



Facilities Planning Model Assessment of
Sports Hall Provision for
Vale of White Horse District Council

Bespoke Report

26 January 2024

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EXECUTIVE SUMMARY

Introduction

- 0.1 Vale of White Horse District Council (also referred to as Vale of White Horse 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 – provides an assessment of the impact of modelled options for changes in supply in 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 Vale of White Horse's sports halls can meet current and future demand. Both the population and demand for sports halls increase significantly to 2041.
- 0.7 The public leisure centres are few in number, but extensive in scale. Retention of these sports halls is important, to ensure there is access to sports halls for all residents and sports clubs in all areas of the District.
- 0.8 The educational sector is the largest provider with most sports halls suitable for community participation and club development. Protecting this supply for community use is important but not to become over reliant on it, simply because it is the main provision.
- 0.9 A very high proportion of demand is met, with visits increasing with each run. Most satisfied demand is met within the District. Unmet demand is very low.
- 0.10 Overall, the sports halls are reasonably full at peak times. However, the distribution of demand means that some sites are very full. There is scope to increase the availability and capacity for community use at some educational sites. This will achieve a better overall balance between supply and demand.

- 0.11 The stock is ageing and modernisation is limited. There is an increasing need for refurbishment to improve the attractiveness of the sports halls. Undertaking planned maintenance together with dilapidation surveys can help to define the scope of refurbishment works.
- 0.12 Demand in Wantage is high and increases to 2041. Provision of St John's Academy sports hall and Potential Wantage Leisure Facility means supply exceeds demand. There is scope to change this provision and still meet demand.

Key Findings

- 0.13 The key findings that underpin the headline strategic overview are as follows:
1. In all runs between 29% and 30% of the total supply is unavailable for community use in the weekly peak period.
 2. Of the 13 sports halls that opened before 2000, five have been modernised. None of the sports halls built since 2000 have been modernised.
 3. Vale of White Horse's population is projected to increase by 35% between 2023 and 2041, which produces a 34% increase in demand for sports halls. The District has the largest percentage increase in demand for sports halls in the study area.
 4. Of the District's residents, 94% are within a 20-minute cycle ride of a sports hall in 2023 increasing slightly to 95% in both runs in 2041. In all runs Fitzharrys School, in north Abingdon, has the most Vale of White Horse residents within a 20-minute cycle ride and Farrington Leisure Centre the fewest.
 5. There is sufficient sports hall capacity within a suitable travel time to meet 95% of the District's demand in 2023, and 96% in both runs in 2041. The number of visits met in the weekly peak period increases significantly from 11,398 in Run 1 to 15,361 in Run 3.
 6. Of the satisfied demand, 80% is met within the District in Runs 1 and 2 and 81% in Run 3. Most of the District's sports halls are in the areas of highest demand and accessible to residents.
 7. Unmet demand is 5% of demand in 2023 and 4% in both runs in 2041. It is the equivalent of between 1.9 courts in Run 1 and 2.4 courts in Run 2. All the unmet demand in all runs is due to residents being too far from a facility and none is due to lack of sports hall capacity.
 8. In Run 3 the location where the most unmet demand can be met is in Botley, northeast of Matthew Arnold School. Unmet demand at this location is for 0.8 of a court and will include unmet demand from Oxford. This is an insufficient total to consider the provision of a new sports hall to improve accessibility for residents.
 9. The overall estimated used capacity of sports halls in the District in the weekly peak period is between 40% in Run 1 and 52% in Run 2. However, three sites are estimated to be full at peak times in Run 2 and two sites in Run 3.

Interventions and Next Steps

0.14 The quantitative findings identify that there is sufficient supply across the District to meet demand in 2023 and 2041.

0.15 There are two interventions:

- Review and change the modelled provision in Wantage
- Protect the sports hall supply for community use in Abingdon

Wantage

0.16 The supply in Wantage is modelled to increase:

- Run 1 – Wantage Leisure Centre four-court hall, which is available for the maximum 46 hours in the weekly peak period, and King Alfred’s Academy four-court hall and activity hall, which are available for 34 hours in the weekly peak period
- Run 2 – the addition of St John’s Academy four-court hall, which is a committed project and modelled to open in 2025 with 25 hours available for community use in the weekly peak period
- Run 3 – the addition of Potential Wantage Leisure Facility four-court hall, which is an option and modelled to open in 2028 with 45 hours available for community use in the weekly peak period

0.17 In Run 3 there is a total of 16.0 courts and one activity hall of 180 sqm. The available space in the weekly peak period is 13.0 courts and 133 sqm.

0.18 Demand in Wantage and Grove in the weekly peak period across 12 square kilometres is:

- 2023 – 7.4 courts
- 2041 – 11.2 courts

0.19 In Run 2 both the educational sports halls in Wantage are estimated to be 100% utilised in the weekly peak period.

0.20 In Run 3 provision of Potential Wantage Leisure Facility reduces the used capacity of the educational sports halls to below the Sport England comfort level of 80% utilisation in the weekly peak period:

- King Alfred’s Academy – 69%
- St John’s Academy – 68%

0.21 There is scope to increase the availability for community use at both educational sites to accommodate more demand. Therefore, the option to also provide Potential Wantage Leisure Facility is then not required because it leads to over provision.

0.22 Furthermore, the two educational sports halls are:

- The most recent to open in the District
- Have dimensions of 35m x 20m that is suitable for community recreation and club development

0.23 The alternative option is:

- Wantage Leisure Centre:
 - Only public leisure centre in Wantage, which provides access for all residents for full peak period
 - Estimated to be 76% utilised in Run 1 and 77% in Run 2, but when Potential Wantage Leisure Facility is included in Run 3, it decreases to 49%
 - Dimensions of 33m x 18m are not suitable for club development
 - Consider the need for further modernisation as last refurbished in 2005
- King Alfred's Academy:
 - Negotiate a community use agreement, if one is not in place, to protect and retain the site for community use
 - Scope to increase availability in the weekly peak period by up to 12 hours and accommodate 609 more visits.
- St John's Academy
 - Negotiate a community use agreement with St John's Academy Trust to provide for community use
 - Scope to increase availability in the weekly peak period by up to 21 hours and accommodate 672 more visits.

0.24 Overall, the option leads to a supply of a modern fit for purpose stock of sports halls in Wantage that can meet demand in 2041.

Abingdon

0.25 The second intervention is to protect the sports hall supply for community use in Abingdon. Abingdon has ten sports hall sites but only one, White Horse Leisure and Tennis Centre, is a public facility.

0.26 Abingdon has a sufficient supply of sports halls to meet demand but is dependent on availability of the educational supply. If community use agreements are not in place, these need to be negotiated and agreed. Based on the Council's relationship with the schools and colleges, it will be aware of the sites more supportive of community use.

0.27 The key sites based on the FPM findings are:

- The School of St Helen and St Katherine:
 - Six-court hall and an activity hall, which has a ‘draw effect’ because of its suitability for all activities, appealing to sports clubs
 - Commitment to community use as it is currently available for 34 hours in the weekly peak period (independent schools can provide community use for school organisations and pupils’ families before wider community use)
 - Largest educational site capacity and the second largest in the District, at 2,716 visits in the weekly peak period
 - Opened in 2016, it is currently the third most recent sports hall to open
 - Demand around the site is high in 2023 and 2041
 - Estimated to be 42% utilised in Run 1, 60% in Run 2 and 58% in Run 3
 - Scope to increase availability in the weekly peak period by up to 12 hours and accommodate 959 more visits
- Abingdon Preparatory School
 - Four-court hall (35m x 20m) and an activity hall, which are suitable for all activities, appealing to sports clubs
 - Commitment to community use as it is currently available for 25 hours in the weekly peak period (also an independent school)
 - Accommodates 1,269 visits in the weekly peak period
 - Opened in 2007, it may need modernisation
 - Estimated to be 50% utilised in Run 1, 63% in Run 2 and 57% in Run 3
 - Scope to increase availability in the weekly peak period by up to 21 hours and accommodate 1,066 more visits

Next Steps

0.28 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 Vale of White Horse 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

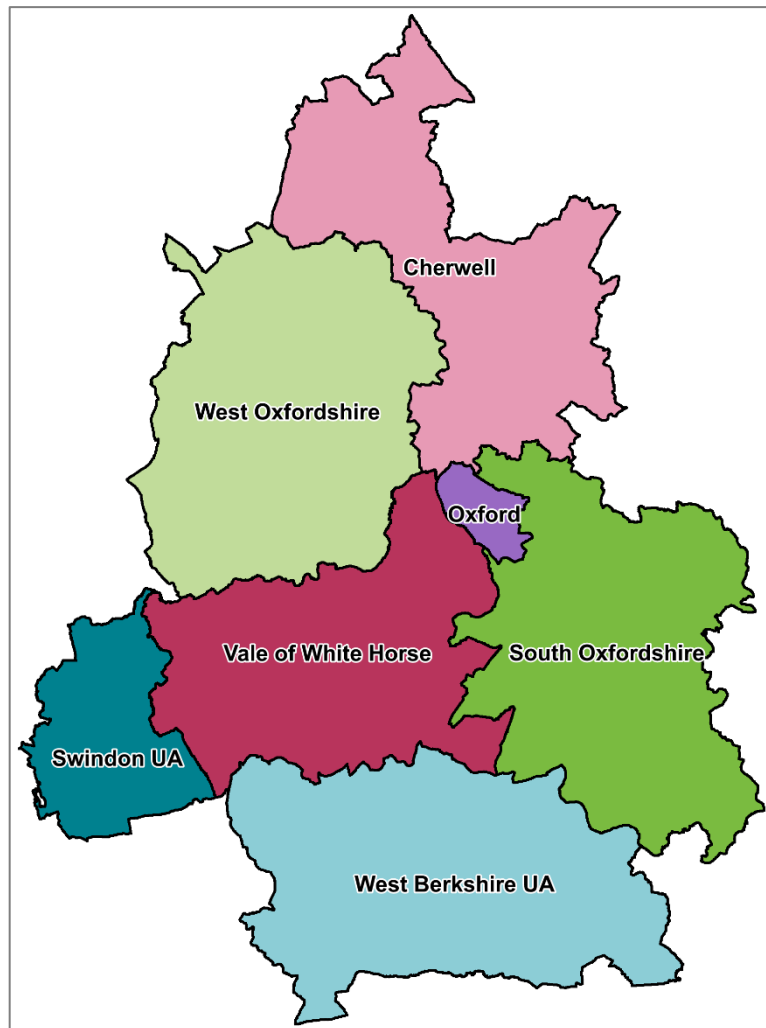
- 1.1 Vale of White Horse District Council is reviewing the current provision of sports halls and assessing the future provision required up to 2041.
- 1.2 The strategic drivers for the work are to:
- Support work on the Vale of White Horse Leisure Facilities Assessment and Strategy
 - Understand how 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 assess 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. Vale of White Horse strategic planning review of sports halls provision and future strategy
 2. Ensuring there is access to sports halls for all residents
 3. 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. 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 authorities. The most attractive facility for some Vale of White Horse residents may be outside the District (known as exported demand). For residents of neighbouring authorities, their most attractive sports hall may be inside Vale of White Horse (known as imported demand).
- 1.9 To take account of these factors, the study area places Vale of White Horse District Council area at its centre and includes neighbouring local authorities.

Map 1.1: Study Area for the Vale of White Horse Sports Halls Assessment



Report Structure, Content and Sequence

- 1.10 The findings for the Vale of White Horse 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

Two of the largest sports halls in Vale of White Horse are public leisure centres. They provide an extensive offer and can cater for multi-use activities at the same time.

The educational sector provides 15 sports hall sites in Runs 2 and 3. 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 need to be in place.

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

Table 2.1: Supply of Sports Halls in Vale of White Horse by Run

Total Supply	Run 1	Run 2	Run 3
Vale of White Horse	2023	2041	2041
Number of sports halls	26	27	28
Number of sports hall sites	18	19	20
Supply in badminton court equivalents	103.3	107.3	111.3
Supply in courts scaled with hours available in peak period	73.2	75.4	79.3
Supply in visits per week in peak period	26,934	27,734	29,174
Average age of sites	40	56	54
Average age of public sites	34	52	39

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 is:

- Run 1 – the existing supply of 26 sports hall across 18 sites
- Run 2 – 27 sports halls across 19 sites and includes St John’s Academy to open in 2025
- Run 3 – 28 sports halls across 20 sites and includes Potential Wantage Leisure Facility to open in 2028

2.2 The facilities excluded from the study, with explanations, are listed in Appendix 1.

2.3 The total supply of sports halls in Run 1 is the equivalent of 103.3 badminton courts, of which 73.2 are available for community use in the weekly peak period. The total supply increases by 4.0 courts from Run 1 to Run 2 and by 4.0 courts from Run 2 to Run 3.

2.4 **Key finding 1** is that in all runs between 29% and 30% of the total supply is unavailable for community use in the weekly peak period. There is scope to increase capacity for community use.

Changes in Provision in South Oxfordshire

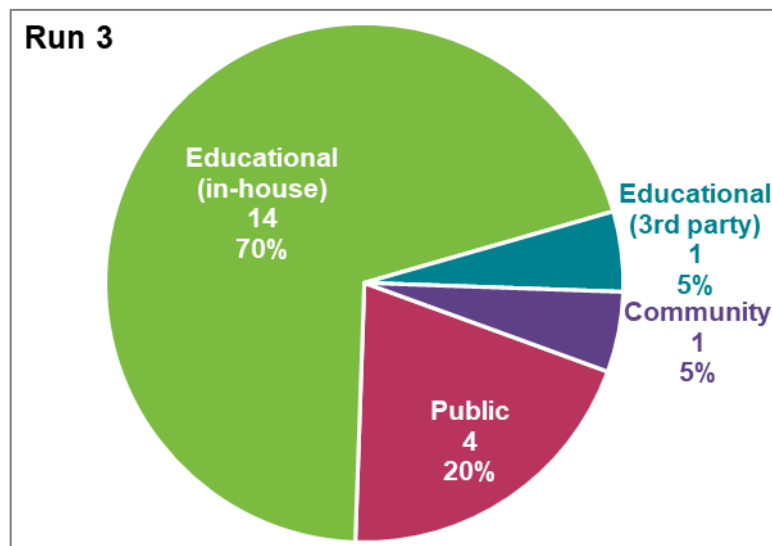
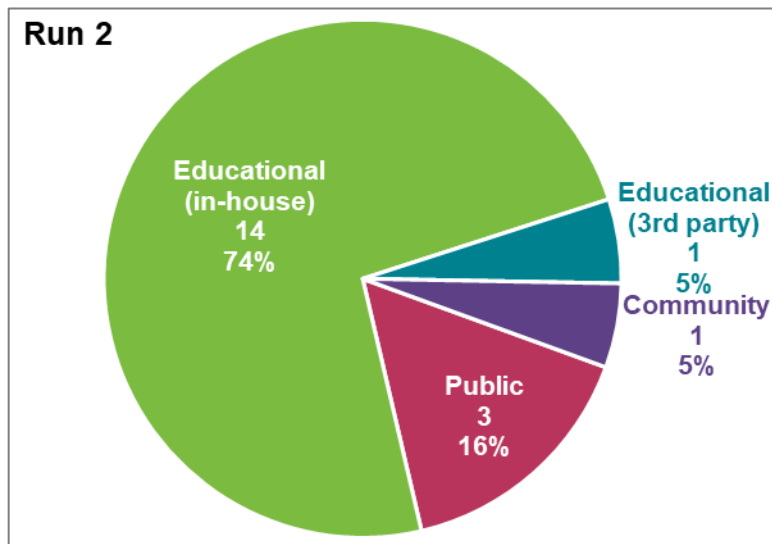
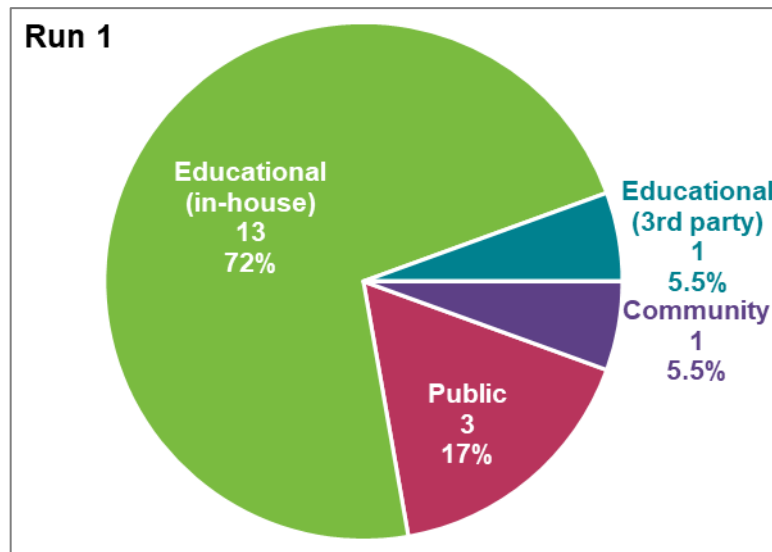
2.5 The changes in South Oxfordshire are:

- Run 2:
 - Didcot North East Leisure Facility four-court hall to open in 2028
 - Henley Leisure Centre flooring upgrade in 2024
 - Thame Leisure Centre changing rooms upgraded in 2025
 - Abbey Sports Centre new flooring in 2024
- Run 3 (as Run 2 with):
 - Abbey Sports Centre to be replaced with a larger five-court hall to open in 2031 at the same site

Table 2.2: Details of Sports Halls in Vale of White Horse Included in the Run

Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb	Peak Hours	Total Hours	Capacity (visits)
Abingdon and Witney College	Edu. (in-house)	4-court	33 x 18	594	1990	2009	12	12	384
Abingdon Preparatory School	Edu. (in-house)	4-court	35 x 20	690	2007		25	25	1,269
		Activity	18 x 10	180			25	25	
Abingdon School Sports Centre	Edu. (in-house)	4-court	35 x 20	690	1960	2008	19.5	24	624
Aureus School	Edu. (in-house)	3-court	32 x 19	608	2017		39	39	936
Faringdon Leisure Centre	Public	6-court	35 x 27	932	1990	2023	46	103	2,208
Fitzharrys School	Edu. (in-house)	4-court	33 x 18	594	1959		25	25	1,269
		Activity	18 x 10	180			25	25	
John Mason School	Edu. (in-house)	4-court	35 x 20	690	1960		39	41	1,979
		Activity	18 x 10	180			39	41	
Kennington Village Hall	Community	3-court	27 x 18	486	1988		39	74	936
King Alfred's Academy	Edu. (in-house)	4-court	35 x 20	690	2018		34	44	1,726
		Activity	18 x 10	180			34	44	
Larkmead School	Edu. (in-house)	4-court	33 x 18	594	1975		34	46	1,726
		Activity	18 x 10	180			34	46	
Matthew Arnold School	Edu. (in-house)	4-court	33 x 18	594	1995		31.5	35.5	1,599
		Activity	18 x 10	180			31.5	35.5	
Our Lady's Abingdon School	Edu. (3rd party)	4-court	35 x 20	690	1978		22	22	704
Potential Wantage Leisure Facility (Run 3 only)	Public	4-court	35 x 20	690	2028		45	90	1,440
Radley College Sports Centre	Edu. (in-house)	5-court	41 x 21	867	1985	2013	40	90.8	1,600
St Hugh's School	Edu. (in-house)	6-court	35 x 27	932	1970		25	25	1,200
St John's Academy (Runs 2 and 3)	Edu. (in-house)	4-court	35 x 20	690	2025		25	25	800
The Manor Preparatory School	Edu. (in-house)	4-court	35 x 20	690	1907		25	25	1,644
		Activity	18 x 18	324			25	25	
The School of St Helen and St Katharine	Edu. (in-house)	6-court	35 x 27	932	2016		34	44	2,716
		Activity	18 x 17	306			34	44	
Wantage Leisure Centre	Public	4-court	33 x 18	594	1976	2005	46	96.5	1,472
White Horse Leisure and Tennis Centre	Public	8-court	40 x 35	1380	2002		46	113.5	2,944

Chart 2.1: Vale of White Horse Sports Hall Sites by Operation Type



Providers

- 2.6 In Vale of White Horse there are three public leisure centres in Runs 1 and 2 and four in Run 3. They account for 17% of the sites in Run 1, 16% in Run 2 and 20% in Run 3. All the public sports halls are available to all residents and provide for recreational pay-and-play, organised team and individual sports. Two of the public leisure centre sports halls are the largest in the District.
- 2.7 The educational sector is the largest provider with 14 sites in Run 1 and 15 sites in Runs 2 and 3. It accounts for 78% of the sites in the District in Run 1, 79% in Run 2 and 75% in Run 3. Our Lady's Abingdon School is the only educational sports hall operated by a third-party provider. All the other educational sites are managed in-house.
- 2.8 Kennington Village Hall it is a community centre available to all local residents and accounts for 5% of the total sites.

Scale

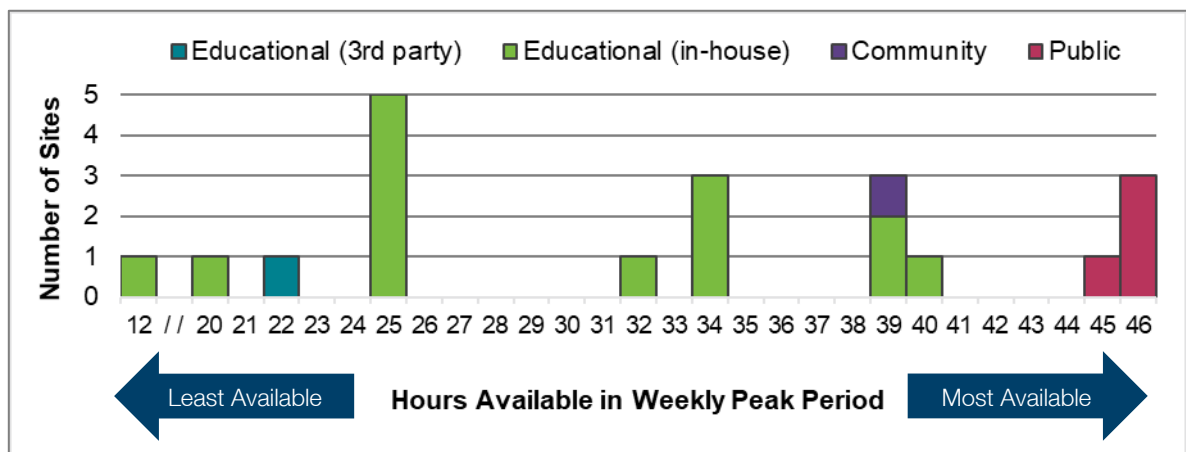
- 2.9 There is one eight-court hall in the District at White Horse Leisure and Tennis Centre. It can accommodate multiple sport activities at the same time and provides an events venue. The site has the largest capacity, at 2,944 visits in the weekly peak period.
- 2.10 There are three six-court halls, which can also accommodate multiple sport activities at the same time:
- Farringdon Leisure Centre, which has a capacity of 2,208 visits in the weekly peak period
 - St Hugh's School, which has a capacity of 1,200 visits in the weekly peak period
 - The School of St Helen and St Catherine, which also has an activity hall of 18m x 17m and has the second largest capacity in the District, at 2,716 visits in the weekly peak period
- 2.11 There are 13 four-court halls, of which:
- Eight have dimensions of 35m x 20m (six are available in Run 1 and seven in Run 2). 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.
 - Five have dimensions of 33m x 18m. 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.
- 2.12 Additionally, Radley College Sports Centre has a five-court hall and Kennington Village Hall has a three-court hall.
- 2.13 There are eight educational venues that have both a main hall and an activity hall. At six venues the activity hall is 18m x 10m, at one venue 18m x 17m and another 18m x 18m.

2.14 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.

2.15 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 Vale of White Horse Sports Halls by Site Type



2.16 Three sports hall sites in the District are available for the maximum 46 hours in the weekly peak period and they are all public leisure centres. The Potential Wantage Leisure Facility is available for 45 hours. There is scope of one hour to provide more capacity at the public leisure centres.

2.17 Each educational provider determines the policy, hours available and type of community use. The educational sports halls with the most availability are:

- Radley College Sports Centre – 40 hours
- Aureus School – 39 hours
- John Mason School – 39 hours

2.18 The educational sites with the lowest availability are:

- Abingdon and Witney College – 12 hours
- Abingdon School Sports Centre – 19.5 hours
- Our Lady’s Abingdon School – 22 hours

2.19 The remaining educational venues are available for:

- 25 hours – five sites

- 31.5 hours – one site
- 34 hours – three sites

2.20 Overall, there is a strong commitment to community use at twelve of the educational sites, which are available for more than half of the weekly peak period. There is, however, scope to increase the hours available and enhance capacity.

2.21 Kennington Village Hall is available for 39 hours in the weekly peak period.

Age

2.22 Excluding The Manor Preparatory, which opened in 1907, the oldest sports hall is Fitzharrys School, which opened in 1959 and is unmodernised.

2.23 Sites were then opened as follows:

- Two in the 1960s
- Four in the 1970s
- Two in the 1980s
- Three in the 1990s
- Five since 2000 (excluding St John's Academy modelled to open in 2025 and Potential Wantage Leisure Facility modelled to open in 2028)

2.24 The most recent sports halls to open is King Alfred's Academy in 2018.

2.25 **Key finding 2** is that of the 13 sports halls that opened before 2000, five have been modernised. None of the sports halls built since 2000 have been modernised. There is an increasing need for modernisation.

2.26 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

2.27 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

2.28 Most sports halls are in the Abingdon town area (see Map 2.1). There are two sports hall sites in Wantage in Run 1 but this increases to three sites in Run 2 and four sites in Run 3.

2.29 There are only five sports hall sites outside of these two main towns.

3 DEMAND FOR SPORTS HALLS

Vale of White Horse has the highest percentage increase in demand for sports halls in the study area, followed by South Oxfordshire. Demand declines in West Berkshire and Oxford.

Abingdon has the most demand, but Wantage has the highest density of demand.

Table 3.1: Demand for Sports Halls in Vale of White Horse by Run

Total Demand	Run 1	Run 2	Run 2
Vale of White Horse	2023	2041	2041
Population	143,767	193,879	193,879
Visits demanded per week in peak period	11,959	16,048	16,048
Demand in courts with comfort factor included	40.6	54.5	54.5
% 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. Vale of White Horse and South Oxfordshire District Councils provided their population forecasts for 2023 and 2041, which are greater than the Office for National Statistics 2018-based population projection.

Demand in the Study Area

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
Vale of White Horse	40.6	54.5	34%
West Berkshire UA	44.4	41.8	-6%
Cherwell	43.7	45.4	4%
Oxford	46.2	43.8	-5%
South Oxfordshire	42.2	54.7	30%
West Oxfordshire	31.0	31.2	1%
Swindon UA	66.0	68.2	3%

- 3.2 The neighbouring local authority areas' change in demand between 2023 and 2041 is calculated from the Office for National Statistics 2018-based population projection.
- 3.3 **Key finding 3** is that Vale of White Horse's population is projected to increase by 35% between 2023 and 2041, which produces a 34% increase in demand for sports halls. The District has the largest percentage increase in demand for sports halls in the study area.
- 3.4 The increase in demand between 2023 and 2041 is almost matched in South Oxfordshire where there is a 30% increase.
- 3.5 In the other neighbouring local authority areas the change in demand is significantly smaller. Cherwell has the next largest increase of 4%. Demand is projected to decrease in Oxford by 5% and in West Berkshire by 6%.

Geographical Distribution of Demand

- 3.6 In 2023 the most demand is in Abingdon. Across six square kilometres demand is between 1.1 courts and 1.3 courts per square kilometre and totals 7.0 courts (medium blue squares in Map 3.1).
- 3.7 The highest density of demand is in Wantage, at 1.7 courts per square kilometre (light blue square). Across seven square kilometres in Grove and Wantage demand is between 0.5 courts and 1.7 courts per square kilometre and totals 6.0 courts (dark blue squares).
- 3.8 Demand in other areas of the District is:
- Farringdon – 2.7 courts across three square kilometres (dark blue squares)
 - Botley – 1.7 courts across two square kilometres (medium blue and dark blue squares)
 - Shrivenham and Watchfield – 1.7 courts across six square kilometres (dark blue and purple squares)
 - Harwell and west Didcot – 1.3 courts across two square kilometres (dark blue squares)
- 3.9 Demand across the rest of the District is mainly less than half a court per square kilometre (purple squares) but in a few areas is 0.5 courts or 0.6 courts per square kilometre (dark blue squares).
- 3.10 In 2041 demand in Abingdon increases to 8.5 courts across six square kilometres of between 1.2 courts and 1.6 courts per square kilometre (medium blue and light blue squares in Map 3.2).
- 3.11 In Wantage the highest density of demand increases to 2.4 courts per square kilometre (dark green square). Across six square kilometres in Grove and Wantage demand is between 1.1 courts and 2.4 courts per square kilometre and totals 8.4 courts (medium blue squares).

3.12 Demand in other areas of the District is:

- Farringdon – 3.5 courts across three square kilometres (medium blue squares)
- Botley – 2.1 courts across two square kilometres (light blue and dark blue squares)
- Shrivenham and Watchfield – 2.4 courts across six square kilometres (dark blue and purple squares)
- Harwell and west Didcot – 1.9 courts across two square kilometres (medium blue and dark blue squares)

3.13 There are very small increases in demand across the rest of the District but demand remains at less than one court per square kilometre (dark blue and purple squares).

Deprivation

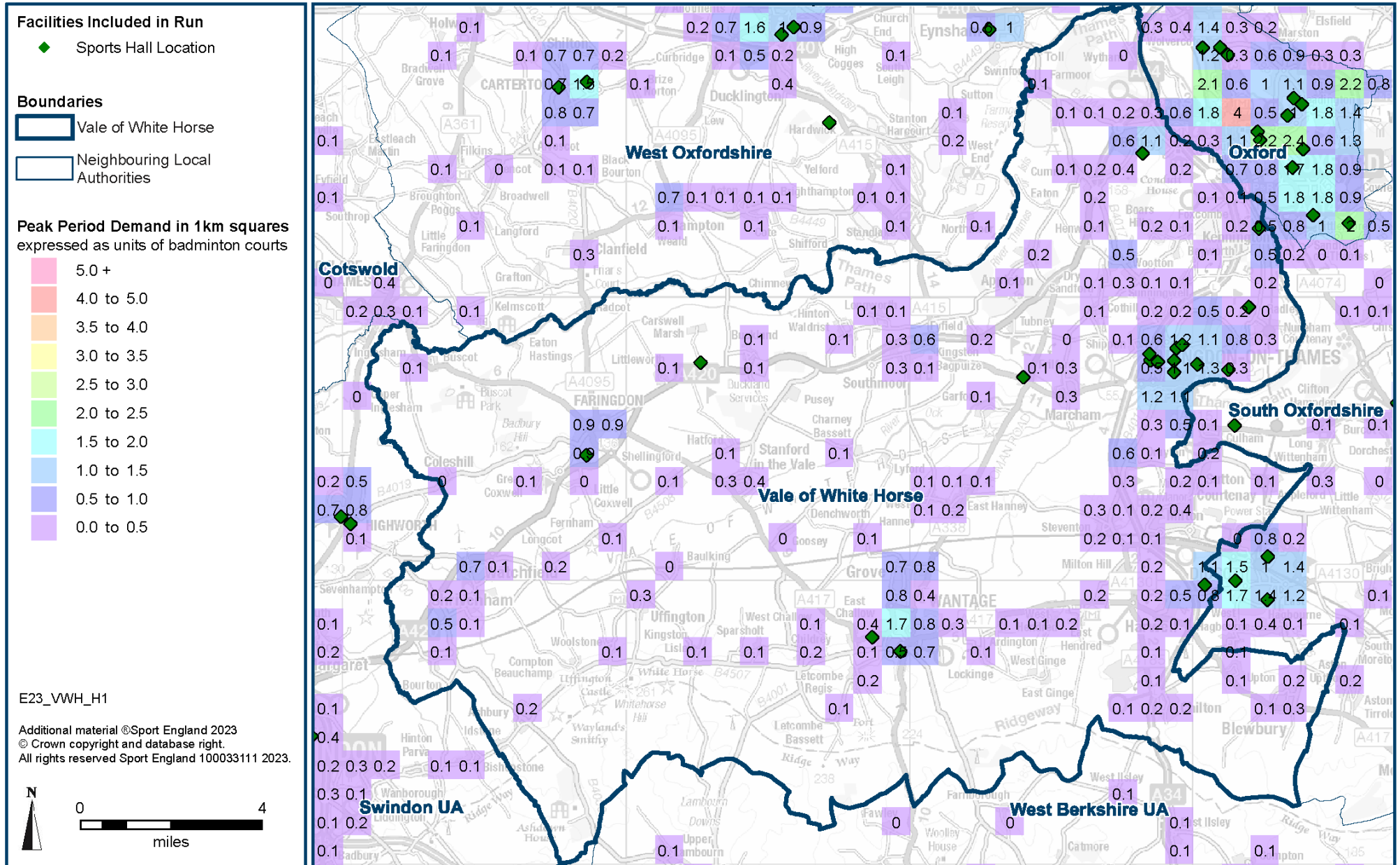
3.14 None of the District's demand is in the 10% most-deprived lower super output areas (LSOAs) nationally.

3.15 The area of highest deprivation in Vale of White Horse is in Caldecott, south of Abingdon School Sports Centre (dark red area in Map 3.3). The next highest area is in Farringdon, north of the leisure centre (brown area).

3.16 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.

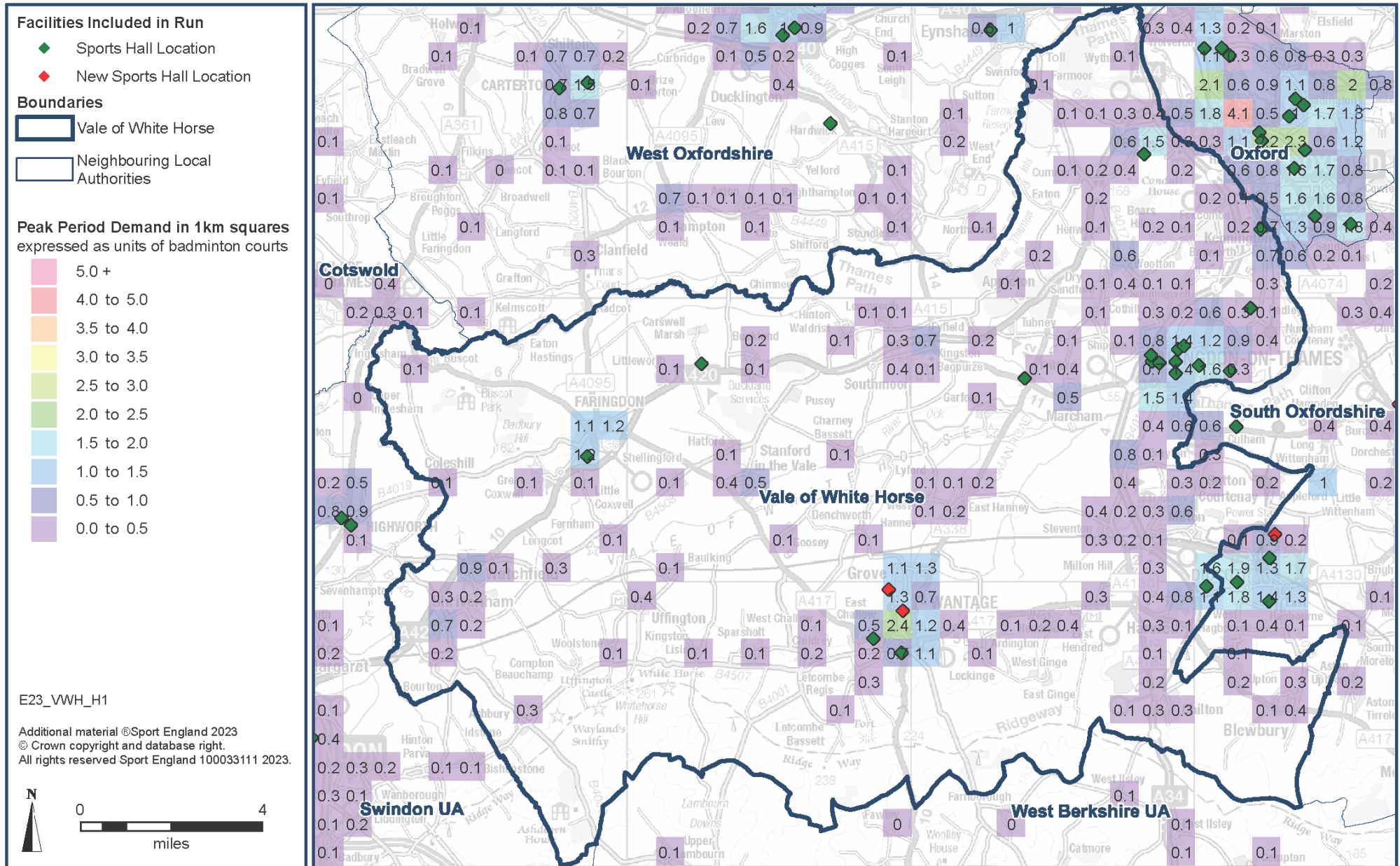
Map 3.1: Demand for Sports Halls in 2023 (Run 1)

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



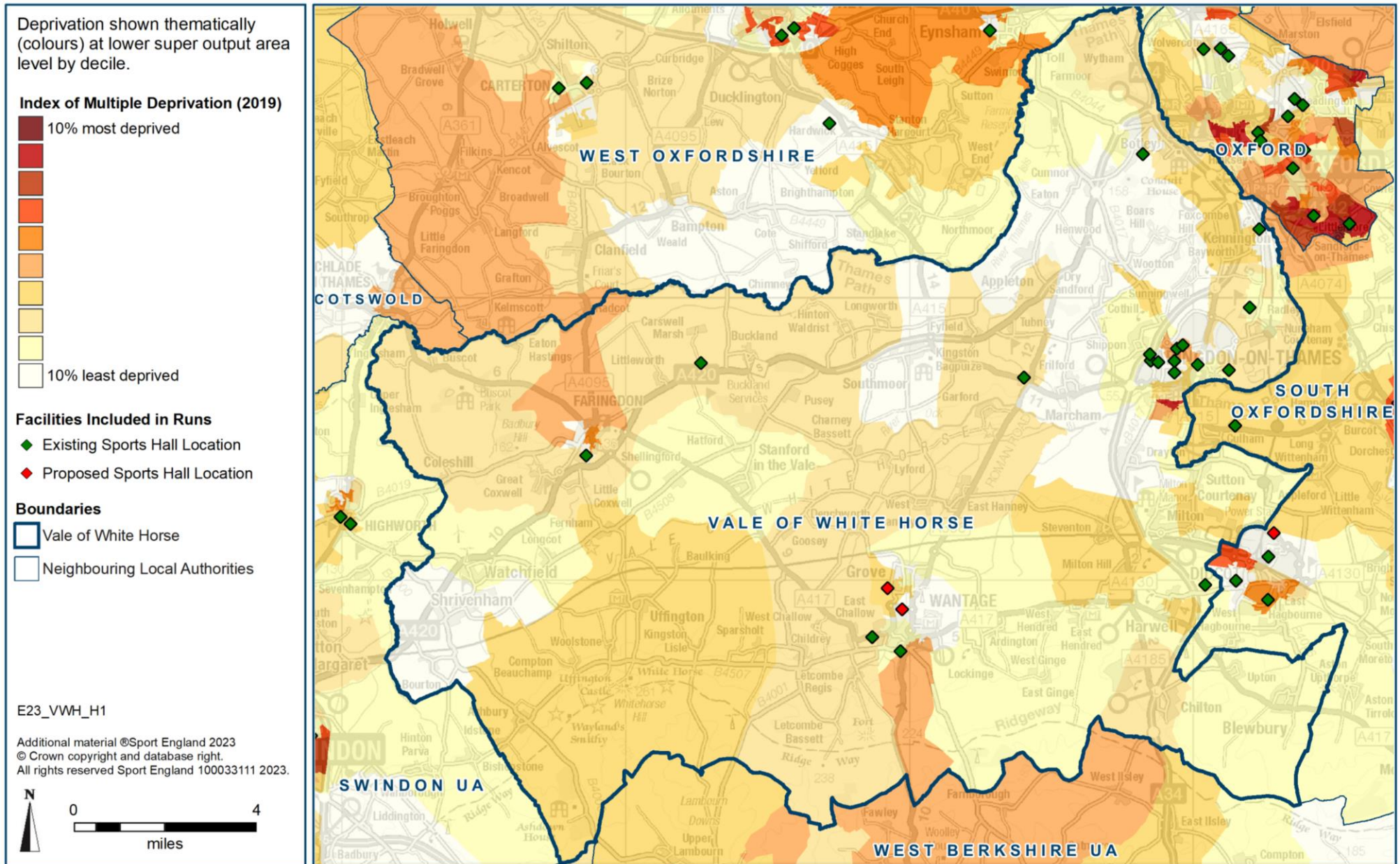
Map 3.2: Demand for Sports Halls in 2041 (Run 3)

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

Around 40% of the population are within a 20-minute walk of a sports hall in all runs.

Over 90% of the population are within a 20-minute cycle ride of a sports hall in all runs.

All the sports halls are within or just outside a five-minute walk of an existing bus stop.

Table 4.1: Travel Mode of Vale of White Horse Demand to Sports Halls by Run

Accessibility	Run 1	Run 2	Run 3
Vale of White Horse	2023	2041	2041
% of population without access to a car	12%	12%	12%
% of population within a 20-minute walk of a sports hall	38%	43%	44%
% of population within a 20-minute cycle of a sports hall	94%	95%	95%
% of demand satisfied when travelled:			
on foot	9%	9%	9%
by public transport or bicycle	4%	5%	5%
by car	87%	86%	86%

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 Vale of White Horse, 12% 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, 38% are within a 20-minute walk (approximately one mile) of a sports hall in Run 1, increasing to 43% in Run 2 and 44% in Run 3.
- 4.3 Access on foot is higher in Abingdon, given the cluster of sports halls. Residents in the centre of Abingdon can walk to more than five sites within 20 minutes of where they live (purple area in Map 4.1).
- 4.4 In Run 2 the addition of St John's Academy means that residents in Grove can walk to a sports hall in 20 minutes of where they live (yellow area in Map 4.2).
- 4.5 In Run 3 the addition of Potential Wantage Leisure Centre increases the size of the area of Wantage where residents can walk to two sports halls. There is a very small area where residents can walk to three sites (dark orange area in Map 4.3).

4.6 Not all residents in these areas will walk to a sports hall and some will travel further. In all runs visits to sports halls on foot account for 9% of all journeys.

Cycle Access

Table 4.2: Vale of White Horse Residents within 20-minute Cycle Ride of Site by Run

Within 20 minutes Cycle		Vale of White Horse Residents		
Sites	Operation	Run 1	Run 2	Run 3
Abingdon and Witney College	Edu. (in-house)	53,170	68,319	68,319
Abingdon Preparatory School	Edu. (in-house)	17,832	23,215	23,215
Abingdon School Sports Centre	Edu. (in-house)	49,814	63,851	63,851
Aureus School	Edu. (in-house)	15,139	22,767	22,767
Faringdon Leisure Centre	Public	11,429	14,991	14,991
Fitzharrys School	Edu. (in-house)	53,356	68,544	68,544
John Mason School	Edu. (in-house)	52,023	66,801	66,801
Kennington Village Hall	Community	31,033	39,348	39,348
King Alfred's Academy	Edu. (in-house)	26,540	39,174	39,174
Larkmead School	Edu. (in-house)	50,594	64,878	64,878
Matthew Arnold School	Edu. (in-house)	16,981	21,513	21,513
Our Lady's Abingdon School	Edu. (3rd party)	52,682	67,672	67,672
Potential Wantage Leisure Facility	Public	-	-	41,064
Radley College Sports Centre	Edu. (in-house)	39,807	50,495	50,495
St Hugh's School	Edu. (in-house)		13,674	13,674
St John's Academy	Edu. (in-house)	-	14,978	14,978
The Manor Preparatory School	Edu. (in-house)	50,269	64,418	64,418
The School of St Helen and St Katharine	Edu. (in-house)	51,119	65,594	65,594
Wantage Leisure Centre	Public	26,763	39,570	39,570
White Horse Leisure and Tennis Centre	Public	46,388	58,856	58,856

4.7 **Key finding 4** is that of the District's residents, 94% are within a 20-minute cycle ride (maximum of four miles) of a sports hall in 2023 increasing slightly to 95% in both runs in 2041. In all runs Fitzharrys School, in north Abingdon, has the most Vale of White Horse residents within a 20-minute cycle ride and Farringdon Leisure Centre the fewest.

4.8 Cycle coverage is highest in the Abingdon area and along the eastern boundary with Oxford and South Oxfordshire, at more than five sites within a 20-minute cycle ride in both years. The change in cycle coverage across the runs is shown in Map 4.4 for Run 1, in Map 4.5 for Run 2 and in Map 4.6 for Run 3. However, not all residents in these areas will cycle to a sports hall and some will travel further.

4.9 The sports halls that are closest to the national cycle network (NCN) are:

- White Horse Leisure and Tennis Centre – close to NCN 5
- Radley College Sports Centre – within a quarter of a mile of NCN 5
- Abingdon School Sports Centre – within half a mile of NCN 5
- Our Lady’s Abingdon School – within half a mile of NCN 5
- John Mason School – is about half a mile from NCN 5

4.10 Kennington Village Hall is close to NCN 5 but there is a footbridge with stairs over the railway.

Public Transport Access

4.11 All the sports hall sites are within or just outside a five-minute walk of an existing bus stop (pink areas in Map 4.7). Therefore, travel to all sports halls by bus should be possible.

4.12 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.

4.13 Travel to sports halls by public transport or bicycle is estimated to be 4% of all journeys in 2023 and 5% in both runs in 2041.

Driving Access

4.14 Travel to sports halls by car is estimated to account for 87% of all journeys in 2023 and 86% in both runs in 2041.

4.15 In 2023 residents in the west of the District can access the fewest sports halls within a 20-minute drive. Resident living between Uffington and Wantage and around Farringdon can access between one and four sports hall sites within a 20-minute drive (yellow areas in Map 4.8). In the rest of the west of the District residents can access between five to nine sites, within a 20-minute drive (green areas).

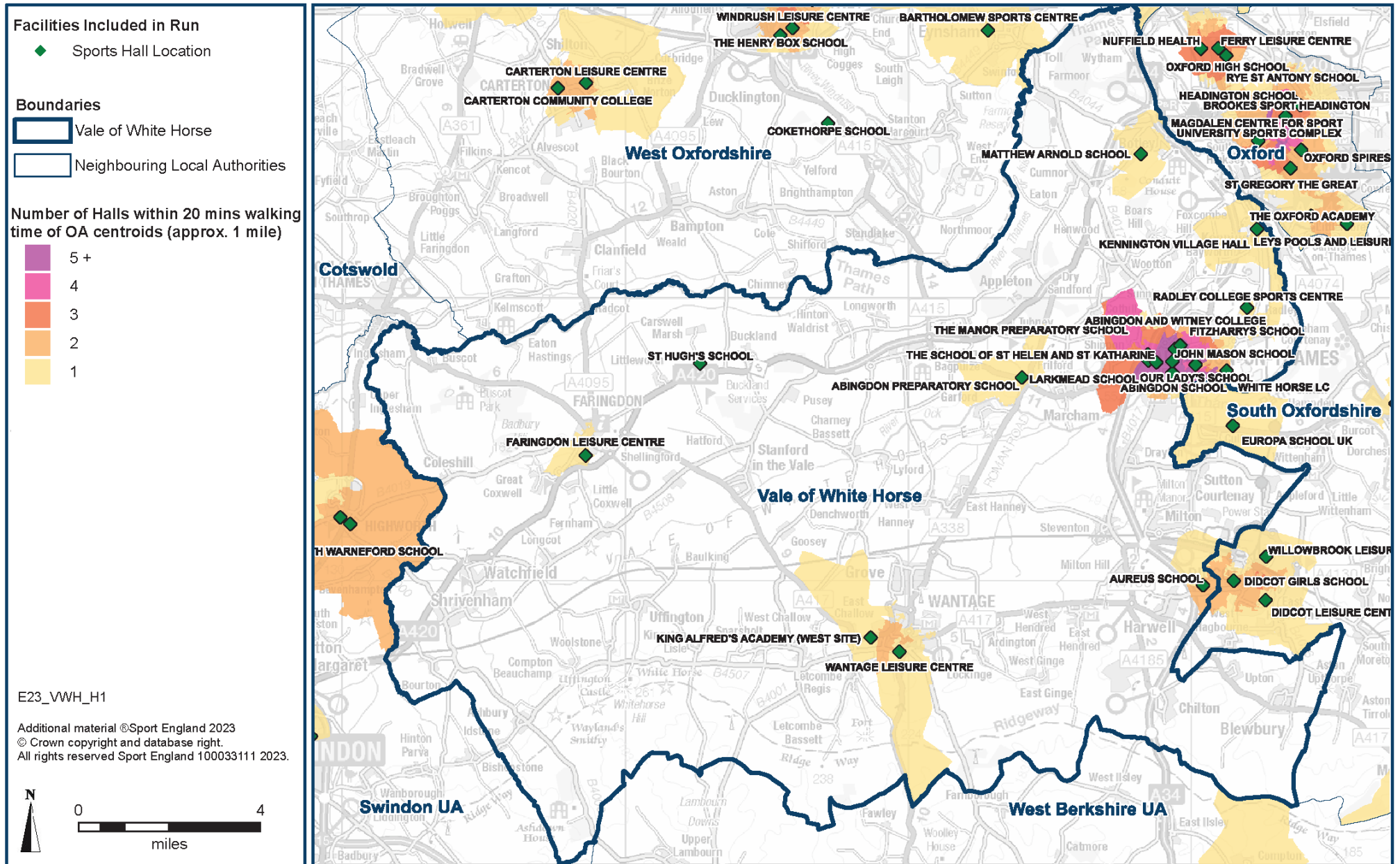
4.16 Access then increases progressively from the centre of the District to the northeastern boundary, where the most sports halls are. Residents in Abingdon and on the border with Oxford can access more than 20 sports hall sites within a 20-minute drive (purple areas).

4.17 In Run 2 provision of St John’s Academy increases access in the centre of the District to between five to nine sites, within a 20-minute drive (green area in Map 4.9). The addition of Didcot North East Leisure Facility in South Oxfordshire increases the access for residents in the southeast of Vale of White Horse. Around Harwell residents can more than 20 sports hall sites within a 20-minute drive (purple area).

4.18 In Run 3 provision of Potential Wantage Leisure Centre increases access by car in the south of the District (see Map 4.10).

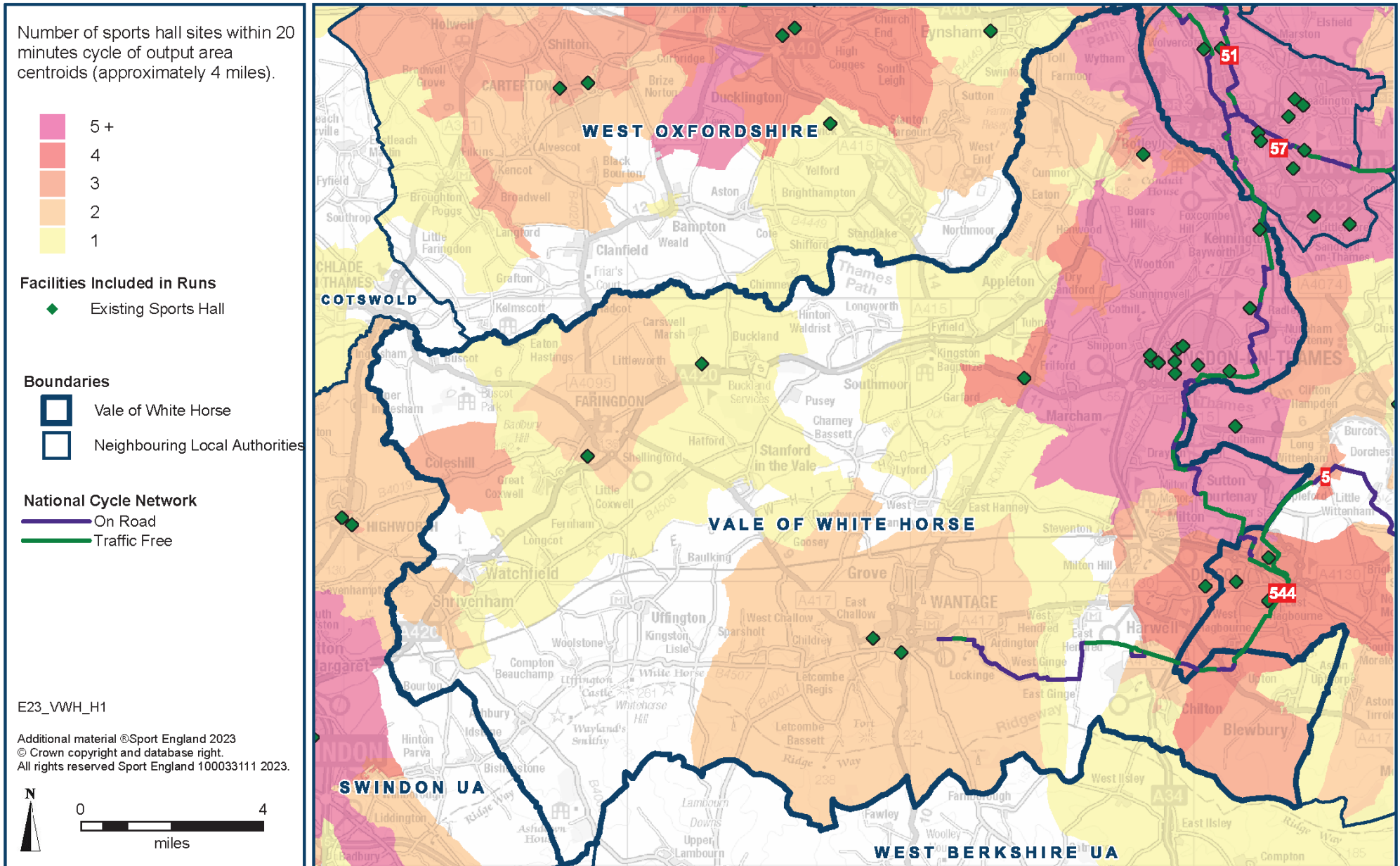
Map 4.1: Walking Access to Sports Halls in Run 1 (2023)

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.



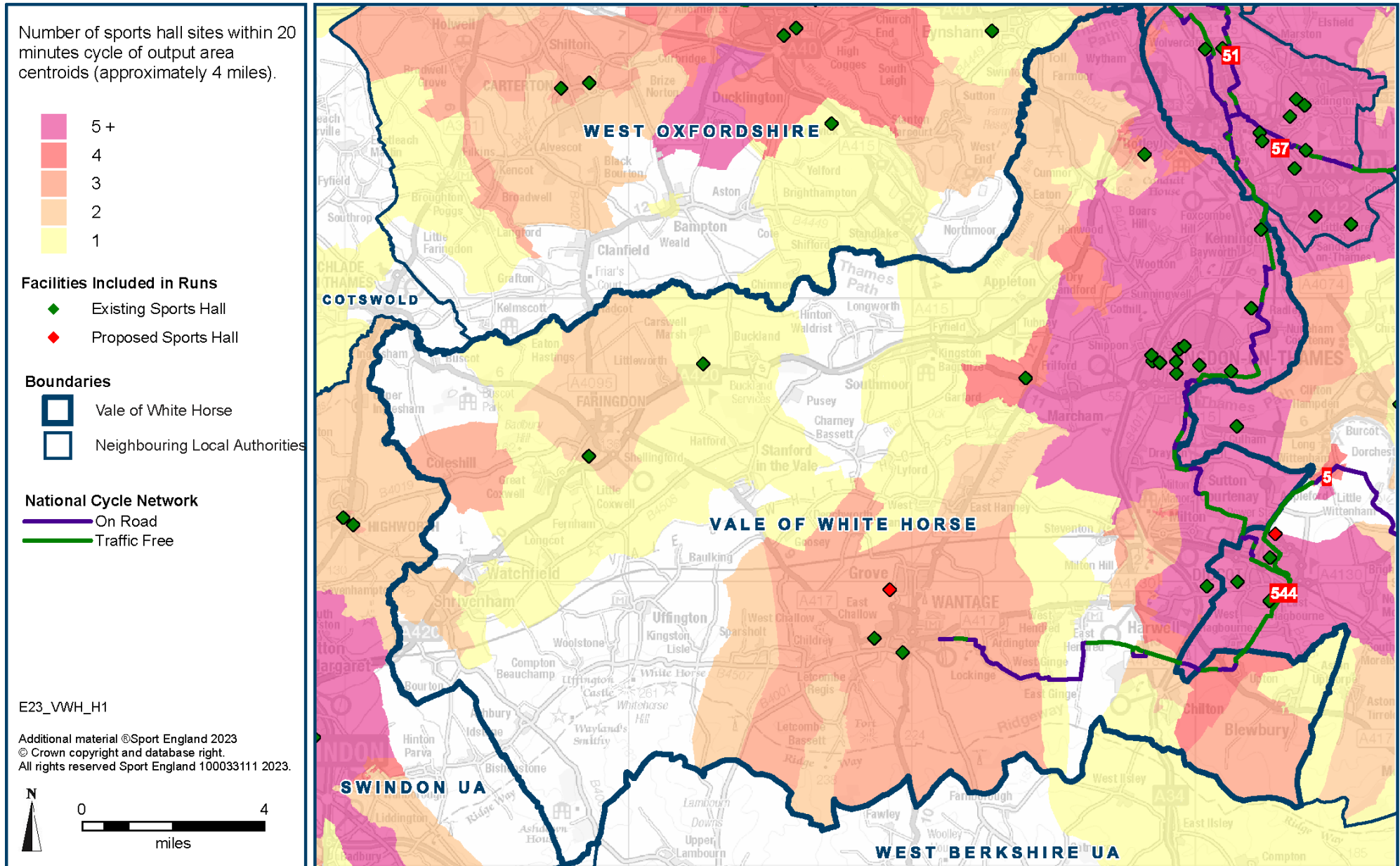
Map 4.4: Cycling Access to Sports Halls in Run 1 (2023)

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



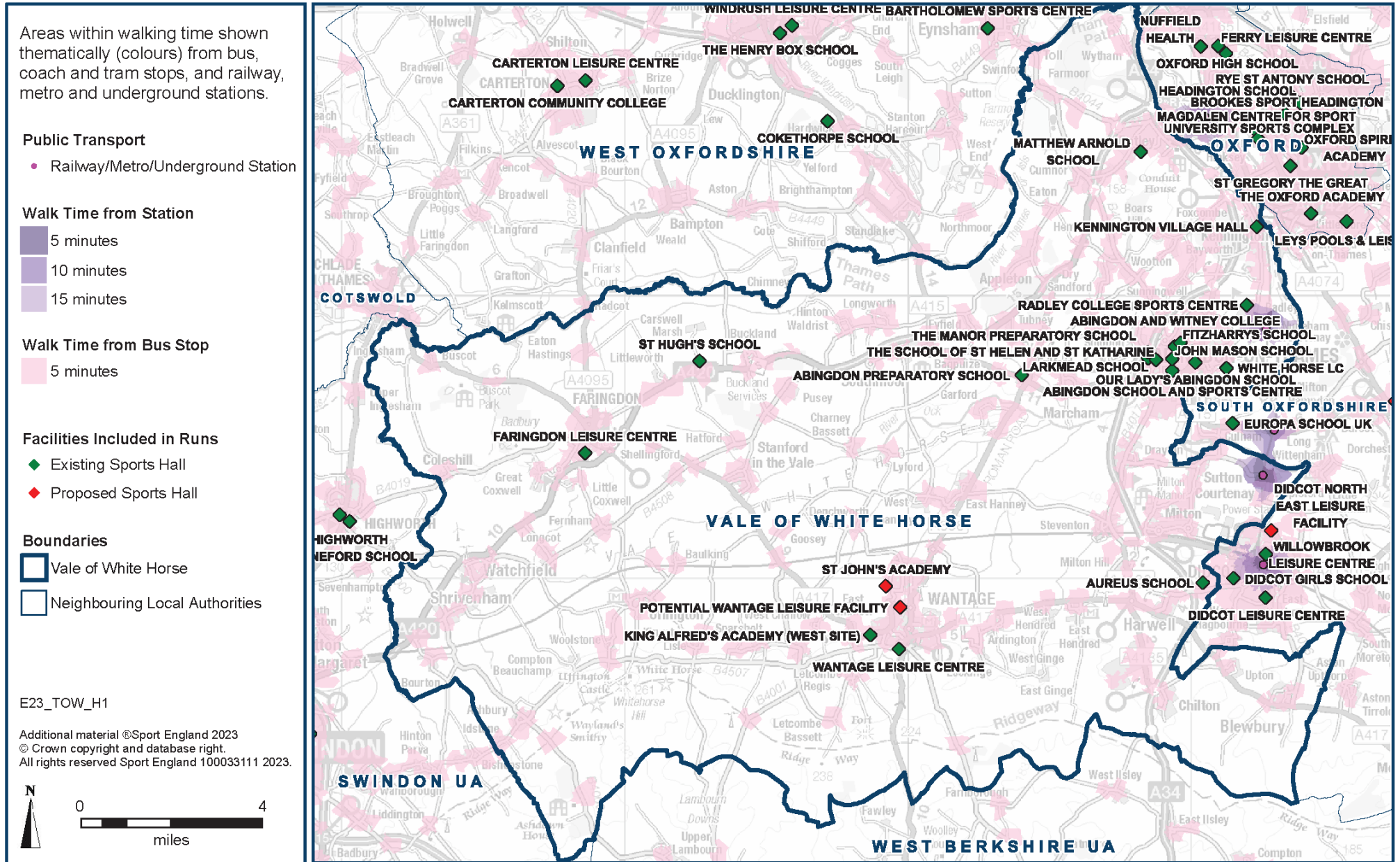
Map 4.5: Cycling Access to Sports Halls in Run 2 (2041)

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



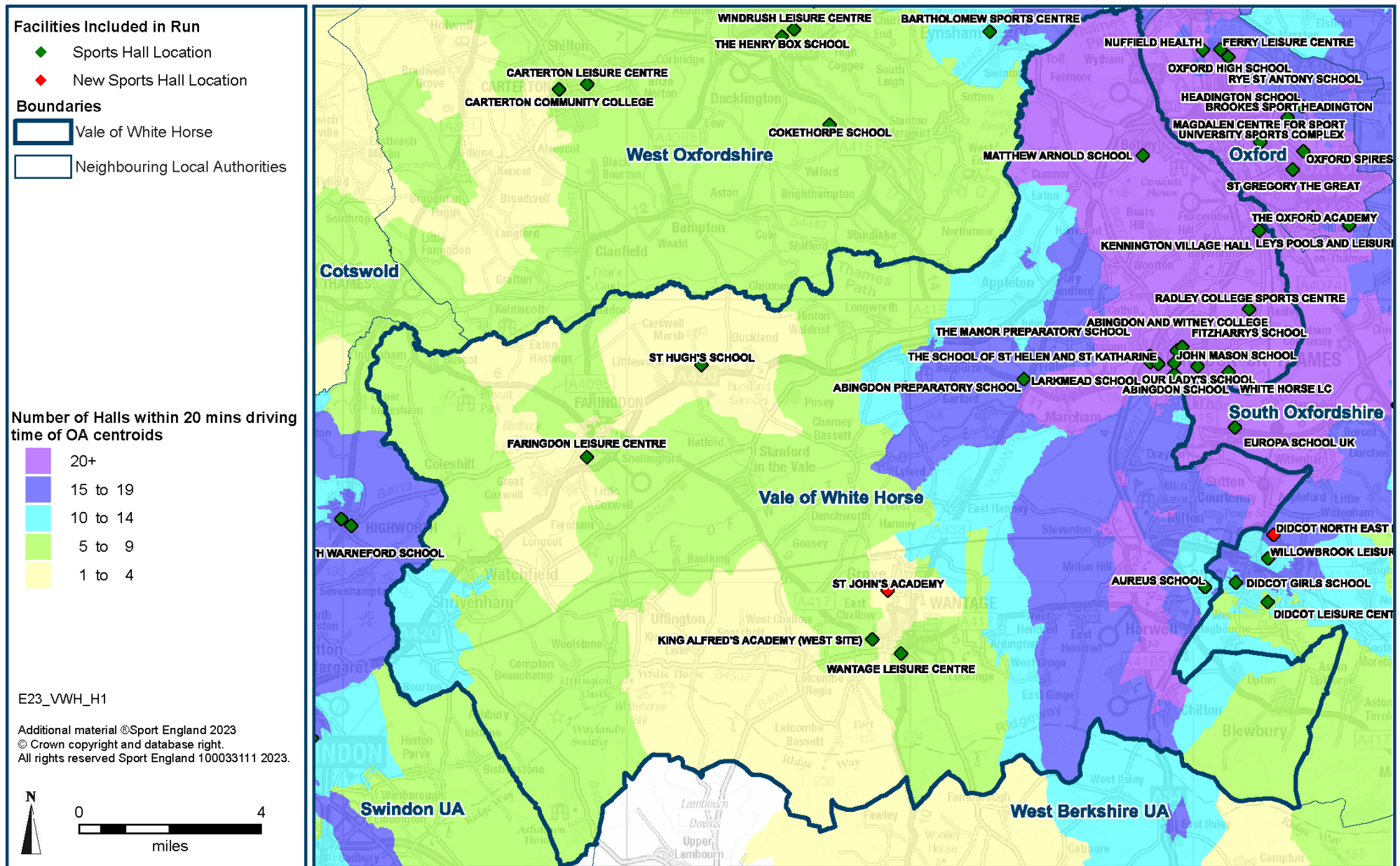
Map 4.7: Walking Access to Public Transport in Runs 1 to 3 (2023 and 2041)

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



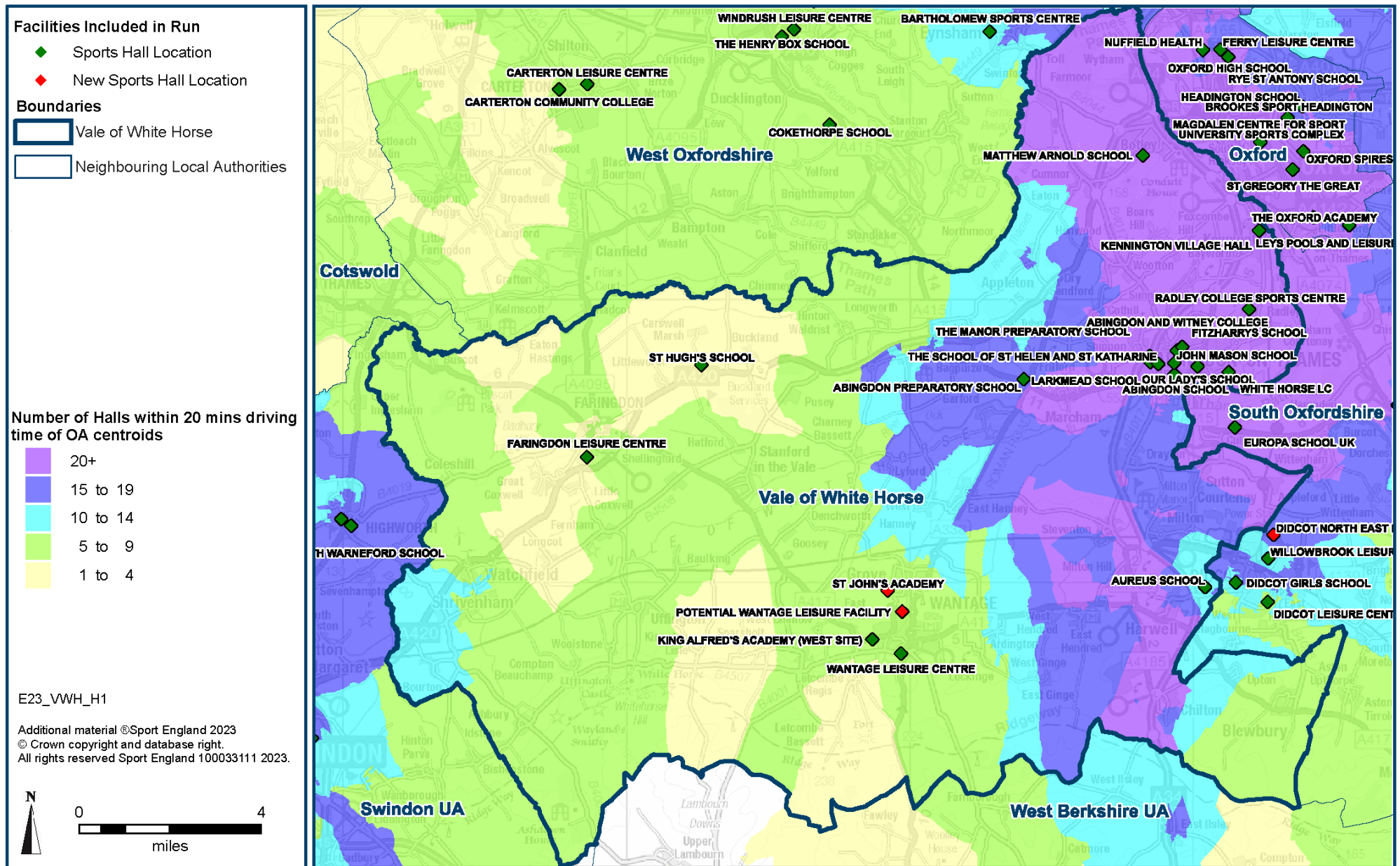
Map 4.9: Driving Access to Sports Halls in Run 2 (2041)

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.



Map 4.10: 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

Over 95% of Vale of White Horse’s demand is met in all runs, with far more visits satisfied in the runs in 2041 than in 2023 due to the increase in demand.

In all runs most demand is met within the District but around 20% is exported. The largest amount of exported demand goes to South Oxfordshire in all runs. It increases significantly from 2023 to 2041.

Table 5.1: Satisfied Demand for Sports Halls in Vale of White Horse by Run

Satisfied Demand	Run 1	Run 2	Run 3
Vale of White Horse	2023	2041	2041
Number of visits met per week in peak period	11,398	15,327	15,361
% of total demand satisfied	95%	96%	96%
Number of visits retained per week in peak period	9,161	12,302	12,378
Demand retained as a % of satisfied demand	80%	80%	81%
Number of visits exported per week in peak period	2,237	3,025	2,983
Demand exported as a % of satisfied demand	20%	20%	19%

Definition of satisfied demand – This represents the proportion of total demand that is met by the capacity at the sports halls from Vale of White Horse 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 5** is that met demand is very high. There is sufficient sports hall capacity within a suitable travel time to meet 95% of the District’s demand in 2023, and 96% in both runs in 2041. The number of visits met in the weekly peak period increases significantly from 11,398 in Run 1 to 15,361 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
Vale of White Horse	95%	96%	96%
West Berkshire UA	95%	95%	95%
Cherwell	94%	93%	93%
Oxford	92%	92%	92%
South Oxfordshire	95%	95%	95%
West Oxfordshire	95%	95%	95%
Swindon UA	93%	93%	93%
South East Region	94%	94%	94%
England	91%	90%	90%

5.2 Satisfied demand is also high in the neighbouring local authorities, at between 92% in Oxford and 95% in West Berkshire, South Oxfordshire and West Oxfordshire in all runs. Details of the sports halls in the neighbouring local authorities are listed in Appendix 2.

5.3 England-wide met demand is 91% in 2023 and 90% in 2041.

Retained Demand

5.4 A subset of the satisfied demand findings shows how much of Vale of White Horse's demand is met at sports halls within the District. This assessment is based on the travel time from Vale of White Horse's sports halls and residents in the District participating at these halls. This is called retained demand.

5.5 **Key finding 6** is that 80% of the satisfied demand is met within the District in Runs 1 and 2 and 81% in Run 3. Most of the District's sports halls are in the areas of highest demand and accessible to residents.

5.6 Due to the increase in demand and provision of two further sports halls, the number of visits retained rises. In Run 1, 9,161 visits in the weekly peak period are retained, in Run 3 it is 12,378 visits.

Exported Demand

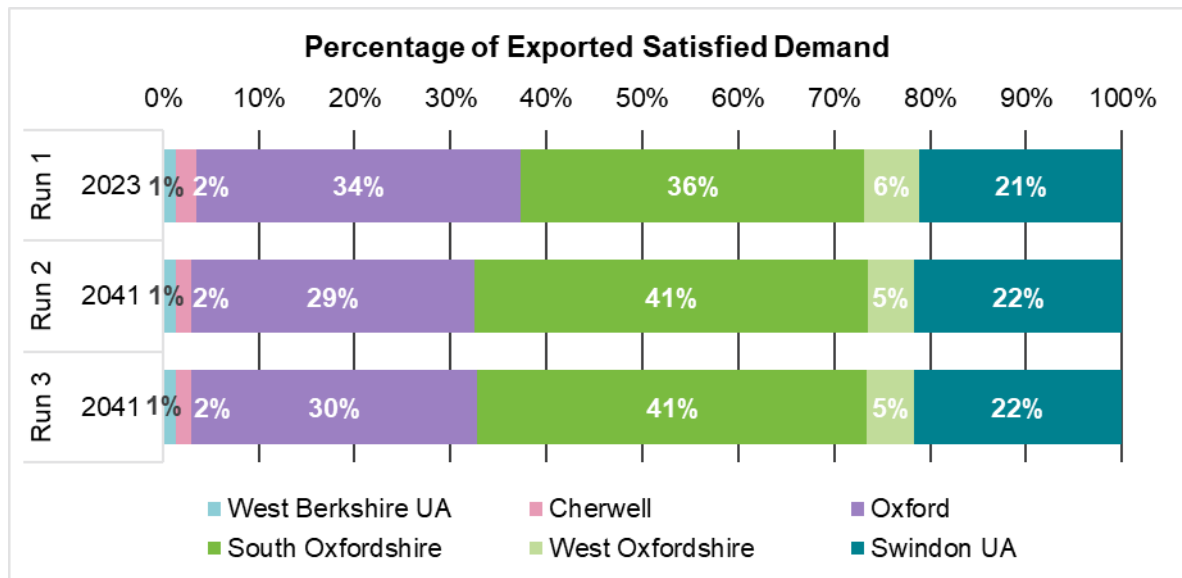
5.7 The residue of satisfied demand, after retained demand, is exported demand. This is based on Vale of White Horse residents who live within the travel time of a sports hall outside the District and use that sports hall.

5.8 Exported demand accounts for 20% of the District's met demand in Run 1, which equates to 2,237 visits in the weekly peak period. In Run 2 the proportion remains the same but the number of visits increases to 3,025. In Run 3 exported demand is 19% and the number of visits is lightly lower than Run 2 at 2,983 visits.

Table 5.3: Export Destination of Vale of White Horse Satisfied Demand by Run

Export (visits per week peak period)	RUN 1	RUN 2	RUN 3
Destination	2023	2041	2041
West Berkshire UA	29	41	39
Cherwell	50	50	49
Oxford	755	892	889
South Oxfordshire	798	1,238	1,209
West Oxfordshire	128	147	146
Swindon UA	474	655	648
<i>Outside Study Area</i>	<i>2</i>	<i>3</i>	<i>3</i>

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



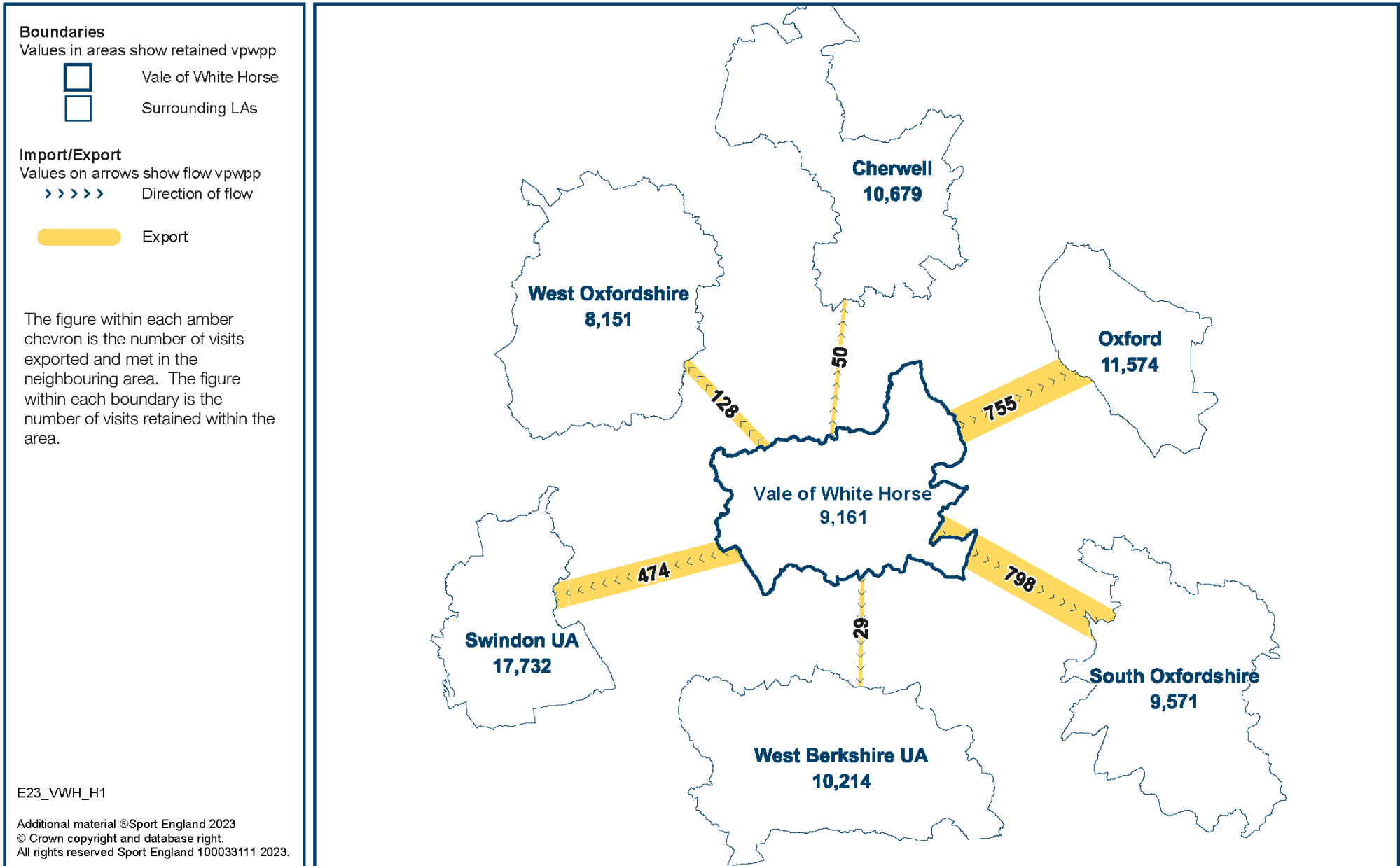
5.9 The largest amount of exported demand in the weekly peak period in all runs is to local authorities east of Vale of White Horse.

- In Run 1:
 - South Oxfordshire receives 798 visits (36% of all exported demand)
 - Oxford receives 755 visits (34% of all exported demand)
- In Run 2:
 - South Oxfordshire receives 1,238 visits (41% of all exported demand). Didcot North East Leisure Facility is included in this run.
 - Oxford receives 892 visits (29% of all exported demand)
- In Run 3:
 - South Oxfordshire receives 1,209 visits in the weekly peak period (41% of all exported demand)
 - Oxford receives 889 visits (30% of all exported demand)

5.10 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.

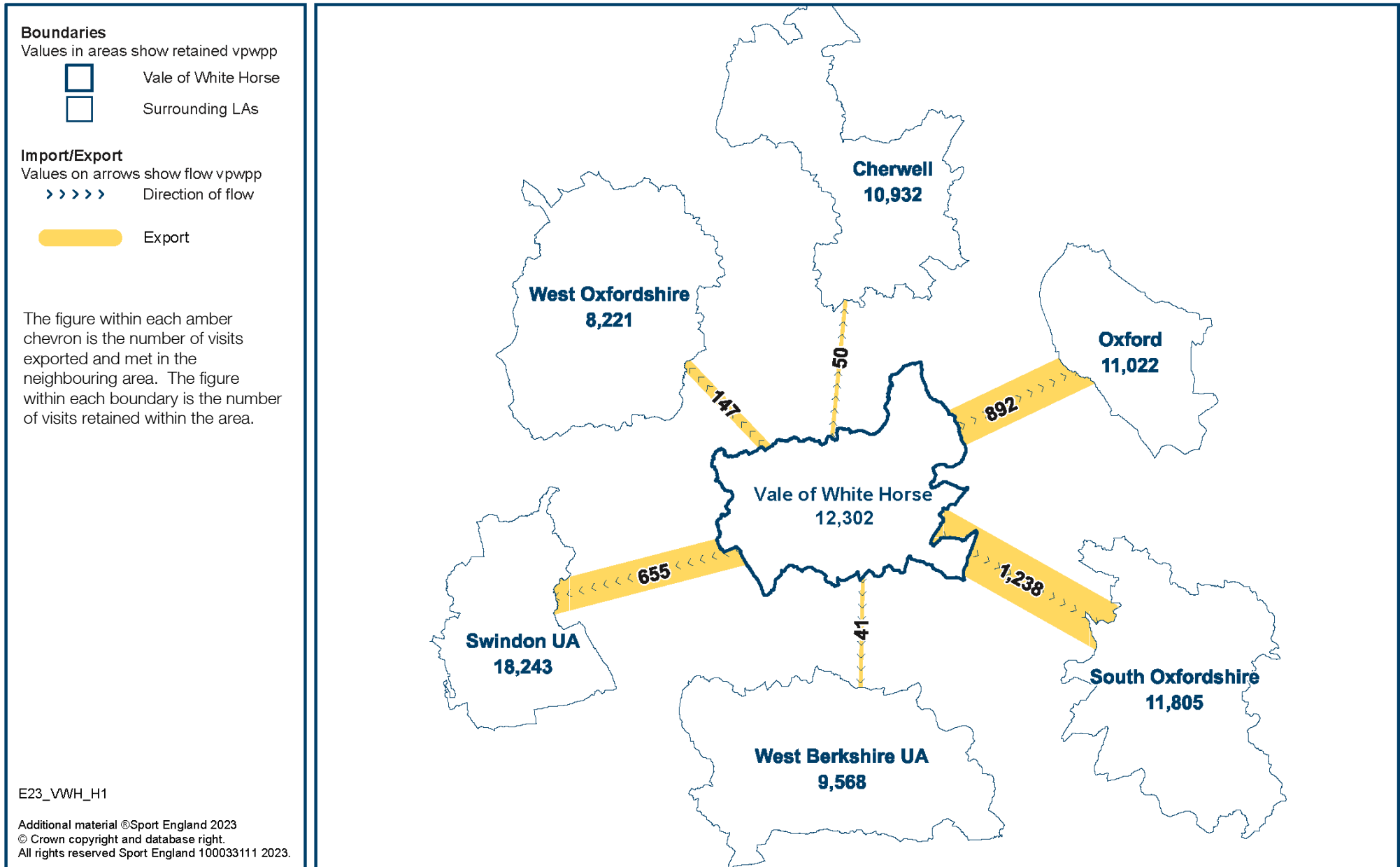
Map 5.1: Export of Vale of White Horse Satisfied Demand for Sports Halls in Run 1 (2023)

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



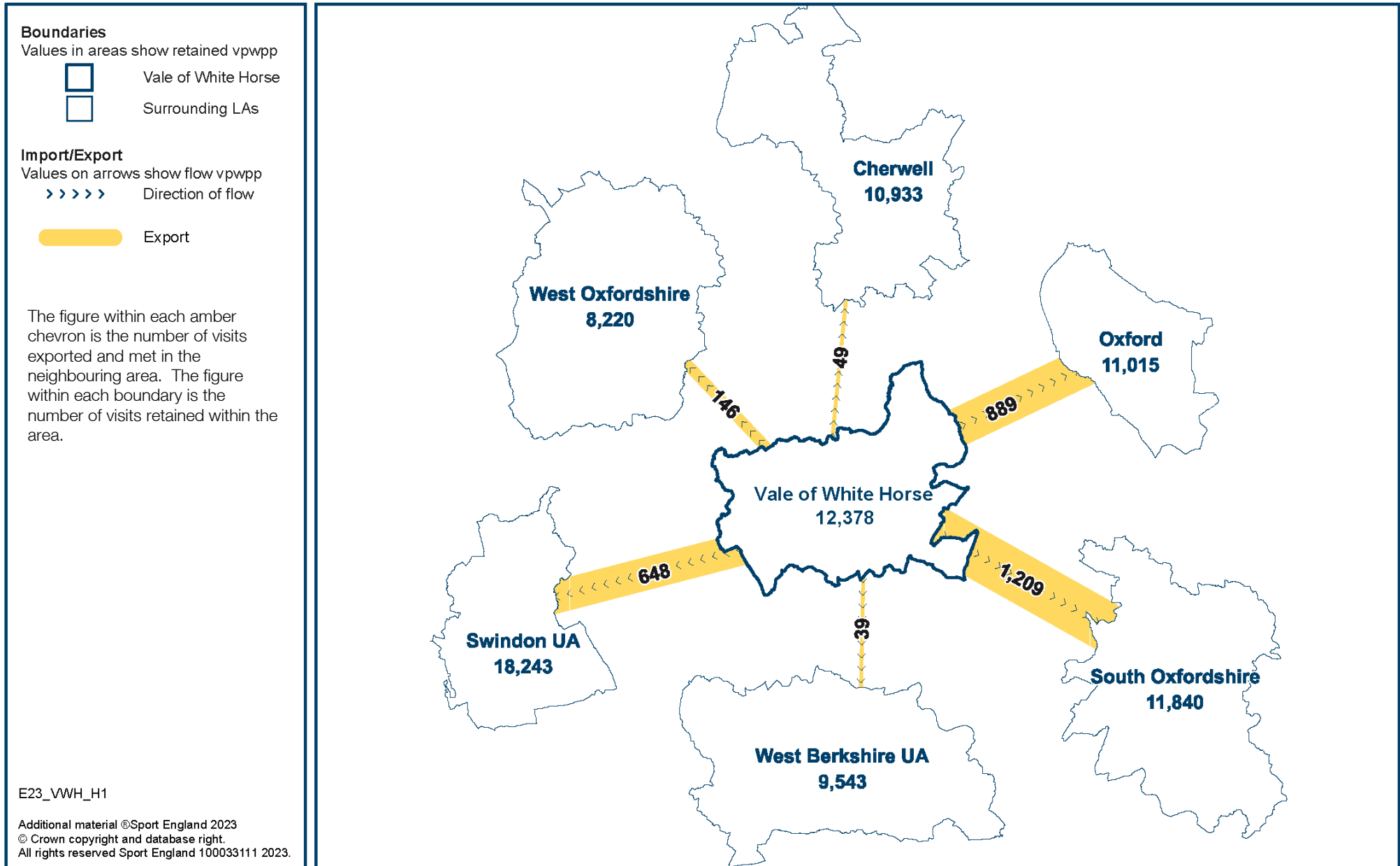
Map 5.2: Export of Vale of White Horse Satisfied Demand for Sports Halls in Run 2 (2041)

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



Map 5.3: Export of Vale of White Horse Satisfied Demand for Sports Halls in Run 3 (2041)

FPM exported demand Vale of White Horse 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 in Run 1, at the equivalent of 1.9 courts. It increases very slightly in Run 2 to 2.4 courts and is similar in Run 3 to 2.3 courts.

There is no unmet demand due to lack of sports hall capacity in any run.

Table 6.1: Unmet Demand for Sports Halls in Vale of White Horse by Run

Unmet Demand	Run 1	Run 2	Run 3
Vale of White Horse	2023	2041	2041
Number of visits unmet per week in peak period	561	721	687
Unmet demand as a % of total demand	5%	4%	4%
Equivalent in courts with comfort factor	1.9	2.4	2.3
Court equivalents of unmet demand due to:			
Facility too far away, of which:	1.9	2.4	2.3
% without access to a car	88%	88%	88%
% with access to a car	12%	12%	12%
Lack of facility capacity, of which:	0.0	0.0	0.0
% without access to a car	52%	77%	78%
% with access to a car	48%	23%	22%

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 7** is that unmet demand is 5% of demand in 2023 and 4% in both runs in 2041. It is the equivalent of between 1.9 courts in Run 1 and 2.4 courts in Run 2. All the unmet demand in all runs is due to residents being too far from a facility and none is due to lack of sports hall capacity.
- 6.2 Demand 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

- 6.3 In Run 1 unmet demand is distributed in very low values per square kilometre across the District (purple squares in Map 6.1). The highest density of unmet demand per square kilometre is 0.1 of a court in:
- Farringdon (two squares)
 - Botley
 - Grove
 - Wantage
 - Watchfield
- 6.4 In Run 2 the highest density of unmet demand remains at 0.1 of a court (see Map 6.2) but unmet demand increases in:
- Wantage
 - Caldicott (south Abingdon)
 - Milton
- 6.5 In Run 3 the only change from Run 2 is that unmet demand decreases by 0.1 of a court in Wantage (see Map 6.3).

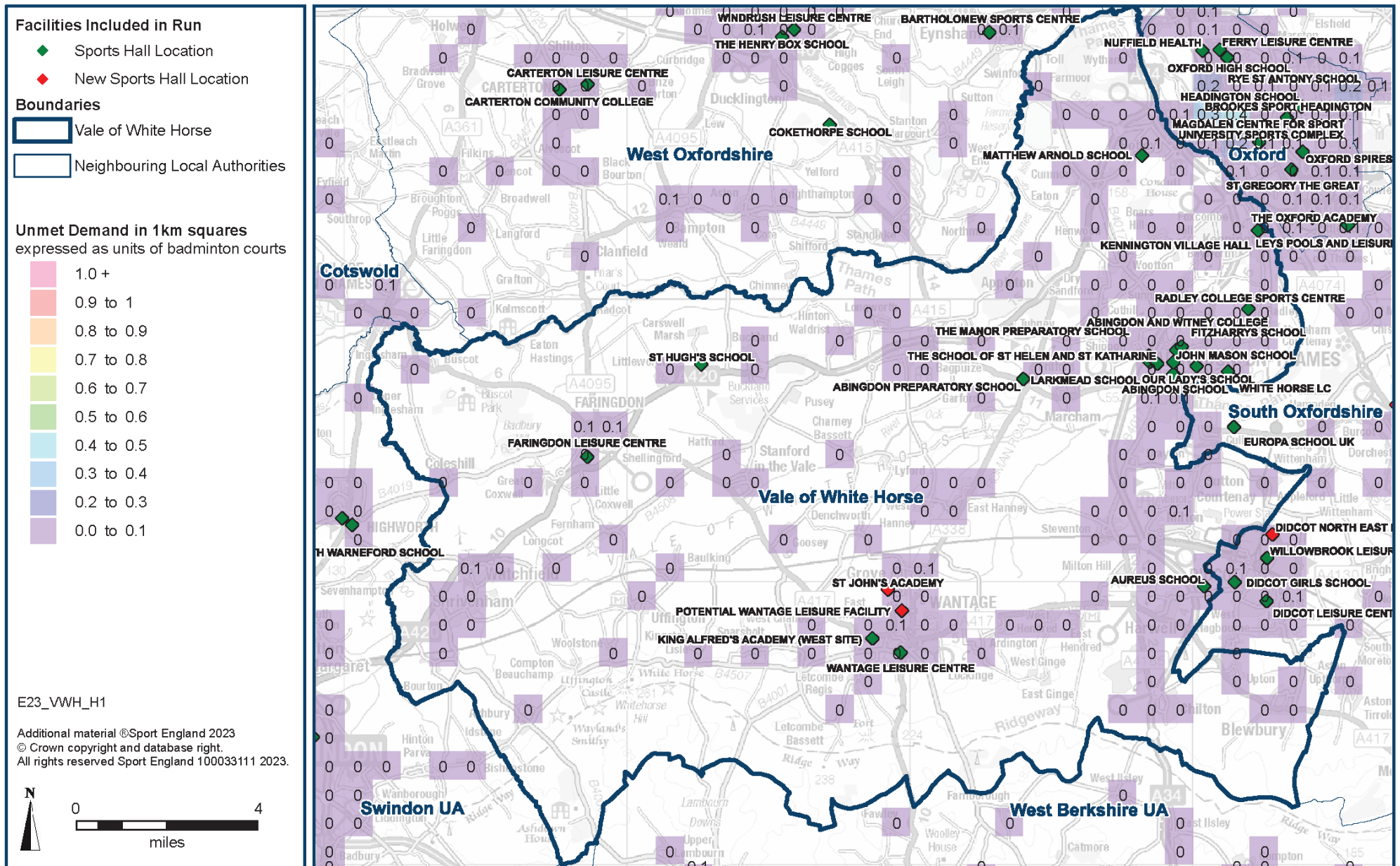
Meeting Unmet Demand

- 6.6 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.
- 6.7 **Key finding 8** is that in Run 3 the location where the most unmet demand can be met is in Botley, northeast of Matthew Arnold School. Unmet demand at this location is for 0.8 of a court and will include unmet demand from Oxford. 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.

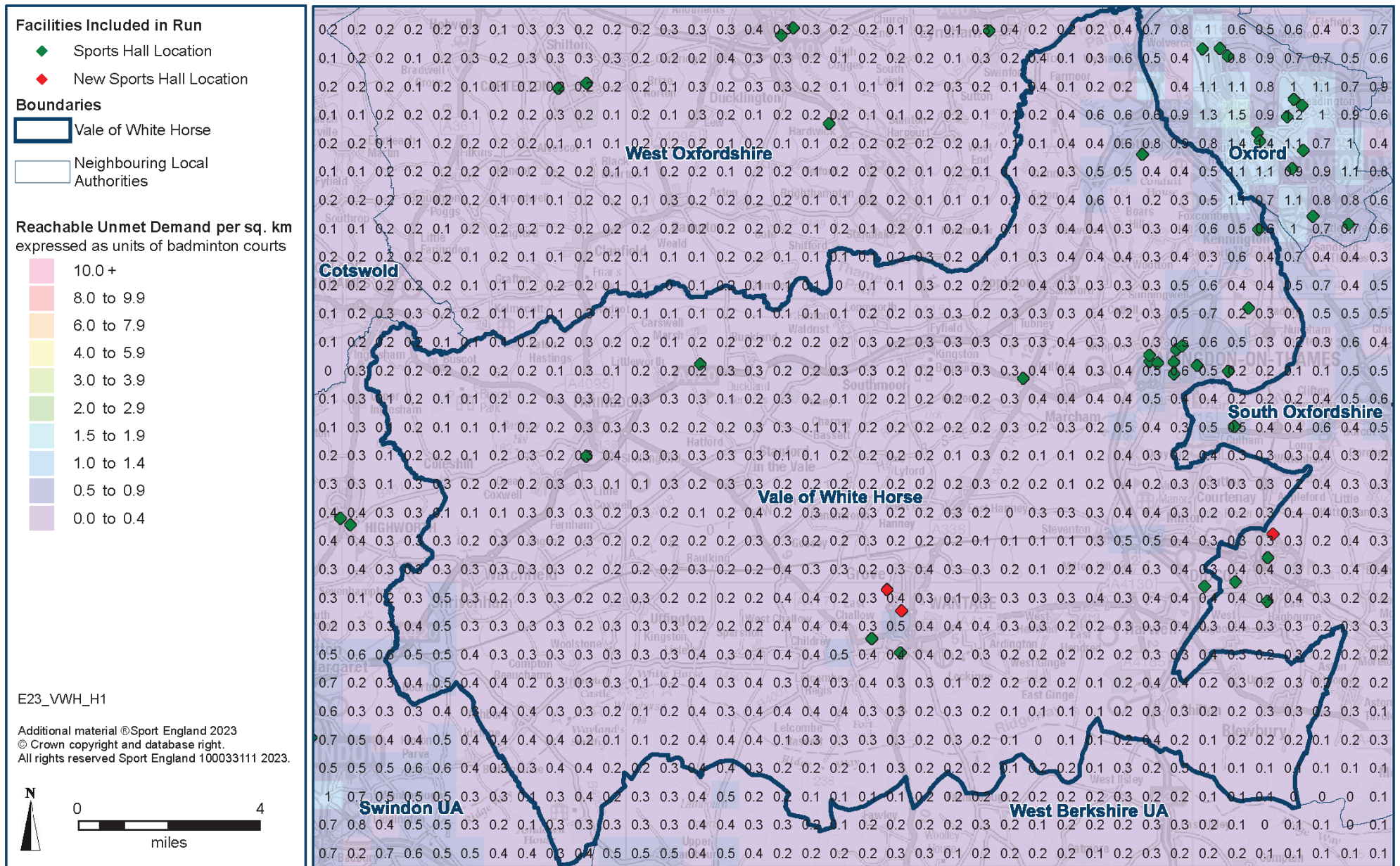
Map 6.3: Unmet Demand for Sports Halls in Run 3 (2041)

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.



7 USED CAPACITY OF FACILITIES

There is sufficient sports hall capacity in Vale of White Horse to comfortably meet demand at peak times. However, three sites are estimated to be full at peak times in Run 2 and two sites in Run 3.

Imported demand is 14% of the used capacity of the District's sports halls in all years. The number of visits imported increases between 2023 and 2041 due to the increase in demand and the greater capacity in Runs 2 and 3.

The largest amount of imported demand is from South Oxfordshire in all runs. It increases from 39% of all imported demand in Run 1 to 51% in Run 2.

Table 7.1: Used Capacity of Sports Halls in Vale of White Horse by Run

Used Capacity	Run 1	Run 2	Run 3
Vale of White Horse	2023	2041	2041
Number of visits used of capacity per week in peak period	10,692	14,271	14,355
% of overall capacity of halls used	40%	52%	49%
Number of visits imported per week in peak period	1,531	1,969	1,977
As a % of used capacity	14%	14%	14%
Difference between visits imported and exported	-706	-1,057	-1,006

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 **Key finding 9** is that the overall estimated used capacity of sports halls in the District in the weekly peak period is between 40% in Run 1 and 52% in Run 2. There is sufficient capacity to meet demand. However, three sites are estimated to be full at peak times in Run 2 and two sites in Run 3.
- 7.2 The number of visits met in the weekly peak period at sports halls in Vale of White Horse increases significantly from 10,692 visits in Run 1 to 14,355 visits in Run 3 due to the increase demand and supply.

Table 7.2: Used Capacity of Vale of White Horse Sports Halls by Run

Used Capacity				Run 1		Run 2		Run 3	
				2023		2041		2041	
Sites	Operation	Year Built	Year Refurb	Proportion	Visits	Proportion	Visits	Proportion	Visits
Abingdon and Witney College	Edu. (in-house)	1990	2009	36%	138	40%	154	40%	154
Abingdon Preparatory School	Edu. (in-house)	2007		50%	635	63%	799	57%	723
Abingdon School Sports Centre	Edu. (in-house)	1960	2008	26%	162	34%	212	33%	206
Aureus School	Edu. (in-house)	2017		74%	693	100%	936	100%	936
Faringdon Leisure Centre	Public	1990	2023	53%	1,170	60%	1,325	59%	1,303
Fitzharrys School	Edu. (in-house)	1959		22%	279	34%	431	34%	431
John Mason School	Edu. (in-house)	1960		22%	435	35%	693	34%	673
Kennington Village Hall	Community	1988		35%	328	45%	421	45%	421
King Alfred's Academy	Edu. (in-house)	2018		78%	1,346	100%	1,726	69%	1,191
Larkmead School	Edu. (in-house)	1975		19%	328	27%	466	26%	449
Matthew Arnold School	Edu. (in-house)	1995		34%	544	41%	656	41%	656
Our Lady's Abingdon School	Edu. (3rd party)	1978		50%	352	53%	373	52%	366
Potential Wantage Leisure Facility	Public	2028		-	-	-	-	100%	1,440
Radley College Sports Centre	Edu. (in-house)	1985	2013	18%	288	19%	304	19%	304
St Hugh's School	Edu. (in-house)	1970		17%	204	27%	324	26%	312
St John's Academy	Edu. (in-house)	2025		-	-	100%	800	78%	624
The Manor Preparatory School	Edu. (in-house)	1907		38%	625	55%	904	54%	888
The School of St Helen and St Katharine	Edu. (in-house)	2016		42%	1,141	60%	1,630	58%	1,575
Wantage Leisure Centre	Public	1976	2005	76%	1,119	77%	1,133	49%	721
White Horse Leisure and Tennis Centre	Public	2002		30%	883	34%	1,001	34%	1,001

Site Utilisation Factors

7.3 There is a wide variation in the used capacities of the sports halls in Vale of White Horse. In Run 1 the lowest proportion of capacity used is 17% and the highest is 78%. In Runs 2 and 3 the lowest proportion of capacity used is 19% 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 close together, the demand for these sites is shared between the venues, which 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 Vale of White Horse, 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 The sports halls that are estimated to be full at peak times are:

- Aureus School in Runs 2 and 3
- King Alfred's Academy in Run 2
- St John's Academy in Run 2
- Potential Wantage Leisure Facility in Run 3

7.7 The explanations for the high proportions of used capacity are as follows:

- Aureus School:
 - Opened in 2017, it has a draw and attraction because of its age and condition
 - Located on the edge of Didcot where demand is high in South Oxfordshire
 - Does not have competition from other sports halls west of it and the nearest sports hall to the east is Didcot Girls School, which opened in 2006 and is unmodernised and, therefore, less attractive to residents (see Appendix 2).
 - Joint fifth smallest capacity in the District, which means that it only meets 936 visits in the weekly peak period when it is full
- King Alfred's Academy:
 - Opened in 2018, it has a draw and attraction because of its age and condition
 - Located in Wantage where demand is high
 - In Run 2 it only has competition from two other sites of similar attractiveness but in Run 3 Potential Wantage Leisure Facility is included that is much more attractive as a new public leisure centre
- St John's Academy:
 - Modelled to open in 2025, it has a high attractiveness because of its age and condition
 - Located between high demand in Grove and Wantage.
 - Fourth smallest capacity in the District, which means that it only meets 800 visits in the weekly peak period when it is full
 - In Run 2 it only has competition from two other sites of similar attractiveness but in Run 3 Potential Wantage Leisure Facility is included that is much more attractive as a new public leisure centre
- Potential Wantage Leisure Facility
 - Modelled to open in 2028 it has a high attractiveness because of its age and condition
 - Has a further draw because it is a public leisure centre available to all residents for pay and play as well as club development
 - Located in Wantage where demand is high

Public Leisure Centres

7.8 Utilisation at the other public leisure centres is:

- Farringdon Leisure Centre:
 - Utilisation of between 53% in Run 1 and 60% in Run 2, but meets the second most visits in the District in Run 1 and the third most visits in Runs 2 and 3
 - Only sports hall in Farringdon, therefore, does not have competition from other sites for the demand in the area
- Wantage Leisure Centre:
 - Utilisation decreases from 77% in Run 2 to 49% in Run 3
 - Located in Wantage where demand is high but on the edge of the town
 - Meets the fourth most visits in the District in Runs 1 and 2 but the competition from the new public leisure centre nearby in Run 3 reduces the number of visits it meets to 721 in the weekly peak period
 - Opened in 1976 and modernised in 2005, which means that by 2041 it is significantly less attractive than the other three sites in Wantage in Run 3
- White Horse Leisure and Tennis Centre
 - Utilisation of 30% in Run 1 and 34% in Runs 2 and 3
 - Largest capacity in the District, therefore, it meets the fifth most visits in all runs
 - Located in Abingdon where demand is very high
 - Competition from other sites but is the only public leisure centre in the area and, therefore, is the most attractive site

Educational Sites

7.9 Used capacity at the other educational sports hall sites ranges from:

- Run 1 – 17%, at St Hugh's School, to 50%, at Abingdon Preparatory School and Our Lady's Abingdon School
- Run 2 – 19%, at Radley College Sports Centre, to 63%, at Abingdon Preparatory School
- Run 3 – 19%, at Radley College Sports Centre, to 58%, at The School of St Helen and St Katharine

7.10 The reasons for these differences are:

- St Hugh's School has low utilisation because it is in an area of very low demand and was built in 1970 and, therefore, very unattractive to residents.
- Radley College Sports Centre has low utilisation because it is in an area of lower demand and has competition nearby from newer sports halls in Abingdon.

- Abingdon Preparatory School has higher utilisation because it is in Frilford where it does not have competition from other sports halls for the demand in the area. It also opened in 2007 and, therefore, is relatively more attractive than other sports halls.
- Our Lady’s Abingdon School has higher utilisation because it has the third smallest capacity in the District and, therefore, meets fewer visits.
- The School of St Helen and St Katharine has higher utilisation because it is in Abingdon where demand is very high and it is the newest sports hall in the area and, therefore, has a relatively high attractiveness.

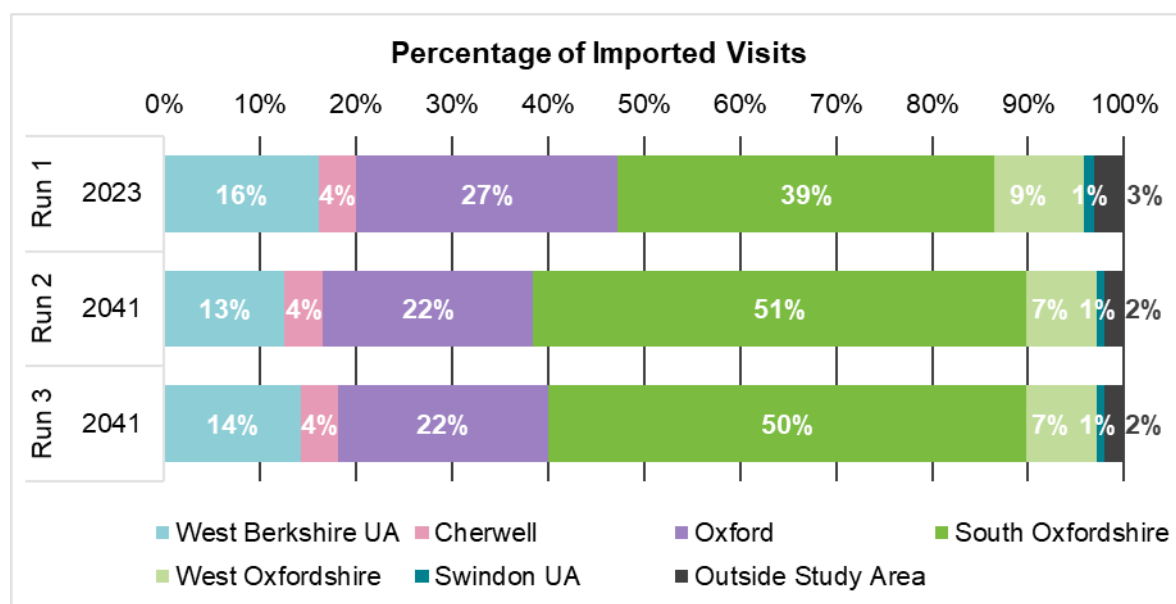
Imported Demand

7.11 Imported demand is 14% of the used capacity of the District’s sports halls in all runs. However, the number of visits imported increases from 1,531 visits in the weekly peak period in Run 1 to 1,977 visits in Run 3, due to the increase in demand and capacity.

Table 7.4: Import Origin of Visits to Sports Halls in Vale of White Horse by Run

Import (visits per week peak period)	Run 1	Run 2	Run 3
Origin	2023	2041	2041
West Berkshire UA	247	246	281
Cherwell	59	78	78
Oxford	418	432	431
South Oxfordshire	601	1,012	985
West Oxfordshire	143	146	146
Swindon UA	16	14	15
<i>Outside Study Area</i>	<i>47</i>	<i>41</i>	<i>41</i>

Chart 7.1: Percentage of Imported Visits by Origin and Run



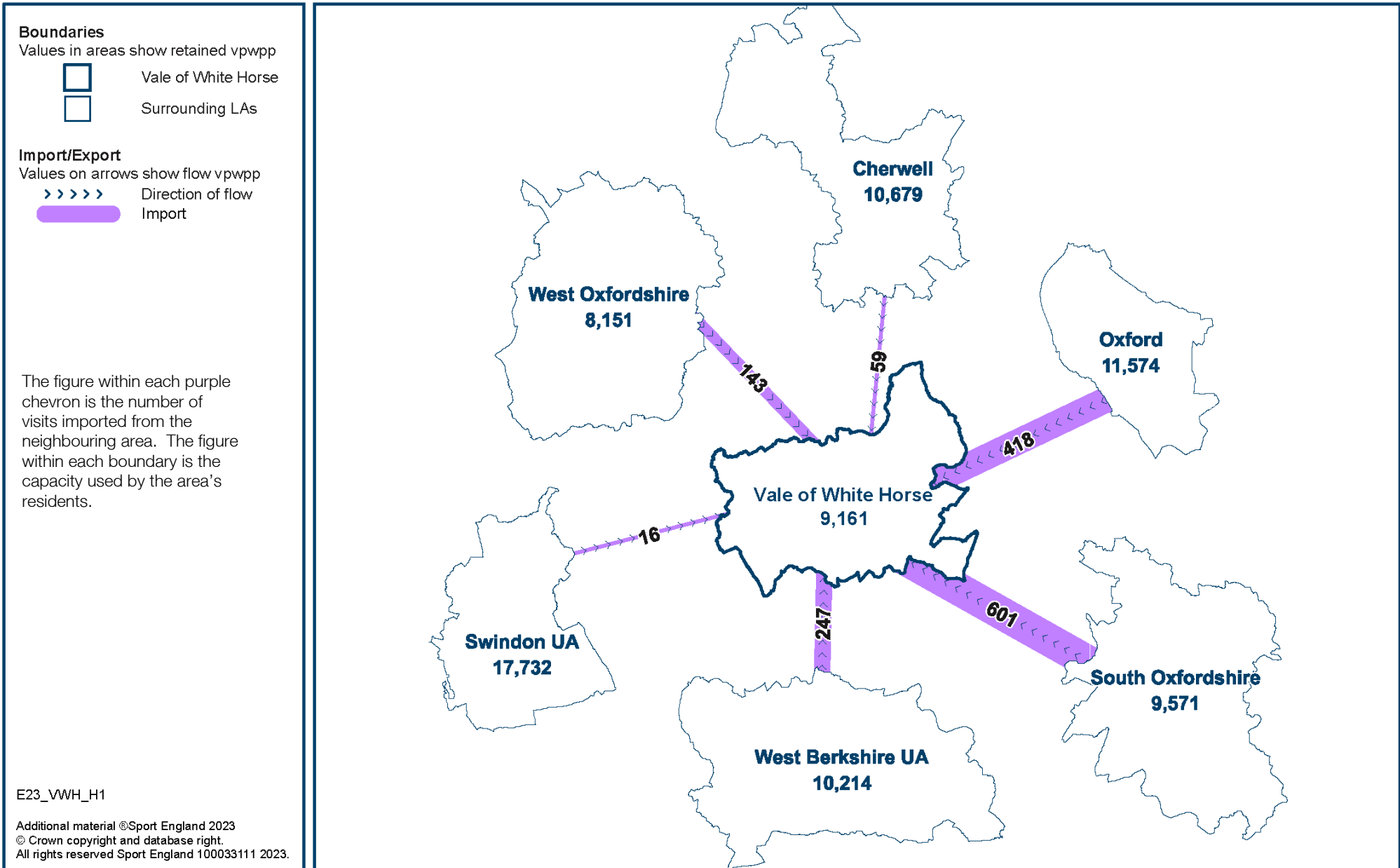
- 7.12 In all runs, the largest amount of imported demand in the weekly peak period is from South Oxfordshire:
- Run 1 – 601 visits (39% of all imported demand)
 - Run 2 – 1,012 visits (51% of all imported demand)
 - Run 3 – 985 visits (50% of all imported demand)
- 7.13 The extensive supply of sports halls in Abingdon and Aureus School in Didcot are accessible to some South Oxfordshire residents.
- 7.14 Imported demand is shown spatially in Map **7.1** for Run 1 (2023), in Map **7.2** for Run 2 and in Map **7.3** for Run 3 (2041).

Import/Export Balance

- 7.15 In all runs Vale of White Horse exports more visits in the weekly peak period than it imports:
- Run 1 – 706 more visits
 - Run 2 – 1,057 more visits
 - Run 3 – 1,006 more visits

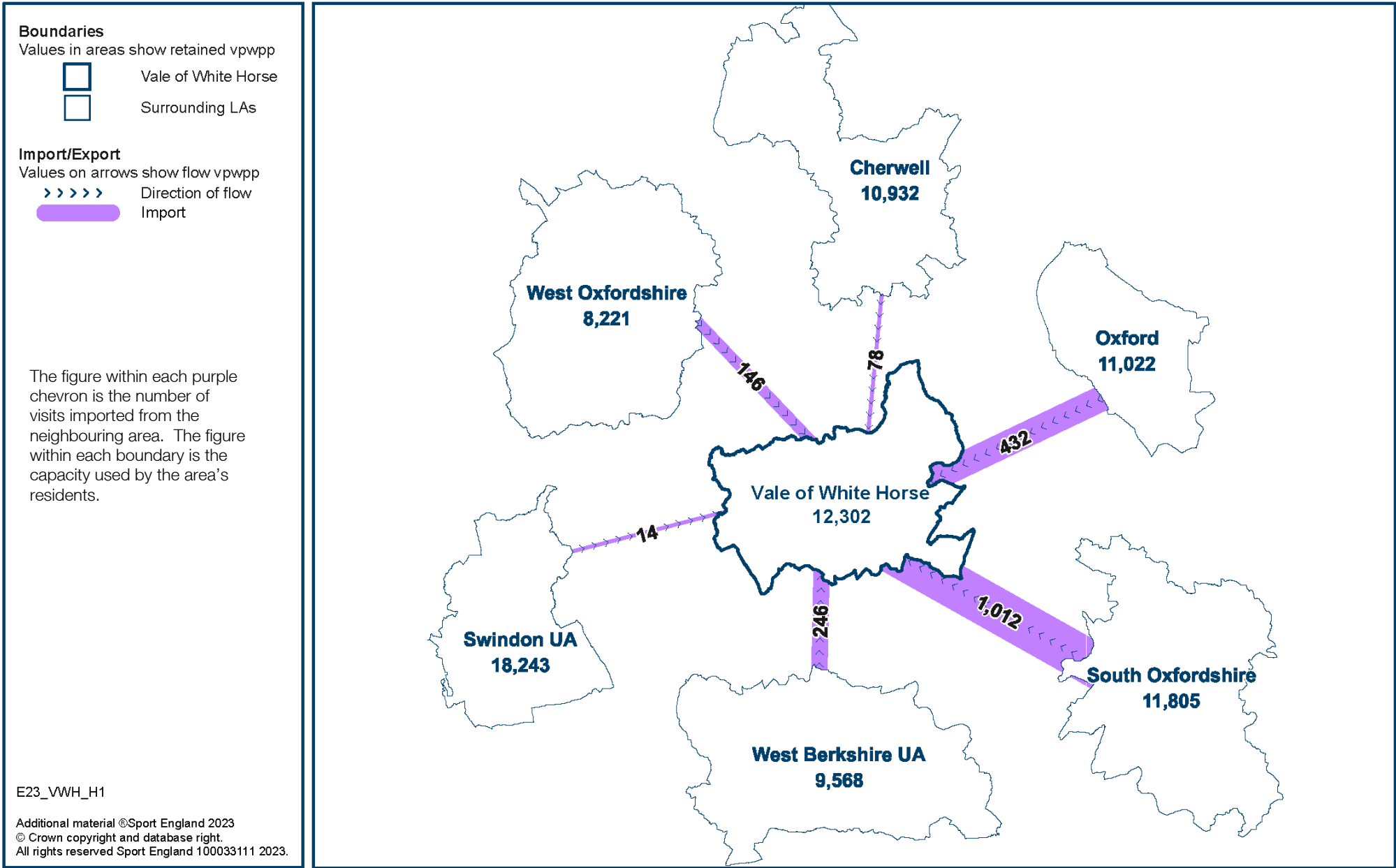
Map 7.1: Imported Demand for Sports Halls in Vale of White Horse in Run 1 (2023)

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



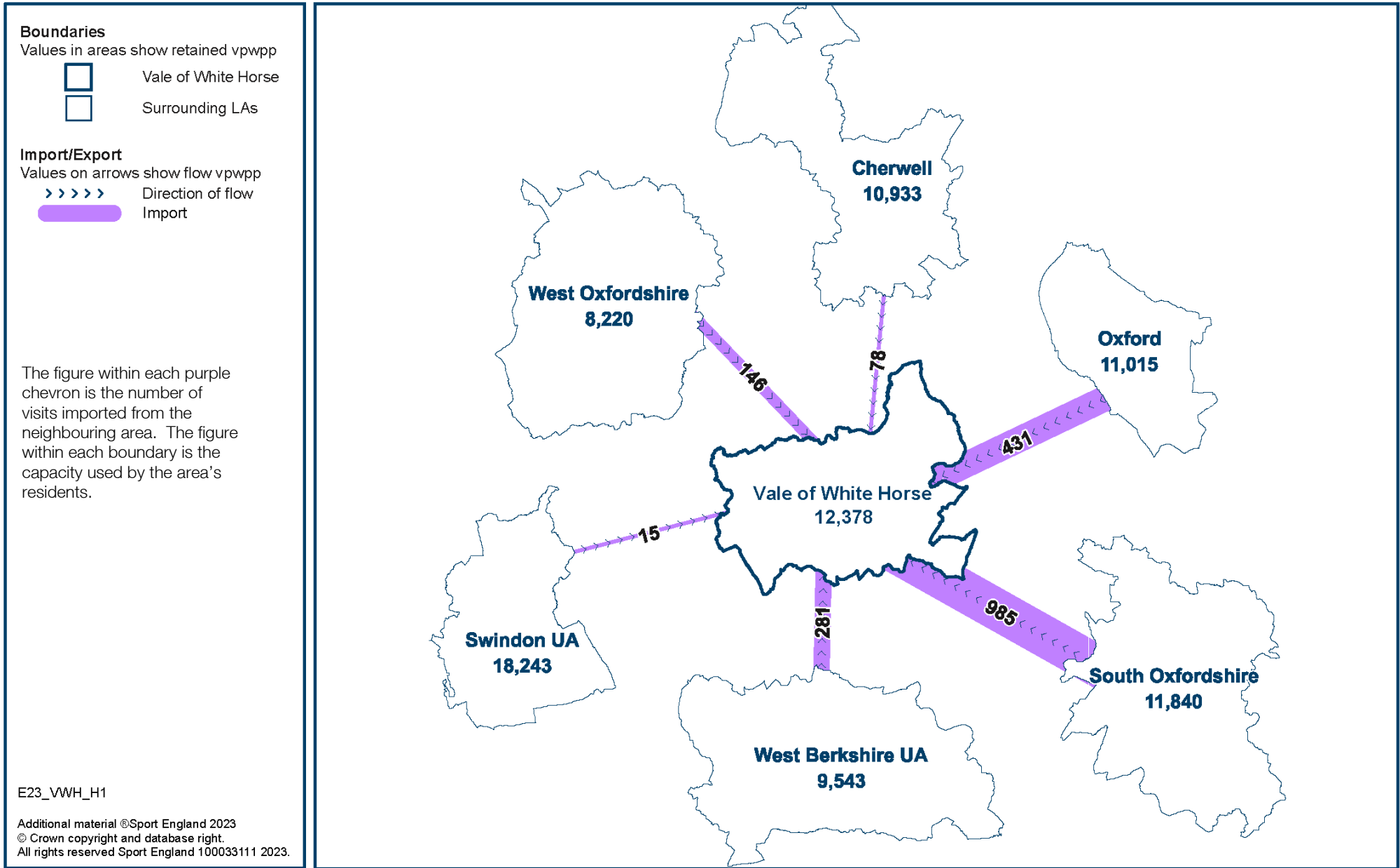
Map 7.2: Imported Demand for Sports Halls in Vale of White Horse in Run 2 (2041)

FPM imported demand between Vale of White Horse 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 Vale of White Horse in Run 3 (2041)

FPM imported demand between Vale of White Horse 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 worsens in 2041 due to the large increase in demand and the ageing of the facilities between the two years.

Vale of White Horse has the highest provision of courts per population across the study area in all runs. The District's provision is greater than both the regional and national averages in both years.

Table 8.1: Local Share of Sports Halls in Vale of White Horse by Run

Local Share	Run 1	Run 2	Run 3
Vale of White Horse	2023	2041	2041
Local share of sports halls relative to demand in local area: <1 = poorer, >1 = better	1.15	0.63	0.71

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 the District's residents can access, with local share at 1.15.
- 8.4 In Run 2 local share is 0.63 meaning there is insufficient suitable provision that the District's residents can access. Demand is greater, and there is an increase in supply of one sports hall, but overall the facilities have aged and become less attractive.
- 8.5 In Run 3 local share increases to 0.71. Demand is unchanged from Run 2, but supply has increased with one further sports hall that is more attractive.

Geographical Distribution of Local Share

- 8.6 In Run 1 local share is best in northwest Abingdon and Radley, at between 1.8 and 2.2 (purple squares in Map 8.1). Local share is very good around Abingdon, at 1.2 and above (light blue and dark blue squares). Demand in Abingdon is high, but it also has an extensive supply of sports halls.
- 8.7 Local share is also very good around Farringdon, at between 1.5 and 1.7 (medium blue and dark blue squares). Demand is low in this area, but has access to a large sports hall that was recently refurbished.
- 8.8 Local share is poorest around Wantage, at 0.6 and 0.7 (yellow squares). There are only two sports halls to meet the high demand in this area.
- 8.9 In Run 2 local share remains good in northwest Abingdon and Radley, but the values are lower at between 1.0 and 1.2 (dark green and light blue squares in Map 8.2). Demand has increased in the area, the sports halls have aged and there is no increase in supply in Abingdon.
- 8.10 Local share remains poorest around Wantage, at 0.4 (orange squares). Local share is very poor from Uffington through to west Didcot, at 0.5 (orange squares). There is one new sports hall in Wantage, but demand has increased and the other facilities have aged.
- 8.11 In Run 3 local share remains the same across most of the District but improves around Wantage to 0.6 and 0.7 (yellow squares in Map 8.3). Demand is unchanged and supply has increased with the inclusion of Potential Wantage Leisure Facility.

Comparative Measure of Provision

- 8.12 A comparative measure of sports hall provision is the number of badminton court equivalents per 10,000 population.

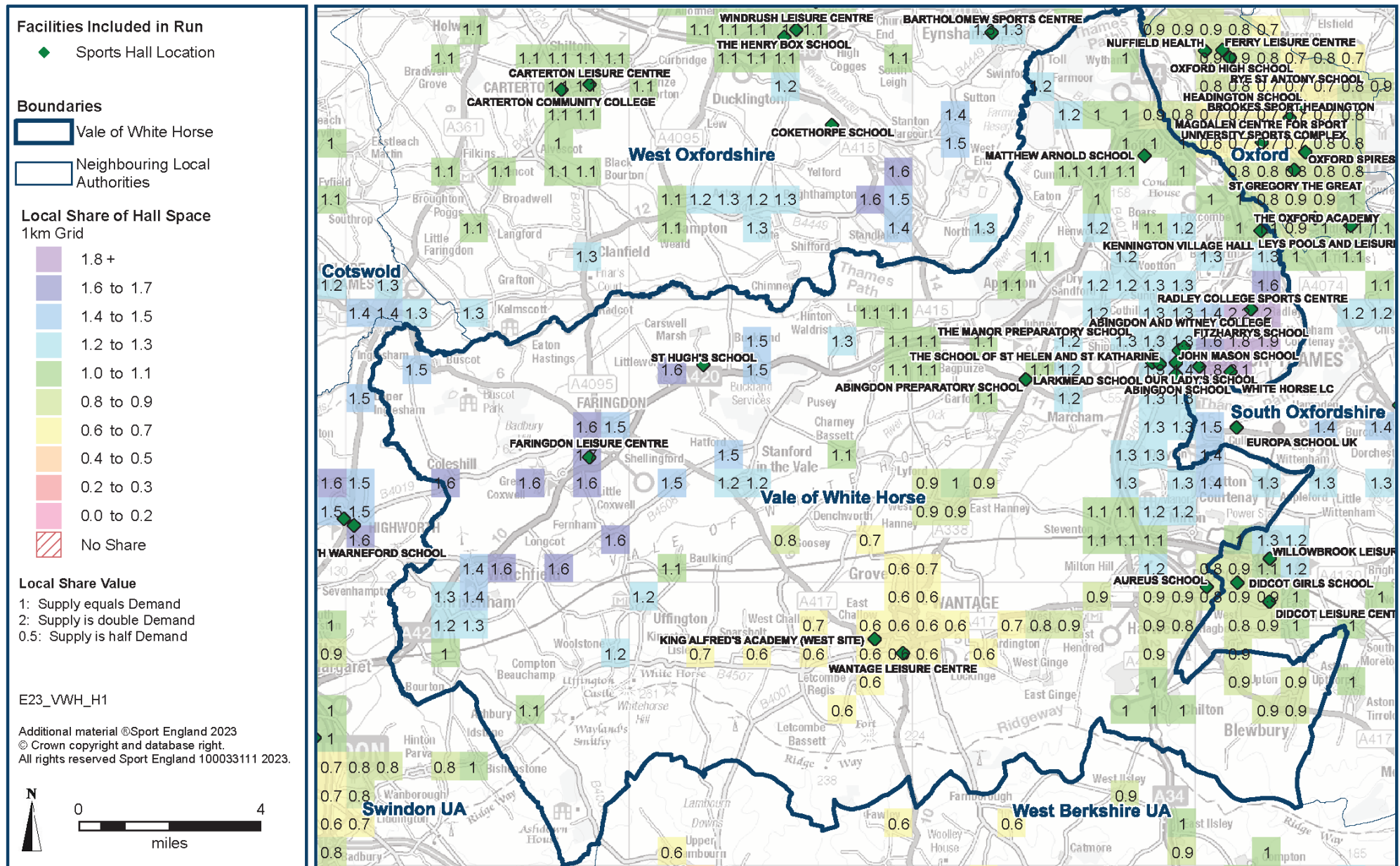
Table 8.2: Badminton Court Equivalents per 10,000 Population by Area and Run

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

- 8.13 Vale of White Horse has the highest 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
- 8.14 The District's provision is greater than the South East Region and England-wide averages in 2023 and 2041.
- 8.15 In 2023, the lowest provision is in Swindon at 4.0 courts per 10,000 population, which is the same as the England-wide average. In 2041 the lowest provision is in Swindon and Cherwell at 3.7 courts per 10,000 population.
- 8.16 **The findings on badminton courts 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.**
- 8.17 The supply and demand assessment for sports halls in Vale of White Horse is based on the findings from the previous six headings analysed in this report.

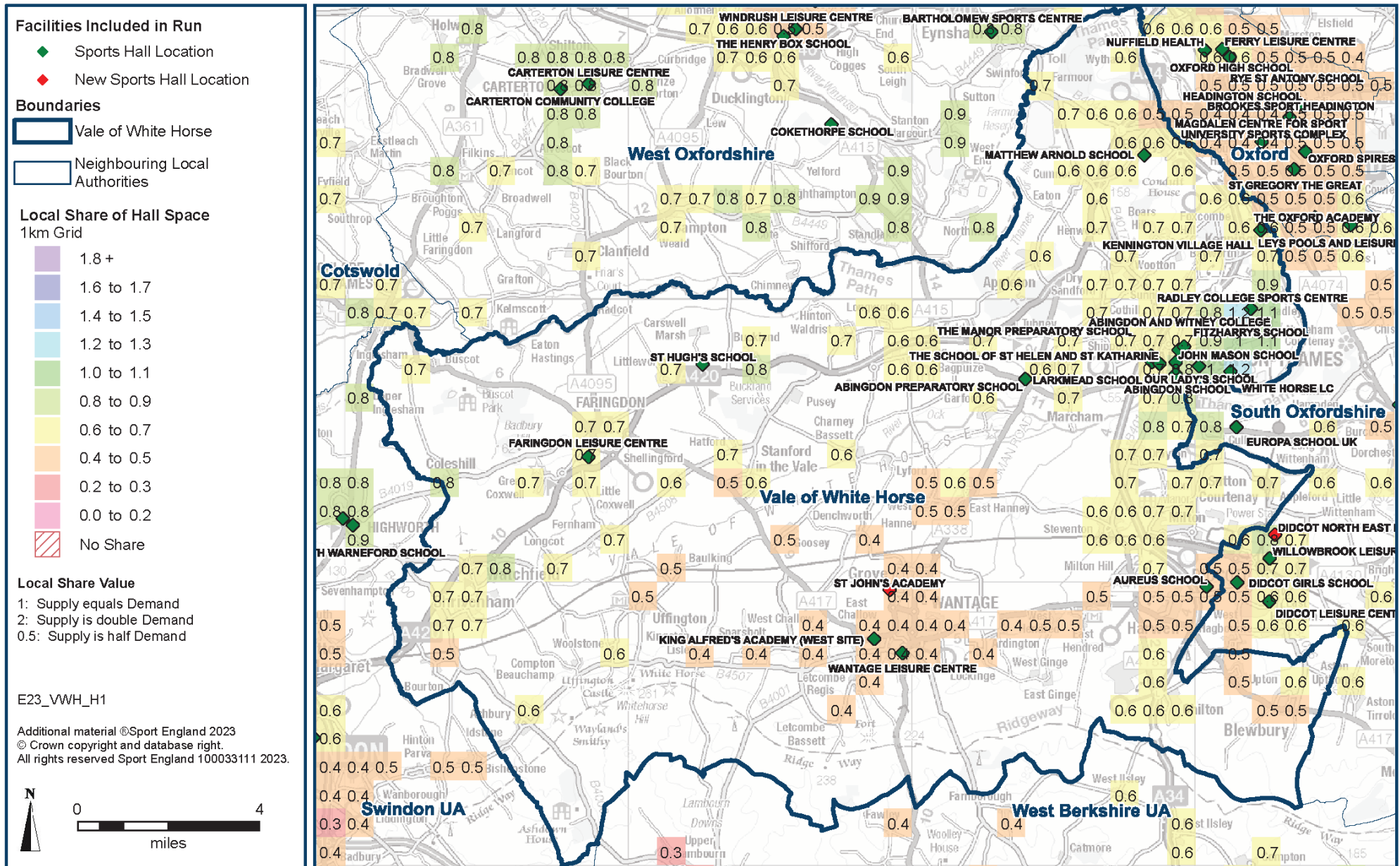
Map 8.1: Local Share of Sports Halls in Run 1 (2023)

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



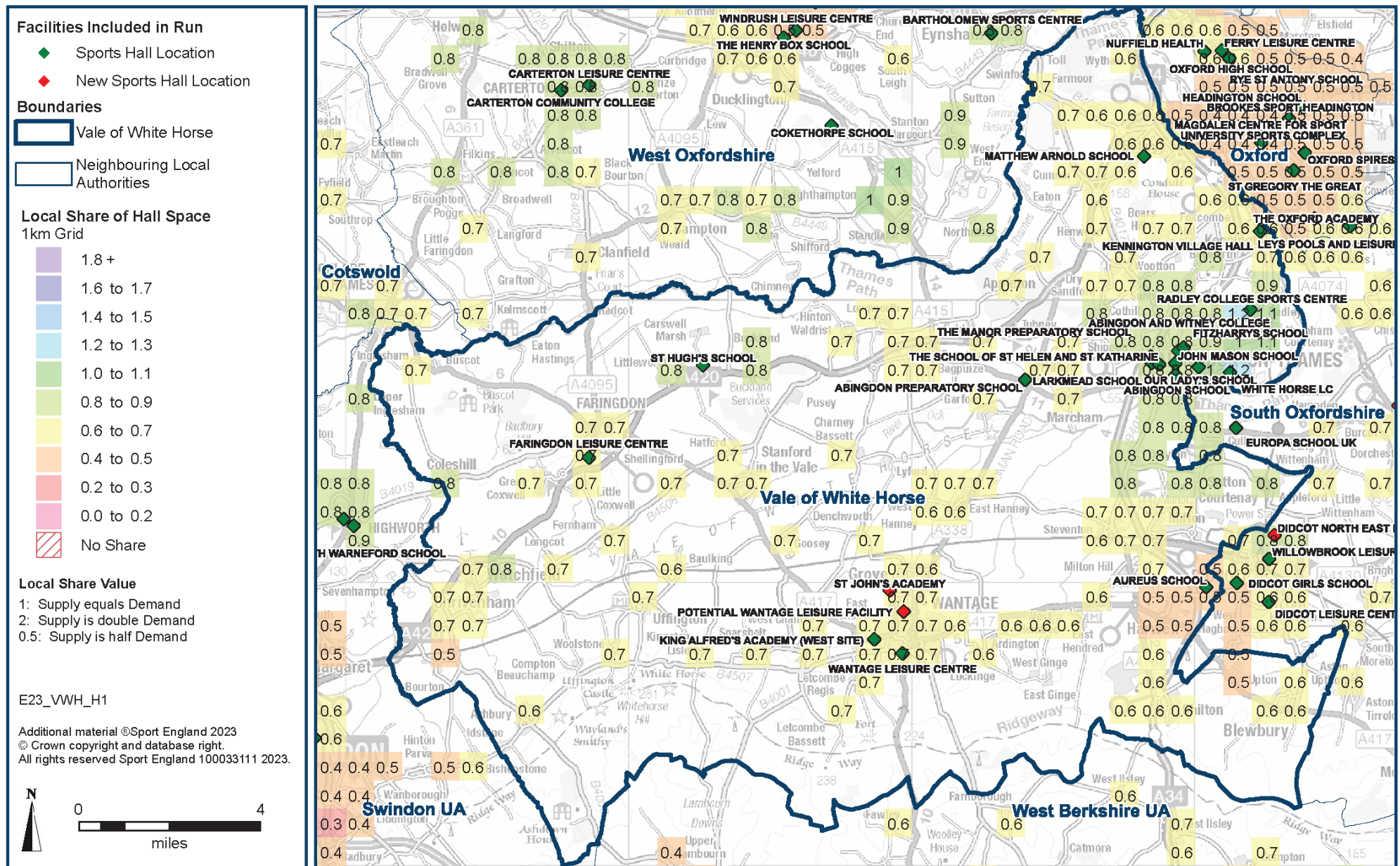
Map 8.2: Local Share of Sports Halls in Run 2 (2021)

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
Brookes Sport Botley	Activity	Principal hall too small
Brookes Sport Botley	Activity	Closed
Buckland Village Hall	Activity	Principal hall too small
Chandlings School	Activity	Private use
Chandlings School	Activity	Private use
Dalton Barracks	Main	Private use
Drayton Community Primary School	Activity	Private use
Drayton Village Hall	Activity	Principal hall too small
Faringdon Community College	Activity	Principal hall too small
Fitzwaryn School	Activity	Private use
Gems Didcot Primary Academy	Activity	Private use
John Blandy Primary School	Activity	Principal hall too small
King Alfred's Academy (East Site) (Closed)	Activity	Closed
King Alfred's Academy (West Site)	Main	Closed
Old Mill Hall	Activity	Principal hall too small
Park Club Milton	Activity	Closed
Parklands Campus (Closed)	Main	Closed
Pinewood School	Main	Private use
St Marys School (Closed)	Main	Closed
Sutton Courtenay Village Hall	Activity	Principal hall too small
Thameside Primary School	Activity	Private use
Thameside Primary School	Activity	Private use
The Defence Academy (Shrivenham Station)	Main	Closed
The Hanney War Memorial Hall	Activity	Principal hall too small
Upton Methodist Church (Closed)	Activity	Closed
UTC Oxfordshire	Activity	Principal hall too small
Wootton & Dry Sandford Community Centre	Activity	Principal hall too small

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

Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb
South Oxfordshire						
Abbey Sports Centre	Public	4-court	33 x 18	594	1983	2024
Abbey Sports Centre (New)	Public	5-court	41 x 21	869	2031	
Cranford House School	Educational	3-court	27 x 18	486	2015	
		Activity	18 x 10	180	1975	
Didcot Girls School	Educational	4-court	33 x 18	594	2006	
		Activity	18 x 10	180	1980	
Didcot Leisure Centre	Edu. (3rd party)	4-court	33 x 18	594	1985	2023
Didcot North East Leisure Facility	Educational	4-court	35 x 20	690	2028	
Europa School UK	Other	4-court	33 x 18	594	1900	1978
		Activity	17 x 9	153		
Henley Leisure Centre	Edu. (3rd party)	4-court	33 x 18	594	1997	2011
Henley Leisure Centre (Refurb)	Edu. (3rd party)	4-court	33 x 18	594	1997	2024
Icknield Community College	Educational	4-court	35 x 20	690	1980	2010
		Activity	18 x 10	180	1980	2009
Langtree School	Educational	4-court	35 x 20	690	1984	2007
		Activity	18 x 10	180	1974	
Lord Williams's School (Lower School)	Educational	4-court	33 x 18	594	1995	
Maiden Erlegh Chiltern Edge School	Educational	4-court	35 x 20	690	1960	2009
Shiplake College	Educational	4-court	33 x 18	594	1974	2007
Thame Leisure Centre (Refurb 2023 and 2025)	Public	4-court	33 x 18	594	1982	2023/ 2025
		Activity	18 x 10	180		
The Henley College - Rotherfield Campus	Educational	3-court	27 x 18	486	1990	2012
The Oratory Sports Centre	Educational	4-court	33 x 18	594	1989	2014
The Park Sports Centre (Wheatley)	Public	5-court	42 x 22	924	1985	2007
Wallingford School	Educational	4-court	35 x 20	690	1999	
Willowbrook Leisure Centre	Public	4-court	35 x 20	700	2002	
		Activity	17 x 9	153		
West Oxfordshire						
Bartholomew Sports Centre	Edu. (3rd party)	4-court	33 x 18	594	2007	
Burford School	Educational	4-court	35 x 20	690	1989	
		Activity	18 x 10	180	1948	
Carterton Community College	Educational	4-court	35 x 20	690	1995	
		Activity	18 x 10	180		
Carterton Leisure Centre	Public	4-court	35 x 20	690	2020	
Charlbury Community Centre	Other	4-court	36 x 18	648	2017	
Chipping Norton Leisure Centre	Edu. (3rd party)	4-court	33 x 18	594	2002	
Cokethorpe School	Educational	4-court	35 x 20	690	1995	2007
The Henry Box School	Educational	4-court	35 x 20	690	2001	
The Marlborough Church of England School	Educational	4-court	33 x 18	594	1984	2010
Windrush Leisure Centre	Public	4-court	35 x 20	690	1975	2017
		Activity	18 x 17	306	1975	2010
Wood Green School	Educational	4-court	35 x 20	690	1995	
		Activity	18 x 10	180	1965	1998

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	Educational	4-court	33 x 18	594	2005	
Cooper School	Educational	4-court	33 x 18	594	1996	
		Activity	18 x 10	180	1960	2005
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	1973	2014
		Activity	18 x 10	180	1973	
Sibford School	Educational	4-court	32 x 18	576	1990	
Spiceball Leisure Centre	Public	8-court	37 x 33	1221	2009	
The Bicester School	Educational	4-court	33 x 18	594	1980	
		Activity	20 x 10	200		
The Warriner School	Educational	4-court	33 x 18	594	1989	2001
		Activity	24 x 10	240	1971	
Wykham Park Academy	Educational	4-court	35 x 20	690	1985	2007
		Activity	18 x 10	180		
		Activity	18 x 10	180		
Oxford						
Brookes Sport Headington	Educational	5-court	40 x 23	900	1994	
Ferry Leisure Centre	Edu. (3rd party)	4-court	35 x 20	690	1976	2018
Headington School	Educational	4-court	33 x 18	594	1994	
Leys Pools and Leisure Centre	Public	8-court	40 x 35	1380	1988	2023
		Activity	17 x 9	153	2014	
Magdalen Centre for Sport	Educational	4-court	35 x 20	690	2001	
Nuffield Health	Commercial	4-court	35 x 20	690	2000	
Oxford High School	Educational	4-court	35 x 20	690	2003	2007
Oxford Spires Academy	Educational	4-court	35 x 20	690	1980	2006
		Activity	18 x 10	180	1940	2005
Oxford University Sports Complex	Educational	4-court	35 x 20	690	2018	
		4-court	35 x 20	690	1960	2001
		Activity	18 x 17	306	2017	
Rye St Antony School	Educational	4-court	33 x 18	594	2008	
		Activity	17 x 9	153	1965	
St Gregory The Great Catholic School	Educational	4-court	35 x 20	690	2007	
The Oxford Academy	Educational	4-court	35 x 20	690	2011	

Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb
Swindon UA						
Abbey Park School (Northside Campus)	Edu. (3rd party)	4-court	33 x 18	594	2007	
		Activity	18 x 17	306		
Croft Sports Centre	Public	5-court	37 x 21	767	1971	2011
David Lloyd Club (Swindon)	Commercial	3-court	27 x 18	486	2007	2018
Dorcan Recreation Complex	Public	4-court	33 x 18	594	1975	2004
		Activity	22 x 17	374	1975	
Grange Leisure Centre	Public	4-court	35 x 20	690	1977	2014
Haydon Centre	Public	4-court	33 x 18	594	1991	2006
		Activity	17 x 10	162		
Highworth Recreation Centre	Public	4-court	33 x 18	594	1988	2004
		Activity	26 x 17	442	1968	2004
Highworth Warneford School	Educational	4-court	35 x 20	690	2015	2017
		Activity	18 x 10	180	1960	
Kingsdown School Sports Centre	Educational	4-court	35 x 20	690	1990	
Lydiard Park Academy	Educational	4-court	35 x 20	690	1987	
New College Swindon	Educational	4-court	35 x 20	690	2005	2017
Nova Hreod Academy	Edu. (3rd party)	4-court	35 x 20	690	2007	
		Activity	18 x 10	180		
Ridgeway Leisure Centre	Educational	5-court	41 x 20	810	1976	1995
		Activity	18 x 18	324	1976	
St Joseph's Catholic College	Educational	4-court	33 x 18	594	2006	2017
		Activity	18 x 10	180	2006	
Swindon Academy	Educational	4-court	35 x 20	690	2009	
Youth First Centre for Health	Public	3-court	27 x 18	486	1970	2013
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	Educational	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	
Little Heath School	Educational	4-court	33 x 18	594	1970	
		Activity	14 x 14	199	2021	
Newbury College	Educational	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	Educational	4-court	35 x 20	690	1984	
Park House School	Educational	4-court	35 x 20	690	1961	
		Activity	18 x 10	180		
St Bartholomew's School	Educational	4-court	35 x 20	690	2010	
		Activity	18 x 10	180		
St Gabriel's School	Educational	4-court	33 x 18	594	2004	
Trinity Academy Campus	Educational	4-court	35 x 20	690	2011	2012
		Activity	18 x 10	180	2011	2012
		Activity	18 x 10	180	1984	2012
Willink Leisure Centre	Edu. (3rd party)	4-court	35 x 20	690	1989	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 **sportscotland** 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	Swimming 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		Football		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 **sportscotland** 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 users per 4-court hall 15 users per 144 square meters of activity hall																					
Catchment Maps	Car: 20 minutes Walking: 1.6 km Public transport: 20 minutes at about half the speed of a car NOTE: Catchment times are indicative, within the context of a distance decay function of the model.																					
Duration	60 minutes																					
Percentage Participation	<table border="1"> <thead> <tr> <th><i>Age</i></th> <th><i>0-15</i></th> <th><i>16-24</i></th> <th><i>25-34</i></th> <th><i>35-44</i></th> <th><i>45-59</i></th> <th><i>60-79</i></th> </tr> </thead> <tbody> <tr> <td>Male</td> <td>20.4</td> <td>16.7</td> <td>13.9</td> <td>11.6</td> <td>10.2</td> <td>7.3</td> </tr> <tr> <td>Female</td> <td>24.5</td> <td>17.8</td> <td>17.1</td> <td>15.3</td> <td>15.1</td> <td>12.1</td> </tr> </tbody> </table>	<i>Age</i>	<i>0-15</i>	<i>16-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-59</i>	<i>60-79</i>	Male	20.4	16.7	13.9	11.6	10.2	7.3	Female	24.5	17.8	17.1	15.3	15.1	12.1
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Male	0.65	0.95	0.93	0.84	1.00	1.14																
Female	0.74	1.20	1.21	1.07	1.18	1.01																
Peak Period	Weekday: 9:00 to 10:00, 17:00 to 22:00 Weekend: 08:00 to 16:00 Total: 46 hours																					
Proportion in Peak Period	62%																					