

Facilities Planning Model Assessment of Sports Hall Provision for

South Oxfordshire District Council

Bespoke Report

26 January 2024



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EXECUTIVE SUMMARY

Introduction

- 0.1 South Oxfordshire District Council (also referred to as South Oxfordshire or the District) is reviewing its current provision of sports halls and assessing the future demand and level of provision required to 2041.
- 0.2 This report has been prepared based on an assessment using the Sport England Facilities Planning Model (FPM) spatial modelling tool. The FPM study is a quantitative, accessibility and spatial assessment of the supply, demand and access to sports halls.
- 0.3 The FPM modelling runs are to provide:
 - Run 1 a baseline assessment of provision in 2023
 - Run 2 a forward assessment of demand for sports halls and its distribution, based on the projected changes in population between 2023 and 2041 and changes in supply
 - Run 3 an assessment of the impact of the modelled options for changes in supply in South Oxfordshire and Vale of White Horse has in meeting the demand for sports halls and its distribution up to 2041
- 0.4 The main report sets out the full set of findings under each of the seven assessment headings.
- 0.5 The next section of the report provides the headline strategic overview, the key findings and interventions arising from the FPM study on supply, demand and accessibility.

Headline Strategic Overview

- 0.6 The headline strategic overview is that South Oxfordshire's sports halls can comfortably meet current and future demand. However, five sites are uncomfortably busy in 2041 (more than 80% of capacity used).
- 0.7 Retention of all the public leisure centres is important, to ensure that there is access to sports halls for residents and sports clubs in all areas of the District. The educational sector is the largest provider and there is a good level of commitment to community use. Protecting this supply for community use is important but not to become over reliant on it, simply because it is the main provision.
- 0.8 The scale of all the sports halls means they are suitable for community participation. The dimensions of nearly half the supply means they are also suitable for club development. There has been extensive modernisation, but the stock is ageing. There is an increasing need for modernisation as the more recent sports halls age to improve the attractiveness of the facilities. Undertaking planned maintenance together with dilapidation surveys can help to define the scope of refurbishment works.
- 0.9 South Oxfordshire's population and demand for sports halls increase significantly to 2041. A very high proportion of demand is met in all runs, with visits increasing significantly between



2023 and 2041. A large proportion of South Oxfordshire's satisfied demand is met at the District's sports halls, which are in the areas of highest demand. Unmet demand is very low with almost no change across the runs.

- 0.10 Provision of Didcot North East Leisure Facility and replacement of Abbey Sports Centre with a larger sports hall at the scale modelled is supported. Didcot has the greatest demand in the District in 2023 and 2041 but in each run only one sports hall in the town is uncomfortably full. There is a large increase in demand in Berinsfield between 2023 and 2041 but the new sports hall at Abbey Sports Centre will be the joint largest in the District. There is no identified need to increase provision beyond that modelled.
- 0.11 However, there is still a need to increase availability for community use in parts of the District. This will achieve a better overall balance between supply and demand. The educational supply offers the most scope.

Key Findings

- 0.12 The key findings that underpin the headline strategic overview are as follows:
 - 1. In Runs 1 and 3, 23% of the total supply is unavailable for community use in the weekly peak period, in Run 2 it is 22%.
 - 2. Of the 14 main sports halls that opened before 2000, 12 have been or are due to be modernised. None of the sports halls built since 2000 have been refurbished.
 - 3. South Oxfordshire's population is projected to increase by 32% between 2023 and 2041, which generates a 30% increase in demand for sports halls.
 - 4. Demand in Berinsfield increases from 0.8 of a court in 2023 to 3.2 courts in 2041. The increase is the largest in one area of the District because the current geographical distribution of demand in the middle super output area (MSOA) is concentrated in this area.
 - 5. Of the District's residents, 90% are within a 20-minute cycle ride (maximum four miles) of a sports hall in all runs. Willowbrook Leisure Centre, Didcot, has the most South Oxfordshire residents within a 20-minute cycle ride as does Didcot North East Leisure Facility when it is included in Runs 2 and 3. Europa School UK, near Culham, has the fewest in both years.
 - 6. Of South Oxfordshire's demand, 95% is met in Runs 1 and 3 and 96% is met in Run 2. The number of visits met in the weekly peak period increases significantly from 11,837 in Run 1 to 15,398 in Run 2 and 15,373 in Run 3.
 - 7. Across all three runs between 78% and 81% of South Oxfordshire's satisfied demand is met at the District's sports halls.
 - 8. Unmet demand is 5% of demand in Runs 1 and 3, and 4% in Run 2. In terms of courts, it is lowest in Run 1, at 2.0 courts, and highest in Run 3, at 2.5 courts. All the unmet demand is due to residents being too far from a facility except in Run 3, where some of the unmet demand (0.2 of a court) is due to lack of sports hall capacity.



- 9. In Run 3, the location where the most unmet demand can be met is northwest of Wheatley on the A40, at 0.8 of a court. This is an insufficient total to consider the provision of a new sports hall to improve accessibility for residents.
- 10. The overall estimated used capacity of sports halls in the District in the weekly peak period is 53% in Run 1, increasing to 62% in Runs 2 and 3 because of the increase in demand in 2041. The number of visits met at South Oxfordshire sports halls increases with each run.

South Oxfordshire's findings related to Vale of White Horse

- 0.13 The changes in supply in Vale of White Horse also included in the modelling runs are:
 - Runs 2 and 3 St John's Academy, modelled to open in 2025
 - Run 3 Potential Wantage Leisure Facility, modelled to open in 2028
- 0.14 Demand is high in Abingdon, which is close to the South Oxfordshire border, but Abingdon also has an extensive supply of sports halls.
- 0.15 In all runs, the largest amount of South Oxfordshire's exported demand goes to Oxford, but the second largest amount goes to Vale of White Horse. Vale of White Horse accounts for 27% of all exported demand from South Oxfordshire in Run 1 and 30% in Runs 2 and 3. The number of visits to Vale of White Horse increases between Run 1 and Run 2 but decreases between Run 2 and Run 3.
- 0.16 Unmet demand is very low in all runs along both sides of the boundary of South Oxfordshire and Vale of White Horse, although it is slightly higher in Didcot and in Berinsfield in Runs 2 and 3.
- 0.17 The largest amount of imported demand to South Oxfordshire comes from Buckinghamshire in Run 1 but from Vale of White Horse in Runs 2 and 3. The number of visits imported from Vale of White Horse increases between Run 1 and Run 2 and accounts for 29% of all South Oxfordshire's imported demand in Run 1 and 38% in Run 2. In Run 3, the number of imported visits from Vale of White Horse reduces slightly but they account for 37% of all imported demand.

Interventions and Next Steps

- 0.18 The quantitative findings identify that there is sufficient supply across the District to meet demand in 2023 and 2041. However, the distribution of demand and the hours the sports halls are available for community use, especially in the areas of highest demand in Didcot, mean that some sports halls are uncomfortably full at peak times. Therefore, the interventions in order are to:
 - 1. Increase access for community use at key sites and provide a more balanced distribution of met demand across the District
 - 2. Protect the educational sports hall supply for community use via provision of community use agreements (CUAs).



First Intervention

- 0.19 Based on the FPM findings, there are four sites that are uncomfortably full and have scope to increase availability and, therefore, capacity at peak times. The sites are:
 - New Abbey Sports Centre:
 - Five-court hall (40.6m x 21.4m), the joint largest sports hall in the District, which can provide for all sports at the recreational level and for club development
 - o Modelled to open in 2031, has the highest attractiveness in 2041
 - o High demand in Berinsfield in 2041
 - Estimated to be full at peak times and meet the second largest number of visits in Run 3
 - Scope to increase availability by five hours in the weekly peak period and accommodate 200 more visits
 - Didcot Girls' School:
 - Four-court hall (33m x 18m) and activity hall (18m x 10m), allows flexibility in programming activities and maximises occupancy
 - Unmodernised: the main hall is currently 17 years old and the activity hall 43 years old
 - o In the area of highest demand in the District
 - Estimated to be uncomfortably busy at peak times in Runs 2 and 3 and meet the fifth highest number of visits
 - Scope to increase availability by 21 hours in the weekly peak period to reduce the proportion of capacity used to a comfortable level
 - Thame Leisure Centre:
 - Four-court hall (33m x 18m) and activity hall (18m x 10m), allows flexibility in programming activities and maximises occupancy
 - Opened in 1982, main hall due to be modernised in 2025
 - Only public leisure centre in the north of the District and, therefore, very important in terms of accessibility
 - Estimated to be full in Runs 2 and 3 and meet the most visits at a site
 - Scope to increase availability by six hours in the weekly peak period and accommodate 305 more visits
 - Lord William's School is nearby and less utilised; therefore, there is scope to manage demand across the two sites to achieve a more balanced level of community use in Thame



- Wallingford School:
 - Four-court hall (34.5m x 20m), which is the size supported by Sport England and National Governing Bodies for all hall sports and club development
 - o Opened in 1999 and unmodernised
 - o Only sports hall in Wallingford and, therefore, important in terms of accessibility
 - Estimated to be uncomfortably busy at peak times in Runs 2 and 3
 - Scope to increase availability by 13 hours in the weekly peak period to reduce the proportion of capacity used to a comfortable level

Second Intervention

- 0.20 The educational sector is the largest provider of sports halls in South Oxfordshire: at 11 sites in 2023 and 12 sites in 2041, they account for between 65% and 67% of the total sites across the runs. As evidenced by the first intervention, the schools are important in meeting demand.
- 0.21 While there is sufficient capacity to meet demand across the District, this will be jeopardised if access to educational sites is not protected and enhanced selectively. Therefore, it is important to protect the educational sports hall supply for community use. If CUAs are not in place, these need to be negotiated and agreed.
- 0.22 If there are any new or replacement educational sports halls planned, it will be important to negotiate a CUA as part of the planning process. Sport England will advise on the requirements as part of this. Beyond putting the CUA in place, it is essential that South Oxfordshire Council monitors the actual delivery of the CUA.

Next Steps

0.23 These interventions and suggested next steps are based on the FPM findings and should be considered as a key part of the all-round evidence base currently being developed to inform the South Oxfordshire Built Facilities Strategy. Combining the FPM assessment with the wider review of provision will lead to well considered options on the best ways to meet the projected demand for sports halls up to 2041 and beyond.



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1 INTRODUCTION

- 1.1 South Oxfordshire District Council is reviewing the current provision of sports halls and assessing the future provision required up to 2041.
- 1.2 The strategic drivers for the work are to:
 - Support work on South Oxfordshire Leisure Facilities Assessment and Strategy
 - Understand how the current supply of sports halls is meeting the 2023 demand
 - Understand the impact population change has in meeting demand for sports halls and its distribution up to 2041
 - Model options for changes in the supply of sports halls and the impact these changes have in meeting the demand for sports halls and its distribution up to 2041
- 1.3 The outputs from the FPM assessment will inform:
 - 1. South Oxfordshire's strategic planning review of sports halls provision and future strategy
 - 2. A needs assessment and evidence base that contributes to:
 - Securing inward investment for sports halls modernisation and possible further provision
 - Development of planning policies for the provision of indoor sports facilities
- 1.4 The sequence of work is based on assessments known as runs, and these are set out in the Executive Summary.

The Study Area

- 1.5 The assessments include the sports halls and population in the District and the neighbouring local authority areas, which comprise the study area (see Map **1.1**).
- 1.6 A customer's choice of sports halls does not respect local authority boundaries. There may be management, and possibly pricing, incentives for customers to use sports facilities located in their local authority area. Other factors that influence choice of sports hall include:
 - How close the venue is to where residents live or work
 - Other facilities on the same site, such as a gym or studio
 - The programming of the sports halls, particularly that hall sports are available for club sport and community group use at times that fit with the lifestyle of residents
 - The age and condition of the facility and, inherently, its attractiveness
- 1.7 Increasingly, the quality of the sports halls and their offer are of more importance to residents in their choice of venues. New facilities will have a significant draw because of the higher quality of the venues.



- 1.8 In determining the position across the District, it is important to take full account of the sports halls and population in the neighbouring local authority areas. The most attractive facility for some South Oxfordshire residents may be outside the District (known as exported demand). For residents of neighbouring authorities, their most attractive sports hall may be inside South Oxfordshire (known as imported demand).
- 1.9 To take account of these factors, the study area places South Oxfordshire District Council area at its centre and includes neighbouring local authority areas.



Map 1.1: Study Area for the South Oxfordshire Sports Halls Assessment

Report Structure, Content and Sequence

1.10 The findings for the South Oxfordshire assessment are set out in a series of tables for the three runs. This allows a 'read across' to see the specific impact of changes between Runs 1 and 3 and builds up the picture of change.



- 1.11 The headings for each table are:
 - Supply
 - Demand
 - Accessibility
 - Satisfied Demand

- Unmet Demand
- Used Capacity
- Local Share
- 1.12 The terms listed above are defined beneath the tables.
- 1.13 To support the findings, this report also includes maps that show sports hall locations, demand, deprivation, driving and walking coverage, public transport access, exported satisfied demand, unmet demand, imported used capacity and local share.
- 1.14 Where valid, the findings for neighbouring local authorities are set out. A commentary is provided on these comparable findings. For example, some local authorities like to know how their findings on the proportion of satisfied demand compare with those of neighbouring local authorities.
- 1.15 The key findings in each of the sections are numbered and highlighted in bold typeface.
- 1.16 The facilities excluded from the study, with explanations, are listed in Appendix 1. Details of the sports halls in the neighbouring local authority areas for the assessment are set out in Appendix 2. The FPM and its parameters are described in Appendix 3.
- 1.17 All maps for the study are provided in a separate document as layered PDFs.



2 SPORTS HALL SUPPLY

The two largest sports halls in the District are five-court halls, which are both at public leisure centres. There are no double-court sports halls of six or eight courts.

The educational sector provides 11 sports hall sites in 2023 and 12 in 2041. Continuing and increasing access to sports halls for community use in areas of high demand is important, to ensure that there is enough available supply to meet demand. Community use agreements (CUAs) need to be in place.

There is an increasing need for modernisation of the sports halls.

Table 2.1: Supply of Sports Halls in South Oxfordshire by Run

Total Supply	Run 1	Run 2	Run 3
South Oxfordshire	2023	2041	2041
Number of sports halls	24	25	25
Number of sports hall sites	17	18	18
Supply in badminton court equivalents	82.7	86.7	87.7
Supply in courts scaled with hours available in peak period	63.5	67.4	67.9
Supply in visits per week in peak period	23,374	24,814	24,982
Average age of sites	39	55	52
Average age of public sites	37	55	45

Definition of supply – This is the supply or capacity of the sports halls available for community and club use in the weekly peak period. The supply is expressed in number of visits that a sports hall can accommodate in the weekly peak period and in the number of badminton courts.

Weekly peak period – This is when most visits take place and when users have most flexibility to visit. The peak period for sports halls is one hour on weekday mornings, five hours on weekday evenings and eight hours on weekend days. This gives a total of 46 hours per week. The modelling and recommendations are based on the ability of the public to access facilities during this weekly peak period.

2.1 The supply modelled in South Oxfordshire is:

- Run 1 the existing supply: 24 sports halls across 17 sites
- Run 2 25 sports halls across 18 sites, including Didcot North East Leisure Facility, modelled to open in 2028
- Run 3 25 sports halls across 18 sites, including the replacement of New Abbey Sports Centre with a larger sports hall to open in 2031
- 2.2 There are changes in Vale of White of Horse. Runs 2 and 3 include St John's Academy to open in 2025. Run 3 includes Potential Wantage Leisure Facility to open in 2028.



Table 2.2: Details of Sports Halls in South Oxfordshire Included in the Run

Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb	Peak Hours	Total Hours	Capacity (visits)
Abbey Sports Centre (Run 1 and refurb Run 2)	Public	4-court	33 x 18	594	1983	2024	46	46	1,472
Abbey Sports Centre (New) (Run 3 only)	Public	5-court	40.6 x 21.4	869	2031		41	43	1,640
		3-court	27 x 18	486	2015		31.5	31.5	1 0 4 7
Craniord House School	Eau. (in-nouse)	Activity	18 x 10	180	1975		31.5	31.5	1,347
Didect Cirls School	Edu (in house)	4-court	33 x 18	594	2006		25	25	1 260
Didcot Gins School	Edu. (III-House)	Activity	18 x 10	180	1980		25	25	1,209
Didcot Leisure Centre	Public	4-court	33 x 18	594	1985	2023	39	53	1,248
Didcot North East Leisure Facility (Runs 2 and 3)	Edu. (in-house)	4-court	34.5 x 20	690	2028		45	90	1,440
Europa Sabaal J II/	Edu (in house)	4-court	33 x 18	594	1900	1978	25	25	1 100
Europa School OK	Edu. (III-nouse)	Activity	17 x 9	153	1900	1978	25	25	1,190
Henley Leisure Centre (refurb Runs 2 and 3)	Public	4-court	33 x 18	594	1997	2024	46	96	1,472
		4-court	34.5 x 20	690	1980	2010	34	44	1 700
Icknield Community College	Eau. (In-nouse)	Activity	18 x 10	180	1980	2009	34	44	1,720
Lanatras Sahaal	Edu (in house)	4-court	34.5 x 20	690	1984	2007	39	51	1 070
Langue School	Edu. (IN-NOUSE)	Activity	18 x 10	180	1974		39	51	1,979
Lord Williams's School	Edu. (in-house)	4-court	33 x 18	594	1995		36	44	1,152
Maiden Erlegh Chiltern Edge School	Edu. (in-house)	4-court	34.5 x 20	690	1960	2009	36.5	40.5	1,168
Shiplake College	Edu. (in-house)	4-court	33 x 18	594	1974	2007	15	15	480
Theme Leigure Centre (refurth Pupe 2 and 2)	Dublia	4-court	33 x 18	594	1982	2025	40	53.3	2.020
Thanle Leisure Centre (Telurb Runs 2 and 3)	Public	Activity	18 x 10	180	1982		40	53.3	2,030
The Henley College	Edu. (in-house)	3-court	27 x 18	486	1990	2012	17.5	17.5	420
The Oratory Sports Centre	Edu. (in-house)	4-court	33 x 18	594	1989	2014	44	91	1,408
The Park Sports Centre	Public	5-court	42 x 22	924	1985	2007	46	104.6	1,840
Wallingford School	Edu. (in-house)	4-court	34.5 x 20	690	1999		33	37	1,056
Miller demoster la cierco Construe	0	4-court	35 x 20	700	2002		44	93.5	0.100
VVIIIOWDROOK LEISURE CENTRE	Community	Activity	17 x 9	153	2002		44	93.5	2,109



- 2.3 The facilities excluded from the study, with explanations, are listed in Appendix 1.
- 2.4 The total supply of sports halls in Run 1 is the equivalent of 82.7 badminton courts, of which 63.5 are available for community use in the weekly peak period. The total supply increases by 4.0 courts in Run 2 and by a further 1.0 court in Run 3. The available supply increases by 3.9 courts in Run 2 and by a further 0.5 courts in Run 3.
- 2.5 **Key finding 1** is that in Runs 1 and 3, 23% of the total supply is unavailable for community use in the weekly peak period, in Run 2 it is 22%. There is scope to increase capacity for community use.

Providers



Chart 2.1: South Oxfordshire Sports Hall Sites by Operation Type



- 2.6 The five public leisure centres account for 29% of the sites in Run 1 and 28% in Runs 2 and3. The sports halls are available to all residents and provide for recreational pay-and-play, organised team and individual sports activities.
- 2.7 The educational sector is the largest provider with 11 sites in Run 1, which is 65% of the total, and 12 sites in Runs 2 and 2, which is 67% of the total. All the educational sports halls are manged in-house. They will be available for organised use by sports clubs and community groups but not for pay-and-play.
- 2.8 Willowbrook Leisure Centre is a community site operated by Didcot Town Council for Didcot residents.

Scale

- 2.9 The District does not have a double-court sports hall of six or eight courts, which would be suitable for multiple sports activities and hosting of events. The largest sports halls have five courts, which can accommodate multiple sports activities at the same time, and are at the public leisure centres:
 - The Park Sports Centre can accommodate 1,840 visits in the weekly peak period
 - New Abbey Sports Centre a modelled option in Run 3 only, and can accommodate 1,640 visits in the weekly peak period
- 2.10 In Run 2 there are 15 four-court halls, of which:
 - Six have dimensions of 34.5/35m x 20m (including Didcot North East Leisure Facility not open in Run 1). This is the size that Sport England and the National Governing Bodies for hall sports recommend for a four-court hall. These dimensions can cater for all hall sports at the community level of participation and also meet the requirements for hall sports club development.
 - Nine have dimensions of 33m x 18m (one is replaced in Run 3 by the five-court hall at Abbey Sports Centre). This size of sports hall, while meeting the requirements for most indoor hall sports at the community level of participation, has less space between and behind individual courts.
- 2.11 In all runs, there are seven sites that have both a main hall and an activity hall. At five venues the activity hall is 18m x 10m and at two venues it is 17m x 9m.
- 2.12 The at-one-time capacity of a main hall with marked courts is eight people per badminton court (the equivalent area of a badminton court is 144 sqm). For an activity hall, this increases to 15 people per court. Therefore, an activity hall has almost double the capacity of a main hall with the same dimensions.
- 2.13 Where a sports hall site has a main hall and an activity hall, the activities for the two halls are programmed together. The main hall can accommodate big/high space activities such as basketball and badminton, which have low participant numbers. The activity hall can accommodate smaller space activities such as martial arts, which have higher participant numbers.



Availability



Chart 2.2: Availability of South Oxfordshire Sports Halls by Site Type*

* Abbey Sports Centre repeated, as 46 hours available in Runs 1 and 2 and 41 hours in Run 3

- 2.14 In Runs 1 and 2, three sports hall sites are available for the maximum 46 hours in the weekly peak period and they are all public leisure centres. In Run 3 the replacement sports hall at Abbey Sports Centre is modelled to be available for 41 hours. The other public leisure centres are available for 39 hours and 40 hours in the weekly peak period.
- 2.15 Willowbrook Leisure Centre (community site) is available for 44 hours in the weekly peak period and has the largest capacity in the District, at 2,109 visits in the weekly peak period.
- 2.16 Each educational provider determines the policy, type of community use and hours available in the weekly peak period:
 - In Runs 2 and 3, Didcot North East Leisure Facility is modelled to be available for 45 hours
 - The Oratory Sports Centre has the next most availability for an educational site, at 44 hours
 - Six educational sites are available for between 32 hours and 39 hours
 - Two educational sites are available for 25 hours
 - The Henley College has a low availability, at 17.5 hours, and has the least capacity, at 420 visits in the weekly peak period
 - Shiplake College has the lowest availability, at 15 hours, and has the second smallest capacity, at 480 visits in the weekly peak period
- 2.17 Overall, there is a strong commitment to community use at ten of the educational sites in Runs 2 and 3, which are available for more than half of the weekly peak period. However, there is still scope to increase the hours available and enhance capacity.



Age

- 2.18 The oldest sports hall is Europa School UK, which was built in 1900 and refurbished in 1978. The second oldest sports hall is Maiden Erlegh Chiltern Edge School, which opened in 1960 and was modernised in 2009.
- 2.19 The main sports halls were then opened as follows:
 - One in 1974
 - Seven in the 1980s (including Abbey Sports Centre)
 - Four in the 1990s
 - Three since 2000 (excluding Didcot North East Leisure Facility modelled to open in 2028 and replacement of Abbey Sports Centre modelled to open in 2031)
- 2.20 The most recent sports hall to open is Cranford House School in 2015.
- 2.21 In Run 1 (2023) the average age of all the sites is 39 years, and 37 years for the public leisure centres. In Run 2 (2041) the average age of all the sites and the public leisure centres increases to 55 years. The average age is the same because Didcot North East Leisure Facility is included and is an educational site. In Run 3 (2041) the average age of the public leisure centres is less, at 45 years, because of the replacement of Abbey Sports Centre and this also reduces the average age of all the sites to 52 years.
- 2.22 Key finding 2 is that of the 14 main sports halls that opened before 2000, 12 have been or are due to be modernised. None of the sports halls built since 2000 have been refurbished.
- 2.23 There is an increasing need for modernisation as the more recent sports halls age. Undertaking planned maintenance together with dilapidation surveys can help to define the scope of refurbishment works.
- 2.24 Modernisation is defined as one or more of the following:
 - Upgrade of the sports hall floor to a sprung timber floor
 - Upgrade of the lighting in the sports hall
 - Modernisation of the changing accommodation
- 2.25 These refurbishments increase the attractiveness of sports halls to users. There are also minor works, such as redecoration or replacing line markings, that do not alter the attractiveness of the halls.

Sports Hall Locations

2.26 There are only six sports hall sites in the northern half of the District (see Map **2.1**). There are seven sites that are close to the boundary with Vale of White Horse, of which four are in Didcot.







3 DEMAND FOR SPORTS HALLS

In the study area, South Oxfordshire has the second highest percentage increase in demand for sports halls between 2023 and 2041, after Vale of White Horse. Demand is projected to decrease in Reading, Oxford and West Berkshire.

Demand is highest in Didcot in 2023 and 2041. There are extensive areas of the District with no or very little demand.

Table 3.1: Demand for Sports Halls in South Oxfordshire by Run

Total Demand	Run 1	Run 2	Run 3
South Oxfordshire	2023	2041	2041
Population	151,383	199,377	199,377
Visits demanded per week in peak period	12,415	16,116	16,116
Demand in courts with comfort factor included	42.2	54.7	54.7
% of demand in the 10% most deprived LSOAs nationally	0%	0%	0%

Definition of total demand – This represents the total demand for sports halls by gender and for six age bands from 0 to 79 and is calculated as the percentage of each age band/gender that participates. This is added to the frequency of participation in each age band/gender to arrive at a total demand figure, which is expressed in visits in the weekly peak period and number of badminton courts. The FPM parameters for the percentage and frequency of participation, for gender and age, are calculated from Sport England's Active Lives survey up to March 2020 and set out in Appendix **3**.

- 3.1 Demand is calculated from the resident population. South Oxfordshire and Vale of White Horse District Councils provided their population forecasts by middle super output area (MSOA) for 2023 and 2041, and both are greater than the Office for National Statistics 2018based population projection.
- 3.2 **Key finding 3** is that South Oxfordshire's population is projected to increase by 32% between 2023 and 2041, which generates a 30% increase in demand for sports halls.

Demand in the Study Area

- 3.3 In the study area, Vale of White Horse has the largest increase in demand between 2023 and 2041, at 34%.
- 3.4 In the other neighbouring local authority areas, which are based on the Office for National Statistics 2018-based population projection, the change is significantly smaller than in South Oxfordshire. Cherwell has the next largest increase at 4%. Demand is projected to decrease in Reading by 1%, Oxford by 5% and West Berkshire by 6%.



Table 3.2: Demand for Sports Halls by Area and Run

Demand in Court Equivalents Considering a 'Comfort' Factor	Run 1	Runs 2-3	% Change
Area	2023	2041	2023–2041
South Oxfordshire	42.2	54.7	30%
Cherwell	43.7	45.4	4%
Oxford	46.2	43.8	-5%
Vale of White Horse	40.6	54.5	34%
Buckinghamshire UA	156.0	156.4	0%
Reading UA	49.2	48.6	-1%
West Berkshire UA	44.4	41.8	-6%
Wokingham UA	50.3	52.1	3%

Geographical Distribution of Demand

- 3.5 In 2023 Didcot has the greatest demand totalling 9.8 courts across 11 square kilometres within the District (see Map **3.1**). It has the highest density of demand at 1.5 courts and 1.7 courts per square kilometre (light blue squares). There are also four square kilometres with between 1.0 court and 1.4 courts per square kilometre (medium blue squares).
- 3.6 Demand in other areas of the District is:
 - Thame 3.5 courts across four square kilometres with a maximum density of 1.4 courts per square kilometre (medium blue square)
 - Henley-on-Thames 3.0 courts across four square kilometres with a maximum density of 0.8 courts per square kilometre (dark blue squares)
 - Wallingford 2.7 courts across five square kilometres with a maximum density of 1.2 courts per square kilometre (medium blue square)
 - Chinnor 2.2 courts across four square kilometres with a maximum density of 1.2 courts (medium blue square)
- 3.7 Demand in the remainder of the District is mostly less than half a court per square kilometre (purple squares) with a few square kilometres of between 0.5 courts and 0.8 courts per square kilometre (dark blue squares).
- 3.8 Key finding 4 is that demand in Berinsfield increases from 0.8 of a court in 2023 to 3.2 courts in 2041 (yellow square in Map **3.2**). This increase is the largest in one area of the District because the current geographical distribution of demand in the MSOA is concentrated in this area.



- 3.9 The other large increases in demand per square kilometre between 2023 and 2041 are in:
 - Watlington from 0.6 courts to 1.3 courts (medium blue square)
 - Long Wittenham (on the border with Vale of White Horse) from 0.3 courts to 1.0 court (medium blue square)
- 3.10 In 2041 demand in other areas of the District is (see Map **3.2**).
 - Didcot large increase to 11.1 courts across 11 square kilometres with a maximum density of 1.9 courts per square kilometre (light blue square)
 - Thame small increase to 3.7 courts across four square kilometres with a maximum density of 1.6 courts per square kilometre (light blue square)
 - Henley-on-Thames very small increase to 3.1 courts across four square kilometres with a maximum density of 0.9 courts per square kilometre (dark blue square)
 - Wallingford small increase to 3.1 courts across five square kilometres with a maximum density of 1.3 courts per square kilometre (medium blue square)
 - Chinnor small decrease to 2.0 courts across four square kilometres with a maximum density of 1.1 courts (medium blue square)
- 3.11 In the remainder of the District, there are some small increases in demand but the density remains at less than 0.8 of a court per square kilometre.

Deprivation

- 3.12 None of the District's demand is in the 10% most-deprived lower super output areas (LSOAs) nationally.
- 3.13 The areas of highest deprivation in the District are Berinsfield and northwest Didcot (see Map **3.3**).
- 3.14 The Index of Multiple Deprivation (IMD) score is used in the FPM to limit whether people will use commercial facilities (see Appendix **3** for definition of IMD). A weighting factor is incorporated to reflect the cost element often associated with commercial facilities. The assumption is that the higher the IMD score (less affluence), the less likely the population of the LSOA would choose to go to a commercial facility.



Map 3.1: Demand for Sports Halls in 2023 (Run 1)

FPM peak period demand aggregated at 1km square grid level expressed as number of badminton courts and shown thematically (colours).





Map 3.2: Demand for Sports Halls in 2041 (Run 3)

FPM peak period demand aggregated at 1km square grid level expressed as number of badminton courts and shown thematically (colours).





Map 3.3: Deprivation in 2019 (Runs 1 to 3)

Deprivation shown thematically (colours) at lower super output area level by decile.





4 ACCESSIBILITY

Just under half of the population are within a 20-minute walk of a sports hall in all runs. Of the District's residents, 90% are within a 20-minute cycle ride of a sports hall in all runs. All the sports halls are within a five-minute walk of an existing bus stop.

Table 4.1: Travel Mode of South Oxfordshire Demand to Sports Halls by Run

Accessibility	Run 1	Run 2	Run 3
South Oxfordshire	2023	2041	2041
% of population without access to a car	10%	10%	10%
% of population within a 20-minute walk of a sports hall	47%	47%	47%
% of population within a 20-minute cycle ride of a sports hall	90%	90%	90%
% of demand satisfied when travelled:			
on foot	9%	9%	9%
by public transport or bicycle	4%	4%	4%
by car	87%	87%	87%

Definition of accessibility – The FPM uses a distance decay function where the further a user is from a facility, the less likely they will travel. A description of the distance decay function is set out in Appendix 3. On average, a 20-minute travel time accounts for approximately 90% of visits to a hall.

4.1 In South Oxfordshire, 10% of the population do not have access to a car. This is lower than the national average of 23% and the regional average of 16%.

Walking Access

- 4.2 Of the District's residents, 47% are within a 20-minute walk (approximately one mile) of a sports hall in all the runs.
- 4.3 In Run 1 residents in the Woodcote area and a small area of Didcot and Henley-on-Thames are within a 20-minute walk of two sports hall sites (light orange areas in Map **4.1**).
- 4.4 In Runs 2 and 3 the area of Didcot within a 20-minute walk of two sports hall sites increases to the north of Didcot where Didcot North East Leisure Facility is modelled to open in 2028 (see Map **4.2**).
- 4.5 However, not all residents in these areas will walk to a sports hall and some will travel further. Travel to sports halls on foot is estimated to account for 9% of all journeys in all runs.



Cycle Access

Table 4.2: South Oxfordshire Residents within 20-minute Cycle of Site by Run

Within 20 minutes Cycle		South Oxfordshire Residents		
Sites	Operation	2023	2041	
Didcot North East Leisure Facility	Educational	-	47,947	
Willowbrook Leisure Centre	Community	37,010	47,947	
Didcot Leisure Centre	Public	36,845	44,828	
Didcot Girls School	Educational	35,678	42,895	
Wallingford School	Educational	22,616	27,115	
Abbey Sports Centre	Public	8,153	23,732	
Henley Leisure Centre	Public	19,078	19,492	
The Henley College	Educational	16,321	16,807	
Thame Leisure Centre	Public	15,537	16,780	
Lord Williams's School	Educational	15,334	16,591	
Shiplake College	Educational	15,758	16,250	
The Park Sports Centre	Public	10,434	15,673	
Cranford House School	Educational	11,762	12,619	
Langtree School	Educational	10,985	11,398	
Maiden Erlegh Chiltern Edge School	Educational	11,306	11,050	
Icknield Community College	Educational	5,158	9,999	
The Oratory Sports Centre	Educational	9,231	9,459	
Europa School UK	Educational	2,952	8,844	

- 4.6 **Key finding 5** is that of the District's residents, 90% are within a 20-minute cycle ride (maximum four miles) of a sports hall in all runs. Willowbrook Leisure Centre, Didcot, has the most South Oxfordshire residents within a 20-minute cycle ride as does Didcot North East Leisure Facility when it is included in Runs 2 and 3. Europa School UK, near Culham, has the fewest in both years.
- 4.7 In Run 1 access is greatest, at five or more sites within a 20-minute cycle ride (pink areas in Map **4.3**), for residents who are:
 - Along the border around Oxford
 - On the border with Vale of White Horse next to Abingdon
 - South of Henley-on-Thames on the border with Reading and Wokingham
- 4.8 Access by bicycle is lowest, with no sports halls within a 20-minute cycle ride, in the northeast and east of the District in the rural areas around:
 - Nettlebed
 - Stadhampton
 - Lewknor and Chinnor



- 4.9 In Runs 2 and 3 the addition of Didcot North East Leisure Facility improves access in Didcot from four to five sports hall sites within a 20-minute cycle ride (see Map **4.4**). However, not all residents in these areas will cycle to a sports hall and some will travel further.
- 4.10 The sports halls that are closest to the national cycle network (NCN) are:
 - Thame Leisure Centre on NCN 57
 - Didcot Leisure Centre within a quarter of a mile of NCN 544
 - Didcot North East Leisure Facility within a quarter of a mile of NCN 5
 - Willowbrook Leisure Centre within a quarter of a mile of NCN 5
 - Wallingford School within a third of a mile of NCN 5
 - Lord Williams's School within half a mile of NCN 57
 - Park Sports Centre about half a mile from NCN 57
 - Maiden Erlegh Chiltern Edge School within a mile of NCN 5

Public Transport Access

- 4.11 All the sports halls are within, or on the edge of, a five-minute walk of an existing bus stop (pink areas in Map **4.5**). Travel to all sports halls by bus should be possible.
- 4.12 Willowbrook Leisure Centre and The Henley College are within a 15-minute walk of a railway station (purple areas).
- 4.13 It should be noted that while most District residents can access a public transport stop, it may not mean they can get to a sports hall within 20 minutes from home via a combination of walking and public transport. Also, in rural areas the service may not be regular. Travel to sports halls by public transport or bicycle is estimated to account of 4% of all journeys in all runs.

Driving Access

- 4.14 Travel to sports halls by car is estimated to account for 87% of all journeys in all runs.
- 4.15 In Run 1 residents in the northeast of the District have access to the fewest number of sports halls by car. Around Watlington, Thame and Chinnor residents can access between one and four sports hall sites within a 20-minute drive (yellow areas in Map **4.6**). There are three South Oxfordshire sports hall sites in this area and there are no sports halls close to the South Oxfordshire boundary in Buckinghamshire.
- 4.16 Access is greatest along the border with Vale of White Horse, around Abingdon, and on the border with Reading and Wokingham where residents can drive to more than 20 sites within 20 minutes (purple areas).
- 4.17 In Runs 2 and 3 the addition of Didcot North East Leisure Facility increases access for residents east of Didcot to between ten and 14 sports hall sites within a 20-minute drive (light blue area in Map **4.7**). Access in the rest of the District is unchanged.



Map 4.1: Walking Access to Sports Halls in Run 1 (2023)

FPM coverage shown thematically (colours) at output area level expressed as the number of sports hall sites within 20 minutes' walk of output area centroid.





Map 4.2: Walking Access to Sports Halls in Run 3 (2041)

FPM coverage shown thematically (colours) at output area level expressed as the number of sports hall sites within 20 minutes' walk of output area centroid.





Map 4.3: Cycling Access to Sports Halls in Run 1 (2023)

FPM coverage shown thematically (colours) at output area level expressed as the number of sports hall sites within 20 minutes' cycle of output area centroid.





Map 4.4: Cycling Access to Sports Halls in Run 3 (2041)

FPM coverage shown thematically (colours) at output area level expressed as the number of sports hall sites within 20 minutes' cycle of output area centroid.





Map 4.5: Walking Access to Public Transport in Runs 1 to 3 (2023 and 2041)

Areas within walking time shown thematically (colours) from bus, coach and tram stops, and railway, metro and underground stations.





Map 4.6: Driving Access to Sports Halls in Run 1 (2023)

FPM coverage shown thematically (colours) at output area level expressed as the number of sports hall sites within 20 minutes' drive of output area centroid.





Map 4.7: Driving Access to Sports Halls in Run 3 (2041)

FPM coverage shown thematically (colours) at output area level expressed as the number of sports hall sites within 20 minutes' drive of output area centroid.





5 SATISFIED DEMAND FOR SPORTS HALLS

A very high proportion of South Oxfordshire's demand is met. The number of visits satisfied increases significantly between 2023 and 2041 because of the increase in demand.

Most demand is met within the District but around 20% is exported. The greatest amount of exported demand is to Oxford, and this doubles between 2023 and 2041.

Table 5.1: Satisfied Demand for Sports Halls in South Oxfordshire by Run

Satisfied Demand	Run 1	Run 2	Run 3
South Oxfordshire	2023	2041	2041
Number of visits met per week in peak period	11,837	15,398	15,373
% of total demand satisfied	95%	96%	95%
Number of visits retained per week in peak period	9,632	12,039	12,082
Demand retained as a % of satisfied demand	81%	78%	79%
Number of visits exported per week in peak period	2,205	3,359	3,291
Demand exported as a % of satisfied demand	19%	22%	21%

Definition of satisfied demand – This represents the proportion of total demand that is met by the capacity at the sports halls from South Oxfordshire residents who live within the driving, walking or public transport travel time of a sports hall. This includes sports halls located both within and outside District.

5.1 **Key finding 6** is that of South Oxfordshire's demand 95% is met in Runs 1 and 3 and 96% is met in Run 2. The number of visits met in the weekly peak period increases significantly from 11,837 in Run 1 to 15,398 in Run 2 and 15,373 in Run 3.

Table 5.2: Percentage of Satisfied Demand for Sports Halls Area and Run

% of Demand Satisfied	Run 1	Run 2	Run 3
Area	2023	2041	2041
South Oxfordshire	95%	96%	95%
Cherwell	94%	93%	93%
Oxford	92%	92%	92%
Vale of White Horse	95%	96%	96%
Buckinghamshire UA	96%	96%	96%
Reading UA	93%	93%	93%
West Berkshire UA	95%	95%	95%
Wokingham UA	97%	97%	97%
South East Region	94%	94%	94%
England	91%	90%	90%



- 5.2 Satisfied demand in the neighbouring local authorities is also high and exceeds 90% in all runs. Satisfied demand is highest in Wokingham at 97% in all runs. Met demand is lowest in Oxford but still very high at 92% in all runs.
- 5.3 Details of the sports halls in the neighbouring local authority areas are listed in Appendix 2.

Retained Demand

- 5.4 A subset of the satisfied demand findings shows how much of South Oxfordshire residents' demand is met at sports halls within the District. This assessment is based on the travel time from South Oxfordshire's sports halls and residents in the District participating at these halls. This is called retained demand.
- 5.5 The increase in demand between 2023 and 2041 and the inclusion of Didcot North East Leisure Facility in Runs 2 and 3 mean that the number of visits retained in the weekly peak period in South Oxfordshire increases from 9,632 in Run 1 to 12,039 in Run 2. There is a further increase in Run 3 to 12,082 visits retained. This increase is because of the inclusion of the new larger Abbey Sports Centre, which can meet more visits and is more attractive to local residents.
- 5.6 However, as a proportion of the District's satisfied demand, retained demand decreases from 81% in Run 1 to 78% in Run 2 and 79% in Run 3.
- 5.7 **Key finding 7** is that across all three runs between 78% and 81% of South Oxfordshire's satisfied demand is met at the District's sports halls, which are in the areas of highest demand.

Exported Demand

5.8 The residue of satisfied demand, after retained demand, is exported demand. This is based on South Oxfordshire residents who live within the travel time of a sports hall outside the District and use that sports hall.

Table 5.3: Export Destination of South Oxfordshire Satisfied Demand by Run

Export (visits per week peak period)	RUN 1	RUN 2	RUN 3
Destination	2023	2041	2041
Cherwell	8	12	12
Oxford	704	1,490	1,449
Vale of White Horse	601	1,010	983
Buckinghamshire UA	505	524	523
Reading UA	152	129	129
West Berkshire UA	83	74	74
Wokingham UA	125	96	96
Outside Study Area	28	24	24




Chart 5.1: Percentage of Exported Satisfied Demand by Destination and Run

- 5.9 In Run 1, 19% of South Oxfordshire's satisfied demand is met at sports halls in neighbouring local authority areas. In Run 2 exported demand increases to 22% of the District's met demand because of the increase in demand. However, in Run 3 exported demand decreases to 21% because of the attractiveness of the new larger Abbey Sports Centre.
- 5.10 In all runs the largest amount of export demand in the weekly peak period is to Oxford.
 - Run 1 704 visits are exported, accounting for 32% of all exported demand
 - Run 2 the number of visits increases to 1,490 and as a proportion of all exported demand increases to 44%
 - Run 3 the number of visits decreases to 1,449 but still accounts for 44% of all exported demand
- 5.11 The Park Sports Centre is the only sports hall site in the northwest of South Oxfordshire, while there are 12 sites in the small land area of Oxford, most pf which are quite close to the District boundary.
- 5.12 Demand exported to Vale of White Horse is the second highest in all runs:
 - Run 1 601 visits, accounting for 27% of all exported demand
 - Run 2 increases to 1,010 visits and 30% of all exported demand
 - Run 3 decreases to 983 visits but still accounts for 30% of all exported demand
- 5.13 Exported demand is shown spatially in Map **5.1** for Run 1, in Map **5.2** for Run 2 and in Map **5.3** for Run 3.



Map 5.1: Export of South Oxfordshire Satisfied Demand for Sports Halls in Run 1 (2023)

FPM exported demand between South Oxfordshire and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).





Map 5.2: Export of South Oxfordshire Satisfied Demand for Sports Halls in Run 2 (2041)

FPM exported demand South Oxfordshire and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).





Map 5.3: Export of South Oxfordshire Satisfied Demand for Sports Halls in Run 3 (2041)

FPM exported demand South Oxfordshire and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).





6 UNMET DEMAND FOR SPORTS HALLS

Unmet demand is very low. It totals between 2.0 courts in Run 1 and 2.5 courts in Run 3. Unmet demand due to lack of sports hall capacity is 0.2 of a court in Run 3.

Unmet Demand	Run 1	Run 2	Run 3
South Oxfordshire	2023	2041	2041
Number of visits unmet per week in peak period	578	718	744
Unmet demand as a % of total demand	5%	4%	5%
Equivalent in courts with comfort factor	2.0	2.4	2.5
Court equivalents of unmet demand due to:			
Facility too far away, of which:	2.0	2.4	2.3
% without access to a car	85%	85%	85%
% with access to a car	15%	15%	15%
Lack of facility capacity, of which:	0.0	0.0	0.2
% without access to a car	-	-	75%
% with access to a car	-	-	25%

Table 6.1: Unmet Demand for Sports Halls in South Oxfordshire by Run

Definition of unmet demand – This has two parts; demand for sports halls that cannot be met because:

- 1. There is too much demand for any particular sports hall within its travel time area and there is a lack of capacity; or
- 2. The demand is located too far from any sports hall that it can use (taking into account deprivation) or reach (taking into account car access) and is then classified as unmet demand.
- 6.1 **Key finding 8** is that unmet demand is 5% of demand in Runs 1 and 3, and 4% in Run 2. In terms of courts, it is lowest in Run 1, at 2.0 courts, and highest in Run 3, at 2.5 courts. All the unmet demand is due to residents being too far from a facility except in Run 3, where some of the unmet demand (0.2 of a court) is due to lack of sports hall capacity.
- 6.2 In all runs, residents without access to a car account for 85% of the unmet demand that is too far from a facility.
- 6.3 Demand located too far from a sports hall will always exist because it is not possible to achieve complete spatial coverage whereby all areas of a local authority are within walking distance of a sports hall and not everyone will want, or is able, to drive the full distance.



Location of Unmet Demand

- 6.4 In Run 1 unmet demand is distributed in very low values across the District (see Map **6.1**). The highest density of unmet demand is 0.1 of a court per square kilometre (purple squares) in the following areas:
 - Didcot (two squares)
 - Thame
 - South of Elsfield (on the border with Oxford)
 - Chinnor
 - Wallingford
 - Goring
- 6.5 In other areas of the District unmet demand is less than 0.1 of a court, or there is no unmet demand.
- 6.6 In Run 2 the highest density of unmet demand is 0.2 of a court in Berinsfield (medium blue square in Map **6.2**). Across the rest of the District, provision of Didcot North East Leisure Facility does not change the distribution of unmet demand from that in Run 1.
- 6.7 In Run 3 replacement of Abbey Sports Centre does not change the distribution of unmet demand from that in Run 2 (see Map **6.3**).

Meeting Unmet Demand

- 6.8 Analysis of the spread of unmet demand shows the level of unmet demand that would be met by a potential new facility in any given location. This 'reachable unmet demand' is calculated for each one-kilometre grid square and figures are in Map **6.4** for Run 3.
- 6.9 **Key finding 9** is that, in Run 3, the location where the most unmet demand can be met is northwest of Wheatley on the A40, at 0.8 of a court. This is an insufficient total to consider the provision of a new sports hall to improve accessibility for residents.

For context, the minimum number of reachable courts required to justify a new sports hall would be three.



Map 6.1: Unmet Demand for Sports Halls in Run 1 (2023)

FPM unmet demand aggregated at 1km square grid level expressed in units of badminton courts and shown thematically (colours).





Map 6.2: Unmet Demand for Sports Halls in Run 2 (2041)

FPM unmet demand aggregated at 1km square grid level expressed in units of badminton courts and shown thematically (colours).





Map 6.3: Unmet Demand for Sports Halls in Run 3 (2041)

FPM unmet demand aggregated at 1km square grid level expressed in units of badminton courts and shown thematically (colours).





Map 6.4: Reachable Unmet Demand for Sports Halls in Run 3 (2041)

FPM reachable unmet demand aggregated at 1km square grid, shown thematically (colours) and expressed in units of badminton courts.

- 1		
	Facilities Included in Run	02030303030203030.708070502020403030.20204030.30.20204030.30.40.30.30.20.30.20.20.20.10.10.20.20.20.10.10.20.20.40.40.50.50.40.40.40.40.40.40.40.40.40.40.40.40.40
	 Sports Hall Location 	0.103030204020404050709070203050003030204030302030303030303030302020203030303
	 New Sports Hall Location 	0203030304040405060810904040405060505050202060201020302020202020202020202020202020202
	Boundaries	0202010302040103060504 98090 030506040302020302030201020204020303030303030302010202040202030304040304
	South Oxfordshire	0.10.20.30.20.10.40.10.20.2 1 0.41.11.10.8 1 1 0.70 0.80.60.30.30.30.20 20.20.30.20.20.20.30.30 40.20.20.30.30.30.10.20.10.20.30.30.30.30.30.40.30.40.30.40.30.40.30.40.40.40.40.40.40.40.40.40.40.40.40.40
	Neighbouring Local	0,10,20,20,10, $\frac{3}{2}$ 0,20,40,60,60,60,60,91,31,50,922,1,0,00,60,20,400,0,50,30,30,20,50,20,20,30,30,40,40,30,20,50,30,20,30,30,20,30,20,30,30,30,30,10,10,20,20,20,20,20,20,20,20,20,20,20,20,20
	Authorities	0.2 0.2 0.2 0.1 0.4 0.4 0.4 0.6 0.8 0.9 0.8 1.4 41.1 0.7 1 0.4 0.3 0.4 0.5 0.5 0.4 0.1 0.4 0.4 0.4 0.5 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.2 0/1 0.1 0.2 0.3 0.3 0.3 0.3 0.3 0.3 0.1 0.2 0.2 0.2 0.3 0.3 0.4 0.5 0.5 0.4 0.1 0.4 0.4 0.4 0.4 0.5 0.5 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.2 0/1 0.1 0.2 0.3 0.3 0.3 0.3 0.3 0.3 0.2 0.2 0.2 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3
		0.20.10.20.10(10.20.30.50.50.40.40.5)(111000.91.10.30.50.40.40.20.40.40.50.40.20.30.30.30.30.30.20.30.30.20.20.10.10.20.30.40.30.40.30.40.30.40.30.20.10(20.20.10.20.30.30.20.20.10.20.30.30.20.20.10(20.20.20.10.20.20.10.20.30.20.20.10.20.30.20.20.10.20.20.10.20.20.10.20.20.10(20.20.20.20.10.20.20.20.20.20.10.20.20.20.20.20.20.20.20.20.20.20.20.20
	Reachable Unmet Demand per sq. km	0.201010101010204060102030514071108080603040303040303050302020202030202030101020303030303030303
	expressed as units of badminton courts	0.2 0.1 0.2 0.1 0/1 0.3 0.4 0.4 0.3 0.3 0.4 0.6 0.5 03 1 0 7 0.7 0.6 0.5 0.4 0.4 0.3 0.3 0.4 0.5 0.4 0.2 0.3 0.4 0.3 0.2 0.3 0.2 0.2 0.3 0.2 0.1 0.2 0.3 0.2 0.2 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2
	1.4 to 1.5	020302070.10.30.40.40.40.30.50.50.40.70.40.50.30.50.50.40.20.30.40.30.40.30.20.10.30.30.30.20.20.30.30.20.20.30.30.30.20.20.20.30.30.20.20.20.20.20.20.20.20.20.20.20.20.20
	1.2 to 1.3	0703030202020204030303040203050702030 0505050503030404040301020102030203030303030302020202020202
	1.0 to 1.1	0.20.30.30.30.30.30.40.30.30.3250.60.50.3070.30.60.40.50.40.50.40.40.30.20.20.20.20.30.10.20.30.30.40.20.30.2020.20.20.20.20.30.30.20.20.20.20.30.30.20.20.20.20.30.30.20.20.20.20.20.30.30.20.20.20.20.20.20.20.30.30.20.20.20.20.20.20.20.20.20.20.20.20.20
	0.8 to 0.9	0.2 0.2 0.3 0.3 0.4 0.4 0.3 0.4 0.3 0.4 0.5 0.5 0.2 0.2 1.1 0.1 0.5 0.5 0.3 0.2 0.3 0.5 0.3 0.4 0.3 0.3 0.2 0.2 0.3 0.2 0.2 0.3 0.4 0.3 0.3 0.2 0.2 0.3 0.4 0.3 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2
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	0.4 to 0.5	0.2 0.2 0.2 0.2 0.3 0.2 0.3 0.2 0.5 0.4 0.3 0.5 0.5 0.4 0.4 0.5 0.4 0.5 0.6 0.4 0.3 0.3 0.4 0.3 0.3 0.2 0.3 0.3 0.3 0.3 0.4 0.3 0.2 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2
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	0.2 to 0.3	0.2 0.2 0.2 0.3 0.2 0.2 0.1 0.2 0.4 0.2 0.3 0.3 0.3 0.2 0.4 0.3 0.3 0.3 0.5 0.4 0.3 0.3 0.4 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.2 0.1 0.2 0.1 0.2 0.2 0.2 0.3 0.3 0.2 0.3 0.6 0.7 0.6 0.5 South Oxfordshire
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	Additional material @Snext England 2022	0303010202020201020302020202010101010102020303020203020203030303
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	miles	0.4 0.2 0.2 0.3 0.2 0.2 0.1 0.2 0.3 0.4 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2



7 USED CAPACITY OF FACILITIES

There is sufficient sports halls capacity in the District to comfortably meet demand at peak times. However, because of the distribution of demand, two sites are uncomfortably full in Run 1 and this increases to five sites in Runs 2 and 3.

Imported demand accounts for just over 20% of the capacity of the District's sports halls in all runs. The number of visits imported increases between 2023 and 2041 because of the increase in demand. The largest amount of imported demand comes from Buckinghamshire in Run 1 and Vale of White Horse in Runs 2 and 3.

Table 7.1: Used Capacity of Sports Halls in South Oxfordshire by Run

Used Capacity	Run 1	Run 2	Run 3
South Oxfordshire	2023	2041	2041
Number of visits used of capacity per week in peak period	12,355	15,331	15,354
% of overall capacity of halls used	53%	62%	62%
Number of visits imported per week in peak period	2,723	3,292	3,271
As a % of used capacity	22%	21%	21%
Difference between visits imported and exported	518	-67	-19

Definition of used capacity – This is a measure of usage at sports halls and estimates how well used or how full facilities are. The FPM is designed to include a 'comfort factor', beyond which the venues are too full. When the venues are too full, the time taken to change the sports hall programme and equipment starts to impinge on the activity time itself and the changing and circulation areas become congested. In the model, Sport England assumes that usage above 80% of capacity is busy and the sports hall is operating at an uncomfortable level.

- 7.1 In all runs there is sufficient sports hall capacity to meet demand.
- 7.2 Key finding 10 is that in Run 1 the overall estimated used capacity of sports halls in the District in the weekly peak period is 53%, increasing to 62% in Runs 2 and 3 because of the increase in demand in 2041. The number of visits met at South Oxfordshire sports halls increases with each run.



Table 7.2: Used Capacity of South Oxfordshire Sports Halls by Run

Lland Oanacht in Maaldu Daala Davied			Run 1		Run 2		Run 3			
Used Capacity in weekly reak renod			2023		2041		2041			
Sites	Operation	Year Built	Year Refurb	Peak Hours	Proportion	Visits	Proportion	Visits	Proportion	Visits
Abbey Sports Centre	Public	1983	2024	46	57%	839	100%	1,472	-	-
Abbey Sports Centre (New)	Public	2031		41	-	-	-	-	100%	1,640
Cranford House School	Educational	2015		31.5	50%	674	60%	808	59%	795
Didcot Girls School	Educational	2006		25	62%	787	82%	1,041	80%	1,015
Didcot Leisure Centre	Public	1985	2023	39	97%	1,211	71%	886	70%	874
Didcot North East Leisure Facility	Educational	2028		45	-	-	69%	994	68%	979
Europa School UK	Educational	1900	1978	25	13%	156	30%	359	29%	347
Henley Leisure Centre	Public	1997	2024	46	68%	1,001	94%	1,384	94%	1,384
Icknield Community College	Educational	1980	2010	34	34%	587	55%	949	54%	932
Langtree School	Educational	1984	2007	39	28%	554	30%	594	29%	574
Lord Williams's School	Educational	1995		36	59%	680	57%	657	57%	657
Maiden Erlegh Chiltern Edge School	Educational	1960	2009	36.5	35%	409	32%	374	32%	374
Shiplake College	Educational	1974	2007	15	26%	125	23%	110	23%	110
Thame Leisure Centre	Public	1982	2025	40	84%	1,705	100%	2,030	100%	2,030
The Henley College	Educational	1990	2012	17.5	78%	328	59%	248	59%	248
The Oratory Sports Centre	Educational	1989	2014	44	29%	408	25%	352	25%	352
The Park Sports Centre	Public	1985	2007	46	45%	828	42%	773	41%	754
Wallingford School	Educational	1999		33	70%	739	90%	950	87%	919
Willowbrook Leisure Centre	Community	2002		44	63%	1,329	65%	1,371	65%	1,371



Site Utilisation Factors

- 7.3 There is wide variation in the used capacity of the sports halls in South Oxfordshire. In Run 1 the lowest proportion of capacity used is 13%, and the highest is 97%. In Runs 2 and 3 the lowest proportion of capacity used is 25%, and the highest is 100%.
- 7.4 There are several reasons for the variation in estimated used capacity by site. Often it is difficult to identify which of these reasons apply because several could be interacting simultaneously, but variation is generally caused by any of the following factors:
 - Type of site operator (public/educational/community)
 - Public leisure centres are more actively managed than educational sites and have a 'draw effect' because they are available to all residents for pay-and-play as well as club development.
 - Age of the hall and its 'attractiveness'
 - To assess their comparative attractiveness to customers, all sports halls in the model are weighted to reflect their age and whether they have been modernised, and how actively managed they are (educational sites managed in-house have a lower weighting).
 - The effect of refurbishment at a site decreases as the site gets older, and it becomes less attractive than a site built in the same year as the refurbishment.
 - The quality and range of the offer are considered by customers. These features are of increasing importance to customers and affect participation levels. Desirable features include a modern sports hall with a sprung timber floor, good-quality lighting, modern changing rooms, and other facilities on site such as a studio and/or a gym. Residents may travel further to use a sports hall with this all-round offer rather than participate at the sports hall closest to where they live.
 - Location of demand and competition from other sites
 - Where sports halls are located close together, the demand for these sites is shared between the venues and this contributes to the level of used capacity at each.
 - Capacity
 - When reviewing the estimated used capacity, it is important to consider the capacity of the site and not just the proportion in isolation. Centres with the same or similar proportions of capacity used can accommodate very different levels of demand.
 - Imported demand
 - If residents in neighbouring local authority areas participate at a site in South Oxfordshire, their usage becomes part of the used capacity of the District's sports halls.
- 7.5 The estimated used capacity should be reviewed with the facility operator.



- 7.6 Due to the distribution of demand, two sites are uncomfortably full (more than 80% of capacity used) in Run 1; this increases to five sites in Runs 2 and 3. The sports halls that are uncomfortably full are:
 - Run 1:
 - o Didcot Leisure Centre
 - o Thame Leisure Centre
 - Runs 2 and 3:
 - o Abbey Sports Centre (existing and replacement sports hall)
 - o Didcot Girls School
 - Henley Leisure Centre
 - o Thame Leisure Centre
 - Wallingford School
- 7.7 The reasons for high utilisation and opportunities for reducing the proportion of capacity used are:
 - Abbey Sports Centre:
 - Only public site in the area
 - Existing sports hall refurbished in 2024 and new sports hall modelled to open in 2031; they are attractive because of their age and condition
 - o Located in Berinsfield where there is a large increase in demand in 2041
 - Scope to increase availability at the replacement sports hall by up to five hours in the weekly peak period
 - Didcot Girls School:
 - Main hall opened in 2006; it is attractive because of its age and condition
 - o Located in the area of highest demand in the District
 - Scope to increase availability by up to 21 hours in the weekly peak period
 - Didcot Leisure Centre:
 - o Only public site in Didcot
 - o Refurbished in 2023; it is very attractive in Run 1
 - Located in Didcot, where demand is very high
 - Utilisation is lower in Runs 2 and 3 (71% and 70% respectively) because of the inclusion of Didcot North East Leisure Facility, which is more attractive and shares the demand in the area
 - Henley Leisure Centre:
 - Only public site in the southeast of the District
 - o Refurbished in 2024; it is attractive because of its age and condition



- Thame Leisure Centre
 - Only public site in the north of the District
 - Refurbished in 2025; it is attractive because of its age and condition
 - Scope to increase availability by up to six hours in the weekly peak period to reduce the proportion of capacity used
- Wallingford School
 - Only sports hall in Wallingford, therefore has no competition for demand in the area
 - Third smallest capacity in the District; meets fewer visits than the other busy sites
 - o Scope to increase availability by up to 13 hours in the weekly peak period
- 7.8 Didcot North East Leisure Facility, which is the committed educational site to open in 2028, has an estimated utilisation at peak times of 69% in Run 2 and 68% in Run 3. The sports hall is busy but not uncomfortably full. Its provision increases supply in Didcot by four courts to a total of 16 courts and two activity halls across four sites.
- 7.9 The Park Sports Centre has the lowest used capacity of the public sites in all runs:
 - Estimated utilisation at peak times of between 41% and 45%
 - Only site in the northwest of the District but located in an area of low demand
 - The fourth largest capacity in the District but, of the public sites, meets the fewest visits
- 7.10 The sports halls with the lowest proportion of used capacity in the District are:
 - Run 1 Europa School UK, at 13%
 - Oldest sports hall site in the District; is the least attractive site to residents
 - o Located in an area of very low demand in 2023
 - Competition from a good supply of sports halls over the border in Abingdon
 - Runs 2 and 3 Shiplake College, at 23% (Run 1 26%)
 - Built in 1974 and refurbished in 2007; is very unattractive because the positive the impact of the modernisation has ceased
 - Located in an area of low demand in 2023 and 2041
- 7.11 Of the remaining sports halls, the range of utilisation at is:
 - Run 1 28% at Langtree School, to 78% at The Henley College
 - Runs 2 and 3 25% at The Oratory Sports Centre, to 65% at Willowbrook Leisure Centre

Imported Demand

7.12 Imported demand is 22% of the used capacity of the District's sports halls in Run 1. The proportion decreases to 21% in Run 2, but the number of visits in the weekly peak period



increases from 2,723 in Run 1 to 3,292 in Run 2. Imported demand is similar in Run 3 at 3,271 visits, accounting for 21% of the used capacity.

Import (visits per week peak period)	Run 1	Run 2	Run 3
Origin	2023	2041	2041
Cherwell	29	32	32
Oxford	333	252	260
Vale of White Horse	798	1,238	1,209
Buckinghamshire UA	1,007	1,128	1,129
Reading UA	273	321	321
West Berkshire UA	182	184	184
Wokingham UA	83	114	114
Outside Study Area	17	23	23

Table 7.4: Import Origin of Visits to Sports Halls in South Oxfordshire by Run





- 7.13 The number of visits imported from Buckinghamshire increases from 1,007 in Run 1 to 1,128 in Run 2. However, as a proportion of the total imported demand it decreases from 37% in Run 1 to 34% in Run 2.
- 7.14 The number of visits imported from Vale of White Horse increases from 798 in Run 1 to 1,238 in Run 2. This accounts for 29% of all imported demand in Run 1 and 38% in Run 2. Run 2 includes the opening of Didcot North East Leisure Facility, which is very close to the Vale of White Horse boundary.



- 7.15 In Run 3 the number of visits imported from Buckinghamshire is similar to that in Run 2 but visits reduce slightly from Vale of White Horse. Vale of White Horse accounts for 37% of all imported demand in Run 3 and Buckinghamshire accounts for 35%.
- 7.16 Imported demand is shown spatially in Map **7.1** for Run 1 (2023), in Map **7.2** for Run 2 (2041) and in Map **7.3** for Run 3 (2041).

Import/Export Balance

- 7.17 In Run 1 South Oxfordshire is a net importer of demand, importing 518 more visits than it exports in the weekly peak period.
- 7.18 In Run 2 South Oxfordshire is a net exporter of demand but the difference is small at 67 more visits exported than imported in the weekly peak period. In Run 2 demand exported and met in Oxford increases, while imported demand from Oxford decreases.
- 7.19 In Run 3, South Oxfordshire exports just 19 more visits than it imports.



Map 7.1: Imported Demand for Sports Halls in South Oxfordshire in Run 1 (2023)

FPM imported demand between South Oxfordshire and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).





Map 7.2: Imported Demand for Sports Halls in South Oxfordshire in Run 2 (2041)

FPM imported demand between South Oxfordshire and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).





Map 7.3: Imported Demand for Sports Halls in South Oxfordshire in Run 3 (2041)

FPM imported demand between South Oxfordshire and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).





8 LOCAL SHARE OF FACILITIES

Local share in the District is good in 2023 but is poorer in 2041 because of the large increase in demand and the ageing of the facilities between the two years.

In 2023 South Oxfordshire has the second highest provision of courts per population in the study area. In both runs in 2041 it has the third lowest provision because the increase in population in the District is significantly larger than in all the other local authority areas, apart from Vale of White Horse.

Table 8.1: Local Share of Sports Halls in South Oxfordshire by Run

Local Share	Run 1	Run 2	Run 3
South Oxfordshire	2023	2041	2041
Local share of sports halls relative to demand in local area $<1 = poorer, >1 = better$	1.03	0.56	0.59

Definition of local share – This helps show which areas have a better or worse share of facility provision. It considers the size, availability and quality of facilities, and travel modes. Local share is useful for looking at 'equity' of provision. Local share is the available capacity at the locations that people want to visit in an area (taking into account deprivation and attraction), divided by the demand for that capacity in the area. Local share decreases as facilities age.

- 8.1 Local share shows how access and share of sports halls differs across the local authority area, as follows:
 - A value of 1 means that there is enough suitable supply reachable by the demand.
 - A value of less than 1 indicates a shortage of suitable supply that can be reached by the demand.
 - A value greater than 1 indicates a surplus of suitable supply that can be reached by the demand.
- 8.2 Overall, local share identifies the areas of the local authority where the share of sports halls is better and worse. The intervention is to try and increase access to sports halls in areas where residents have the lowest share of sports halls.
- 8.3 In Run 1 when demand is lowest there is sufficient suitable provision that South Oxfordshire residents can access, with local share of 1.03.
- 8.4 In Runs 2 and 3 demand is greater. Supply has increased with the provision of Didcot North East Leisure Facility and there is also modernisation of three sports halls, but the facilities have aged. Local share is 0.56 in Run 2 and slightly better in Run 3, at 0.59, when Abbey Sports Centre is replaced with a newer larger sports hall.



Geographical Distribution of Local Share

- 8.5 In Run 1 (see Map **8.1**):
 - Local share is best at 1.4 (medium blue squares):
 - Around Berinsfield, where demand can access Abbey Sports Centre and sports halls in Vale of White Horse
 - In Woodcote and Checkendon where demand is low and there are two sports hall sites
 - Local share is poorest at 0.6 and 0.7 (yellow squares) in:
 - o Dunsden Green, on the edge of Reading where local share is poorer
 - o Tokers Green, on the edge of Reading where local share is poorer
 - o Wallingford, where there is only one sports hall
- 8.6 In Run 2 (see Map **8.2**):
 - Local share is best around Woodcote and Checkendon, at 0.9 (light green squares), where demand is still low.
 - Local share is poorest in Berinsfield, Shillingford, Thame, Tokers Green and Wallingford, at 0.4 (orange squares).
 - The biggest changes in local share between Run 1 and Run 2 are seen in areas where demand has increased significantly.
- 8.7 In Run 3 (see Map **8.3**):
 - Local share improves by 0.1 in quite a few areas of the District because of the impact of replacing Abbey Sports Centre.
 - Local share remains best in Woodcote and Checkendon, at 1.0 (dark green squares).
 - Local share is poorest in Thame and Tokers Green, at 0.4 (orange squares).



Comparative Measure of Provision

Table 8.2: Badminton Court Equivalents per 10,000 Population by Area and Run

Courts per 10,000 Population	Run 1	Run 2	Run 3
Area	2023	2041	2041
South Oxfordshire	5.5	4.3	4.4
Cherwell	4.1	3.7	3.7
Oxford	4.5	4.6	4.6
Vale of White Horse	7.2	5.5	5.7
Buckinghamshire UA	5.2	5.0	5.0
Reading UA	3.1	3.0	3.0
West Berkshire UA	4.9	5.0	5.0
Wokingham UA	5.3	5.0	5.0
South East Region	4.5	4.2	4.3
England	4.0	3.8	3.8

- 8.9 In Run 1 South Oxfordshire has 5.5 courts per 10,000 population. This is the second highest level of provision in the study area and is greater than the regional and England-wide averages in 2023.
- 8.10 In Run 2 South Oxfordshire's provision decreases to 4.3 courts per 10,000 population. Even though the capacity has increased by four courts, the proportional increase in population between 2023 and 2041 is larger. This level of provision is lower than in five neighbouring local authority areas and higher than in two.
- 8.11 In South Oxfordshire and Vale of White Horse the population increase between 2023 and 2041 is significantly larger than in the other neighbouring local authority areas. However, South Oxfordshire's level of provision remains greater than the regional and England-wide averages in 2041.
- 8.12 In Run 3 South Oxfordshire has 4.4 courts per 10,000 population. Its overall ranking is unchanged from Run 2.
- 8.13 Vale of White Horse has the best level of provision of courts per 10,000 population across the study area in all runs, at:
 - Run 1 7.2 courts
 - Run 2 5.5 courts
 - Run 3 5.7 courts

^{8.8} A comparative measure of sports hall provision is the number of badminton court equivalents per 10,000 population.



- 8.14 Reading has the lowest level of provision in all three runs, at 3.1 courts per 10,000 population in Run 1, and 3.0 courts in Runs 2 and 3.
- 8.15 The findings on badminton court equivalents per 10,000 population are set out because some local authorities like to compare their quantitative provision with that elsewhere; however, this does not set a standard of provision, and should not be used as such.
- 8.16 The supply and demand assessment for sports halls in South Oxfordshire is based on the findings from the previous six headings analysed in this report.



Map 8.1: Local Share of Sports Halls in Run 1 (2023)

FPM share of badminton courts divided by demand aggregated at 1km square and shown thematically (colours).





Map 8.2: Local Share of Sports Halls in Run 2 (2041)

FPM share of badminton courts divided by demand aggregated at 1km square and shown thematically (colours).





Map 8.3: Local Share of Sports Halls in Run 3 (2041)

FPM share of badminton courts divided by demand aggregated at 1km square and shown thematically (colours).





APPENDIX 1: FACILITIES EXCLUDED

The audit excludes facilities that are deemed to be either for private use, too small, closed or there is a lack of information, particularly relating to hours of use. The following facilities were deemed to fall under one or more of these categories and therefore excluded from the modelling:

Site	Facility Type	Reason for Exclusion
Barley Hill Primary School	Activity	Private use
Didcot Girls' School	Activity	Private use
Gillotts School	Activity	Principal hall too small
Great Milton C of E School	Activity	Private use
Holton Village Hall	Activity	Principal hall too small
Moulsford School	Main	Private use
Nettlebed Community School	Activity	Principal hall too small
Peppard War Memorial Hall	Activity	Principal hall too small
RAF Benson	Main	Private use
Regal Sports & Recreation Centre	Activity	Principal hall too small
South Moreton School	Activity	Principal hall too small
St Andrews Church Hall	Activity	Principal hall too small
Sunnyside	Activity	Principal hall too small
The Marlborough Club	Activity	Principal hall too small
The Oratory Preparatory School	Main	Private use
The Oxford City Indoor Arena (Closed)	Main x2	Closed
Watlington Primary School	Activity	Private use
Wheatley C of E Primary School	Activity	Principal hall too small
Willowcroft Community School	Activity	Principal hall too small
Woodeaton Manor School	Activity	Private use



APPENDIX 2: FACILITIES IN NEIGHBOURING LOCAL AUTHORITY AREAS INCLUDED IN THE ASSESSMENT

Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb
Cherwell			_			
Bicester Leisure Centre	Public	4-court	33 x 18	594	1970	2013
Blessed George Napier School	Edu. (in-house)	4-court	33 x 18	594	2005	
Cooper School	Edu (in houso)	4-court	33 x 18	594	1006	
		Activity	18 x 10	180	1000	
Dewey Sports Centre	Edu. (3rd party)	4-court	33 x 18	594	1976	2014
Kidlington and Gosford Leisure Centre	Edu. (3rd party)	4-court	37 x 18	670	2009	2015
North Oxfordshire Academy	Edu (3rd party)	4-court	35 x 18	630	1073	2014
	Luu. (oru party)	Activity	18 x 10	180	1010 2	2014
Sibford School	Edu. (in-house)	4-court	32 x 18	576	1990	
Spiceball Leisure Centre	Public	8-court	37 x 33	1221	2009	
The Disector School	Edu (in bourse)	4-court	33 x 18	594	1980	
	Luu. (III-House)	Activity	20 x 10	200		
The Warriner School	Edu (in bourse)	4-court	33 x 18	594	1989	2001
	Edu. (IN-NOUSE)	Activity	24 x 10	240		2001
	Edu. (in-house)	4-court	35 x 20	690	1985	
Wykham Park Academy		Activity	18 x 10	180		2007
		Activity	18 x 10	180		
Oxford						
Brookes Sport Headington	Edu. (in-house)	5-court	40 x 23	900	1994	
Ferry Leisure Centre	Edu. (3rd party)	4-court	35 x 20	690	1976	2018
Headington School	Edu. (in-house)	4-court	33 x 18	594	1994	
Lova Boola and Loigura Contra	Dublia	8-court	40 x 35	1380	1000	0000
Leys Pools and Leisure Centre	Public	Activity	17 x 9	153	1966	2023
Magdalen Centre for Sport	Edu. (in-house)	4-court	35 x 20	690	2001	
Nuffield Health	Commercial	4-court	35 x 20	690	2000	
Oxford High School	Edu. (in-house)	4-court	35 x 20	690	2003	2007
Oxford Spiros Acadomy	Edu (in house)	4-court	35 x 20	690	1090	2006
	Luu. (III-House)	Activity	18 x 10	180	1900	2000
		4-court	35 x 20	690		
Oxford University Sports Complex	Edu. (in-house)	4-court	35 x 20	690	2018	
		Activity	18 x 17	306		
Due St Antony School	Edu (in bourse)	4-court	33 x 18	594	2008	
	⊏au. (in-nouse)	Activity	17 x 9	153	2008	
St Gregory The Great Catholic School	Edu. (in-house)	4-court	35 x 20	690	2007	
The Oxford Academy	Edu. (in-house)	4-court	35 x 20	690	2011	



Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb
Vale of White Horse						
Abingdon and Witney College	Edu. (in-house)	4-court	33 x 18	594	1990	2009
Abingdon Dronoroton (Cohool	Edu. (in-house)	4-court	35 x 20	690	0007	
Abingdon Preparatory School		Activity	18 x 10	180	2007	
Abingdon School and Sports Centre	Edu. (in-house)	4-court	35 x 20	690	1960	2008
Aureus School	Edu. (in-house)	3-court	32 x 19	608	2017	
Faringdon Leisure Centre	Edu. (3rd party)	6-court	35 x 27	932	1990	2023
Eitzbarn a Sabaal	Edu (in bourse)	4-court	33 x 18	594	1050	
	Edu. (IN-Nouse)	Activity	18 x 10	180	1909	
John Mason Sobool	Edu (in bourse)	4-court	35 x 20	690	1060	
JOHN MASON SCHOOL	Edu. (IN-NOUSE)	Activity	18 x 10	180	1900	
Kennington Village Hall	Other	3-court	27 x 18	486	1988	
King Alfred's Assessmy (Mast Site)	Edu (in bourse)	4-court	35 x 20	690	0010	
King Allred's Academy (West Site)	Edu. (IN-Nouse)	Activity	18 x 10	180	2010	
		4-court	33 x 18	594	1075	
Larkmead School	Edu. (In-nouse)	Activity	18 x 10	180	1975	
		4-court	33 x 18	594	1005	
Matthew Arnold School	Eau. (In-house)	Activity	18 x 10	180	1995	
Our Lady's Abingdon School	Edu. (3rd party)	4-court	35 x 20	690	1978	
Potential Wantage Leisure Facility	Public	4-court	35 x 20	690	2028	
Radley College Sports Centre	Edu. (in-house)	5-court	41 x 21	867	1985	2013
St Hugh's School	Edu. (in-house)	6-court	27 x 35	932	1970	
St John's Academy	Edu. (in-house)	4-court	35 x 20	690	2025	
	Edu. (in-house)	4-court	35 x 20	690	1007	
The Manor Preparatory School		Activity	18 x 18	324	1907	
The School of St. Lalen and St. Katherine		6-court	35 x 27	932	0016	
The School of St Helen and St Kathanne	Edu. (In-house)	Activity	18 x 17	306	2016	
Wantage Leisure Centre	Public	4-court	33 x 18	594	1976	2005
White Horse Leisure & Tennis Centre	Public	8-court	40 x 35	1380	2002	
Reading UA						
Blessed Hugh Faringdon Catholic School	Edu. (in-house)	4-court	35 x 20	690	1980	
John Madejski Academy	Edu. (3rd party)	4-court	35 x 20	690	2007	
		4-court	33 x 18	594		
Kendrick School	Edu. (in-house)	Activity	18 x 10	180	2005	
		Activity	18 x 10	180		
Meadway Sports Centre	Public	4-court	35 x 20	690	1977	2022
Morgan Sports Centre	Edu. (in-house)	4-court	35 x 20	690	2000	2009
Prospect School	Edu. (in-house)	4-court	35 x 20	690	2006	
Rivermead Leisure Complex	Public	6-court	26 x 36	936	2023	
South Reading Leisure Centre	Public	4-court	35 x 20	690	1985	2014
The Wren School	Edu. (in-house)	4-court	33 x 18	594	2019	
University Of Reading Sports Park	Edu. (in-house)	8-court	40 x 35	1380	1989	



Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb
Aylesbury Vale (Buckinghamshire UA)						
Ashfold School	Edu. (in-house)	4-court	35 x 20	690	1947	
Aylesbury Grammar School	Edu. (in-house)	4-court	33 x 19	627	2003	
Aylesbury High School	Edu. (in-house)	4-court	33 x 18	594	2005	
		Activity	18 x 10	180		
Aylesbury Vale Academy	Edu. (in-house)	4-court	35 x 20	690	2013	
Beachborough School	Edu. (in-house)	3-court	27 x 18	486	1993	
Cattaslaa Sabaal	Edu (in house)	4-court	33 x 18	594	2000	2014
	Luu. (III-nouse)	Activity	18 x 10	180	2000	2014
Grange School (Aylesbury)	Edu. (in-house)	4-court	32 x 18	576	1976	
		4-court	35 x 20	690	2006	
John Colet School	Edu. (in-house)	Activity	17 x 9	153		
		Activity	17 x 9	153		
Mandeville School	Edu. (in-house)	4-court	35 x 20	690	1978	2004
		4-court	33 x 18	594		
Royal Latin School	Edu. (in-house)	Activity	18 x 10	180	2003	
		Activity	18 x 10	180		
Sir Honry Floyd Grammar School	Edu (in house)	4-court	33 x 18	594	1000	
	Luu. (III-House)	Activity	18 x 10	180	1990	
Sir Thomas Fremantle School	Edu. (in-house)	4-court	33 x 18	594	2017	
St Michael's Catholic School	Edu. (in-house)	4-court	33 x 18	594	2019	
Stoke Mandeville Stadium & Olympic Lodge	Other	12-court	60 x 35	2070	2003	
Stowe School	Edu. (in-house)	4-court	35 x 20	690	1974	
Swanbourne House School	Edu. (in-house)	3-court	27 x 18	486	1920	
The Buckingham School	Edu. (in-house)	4-court	33 x 18	594	1978	2007
Thornton College	Edu. (in-house)	4-court	33 x 18	594	1985	
Waddesdon Church of England School	Edu (in-house)	4-court	35 x 20	690	2004	
		Activity	20 x 10	200	2004	



Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb
West Berkshire UA						
Bradfield College Sports Complex	Edu. (3rd party)	8-court	36 x 32	1152	1994	
Cotswold Sports Centre	Public	3-court	27 x 18	486	1982	2010
Downland Sports Centre	Edu. (3rd party)	3-court	27 x 18	486	1983	
Elstree School	Edu. (in-house)	4-court	35 x 20	690	2000	
Hungerford Leisure Centre	Public	4-court	35 x 20	690	1997	2004
Kennet Leisure Centre	Public	4-court	32 x 18	576	2011	
		4-court	33 x 18	594	1970	
	Edu. (In-house)	Activity	14 x 14	199		
Newbury College	Edu. (in-house)	4-court	33 x 18	594	2012	
Northcroft Leisure Centre	Public	5-court	32 x 26	832	1980	
Nuffield Health (Newbury)	Commercial	3-court	27 x 18	486	1998	
Pangbourne College	Edu. (in-house)	4-court	35 x 20	690	1984	
		4-court	35 x 20	690	1961	
Park House School	Edu. (In-nouse	Activity	18 x 10	180		
		4-court	35 x 20	690	2010	
St Bartholomew's School	Edu. (in-house	Activity	18 x 10	180		
St Gabriel's School	Edu. (in-house)	4-court	33 x 18	594	2004	
		4-court	35 x 20	690	2011	2012
Trinity Academy Campus	Edu. (in-house	Activity	18 x 10	180		
		Activity	18 x 10	180		
Willink Leisure Centre	Edu. (3rd party)	4-court	35 x 20	690	1989	2001
Wokingham UA				<u>.</u>		
Arborfield Green Leisure Centre	Edu. (3rd party)	8-court	40 x 35	1380	2017	
Bulmershe Leisure Centre	Public	4-court	35 x 20	690	2020	
Crosfields School	Edu. (3rd party)	5-court	41 x 21	867	1999	
Finchampstead Baptist Church Centre	Other	4-court	35 x 20	690	2010	
Loddon Valley Leisure Centre	Public	10-court	40 x 38	1520	1987	1996
	Edu. (in-house)	4-court	35 x 20	690	1000	
Maiden Erlegn School		Activity	18 x 10	180	1996	
Reading Blue Coat School	Edu. (in-house)	4-court	33 x 18	594	2004	
Ryeish Green Sports Hub	Public	4-court	35 x 20	690	2017	
		4-court	32 x 18	576	1070	
St Crispin's Leisure Centre	Edu. (3rd party)	Activity	17 x 15	255	1978	
		4-court	35 x 20	690		
The Emmbrook School	Edu. (in-house)	Activity	22 x 12	264	1982	
		4-court	35 x 18	630		
The Forest School (Winnersh)	Edu. (in-house)	Activity	18 x 10	180	1958	
		4-court	35 x 20	690		
The Holt School	Edu. (in-house)	Activity	18 x 10	180	1984	
		4-court	32 x 18	576		
The Piggott School	Edu. (in-house)	Activity 18 x 10 18	180	1980		
		4-court	35 x 20	690		
Waingels College	Edu. (in-house)	Activity	18 x 10	180	1962	2011
Wokingham Leisure Centre @ Carpival Hub	Public	4-court	35 x 20	600	2022	
Woodford Park Leisure Centre	Public	5-court	15 x 18	810	1022	2007
		J-COUL	40 × 10	010	1900	2001



APPENDIX 3: MODEL DESCRIPTION, INCLUSION CRITERIA AND MODEL PARAMETERS

Included within this Appendix are the following:

- Model Description
- Facility Inclusion Criteria
- Model Parameters

Model Description

1. Background

- 1.1. The Facilities Planning Model (FPM) is a computer-based supply/demand model, which has been developed by Edinburgh University in conjunction with **sport**scotland and Sport England since the 1980s.
- 1.2. The model is a tool for helping to assess the strategic provision of community sports facilities in an area. It is currently applicable for use in assessing the provision of sports halls, swimming pools, indoor bowls centres and artificial grass pitches.

2. Use of FPM

- 2.1. Sport England uses the FPM as one of its principal tools in helping to assess the strategic need for certain community sports facilities. The FPM has been developed as a means of:
 - Assessing requirements for different types of community sports facilities on a local, regional, or national scale.
 - Helping local authorities to determine an adequate level of sports facility provision to meet their local needs.
 - Helping to identify strategic gaps in the provision of sports facilities.
 - Comparing alternative options for planned provision, taking account of changes in demand and supply. This includes testing the impact of opening, relocating, and closing facilities, and the likely impact of population changes on the needs for sports facilities.
- 2.2. Its current use is limited to those sports facility types for which Sport England holds substantial demand data, i.e., swimming pools, sports halls, indoor bowls, and artificial grass pitches (AGPs).
- 2.3. The FPM has been used in the assessment of Lottery funding bids for community facilities, and as a principal planning tool to assist local authorities in planning for the provision of community sports facilities.



3. How the Model Works

- 3.1. In its simplest form, the model seeks to assess whether the capacity of existing facilities for a particular sport is capable of meeting local demand for that sport, considering how far people are prepared to travel to such a facility.
- 3.2. In order to do this, the model compares the number of facilities (supply) within an area against the demand for that facility (demand) that the local population will produce, similar to other social gravity models.
- 3.3. To do this, the FPM works by converting both demand (in terms of people) and supply (facilities) into a single comparable unit. This unit is 'visits per week in the peak period' (VPWPP). Once converted, demand and supply can be compared.
- 3.4. The FPM uses a set of parameters to define how facilities are used and by whom. These parameters are primarily derived from a combination of data including actual user surveys from a range of sites across the country in areas of good supply, together with participation survey data. These surveys provide core information on the profile of users, such as, the age and gender of users, how often they visit, the distance travelled, duration of stay, and on the facilities themselves, such as, programming, peak times of use, and capacity of facilities.
- 3.5. This survey information is combined with other sources of data to provide a set of model parameters for each facility type. The original core user data for halls and pools comes from the National Halls and Pools survey undertaken in 1996. This data formed the basis for the National Benchmarking Service (NBS). For AGPs, the core data used comes from the user survey of AGPs carried out in 2005/06 jointly with sportscotland.
- 3.6. User survey data from the NBS and other appropriate sources are used to update the model's parameters on a regular basis. The parameters are set out at the end of the document, and the main data sources analysed are:
 - Active Lives
 - For the adult survey, this data is collected by an online survey or paper questionnaire on behalf of Sport England. Each annual sample includes about 175,000 people and covers the full age/gender range. Detailed questions are asked about over 200 separate sport categories in terms of participation and frequency.
 - For the children and young people survey, this data is collected through schools with up to three mixed ability classes in up to three randomly chosen year groups completing an online survey.
 - National Benchmarking Service
 - This is a centre-based survey whose primary purpose is to enable centres to benchmark themselves against other centres. Sample interviews are conducted on site. The number of people surveyed varies by year depending on how many centres take part. Approximately 10,000 swimmers and 3,500 sports hall users are surveyed per year. This data is used for journey



times, establishing proportions of particular activities in different hall types, the duration of activities and the time of activity (peak period).

- Scottish Health
 - The annual survey is of about 6,600 people (just under 5,000 adults). This data is primarily used to assess participation, frequency, and activity duration.

Other data is used where available. For example, the following data sources are among those which have been used to cross-check results:

- Children's Participation in Culture and Sport, Scottish Government, 2008
- Young People's Participation in Sport, Sports Council for Wales, 2009
- Health & Social Care Information Centre, Lifestyle Statistics, 2012
- Young People and Sport, Sport England, 2002
- Data from Angus Council, 2013/14
- National Pools & Halls Survey, 1996
 - This survey has been used to obtain capacities per sports hall for differing sport types for programming data.

4. Calculating Demand

- 4.1. Demand is calculated by applying the user information from the parameters, as referred to above, to the population¹. This produces the number of visits for that facility that will be demanded by the population.
- 4.2. Depending on the age and gender make-up of the population, this will affect the number of visits an area will generate. In order to reflect the different population make-up of the country, the FPM calculates demand based on the smallest census groupings. These are Output Areas (OAs)².
- 4.3. The use of OAs in the calculation of demand ensures that the FPM is able to reflect and portray differences in demand in areas at the most sensitive level based on available census information. Each OA used is given a demand value in VPWPP by the FPM.

5. Calculating Supply Capacity

- 5.1. A facility's capacity varies depending on its size (i.e., size of pool, hall, pitch number), and how many hours the facility is available for use by the community.
- 5.2. The FPM calculates a facility's capacity by applying each of the capacity factors taken from the model parameters, such as the assumptions made as to how many 'visits' can be

¹ For example, it is estimated that 7.72% of 16–24-year-old males will demand to use an AGP 1.67 times a week. This calculation is done separately for the 12 age/gender groupings.

² Census Output Areas (OAs) are the smallest grouping of census population data and provide the population information on which the FPM's demand parameters are applied. A demand figure can then be calculated for each OA based on the population profile. There are over 171,300 OAs in England. An OA has a target value of 125 households per OA.



accommodated by the particular facility at any one time. Each facility is then given a capacity figure in VPWPP.

- 5.3. Based on travel time information³ taken from the user survey, the FPM then calculates how much demand would be met by the particular facility, having regard to its capacity and how much demand is within the facility's catchment. The FPM includes an important feature of spatial interaction. This feature takes account of the location and capacity of all the facilities, having regard to their location and the size of demand, and assesses whether the facilities are in the right place to meet the demand.
- 5.4. It is important to note that the FPM does not simply add up the total demand within an area and compare that to the total supply within the same area. This approach would not take account of the spatial aspect of supply against demand in a particular area. For example, if an area had a total demand for 5 facilities, and there were currently 6 facilities within the area, it would be too simplistic to conclude that there was an oversupply of 1 facility as this approach would not take account of whether the 5 facilities are in the correct location for local people to use them within that area. It might be that all the facilities were in one part of the District, leaving other areas under-provided. An assessment of this kind would not reflect the true picture of provision. The FPM is able to assess supply and demand within an area based on the needs of the population within that area.
- 5.5. In making calculations as to supply and demand, visits made to sports facilities are not artificially restricted or calculated by reference to administrative boundaries, such as local authority areas. Users are generally expected to use their closest facility. The FPM reflects this through analysing the location of demand against the location of facilities, allowing for cross-boundary movement of visits. For example, if a facility is on the boundary of a local authority, users will generally be expected to come from the population living close to the facility, but who may be in an adjoining authority.

6. Calculating the Capacity of Sports Halls – Hall Space in Courts (HSC)

- 6.1. The capacity of sports halls is calculated in the same way as described above, with each sports hall site having a capacity in VPWPP. In order for this capacity to be meaningful, these visits are converted into the equivalent of main hall courts and referred to as 'Hall Space in Courts' (HSC). This 'court' figure is often mistakenly read as being the same as the number of 'marked courts' at the sports halls that are in the Active Places data, but it is not the same. There will usually be a difference between this figure and the number of 'marked courts' in Active Places.
- 6.2. The reason for this is that the HSC is the 'court' equivalent of all the main and activity halls capacities; this is calculated based on hall size (area) and whether it is the main hall or a secondary (activity) hall. This gives a more accurate reflection of the overall capacity of the halls than simply using the 'marked courts' figure. This is due to two reasons:

³ To reflect the fact that as distance to a facility increases, fewer visits are made, the FPM uses a travel time distance decay curve, where the majority of users travel up to 20 minutes. The FPM also takes account of the road network when calculating travel times. Car ownership levels, taken from census data, are also taken into account when calculating how people will travel to facilities.


- In calculating the capacity of halls, the model uses a different 'At-One-Time' (AOT) parameter for main halls and for activity halls. Activity halls have a greater AOT capacity than main halls see below. Marked courts can sometimes not properly reflect the size of the actual main hall. For example, a hall may be marked out with 4 courts, when it has space for 3 courts. As the model uses the 'courts' as a unit of size, it is important that the hall's capacity is included as a 3 'court unit' rather than a 4 'court unit'.
- The model calculates the capacity of the sports hall as 'visits per week in the peak period' (VPWPP), and then uses this unit of capacity to compare with demand, which is also calculated as VPWPP. It is often difficult to visualise how much hall space there is when expressed as VPWPP. To make things more meaningful, this capacity in VPWPP is converted back into 'main hall court equivalents' and is noted in the output table as 'Hall Space in Courts'.

7. Facility Attractiveness – for Halls and Pools Only

- 7.1. Not all facilities are the same, and users will find certain facilities more attractive to use than others. The model attempts to reflect this by introducing an attractiveness weighting factor, which affects the way visits are distributed between facilities. Attractiveness, however, is very subjective. Currently weightings are only used for sports hall and swimming pool modelling.
- 7.2. Attractiveness weightings are based on the following:
 - Age/refurbishment weighting pools and halls: The older a facility is, the less attractive it will be to users. It is recognised that this is a general assumption and that there may be examples where older facilities are more attractive than newly built ones due to excellent local management, programming, and sports development. Additionally, the date of any significant refurbishment is also included within the weighting factor; however, the attractiveness is set lower than a new build of the same year. It is assumed that a refurbishment that is older than 20 years will have a minimal impact on the facility's attractiveness. The information on year built/refurbished is taken from Active Places. A graduated curve is used to allocate the attractiveness weighting by year. This curve levels off at around 1920 with a 20% weighting. The refurbishment weighting is slightly lower than the new built year equivalent.
 - Management and ownership weighting halls only: Due to the large number of halls being provided by the education sector, an assumption is made that, in general, these halls will not provide as balanced a programme than halls run by local authorities, trusts, etc, with school halls more likely to be used by teams and groups through block booking. A less balanced programme is assumed to be less attractive to a general pay & play user than a standard local authority leisure centre sports hall with a wider range of activities on offer.
- 7.3. To reflect this, two weightings curves are used for education and non-education halls, a high weighted curve, and a lower weighted curve.
 - High weighted curve includes non-education management and a better balanced programme, more attractive.



- Lower weighted curve includes educational owned and managed halls, less attractive.
- 7.4. Commercial facilities halls and pools: While there are relatively few sports halls provided by the commercial sector, an additional weighing factor is incorporated within the model to reflect the cost element often associated with commercial facilities. For each population output area the Indices of Multiple Deprivation (IMD) score is used to limit whether people will use commercial facilities. The assumption is that the higher the IMD score (less affluence), the less likely the population of the OA would choose to go to a commercial facility.
- 7.5. The English Indices of Deprivation 2019, produced by the Ministry of Housing, Communities and Local Government, measure relative levels of deprivation in 32,844 lower super output areas (LSOAs) in England. IMD is an overall relative measure of deprivation constructed by combining seven domains of deprivation according to their relative weights.

8. Comfort Factor – Halls and Pools

- 8.1. As part of the modelling process, each facility is given a maximum number of visits it can accommodate based on its size, the number of hours it is available for community use, and the 'at one time capacity' figure (pools = 1 user/6m², halls = 8 users/court). This gives each facility a 'theoretical capacity.'
- 8.2. If the facilities were full to their theoretical capacity, then there would simply not be the space to undertake the activity comfortably. In addition, there is a need to take account of a range of activities taking place which have different numbers of users; for example, aqua aerobics will have significantly more participants than lane swimming sessions. Additionally, there may be times and sessions that, while being within the peak period, are less busy and so will have fewer users.
- 8.3. To account for these factors the notion of a 'comfort factor' is applied within the model. For swimming pools, 70%, and for sports halls, 80%, of their theoretical capacity is considered as being the limit where a facility starts to become uncomfortably busy. (Currently, the comfort factor is not applied to AGPs due to the fact they are predominantly used by teams which have a set number of players, therefore, the notion of having a 'less busy' pitch is not applicable.)
- 8.4. The comfort factor is used in two ways:
 - Utilised capacity How well used is a facility? 'Utilised capacity' figures for facilities are often seen as being very low at 50-60%; however, this needs to be put into context with 70-80% comfort factor levels for pools and halls. The closer utilised capacity gets to the comfort factor level, the busier the facilities are becoming. You should not aim to have facilities operating at 100% of their theoretical capacity, as this would mean that every session throughout the peak period would be being used to its maximum capacity. This would be both unrealistic in operational terms and unattractive to users.
 - Adequately meeting unmet demand the comfort factor is also used to increase the number of facilities needed to comfortably meet unmet demand. If this comfort factor



is not applied, then any facilities provided will be operating at their maximum theoretical capacity, which is not desirable as noted previously.

9. Utilised Capacity (Used Capacity)

- 9.1. Following on from the comfort factor section, here is more guidance on utilised capacity.
- 9.2. Utilised capacity refers to how much of a facility's theoretical capacity is being used. This can, at first, appear to be unrealistically low, with area figures being in the 50-60% region. Without any further explanation, it would appear that facilities are half empty. The key point is not to see a facility's theoretical maximum capacity (100%) as being an optimum position. This, in practice, would mean that a facility would need to be completely full every hour it was open during the peak period. This would be both unrealistic from an operational perspective and undesirable from a user's perspective, as the facility would be completely full.
- 9.3. For example, a 25m, four-lane pool has a theoretical capacity of 2,260 per week, during a 52.5-hour peak period.
- 9.4. As set out in the table below, usage of a pool will vary throughout the evening, with some sessions being busier than others through programming, such as an aqua-aerobics session between 7pm and 8pm and lane swimming between 8 and 9pm. Other sessions will be quieter, such as between 9 and 10pm. This pattern of use would mean a total of 143 swims taking place. However, the pool's maximum theoretical capacity is 264 visits throughout the evening. In this instance the pool's utilised capacity for the evening would be 54%.

Visits per hour	4-5pm	5-6pm	6-7pm	7-8pm	8-9pm	9-10pm	Total visits for the evening
Theoretical maximum capacity	44	44	44	44	44	44	264
Actual usage	8	30	35	50	15	5	143

9.5. As a guide, 70% utilised capacity is used to indicate that swimming pools are becoming busy, and this is 80% for sports halls. This should be seen only as a guide to help flag when facilities are becoming busier, rather than as a 'hard threshold'.

10. Travel Times Catchments

- 10.1. The model uses travel times to define facility catchments in terms of driving and walking.
- 10.2. The Ordnance Survey (OS) MasterMap Highways Network Roads has been used to calculate the off-peak drive times between facilities and the population, observing any one-way and turn restrictions which apply and taking account of delays at junctions and car parking. Each street in the network is assigned a speed for car travel based on the attributes of the road, such as the width of the road, the geographical location of the road, and the density of properties along the street. These travel times have been derived through national survey work, and so are based on actual travel patterns of users. The road speeds used for inner



and outer London boroughs have been further enhanced by data from the Department of Transport.

- 10.3. The walking catchment uses the OS MasterMap Highways Network Paths to calculate travel times along paths and roads, excluding motorways and trunk roads. A standard walking speed of 3 mph is used for all journeys.
- 10.4. The model includes three different modes of travel car, public transport, and walking. Car access is also considered. In areas of lower access to a car, the model reduces the number of visits made by car and increases those made on foot.
- 10.5. Overall, surveys have shown that the majority of visits made to swimming pools, sports halls and AGPs are made by car, with a significant minority of visits to pools and sports halls being made on foot.

Facility	Car	Walking	Public Transport	
Swimming Pool	72%	18%	10%	
Sports Hall	74%	17%	9%	
AGP				
Combined	79%	18%	3%	
Football	74%	22%	4%	
Hockey	97%	2%	1%	

10.6. The model includes a distance decay function, where the further a user is from a facility, the less likely they will travel. Set out below is the survey data with the percentage of visits made within each of the travel times. This shows that almost 90% of all visits, both by car and on foot, are made within 20 minutes. Hence, 20 minutes is often used as a rule of thumb for the catchments for sports halls and swimming pools.

Minutes	Swimmir	ng Pools	Sport Halls		
	Car	Walk	Car	Walk	
0-10	56%	53%	54%	55%	
11-20	35%	34%	36%	32%	
21-30	7%	10%	7%	10%	
31-45	2%	2%	2%	3%	

10.7. For AGPs, there is a similar pattern to halls and pools, with hockey users observed as travelling slightly further (89% travel up to 30 minutes). Therefore, a 20-minute travel time can also be used for 'combined' and 'football', and 30 minutes for hockey.



Minutes	Artificial Grass Pitches								
	Combined		Foo	tball	Hockey				
	Car	Walk	Car	Walk	Car	Walk			
0-10	28%	38%	30%	32%	21%	60%			
10-20	57%	48%	61%	50%	42%	40%			
20-40	14%	12%	9%	15%	31%	0%			

NOTE: These are approximate figures and should only be used as a guide.



Facility Inclusion Criteria

Sports Halls

The following inclusion criteria were used for this analysis.

- Include all operational sports halls available for community use i.e. pay and play, membership, sports club/community association.
- Exclude all halls not available for community use i.e. private use.
- Exclude all halls where the main hall is less than 3 courts in size.
- Include all 'planned', 'under construction' and 'temporarily closed' facilities only where all data is available for inclusion.
- Where opening times are missing, availability has been included based on similar facility types.
- Where the year built is missing assume date 1975⁴.

Facilities over the border in Wales and Scotland included, as supplied by **sport**scotland and Sport Wales.

⁴ Choosing a date in the mid '70s ensures that the facility is included, whilst not overestimating its impact within the run.



Model Parameters

Sports Halls Parameters

At One Time Capacity	32 use 15 use	32 users per 4-court hall 15 users per 144 square meters of activity hall						
Catchment Maps	Car: Walkin Public NOTE: the mo	Car:20 minutesWalking:1.6 kmPublic transport:20 minutes at about half the speed of a carNOTE: Catchment times are indicative, within the context of a distance decay function of the model.						
Duration	60 mir	nutes						
Percentage Participation Frequency per Week	A Male Fema Male Fema	ge ale ge ale	0-15 20.4 24.5 0-15 0.65 0.74	16-24 16.7 17.8 16-24 0.95 1.20	25-34 13.9 17.1 25-34 0.93 1.21	35-44 11.6 15.3 35-44 0.84 1.07	45-59 10.2 15.1 45-59 1.00 1.18	60-79 7.3 12.1 60-79 1.14 1.01
Peak Period	Weeko Weeko Total:	Weekday: 9:00 to 10:00, 17:00 to 22:00 Weekend: 08:00 to 16:00 Total: 46 hours						
Peak Period	62%	62%						