£153.9m	£35.3m	£45.7m
Local Authority Schools	£39.7m	£10.3m	£12.2m
Clubs	£9.0m	£2.0m	£5.4m
Others	£7.2m	£13.1m	£2.4m
<b>Sub Total</b>	<b>£209.9m</b>	<b>£60.7m</b>	<b>£65.7m</b>
<b>Pavilions</b>			
Local Authority	£119.1m	*	*
Clubs	£9.6m	*	*
<b>Sub Total</b>	<b>£128.7m</b>	<b>*</b>	<b>*</b>
<b>Total</b>	<b>£338.6m</b>	<b>£60.7m</b>	<b>£65.7m</b>
<b>Multi-Courts/MUGAs</b>			
Local Authority	£2.5m	£11.7m	£1.9m
Local Authority Schools	£1.8m	£8.4m	£1.4m
Others	£0.1m	£0.4m	£0.1m
<b>Total</b>	<b>£4.4m</b>	<b>£20.5m</b>	<b>£3.4m</b>
<b>Tennis Courts</b>			
Local Authority	£8.6m	£25.4m	£4.2m
Local Authority Schools	£3.5m	£10.4m	£1.7m
Clubs	£8.1m	£24.1m	£4.0m
Others	£1.8m	£5.2m	£0.9m
<b>Sub Total</b>	<b>£21.9m</b>	<b>£65.0m</b>	<b>£10.7m</b>
<b>Tennis Pavilions</b>			
Local Authority	£11.1m	*	*
Clubs	£10.5m	*	*
<b>Sub Total</b>	<b>£21.6m</b>	<b>*</b>	<b>*</b>
<b>Total</b>	<b>£43.5m</b>	<b>£65.0m</b>	<b>£10.7m</b>
<b>Bowling Greens</b>			
Local Authority	£3.4m	£0.2m	£3.8m
Clubs	£10.4m	£0.5m	£11.7m
Others	£0.3m	£0	£0.3m
<b>Sub Total</b>	<b>£14.0m</b>	<b>£0.7m</b>	<b>£15.8m</b>
<b>Bowls Pavilions</b>			
Local Authority	£19.3m	*	*
Clubs	£59.6m	*	*
Others	£1.6m	*	*
<b>Sub Total</b>	<b>£80.5m</b>	<b>*</b>	<b>*</b>
<b>Total</b>	<b>£94.5m</b>	<b>£0.7m</b>	<b>£15.8m</b>
<b>Athletics Tracks</b>			
Local Authority	£1.3m	£7.1m	£0.2m
Local Authority Schools	£0.2m	£1.3m	£0
Others	£0.1m	£0.8m	£0
<b>Total</b>	<b>£1.6m</b>	<b>£9.2m</b>	<b>£0.2m</b>
<b>All Outdoor Facilities</b>			
Local Authority	£319.2m	£79.7m	£55.8
Local Authority Schools	£45.2m	£30.4m	£15.3m
Clubs	£107.2m	£26.6m	£21.1m
Others	£11.0m	£19.5m	£3.7m
<b>Total</b>	<b>£482.6m</b>	<b>£156.1m</b>	<b>£95.8m</b>

Note: Totals may not sum exactly due to rounding

\*Excludes maintenance costs for pavilions

**Figure 28: Outdoor facilities – total upgrade and periodic maintenance costs over 25 years**



98. The above table excludes maintenance costs for pavilions as there was insufficient data available through the audit from which to derive sufficiently robust cost estimates. However, they are likely to be significant and their inclusion would increase the overall periodic and routine maintenance figures, particularly for local authorities and clubs.
99. More than half of the upgrade costs fall on the local authority recreation departments (including associated leisure trusts). Although local authority schools make up a significant element of overall costs, the current school rebuilding programme will provide new and refurbished sports facilities at new schools.

## **Golf Facilities**

### **Golf Courses**

100. The national audit of Scotland's golf courses involved a wide ranging study into provision for golf of which an assessment of the physical condition of courses and clubhouses, and the associated costs of upgrading and maintaining facilities, formed only one element. Given the dominance of course-owning clubs in this sector, the audit recognised that the long-term sustainability of golf facilities in Scotland is likely to depend as much on the robustness of club finances and their management structures as on the physical condition of their courses and clubhouses. The full audit report provides a detailed analysis of the health of the golf sector in Scotland including information on participation, financial and management issues. It can be used particularly by course-owning members' clubs to compare their own performance against similar clubs.

101. Scotland has 547 golf courses, of which about 30% are nine hole courses, on 483 sites. Since 1990, new construction, primarily by the commercial sector, has added 20% to the number of golf holes. Related facilities are golf ranges and short courses, including par 3 and pitch and putt courses. In terms of facility operation, there are three basic categories of golf course facilities:
- 73% are course-owning members' clubs. There are also a number of non-course owning members' clubs which are usually attached to municipal or commercial golf courses;
  - 15% are commercial enterprises, including most golf ranges; and
  - 12% are operated by local authorities or their associated trusts.

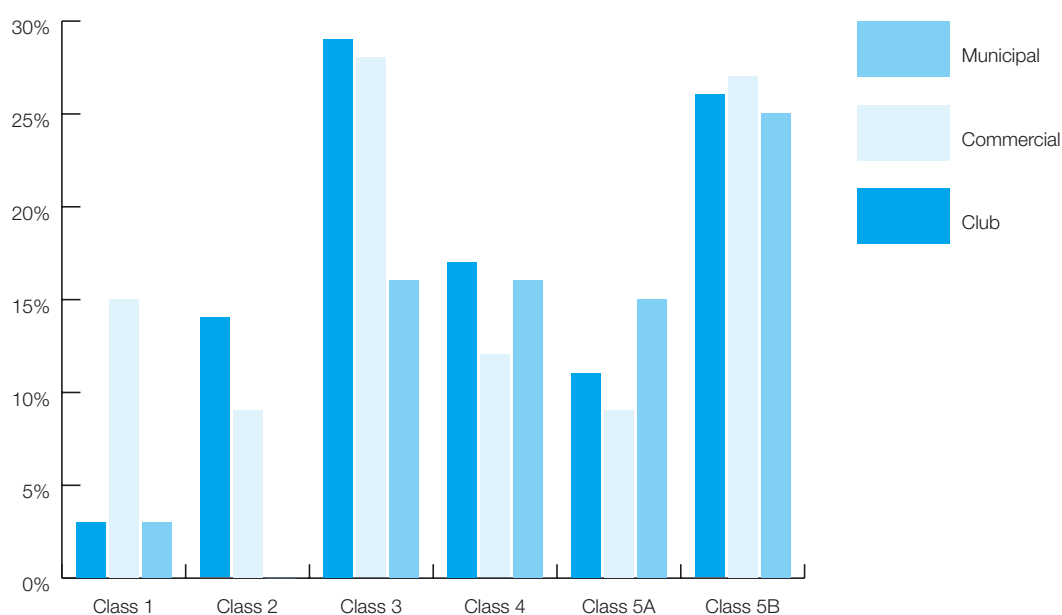
102. The audit classified Scotland's courses on the basis of three key indicators: total annual income, weekday green fee and standard scratch score (sss). Figure 29 shows the criteria on which classification was based, Figure 30 shows the percentage of courses by type in each class.

**Figure 29: Classification of golf courses by operator**

Indicator	Class 1	Class 2	Class 3	Class 4	Class 5A	Class 5B
Total annual income (£000)	500+	350-499	250-349	150-249	<150 18 holes	<150 9 holes
Weekly green fee (£)	50+	30-49	20-29	16-19	<16	<16
SSS	72+	70-71	68-69	66-67	66	65

Note: Totals may not sum exactly due to rounding

**Figure 30: Percentage of courses by type**



103. Over a third of club and commercial courses, and two-thirds of municipal courses, fall into Class 5. Taken together, Classes 5A and 5B (which could be described as 'very basic' facilities) account for 40% of golf course facilities. When combined with Class 4, which are 'basic', it is clear that well over half of Scotland's golf course facilities can be described as basic or very basic.
104. Based on a comprehensive questionnaire survey and site inspections of a representative sample of courses and clubhouses, the costs of upgrade and maintenance works were estimated and applied to the course classification system to provide national estimates (Figure 31).

**Figure 31: Capital costs of upgrading golf courses**

Upgrade Class 1 & 2 courses: 80 courses at £141,000	£11.28m
Upgrade Class 3 courses: 136 courses at £207,000	£28.15m
Upgrade Class 4 courses: 81 courses at £121,000	£9.80m
Upgrade Class 5A courses: 75 courses at £181,000	£13.57m
Upgrade Class 5B courses: 121 courses at £197,000	£23.84m
<b>Total</b>	<b>£86.7m</b>

Note: Totals may not sum exactly due to rounding

105. Although these capital costs have been estimated for a 25 year period, the recommended spend is highest in the early years of the period in order to address significant problems before they deteriorate further and to provide improved playing conditions as soon as possible. The audit results highlighted the obvious 'Catch 22' that the courses in need of most expenditure tend to be the ones whose operators have the least resources, which is, of course, part of the explanation for the courses being in the condition they are.

### **Maintenance Costs**

106. Overall, the required capital expenditure averaged over the period is very much lower than the normal ongoing annual maintenance which course operators are accustomed to incurring – the difference, of course, being that the capital expenditure may come in large amounts (and sometimes unexpectedly). It therefore needs to be anticipated, and then budgeted for. The audit estimated the total ongoing maintenance costs for Scotland's golf courses over a 25 year period to be £1,097m or £51.4m per annum.
107. In terms of ownership, municipal operators should be spending £5.7m per annum on combined capital and maintenance costs in order to maintain their courses in appropriate

condition. Although precise figures were not available, it is thought unlikely that this amount is currently being spent and this will have long term implications for the quality and playing capacity of these courses. The audit also estimated that 45% of course-owning clubs have incomes below the level required to maintain their facilities to a good standard on an ongoing basis.

### Golf Clubhouses

108. The audit estimated the total costs of meeting all the ongoing maintenance, upgrading, and replacements required to keep Scotland's stock of golf clubhouses to a reasonable standard over a 25 year period to be around £125m or £5m per annum. This can be broken down into £72.3m of upgrading and replacement costs and £52.2m (or £2.1m per annum) of ongoing and routine maintenance costs (Figure 32).

**Figure 32: Upgrade and maintenance costs for golf clubhouses**

Class of course	Upgrade and Replacement	Ongoing and Routine Maintenance Costs per annum
1/2	£24.04m	£0.61m
3	£20.24m	£0.72m
4	£14.37m	£0.30m
5A	£7.95m	£0.23m
5B	£5.72m	£0.23m
<b>Total</b>	<b>£72.3m</b>	<b>£2.1m</b>

Note: Totals may not sum exactly due to rounding

109. The total figure equates to about £10,000 per year per clubhouse, which is close to the average of current spend, based on figures in a sample of golf club annual accounts. About 65% of respondents in the audit survey indicated that they had carried out significant replacement, alteration, extension, or refurbishment work on their clubhouses within the last 10 years, of which 28% of projects cost over £100,000. However, 26% of respondents indicated that their clubhouses were likely to need substantial improvements or upgrading which they were unlikely to be able to finance. This would suggest that over 100 clubhouses are 'at risk' of falling below a reasonable standard – with those most at risk being clubhouses owned and run by non-course owning clubs and the smallest members' course-owning clubs.

110. Figure 33 summarises how costs for both courses and clubhouses are attributed to the different providers, with 72% falling on the club sector.

**Figure 33: Golf facilities – costs by operating sector**

	Upgrade Costs over 25 years	Routine Maintenance Costs per annum
Local Authorities	£18.1m	£6.1m
Clubs	£114.4m	£38.5m
Commercial	£26.4m	£8.9m
<b>Totals</b>	<b>£158.9m</b>	<b>£53.5m</b>

Note: Totals may not sum exactly due to rounding



### **Golf Ranges**

111. Nearly all golf ranges are commercially owned and operated. They were generally found to be in sound condition, and capable of being maintained in the normal commercial way through income and borrowing.

## **Conclusion: General Condition of Golf Facilities**

### **Course Drainage**

112. Course improvement works over the past ten years have focused on greens and tees, and on drainage and irrigation of courses. Drainage is the big issue in terms of future requirements. There is evidence that many courses are getting increasingly wetter while drainage related problems are likely to be exacerbated through climate change.

### **Expenditure Patterns**

113. Over 90% of the total expenditure required to keep Scotland's existing stock of golf courses in good condition consists of normal ongoing course maintenance expenditure which course operators budget to carry out annually. Less than 10% of the total consists of capital expenditure required to put right current or anticipated problems, many relating to increasingly wet course conditions.

### **Municipal Courses**

114. Insufficient levels of funding by many municipal operators is having a detrimental affect on the quality of their courses.

### **Small Clubs**

115. Among members' clubs, those least secure in terms of tenure and most at risk in terms of an inability to fund future improvement works for both courses and clubhouses are the smallest clubs – while the largest clubs are generally quite secure financially and are able to fund ongoing improvements largely from their own resources.

### **Affordability**

116. To maintain them at a good and sustainable playing standard, up to 100 courses in Scotland, largely in the municipal sector and among the smallest members' clubs (and including some smaller commercial courses), are likely to need investment which their operators are unlikely to be able to afford.

### **Clubhouses**

117. These are generally seen as in greater need of upgrading than the prime resource of the golf courses themselves.

## Indoor Sports Facilities

### Introduction

118. Auditing the condition of indoor sports facilities is a complex task because of the variations in design, construction and materials used and also because of the different combinations of facilities which may be provided on one site. For example a sports centre might include a swimming pool, a sports hall and a fitness suite which could each have their own changing accommodation, plant, circulation and storage areas with additional administration rooms and social areas. The indoor audit focused on deriving cost models for the main construction elements in terms of replacement and maintenance, and then applying these models to the national stock of indoor facilities.

119. Detailed inspections of the building structure and fabric, environmental services and movable equipment were carried out on a sample of facilities by a multi-disciplinary team of an architect, building surveyor, electrical engineer and mechanical services engineer in order to establish typical forms of construction and the range and frequency of maintenance works needed to keep the facilities in a safe and usable condition. The results were used to construct the cost models.

120. The cost models use the concept of 'hard' and 'soft' maintenance cycles of 24 and 12 years respectively, which can both be classed as refurbishment:

120.1 **Hard cycles** relate primarily to environmental servicing systems but also to key building elements such as doors and windows and some roof finishes. The life of these key elements and most servicing systems is around 24 years. The life cycle of plant is classed as hard cycle because if appropriate repairs, maintenance or replacement are not undertaken then the building may ultimately have to close.

120.2 **Soft cycles** relate primarily to the internal appearance of the facilities and customers' reaction to them. If suitable cosmetic upgrading is not carried out the building will look very tired, it will be less likely to attract users and those with a choice of facility may well go elsewhere.

In addition there will be a need for annual maintenance, such as minor repairs, and periodic maintenance, such as external paintwork.

121. Separate models were derived for each of the ten different types of facility, each with an allocation of floor area for plant spaces, circulation, changing, administration and social accommodation. Each of these ten models is very similar, but tailored to the specific features of each type of facility. This approach enabled multi-facility centres to be disaggregated into each element in order to calculate the relevant costs and then put back together again to give the overall costs for the centre. This made it possible to calculate costs for any combination of different facilities and to provide estimated total costs for each type of facility.

122. Through a combination of questionnaires and site visits, detailed information was obtained from 536 facilities, representing just under half of all facilities, and the results extrapolated to the national stock of facilities.

### Sports Halls

123. The audit found that local authority sports halls were generally in reasonable condition. Most of the problems were largely cosmetic, with heavy use tending to make them look worn and tired. However, many lacked access to sufficient capital funding for significant upgrading or refurbishments. Those halls in the worst condition tended to be in schools. Key findings relevant to sports halls were as follows:

- emphasis is often on reactive maintenance rather than preventative or planned maintenance;
- artificial lighting installations were of poor quality;
- floor finishes were of poor quality;
- redecoration was not done often enough;
- equipment was not upgraded regularly;
- ceiling tiles and panels were damaged;
- there was insufficient inspection of roofs and associated remedial work was inadequate;
- many halls in schools have inadequate storage areas for equipment;
- many halls in schools have damage to roofs, floors and walls; and
- schools in particular have inadequate maintenance budgets.

### Figure 34: Refurbishment and maintenance costs for sports halls

Upgrade/refurbishment costs over 25 years	£440.7m
Periodic Maintenance Costs over 25 years	£252.4m
<b>Total</b>	<b>£693.1m</b>
Average per annum	£27.7m
Annual Routine Maintenance	£16.5m
<b>Total Costs per annum</b>	<b>£44.2m</b>

Note: Totals may not sum exactly due to rounding

### Swimming Pools

124. A pool refurbishment study was carried out for *The Ticking Time Bomb* report (sportscotland 2001). This report considered the main public pools and highlighted the need for significant levels of investment to keep existing pools operating and meet reasonable customer expectations. The study found that most pools built after 1975 and many of the pre-1945 pools were in reasonable condition, while a large number of pools built between 1960 and 1975 had major problems with the building fabric and environmental servicing systems. Full details are available in the published report. The audit included all pools, even those in schools and further education establishments.

**Figure 35: Refurbishment and maintenance costs for swimming pools**

Upgrade/Refurbishment Costs over 25 years	£297.1m
Periodic Maintenance Costs over 25 years	£153.6m
<b>Total</b>	<b>£450.7m</b>
Average per annum	£18.0m
Annual Routine Maintenance	£15.2m
<b>Total Costs per annum</b>	<b>£33.2m</b>

Note: Totals may not sum exactly due to rounding

### **Fitness Facilities**

125. There has been significant capital investment in fitness facilities in recent years, largely driven by customer demand and by a desire for income generation. As a result, there has been relatively little need for revenue expenditure on repairs and maintenance and most fitness facilities are in good condition.
126. Twenty years ago fitness areas were typically fairly small spaces with painted block walls, a vinyl floor, a multi-gym and a few ergometers. Now the design of fitness centres is a specialist area with equipment manufacturers keen to exploit the latest fashions and often offering a complete design and installation service which encompasses not only the décor and fitness machines but also audio-visual services.
127. As exercise machines date quite quickly, fitness areas are not only high income areas, but also fairly costly to maintain – although largely because owners or operators replace equipment or décor for cosmetic reasons rather than because it has reached the end of its useful life. Typically, centres replace their fitness equipment on something like a seven year cycle.
128. This could obviously result in significant capital expenditure on new equipment at fairly brief intervals, so many councils and commercial operators lease their fitness equipment rather than buy it. This evens out the cost and makes replacement a matter of increasing an existing revenue budget by a limited amount – which with luck can be met from extra income – rather than finding a significant capital sum. This also avoids the ‘sting in the tail’ for leisure trusts of buying equipment with a fairly short life-span – depreciation.

**Figure 36: Refurbishment and maintenance costs of fitness facilities:**

Upgrade/Refurbishment Costs over 25 years	£321.4m
Periodic Maintenance Costs over 25 years	£95.9m
<b>Total</b>	<b>£417.3m</b>
Average per annum	£16.7m
Annual Routine Maintenance	£5.3m
<b>Total Costs per annum</b>	<b>£22.0m</b>

Note: Totals may not sum exactly due to rounding

### Gymnastics Halls

129. There are a limited number of modern dedicated gymnastics training halls. As they are inherently simple sheds, with very simple environmental services, they have no major repair or maintenance problems. The main needs for the future will be to replace carpet finishes, equipment and the foam filling in training pits – all of which can be done on a phased basis and so should not cause particular financial difficulties for operators.
130. There are also a number of gymnastics training halls in converted buildings. These are likely to require higher levels of repair and maintenance expenditure than the more modern structures simply because of the age and greater complexity of the building forms and fabric.

#### Figure 37: Refurbishment and maintenance costs of gymnastics halls

Upgrade/Refurbishment Costs over 25 years	£41.6m
Periodic Maintenance Costs over 25 years	£13.5m
<b>Total</b>	<b>£55.1m</b>
Average per annum	£2.2m
Annual Routine Maintenance	£0.3m
<b>Total Costs per annum</b>	<b>£2.5m</b>

Note: Totals may not sum exactly due to rounding

### Indoor Bowls Halls

131. Most indoor bowls halls are operated by voluntary clubs on a not-for-profit basis or are owned by a local authority but operated by clubs. The need for repairs and maintenance of most indoor bowls halls is limited as everyday wear and tear is very low. Most halls are relatively simple portal frame structures with simple cladding and few windows; environmental services are fairly simple. Most maintenance expenditure goes on carpet rotation or replacement – roughly every ten years – and redecoration. The need for both of these can be foreseen several years in advance and the company structure of many indoor bowls clubs makes it possible for them to put money aside. As a result, most indoor bowls halls are in good condition.
132. There are also one or two facilities that have been created by converting an existing building. These tend to have higher repair and maintenance costs for the building fabric than purpose-built centres.

#### Figure 38: Refurbishment and maintenance costs of indoor bowls halls

Upgrade/Refurbishment Costs over 25 years	£60.1m
Periodic Maintenance Costs over 25 years	£41.7m
<b>Total</b>	<b>£101.8m</b>
Average per annum	£4.1m
Annual Routine Maintenance	£2.6m
<b>Total Costs per annum</b>	<b>£6.7m</b>

Note: Totals may not sum exactly due to rounding

### Indoor Tennis Halls

133. Amongst indoor facilities, indoor tennis halls are relatively modern concepts. They are inevitably large, simple sheds, usually with a simple portal frame structure and fairly basic cladding and a low proportion of ancillary to activity areas. Environmental servicing systems are also simple. Overall, therefore, there should be little to go wrong with tennis halls and maintenance requirements are generally low provided court surfaces, nets and lighting are kept in good condition.

**Figure 39: Refurbishment and maintenance costs of indoor tennis halls**

Upgrade/Refurbishment Costs over 25 years	£25.9m
Periodic Maintenance Costs over 25 years	£12.5m
<b>Total</b>	<b>£38.4m</b>
Average per annum	£1.5m
Annual Routine Maintenance	£1.4m
<b>Total Costs per annum</b>	<b>£2.9m</b>

Note: Totals may not sum exactly due to rounding

### Squash Courts

134. The squash boom of the seventies did not last and over the past decade quite a number of squash courts have been converted to some other use, the most common being a small fitness training area. Many of the courts that remain are in increasingly poor condition, leading to a vicious circle of declining use and income and therefore a perception that maintenance may be a waste of money – which of course leads to further decline in use.

135. Some of the problems are primarily cosmetic – ball and racket marks for example – but still require a considerable amount of effort to tackle. Others require more radical work, such as cutting out and replacing damaged plaster and sanding or replacing floors.

136. Common problems with the condition of squash courts are:

- very dirty floors, from years of wear and inadequate sweeping and dust removal;
- damaged plaster around door frames and at the 'nick' (the floor/wall junction);
- damaged 'tins' (the sounding board at the base of the front wall);
- hollow plaster, especially on front walls, which then cracks and falls off; expansion and contraction or other building movements may also cause cracking;
- poor condition of painted walls; and
- damaged ceilings and light fittings.

**Figure 40: Refurbishment and maintenance costs of squash courts**

Upgrade/Refurbishment Costs over 25 years	£73.4m
Periodic Maintenance Costs over 25 years	£34.2m
<b>Total</b>	<b>£107.6m</b>
Average per annum	£4.3m
Annual Routine Maintenance	£3.3m
<b>Total Costs per annum</b>	<b>£7.6m</b>

Note: Totals may not sum exactly due to rounding

## Climbing Walls

137. There are relatively few dedicated climbing walls in Scotland and several of those that do exist have been shoe-horned into a redundant space within a sports centre. The largest dedicated climbing centre is the Ratho Adventure Centre. However, many sports halls with a brick internal finish have a rudimentary 'climbing wall', usually on an end wall, with bricks laid to provide holds and ledges.
138. Climbing walls generally need little regular maintenance as they are inevitably robust. The main driver for change comes from the need to keep climbers interested. For this reason, it is possible to adjust the configuration of holds on most dedicated walls and this is the main form of maintenance they require, plus regular cleaning to remove French chalk and other dust.
139. The ancillary accommodation which complements climbing walls is usually quite simple as many climbers will do little more than change their shoes. Accordingly, it is relatively easy to adapt any reasonably tall building for climbing.

**Figure 41: Refurbishment and maintenance costs of climbing walls**

Upgrade/Refurbishment Costs over 25 years	£6.2m
Periodic Maintenance Costs over 25 years	£3.8m
<b>Total</b>	<b>£10.0m</b>
Average per annum	£0.4m
Annual Routine Maintenance	£0.1m
<b>Total Costs per annum</b>	<b>£0.5m</b>

Note: Totals may not sum exactly due to rounding

## Ice Rinks

140. Scotland's ice rinks can be differentiated as older rinks, such as Murrayfield, Kirkcaldy and Lockerbie, or recently constructed complexes such as the Dundee Ice Arena. The older rinks are generally in poor condition: they are typically under-maintained and under-funded and at risk of closure from plant failure. Some of them have a poor energy performance with very limited thermal insulation and old and inefficient plant. Most are owned and operated by private companies which struggle to survive. Without significant investment, it is probable that a number of the older rinks will have to close.
141. The main repair and maintenance problems with Scotland's ice rinks include:
- outmoded plant, making them vulnerable to closure in the event of plant failure as spares are increasingly difficult to obtain;
  - poorly insulated building fabric;
  - outmoded décor;
  - poor quality ancillary accommodation, especially changing areas; and
  - large areas of wasted space.



**Figure 42: Refurbishment and maintenance costs of ice rinks**

Upgrade/Refurbishment Costs over 25 years	£44.6m
Periodic Maintenance Costs over 25 years	£25.6m
<b>Total</b>	<b>£70.2m</b>
Average per annum	£2.8m
Annual Routine Maintenance	£2.1m
<b>Total Costs per annum</b>	<b>£4.9m</b>

Note: Totals may not sum exactly due to rounding

### Changing and Ancillary Areas

142. While some modern indoor sports facilities have adequate changing and ancillary areas, in many others the quality can be very poor. The basic design and construction of these areas is often poor while maintenance standards are rarely adequate. Social areas in local authority facilities are often unattractive in terms of décor and furnishings, diminishing their ability to generate income. There is generally a significant gulf between these facilities and those provided in many commercial sports and health clubs. Staff accommodation is often cramped and unattractive. The main problems with local authority changing areas are:

- ingrained dirt in floor tiles;
- tired décor;
- inadequate ventilation;
- damaged or inoperative lockers;
- damaged ceilings;
- discoloured, missing or loose tiles in shower areas; and
- lack of privacy for users.

### General Findings on Indoor Sports Facilities

143. The audit found that inadequate maintenance standards were responsible for the poor quality of much of the stock of indoor sports facilities. It highlighted some general findings. While a growing number of local authorities are undertaking detailed annual maintenance inspections and producing costed maintenance schedules, their maintenance budgets are generally insufficient to meet the cost.
144. Related to this, more councils need to complement their detailed annual maintenance inspections with more frequent but simpler inspections. The operation of some things should be checked daily – e.g. lights, lockers and WC cubicle locks and cisterns; some weekly – e.g. fitness equipment, floor, wall and ceiling finishes, fire alarms and exits, glazing and door handles; and some monthly – e.g. most plant items, steps and stair balustrades. Most of these inspections do not require any specialised knowledge – this is needed mainly to diagnose the causes of problems, rather than to identify problems in the first instance – and so there is no good reason why this cannot be undertaken by facility staff using checklists. As more centres seek Quest accreditation this should become more common.
145. The condition of many facilities in schools, which are subject to very high wear and tear, is particularly poor, and replacement rather than refurbishment would be the most sensible option. This issue is being addressed through the school rebuilding programme.

146. The commercial sport, health and fitness clubs demonstrate the importance of maintaining facilities in good condition. As they tend to have fairly high membership turnover rates, they need to constantly attract new members. This means that in order to create a good first impression they have to pay a lot of attention to keeping on top of repairs and maintenance. Local authorities and similar organisations need to learn from this.
147. The approach found in much of the public sector can contribute to the declining condition of facilities leading to loss of throughput and income resulting in escalating deficits and reduced scope for adequate investment in proper maintenance. With increasing competition from private sector health and fitness clubs and generally better quality facilities, more potential customers are being diverted from the public to the private sector.

## Conclusion: General Condition of Indoor Sports Facilities

148. The age of a facility is a useful indicator of its general condition. Figure 43 shows the decade in which different types of indoor facilities were built, based on the audit sample.

**Figure 43: Age of indoor facilities**

Date of opening:	Pre 1950	1950s	1960s	1970s	1980s	1990s	2000s
Sports halls	5%	2%	10%	34%	24%	22%	3%
Pools	5%	1%	15%	35%	14%	26%	5%
Fitness facilities	1%	0%	2%	8%	13%	54%	23%
Indoor bowls halls	5%	0%	15%	18%	41%	18%	2%
Ice rinks	5%	0%	11%	17%	28%	34%	5%
Squash courts	2%	1%	6%	38%	23%	28%	1%
<b>Total</b>	<b>4%</b>	<b>1%</b>	<b>8%</b>	<b>26%</b>	<b>20%</b>	<b>33%</b>	<b>8%</b>

Note: Totals may not sum exactly due to rounding

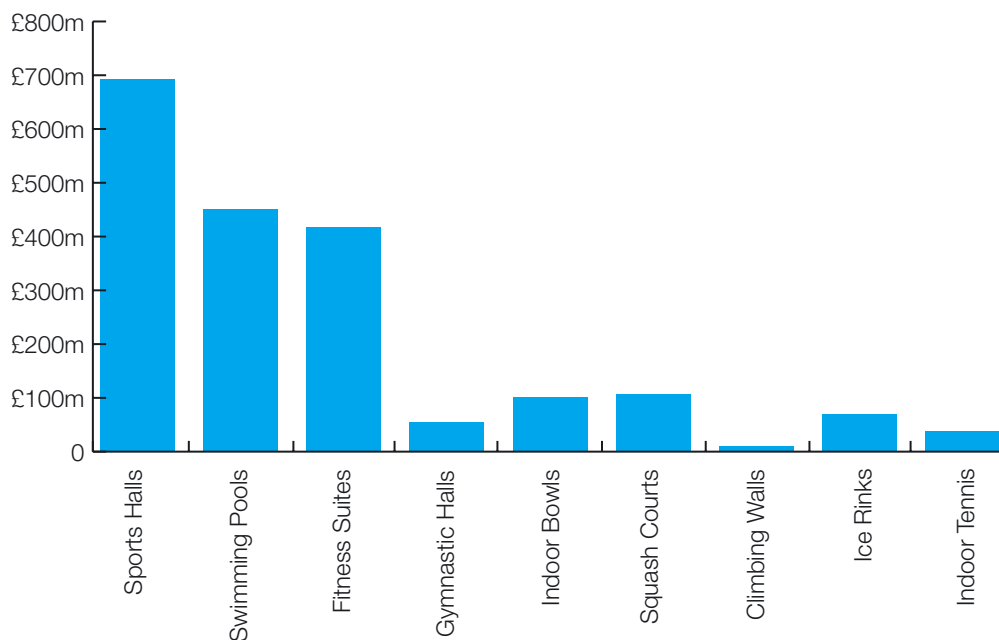
149. Figure 43 emphasises the significance of the 1970s, 1980s and 1990s as decades which saw a dramatic rise in the number of new facilities, primarily as a result of public sector investment in sports halls and swimming pools. The early years of this century are when many of the 1970s facilities will require re-investment and this need for re-investment will continue for a 20-30 year period as 1980s and 1990s facilities also reach the age at which they will require refurbishment. Another feature is the surge in investment in fitness provision in the 1990s and 2000s, initially led by the private sector, but later by a combination of both private and public sectors.
150. It is also important to note, however, that many facility owners have already done at least a partial refurbishment of their facilities. Figure 44 summarises the proportions of facilities that have been refurbished at least to some extent. This does not necessarily reflect users' experiences of the facilities: expensive plant may have been replaced at a swimming pool, for example, to keep it operational which will not be evident to users in comparison with things like condition of the changing rooms and the décor.

**Figure 44: Proportion of indoor facilities refurbished by date of opening**

Date of opening:	Pre 1950	1950s	1960s	1970s	1980s	1990s	2000s	Overall
Sports halls	56%	43%	40%	33%	45%	31%	33%	38%
Pools	67%	100%	56%	45%	24%	31%	17%	40%
Fitness facilities	100%	N/A	75%	73%	63%	58%	39%	58%
Indoor bowls halls	100%	N/A	100%	67%	85%	50%	0%	81%
Ice rinks	100%	N/A	100%	67%	20%	67%	0%	59%
Squash courts	50%	0%	80%	52%	47%	26%	0%	43%
Health suites	100%	N/A	100%	46%	38%	42%	14%	42%

Note: Totals may not sum exactly due to rounding

**Figure 45: Total upgrade and periodic maintenance costs for indoor facilities over 25 years**



**Figure 46: Cost Summary – Indoor Facilities**

Indoor Facilities	Upgrade Costs over 25 years	Refurbishment and Periodic Maintenance costs over 25 years	Routine Maintenance per annum
<b>Sports Halls</b>			
Local Authority Community	£210.0m	£119.5m	£7.8m
Local Authority Education	£172.3m	£99.0m	£6.3m
Club	£16.6m	£9.7m	£0.7m
HE/FE	£9.9m	£5.7m	£0.5m
Commercial	£21.7m	£12.6m	£0.8m
Other	£10.1m	£5.9m	£0.4m
<b>Total</b>	<b>£440.7m</b>	<b>£252.4m</b>	<b>£16.5m</b>
<b>Swimming Pools</b>			
Local Authority Community	£191.4m	£101.1m	£9.7m
Local Authority Education	£69.1m	£35.1m	£3.6m
Club	£5.1m	£2.4m	£0.3m
HE/FE	£2.1m	£1.2m	£0.2m
Commercial	£26.5m	£12.6m	£1.4m
Other	£2.8m	£1.3m	£0.2m
<b>Total</b>	<b>£297.1m</b>	<b>£153.6m</b>	<b>£15.2m</b>
<b>Fitness Suites</b>			
Local Authority Community	£70.5m	£29.4m	£1.7m
Local Authority Education	£16.8m	£6.4m	£0.3m
Club	£9.9m	£2.5m	£0.1m
HE/FE	£12.1m	£3.5m	£0.3m
Commercial	£209.0m	£53.4m	£2.8m
Other	£3.0m	£0.7m	£0.0m
<b>Total</b>	<b>£321.4m</b>	<b>£95.9m</b>	<b>£5.3m</b>
<b>Gymnastics Halls</b>			
Local Authority Community	£18.5m	£6.0m	£0.2m
Local Authority Education	£2.1m	£0.8m	£0.1m
Club	£0.8m	£0.3m	£0.0m
HE/FE	£8.9m	£2.6m	£0.0m
Commercial	£10.0m	£3.1m	£0.0m
Other	£1.3m	£0.7m	£0.1m
<b>Total</b>	<b>£41.6m</b>	<b>£13.5m</b>	<b>£0.3m</b>
<b>Indoor Bowls</b>			
Local Authority Community	£18.1m	£12.8m	£0.9m
Club	£34.5m	£22.9m	£1.4m
Commercial	£5.5m	£4.7m	£0.2m
Other	£1.9m	£1.3m	£0.1m
<b>Total</b>	<b>£60.1m</b>	<b>£41.7m</b>	<b>£2.6m</b>
<b>Squash Courts</b>			
Local Authority Community	£18.6m	£9.1m	£1.0m
Local Authority Education	£9.3m	£4.9m	£0.3m
Club	£17.4m	£7.8m	£0.7m
HE/FE	£8.1m	£3.6m	£0.3m
Commercial	£17.0m	£7.5m	£0.9m
Other	£2.9m	£1.3m	£0.1m
<b>Total</b>	<b>£73.4m</b>	<b>£34.2m</b>	<b>£3.3m</b>

**Figure 46 continued**

<b>Climbing Walls</b>			
Local Authority Community Club	£3.8m £2.3m	£2.4m £1.4m	£0.1m £0.0m
<b>Total</b>	<b>£6.2m</b>	<b>£3.8m</b>	<b>£0.1m</b>
<b>Ice Rinks</b>			
Local Authority Community Club	£16.8m £0.3m	£9.6m £0.1m	£0.8m £0.0m
Commercial	£27.5m	£16.0m	£1.3m
<b>Total</b>	<b>£44.6m</b>	<b>£25.6m</b>	<b>£2.1m</b>
<b>Indoor Tennis</b>			
Local Authority Community Commercial	£15.2m £10.8m	£6.9m £5.5m	£1.0m £0.4m
<b>Total</b>	<b>£25.9m</b>	<b>£12.5m</b>	<b>£1.4m</b>
<b>All Indoor Facilities</b>			
Local Authority Community	£562.9m	£296.8m	£23.2m
Local Authority Education Club	£269.6m £86.9m	£146.2m £47.1m	£10.6m £3.2m
HE/FE	£41.1m	£16.6m	£1.3m
Commercial	£328.0m	£115.4m	£7.8m
Other	£22.0m	£11.2m	£0.9m
<b>Total</b>	<b>£1,311m</b>	<b>£633m</b>	<b>£47m</b>

Note: Totals may not sum exactly due to rounding

# Section 3: Conclusions

## Introduction

151. The overall picture provided by the audit is one of an ageing stock of sports facilities, yet there are many good examples of high quality facilities throughout the country. There are many factors to consider in addressing the issues raised in the audit: the changing patterns of demand; customer expectations have risen across the service sector; and, with improved standards of living, many people are increasingly less prepared to accept substandard sports facilities. Quality is important, and facilities judged as inferior are likely to have a negative impact on participation in sport. Establishing a network of quality, accessible and affordable facilities is a key infrastructure objective of Sport 21 and is integral to achieving the sports participation targets set out in the national strategy for sport. Access to an appropriate standard of facilities is also crucial for developing sporting talent.

## Outdoor Sports Facilities

152. The audit highlighted a very wide range in the quality of outdoor facilities with a significant number being rated as poor. This is particularly the case for natural grass pitches where much of the current stock is inadequately constructed and poorly maintained which inevitably results in playing surfaces of poor quality, particularly in wet weather. Much of the changing accommodation at pitches is similarly poor. Many of the earliest constructed artificial grass pitches were classed as unsatisfactory due to poor original construction specifications and inadequate maintenance. Club owned facilities tend to be in better condition than local authority facilities, and this is certainly the case with tennis courts and bowling greens. While more than half of the country's athletic tracks require refurbishment, the amount of work they require is relatively small. A high proportion of outdoor facilities require replacement or significant upgrading, as shown in Figure 47:

**Figure 47: Proportion of outdoor facilities requiring replacement or upgrade**

	Replacement	Upgrading
Grass Pitches	9%	65%
Synthetic Pitches	18%	43%
Tennis Courts	25%	25%
Bowling Greens	6%	25%
Athletics Tracks	13%	43%
Multi-Courts	10%	23%
Pavilions	8%	41%

53 153. The key findings relating to the condition of outdoor facilities are as follows:

- the construction specification for many grass pitches is inadequate for the levels of use expected;
- poor drainage of grass pitches, generally resulting from inadequate construction methods and lack of remedial maintenance;
- overplay of grass pitches causing deterioration of playing surfaces;
- grass pitches unsuitable for play for prolonged periods in a year;
- insufficient periodic and remedial maintenance on all types of pitches, including newly constructed and refurbished facilities, leading to deterioration of their condition;
- all types of pitches, including artificial grass, suffer from low and inadequate levels of routine maintenance;
- mineral pitches are still used despite them no longer meeting sports' requirements and user expectations.
- school pitches were generally found to be in poorer condition than other council run pitches;
- the costs of rejuvenation and refurbishment of artificial grass surfaces and periodic maintenance of fencing and floodlighting are equivalent to the initial capital costs of constructing the facility;
- inadequate fencing on older artificial grass pitches makes them vulnerable to vandalism;
- many bitmac tennis courts are subject to surface break up and unevenness;
- inadequate maintenance of blaes tennis courts has led to poor quality surfaces;
- many cricket pitches rely on shared outfielders which can be unsuitable due to surface unevenness and poor drainage;
- some athletics tracks lack floodlighting;
- changing accommodation for sports pitches is often too small and in very poor condition with inadequate showers, ventilation and heating systems; and
- there are general problems with vandalism for outdoor facilities, particularly with pavilions on playing fields.

## **Golf Facilities**

154. The national audit of Scotland's golf courses involved a wide ranging study into provision for golf of which an assessment of the physical condition of courses and clubhouses, and the associated costs of upgrading and maintaining facilities, formed only one element. It recognised that the long-term sustainability of golf facilities in Scotland is likely to depend as much on the robustness of their finances and their management structures as on the physical condition of their courses and clubhouses. The full audit report provides a detailed analysis of the health of the golf sector in Scotland including information on participation, financial and management issues.

155. Some of the key findings of the golf audit can be summarised as follows:

- **Course Drainage** Course improvement works over the past 10 years have focused on greens and tees, and on drainage and irrigation of courses. Drainage is the big issue in terms of future requirements. There is evidence that many courses are getting increasingly wetter while drainage related problems are likely to be exacerbated through climate change.

- **Expenditure Patterns** Over 90% of the total expenditure required to keep Scotland's existing stock of golf courses in good condition consists of normal ongoing course maintenance expenditure which course operators budget to carry out annually. Less than 10% of the total consists of capital expenditure required to put right current or anticipated problems, many relating to increasingly wet course conditions.
- **Municipal Courses** Insufficient levels of funding by many municipal operators is having a detrimental affect on the quality of their courses.
- **Small Clubs** Among members' clubs, those least secure in terms of tenure and most at risk in terms of an inability to fund future improvement works for both courses and clubhouses are the smallest clubs. The larger clubs are generally quite secure financially and are able to fund ongoing improvements largely from their own resources.
- **Affordability** To maintain them at a good and sustainable playing standard, up to 100 courses in Scotland, largely in the municipal sector and among the smallest members' clubs (and including some smaller commercial courses), are likely to need investment which their operators are unlikely to be able to afford to undertake. The audit estimated that 45% of course-owning clubs have income below the level required to maintain their facilities to a good standard on an ongoing basis.
- **Clubhouses** These are generally seen by the clubs themselves as more in need of upgrading than the prime resource of the golf courses.

## Indoor Sports Facilities

156. Most types of indoor sports facilities require relatively simple building structures. However the large number of facilities which require refurbishment means that cumulative costs for bringing indoor facilities up to an acceptable standard are high. For example, around one third of our sports halls were built in the 1970s, often to fairly low construction specifications, and those that have not already been refurbished will require significant levels of re-investment over the next few years. The need for re-investment in a range of indoor facilities will continue over the 25 year period of the audit as the large number of facilities built in the 1980s and 1990s also reach the age at which they will require refurbishment. However, it will be essential that there are local facilities strategies in place across Scotland to cater for the changing nature of demand rather than solely investing in existing facilities.
157. The audit recorded the date at which at least a partial refurbishment of facilities had been carried out. It is of particular concern that the facilities which have the lowest overall proportion of refurbishments are sports halls and swimming pools – the basic facilities on which so much of sports participation depends. Indoor bowls facilities are the facilities with the highest overall level of modernisation, followed by ice rinks and fitness facilities.
158. Lack of planned maintenance and inadequate routine maintenance schedules were common with local authority and school facilities, which inevitably results in the shabby appearance of many of these facilities. As expected, maintenance standards in commercial facilities were much higher with the exception of ice rinks. Some of the older ice rinks were



in very poor condition, with costly upgrades to plant and services required to keep them operational in addition to major refurbishment of the building fabric.

159. The key findings relating to the condition of indoor facilities are as follows:

- many sports halls have poor quality floor finishes and artificial lighting installations, are not redecorated often enough and have equipment that is not upgraded regularly;
- older sports halls in schools were found to be in particularly poor condition, with damage to roofs, floors and walls, and inadequate storage areas for equipment;
- emphasis is often on reactive maintenance rather than preventative or planned maintenance with maintenance budgets generally being inadequate;
- while some progress had been made with the upgrade of swimming pools much work had still to be done;
- school swimming pools were often in very poor condition;
- competition from the commercial sector in the provision of fitness facilities has led to better maintenance standards and regular replacement of equipment;
- many squash courts need refurbishment to tackle damaged floors, walls and light fittings;
- older ice rinks are typically under-maintained and under-funded, using old and inefficient plant and at risk of closure from plant failure;
- indoor bowls and tennis halls are generally well maintained and in good condition; and
- standards of changing accommodation were often poor with common problems being inadequate showers and ventilation, shabby décor particularly in relation to floor and wall tiles, damaged lockers and poor basic design resulting in a lack of privacy for users.

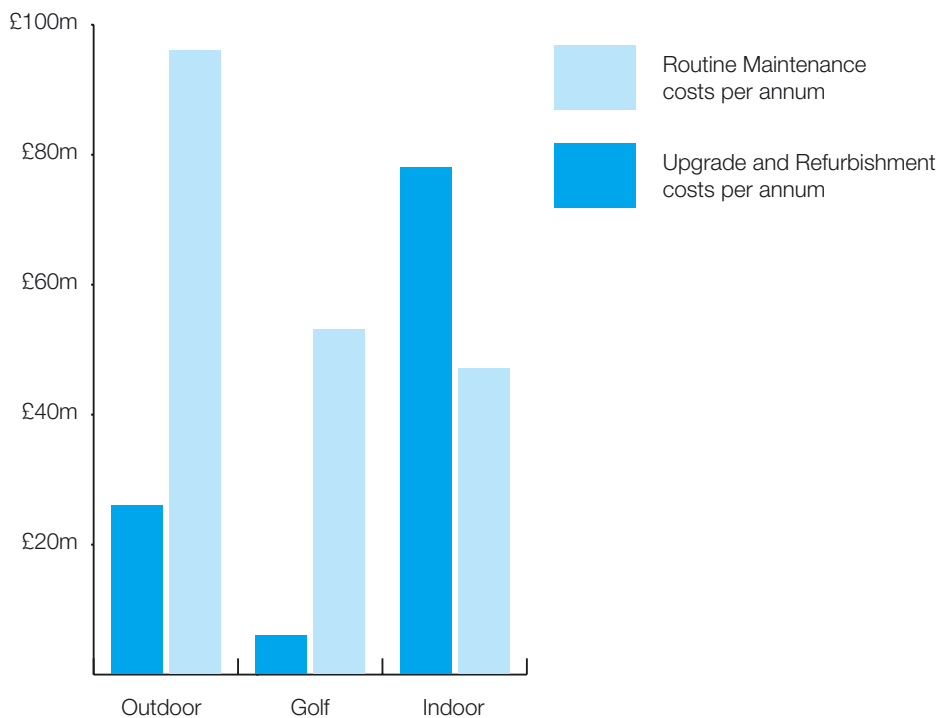
## Financial Implications

160. The audit provides estimates of the capital costs of upgrading facilities to an acceptable standard, and the costs of maintaining facilities to this standard over a 25 year period. Costs were assessed for both routine and periodic maintenance as appropriate for each particular facility type. Periodic maintenance involves work outside the scope of routine maintenance, which might be needed at intervals to ensure the longevity of facilities. This involves work such as replacing artificial grass carpets or replacing a swimming pool plant. These costs have been estimated by the audit on a cumulative basis over a 25 year period. For the sake of simplicity, all costs are based on 2003 prices and do not include an allowance for inflation. A summary of the overall cost estimates is provided in Figures 48 and 49.

**Figure 48: Summary costs**

	Upgrade and Periodic Maintenance over 25 years	Disaggregated Costs per year	Routine Maintenance costs per annum
Outdoor	£639m	£26m	£96m
Golf	£159m	£6m	£53m
Indoor	£1,944m	£78m	£47m
<b>Total</b>	<b>£2,742m</b>	<b>£110m</b>	<b>£196m</b>

Note: Totals may not sum exactly due to rounding

**Figure 49: Disaggregated annual costs**

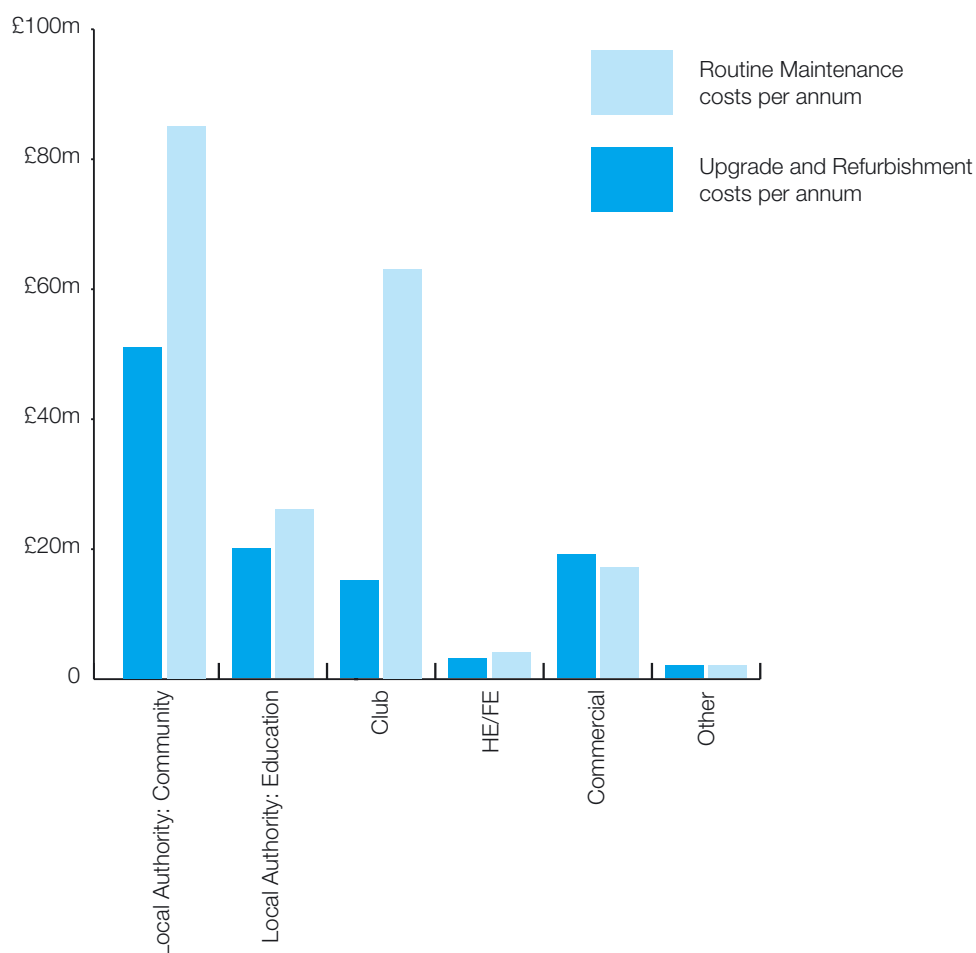
161. Although these costs appear large, they encompass over 6,000 facilities: as well as council run facilities, the audit covers facilities operated by clubs, schools, the further education and commercial sectors. This represents an enormous estate in terms of both buildings and land. It is therefore not surprising that the costs of maintaining this estate are commensurately high. The global figures reflect both the scale of the problem with condition and the sheer size of the stock of facilities. The age of much of this stock, the inadequacy of initial design and construction, and the level of under-investment in both refurbishment and maintenance over a long number of years all contribute to these costs. The identification of these costs needs to be balanced with an understanding of what facilities are now needed to cater for the changing nature of demand for sport. A strategic approach is required in facilities development at a local community level to meet and understand that demand.

162. Even if the required level of funding was available, it would take a considerable period of time to upgrade all substandard facilities. Refurbishment needs to be undertaken on a cyclical basis. To better illustrate the financial implications for each operator, Figure 50 shows total costs broken down for each sector. The costs shown are for upgrade and periodic maintenance split over 25 years. If the upgrade elements were undertaken over a shorter time period then the annual costs would increase proportionally in the early years. For local authorities' community sport and recreation services (excluding education), the required capital investment would be £51m per annum. Figure 51 also highlights that this is not just an issue for local authorities: clubs, further education and the commercial sector account for around one third of required spending.

**Figure 50: Total costs by sector for all facilities**

	Upgrade and Periodic Maintenance over 25 years	Disaggregated Costs per year	Routine Maintenance costs per annum
Local Authority: Community	£1,277m	£51m	£85m
Local Authority: Education	£491m	£20m	£26m
Club	£382m	£15m	£63m
HE/FE	£80.5m	£3m	£4m
Commercial	£469.8	£19m	£17m
Other	£41m	£2m	£2m
<b>Total</b>	<b>£2,742m</b>	<b>£110m</b>	<b>£196m</b>

Note: Totals may not sum exactly due to rounding

**Figure 51: Disaggregated annual costs by operator**

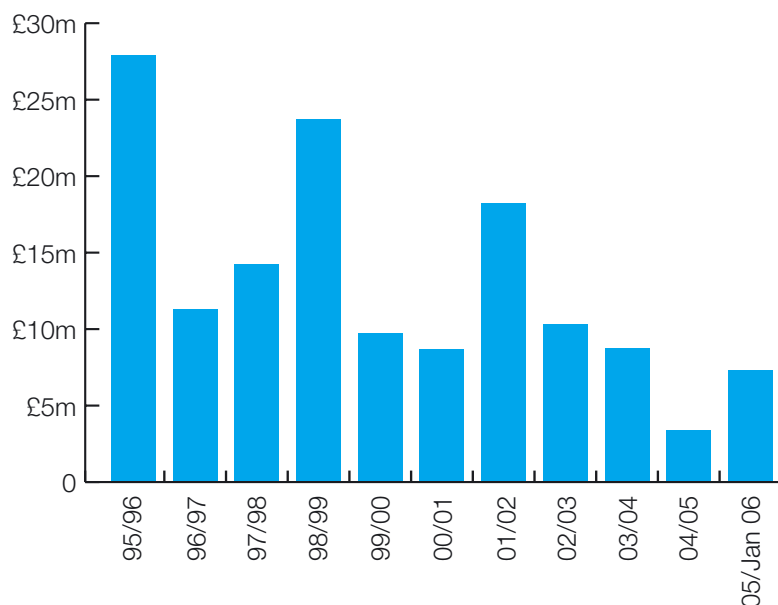
163. The local authority sector is critical as it provides the bulk of the facilities fundamental to community participation in sport – namely pools, halls and pitches. Problems with poor facilities are particularly severe in the local authority and schools sectors. However, the situation with the schools estate is being improved dramatically through the PPP-led school rebuilding programme currently underway. In the club sector, many facility-owning clubs with small memberships lack adequate resources for the upkeep of their facilities.
164. Routine maintenance costs also have to be found from revenue budgets. The maintenance costs shown in Figure 51 have been estimated on the basis of good practice and manufacturer's recommendations – that these are rarely achieved in practice partly explains the poor condition of many facilities. While clubs can often reduce these overheads through input from members, the inadequacy of maintenance budgets is a common refrain from local authority and school operators. Income from hire charges and other sources is rarely sufficient to adequately fund maintenance costs as well as other overheads. With commercial facilities, particularly in the highly competitive health and fitness sector, the importance of maintaining facilities to a high standard to meet customer expectations is recognised and maintenance budgets tend to be set accordingly.
165. The audit highlighted the lack of adequate maintenance regimes as a key factor in substandard facilities. As well as detracting from users' direct experiences of facilities, there are subsequent cost implications if planned and routine maintenance schedules are inadequate. It can result in expensive repair or replacement costs if problems are not tackled at an early stage.

### **Current Expenditure on Sports Facilities**

166. It is difficult to establish how much of the expenditure requirement identified by the audit is currently being spent on the upkeep of sports facilities as data on the actual spend is not available. There are clearly significant sums being spent by facility providers, supported by funding bodies including **sportscotland**.
167. In the ten years since the introduction of the National Lottery, **sportscotland** has made 774 awards for facility projects with a total value of £141m. These awards contributed to various refurbishment, replacement and new build projects with an estimated total value of £458m. Following publication of *The Ticking Time Bomb* report on swimming pools, a funding programme for pool upgrades was established which made 20 awards totalling over £8m for projects with an estimated value of £31m. Under the National & Regional Sports Facility Strategy programme, jointly funded by **sportscotland** and the Scottish Executive, £49m has been allocated to ten projects to establish a network of training and competition venues, primarily for football, athletics and rugby. While a large element of all these programmes has funded new facilities, which will in turn incur future maintenance costs to keep them in good condition, they have also invested significantly in replacing or refurbishing outmoded facilities.

168. Figure 52 shows the annual level of **sportscotland** capital awards for sports facilities through Lottery funded programmes since 1995.

**Figure 52: sportscotland Lottery Fund capital awards for sports facilities 1995-2005**



169. Figure 53 shows data for local authority expenditure on all aspects of sport extracted from the Cultural Statistics in Scotland compiled by the Chartered Institute of Public Finance and Accountancy. Maintenance budgets form only part of these total expenditure figures while the capital expenditure figures include new build as well as major refurbishment projects. It is evident that there is a significant shortfall in what local authorities are able to spend on upgrading and maintaining facilities and what is required.

**Figure 53: CIPFA cultural statistics – expenditure by local authorities on sport 2003/04**

	Total Expenditure	Capital Expenditure
Outdoor	£18m	£9m
Golf	£12m	£0.4m
Indoor	£165m	£33m
<b>Total</b>	<b>£195m</b>	<b>£43m</b>

Note: Totals may not sum exactly due to rounding

170. In the absence of comparable statistics it is impossible to precisely quantify the scale of this funding gap and it will vary from area to area and by type of facility.

### **A Strategic Approach to Investment**

171. The figures in the audit represent a snapshot of facility provision. In reality, many facilities should be replaced rather than refurbished, and the new facilities could differ in scale and specification from those they replace if they are to best meet modern demands. In addition, new facilities may be required in areas of under-provision. The levels and pattern of facility provision should also be assessed in terms of current and future demand, taking account of demographic trends. This requires a strategic approach to facility planning at both national and local levels. All of these factors will influence future investment, and this needs to be borne in mind when considering the audit figures.
172. Local facility strategies will need to establish a balance between quantity and quality of facilities. There are a number of key questions that must be posed at the strategic planning stage.
- Is it better to have fewer facilities of larger scale and higher quality or more facilities which may be smaller and of poorer quality but more accessible to local communities?
  - Is it possible to cater for a wide range of sports in every area or should resources be concentrated on particular sports?
  - What standards of provision are appropriate for different levels of recreational play, training and competition?
  - What type, standard and number of facilities are required to deliver the goals for increasing participation and developing pathways for player development?
  - What pricing policy needs to be adopted which balances the interests of promoting participation, social inclusion, sports development and balancing budgets?

# Planning for the Future

## Introduction

Tackling the issues identified by the audit will require the commitment of all those involved in operating and funding sports facilities. As well as identifying the issues, the audit is intended to stimulate and inform the debate on what needs to be done about these issues. There are a number of areas around which such a debate could usefully focus, and these are summarised below.

### 1. Develop local sports facility strategies

Given the scale and range of facility problems identified in the audit, a strategic approach is essential in order to identify priorities and target investment. Local authorities should be encouraged to develop local sports facility strategies that map out which facilities are required to meet the needs of local communities, how best to meet these needs and what ought to be done in terms of upgrading, replacing and providing new facilities. The data and models provided by the national audit can be adapted by local authorities to produce their own assessments of facility condition. **sportscotland's** facility planning models can be used to inform needs assessments, action plans and prioritised investment programmes. This work should link into the councils' other strategies, including sports development strategies, and the community planning process. A similar approach with playing field strategies is beginning to pay dividends with several councils having produced, or currently working on, such strategies with **sportscotland** support and these are leading to targeted investment in improving playing fields.

At the national level, governing bodies should establish the facility requirements to develop their sports at all levels from grass roots to elite. This would help to inform investment decisions by clubs, local authorities, **sportscotland** and the governing bodies themselves. The Scottish Football Association (SFA) and **sportscotland** have commissioned a national facility strategy for football which is seen as a critical element for delivering the SFA's Youth Action Plan.

### 2. Co-ordinate investment strategies

**sportscotland's** capital funding programme – Building for Sport (BFS) – has already been revised in the light of the audit findings. High priority and increased funding is given to projects involving new or refurbished sports halls, swimming pools, pitches and changing pavilions. Conversion of blaes pitches to natural or synthetic grass is also being given high priority.

Through the National & Regional Sports Facility Programme some £49m has been allocated to new facilities which will include the upgrade or replacement of some of our major national sports facilities, including Meadowbank Sports Centre, the Royal Commonwealth Pool, the Kelvin Hall and Scotstoun Stadium. The programme will also support a regional network of training facilities, primarily for football and athletics, in Aberdeen, Ravenscraig, Stirling and Falkirk. The total value of all these projects is expected to be in excess of £200m.

In view of the problems identified with inadequate levels of maintenance, it may be necessary to review the ways in which refurbishment and new build projects are funded to ensure that allowance is made for adequate maintenance budgets over the life of the facility. Facility operators have to fund 'whole life' costs in addition to the capital costs of construction. Improvements in maintenance practices have been identified as a priority in the audit, and an expansion of quality management accreditation schemes for sports and leisure facilities, such as Quest, could help in this regard.

### **3. Support club development**

sportscotland's Club Development and Clubgolf programmes are seeking to strengthen the club structure for sport in Scotland. The Active Schools programme is also building up links between schools and clubs in order to widen children's experience of sport, develop sporting talent and keep young people participating in sport after they leave school. The Help for Clubs website provides practical advice for sports clubs on how to develop their activities. The viability of clubs depends on their membership levels and the way they are managed. This in turn will impact on their ability to sustain their own facilities to an acceptable standard and to contribute to the incomes of other facility operators through lets.

### **4. Develop partnerships with the Private Sector**

The commercial sector is already competing with the local authority and voluntary club sector in many areas of facility provision, including fitness centres, swimming pools, ice rinks, indoor tennis and five-a-side courts. There could be scope for partnerships between the public and private sectors to secure additional investment in facility provision, subject to necessary safeguards in respect of access and social inclusion. In some rural areas, there are examples where commercially run sports facilities, developed to attract tourists, have attracted financial support from the public sector money in return for allowing the local community access. UK experience of delivering sports facilities through PPP schemes is limited, principally because the value of such projects is insufficient to attract interest from the private sector. However, there may be scope for larger local authorities, or groups of local authorities, putting together a package of projects which could be funded through a PPP scheme. In the further education sector, local authorities have successfully worked with universities and colleges to provide sports facilities which benefit both students and the local community.

### **5. Promote good practice**

There are many examples of well designed and well maintained sports facilities. As users' expectations rise, these standards will need to be extended to more of the facility stock. It is essential that information on good design, materials and construction is available to facility operators if best value is to be secured from investment in facility replacement and refurbishment. Appropriate maintenance regimes need to be budgeted for and implemented if facilities are to meet quality standards over the long term. The main audit reports provide some guidance on maintenance regimes and costs. Additional technical support is available from other sources including STRI (the Sports Turf Research Institute) and SAPCA (the Sports and Play Construction Association).



Good practice is also essential in the marketing of facilities. Facilities need to attract users in order to generate income which in turn helps to pay for their upkeep. A great deal of experience has been built up in this area, particularly with local authorities supported by professional bodies such as ILAM, on subjects such as leisure cards and pricing policies. **sportscotland** publishes an annual survey of local authority leisure charges which is a useful comparative tool. Much can also be learned from the commercial sector in the way it markets its facilities, particularly in the highly competitive health and fitness sector.

**Figure 54: Summary of upgrade and maintenance costs**

	Upgrade costs over 25 years	Periodic Maintenance costs over 25 years	Total Upgrade and Periodic Maintenance costs over 25 years	Total Disaggregated over 25 years costs per annum	Routine Maintenance costs per annum	Upgrade, Periodic and Routine Maintenance costs per annum
Sports Pitches	£209.9m	£60.7m	£270.6m	£10.8m	£65.7m	£76.5m
Multi-Courts/MUGAs	£4.4m	£20.5m	£24.9m	£1.0m	£3.4m	£4.4m
Tennis Courts	£21.9m	£65.0m	£86.9m	£3.5m	£10.7m	£14.2m
Bowling Greens	£14.0m	£0.7m	£14.7m	£0.6m	£15.8m	£16.4m
Athletics Tracks	£1.7m	£9.2m	£10.9m	£0.4m	£0.2m	£0.6m
Outdoor Pavilions	£230.9m	*	£230.9m	£9.2m	*	£9.2m
<b>Outdoor Facilities</b>	<b>£482.8m</b>	<b>£156.1m</b>	<b>£638.9m</b>	<b>£25.6m</b>	<b>£95.8m</b>	<b>£121.4m</b>
Golf Courses	£86.7m	†	£86.7m	£3.5m	£51.4m	£54.9m
Golf Clubhouses	£72.3m	†	£72.3m	£2.9m	£2.1m	£5.0m
<b>Golf Facilities</b>	<b>£159.0m</b>		<b>£159.0m</b>	<b>£6.4m</b>	<b>£53.5m</b>	<b>£59.9m</b>
Sports Halls	£440.7m	£252.4m	£693.1m	£27.7m	£16.5m	£44.2m
Swimming Pools	£297.1m	£153.6m	£450.7m	£18.0m	£15.2m	£33.2m
Fitness Suites	£321.4m	£95.9m	£417.3m	£16.7m	£5.3m	£22.0m
Gymnastic Halls	£41.6m	£13.5m	£55.1m	£2.2m	£0.3m	£2.5m
Indoor Bowls	£60.1m	£41.7m	£101.8m	£4.1m	£2.6m	£6.7m
Squash Courts	£73.4m	£34.2m	£107.6m	£4.3m	£3.3m	£7.6m
Climbing Walls	£6.2m	£3.8m	£10.0m	£0.4m	£0.1m	£0.5m
Ice Rinks	£44.6m	£25.6m	£70.2m	£2.8m	£2.1m	£4.9m
Indoor Tennis	£25.9m	£12.5m	£38.4m	£1.5m	£1.4m	£2.9m
<b>Indoor Facilities</b>	<b>£1,310.5m</b>	<b>£633.3m</b>	<b>£1,943.8m</b>	<b>£77.8m</b>	<b>£47.0m</b>	<b>£124.8m</b>
<b>Total</b>	<b>£1,952.3m</b>	<b>£789.4m</b>	<b>£2,741.7m</b>	<b>£109.7m</b>	<b>£196.3m</b>	<b>£306.0m</b>

Note: Totals may not sum exactly due to rounding

\*Excludes maintenance costs for pavilions

†Periodic maintenance costs for golf facilities included in figures for routine maintenance.

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