



Facilities Planning Model Assessment of
Swimming Pool 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 the current provision of swimming pools and assessing 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 swimming pools.
- 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 swimming pools and its distribution, based on the projected changes in population between 2023 and 2041 and a change in supply
 - Run 3 – an assessment of the impact of the modelled option for change in supply in South Oxfordshire has in meeting the demand for swimming pools 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, and the key findings and interventions arising from the FPM study on supply, demand and accessibility.

Headline Strategic Overview

- 0.6 The headline strategic finding is that the current and future demand for swimming pools can be met by the available supply, quite surprisingly given the significant increase in the population and demand for swimming pools to 2041.
- 0.7 The District's provision in terms of a population measure is the second highest in the study area and is significantly higher than the South East Region and England-wide averages in both years.
- 0.8 A very high level of the demand for swimming pools is met in all three runs. The proportion is unchanged across the runs, but visits increase significantly from Run 1 (2023) to Run 2 (2041). Most satisfied demand is met within Vale of White Horse because all of the District's swimming pools are located in the areas of highest demand. Unmet demand is very low, and almost all is from residents located too far from a facility.
- 0.9 Overall, the swimming pools are reasonably full at peak times, but two sites are uncomfortably full because of their attractiveness and the distribution of demand.

- 0.10 Provision of the learner pool at Wantage Leisure Centre, modelled in Runs 2 and 3, is supported by the FPM findings. It enhances the swimming offer, enabling all swimming activities to take place in suitable pools, and is the only site in the south of the District.
- 0.11 Retention of the three public leisure centres is important to ensure access to swimming pools for all residents across the District.
- 0.12 The stock is ageing, with a limited history of modernisation at one public leisure centre and two educational sites. The quality of the swimming offer will decrease as the sites age and their attractiveness decreases to 2041.
- 0.13 The focus for investment is modernisation of the stock, and not further provision beyond that modelled.

Key Findings

- 0.14 The key findings that underpin the headline strategic overview are as follows:
1. The three public leisure centres provide 33% of the District's swimming pool sites. There are four educational sites (providing 45%), one commercial site (11%) and one other provider (11%).
 2. Vale of White Horse's population is projected to increase by 35% between 2023 and 2041, which produces a 34% increase in demand for swimming pools.
 3. Of the District's residents, 87% are within a 20-minute cycle ride (approximately four miles) of a swimming pool in 2023 and 2041. The swimming pools in Abingdon have the most residents within a 20-minute cycle ride, and Faringdon Leisure Centre has the fewest residents.
 4. A very large proportion of Vale of White Horse's demand is met, at 95% in all runs. The number of visits met in the weekly peak period increases from 8,943 in Run 1, to 12,036 in Run 2 and 12,039 in Run 3.
 5. A large proportion of Vale of White Horse's satisfied demand is met at the District's swimming pools, at between 77% and 80% in all runs.
 6. Unmet demand is 5% of demand in all runs, but in water space is lowest in Run 1 at 83 sqm and highest in Run 2 at 100 sqm. Nearly all unmet demand is due to being too far from a facility. Unmet demand from lack of swimming pool capacity is less than 5 sqm of water.
 7. In Run 3 the location where the most unmet demand can be met is in Shrivenham, at 32 sqm of water. This will include unmet demand from Swindon and is an insufficient amount to consider provision of a new swimming pool.
 8. In Run 1 the overall estimated used capacity of swimming pools in the weekly peak period is 43%. In Run 2 it is 52% due to the increase in demand and the attractiveness of Wantage Leisure Centre, and in Run 3 it is 51% due to the change in supply in South Oxfordshire. There is sufficient swimming pool capacity to meet demand in all runs.

Vale of White of Horse's findings related to South Oxfordshire

- 0.15 In South Oxfordshire:
- A new learner pool at Didcot Wave Leisure Centre is modelled to open in 2025 and is included in Runs 2 and 3
 - Abbey Sports Centre is modelled to be replaced with a larger 25m four-lane pool to open in 2031 and is included in Run 3
- 0.16 Demand in Vale of White Horse is highest in Abingdon in 2023 and 2041, on the border with South Oxfordshire.
- 0.17 Most of Vale of White Horse's exported demand goes to Oxford, but the second largest amount goes to South Oxfordshire in all runs:
- Run 1 – 399 visits in the weekly peak period, accounting for 23% of all exported demand
 - Run 2 – increases to 723 visits and 27% due to the increase in demand and the new learner pool at Didcot Leisure Pool and Gym
 - Run 3 – increases further to 813 visits and 29% due to the new larger Abbey Sports Centre
- 0.18 Unmet demand in the southeast of Vale of White Horse along the boundary with South Oxfordshire is very low in both years.
- 0.19 In all runs the greatest amount of imported demand to Vale of White Horse is from South Oxfordshire. However, the number of visits is low, at 623 in Run 3 and 780 in Run 2.

Interventions

- 0.20 Modernisation of the swimming pools is the key intervention. Of the six sites opened before 2000, three have been modernised. Three sites opened between 2002 and 2008 and none have been modernised.
- 0.21 In 2023 the average age of all the sites is 30 years, and 34 years for the public sites. In 2041 the average age of all the sites is 48 years, and 52 years for the public sites.
- 0.22 Based on the FPM findings the sites for refurbishment, in order, are the two public leisure centres that have not been modernised:
- Farrington Leisure Centre:
 - Opened in 1997
 - An important site in terms of accessibility as it is the only pool site in the west of the District where residents have the least access to swimming pools
 - Estimated to be the third busiest site in the District across all runs, at between 61% and 62% at peak times

- In 2024 it will be the only public leisure centre single pool site but, based on the quantitative assessment, modernisation of the site does not need to include further provision
- Currently all activities take place in the main pool and its dimensions of 25m x 10.5m may limit this to one activity at a time; also the pool depth of 1.6m may limit the water space suitable for learn to swim
- Provision of a learner pool should be considered to significantly enhance the offer of the site; a 15m x 10m learner pool with a movable floor would accommodate two learn to swim classes at the same time and also cater for aqua aerobics and other fitness activities
- White Horse Leisure and Tennis Centre:
 - Opened in 2002
 - Largest swimming pool site in the District and flagship centre with the most extensive offer of a competition size pool (25m x 18m) and a learner pool (18m x 10m)
 - Estimated peak period utilisation of between 27% in Run 1 and 36% in Run 2
 - Low proportion of capacity used because it has the largest capacity in the District, but meets the second most visits in Runs 2 and 3
 - Near an area of high demand with a large increase from 2023 to 2041

0.23 Requirements for modernisation should be based on condition surveys and be subject to a feasibility study focusing on modernisation that enhances the offer and provides a more cost-effective site.

Next Steps

0.24 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 swimming pools 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 swimming pools and assessing the future provision required to 2041.
- 1.2 The key drivers for the work are to:
- Support work on Vale of White Horse Leisure Facilities Assessment and Strategy
 - Understand how the current supply of swimming pools is meeting the 2023 demand
 - Understand the impact population change has in meeting demand for swimming pools and its distribution up to 2041
 - Model options for changes in the supply of swimming pools and the impact these changes have in meeting the demand for swimming pools 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 swimming pools provision and future strategy
 2. A needs assessment and evidence base that contributes to:
 - Securing inward investment for swimming pools 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 swimming pools and population in the District and the neighbouring local authority areas, which comprises study area (see Map 1.1).
- 1.6 A customer's choice of swimming pool does not respect local authority boundaries. There may be management and possibly pricing incentives for customers to use sports facilities in their local authority area. Other factors that influence choice of swimming pool include:
- How close the venue is to where residents live or work
 - Other facilities at the same site, such as a gym or studio
 - The programming of the pool with swimming activities that appeal to residents and are available 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 swimming pools and their offer are of more importance to residents in their choice of venues. New facilities will have a significant draw because of the quality of the venues.

- 1.8 In determining the position across the District, it is important to take full account of the swimming pools and population in neighbouring local authority areas. 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 swimming pool may be inside the District (known as imported demand).
- 1.9 To take account of these factors, a study area is established that places Vale of White Horse at its centre and includes the neighbouring local authority areas.

Map 1.1: Study Area for Vale of White Horse Swimming Pools 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 all 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 swimming pool 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 sqm of water per 1,000 population 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 swimming pools in the neighbouring local authority areas included in 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. SWIMMING POOL SUPPLY

There are four types of provider; three public leisure centres, four educational sites, one commercial site and one other provider.

Abingdon has the most sites (four), of which one is a public leisure centre and three are educational.

The sites are ageing and there is an increasing need for modernisation up to 2041 in order to retain their attractiveness to residents. One of the public leisure centres has been modernised.

Table 2.1: Supply of Swimming Pools in Vale of White Horse by Run

Supply	Run 1	Run 2	Run 3
Vale of White Horse	2023	2041	2041
Number of pools	11	12	12
Number of pool sites	9	9	9
Supply in sqm of water	2,809	3,009	3,009
Supply in sqm of water scaled with hours available in peak period	2,317	2,431	2,431
Supply in visits per week in peak period	20,275	21,275	21,275
Average age of all of sites	30	48	48
Average age of public sites	34	52	52

Definition of supply – This is the supply or capacity of the swimming pools available for community and swimming club use in the weekly peak period. Supply is expressed in the number of visits that a pool can accommodate in the weekly peak period and in square metres of water.

Weekly peak period – This is when most visits take place and when users have most flexibility to visit. The peak period for swimming pools is one hour on weekday mornings, one hour on weekday lunchtimes, five and a half hours on weekday evenings, and seven and a half hours on weekend days. This gives a total of 52.5 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 Run 1 models 11 swimming pools across nine sites in Vale of White Horse.
- 2.2 Runs 2 and 3 model 12 swimming pools across nine sites, including a new learner pool at Wantage Leisure Centre due to open in 2025.
- 2.3 Also in Run 2, a new learner pool at Didcot Wave Leisure Centre in South Oxfordshire is modelled to open in 2025. In Run 3, Abbey Sports Centre in South Oxfordshire is modelled to be replaced with a larger 25m four-lane pool to open in 2031.

Table 2.2: Details of Swimming Pools in Vale of White Horse included in the Runs

Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb	Peak Hours	Total Hours	Capacity (visits in weekly peak period)
Abingdon School Sports Centre	Educational	8-lane	25 x 16.4	410	2008		19	27	1,298
Brookes Sport Botley	Educational	4-lane	25 x 9	213	1995		52.5	105.5	1,864
Faringdon Leisure Centre	Public	5-lane	25 x 10.5	263	1997		52.5	103	2,301
Milton Hill Abingdon	Commercial	Leisure	20 x 10	200	2002		52.5	105	1,750
Our Lady's Abingdon School	Educational	4-lane	25 x 8	200	1978	2007	17	22	567
Park Club Milton	Other	4-lane	20 x 9	180	1998		51.5	93	1,545
Radley College Sports Centre	Educational	6-lane Diving	25 x 12 10 x 10	300 100	1985	2017	51.5 51.5	90.8 90.8	3,433
Wantage Leisure Centre (Run 1 only)	Public	6-lane	25 x 12.5	313	1976	2001	52.5	96.5	2,739
Wantage Leisure Centre (Runs 2 and 3)	Public	6-lane Learner	25 x 12.5 20 x 10	313 200	1976 2025	2024	52.5 30	96.5 50	3,739
White Horse Leisure and Tennis Centre	Public	8-lane Teaching	25 x 18 18 x 10	450 180	2002		52.5 28	112 49	4,778

District-wide Capacity

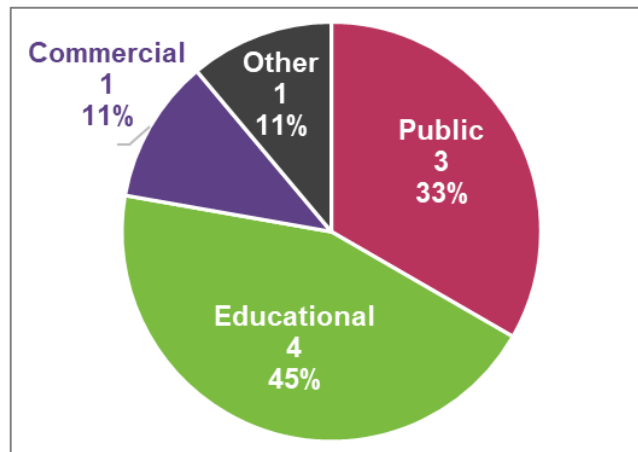
2.4 The total water space in Vale of White Horse increases from 2,809 sqm in Run 1 to 3,009 sqm in Runs 2 and 3. When scaled against the amount available for community use during the weekly peak period, this reduces to 2,317 sqm in Run 1 and 2,431 sqm in Runs 2 and 3. The water space unavailable equates to:

- Run 1 – 492 sqm of water (18%)
- Runs 2 and 3 – 578 sqm of water (19%)

2.5 In Run 1 the swimming pools can accommodate a total of 20,275 visits per week in the peak period, which increases to 21,275 visits in Runs 2 and 3.

Providers

Chart 2.1: Vale of White Horse Swimming Pool Sites by Operation Type



2.6 **Key finding 1** is that the three public leisure centres provide 33% of the District’s swimming pool sites. There are four educational sites (providing 45%), one commercial site (11%) and one other provider (11%).

Public Leisure Centres

2.7 The three public leisure centres are:

- Faringdon Leisure Centre
- Wantage Leisure Centre
- White Horse Leisure and Tennis Centre

2.8 They are available for use by all residents and provide all swimming activities of:

- Learn to swim
- Casual recreational swimming
- Lane and fitness swimming activities
- Swimming development through clubs

2.9 White Horse Leisure and Tennis Centre is the largest swimming pool site in the District and has the most extensive offer:

- Eight-lane pool of 25m x 18m
- Learner pool of 18m x 10m
- Allows all swimming activities to take place in suitable pools
- Provides a gala pool to host competitions
- Can accommodate 4,778 visits in the weekly peak period, the largest site capacity in the District

2.10 Wantage Leisure Centre is the second largest centre and has been enhanced with the modelled inclusion of a learner pool. Its offer is:

- Six-lane pool of 25m x 12.5m (to be modernised in 2024)
- Learner pool of 20m x 10m (modelled to open in 2025)
- A community site which allows all swimming activities to take place in suitable pools
- Can accommodate 2,739 visits in the weekly peak period in Run 1 (2023)
- Can accommodate 3,739 visits in the weekly peak period in Runs 2 and 3 (2041)

2.11 Farrington Leisure Centre is a single pool site. Its offer is:

- Pool of 25m x 10.5m (equivalent to five lanes)
- Provides most swimming activities but the size of the pool may possibly limit this to one activity at a time
- Can accommodate 2,301 visits in the weekly peak period

Educational Sites

2.12 Access at educational swimming pool sites depends on the policy of each individual school/college towards community use:

- Some educational owners will proactively encourage community use and allow regular hire by swimming clubs, and may also operate a learn to swim school
- Other schools/colleges will have a responsive, more limited, approach to community use, and only hire the pool on an irregular basis

2.13 The largest educational pools are at Abingdon School Sports Centre and Radley College Sports Centre.

- Abingdon School Sports Centre:
 - Eight-lane pool of 25m x 16.4m
 - Pool scale very suitable for swimming development by clubs
 - Available for community use for 19 hours in the weekly peak period and can accommodate 1,298 visits

- Radley College Sports Centre:
 - Six-lane pool of 25m x 12m
 - Diving pool of 10m x 10m
 - Pool scale very suitable for swimming development by clubs
 - Provides the only diving pool in the District
 - Available for community use for 51.5 hours in the weekly peak period and can accommodate 3,433 visits

2.14 The two smaller educational pools are at Brookes Sport Botley and Our Lady's Abingdon School:

- Brookes Sport Botley is a 25m x 9m pool (equivalent to four lanes), which is available for the maximum 52.5 hours in the weekly peak period and can accommodate 1,864 visits; it is unusual for an educational pool to provide such extensive availability
- Our Lady's Abingdon School is the joint second smallest pool in the District with dimensions of 20m x 8m; it is available for 17 hours in the weekly peak period and can accommodate 567 visits (the smallest capacity in the District)

Commercial Site

2.15 Commercial swimming pools are membership-based. Milton Hill Abingdon is the only commercial swimming pool and provides recreational swimming by its membership. It is the joint second smallest pool in the District with dimensions of 20m x 10m.

Other Provider

2.16 Park Club Milton is a not-for-profit organisation and charity. It is available to the membership for recreational swimming and also operates a swim school. It is the smallest pool in the District with a four-lane 20m x 9m pool.

Age

2.17 The oldest swimming pool site is Wantage Leisure Centre; its main pool opened in 1976. Farringdon Leisure Centre opened in 1997. The most recent public leisure centre to open is White Horse Leisure and Tennis Centre in 2002.

2.18 The educational sites opened between 1978 and 2008. Our Lady's Abingdon School is the oldest site, and Abingdon School Sports Centre is the most recent to open.

2.19 Park Club Milton opened in 1998, and Milton Hill Abingdon in 2002.

2.20 Of the six pool sites opened before 2000, three have been modernised:

- Wantage Leisure Centre opened in 1976, modernised in 2001 and due to undergo modernisation again in 2024
- Our Lady's Abingdon School opened in 1978 and modernised in 2007

- Radley College Sports Centre opened in 1985 and modernised in 2017

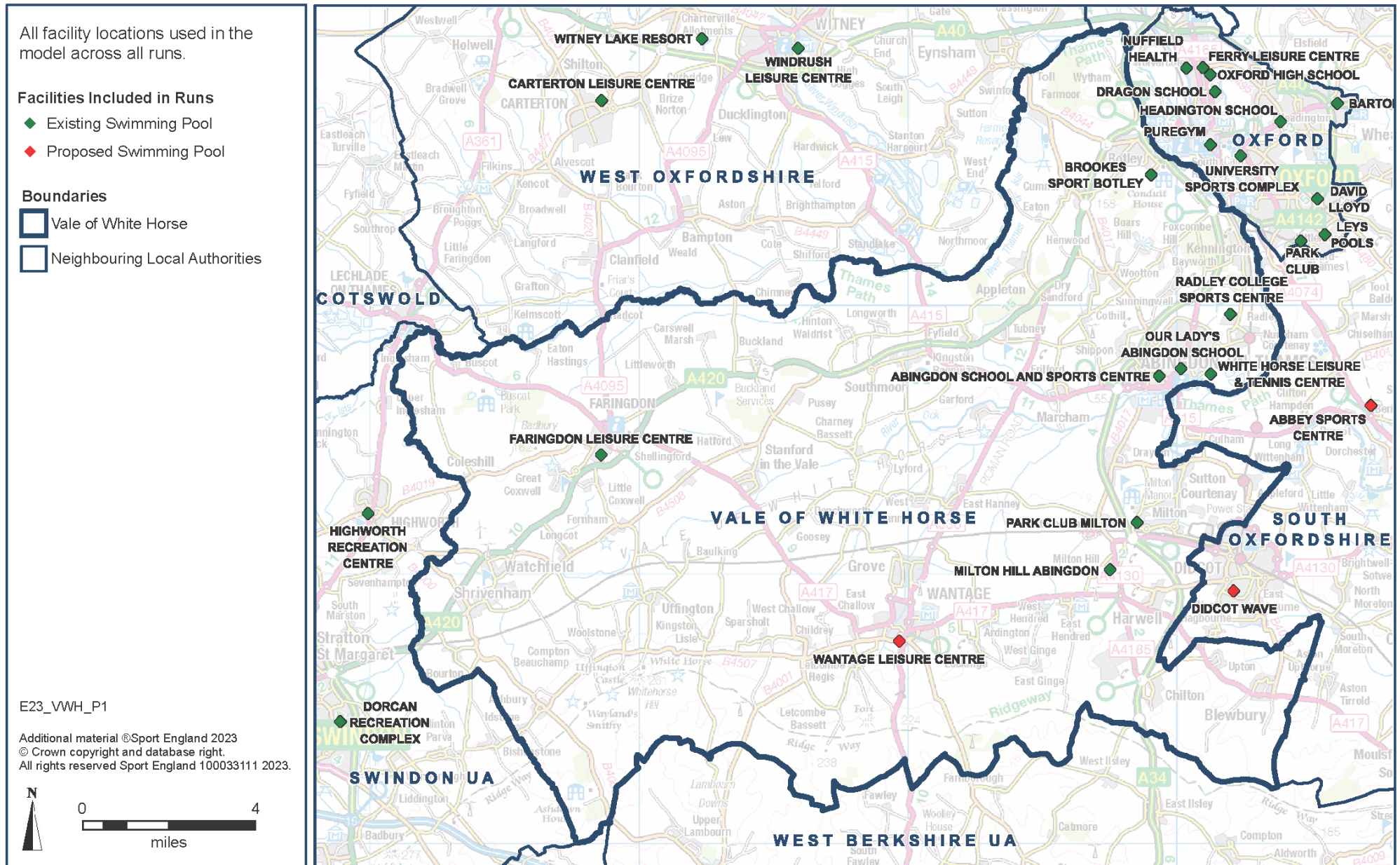
2.21 In 2023 the average age of all the sites is 30 years, and 34 years for the public sites. In 2041 the average age of all the sites is 48 years, and 52 years for the public sites. There will be an increasing need for further modernisation up to 2041.

Swimming Pool Locations

2.22 Seven of the swimming pool sites are in the east of the District, one in the south and one in the west (see Map 2.1).

2.23 There are four swimming pools in Oxford close to the Vale of White Horse boundary. There are no swimming pools in the north of West Berkshire.

Map 2.1: Location of Swimming Pools in Runs 1 to 3 (2023 and 2041)



3. DEMAND FOR SWIMMING POOLS

The percentage increase in demand for swimming pools from 2023 to 2041 is very high in Vale of White Horse. It is significantly higher than in the neighbouring local authorities, with the exception of South Oxfordshire. Demand is projected to decline in two neighbouring local authorities; West Berkshire and Oxford.

Wantage has the highest density of demand in the District, but there is a larger cluster of high demand in Abingdon.

Table 3.1: Demand for Swimming Pools in Vale of White Horse by Run

Demand	Run 1	Run 2	Run 3
Vale of White Horse	2023	2041	2041
Population	143,767	193,879	193,879
Visits demanded in weekly peak period	9,445	12,642	12,642
Demand in sqm of water with comfort factor included	1,553	2,079	2,079
% of demand in the 10% most deprived LSOAs nationally	0%	0%	0%

Definition of total demand – This represents the total demand for swimming by gender and for six age bands from 0 to 80+ 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 square metres of water. The FPM parameters for the percentage of participation and frequency of participation, for gender and for different age bands, are calculated from Sport England’s Active Lives survey up to March 2020 and are 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.
- 3.2 **Key finding 2** 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 swimming pools.

Demand in the Study Area

- 3.3 The increase in demand between 2023 and 2041 is almost matched in South Oxfordshire, where there is a 30% increase.
- 3.4 In the neighbouring local authority areas, which are based on the Office for National Statistics projections, the change is significantly smaller than in Vale of White Horse. Cherwell has the next largest increase at 4%. Demand is projected to decrease in West Berkshire by 6% and in Oxford by 7%.

Table 3.2: Demand for Swimming Pools by Area and Run

Demand in sqm of Water Considering a 'Comfort' Factor	Run 1	Runs 2–3	% Change
Area	2023	2041	2023–2041
Vale of White Horse	1,553	2,079	34%
West Berkshire UA	1,714	1,615	-6%
Cherwell	1,679	1,748	4%
Oxford	1,600	1,485	-7%
South Oxfordshire	1,618	2,098	30%
West Oxfordshire	1,194	1,208	1%
Swindon UA	2,523	2,605	3%

Geographical Distribution of Demand

- 3.5 In 2023 demand is highest within a one-mile radius of Abingdon School Sports Centre (green circle in Map 3.1). Across eight square kilometres there is demand totalling 199 sqm of water. Within this area, the density of demand ranges from 13 sqm of water per square kilometre (dark blue square west of Abingdon School Sports Centre) to 31 sqm of water (light blue square at Our Lady's Abingdon School).
- 3.6 Two of the square kilometres within a mile of Abingdon School Sports Centre are also within a mile of White Horse Leisure and Tennis Centre (red circle). There is a total of 94 sqm of demand across five square kilometres within a mile of White Horse Leisure and Tennis Centre.
- 3.7 Wantage has the next highest area of demand. Within a one-mile radius of Wantage Leisure Centre there is demand totalling 109 sqm of water across seven square kilometres. The highest density of demand is 41 sqm of water per square kilometre (dark green square).
- 3.8 To the north of this area, in Grove, there is demand totalling 68 sqm of water across four square kilometres. The highest density is 20 sqm of water per square kilometre (two medium blue squares).
- 3.9 Faringdon Leisure Centre has a total demand of 70 sqm of water within a one-mile radius across four square kilometres. In this area, there are three square kilometres with demand of between 22 sqm and 24 sqm of water (medium blue squares).
- 3.10 There is a high density of demand northwest of Brookes Sport Botley, at 28 sqm of water per square kilometre (medium blue square).
- 3.11 Outside these areas, there are a few square kilometres across the District with demand of between 10 sqm and 17 sqm of water (dark blue squares). Most of the remaining demand is then less than 10 sqm of water per square kilometre (purple squares). There are large areas with no demand.

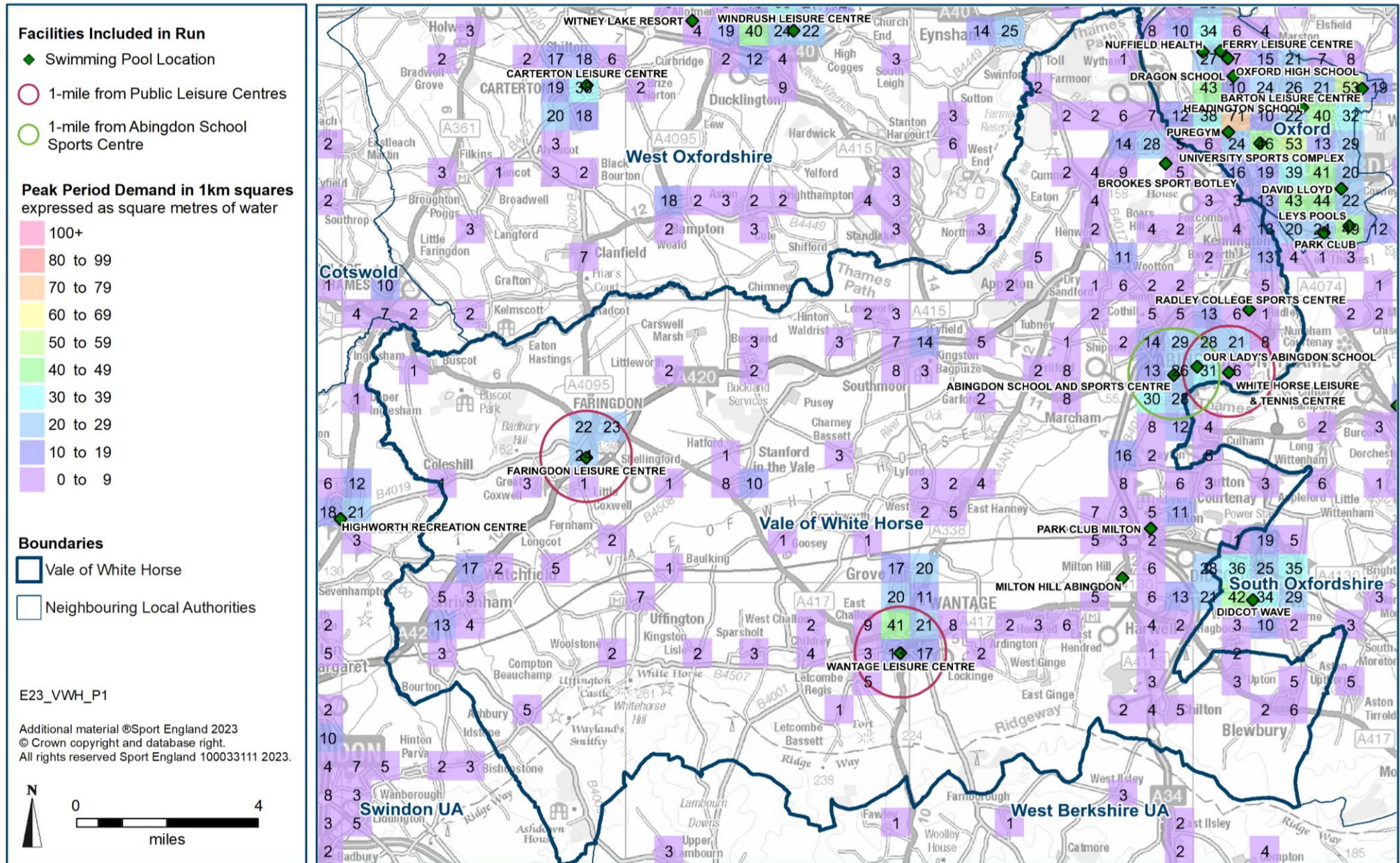
- 3.12 In 2041 demand increases in scale and is highest in the same areas (see Map 3.2). The largest increase at 18 sqm of water per square kilometre, and highest density of demand at 59 sqm of water, is north of Wantage Leisure Centre (light green square).
- 3.13 Demand within a mile of Abingdon School Sports Centre increases by 51 sqm to 250 sqm of water. Within this area there are five square kilometres with demand of between 30 sqm and 39 sqm of water (light blue squares).
- 3.14 Within a mile of Wantage Leisure Centre demand increases by 48 sqm to 157 sqm of water.
- 3.15 The cluster of demand across four square kilometres in Grove increases by 40 sqm to 108 sqm of water. The highest density of demand in this area is 32 sqm of water per square kilometre (two light blue squares).
- 3.16 Within a mile of Faringdon Leisure Centre demand increases by 21 sqm to 91 sqm of water.
- 3.17 The high density of demand northwest of Brookes Sport Botley increases to 37 sqm of water per square kilometre (light blue square).
- 3.18 There are small increases in demand across the rest of District.

Deprivation

- 3.19 None of the District's demand is in the 10% most-deprived lower super output areas (LSOAs) nationally.
- 3.20 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 Faringdon, north of the leisure centre (brown area).
- 3.21 The Index of Multiple Deprivation (IMD) score is used in the FPM to limit whether people will use commercial facilities such as Milton Hill Abingdon (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.

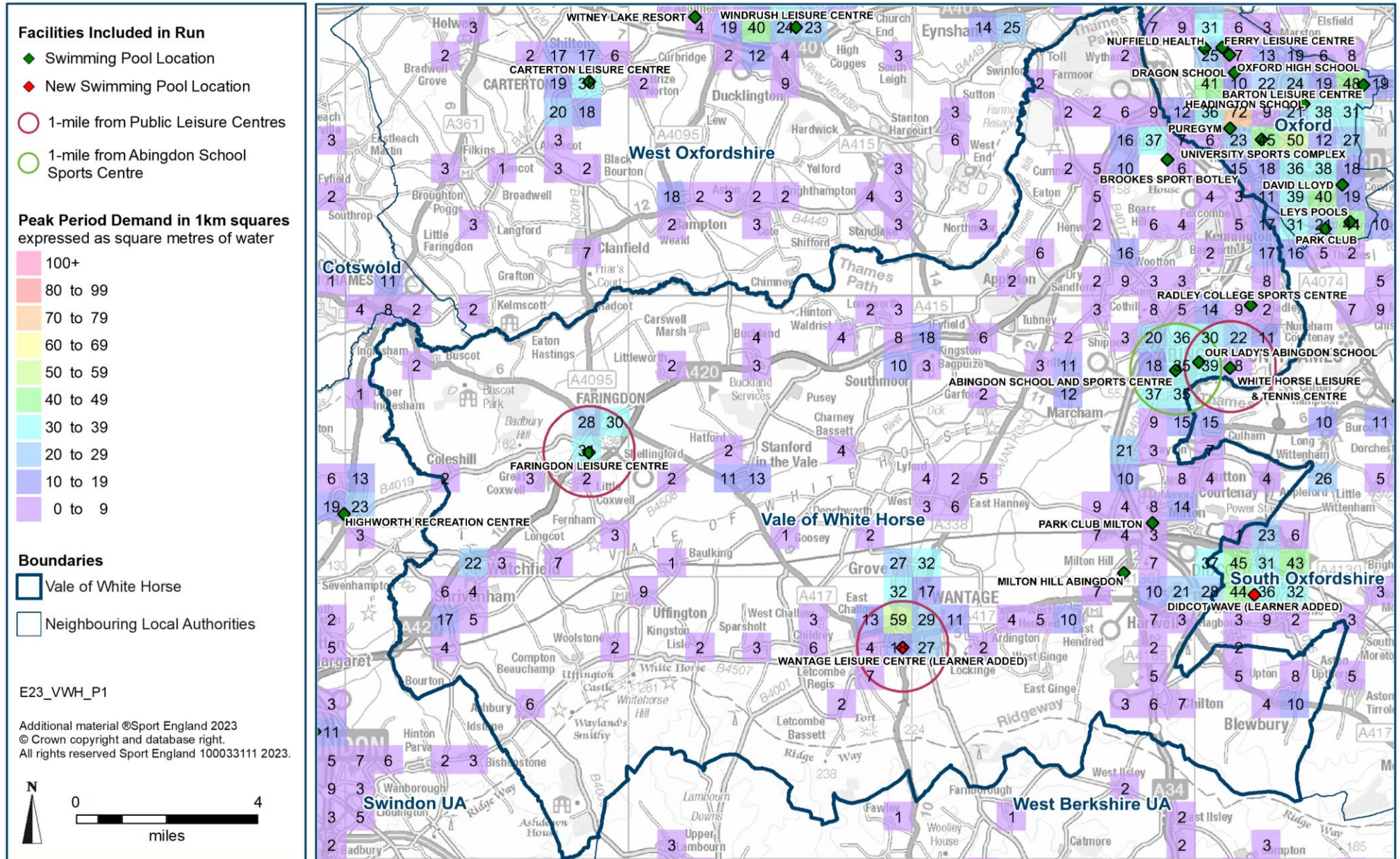
Map 3.1: Demand for Swimming Pools in 2023 (Run 1)

FPM peak period demand aggregated at 1km square grid expressed as square metres of water and shown thematically (colours).



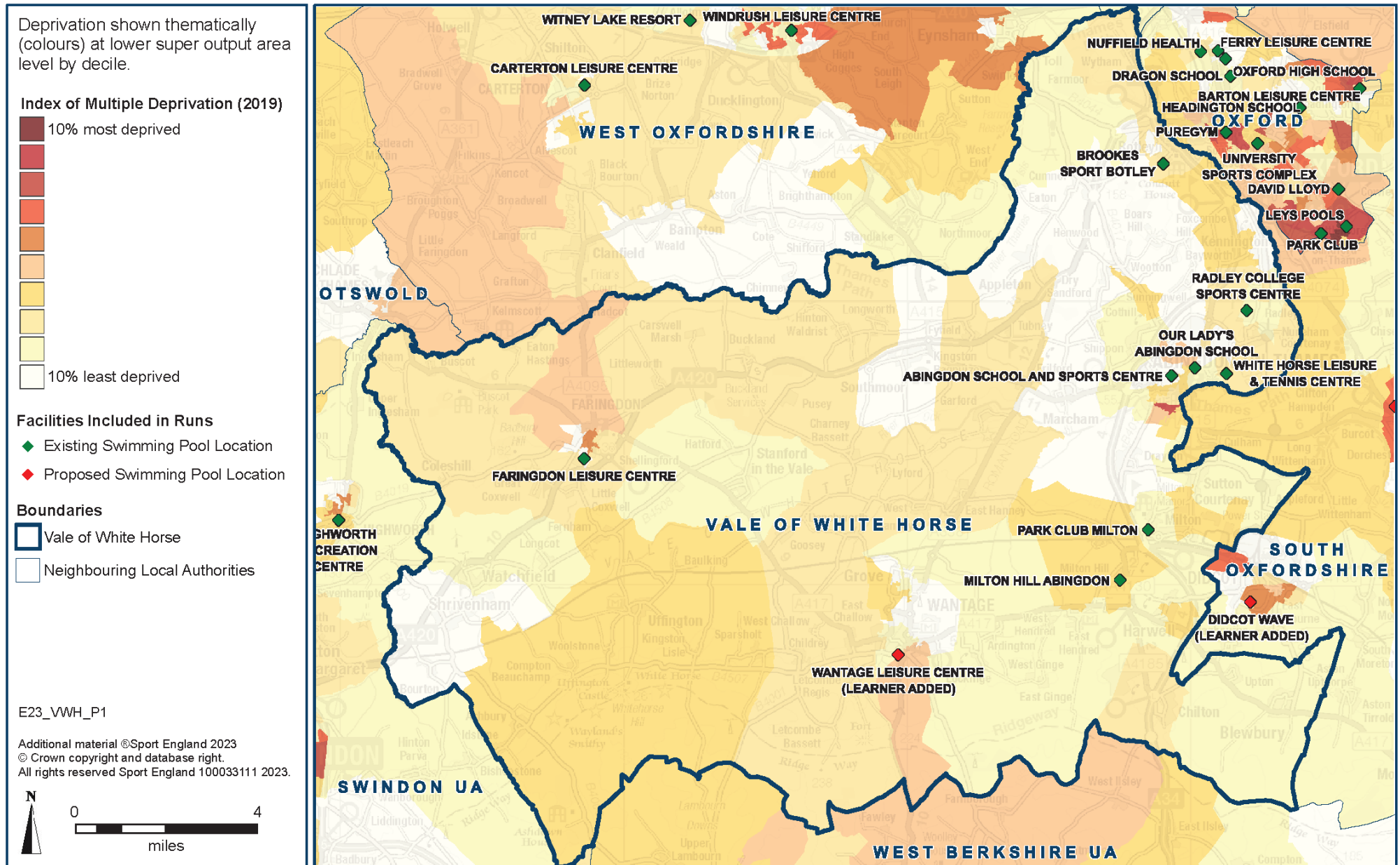
Map 3.2: Demand for Swimming Pools in 2041 (Runs 2 to 3)

FPM peak period demand aggregated at 1km square grid expressed as square metres of water 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

A quarter of the population is within a 20-minute walk of a swimming pool.

Nearly 90% of the population is within a 20-minute cycle ride of a swimming pool.

All the swimming pools are within a five-minute walk of an existing bus stop.

Travel to swimming pools by public transport or bicycle is estimated to be 5% of all journeys in both years.

Table 4.1: Travel Mode of Vale of White Horse Demand to Swimming Pools 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 swimming pool	26%	26%	26%
% of population within a 20-minute cycle of a swimming pool	87%	87%	87%
% of demand satisfied when travelled:			
on foot	10%	10%	10%
by public transport or bicycle	5%	6%	6%
by car	85%	84%	84%

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 swimming pool.

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%.

4.2 For these residents, a network of accessible swimming pools is important in order to encourage swimming participation.

Walking Access

4.3 Of the District's residents, 26% are within a 20-minute walk (approximately one mile) of a swimming pool in all runs.

4.4 In a small area of Abingdon residents are within a 20-minute walk of two swimming pool sites (light orange area in Map 4.1) or three sites (dark orange area). However, not all residents in these areas will walk to a swimming pool and some will travel further.

4.5 Travel to swimming pools on foot is estimated to account for 10% of all journeys in all runs.

Cycle Access

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

Within 20 minutes Cycle		Vale of White Horse Residents	
Sites	Operation	2023	2041
Our Lady's Abingdon School	Educational	52,682	67,672
Abingdon School Sports Centre	Educational	49,814	63,851
White Horse Leisure & Tennis Centre	Public	46,388	58,856
Radley College Sports Centre	Educational	39,807	50,495
Wantage Leisure Centre	Public	26,763	39,570
Park Club Milton	Other	25,310	35,368
Milton Hill Abingdon	Commercial	20,173	29,789
Brookes Sport Botley	Educational	14,511	18,116
Faringdon Leisure Centre	Public	11,429	14,991

- 4.6 **Key finding 3** is that of the District's residents, 87% are within a 20-minute cycle ride (maximum of four miles) of a swimming pool in 2023 and 2041. The swimming pools in Abingdon have the most Vale of White Horse residents within a 20-minute cycle ride, and Faringdon Leisure Centre has the fewest.
- 4.7 Access by bicycle is highest on the border with Oxford, and between Abingdon and Didcot, at five or more sites within a 20-minute cycle ride (pink areas in Map 4.2). Access by bicycle is lowest in the north and southwest of the District, with no swimming pools being within a 20-minute cycle ride. However, not all residents in these areas will cycle to a swimming pool and some will travel further.
- 4.8 The swimming pools 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

Public Transport Access

- 4.9 All the swimming pools are within, or on the edge of, a five-minute walk of an existing bus stop (pink areas in Map 4.3). Travel to all swimming pools by bus should be possible.
- 4.10 Radley College Sports Centre is just outside a 15-minute walk of a railway station (purple areas).
- 4.11 It should be noted that, while most District residents can access a public transport stop, it may not mean they can get to a swimming pool within 20 minutes from home via a

combination of walking and public transport. Also, in rural areas the service may not be regular.

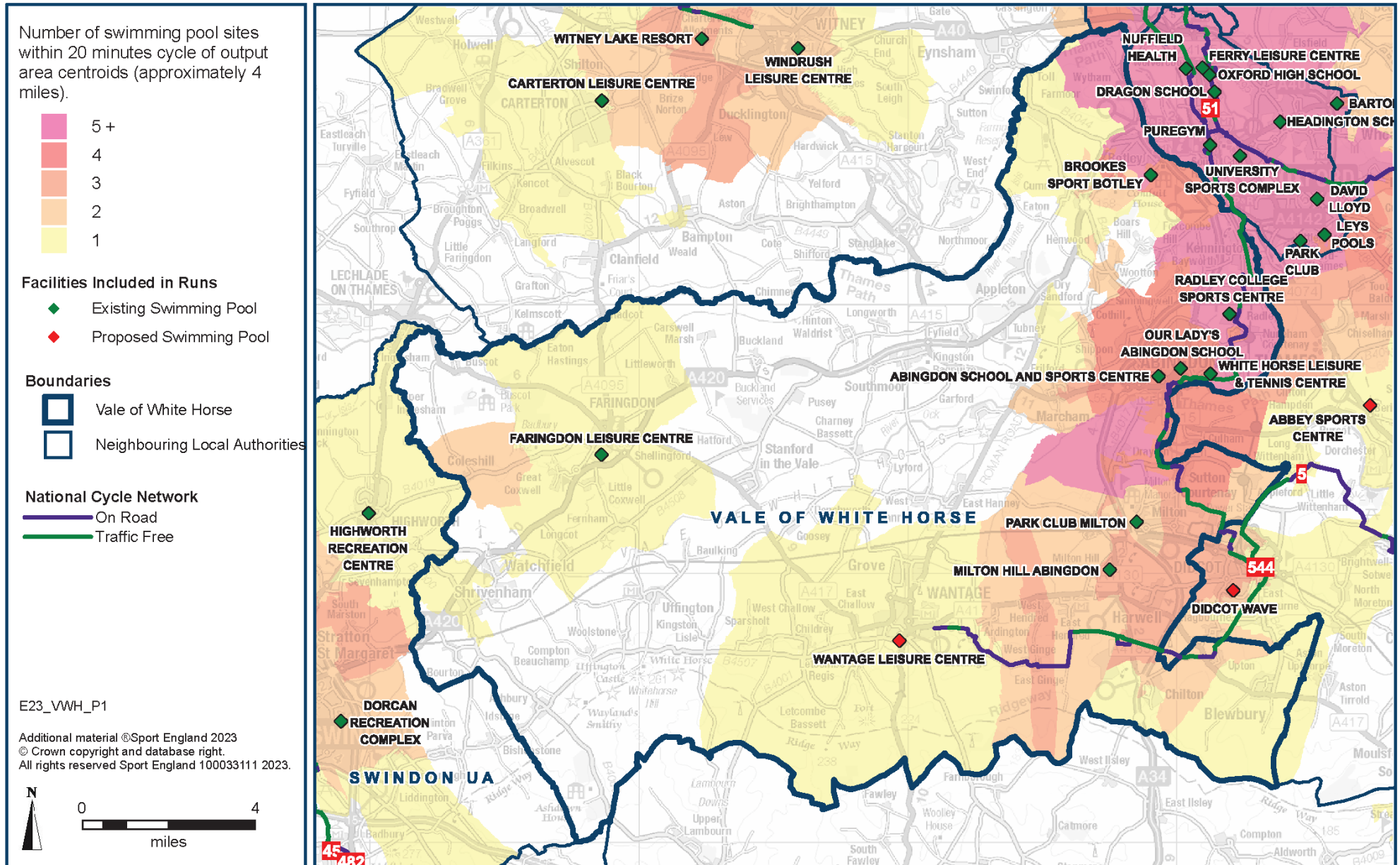
- 4.12 Travel to swimming pools by public transport or bicycle is estimated to be 5% of all journeys in Run 1 (2023) and 6% in Runs 2 and 3 (2041).

Driving Access

- 4.13 In all runs residents in the western half of the District can access between one and four swimming pool sites within a 20-minute drive (yellow areas in Map 4.4). There are two Vale of White Horse swimming pool sites in this area. There are no swimming pools close to the Vale of White Horse boundary in West Oxfordshire, Cotswold or West Berkshire, and only one in Swindon.
- 4.14 Residents can access more sites moving progressively northeast from the middle of the District. North of Abingdon and on the border with Oxford residents can drive to more than 15 swimming pool sites within 20 minutes (dark blue and purple areas).
- 4.15 Travel to swimming pools by car is estimated to account for 85% of all journeys in Run 1 (2023) and 84% in Runs 2 and 3 (2041).

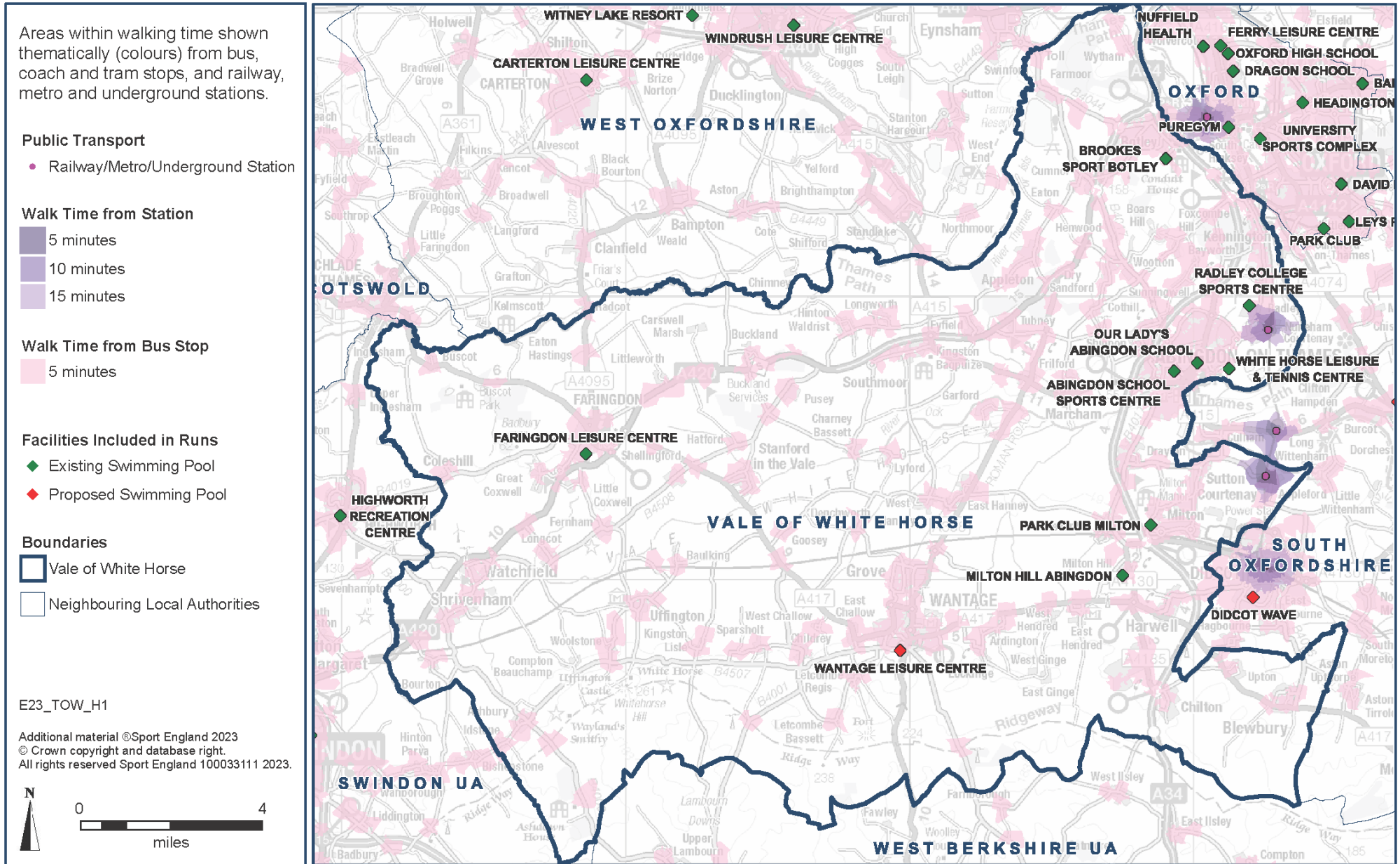
Map 4.2: Cycling Access to Swimming Pools in Runs 1 to 3 (2023 and 2041)

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



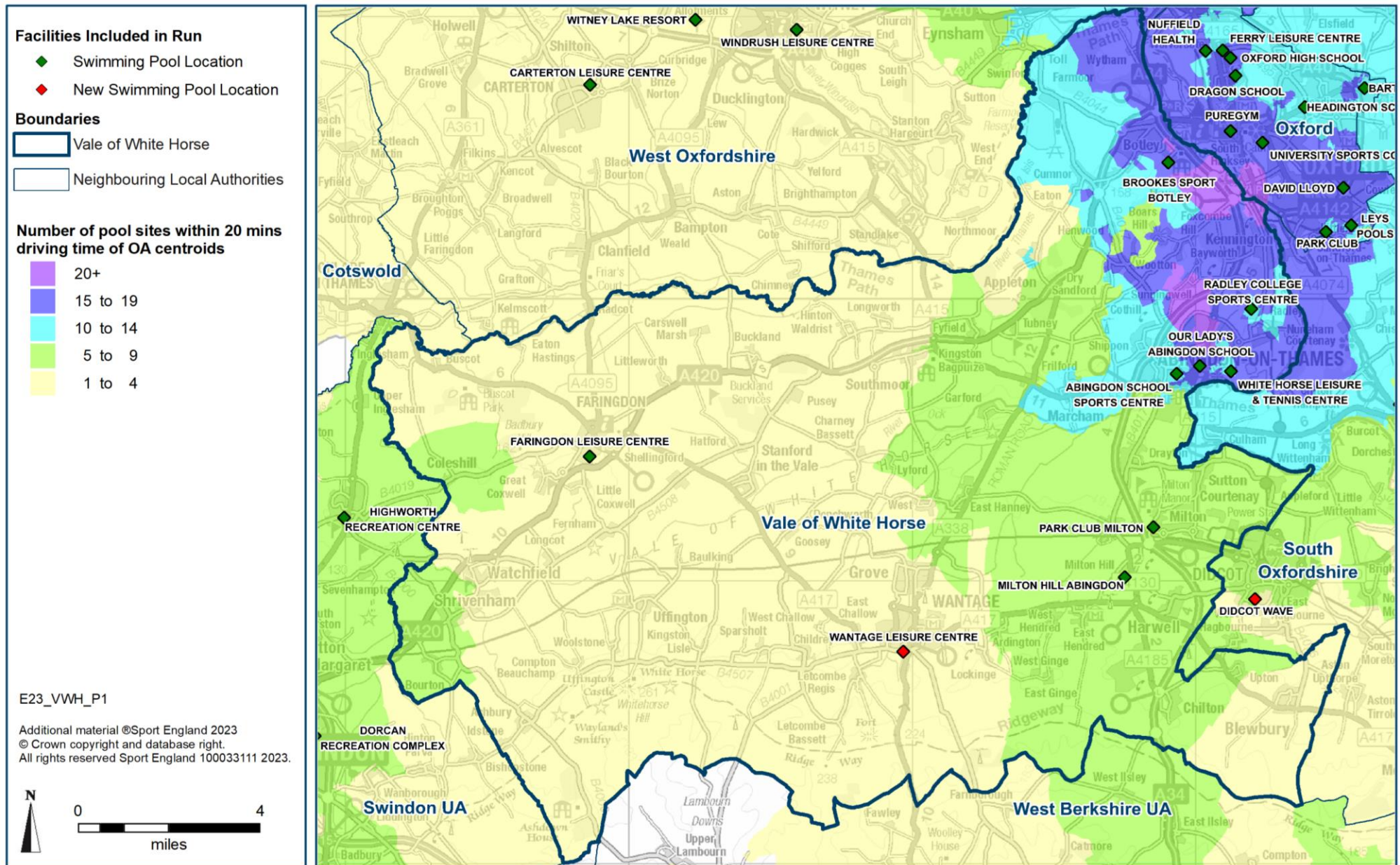
Map 4.3: Walking Access to Public Transport in Runs 1 to 3 (2023 and 2041)

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



Map 4.4: Driving Access to Swimming Pools in Runs 1 to 3 (2023 and 2041)

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



5. SATISFIED DEMAND FOR SWIMMING POOLS

A very high level of demand in Vale of White Horse is satisfied in all runs, with a large proportion being met within the District. Satisfied demand in the neighbouring local authorities is also high.

Most exported demand is met in Oxford. Demand exported to South Oxfordshire is between 23% and 29% of all exported demand across the runs. It is low in the number of visits, but this increases with each run.

Table 5.1: Satisfied Demand for Swimming Pools 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 which are met per week in peak period	8,943	12,036	12,039
% of total demand satisfied	95%	95%	95%
Number of visits retained per week in peak period	7,170	9,331	9,263
Demand retained as a % of satisfied demand	80%	78%	77%
Number of visits exported per week in peak period	1,773	2,705	2,776
Demand exported as a % of satisfied demand	20%	22%	23%

Definition of satisfied demand – This represents the proportion of total demand that is met by the capacity at the swimming pools from Vale of White Horse residents who live within the travel time of a pool. This includes pools located both within and outside the District.

- 5.1 **Key finding 4** is that a very high proportion of Vale of White Horse’s demand is met, at 95% in all runs. The number of visits met in the weekly peak period increases from 8,943 in Run 1, to 12,036 in Run 2 and 12,039 in Run 3.

Table 5.2: Percentage of Satisfied Demand for Swimming Pools by Area and Run

% of Total Demand Satisfied	Run 1	Run 2	Run 3
Area	2023	2041	2041
Vale of White Horse	95%	95%	95%
West Berkshire UA	94%	94%	94%
Cherwell	93%	93%	93%
Oxford	95%	95%	95%
South Oxfordshire	92%	92%	92%
West Oxfordshire	92%	92%	92%
Swindon UA	84%	91%	91%
South East Region	92%	92%	92%
England	91%	90%	90%

5.2 With the exception of Swindon in Run 1, satisfied demand in the neighbouring local authorities is also high and above 90% in all runs. Satisfied demand is lowest in Swindon at 84% in Run 1 (2023) and 91% in Runs 2 and 3 (2041). Met demand is highest in Oxford at 95% in all runs.

5.3 Details of the swimming pools in the neighbouring local authorities are listed in Appendix 2.

Retained Demand

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

5.5 The increase in demand between 2023 and 2041 means that the number of visits retained in the weekly peak period in Vale of White Horse increases from 7,170 in Run 1 to 9,331 visits in Run 2. However, as a proportion of the District’s satisfied demand, retained demand decreases from 80% in Run 1 to 78% in Run 2 due to more visits being met.

5.6 In Run 3 the number of visits retained decreases slightly to 9,263 because of the attractiveness of the new Abbey Sports Centre in South Oxfordshire, and accounts for 77% of satisfied demand.

5.7 **Key finding 5** is that a large proportion of Vale of White Horse’s satisfied demand is met at the District’s swimming pools, at between 77% and 80% in all runs. This is because all the District’s swimming pools are in the areas of highest demand.

Exported Demand

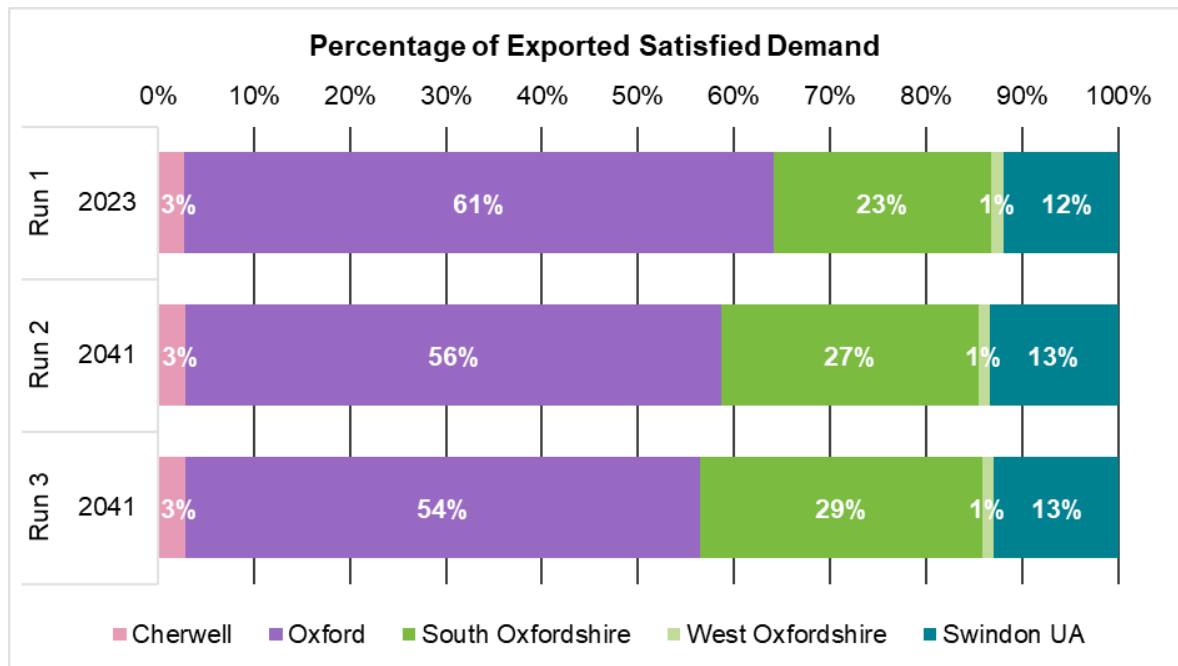
5.8 The residue of satisfied demand, after retained demand, is exported demand. This is based on Vale of White Horse residents who live within the travel time of a swimming pool outside the District and use that swimming pool.

5.9 In Run 1, 20% of Vale of White Horse’s satisfied demand is met at swimming pools in neighbouring local authority areas. In Run 2 exported demand increases to 22% of the District’s met demand, and to 23% in Run 3.

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	5	6	6
Cherwell	47	78	78
Oxford	1,087	1,504	1,487
South Oxfordshire	399	723	813
West Oxfordshire	24	33	33
Swindon UA	211	360	360

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



5.10 In all runs the largest export is to Oxford. Brookes Sport Botley is the only swimming pool site in the northeast of Vale of White Horse, while there are four sites in Oxford quite close to the District boundary.

- Run 1 – 1,087 visits in the weekly peak period are exported to Oxford, accounting for 61% of all exported demand
- Run 2 – the number of visits increases to 1,504 in the weekly peak period, but as a proportion of all exported demand decreases to 56%
- Run 3 – the number of visits decreases to 1,487 and accounts for 54% of exported demand

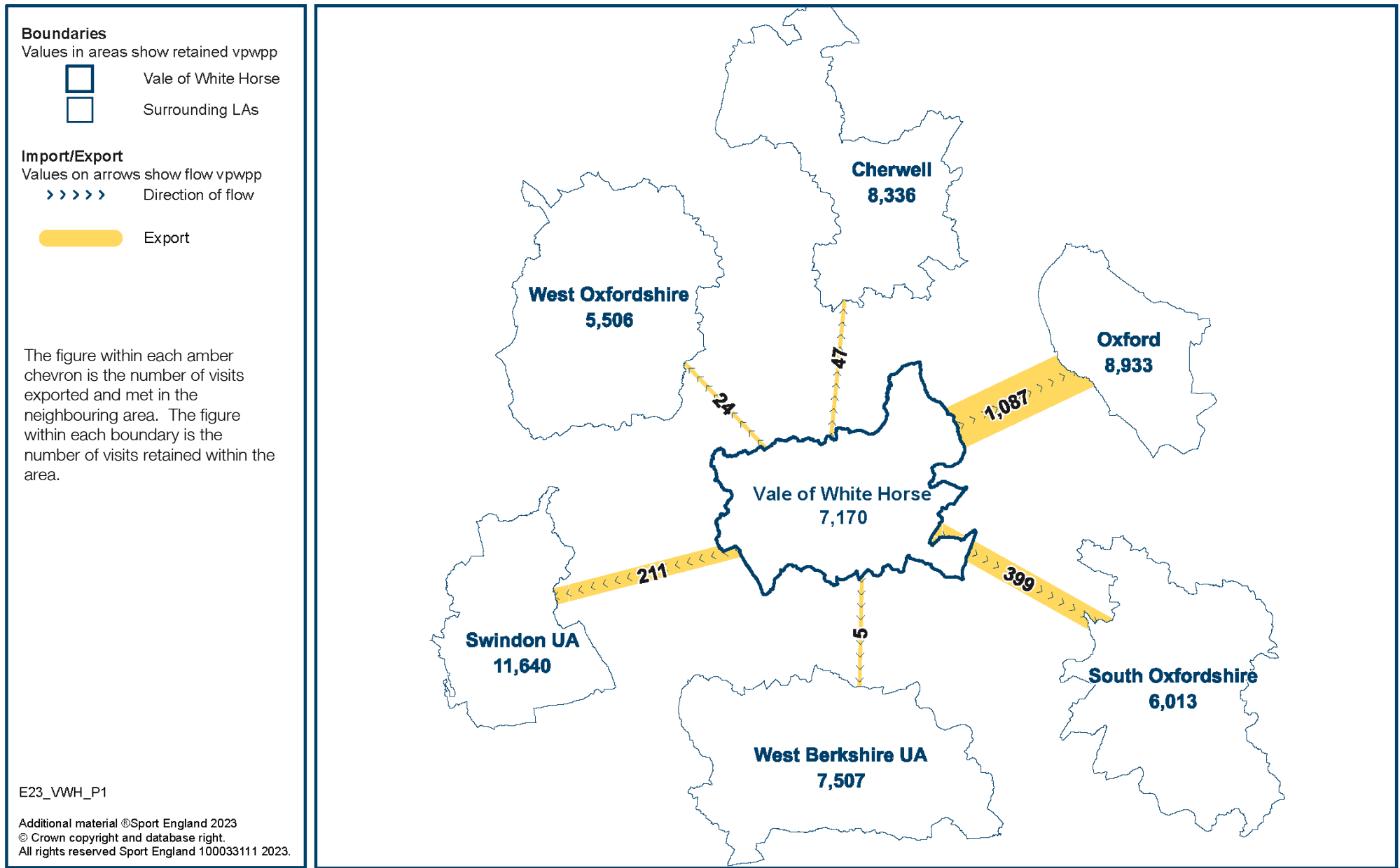
5.11 Demand exported to South Oxfordshire is the second highest in all runs:

- Run 1 – 399 visits in the weekly peak period, accounting for 23% of all exported demand
- Run 2 – increases to 723 visits and 27% due to the increase in demand and the new learner pool at Didcot Wave Leisure Centre
- Run 3 – increases further to 813 visits and 29% due to the new larger Abbey Sports Centre

5.12 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.

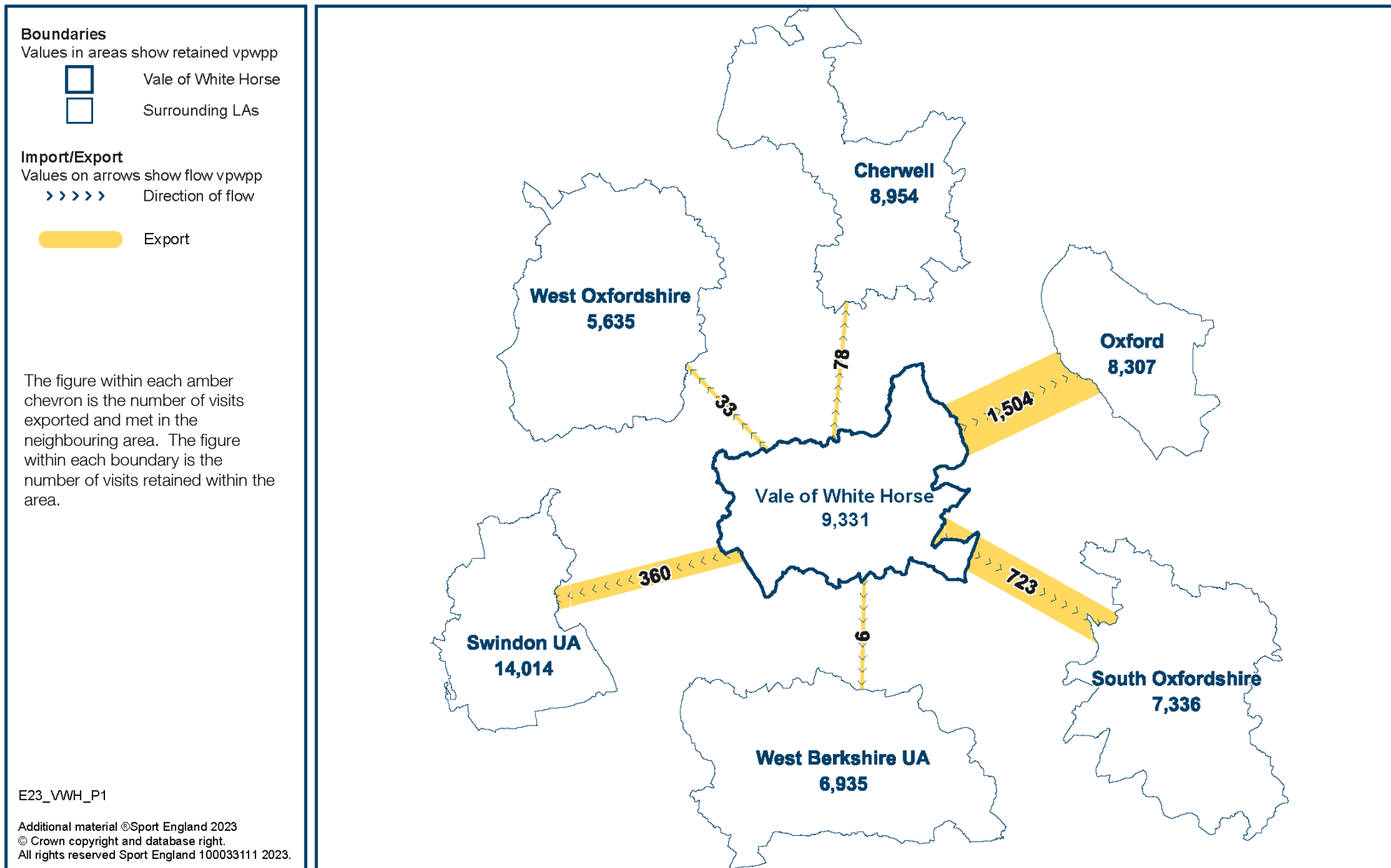
Map 5.1: Export of Vale of White Horse Satisfied Demand for Swimming Pools in Run 1 (2023)

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).



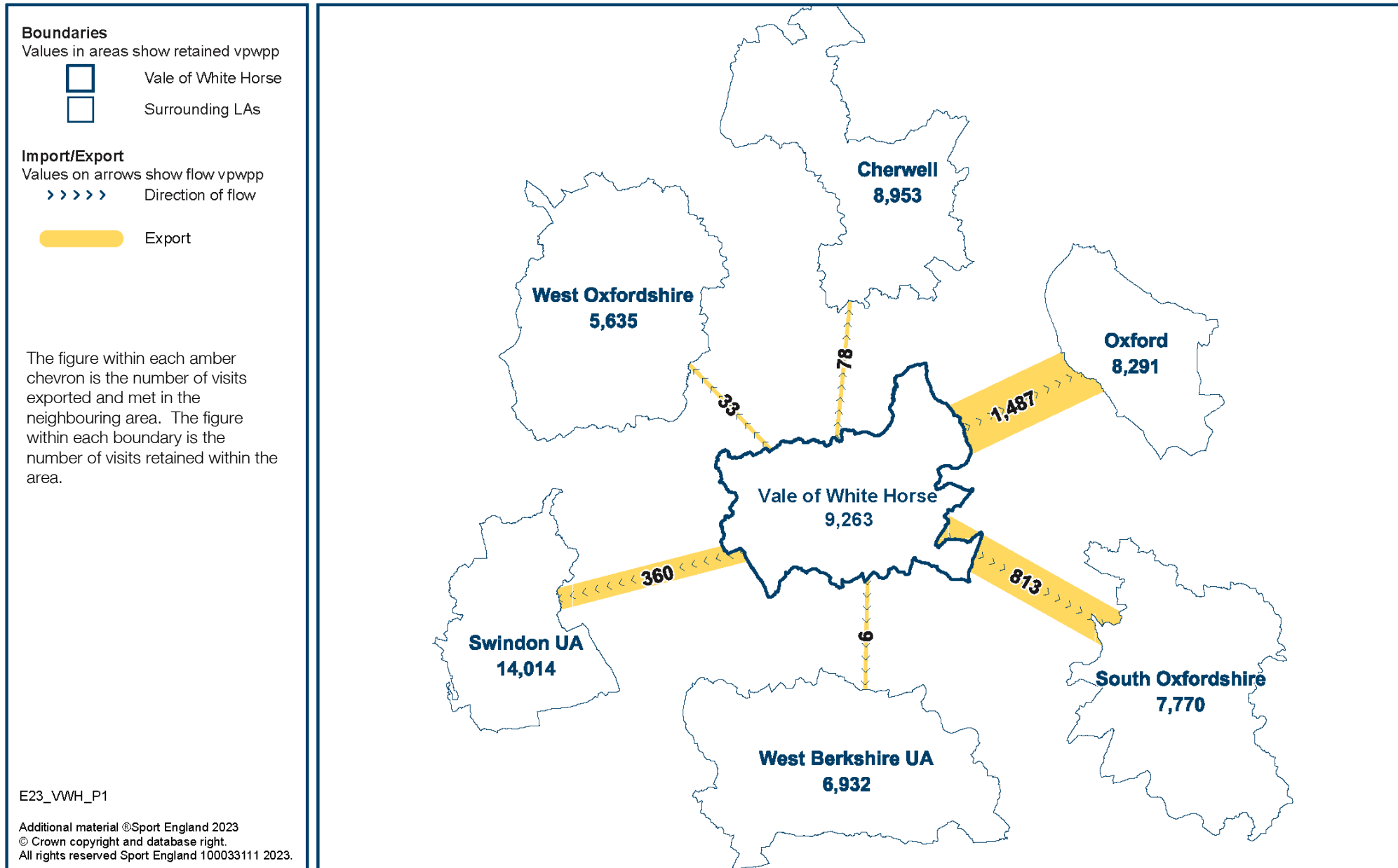
Map 5.2: Export of Vale of White Horse Satisfied Demand for Swimming Pools in Run 2 (2041)

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 5.3: Export of Vale of White Horse Satisfied Demand for Swimming Pools in Run 3 (2041)

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).



6. UNMET DEMAND FOR SWIMMING POOLS

Unmet demand in Vale of White Horse is very low at 5% of demand in all runs. It is projected to increase very slightly in sqm of water between 2023 and 2041.

Unmet demand from lack of swimming pool capacity is less than 5 sqm of water. Nearly all unmet demand is from residents located too far from a facility.

There is insufficient unmet demand in 2041 to support further swimming pool provision in order to improve accessibility for residents.

Table 6.1: Unmet Demand for Swimming 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	502	606	603
Unmet demand as a % of total demand	5%	5%	5%
Equivalent in sqm of water with comfort factor	83	100	99
Sqm of water of unmet demand due to:			
Facility too far away, of which:	81	96	96
Without access to a car	71%	73%	73%
With access to a car	29%	27%	27%
Lack of facility capacity, of which:	2	4	3
Without access to a car	22%	51%	51%
With access to a car	78%	49%	49%

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

1. There is too much demand for any particular swimming pool within its travel time area and there is a lack of capacity; or
2. The demand is located too far from any swimming pool 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 6** is that unmet demand is 5% of demand in all runs, but in terms of water space is lowest in Run 1 at 83 sqm and highest in Run 2 at 100 sqm. Nearly all the unmet demand is due to being too far from a facility. Unmet demand from lack of swimming pool capacity is less than 5 sqm of water.
- 6.2 In Run 1 residents without access to a car account for 71% of the unmet demand that is too far from a facility; in Runs 2 and 3 it is 73%.
- 6.3 Demand too far from a swimming pool 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 swimming pool (that is not commercial) and not everyone will want, or is able, to drive the full distance.

Location of Unmet Demand

- 6.4 In Run 1 unmet demand is distributed in very low values across the District (see Map **6.1**). The highest density of unmet demand is 2 sqm of water per square kilometre (medium blue squares) in the following areas:
- Botley
 - Faringdon
 - Grove
 - Kingston Bagpuize
 - Wantage
 - Watchfield
- 6.5 The largest cluster of unmet demand is 10 sqm of water across seven square kilometres in Grove and Wantage (medium blue and dark blue squares). Unmet demand in the other towns totals 5 sqm of water or less.
- 6.6 In most of the District unmet demand is less than 1 sqm of water per square kilometre (purple squares).
- 6.7 In Run 2 the highest density of unmet demand is 3 sqm of water per square kilometre in Kingston Bagpuize (light blue square in Map **6.2**).
- 6.8 There are other increases of 1 sqm of water per square kilometre from Run 1 to Run 2 due to the increase in demand in the following areas:
- Abingdon
 - Farringdon
 - Harwell
 - Longworth
 - Shrivenham
 - Southmoor
 - Wootton
- 6.9 In a one-mile radius of Abingdon School Sports Centre, unmet demand totals 8 sqm of water.
- 6.10 In Wantage and Letcombe Regis unmet demand decreases by 3 sqm of water across three square kilometres because of the additional water space provided by the new learner pool at Wantage Leisure Centre.
- 6.11 In Run 3 the new Abbey Sports Centre in South Oxfordshire does not change the distribution of unmet demand from Run 2.

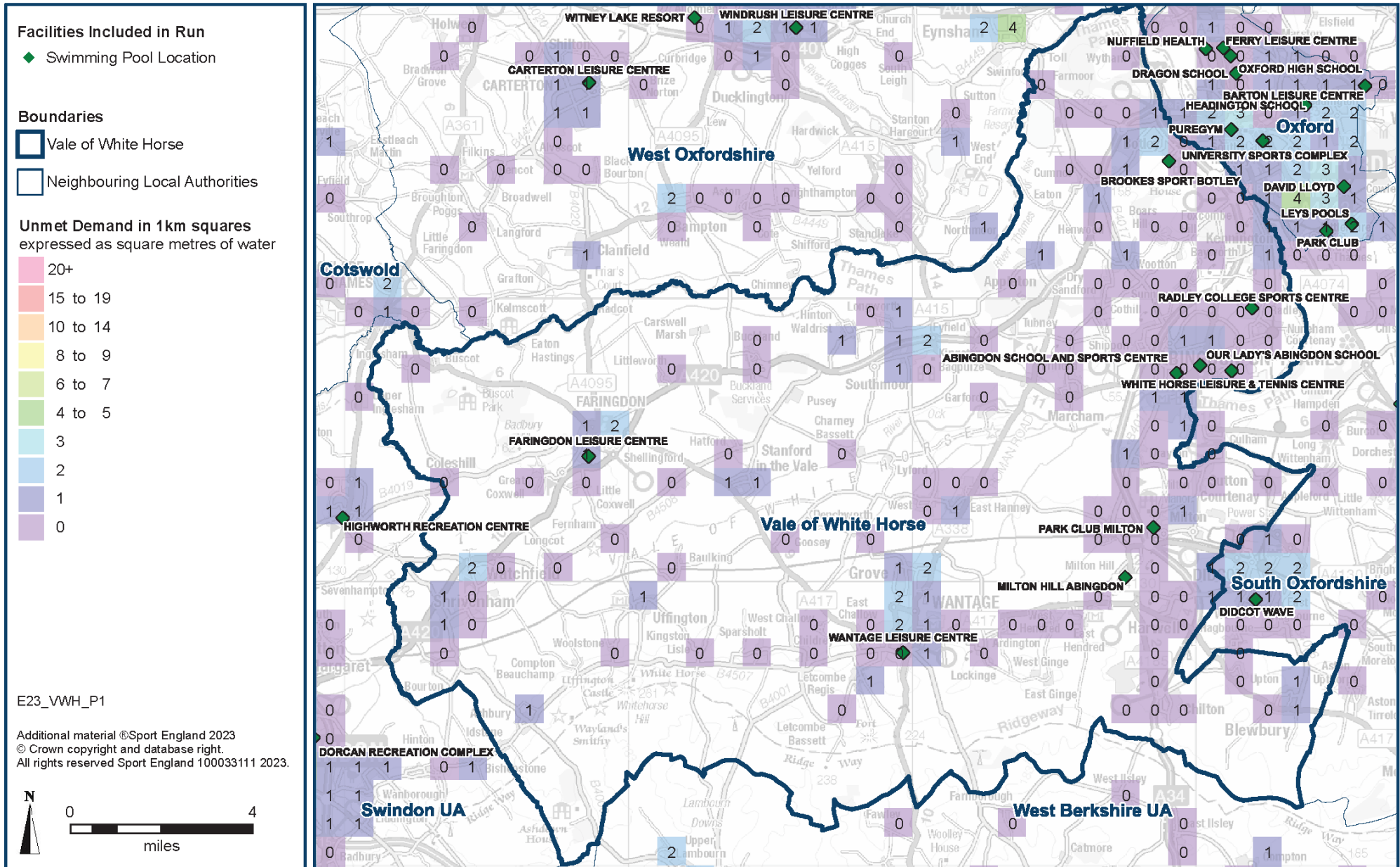
Meeting Unmet Demand

- 6.12 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 the figures are shown in Map 6.3 for Run 3.
- 6.13 **Key finding 7** is that in Run 3 the location where the most unmet demand can be met is in Shrivenham, at 32 sqm of water. This will include unmet demand from Swindon and is an insufficient amount to consider provision of a new swimming pool.

For context, the minimum amount of reachable water space required to justify a new pool would be 160 sqm, which is a 20m x 8m four-lane pool.

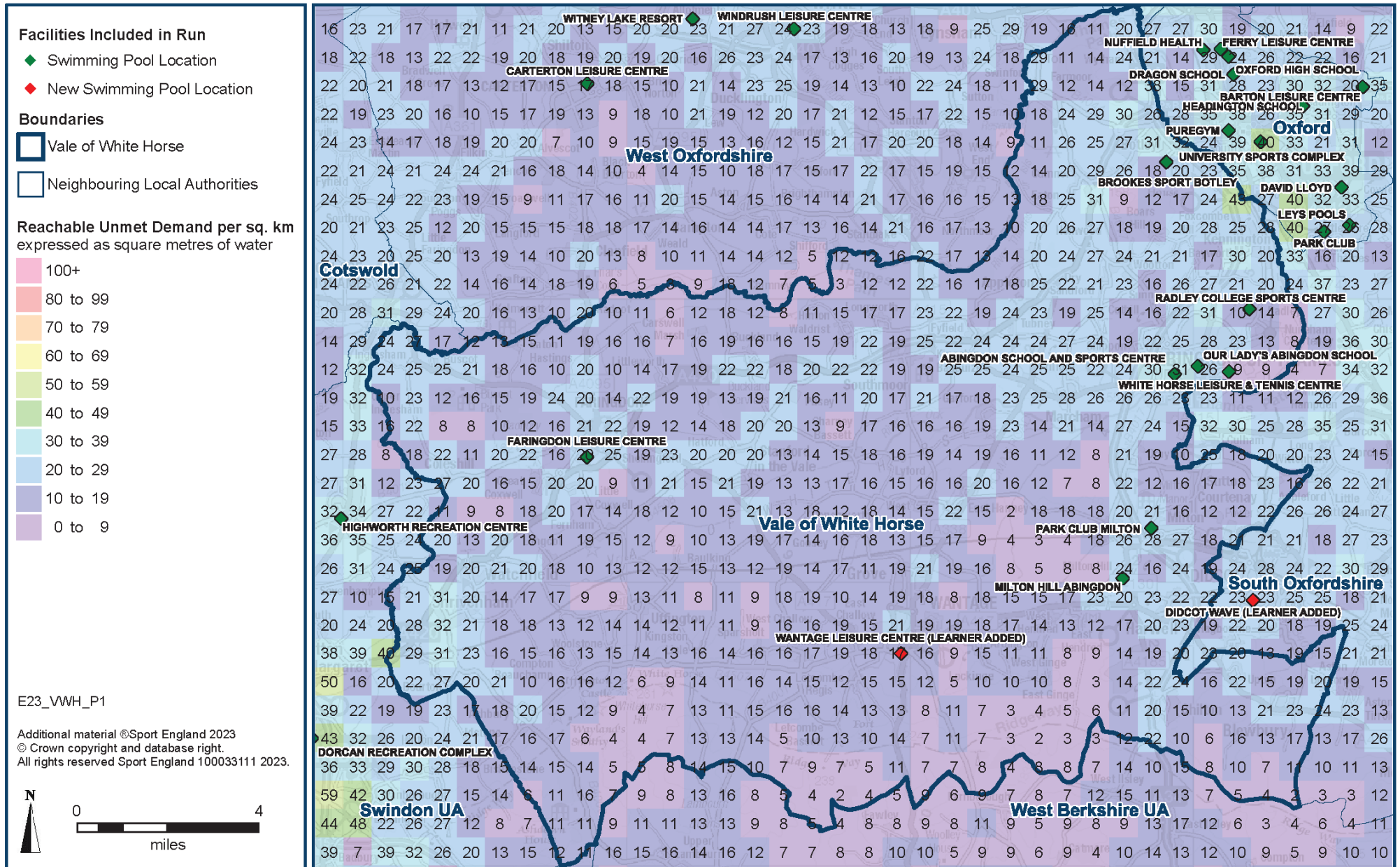
Map 6.1: Unmet Demand for Swimming Pools in Run 1 (2023)

FPM unmet demand aggregated at 1km square grid expressed as square metres of water and shown thematically (colours).



Map 6.3: Reachable Unmet Demand for Swimming Pools in Run 3 (2041)

FPM reachable unmet demand aggregated at 1km square grid expressed as square metres of water (figure labels) and shown thematically (colours).



7. USED CAPACITY OF FACILITIES

Most swimming pools are reasonably full at peak times in all three runs. There is capacity to accommodate more demand, although two pool sites are uncomfortably full at peak times.

Imported demand is low in all runs. The number of visits imported is highest in Run 2 and lowest in Run 3. The largest amount of imported demand in all runs is from South Oxfordshire, at between 39% and 46% of all imported demand. However, the number of visits is low.

Table 7.1: Used Capacity of Swimming Pools 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 in weekly peak period	8,765	11,010	10,782
% of overall capacity of pools used	43%	52%	51%
Number of visits imported in weekly peak period	1,594	1,679	1,520
Visits imported as a % of used capacity	18%	15%	14%
Difference between visits imported and exported	-178	-1,026	-1,257

Definition of used capacity – This is a measure of usage at swimming pools 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. The pool itself becomes too crowded to swim comfortably, and the changing and circulation areas also become too congested. In the model, Sport England assumes that usage above 70% of capacity is busy and that the swimming pool is operating at an uncomfortable level.

- 7.1 **Key finding 8** is that in Run 1 the overall estimated used capacity of swimming pools in the weekly peak period is 43%. In Run 2 it is 52% due to the increase in demand and the attractiveness of Wantage Leisure Centre, and in Run 3 it is 51% due to the change in supply in South Oxfordshire. There is sufficient swimming pool capacity to meet demand in all runs.

Table 7.2: Weekly Peak Period Used Capacity of Vale of White Horse Swimming Pools by Run

Used Capacity in Weekly Peak Period				Run 1		Run 2		Run 3	
				2023		2041		2041	
Sites	Operation	Year Built	Year Refurb	Proportion	Visits	Proportion	Visits	Proportion	Visits
Abingdon School Sports Centre	Educational	2008		91%	1,181	100%	1,298	100%	1,298
Brookes Sport Botley	Educational	1995		29%	541	32%	596	32%	596
Faringdon Leisure Centre	Public	1997		61%	1,404	62%	1,427	61%	1,404
Milton Hill Abingdon	Commercial	2002		48%	840	51%	893	49%	858
Our Lady's Abingdon School	Educational	1978	2007	43%	244	60%	340	57%	323
Park Club Milton	Other	1998		52%	803	55%	850	52%	803
Radley College Sports Centre	Educational	1985	2017	21%	721	18%	618	17%	584
Wantage Leisure Centre	Public	1976	2001	64%	1,753	-	-	-	-
Wantage Leisure Centre (with learner)	Public	1976	2025	-	-	87%	3,253	87%	3,253
White Horse Leisure and Tennis Centre	Public	2002		27%	1,290	36%	1,720	35%	1,672

Site Utilisation Factors

- 7.2 Two swimming pool sites are estimated to be uncomfortably full at peak times (above 70% of capacity), as shown below:
- Abingdon School Sports Centre, at 91% in Run 1 and 100% in Runs 2 and 3
 - Wantage Leisure Centre (with learner pool added), at 87% in Runs 2 and 3
- 7.3 The explanations for the high proportions of used capacity are as follows:
- Abingdon School Sports Centre:
 - Located in the area of highest demand, which increases from 2023 to 2041
 - Newest swimming pool site and, therefore, is more attractive to residents than the other swimming pools nearby
 - Has the second smallest capacity in the District and, therefore, meets fewer visits
 - Wantage Leisure Centre (with learner pool added):
 - Located in the area of second highest demand in both years
 - Refurbishment in 2024 and the new learner pool in 2025 make the site relatively more attractive compared to the other sites in 2041
 - No competition from other swimming pools nearby
 - Nearest swimming pool to West Berkshire where there are no pools in the north, therefore, will meet imported demand
- 7.4 Of the other public leisure centres:
- Wantage Leisure Centre (in Run 1) and Farringdon Leisure Centre are both comfortably full at between 61% and 64% of capacity used across the runs:
 - There is little change in the used capacity of Farringdon Leisure Centre between runs because it is in an area of the District where there is not much demand in 2023 and 2041; also there are no other swimming pools nearby to compete for demand
 - White Horse Leisure and Tennis Centre has the lowest proportion of used capacity of the public sites at between 27% in Run 1 and 36% in Run 2:
 - It has a low proportion of capacity used in all runs because it has the largest capacity in the District, but meets the second most visits in Runs 2 and 3
 - The centre's used capacity increases from Run 1 to Run 2 because it is near an area with a large increase in demand from 2023 to 2041
 - Its used capacity decreases slightly from Run 2 to Run 3 because it is close to South Oxfordshire where there is a new swimming pool in Run 3, which attracts visits away

- 7.5 The public leisure centres meet the most visits in every run because of their ‘draw effect’, as they:
- Are accessible for public and swimming club use
 - Have extensive opening hours and are proactively managed to encourage and support swimming participation and physical activity
 - Unlike commercial swimming pools, do not require payment of a monthly membership fee
 - Provide all the activities of learn to swim, recreational swimming, lane and fitness swimming, and swimming development by clubs
- 7.6 Radley College Sports Centre has the lowest proportion of used capacity in the District in all three runs, decreasing from 21% in Run 1 to 17% in Run 3:
- Second largest capacity in the District in Run 1 and third largest capacity in Runs 2 and 3; therefore, it meets more visits than two other sites in Runs 1 and 2, and one other site in Run 3
 - Used capacity decreases from Run 1 to Run 2 because the effect of its refurbishment in 2017 decreases as the site gets older in 2041 and it becomes less attractive to residents
- 7.7 Brookes Sport Botley has the second lowest proportion of used capacity at 29% in Run 1 and 32% in Runs 2 and 3. It is close to the border with Oxford, where most visits are exported to, and has competition from the swimming pools there.
- 7.8 Utilisation of the other swimming pool sites is between 43% and 60% across the runs:
- Our Lady Abingdon School meets the fewest visits in every run because it is the second oldest swimming pool in the District and, therefore, is less attractive to residents than the other pools nearby
 - Milton Hill Abingdon is a commercial site only available to members, which limits who can use the swimming pool and, therefore, is less utilised
 - Park Club Milton is in an area of low demand

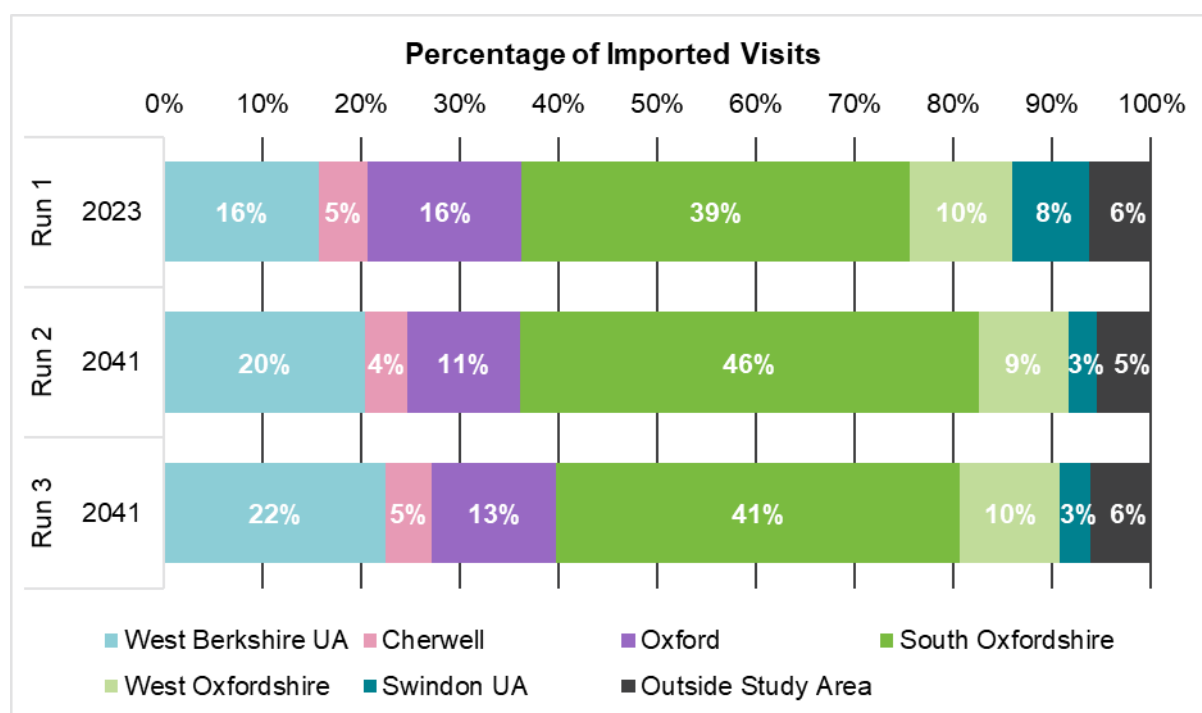
Imported Demand

- 7.9 If residents of neighbouring local authority areas swim at a site in Vale of White Horse, their usage becomes part of the used capacity of the District’s swimming pools.
- 7.10 Imported demand is 18% of the used capacity of the District’s swimming pools in Run 1. The proportion decreases to 15% in Run 2, but the number of visits in the weekly peak period increases from 1,594 in Run 1 to 1,679 in Run 2. Imported demand is lowest in Run 3 at 1,520 visits, and accounts for 14% of the used capacity.
- 7.11 Imported demand from the neighbouring local authorities is shown spatially in Map 7.1 for Run 1, in Map 7.2 for Run 2 and in Map 7.3 for Run 3.

Table 7.5: Import Origin of Visits to Swimming Pools 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	250	343	341
Cherwell	80	71	71
Oxford	248	192	192
South Oxfordshire	627	780	623
West Oxfordshire	165	153	154
Swindon UA	123	47	47
<i>Outside Study Area</i>	<i>100</i>	<i>92</i>	<i>92</i>

Chart 7.1: Percentage of Imported Visits by Origin and Run



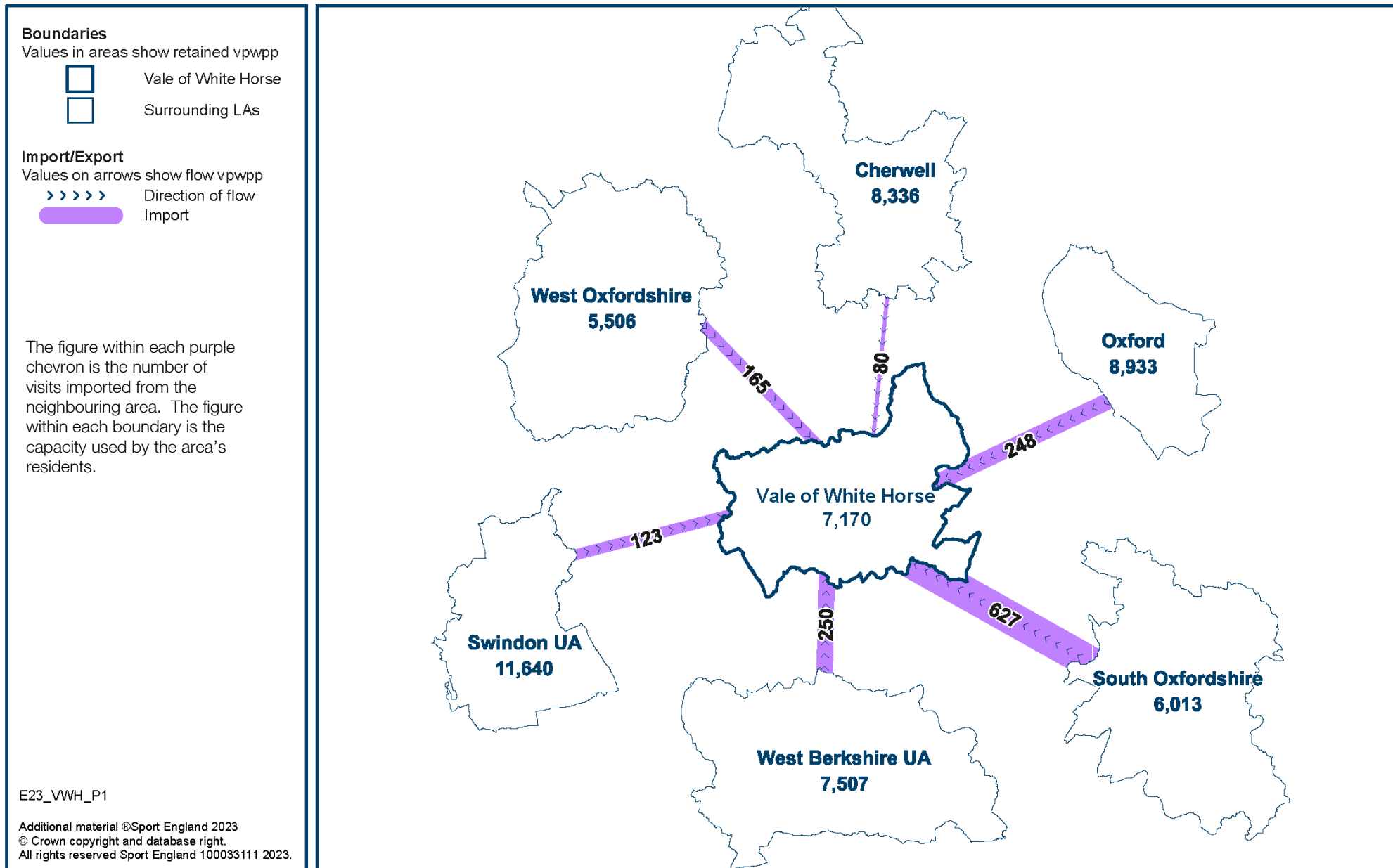
7.12 In all runs the largest amount of imported demand is from South Oxfordshire, at between 39% and 46% of all imported demand. However, the number of visits is low, at 623 in Run 3 and 780 in Run 2.

Import/Export Balance

7.13 In all runs Vale of White Horse exports more visits in the weekly peak period than it imports. However, the difference is small in Run 1 at 178 visits, but this increases to 1,026 visits in Run 2. The difference is largest in Run 3 at 1,257 visits, because exports to South Oxfordshire increase and imports from South Oxfordshire decrease due to the new Abbey Sports Centre.

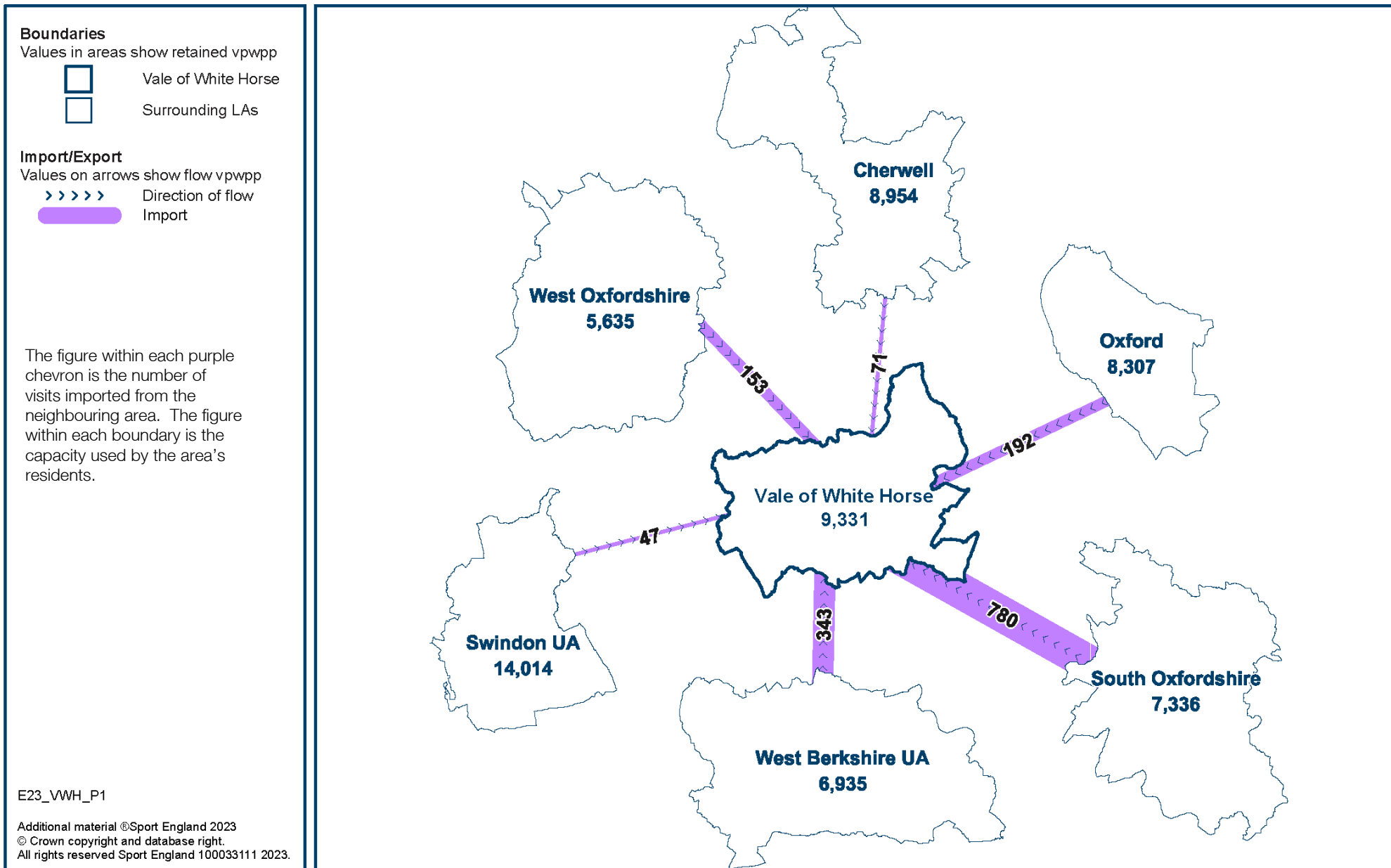
Map 7.1: Imported Demand for Swimming Pools to Vale of White Horse in Run 1 (2023)

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).



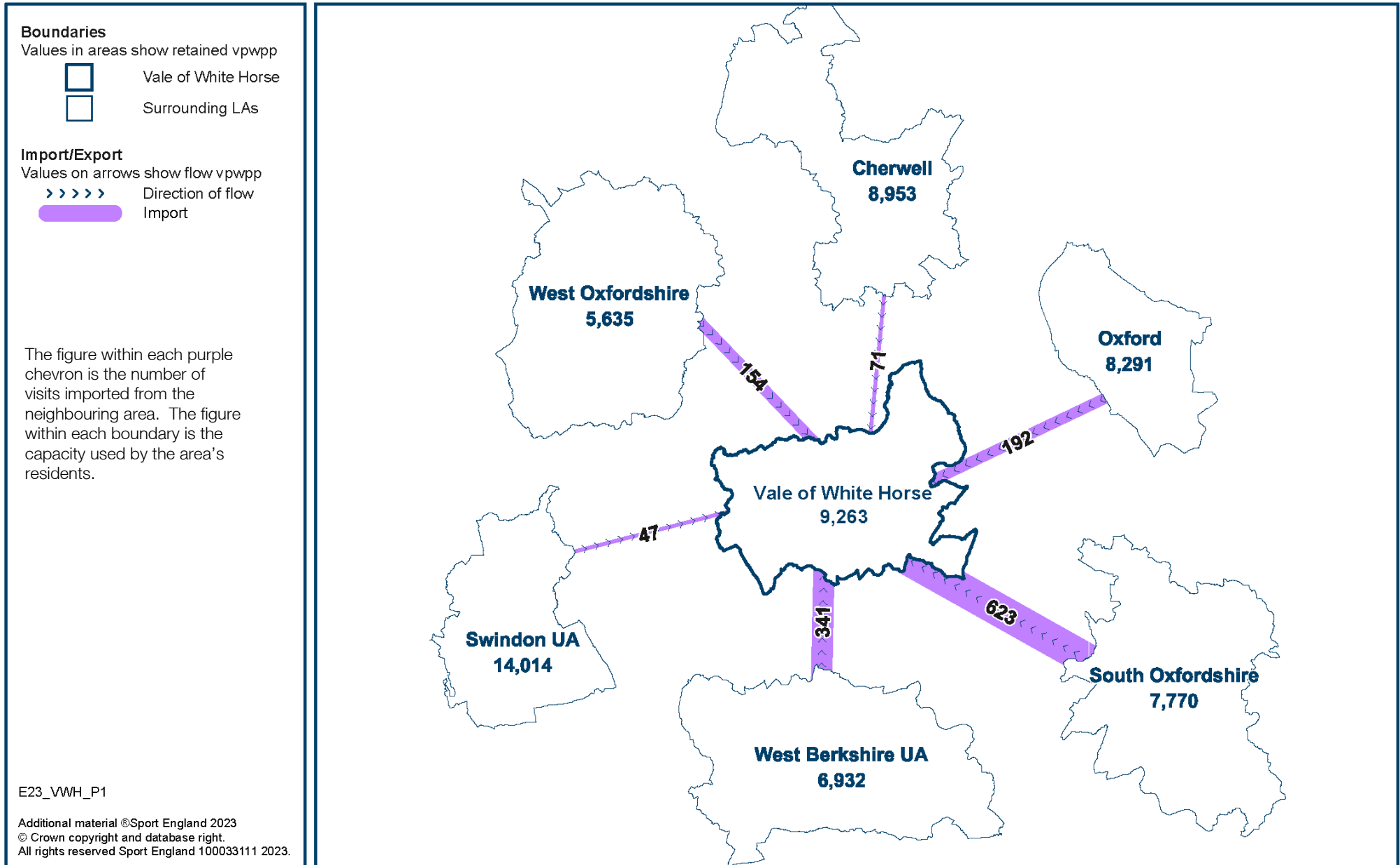
Map 7.2: Imported Demand for Swimming Pools to Vale of White Horse in Run 2 (2041)

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 Swimming Pools to 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 indicates that there is sufficient provision for Vale of White Horse residents to access in Run 1 (2023), but this is not the case in Runs 2 and 3 (2041). However, there is significant variation across the District.

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

Table 8.1: Local Share of Swimming Pools 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 swimming pools relative to demand in local area: <1 = poorer, >1 = better	1.53	0.65	0.68

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 that people want to visit in an area (considering deprivation), 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 swimming pools 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 swimming pools is better and worse. The intervention is to try and increase access for residents in the areas with the poorest access to swimming pools.
- 8.3 In Run 1 when demand is lowest there is enough suitable provision that the District’s residents can access, with local share of 1.53. In Runs 2 and 3 demand is greater, and there is a small increase in supply with the addition of the new learner pool at Wantage Leisure Centre, but overall the pools have aged and become less attractive. Local share is 0.65 in Run 2 and slightly improves to 0.68 in Run 3 because of the new Abbey Sports Centre in South Oxfordshire.

Geographical Distribution of Local Share

- 8.4 In Run 1 local share is best north of Abingdon at the location of Radley College Sports Centre, at 3.8 (purple square in Map 8.1).
- 8.5 Local share is very high in the northeast of the District, at more than 1.5 (dark blue and purple squares). This is where demand has access to the most swimming pools in Vale of White Horse and Oxford.
- 8.6 Local share is poorest in Wantage and southwest of Wantage, at 0.5 (orange squares).
- 8.7 In Run 2 local share is highest in the same areas as Run 1, but decreases to a maximum of 1.4 (medium blue square in Map 8.2).
- 8.8 Local share is good between Brookes Sport Botley and White Horse Leisure and Tennis Centre, at between 1.0 and 1.2 (dark green and light blue squares). However, west of this area local share is poorer. In west Abingdon local share is 0.7 (yellow squares).
- 8.9 Local share is poorest around Wantage, at 0.3 (light red squares). There is a large increase in demand in this area in 2041. Wantage Leisure Centre has a new learner pool which increases the supply, but it is the only pool site in the area and the refurbishment of the main pool in 2024 will be 17 years old by 2041.
- 8.10 In Run 3 local share improves slightly in the east of Vale of White Horse because of the new Abbey Sports Centre in South Oxfordshire, but local share remains very poor in the south and west of the District (see Map 8.3).

Comparative Measure of Provision

- 8.11 A comparative measure of swimming pool provision is water space per 1,000 population.

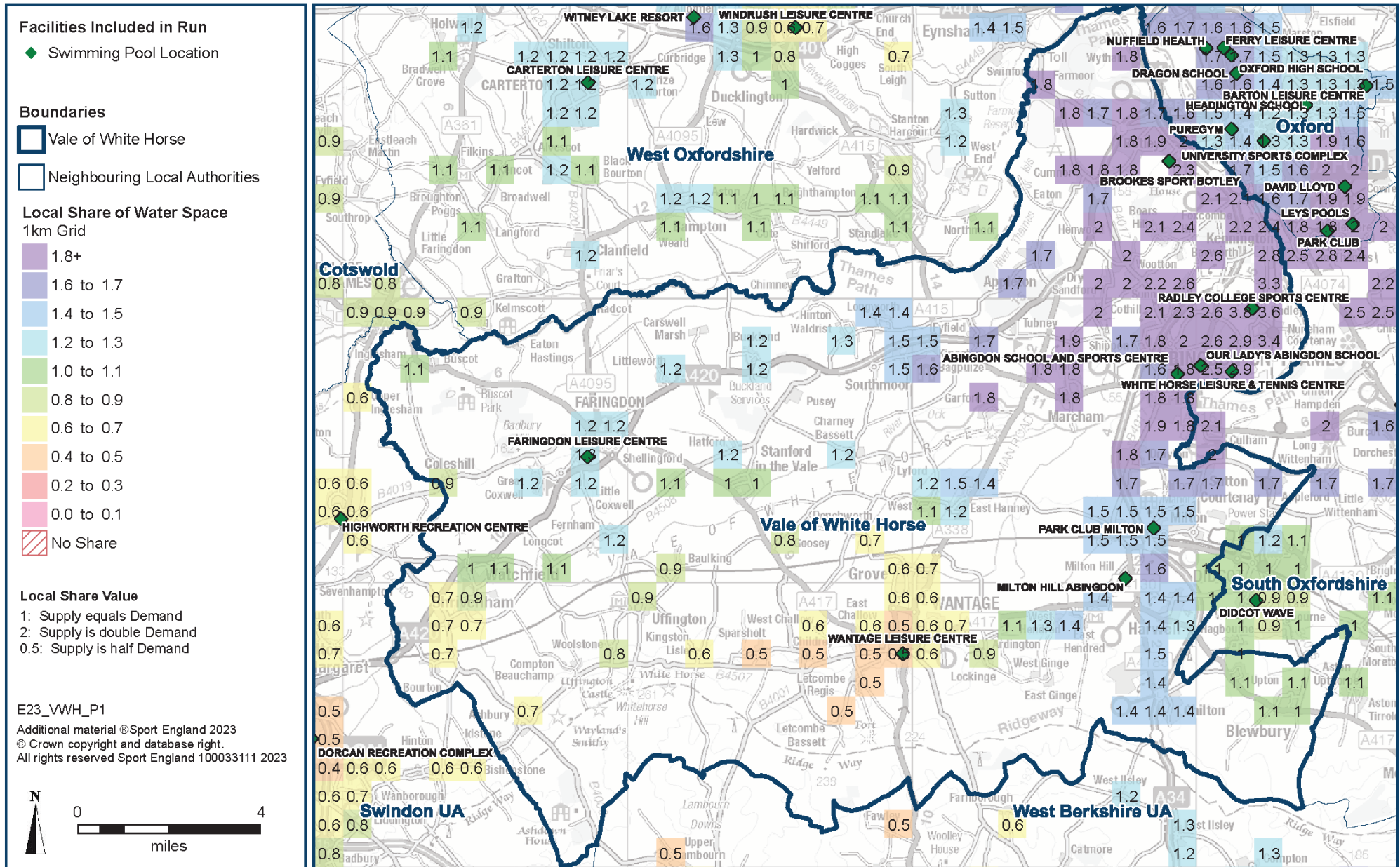
Table 8.2: Water Space in sqm per 1,000 Population by Area and Run

Water Space in sqm per 1,000 Population	Run 1	Run 2	Run 3
Area	2023	2041	2041
Vale of White Horse	20	16	16
West Berkshire UA	15	15	15
Cherwell	14	14	14
Oxford	23	23	23
South Oxfordshire	11	9	10
West Oxfordshire	15	14	14
Swindon UA	7	8	8
South East Region	13	12	12
England	12	11	11

- 8.12 Vale of White Horse has 20 sqm of water per 1,000 population in Run 1 (2023) and 16 sqm in Runs 2 and 3 (2041). This is the second highest provision in the study area in all runs, and is greater than the South East Region and England-wide averages in 2023 and 2041.
- 8.13 Oxford has the highest provision at 23 sqm of water per 1,000 population in both years.
- 8.14 Swindon has the lowest provision at 7 sqm of water per 1,000 population in 2023, and 8 sqm in 2041.
- 8.15 **The findings on water space per 1,000 population are reported because some local authorities like to compare their quantitative provision with others; however, it does not set a standard of provision, and should not be used as such.**
- 8.16 The supply and demand assessment for swimming pools in Vale of White Horse is based on the findings from the previous six headings analysed in this report.

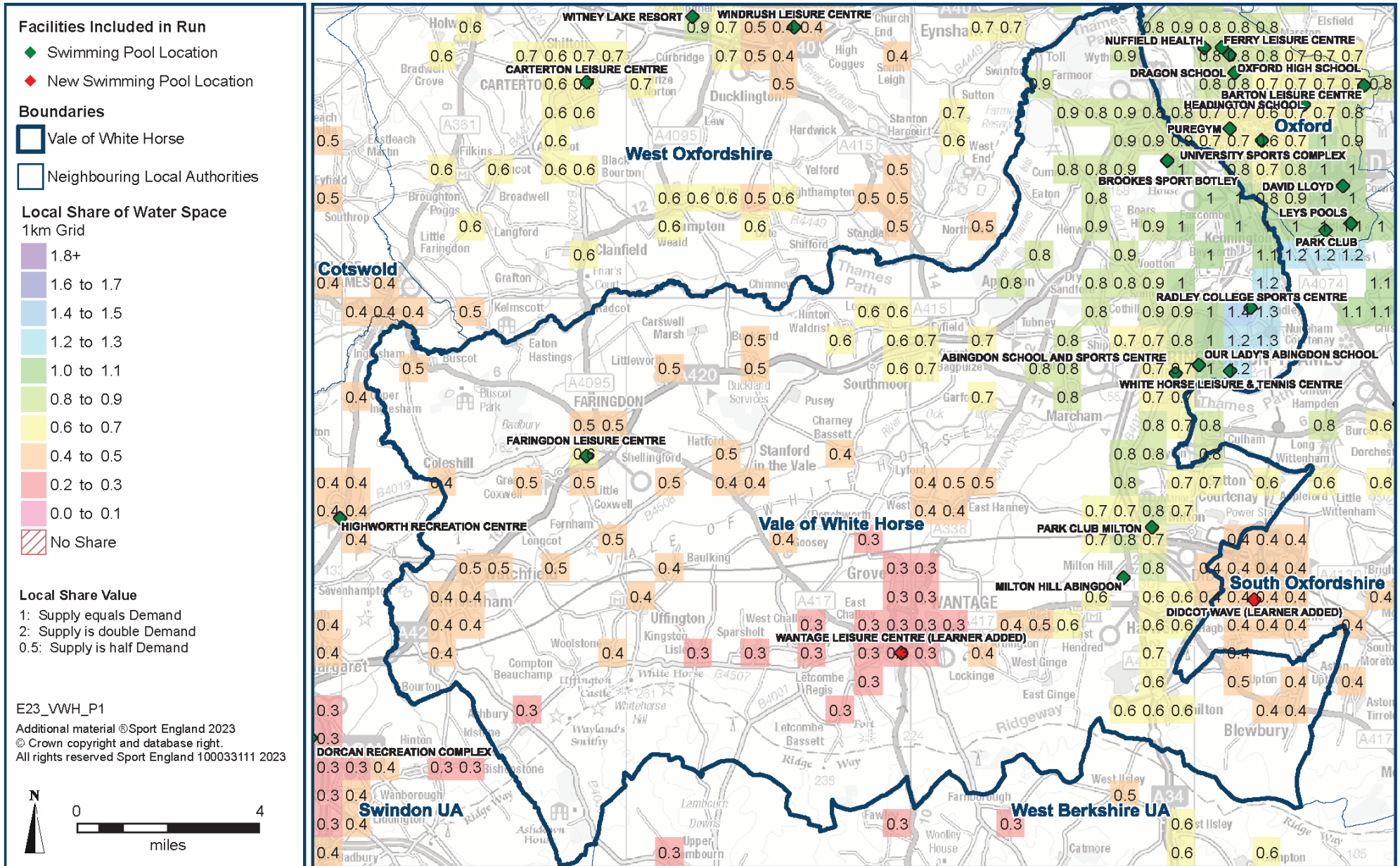
Map 8.1: Local Share of Swimming Pools in Run 1 (2023)

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



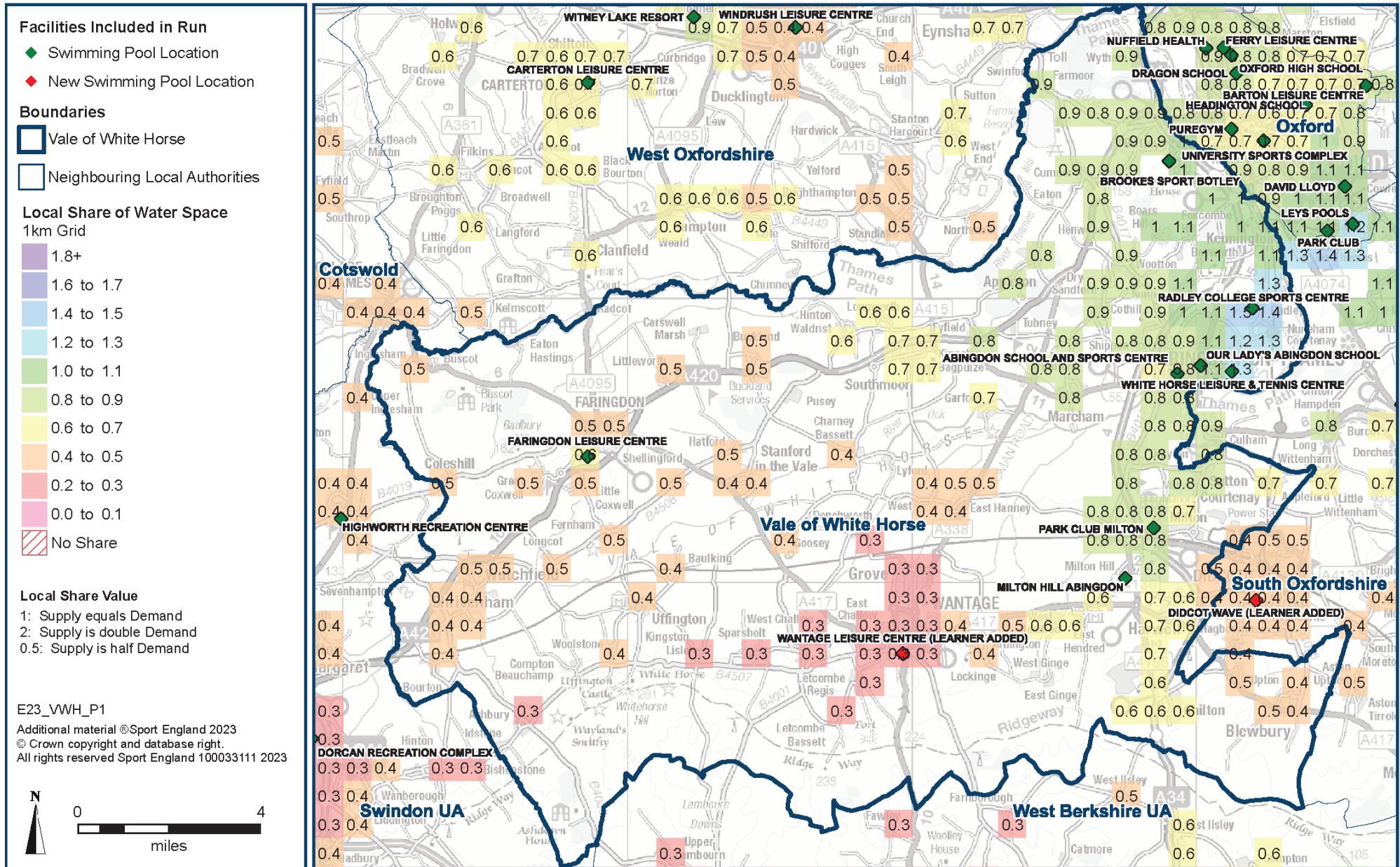
Map 8.2: Local Share of Swimming Pools in Run 2 (2041)

FPM share of water divided by demand. Data outputs shown thematically (colours) and aggregated at 1km square (figure labels).



Map 8.3: Local Share of Swimming Pools in Run 3 (2041)

FPM share of water divided by demand. Data outputs shown thematically (colours) and aggregated at 1km square (figure labels).



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
Abbey Meadows Outdoor Pool	Lido	Lido
Abbey Meadows Outdoor Pool	Lido	Closed
Abingdon Preparatory School	Main	Private use
Abingdon School Sports Centre	Lido	Closed
Chandlings School	Main	Private use
Chandlings School	Lido	Closed
Cothill House School	Learner	Private use
Harwell Primary School	Learner	Principal pool too small
Parklands Campus (Closed)	Main	Closed
Pinewood School	Lido	Private use
St Hugh's School	Lido	Private use
St Mary's School (Closed)	Main	Closed
The Defence Academy (Shrivenham Station)	Lido	Private use
The School of St Helen and St Katharine	Lido	Closed

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

Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb
Cherwell						
Bannatyne Health Club	Commercial	4-lane	20 x 8	160	2004	
Bicester Hotel Golf and Spa	Commercial	3-lane	20 x 7	140	2005	
Bicester Leisure Centre	Public	5-lane	25 x 12	300	1970	2009
		Leisure	12 x 8	96	1994	2009
		Learner	20 x 10	200	2026	
Bloxham School		4-lane	23 x 9	209	1994	2014
David Lloyd Bicester	Commercial	4-lane	25 x 10	250	2022	
Kidlington and Gosford Leisure Centre	Edu. (3 rd party)	4-lane	25 x 10	250	1976	2008
Sibford School	Educational	4-lane	25 x 9	213	2003	
Spiceball Leisure Centre	Public	6-lane	25 x 13	325	2009	
		4-lane	20 x 10	200		
Oxford						
Barton Leisure Centre	Public	4-lane	25 x 9	225	2006	
David Lloyd Club	Commercial	5-lane	25 x 12	300	2004	
Ferry Leisure Centre	Edu. (3 rd party)	6-lane	25 x 13	313	1976	2018
		Learner	12 x 8	96		
Headington School	Educational	4-lane	25 x 10	250	1992	2011
Leys Pools and Leisure Centre	Public	8-lane	25 x 17	425	2014	
		Leisure	20 x 9	170		
		Learner	12 x 8	96		
Nuffield Health	Commercial	4-lane	25 x 8	200	2000	
		Learner	7 x 3	21		
Oxford High School	Educational	6-lane	25 x 14	338	2003	2005
Oxford University Sports Complex	Educational	8-lane	25 x 17	425	2003	
Park Club Oxford	Commercial	4-lane	20 x 8	160	2004	2012
PureGym (Oxford Central)	Commercial	4-lane	17 x 10	170	2003	
The Dragon School	Educational	4-lane	25 x 9	213	2000	
South Oxfordshire						
Abbey Sports Centre	Public	4-lane	19 x 8	148	1983	
Abbey Sports Centre (New)	Public	4-lane	25 x 10	250	2031	
Didcot Wave Leisure Pool and Gym	Public	Leisure	25 x 13	313	1993	2017
		Learner	20 x 10	200	2025	
Henley Leisure Centre	Edu. (3 rd party)	4-lane	25 x 9	225	1977	
Phyllis Court Club	Commercial	3-lane	20 x 6	120	2018	
Thame Leisure Centre	Public	4-lane	25 x 10	250	2003	
		Learner	10 x 10	100		
The Oratory Preparatory School	Educational	4-lane	25 x 10	250	2008	
		Learner	8 x 8	64		
The Oratory Sports Centre	Educational	4-lane	25 x 8	200	1970	2014

Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb
West Berkshire UA						
Bradfield College Sports Complex	Edu. (3 rd party)	6-lane	25 x 13	325	1994	
David Lloyd	Commercial	4-lane	20 x 9	170	2015	
Downe House School Sports Centre	Educational	4-lane	25 x 10	250	2001	
Hungerford Leisure Centre	Public	4-lane	25 x 10	250	1997	
Kennet Leisure Centre	Public	4-lane	25 x 10	250	1997	
Northcroft Leisure Centre	Public	6-lane	25 x 13	315	1980	
		Learner	12 x 8	96		
Nuffield Health	Commercial	4-lane	20 x 10	200	1998	2008
Regency Park Health Club	Commercial	4-lane	17 x 10	170	2000	2007
St Andrew's School	Educational	3-lane	25 x 7	183	2017	
Willink Leisure Centre	Edu. (3 rd party)	4-lane	25 x 8	200	1996	1997
West Oxfordshire						
Carterton Leisure Centre	Public	5-lane	25 x 12	300	2003	
		Learner	10 x 7	70		
Chipping Norton Leisure Centre	Edu. (3 rd party)	4-lane	25 x 10	250	2002	
Heythrop Park Hotel Golf and Country Club	Commercial	3-lane	20 x 8	150	2001	2009
Kingham Hill School	Educational	4-lane	25 x 10	250	2002	2010
		Learner	10 x 5	50		
Windrush Leisure Centre	Public	6-lane	25 x 13	313	1975	
		Learner	12 x 7	84		
Witney Lake Resort	Commercial	5-lane	17 x 12	204	1999	
Swindon UA						
David Lloyd Club	Commercial	4-lane	25 x 10	250	2007	
Dorcan Recreation Complex	Public	3-lane	20 x 7	140	1975	
Everlast Fitness Club	Commercial	4-lane	25 x 10	250	2003	2007
Health Hydro	Public	6-lane	33 x 13	413	1893	2025
Highworth Recreation Centre	Public	4-lane	25 x 9	213	1968	2008
Link Centre	Public	6-lane	25 x 13	313	1985	2011
Nuffield Health	Commercial	4-lane	20 x 8	160	1999	2016
Ridgeway Leisure Centre	Educational	3-lane	25 x 8	188	1976	

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 swimming pools, sports halls, 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 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 conducted 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 sports 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.

3.7. 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.

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.

- 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 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 authority, 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 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 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

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 most 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 considered when calculating how people will travel to facilities.

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:

- 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 weighting 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. Deciles are calculated by ranking the LSOAs from most deprived to least deprived and dividing them into ten groups. 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/6sqm, halls = 6 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 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

10.1. The model uses travel times to define facility coverage 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. OS MasterMap Highways Network Paths is used to calculate walking 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, where 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 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 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 coverage for swimming pools and sports halls.

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 use and football, and 30 minutes for hockey.

Minutes	Artificial Grass Pitches					
	Combined Use		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

Swimming Pools

The following inclusion criteria were used for this analysis:

- Include all operational indoor swimming pools available for community use, i.e., pay and play, membership, sports club/community association.
- Exclude all pools not available for community use, i.e., private use.
- Exclude all outdoor pools, i.e., lidos.
- Exclude all pools where the main pool is less than 20 metres in length, or the area is less than 160 square metres. If the principal pool is a leisure pool with an area less than 200 square metres, then all pools on the site should be excluded.
- For leisure pools, only the area of the water that is swimmable should be included. Water play or splash areas should be excluded from the useable space.
- 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 are included, as supplied by **sportscotland** and Sport Wales.

⁴ Choosing a date in the mid 1970s ensures that the facility is included, while not overestimating its impact within the run.

Model Parameters

Swimming Pools Parameters

At One Time Capacity	0.16667 per square metre = 1 person per 6 square meters																											
Catchment Maps	<p>Car: 20 minutes</p> <p>Walking: 1.6 km</p> <p>Public transport: 20 minutes at about half the speed of a car</p> <p>NOTE: Catchment times are indicative, within the context of a distance decay function of the model.</p>																											
Duration	60 minutes																											
Percentage Participation	<table border="1"> <thead> <tr> <th>Age</th> <th>0-15</th> <th>16-24</th> <th>25-39</th> <th>40-59</th> <th>60-79</th> <th>80+</th> </tr> </thead> <tbody> <tr> <td>Male</td> <td>14.5</td> <td>6.9</td> <td>10.4</td> <td>8.6</td> <td>5.4</td> <td>1.6</td> </tr> <tr> <td>Female</td> <td>16.2</td> <td>10.2</td> <td>13.8</td> <td>11.8</td> <td>7.7</td> <td>1.5</td> </tr> </tbody> </table>							Age	0-15	16-24	25-39	40-59	60-79	80+	Male	14.5	6.9	10.4	8.6	5.4	1.6	Female	16.2	10.2	13.8	11.8	7.7	1.5
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Frequency per Week	<table border="1"> <thead> <tr> <th>Age</th> <th>0-15</th> <th>16-24</th> <th>25-39</th> <th>40-59</th> <th>60-79</th> <th>80+</th> </tr> </thead> <tbody> <tr> <td>Male</td> <td>1.09</td> <td>1.03</td> <td>0.86</td> <td>1.01</td> <td>1.30</td> <td>1.73</td> </tr> <tr> <td>Female</td> <td>1.10</td> <td>0.96</td> <td>0.82</td> <td>1.00</td> <td>1.17</td> <td>1.28</td> </tr> </tbody> </table>							Age	0-15	16-24	25-39	40-59	60-79	80+	Male	1.09	1.03	0.86	1.01	1.30	1.73	Female	1.10	0.96	0.82	1.00	1.17	1.28
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Male	1.09	1.03	0.86	1.01	1.30	1.73																						
Female	1.10	0.96	0.82	1.00	1.17	1.28																						
Peak Period	<p>Weekday: 9:00 to 10:00, 12:00 to 13:00, 15:30 to 21:00</p> <p>Weekend: 08:00 to 15:30</p> <p>Total: 52.5 hours</p>																											
Proportion in Peak Period	63%																											