



Facilities Planning Model Assessment of
Sports Hall Provision for
Redditch Borough Council

Bespoke Report

29 July 2022

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The Facilities Planning Model

It is most important to set out that the Sport England Facilities Planning Model (FPM) study is a quantitative, accessibility and spatial assessment of the supply, demand and access to sports halls. The FPM study assesses how these factors change based on projected population growth and options to change the sports hall supply.

The FPM study provides an assessment that can inform consultations, to then provide a rounded evidence base. This can then be applied in the development of the Council's strategic planning for the provision of sports halls.

Accreditations

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EXECUTIVE SUMMARY

Introduction

- 0.1 Redditch Borough Council (also referred to as Redditch, or the Borough) is reviewing its current provision of sports halls and assessing the future demand and level of provision required to 2040.
- 0.2 The Facilities Planning Model (FPM) modelling runs are to provide:
- **Run 1** – a baseline assessment of provision in 2021.
 - **Run 2** – a forward assessment of demand for sports halls and its distribution, based on the projected changes in population from 2021 to 2040.
- 0.3 The main report sets out the full set of findings under each of the seven assessment headings.
- 0.4 The next section of the report provides the headline strategic overview, the key findings and interventions arising from the Sport England FPM study on supply, demand and accessibility.

Headline Strategic Overview

- 0.5 The headline strategic overview is that most of the Borough's demand for sports halls can be met by the accessible supply of sports halls in 2021 and 2040.
- 0.6 Satisfied demand is very high, and the vast majority is retained within the Borough. Unmet demand is very low, and is demand located too far away from a sports hall.
- 0.7 The sports halls are estimated to be busy, especially the public leisure centre sports halls and some educational sites.
- 0.8 The educational sites are important providers for community use and this needs to continue.
- 0.9 The Borough's stock of public leisure centres and educational sports halls is ageing.

Key Findings

- 0.10 The key findings that underpin the headline strategic overview are as follows:
1. The total supply of sports halls in badminton court equivalents in 2021 and 2040 is 38, of which 29 are available for community use in the weekly peak period and nine, 23% of the total supply, are unavailable.
 2. The public leisure centre provides a good offer. The scale of the main hall provides for all indoor hall sports (except handball) at the community level of sports participation and club sport development programmes
 3. The educational sites represent 83% of the total sites and have variable hours of access for community use.

4. The average age of the sports hall sites in 2021 is 39 years. The oldest, Abbey Stadium Sports Centre, opened in 1963.
5. Five sites opened before 2000 and three have been modernised. St Augustine's School (1970) and Arrow Vale Sports & Leisure Centre (1976) are unmodernised.
6. Between 2021 and 2040, there is a 1% increase in the Borough's population and a 3% decrease in demand for sports halls.
7. Redditch is the only local authority in the study area with a projected decrease in demand for sports halls between 2021 and 2040.
8. A total of 24% of journeys made by Redditch residents to sports halls are on foot or by public transport.
9. There is enough sports hall capacity within a suitable travel time to meet 95% of the Borough's demand for sports halls in 2021 and 2040.
10. Satisfied demand retained within the Borough is 81% in 2021 and 83% in 2040. This shows that the sports halls are well located and have the capacity and appeal to meet most of the demand in the Borough.
11. Unmet demand is 5% of demand in both years. This equates to just over one court.
12. Unmet demand located too far away from a sports hall is 99% of unmet demand in both years.
13. The estimated used capacity of the Redditch sports halls in the weekly peak is 62% in 2021 and 67% in 2040.
14. Abbey Stadium Sports Centre is estimated to have 87% of capacity used at peak times in 2021 and 100% in 2040.
15. The highest imported demand is from Bromsgrove, with 423 visits in the weekly peak period in 2021 (40% of all imported demand) and 840 visits in 2040 (52% of all imported demand).

Interventions and Next Steps

- 0.11 The interventions and suggested next steps are based on the FPM findings and need to be considered to develop an all-round evidence base. This includes review of the FPM assessment within the Council, and consultations with key organisations, such as educational owners of facilities, sports clubs and community groups.
- 0.12 It is envisaged this wider evidence base work will be progressed through the Council's Built Facilities Strategy. This will lead to options on ways to meet the projected demand for sports halls up to 2040 and beyond.
- 0.13 Setting the FPM assessment within this wider context, the FPM key findings in terms of interventions are:
- Potential changes in the hours available for community use at the educational sites.
 - The age of the stock and need for modernisation.

- The location of the residential sites in Redditch and Bromsgrove and the increase in imported demand from Bromsgrove met at the Redditch sports halls.

0.14 The interventions and next steps arising from the FPM key findings are:

- Secure community-use agreements at educational sites. In terms of the FPM findings, the most important is continuation of community use at Tudor Grange Academy. It is in an area of quite high demand for sports halls and has 34 hours of community use available in the weekly peak period. Increasing the community hours to the maximum 46 hours increases the capacity.
- Modernise Arrow Vale Sports & Leisure Centre and consider increasing the hours available for community use in the weekly peak period from 40 hours at present to the maximum 46 hours. This will maintain the attractiveness of the venue to residents in the Borough. The centre is in an area of quite high demand.
- Work with Bromsgrove District to ensure developer contributions secured from the residential sites in both authorities contribute to improving the sports halls in Redditch.

The FPM findings identify increased usage at Abbey Stadium Sports Centre and Trinity High School in 2040. These are the nearest sports hall sites to the residential sites in both authorities and the increase in use can be attributed in part to the demand from these sites.

Trinity High School has 34 hours available for community use and estimated usage of 84% in 2021 in the weekly peak period and 92% in 2040. Increasing the hours available for community use to 46 hours will increase supply and contribute to meeting the increased demand. It could also accommodate some of the demand being met at the nearby Abbey Stadium Sports Centre and reduce the used capacity to a more comfortable level. The centre was last modernised in 2006 and may need further modernisation.

0.15 A more strategic and longer-term intervention is to negotiate a community-use agreement for any new educational sports hall, or replacement of existing sports hall. St Augustine's School opened in 1970 and the sports hall is unmodernised.

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1 INTRODUCTION

1.1 Redditch Borough Council is reviewing the current provision of sports halls and assessing the future provision required up to 2040.

1.2 The key drivers for the work are to:

- Provide a 2021 evidence base for sports halls in the Borough.
- Assess how the supply of sports halls is meeting demand in the Borough in 2021.
- Provide a forward assessment of need and an evidence base for sports halls to 2040, based on the projected population change in the Borough and across the study area.

1.3 The outputs from the FPM assessment will be applied in:

1. The Council's indoor sports facilities strategic planning work.
2. Development of planning policies for sports hall provision.

1.4 The sequence of work is based on assessments known as runs, and these are set out in the Executive Summary.

The Study Area

1.5 The assessments include the sports halls and population in the Borough and its neighbouring local authorities, which comprise the study area (see Map 1.1).

1.6 A customer's choice of sports halls does not reflect local authority boundaries. There may be management, and possibly pricing, incentives for customers to use sports facilities located in their local authority area. Other factors that influence choice of sports hall include:

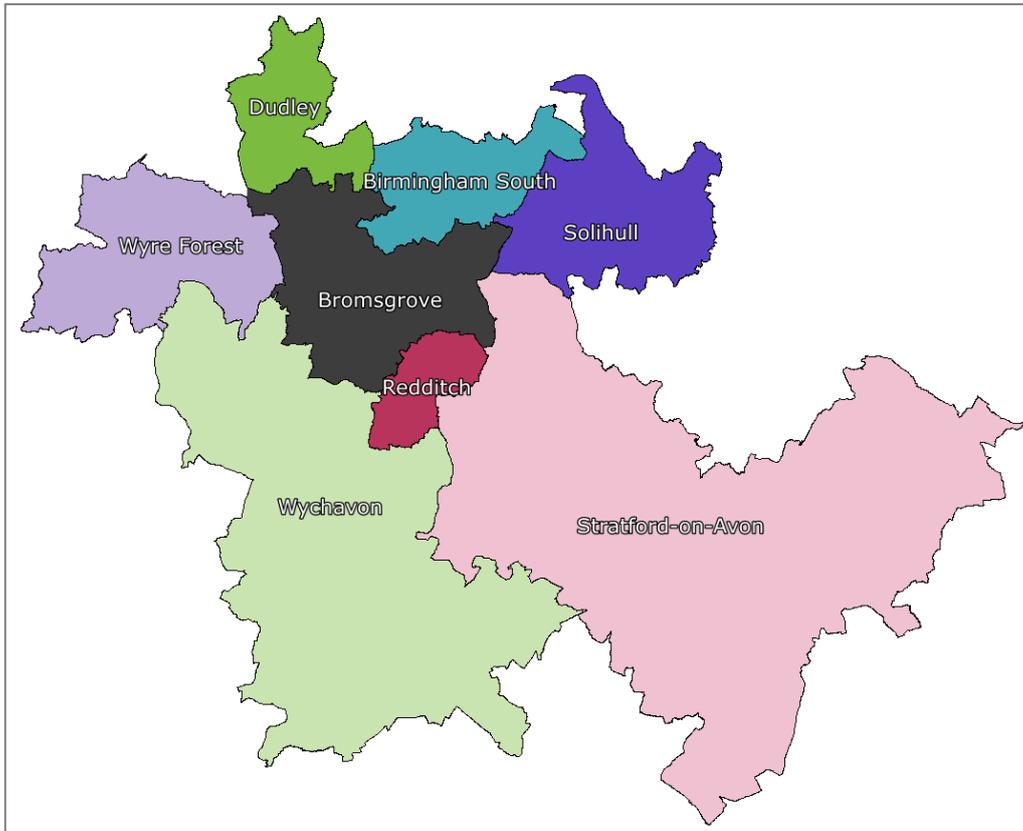
- How close the venue is to where residents live or work.
- Other facilities on the same site, such as a gym or studio.
- The programming of the sports halls, particularly that hall sports are available for club sport and community group use at times that fit with the lifestyle of residents.
- The age and condition of the facility and, inherently, its attractiveness.

1.7 Increasingly, the quality of the sports halls and their offer are of more importance to residents in their choice of venues. New facilities will have a significant draw because of the higher quality of the venues.

1.8 In determining the position across the Borough, it is important to take full account of the sports halls and population in neighbouring local authority areas. The most attractive facility for some Redditch residents may be outside the Borough (known as exported demand). For residents of neighbouring authorities, their most attractive sports hall may be inside Redditch (known as imported demand).

1.9 To take account of these factors, the study area places the Redditch Borough Council area at its centre and includes neighbouring local authority areas.

Map 1.1: Study Area for the Redditch Sports Halls Assessment



Report Structure, Content and Sequence

1.10 The findings for the Redditch Borough Council assessment are set out in a series of tables for the runs, as follows:

- Total Supply
- Total Demand
- Accessibility
- Satisfied Demand
- Unmet Demand
- Used Capacity
- Local Share

1.11 The terms listed above are defined beneath the tables.

1.12 To support the findings, this report also includes maps that show sports hall locations, demand, deprivation, driving and walking coverage, public transport access, unmet demand and local share.

- 1.13 Where valid, the findings for neighbouring local authorities are set out. A commentary is provided on these comparable findings because some local authorities like to know how their findings on badminton courts per 10,000 population compare with those for neighbouring local authorities.
- 1.14 The key findings in each of the sections are numbered and highlighted in bold typeface.
- 1.15 Details of the sports halls in the neighbouring local authority areas for the assessment are set out in Appendix **1**. All maps for the study are provided in Appendix **2**. For a description of Sport England's Facilities Planning Model and its parameters, see Appendix **3**.

2 SPORTS HALL SUPPLY

Key finding 1 is that the total supply of sports halls in badminton court equivalents in 2021 and 2040 is 38 courts, of which 29 are available for community use in the weekly peak period and nine, 23% of the total supply, are unavailable.

Key finding 2 is that the public leisure centre site provides a good offer. The scale of the main hall provides for all indoor hall sports (except handball) at the community level of sports participation and club sport development programmes

Key finding 3 is that the educational sites represent 83% of the total sites and have variable hours of access for community use.

Key finding 4 is that the average age of the sports hall sites in 2021 is 39 years. The oldest, Abbey Stadium Sports Centre, opened in 1963.

Key finding 5 is that five sites opened before 2000 and three have been modernised. St Augustine's School (1970) and Arrow Vale Sports & Leisure (1976) are unmodernised.

Table 2.1: Supply of Sports Halls in Redditch by Run

Total Supply	RUN 1	RUN 2
Redditch	2021	2040
Number of halls	11	11
Number of hall sites	6	6
Supply in badminton court equivalents	37.5	37.5
Supply in courts scaled with hours available in peak period	28.9	28.9
Supply in visits per week in peak period	10,643	10,643
Average year built of sites	1982	1982
Average age of sites	39	58

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

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

- 2.1 In both runs there are 11 individual sports halls, located at six sports hall sites. There is one public leisure centre and five educational sites.

2.2 **Key finding 1** is that the total supply of sports halls in badminton court equivalents in 2021 and 2040 is 38 courts. Twenty-nine courts are available for community use in the weekly peak period. Nine courts, 23% of the total supply, are unavailable for community use.

2.3 The unavailable supply is located at the educational sports hall sites. The maximum number of hours available for community use in the weekly peak period is 46.

Table 2.2: Details of Sports Halls in Redditch 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)
Abbey Stadium Sports Centre	Public	4-court	35 x 21	737	1963	2016	46	104.5	1,472
Arrow Vale Sports & Leisure Centre	Edu.	4-court Activity	35 x 20 18 x 12	690 216	1976		40 40	50.5 50.5	2,180
St Augustine's School	Edu.	4-court Activity	35 x 20 18 x 17	690 306	1970		31 31	32 32	1,980
St Bede's Catholic Middle School	Edu.	3-court Activity	27 x 18 18 x 10	486 180	2017		25.5 25.5	28 28	1,090
Trinity High School	Edu.	4-court Activity	52 x 24 17 x 9	1,248 153	1996	2006	34 34	38 38	1,630
Tudor Grange Academy	Edu.	5-court Activity	41 x 21 18 x 10	867 180	1970	2006	39 39	41 41	2,291

2.4 Abbey Stadium Sports Centre has the second smallest capacity in the Borough. This is because it does not have an activity hall, which all the educational sites do.

2.5 The at-one-time capacity of a main hall with marked courts is eight people per badminton court and for an activity hall it is 15 people per 144 sqm (the equivalent area of a badminton court). Therefore, an activity hall has almost double the capacity for the same area size of a main hall.

2.6 Where a sports hall site has both a main hall and an activity hall, the activities for the two halls are programmed together. The main hall can accommodate big/high space activities, such as basketball and badminton, which have low participant numbers. The activity hall can accommodate smaller space activities such as martial arts, but which have higher participant numbers.

2.7 The Sport England/National Governing Bodies recommended size for a four-court sports hall is 35m x 20m. This size of hall allows sufficient space between and behind the courts to provide for all indoor hall sports (except handball) at the community level of sports participation. This size of sports hall also meets the needs for club sport development programmes.

2.8 Abbey Stadium Sports Centre has a four-court hall that meets the Sport England/National Governing Bodies recommended size. The total capacity of the public leisure centre is 14% of the available supply in the peak period.

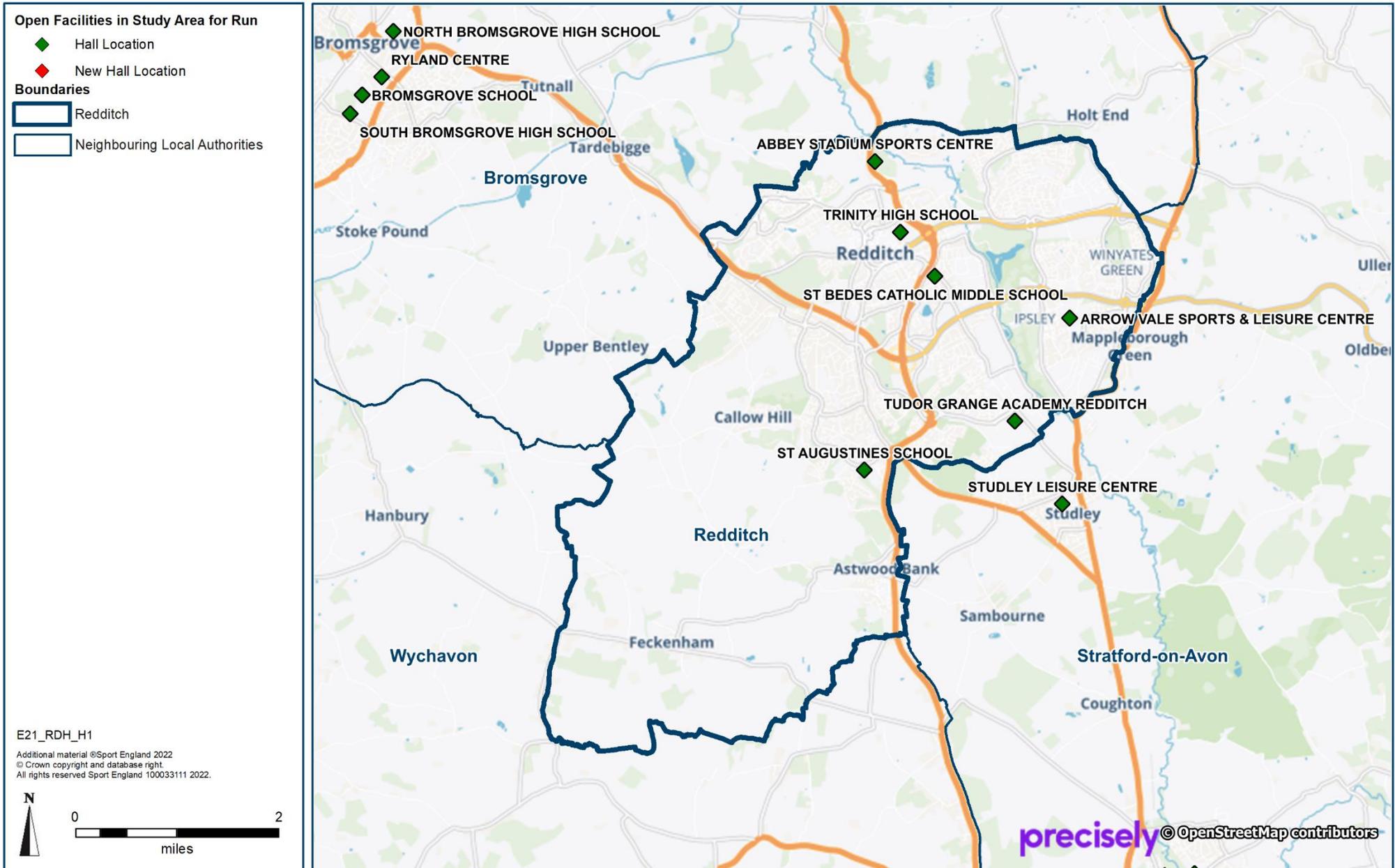
- 2.9 **Key finding 2** is that the public leisure centre provides a good offer. The scale of the main hall provides for all indoor hall sports (except handball) at the community level of sports participation and club sport development programmes. It has the maximum 46 hours available for community use in the weekly peak period.
- 2.10 The educational sites provide:
- One five-court hall.
 - Three four-court halls, which meet Sport England/National Governing Bodies recommended size.
 - One three-court hall.
 - An activity hall (at all five sites).
- 2.11 **Key finding 3** is that the educational sites represent 83% of the total sites and have variable hours of access for community use. The hours available range from 25.5 hours in the weekly peak period at St Bede's Catholic Middle School to 40 hours at Arrow Vale Sports & Leisure Centre.
- 2.12 The educational provider determines the policy for community use of its educational site, together with the programme and hours of use. Should schools or colleges reduce access for community use, this will create a significant change in the overall balance between supply and demand in terms of the following:
- Whether there is enough supply to meet demand.
 - How supply differs by area.
 - The type of access for sports clubs, community groups and pay and play.
- 2.13 **Key finding 4** is that the average age of the sports hall sites in 2021 is 39 years. Therefore, it is an ageing stock. The oldest sports hall site is Abbey Stadium Sports Centre, opened in 1963.
- 2.14 St Bede's Catholic Middle School offers the newest sports hall, opened in 2017.
- 2.15 **Key finding 5** is that five sites opened before 2000 and three have been modernised. The unmodernised venues are St Augustine's School, opened in 1970, and Arrow Vale Sports & Leisure Centre, opened in 1976.
- 2.16 Modernisation is defined as one or more of the following:
- Upgrade of the sports hall floor to a sprung timber floor.
 - Upgrade of the lighting in the sports hall.
 - Modernisation of the changing accommodation.

Sports Hall Locations

- 2.17 The locations of sports halls across the Borough are shown in Map 2.1, with green diamonds indicating sites open in both runs. Of note is that there are no sites in the

extensive southwest area of the Borough. The implications of this are set out in the Demand for Sports Halls, Satisfied Demand for Sports Halls and Unmet Demand for Sports Halls sections.

Map 2.1: Location of Sports Hall Sites in Redditch



3 DEMAND FOR SPORTS HALLS

Key finding 6 is that, between 2021 and 2040, there is a 1% increase in the Borough’s population and a 3% decrease in demand for sports halls.

Key finding 7 is that Redditch is the only local authority in the study area with a projected decrease in demand for sports halls between 2021 and 2040.

Table 3.1: Demand for Sports Halls in Redditch by Run

Total Demand	RUN 1	RUN 2
Redditch	2021	2040
Population	85,164	85,819
Visits demanded per week in peak period	7,196	7,009
Demand in courts with comfort factor included	24.4	23.8

Definition of total demand – This represents the total demand for sports halls by gender and for six age bands from 0 to 79 and is calculated as the percentage of each age band/gender that participates. This is added to the frequency of participation in each age band/gender to arrive at a total demand figure, which is expressed in visits in the weekly peak period and number of badminton courts. The FPM parameters for the percentage and frequency of participation, for gender and age, are calculated from Sport England’s Active Lives survey up to November 2019 and set out in Appendix 3.

- 3.1 The Borough’s population in 2021 is 85,164 and is projected to be 85,819 in 2040, an increase of 1%.
- 3.2 The Borough’s population forecast is taken from the ONS 2018-based subnational projections. The geographical distribution of the population in the FPM for 2040 includes housing growth sites to 2030 provided by the Council, which are shown on Map 3.1.
- 3.3 The largest Redditch housing growth site is located immediately west of Abbey Stadium Sports Centre. This site extends across the boundary into Bromsgrove District.
- 3.4 There is a major housing site in Bromsgrove adjacent to the Redditch boundary and close to the large Redditch housing site. As well as Abbey Stadium Sports Centre, there are two educational sports hall sites in this area.
- 3.5 These proposals are in addition to new housing already permitted or planned for in existing development plans. It is important to note that the Local Plan to 2040 is currently at Regulation 18 stage only, and these proposals may change during Local Plan preparation.
- 3.6 The 2021 demand for sports halls is 7,196 visits per week in the peak period, which equates to 24 courts. Demand is projected to decrease to 7,009 visits in the weekly peak period by 2040, a 3% decrease. However, the demand still equates to 24 courts. (Note: the

participation rate and frequency of participation are assumed to be unchanged between 2021 and 2040).

- 3.7 **Key finding 6** is that, between 2021 and 2040, there is a 1% increase in the Borough's population and a 3% decrease in demand for sports halls.

Decrease in Demand for Sports Halls

- 3.8 The most likely reason for the slight decrease in demand for sports halls is the change in demographics in the Borough between 2021 and 2040.
- 3.9 The ageing of the resident population between 2021 and 2040 will influence the demand for sports halls. It can mean that there are fewer people in the main age bands for sports halls participation in 2040 than in 2021. (The sports hall participation and frequency rates by age and gender are set out in Appendix 3.)
- 3.10 Therefore, the increase in demand for sports halls from population growth is offset by the ageing of the much larger resident population. The modelling assumes the frequency of sports hall participation remains constant.

Geographical Distribution of Demand

- 3.11 The location of demand for sports halls across the Borough in 2021 is shown in Map 3.2 for 2021 and Map 3.3 for 2040.
- 3.12 Demand in both years is highest in the northeast of the Borough and in an area northwest of the Tudor Grange Academy site. Demand is lowest in the southwest of the Borough, where there are no sports halls.

Demand for Sports Halls Across the Study Area

- 3.13 **Key finding 7** is that Redditch is the only local authority in the study area with a projected decrease in demand for sports halls between 2021 and 2040.
- 3.14 Demand is projected to increase most in Stratford-upon-Avon by 16%, Wychavon by 15% and Bromsgrove by 10%.

Table 3.2: Demand for Sports Halls by Local Authority by Run

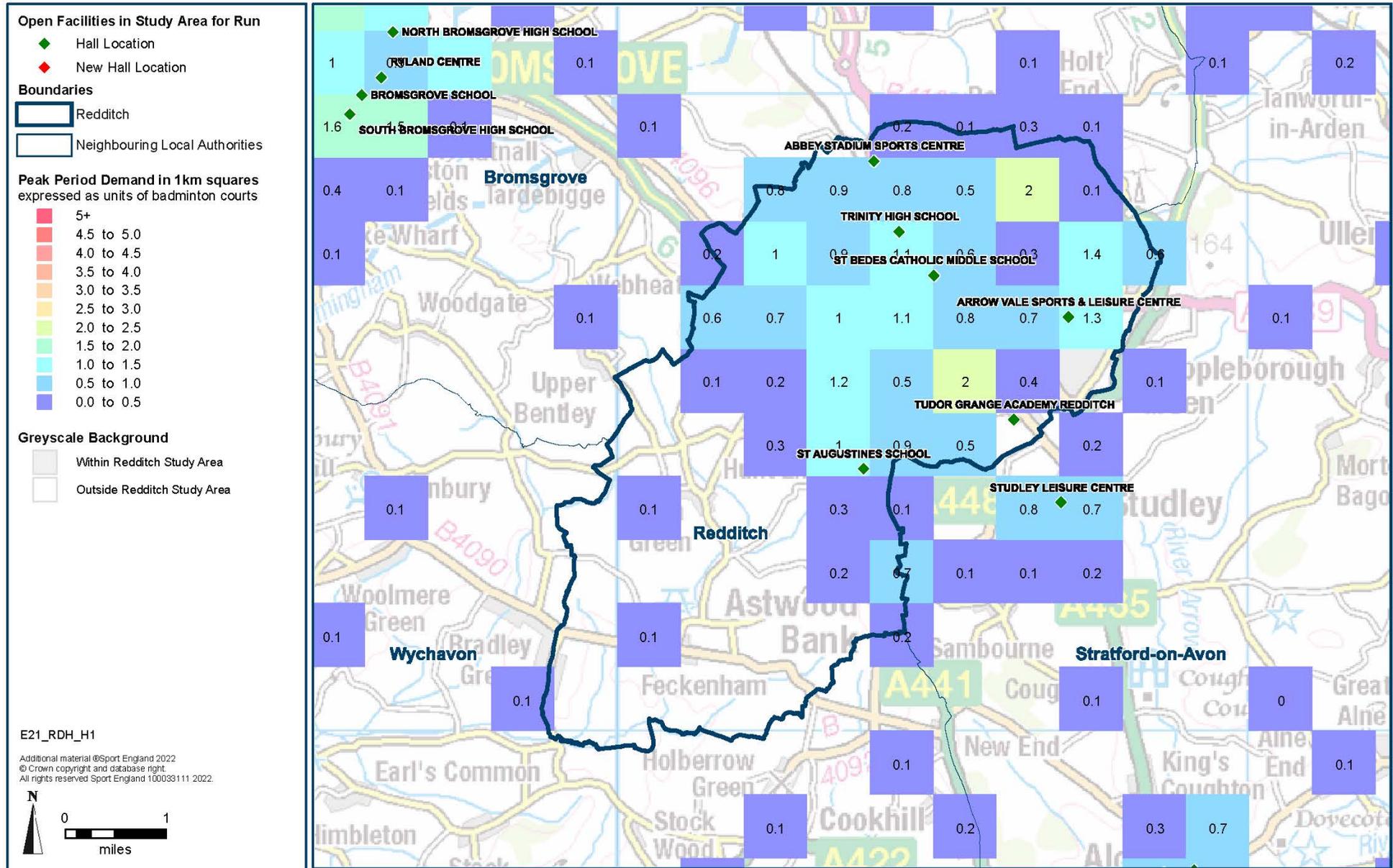
Demand in equivalent courts considering a 'comfort' factor	RUN 1	RUN 2	% Change
Local Authority	2021	2040	2021-2040
Redditch	24.4	23.8	-2.6%
Birmingham South	170.3	179.4	5.3%
Dudley	92.4	97.8	5.8%
Solihull	61.8	66.8	8.2%
Stratford-on-Avon	36.4	42.4	16.5%
Bromsgrove	27.9	30.7	10.2%
Wychavon	36.4	41.7	14.6%
Wyre Forest	28.3	29.4	4.0%

Deprivation

- 3.15 A total of 9% of the Borough's lower super output areas (LSOAs) are in the most deprived 10% nationally. Overall, Redditch ranks in the top 40% of most-deprived local authorities.
- 3.16 However, the level of deprivation varies across the Borough, as shown in Map 3.4. Trinity High School is the only sports hall site located in an area of high deprivation.
- 3.17 The Index of Multiple Deprivation (IMD) score is used in the FPM to limit whether people will use commercial facilities (see Appendix 3 for a 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.

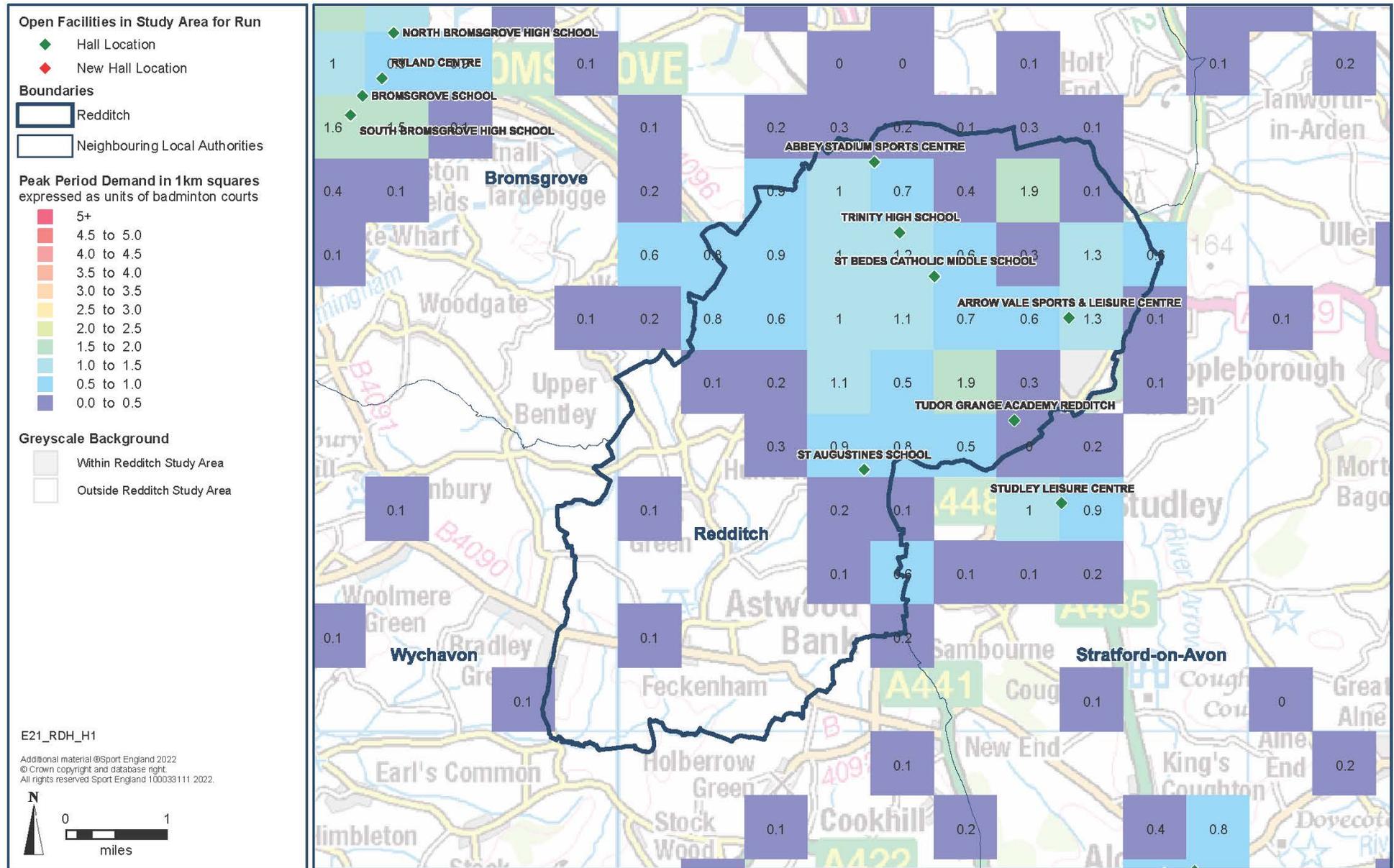
Map 3.2: Demand for Sports Halls in Redditch in 2021 (Run 1)

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



Map 3.3: Demand for Sports Halls in Redditch in 2040 (Run 2)

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



4 ACCESSIBILITY

Key finding 8 is that 24% of journeys made by Redditch residents to sports halls are on foot or by public transport.

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

Accessibility	RUN 1	RUN 2
Redditch	2021	2040
% of population without access to a car	19.5	19.5
% of population within a 20-minute walk of a sports hall	51.0	50.8
% of demand satisfied when travelled by car	76.3	76.4
% of demand satisfied when travelled on foot	14.7	14.6
% of demand satisfied when travelled by public transport	9.0	9.0

Definition of accessibility – For residents without access to a car, travel to sports halls by public transport or on foot is the choice of travel. 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. The travel-time limits used are:

- Drive is 30 minutes
- Public transport is 30 minutes (at half the speed of a car)
- Walking is 40 minutes (two miles)

On average, a 20-minute travel time accounts for approximately 90% of visits to a hall.

- 4.1 **Key finding 8** is that 24% of journeys made by Redditch residents to sports halls are on foot or by public transport. This reflects the level of deprivation in Redditch and that 20% of the population do not have access to a car.
- 4.2 However, the percentage of the Borough's resident population without access to a car is lower than the national average of 25% and the West Midlands Region average of 24%.

Walking Access

- 4.3 An illustration of how many sports halls can be accessed by Borough residents, based on where they live and a 20-minute walk time (one mile) from the sports hall locations, is set out in Map 4.1 for the existing provision.
- 4.4 By definition, this is a small coverage area. Residents in the area shaded yellow are within walking distance of one sports hall site, and residents in the small orange area are within walking distance of three sites. However, not all residents in these areas will walk to a sports hall and some will travel further.

Public Transport Access

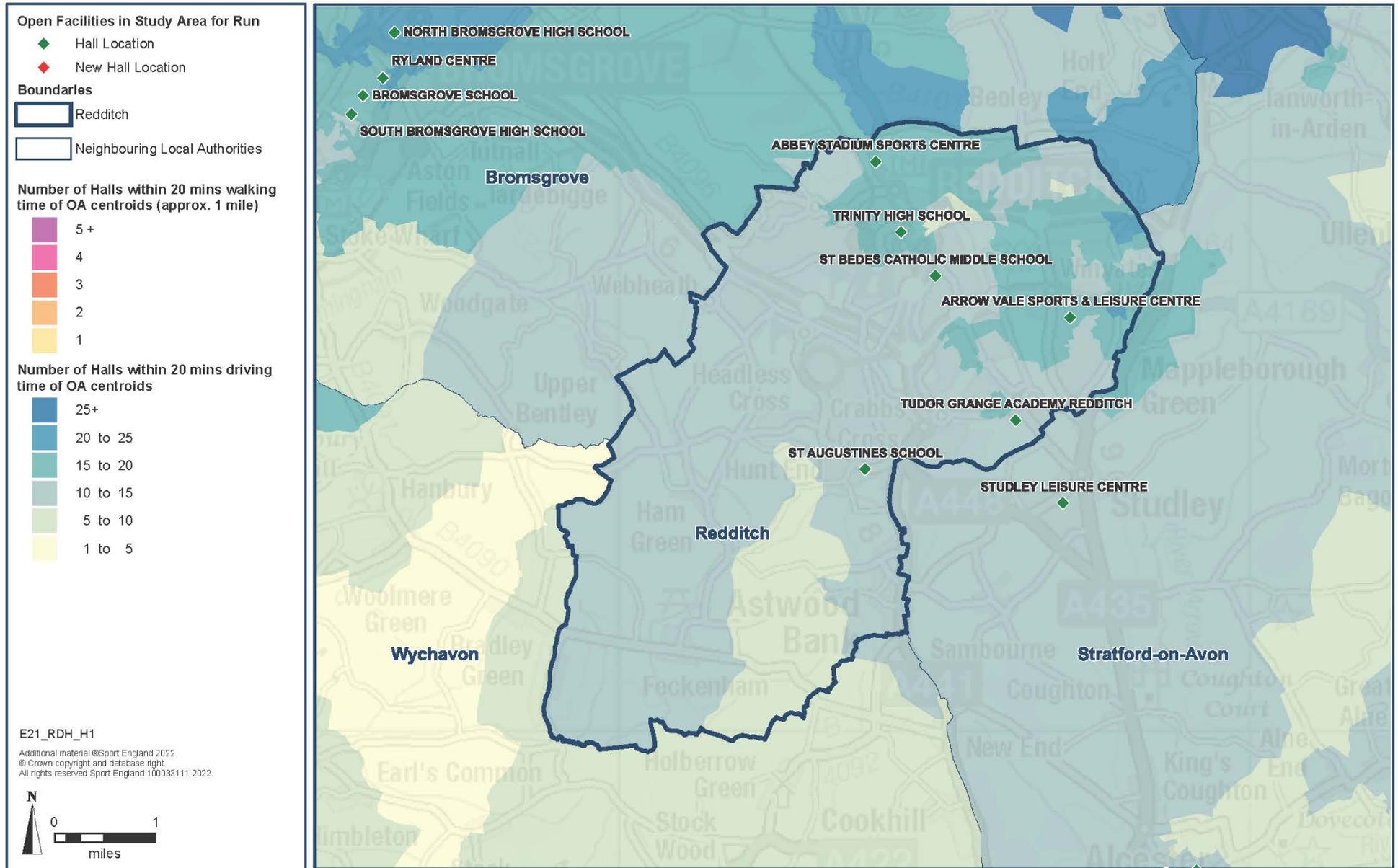
- 4.5 To provide some guidance on how accessible sports hall sites are by public transport, the areas of the Borough within a five-minute walk of a bus stop (areas in pink) and a 15-minute walk of a railway station (purple areas) are shown in **Map 4.2**.
- 4.6 All of the sports halls in the Borough and most of the local authority area, apart from areas in the southwest, are within a five-minute walk of a bus stop.
- 4.7 Trinity High School is the only sports hall within a 15-minute walk of a railway station.
- 4.8 It should be noted that while most Borough residents can get to a sports hall from a public transport stop, it may not mean they can get to a sports hall within 20 minutes from home via a combination of walking and public transport. Also, in rural areas the service may not be regular.

Driving Access

- 4.9 Mapping for a 20-minute drive time from sports halls is set out in **Map 4.3** for the existing provision.
- 4.10 Residents in most of the Borough can drive to between ten and 15 sports hall sites within 20 minutes. Residents in the northeast of the Borough have access to between 15 and 20 sites. Residents in a small part of the southwest have access to the fewest sports hall sites: between five and ten. This is also an area of low demand for sports halls.
- 4.11 Five of the six sports hall sites are in or very close to the areas with the greatest level of access by car. In these areas, residents can drive to between 15 and 20 sites. The exception is St Augustine's School, which is located in an area with access to between ten and 15 sites.

Map 4.3: Driving Access to Sports Halls in Redditch

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



5 SATISFIED DEMAND FOR SPORTS HALLS

Key finding 9 is that there is enough sports hall capacity within a suitable travel time to meet 95% of the Borough's demand for sports halls in 2021 and 2040.

Key finding 10 is that satisfied demand retained within the Borough is 81% in 2021 and 83% in 2040. This shows that the sports halls are well located and have the capacity and appeal to meet most of the demand in the Borough.

Table 5.1: Satisfied Demand for Sports Halls in Redditch by Run

Satisfied Demand	RUN 1	RUN 2
Redditch	2021	2040
Number of visits met per week in peak period	6,834	6,649
% of total demand satisfied	95.0	94.9
Number of visits retained per week in peak period	5,542	5,499
Demand retained as a % of satisfied demand	81.1	82.7
Number of visits exported per week in peak period	1,291	1,151
Demand exported as a % of satisfied demand	18.9	17.3

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

- 5.1 **Key finding 9** is that there is enough sports hall capacity within a suitable travel time to meet 95% of the Borough's demand for sports halls in 2021 and 2040.
- 5.2 Satisfied demand in all the local authority areas in the study area is more than 90% of total demand in both years, apart from in Birmingham South, where satisfied demand is 89% in 2021 and 88% in 2040. (The sports halls included in the study area are listed in Appendix 1.)
- 5.3 Satisfied demand is highest in Bromsgrove in both years, at 96%. In short, there is an extensive and accessible supply of sports halls within a suitable travel time across the eight local authorities in the study area.

Table 5.2: Percentage of Satisfied Demand for Sports Halls in Study Area by Run

% of Total Demand Satisfied	RUN 1	RUN 2
Local Authority	2021	2040
Redditch	95.0	94.9
Birmingham South	89.4	88.0
Dudley	92.3	91.3
Solihull	94.5	93.7
Stratford-on-Avon	93.4	93.3
Bromsgrove	96.3	95.8
Wychavon	94.0	93.3
Wyre Forest	93.5	93.4

Retained Demand

- 5.4 A subset of the satisfied demand findings shows how much of Redditch residents' demand for sports halls is retained at sports halls within the Borough. This is known as retained demand. This assessment is based on the catchment area of Redditch's sports halls and residents in the Borough participating at these sports halls.
- 5.5 **Key finding 10** is that satisfied demand retained within the Borough is 81% in 2021 and 83% in 2040. This shows that the sports halls are well located and have the capacity and appeal to meet most of the demand in the Borough.

Exported Demand

- 5.6 The residue of satisfied demand, after retained demand, is exported demand. This is based on Borough residents who live within the travel time of a sports hall outside the Borough and use that sports hall.
- 5.7 The Redditch demand for sports halls that is met outside the Borough is 19% in 2021 and 17% in 2040. The greatest level of exported demand in both years goes to Stratford-upon-Avon, at 749 visits in the weekly peak period in 2021 (58% of all exported demand) and 659 visits in 2040 (57% of all exported demand).
- 5.8 The destination and scale of the Borough's exported demand is shown spatially in Map 5.1 for 2021 and Map 5.2 for 2040.

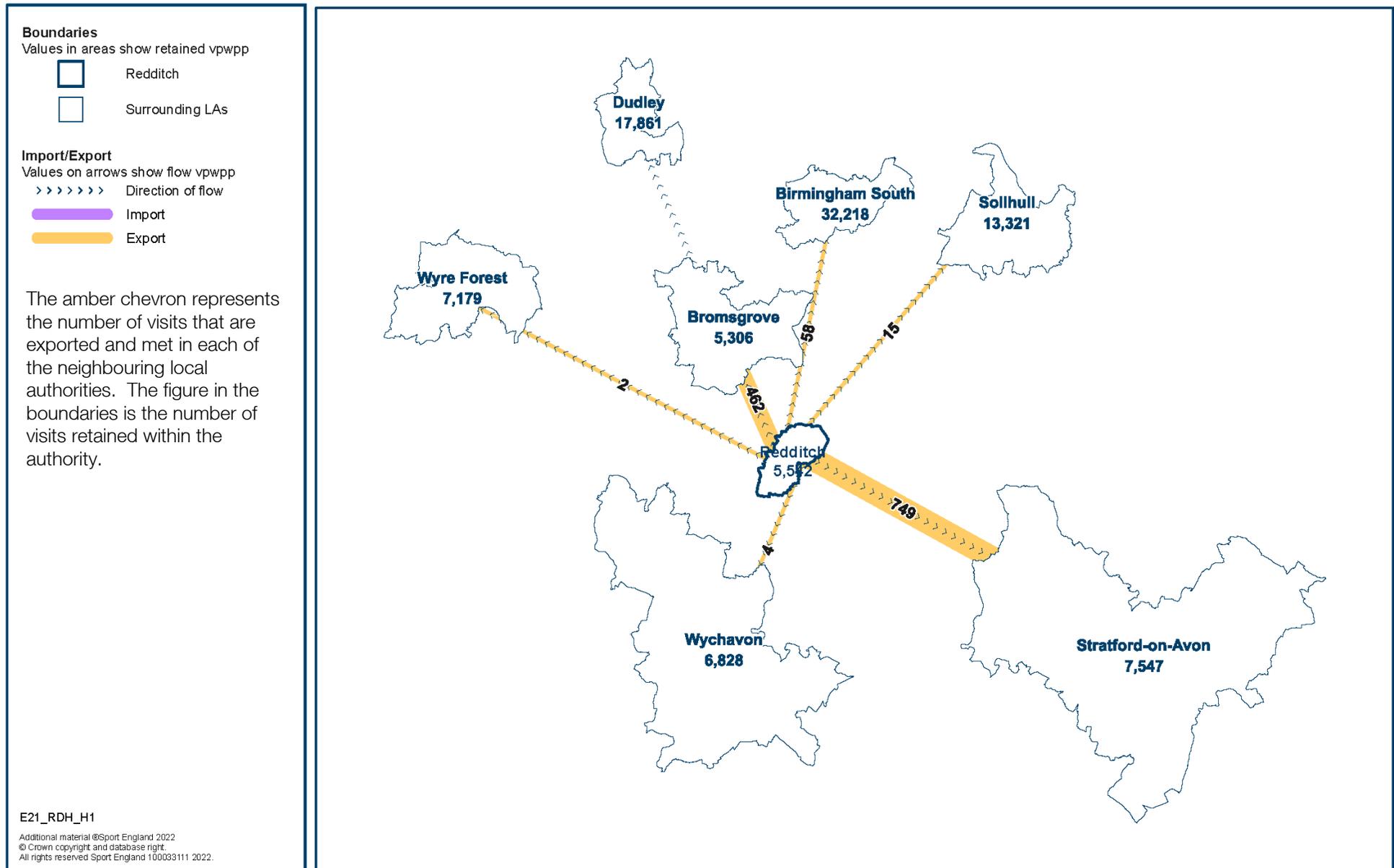
Table 5.3: Export Destination of Redditch Satisfied Demand by Run

Export (visits per week peak period)	RUN 1	RUN 2
Local Authority	2021	2040
Redditch	5,542	5,499
Birmingham South	58	47
Dudley	0	0
Solihull	15	14
Stratford-on-Avon	749	659
Bromsgrove	462	424
Wychavon	4	4
Wyre Forest	2	2

Note: The figures for Redditch are the level of satisfied demand retained within the Borough.

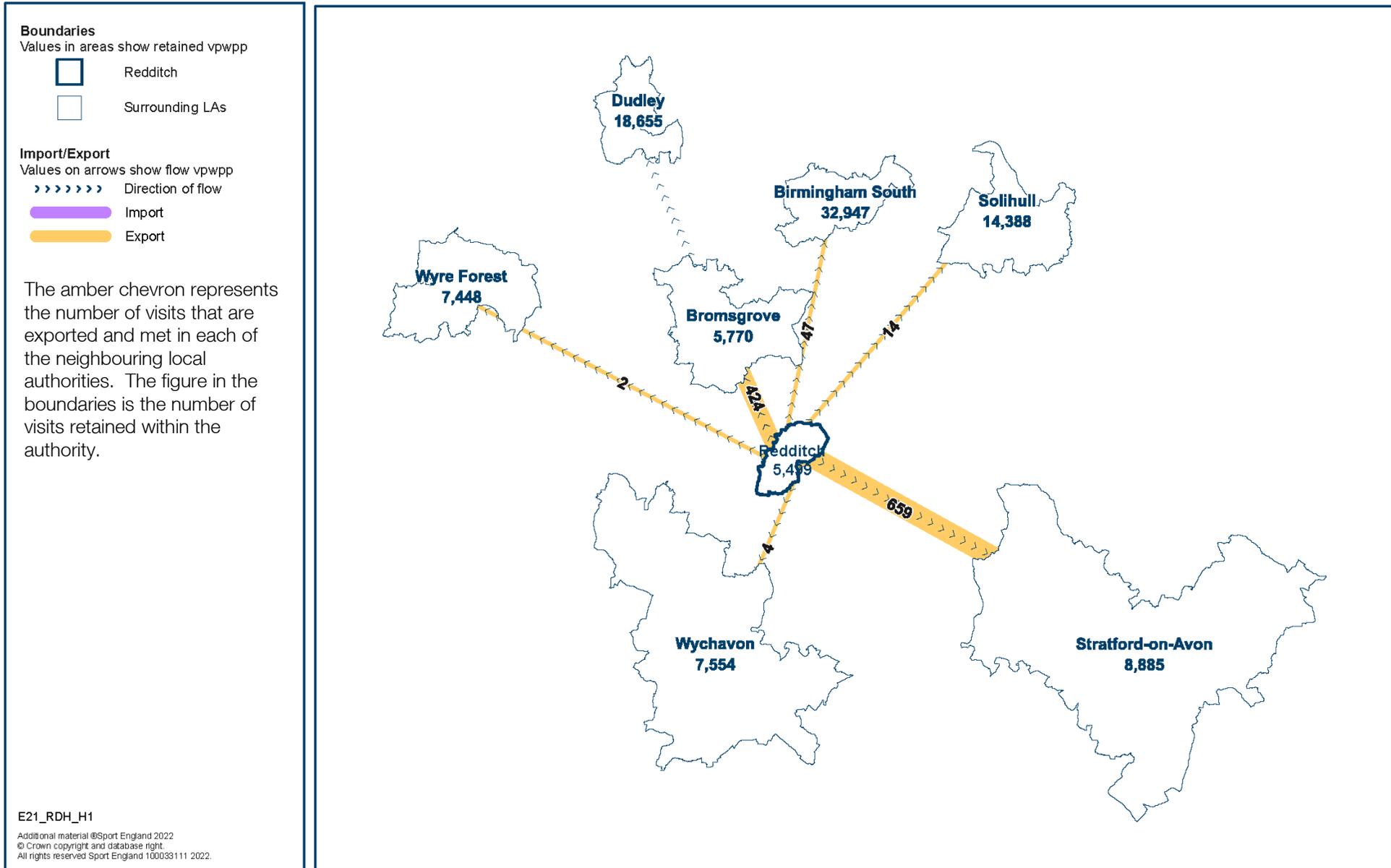
Map 5.1: Export of Redditch Satisfied Demand for Sports Halls Run 1 (2021)

FPM exported demand between study area and surrounding local authorities shown thematically (size of lines) as visits per week in the peak period (vpwpp).



Map 5.2: Export of Redditch Satisfied Demand for Sports Halls Run 2 (2040)

FPM exported demand between study area and surrounding local authorities shown thematically (size of lines) as visits per week in the peak period (vpwpp).



6 UNMET DEMAND FOR SPORTS HALLS

Key finding 11 is that unmet demand is 5% of demand in both years. This equates to just over one court.

Key finding 12 is that unmet demand located too far away from a sports hall is 99% of unmet demand in both years.

Table 6.1: Unmet Demand for Sports Halls in Redditch by Run

Unmet Demand	RUN 1	RUN 2
Redditch	2021	2040
Number of visits unmet per week in peak period	363	359
Unmet demand as a % of total demand	5.0	5.1
Equivalent in courts with comfort factor	1.2	1.2
% of unmet demand due to:		
Facility too far away:	99.4	98.8
Without access to a car	95.4	94.7
With access to a car	4.1	4.0
Lack of facility capacity:	0.4	1.3
Without access to a car	0.4	1.2
With access to a car	0.0	0.1

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

1. There is too much demand for any particular sports hall within its catchment area and there is a lack of capacity; or
2. The demand is located too far away from any sports hall and is then classified as unmet demand.

6.1 **Key finding 11** is that unmet demand is 5% of demand in both years. This equates to just over one court.

For context, 29 courts are available within the Borough for community use in the weekly peak period in both years.

6.2 **Key finding 12** is that unmet demand located too far away from a sports hall is 99% of unmet demand in both years.

The findings on used capacity are reviewed in the Used Capacity section.

6.3 Demand too far away from a sports hall will always exist because it is not possible to achieve complete spatial coverage whereby all areas of a local authority are within walking distance of a sports hall and not everyone will want, or is able, to drive the full distance.

- 6.4 The significant point is that unmet demand from this source is very low.
- 6.5 The location and scale of unmet demand across Redditch is set out in Map **6.1** for 2040. This is for information rather than assessment given unmet demand is very low.
- 6.6 Unmet demand in 2040 is highest in the northeast of the Borough in the light-blue square and equates to 0.2 of a court.

Meeting Unmet Demand

- 6.7 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 (thematically shown in Map **6.2** for 2040).
- 6.8 In 2040, reachable unmet demand is highest in the north and northeast of the Borough in the squares with a value of 0.8 of a court. Again, this is presented for information rather than assessment given reachable unmet demand is so low.

7 USED CAPACITY OF FACILITIES

Key finding 13 is that the estimated used capacity of the Redditch sports halls in the weekly peak period is 62% in 2021 and 67% in 2040.

Key finding 14 is that Abbey Stadium Sports Centre is estimated to have 87% of capacity used at peak times in 2021 and 100% in 2040.

Key finding 15 is that the highest imported demand is from Bromsgrove, with 423 visits in the weekly peak period in 2021 (40% of all imported demand) and 840 visits in 2040 (52%).

Table 7.1: Used Capacity of Sports Halls in Redditch by Run

Used Capacity	RUN 1	RUN 2
Redditch	2021	2040
Number of visits used of capacity per week in peak period	6,605	7,129
% of overall capacity of halls used	62.1	67.0
Number of visits imported per week in peak period	1,062	1,630
As a % of used capacity	16.1	22.9
Difference between visits imported and exported	-229	479

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

- 7.1 **Key finding 13** is that the overall estimated used capacity of the Redditch sports halls is 62% in the weekly peak period in 2021 and 67% in 2040. Estimated used capacity increases in 2040 because more demand is imported into the Borough and met at the Redditch sports halls.
- 7.2 **Key finding 14** is that Abbey Stadium Sports Centre is estimated to have 87% of capacity used at peak times in 2021 and 100% in 2040.
- 7.3 There are several ways to account for the variation in estimated used capacity for sports halls. Often it is difficult to identify which of these reasons apply because several could be interacting simultaneously, but variation is generally caused by any of the following factors (more detail is provided in the subsequent paragraphs):
- Type of site operator (public/educational).
 - Sports hall opening hours and offer.
 - Level of demand within the travel-time limit from the site and reachable from other halls.

- Age of the hall and its ‘attractiveness’ weighting.
- Imported demand.

Table 7.2: Used Capacity of Redditch Sports Halls by Run

% Used Capacity	RUN 1	RUN 2
Individual Sites	2021	2040
Abbey Stadium Sports Centre	87	100
Arrow Vale Sports & Leisure Centre	63	68
St Augustine’s School	42	44
St Bede’s Catholic Middle School	77	79
Trinity High School	84	92
Tudor Grange Academy Redditch	39	41

- 7.4 Public leisure centres typically have higher utilisation because of their ‘draw effect’ for the following reasons:
- They have the highest accessibility for both sports club and public use because they are available for daytime use, which is not possible at educational venues during term time.
 - The operators actively promote hall sports and physical activity participation, with a programme of use that reflects the activities customers wish to participate in and when they wish to participate.
- 7.5 Access to sports halls for community use will be determined by the policy of each educational provider. Some schools and colleges actively promote community use. At some venues there is little differentiation between educational and wider community use, with community access based on a membership system (classed as commercial). Other educational venues let their sports halls to sports clubs or community groups on a termly basis, or for shorter periods.
- 7.6 The estimated used capacity of the educational sports hall sites in the weekly peak period varies from 39% at Tudor Grange Academy in 2021 and 41% in 2040, to 84% at Trinity High School in 2021 and 92% in 2040.
- 7.7 Where sports halls are located close to each other, the demand for these sites is shared between the venues, which contributes to the level of used capacity at each. Abbey Stadium Sports Centre, Trinity High School and St Bede’s Catholic Middle School are situated close to each other. Walking coverage from these sites overlaps (see Map 4.1).
- 7.8 The quality and range of the offer, together with the age and condition of a sports hall, are considered. These features are of increasing importance to customers and affect participation levels. Desirable features include a modern sports hall with a sprung timber floor, good quality lighting, modern changing rooms, and other on-site facilities such as a

studio and/or a gym. Residents may travel further to use a sports hall with this all-round offer rather than participate at the sports hall closest to where they live.

- 7.9 All the sports halls in the model are weighted to reflect their age, condition and whether they have been modernised. This is to assess their comparative attractiveness to customers. St Augustine’s School, opened in 1970, is the oldest sports halls site in the Borough and has not been modernised. The school has the second-lowest estimated used capacity of 42% in the weekly peak period in 2021 and 44% in 2040.
- 7.10 The findings on the impact of imported demand on used capacity are set out under Imported Demand.

Imported Demand

- 7.11 Imported demand is set out under Used Capacity. If residents in neighbouring authorities participate at a site in the Borough, their usage becomes part of the used capacity of the Borough’s sports halls.
- 7.12 **Key finding 15** is that the highest imported demand is from Bromsgrove, with 423 visits in the weekly peak period in 2021 (40% of all imported demand) and 840 visits in 2040 (52% of all imported demand).
- 7.13 The increase in 2040 is most likely because of demand from the new housing sites in Bromsgrove on the boundary with Redditch, which are close to three sports hall sites in the Borough (see Map 3.1).

Table 7.3: Import Origin of Visits to Sports Halls in Redditch by Run

Import (visits per week peak period)	RUN 1	RUN 2
Local Authority	2021	2040
Redditch	5,542	5,499
Birmingham South	122	157
Dudley	0	0
Solihull	49	58
Stratford-on-Avon	367	452
Bromsgrove	423	840
Wychavon	95	116
Wyre Forest	0	0

Note: The figures for Redditch represent the used capacity of the Borough’s halls by its residents.

- 7.14 The levels of imported demand from each neighbouring local authority are shown spatially in Map 7.1 for Run 1 and Map 7.2 for Run 2.

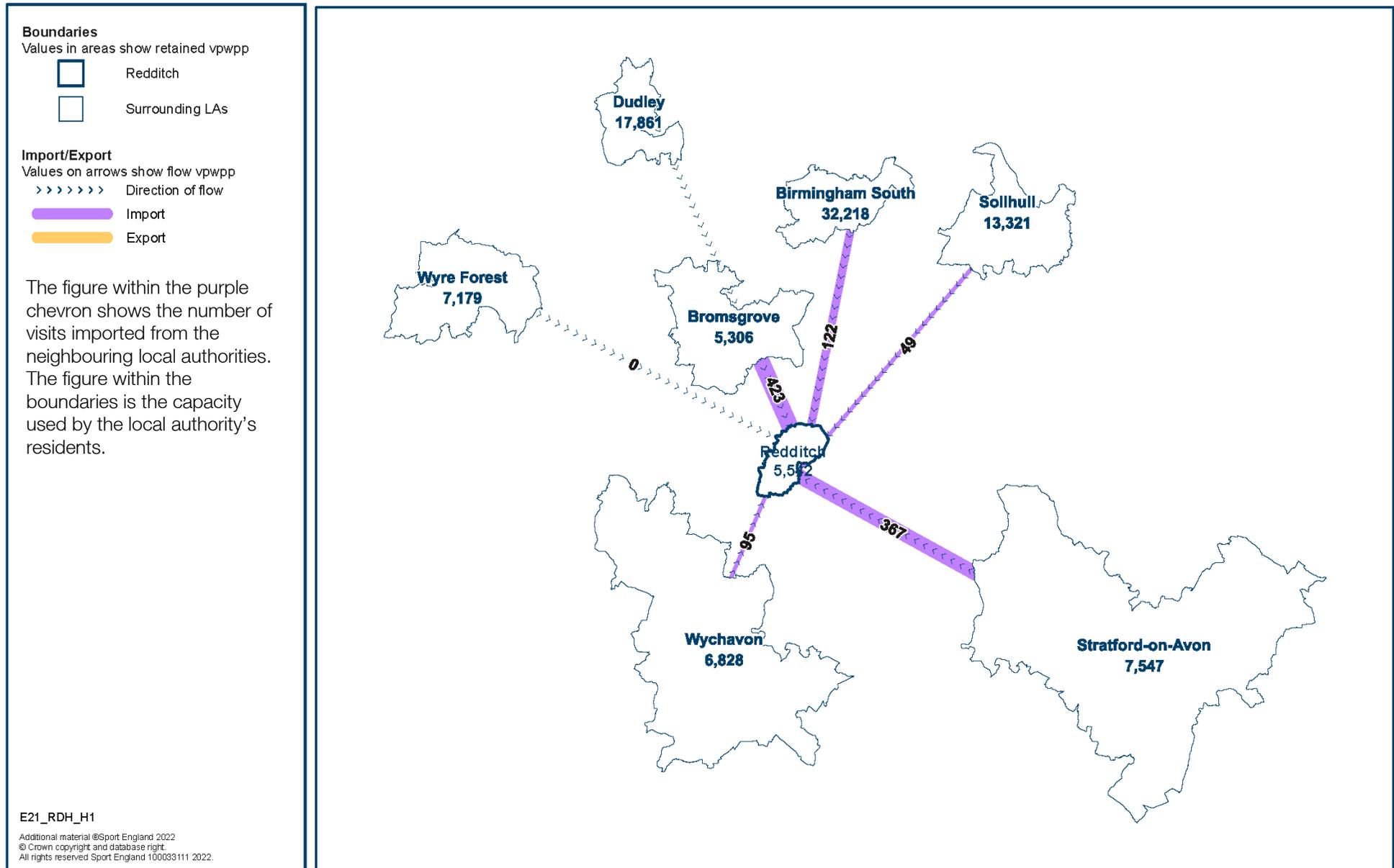
Import/Export Balance

7.15 In 2021, Redditch is a net exporter of demand for sports halls, exporting 229 visits in the weekly peak period. The Borough is a net importer in 2040, importing 479 visits in the weekly peak period.

For context, the capacity of a four-court hall is 1,472 visits in the weekly peak period.

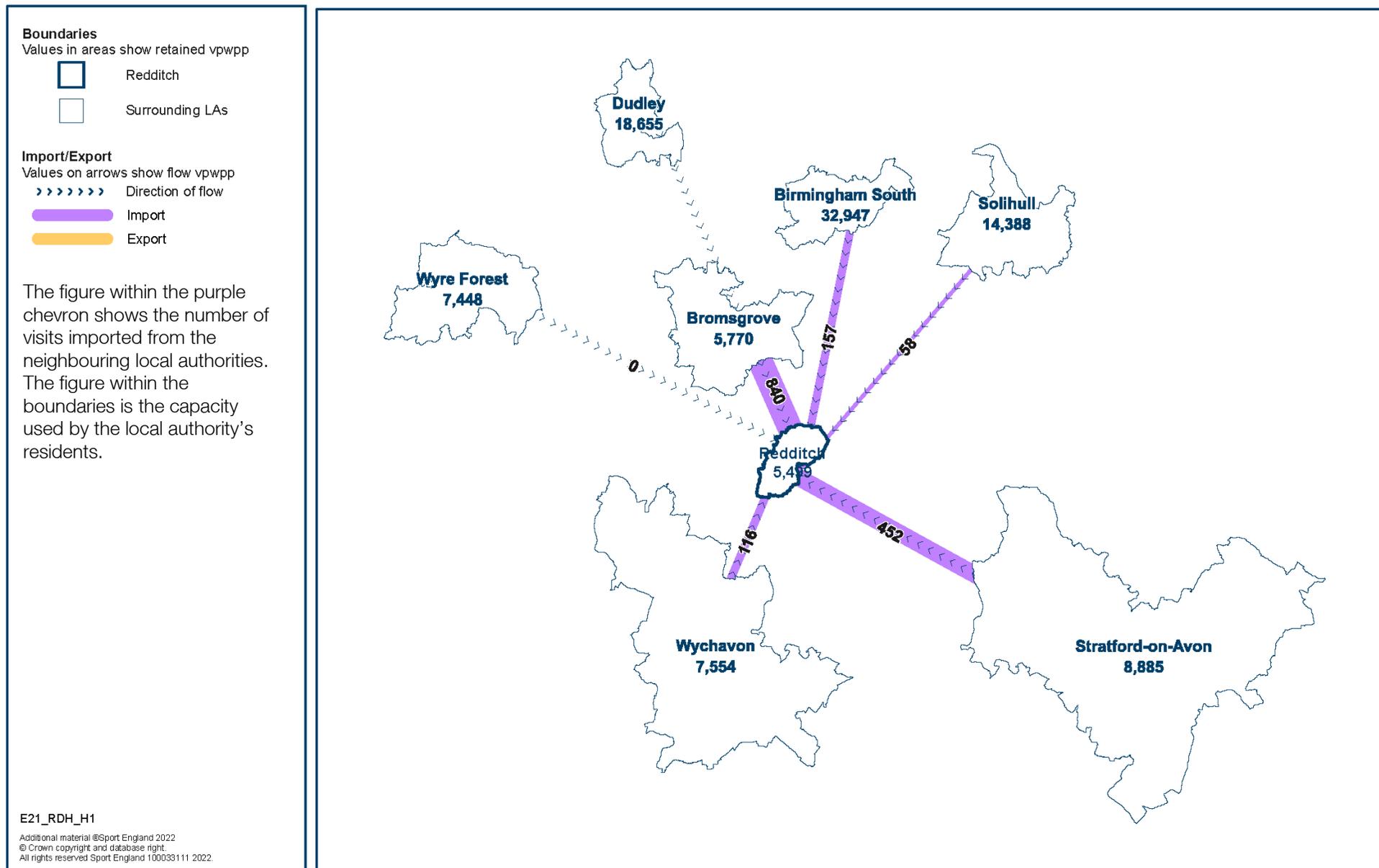
Map 7.1: Imported Demand Visits per Week Peak Period Run 1 (2021)

FPM imported demand between study area and surrounding local authorities shown thematically (size of lines) as visits per week in the peak period (vpwpp).



Map 7.2: Imported Demand Visits per Week Peak Period Run 2 (2040)

FPM imported demand between study area and surrounding local authorities shown thematically (size of lines) as visits per week in the peak period (vpwpp).



8 LOCAL SHARE OF FACILITIES

Table 8.1: Local Share of Sports Halls in Redditch by Run

Local Share	RUN 1	RUN 2
Redditch	2021	2040
Local Share: <1 supply less than demand, >1 supply greater than demand	0.69	0.64

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

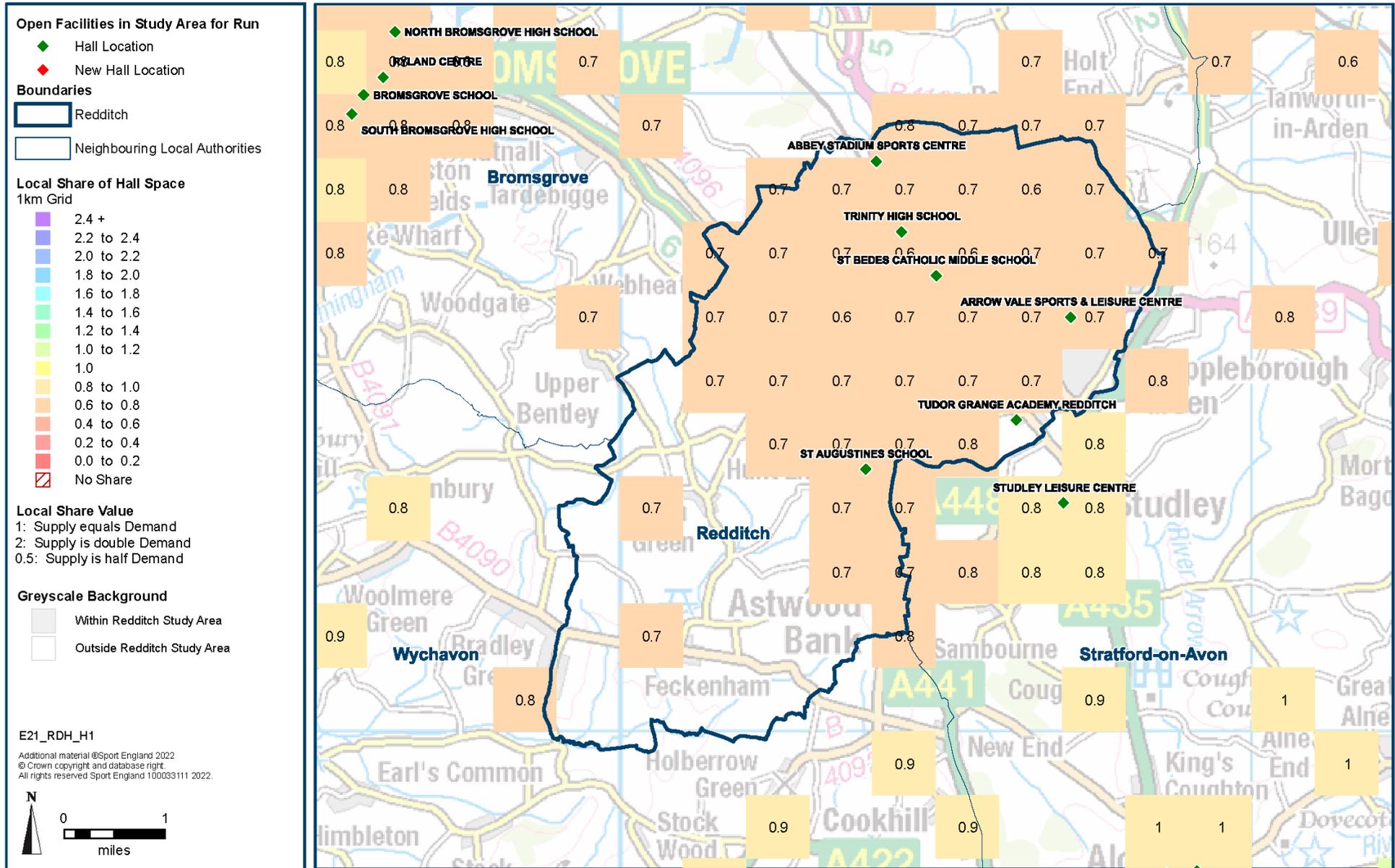
- 8.1 Local share shows how access and share of sports halls differs across the local authority area, as follows:
- A value of 1 means that the level of supply just matches demand.
 - A value of less than 1 indicates a shortage of supply.
 - A value greater than 1 indicates a surplus.
- 8.2 The intervention is to try and increase access to sports halls in areas where residents have the lowest share of sports halls.
- 8.3 The Borough’s local share is 0.69 in 2021 and decreases to 0.64 in 2040. While there is a slight decrease in demand for sports halls and there is no change in supply of sports halls to 2040, the supply becomes older.

Geographical Distribution of Local Share

- 8.4 There is no variation in the distribution of local share within the Borough in 2021 (see Map 8.1). In 2040, local share is slightly lower in the north of the Borough in the areas with the darker-peach squares and value of 0.4–0.6 (see Map 8.2).

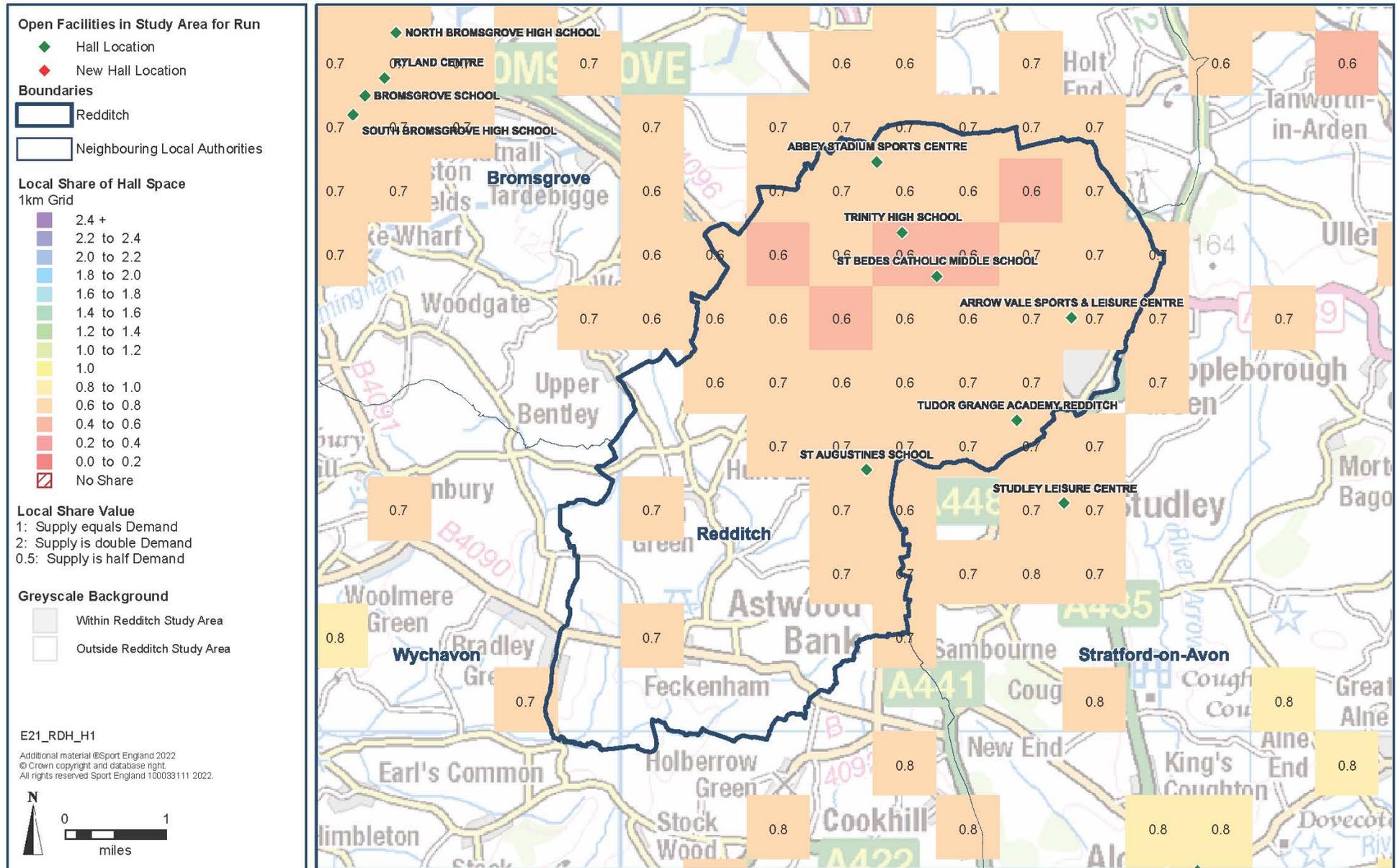
Map 8.1: Local Share of Sports Halls in Redditch Run 1 (2021)

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



Map 8.2: Local Share of Sports Halls in Redditch Run 2 (2040)

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



Comparative Measure of Provision

- 8.5 A comparative measure of sports hall provision is the number of badminton court equivalents per 10,000 population. Redditch has 4.4 courts per 10,000 population in both 2021 and 2040.
- 8.6 Four neighbouring local authorities have a lower provision in both years. Wychavon has the lowest, with 2.6 courts per 10,000 population in 2021 and 2.2 courts in 2040.
- 8.7 Three authorities have a higher provision. Bromsgrove has the highest provision, with 5.6 courts per 10,000 population in 2021 and 5.0 courts in 2040.
- 8.8 Redditch’s provision is higher than the regional and national averages in both years.

Table 8.2: Badminton Courts per 10,000 Population by Area by Run

Courts per 10,000 population	RUN 1	RUN 2
Local Authority	2021	2040
Redditch	4.4	4.4
Birmingham South	2.9	2.7
Dudley	3.2	2.9
Solihull	5.0	4.5
Stratford-on-Avon	4.7	3.9
Bromsgrove	5.6	5.0
Wychavon	2.6	2.2
Wyre Forest	4.0	3.7
WEST MIDLANDS TOTAL	3.9	3.6
ENGLAND TOTAL	4.0	3.7

- 8.9 The findings on badminton court equivalents per 10,000 population are set out because some local authorities like to compare their quantitative provision with that elsewhere; however, this does not set a standard of provision and should not be used as such.
- 8.10 The supply demand assessment and evidence base for sports halls in the Borough is based on the findings from the previous seven headings analysed in this report.

APPENDIX 1: SPORTS HALLS IN THE NEIGHBOURING AUTHORITIES INCLUDED IN THE ASSESSMENT

Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb
Birmingham South						
Archbishop Illesley Catholic School	Edu.	4-court	35 x 20	690	1950	2005
Archbishop Illesley Catholic School		Activity	17 x 9	153		
Ark Kings Academy	Edu.	4-court	33 x 18	594	1985	2003
Ark Kings Academy		Activity	22 x 12	258		
Bartley Green Community Leisure Centre	Public	4-court	35 x 20	690	1982	2003
Bartley Green Community Leisure Centre		Activity	17 x 9	153		
Billesley Indoor Tennis Centre	Public	4-court	35 x 20	690	2016	
Bishop Challoner Sports Centre	Edu.	4-court	35 x 20	690	2004	2013
Chamberlain Health And Fitness Centre	Edu.	6-court	34 x 27	918	2008	
Cocks Moors Woods Leisure Centre	Public	4-court	35 x 20	690	1987	2004
Colmers School	Public	4-court	33 x 18	594	1988	2007
Colmers School		Activity	18 x 10	180		
Colmers School		Activity	18 x 10	180		
Four Dwellings Academy	Public	4-court	33 x 18	594	1985	2012
Four Dwellings Academy		Activity	18 x 10	180		
Hillcrest School	Edu.	4-court	33 x 18	594	1979	2006
Kfit Gym & Fitness	Edu.	3-court	35 x 20	690	2001	
King Edward Vi Balaam Wood Academy	Edu.	4-court	35 x 20	690	1981	2006
King Edward Vi Balaam Wood Academy		Activity	18 x 10	180		
King Edward Vi Camp Hill School For Girls	Edu.	6-court	35 x 27	932	2006	
King Edward Vi Five Ways School	Edu.	4-court	35 x 20	690	1997	
King Edward Vi High School For Girls	Edu.	4-court	35 x 20	690	1989	
King Edward Vi Sheldon Heath Academy	Edu.	4-court	33 x 18	594	2013	
King Edward's School	Edu.	4-court	35 x 20	690	2019	
King Edward's School		-court	33 x 18	594		
Kings Heath Boys School	Edu.	4-court	35 x 20	690	2015	
Lordswood Boys School	Edu.	4-court	33 x 18	594	2019	
Moseley School Health And Fitness Centre	Edu.	4-court	33 x 18	594	2014	
Moseley School Health And Fitness Centre		-court	33 x 18	594		
Moseley School Health And Fitness Centre		Activity	18 x 10	180		
Newman University Sports Centre	Edu.	4-court	37 x 18	666	1970	2006
Newman University Sports Centre		Activity	18 x 10	180		
Queensbridge School	Edu.	3-court	27 x 18	486	1954	2013
Selly Park Girls School	Edu.	4-court	35 x 20	700	2006	
Selly Park Girls School		Activity	17 x 9	153		
Stechford Leisure Centre	Public	4-court	35 x 20	690	2018	
The Blue Coat School	Edu.	4-court	33 x 18	594	1997	
The Factory Young People's Centre	Public	4-court	33 x 18	594	2012	
Turves Green Boys School	Edu.	4-court	33 x 18	594	2006	
University Of Birmingham Sport & Fitness	Edu.	12-court	60 x 35	2,070	2017	
University Of Birmingham Sport & Fitness		Activity	18 x 17	306		
Urban Fitness (ECW) Bournville College	Public	4-court	35 x 20	690	2011	
YMCA (Birmingham)	Public	4-court	33 x 18	594	1964	2002

Dudley						
Bishop Milner Catholic College	Edu.	4-court	33 x 18	594	2015	
Coseley Leisure Centre	Edu.	4-court	35 x 20	690	1980	2009
Crystal Leisure Centre	Public	8-court	40 x 35	1,380	1990	2009
David Lloyd Club (Dudley)	Commercial	4-court	33 x 18	594	2001	
Dudley College (Tower Street)	Edu.	6-court	31 x 30	918	2012	
Dudley Leisure Centre	Public	4-court	33 x 18	594	1978	
Halesowen College School	Edu.	4-court	33 x 18	594	2003	
Hillcrest School & Community College	Public	4-court	33 x 18	594	1994	
Hillcrest School & Community College		Activity	17 x 9	153		
Leasowes Sport Centre	Edu.	6-court	35 x 27	932	1974	1994
Leasowes Sport Centre		Activity	18 x 10	180		
Redhill School	Public	4-court	35 x 20	690	1981	2017
Redhill School		Activity	18 x 10	180		
Ridgewood High School	Edu.	4-court	35 x 20	690	1952	2005
Ridgewood High School		Activity	18 x 10	180		
St James Academy	Edu.	4-court	33 x 18	594	2003	
St James Academy		Activity	21 x 13	273		
Summerhill School	Public	3-court	27 x 18	486	2003	
The Crestwood School	Edu.	4-court	35 x 20	690	2004	
The Crestwood School		Activity	18 x 10	180		
The Dormston Centre	Public	4-court	35 x 18	630	2000	2004
The Ellowes Hall Sports College	Edu.	8-court	37 x 34	1,258	2011	
The Ellowes Hall Sports College		Activity	22 x 11	242		
Thorns Leisure Centre/Collegiate Academy	Edu.	8-court	37 x 32	1,168	1983	
Thorns Leisure Centre/Collegiate Academy		Activity	17 x 9	153		
Solihull						
Alderbrook School	Edu.	4-court	33 x 18	594	2006	
Alderbrook School		Activity	18 x 10	180		
Arden Academy	Edu.	4-court	35 x 20	690	1996	2004
Arden Academy		Activity	18 x 10	180		
Arden Academy		Activity	17 x 9	153		
Grace Academy Solihull	Edu.	4-court	35 x 20	690	2005	
Grace Academy Solihull		Activity	17 x 9	153		
Heart Of England School	Edu.	4-court	35 x 20	690	1977	1999
Heart Of England School		Activity	18 x 10	180		
John Henry Newman Catholic College	Edu.	4-court	35 x 20	690	1971	2010
John Henry Newman Catholic College		Activity	18 x 10	180		
Langley School	Edu.	4-court	33 x 18	594	1995	2007
Langley School		Activity	18 x 10	180		
Light Hall School	Edu.	4-court	35 x 20	690	1960	2019
Light Hall School		Activity	18 x 17	306		
Lode Heath School	Edu.	4-court	35 x 20	690	1980	
Lode Heath School		Activity	18 x 10	180		
Lyndon School	Edu.	4-court	33 x 18	594	1985	2007
Lyndon School		Activity	18 x 10	180		
North Solihull Sports Centre	Public	5-court	33 x 26	858	1998	
Park Hall Academy	Public	4-court	35 x 20	690	2008	
Smiths Wood Academy	Public	4-court	35 x 20	690	2008	
Solihull School	Edu.	4-court	35 x 20	690	1970	2008

Solihull Sixth Form College	Edu.	4-court	35 x 20	690	1974	2004
St Peters Catholic School	Edu.	4-court	35 x 20	690	1961	1994
St Peters Catholic School		Activity	18 x 10	180		
St Peters Catholic School		Activity	18 x 10	180		
Tudor Grange Academy Kingshurst	Edu.	4-court	33 x 18	594	1988	
Tudor Grange Academy Kingshurst		Activity	18 x 10	180		
Tudor Grange Academy Solihull	Edu.	4-court	33 x 18	594	1956	2003
Tudor Grange Academy Solihull		Activity	20 x 16	320		
Tudor Grange Leisure Centre	Public	4-court	35 x 20	690	2008	
Stratford-on-Avon						
Alcester Grammar School	Edu.	4-court	35 x 20	690	2005	
Kineton High School	Edu.	4-court	35 x 20	690	1980	
Kineton High School		-court	27 x 18	486		
King Edward VI School	Edu.	4-court	33 x 18	594	1997	
King Edward VI School		Activity	18 x 10	180		
Meon Vale Leisure Centre	Commercial	4-court	33 x 18	594	2014	
Southam College	Edu.	4-court	33 x 18	594	1960	2000
Southam College		-court	33 x 18	594		
Southam College		Activity	18 x 10	180		
Stratford Girls' Grammar School	Edu.	4-court	35 x 20	690	2015	
Stratford Leisure Centre	Public	8-court	40 x 35	1,380	1975	2015
Stratford Upon Avon School Community SC	Edu.	4-court	35 x 20	690	2002	
Stratford Upon Avon School Community SC		Activity	17 x 9	153		
Studley Leisure Centre	Public	4-court	35 x 20	690	2002	
The Greig	Public	3-court	30 x 18	540	1958	2020
Warwickshire College (Moreton Morrell Campus)	Edu.	4-court	35 x 20	690	2017	
Wasps Training Ground	Edu.	4-court	33 x 18	594	2009	
Bromsgrove						
Bromsgrove School	Edu.	8-court	37 x 33	1,221	2012	
Bromsgrove School		-court	33 x 20	660		
Bromsgrove School		-court	35 x 20	690		
Hagley Catholic High School	Edu.	4-court	33 x 18	594	2008	
Hagley Catholic High School		Activity	20 x 14	280		
Haybridge Sports Centre	Edu.	4-court	34 x 18	612	1999	
Haybridge Sports Centre		Activity	18 x 12	216		
North Bromsgrove High School	Public	4-court	33 x 18	594	2007	
Ryland Centre	Public	4-court	35 x 20	690	1967	2010
South Bromsgrove High School	Public	4-court	33 x 18	594	1950	2007
South Bromsgrove High School		Activity	17 x 9	153		
Waseley Hills High School	Edu.	4-court	34 x 19	646	1950	2010
Waseley Hills High School		Activity	18 x 10	180		
Woodrush Community Hub & Sports Centre	Edu.	4-court	33 x 18	594	1996	2008
Woodrush Community Hub & Sports Centre		Activity	18 x 10	180		
Wychavon						
Droitwich Spa High School	Public	4-court	33 x 18	594	1975	2004
Droitwich Spa High School		Activity	18 x 10	180		
Droitwich Spa High School		Activity	18 x 10	180		
Droitwich Spa Leisure Centre	Public	4-court	32 x 18	576	1985	2005
Evesham Leisure Centre	Public	4-court	33 x 18	594	2009	

Pershore High School	Edu.	4-court	35 x 20	690	1960	1999
Pershore High School		Activity	18 x 10	180		
Pershore Leisure Centre	Public	3-court	27 x 18	486	2002	
Prince Henry's Sports Hall / Worcestershire Cricket Centre	Edu.	4-court	33 x 18	594	1997	
Prince Henry's Sports Hall / Worcestershire Cricket Centre		Activity	17 x 9	153		
Wallace House Community Centre	Public	3-court	27 x 18	486	1969	
Wyre Forest						
Baxter Business & Enterprise College	Edu.	4-court	35 x 20	690	2007	
Baxter Business & Enterprise College		Activity	18 x 10	180		
Bewdley Leisure Centre	Edu.	3-court	27 x 18	486	1990	2003
Heathfield Knoll School	Edu.	3-court	27 x 18	486	1970	2005
Kidderminster And District Youth House	Public	4-court	33 x 18	594	1970	2015
King Charles I School	Edu.	4-court	33 x 18	594	1978	2006
King Charles I School		Activity	17 x 9	153		
King Charles I School		Activity	17 x 9	153		
Winterfold House School	Edu.	4-court	33 x 18	594	2000	2006
Wolverley CofE Secondary School	Edu.	4-court	35 x 20	690	1960	
Wolverley CofE Secondary School		Activity	18 x 10	180		
Wyre Forest Leisure Centre	Public	6-court	35 x 27	932	2016	

APPENDIX 2: MAPS

Sports Halls Coverage Run 1

Sports Halls Coverage Run 2

Demand Run 1

Demand Run 2

Unmet Demand Run 1

Unmet Demand Run 2

Reachable Unmet Demand Run 1

Reachable Unmet Demand Run 2

Local Share Run 1

Local Share Run 2

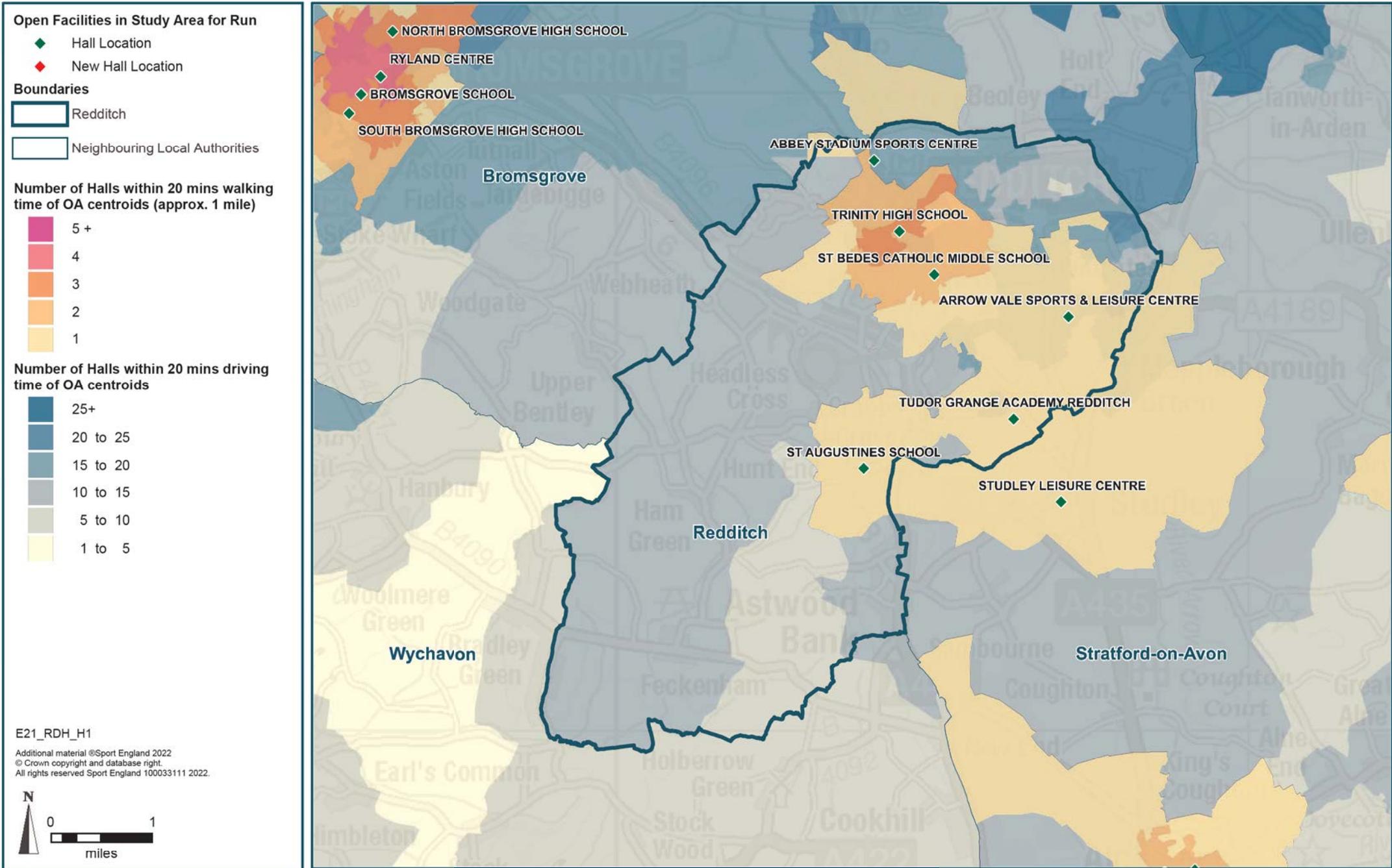
Import/Export Run 1

Import/Export Run 2

Facility Planning Model - Halls Coverage for Redditch

Run 1: Existing Position - Year 2021

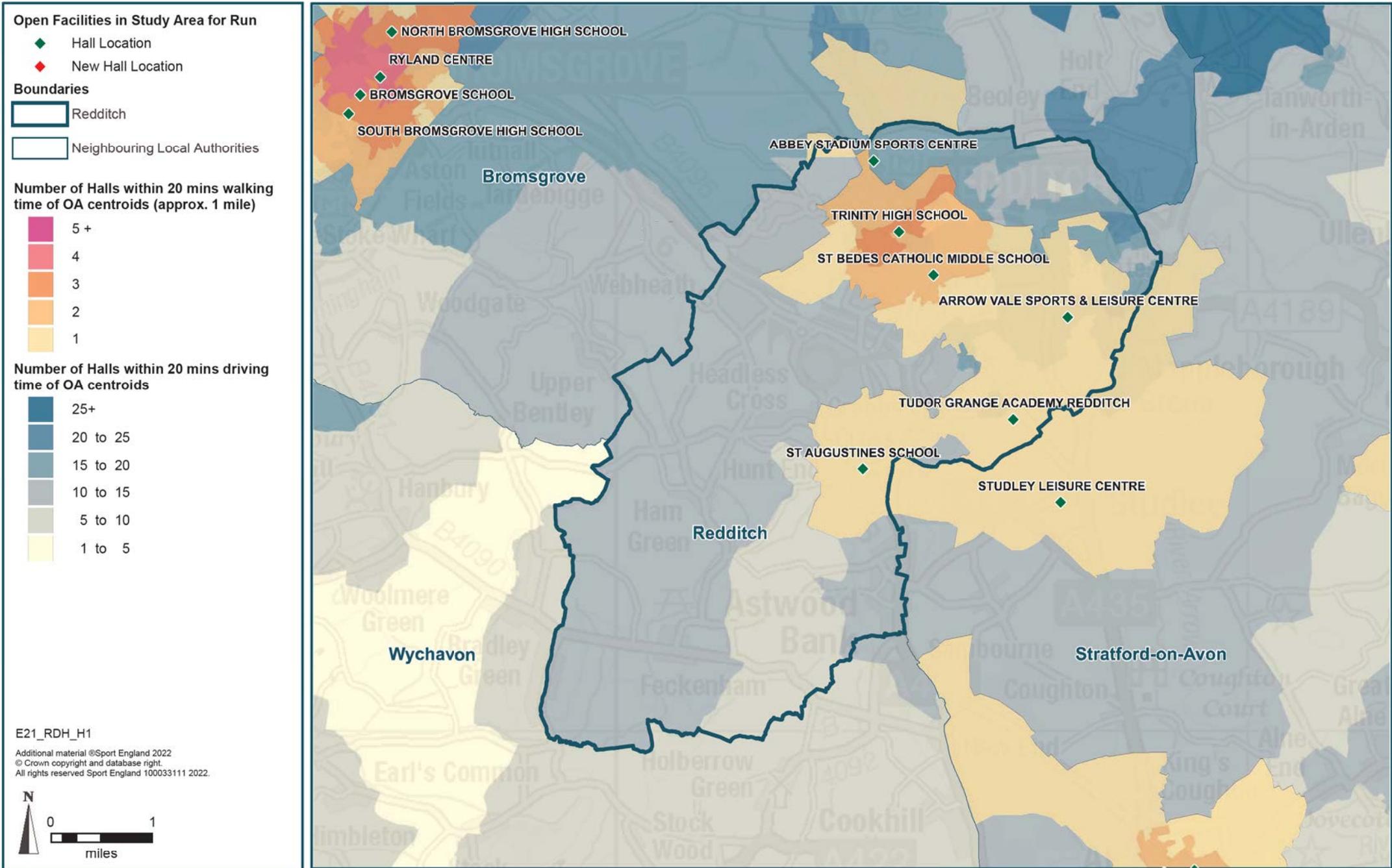
Catchments shown thematically (colours) at output area (OA) level expressed as the number of Halls within 20 minutes travel time of output area centroid.



Facility Planning Model - Halls Coverage for Redditch

Run 2: Existing Provision - Year 2040

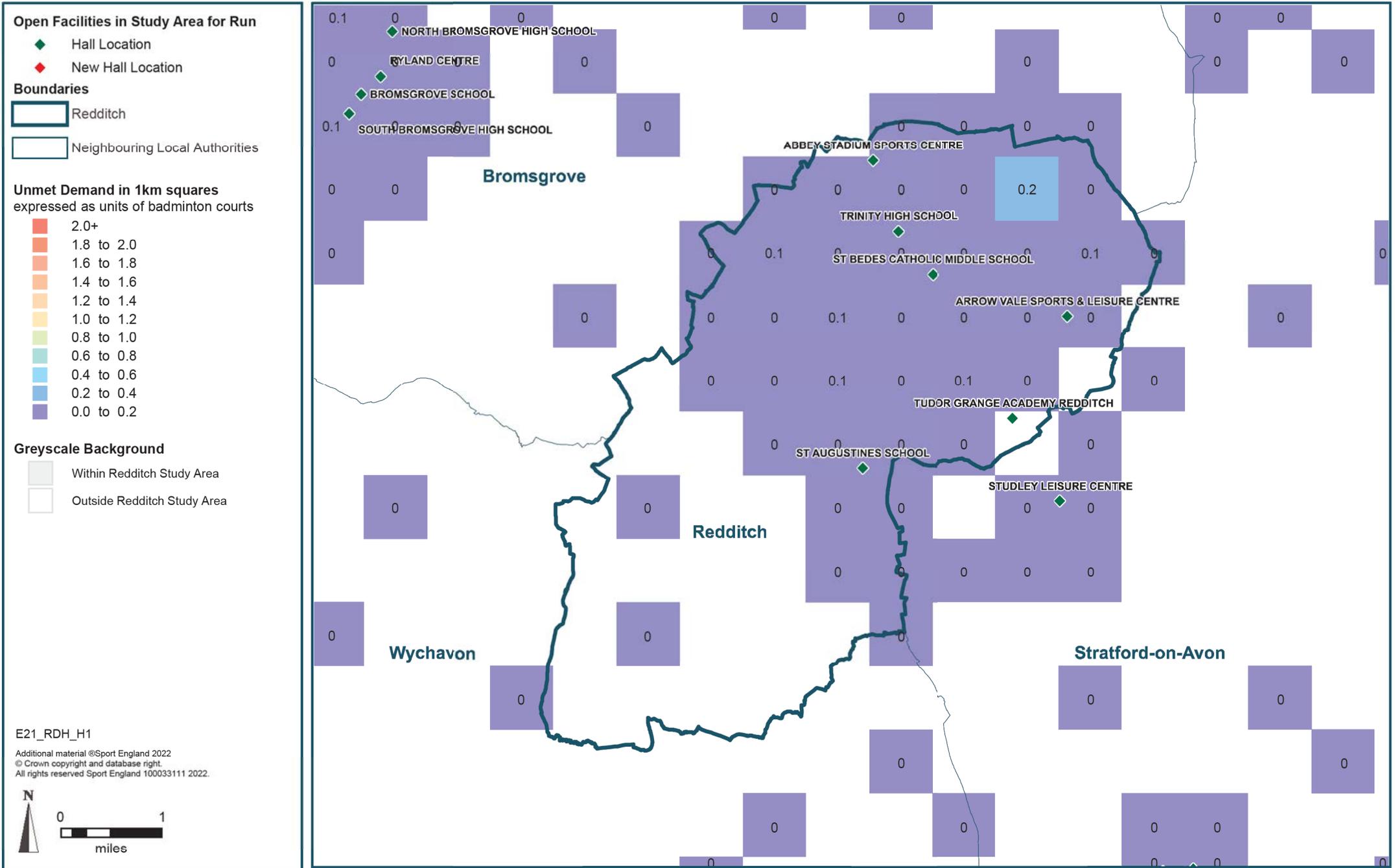
Catchments shown thematically (colours) at output area (OA) level expressed as the number of Halls within 20 minutes travel time of output area centroid.



Facility Planning Model - Halls Unmet Demand for Redditch

Run 1: Existing Position - Year 2021

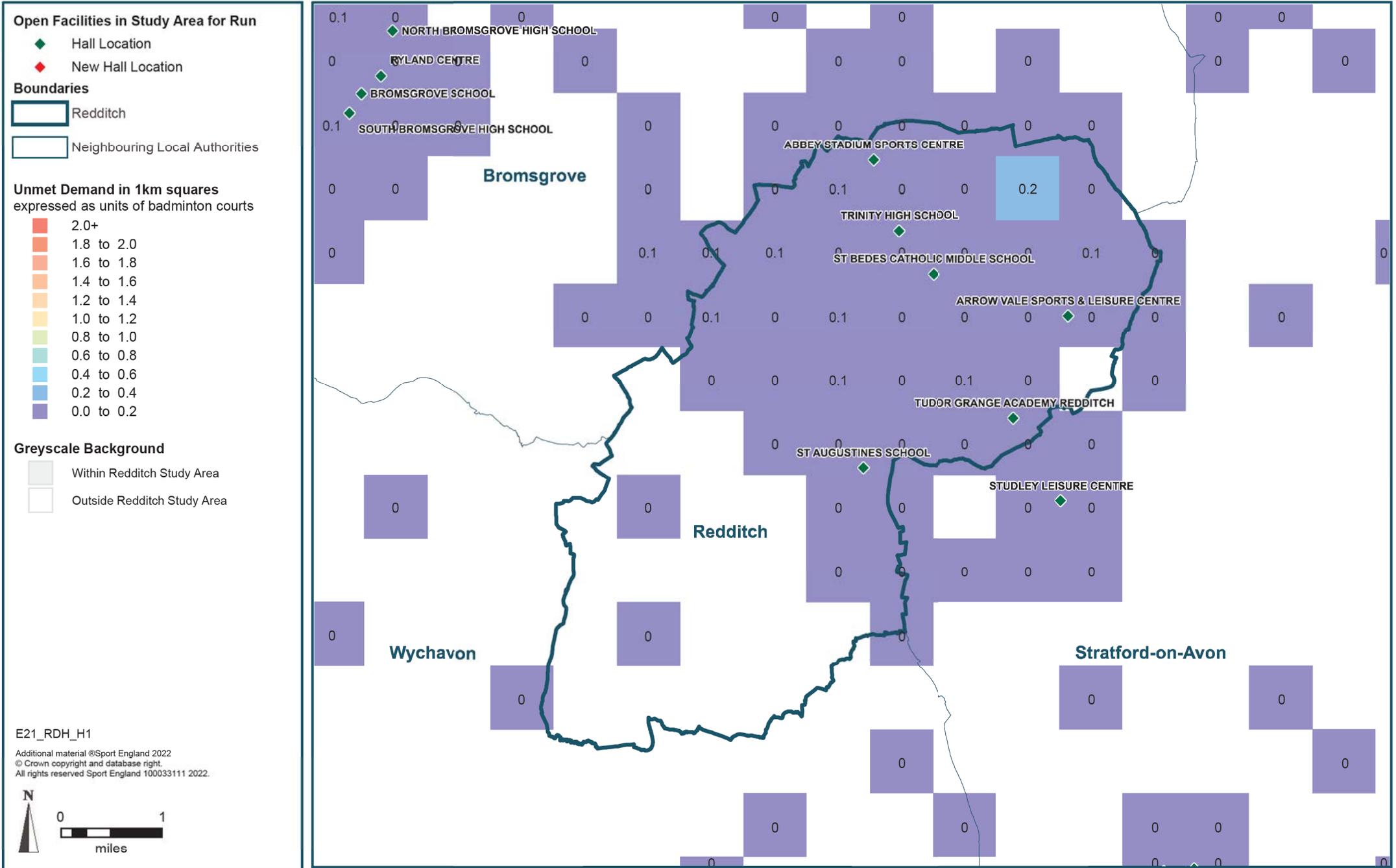
Unmet demand aggregated at 1km square grid level expressed in units of badminton courts (figure labels) and shown thematically (colours).



Facility Planning Model - Halls Unmet Demand for Redditch

Run 2: Existing Provision - Year 2040

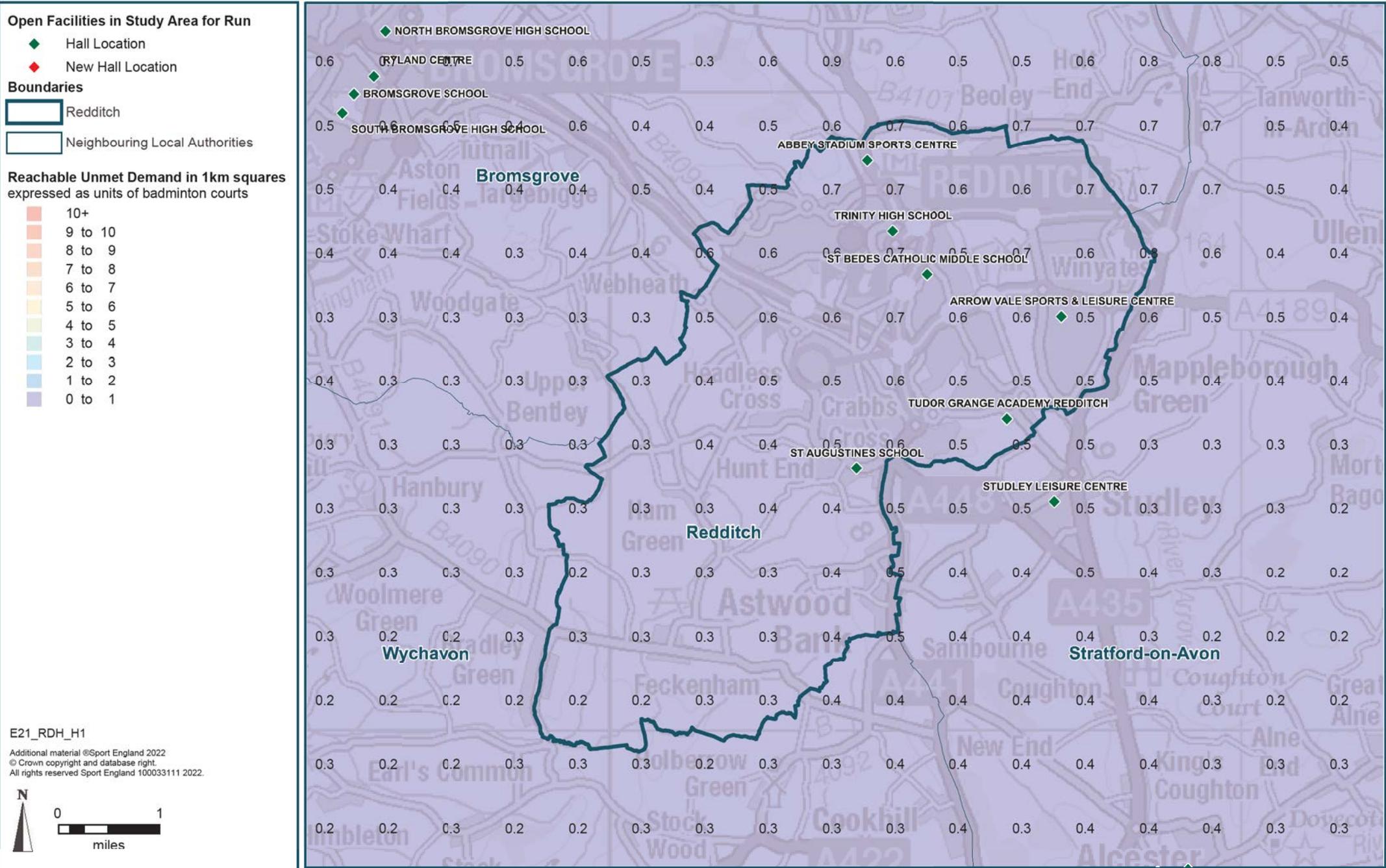
Unmet demand aggregated at 1km square grid level expressed in units of badminton courts (figure labels) and shown thematically (colours).



Facility Planning Model - Halls Reachable Unmet Demand for Redditch

Run 1: Existing Position - Year 2021

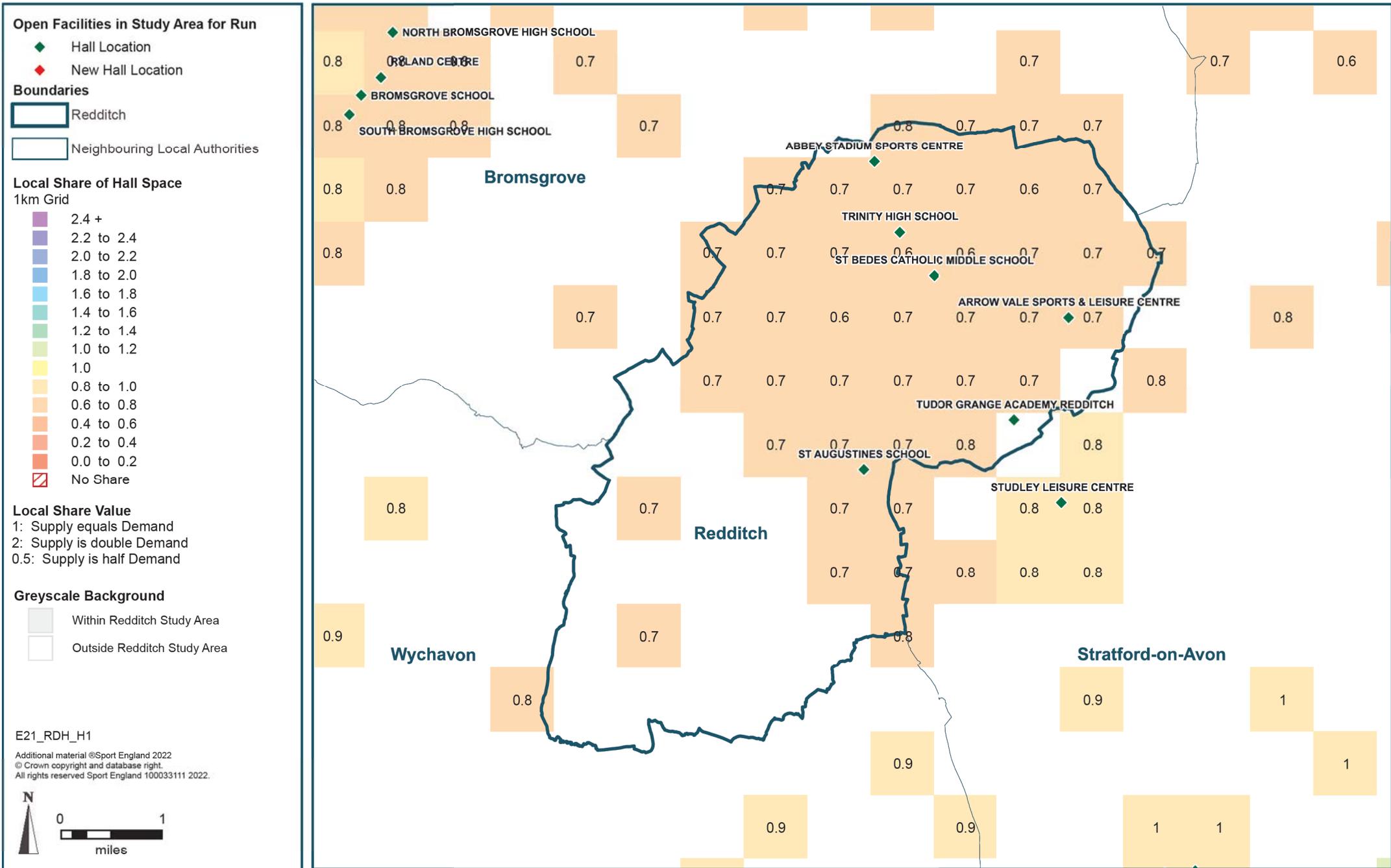
Reachable unmet demand aggregated at 1km square grid, shown thematically (colours) and expressed in units of badminton courts (figure labels).



Facility Planning Model - Halls Local Share for Redditch

Run 1: Existing Position - Year 2021

Share of badminton courts divided by demand aggregated at 1km square (figure labels) and shown thematically (colours).



Facility Planning Model - Sports Halls Import/Export for Redditch

Run 1: Existing Position - Year 2021

Imported and exported demand between study area and surrounding local authorities shown thematically (size of lines) as visits per week in the peak period.

Boundaries

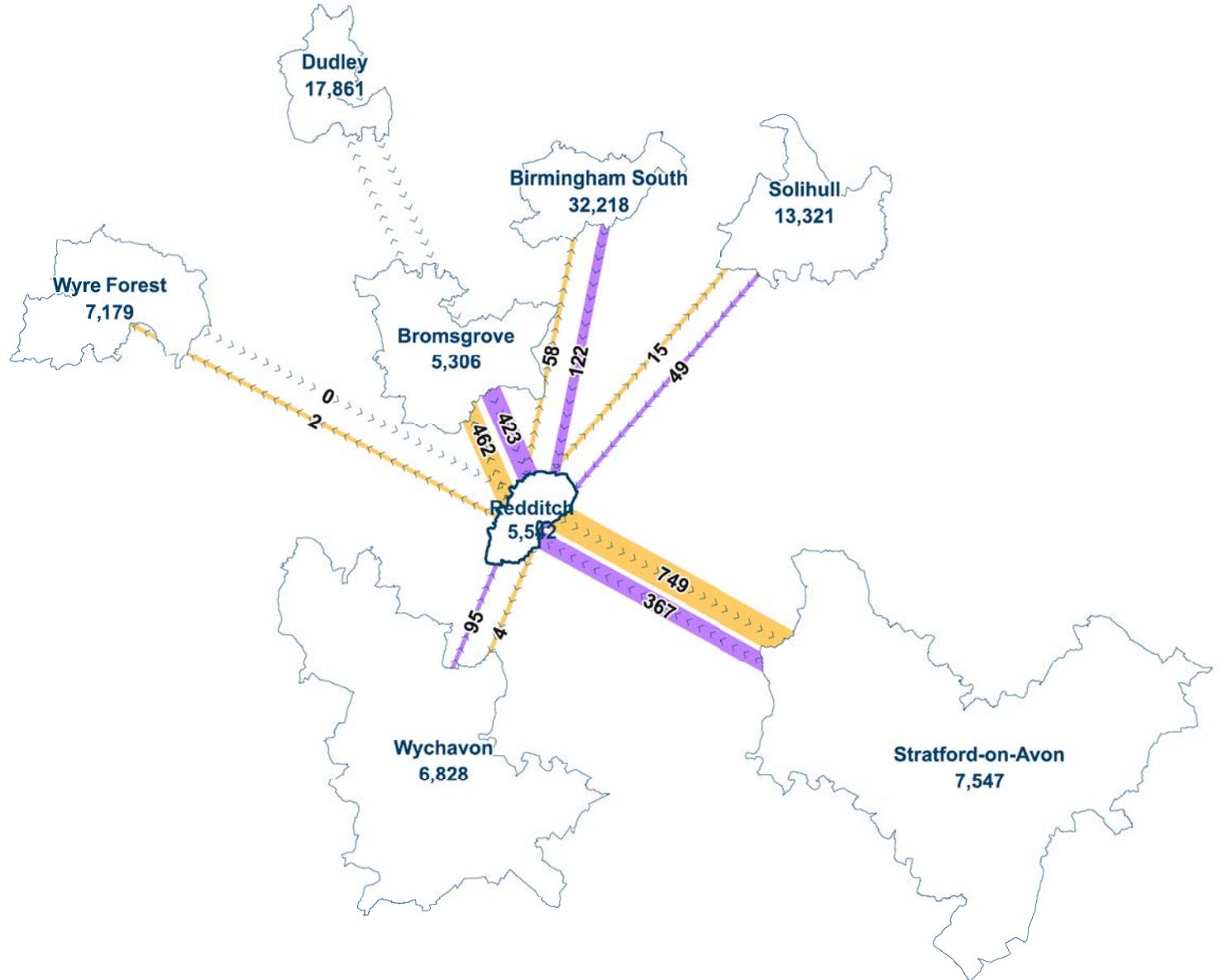
Values in areas show retained vpwpp

- Redditch
- Surrounding LAs

Import/Export

Values on arrows show flow vpwpp

- >>>>>> Direction of flow
- Import
- Export



Facility Planning Model - Sports Halls Import/Export for Redditch

Run 2: Existing Provision - Year 2040

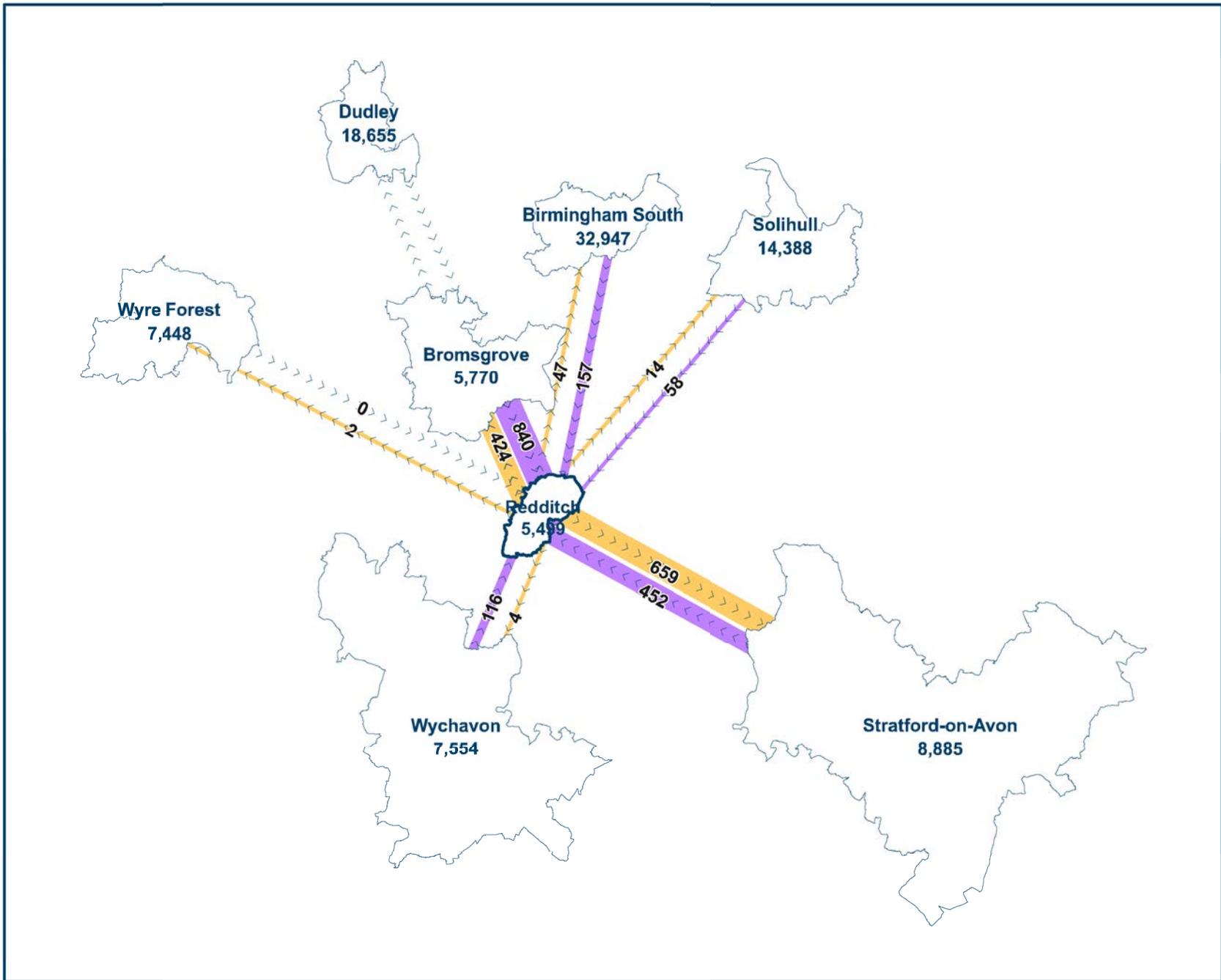
Imported and exported demand between study area and surrounding local authorities shown thematically (size of lines) as visits per week in the peak period.

Boundaries
Values in areas show retained vpwpp

- Redditch
- Surrounding LAs

Import/Export
Values on arrows show flow vpwpp

- >>>>>> Direction of flow
- Import
- Export



APPENDIX 3: MODEL DESCRIPTION, INCLUSION CRITERIA AND MODEL PARAMETERS

Included within this Appendix are the following:

- Model Description
- Facility Inclusion Criteria
- Model Parameters

Model Description

1. Background

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

2. Use of FPM

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

3. How the Model Works

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

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

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

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

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

4. Calculating Demand

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

5. Calculating Supply Capacity

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

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

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

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

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

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

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

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

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

7. Facility Attractiveness – for Halls and Pools Only

7.1. Not all facilities are the same, and users will find certain facilities more attractive to use than others. The model attempts to reflect this by introducing an attractiveness weighting factor, which affects the way visits are distributed between facilities. Attractiveness, however, is very subjective. Currently weightings are only used for hall and pool modelling, and a similar approach for AGPs is being developed.

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

8. Comfort Factor – Halls and Pools

- 8.1. As part of the modelling process, each facility is given a maximum number of visits it can accommodate based on its size, the number of hours it is available for community use, and the ‘at one time capacity’ figure (pools = 1 user/6m², halls = 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 predominantly used by teams which have a set number of players, therefore the notion of having a ‘less busy’ pitch is not applicable.)
- 8.4. The comfort factor is used in two ways:
- Utilised capacity – How well used is a facility? ‘Utilised capacity’ figures for facilities are often seen as being very low at 50-60%; however, this needs to be put into context with 70-80% comfort factor levels for pools and halls. The closer utilised capacity gets to the comfort factor level, the busier the facilities are becoming. You should not aim to have facilities operating at 100% of their theoretical capacity, as this would mean that every session throughout the peak period would be being used to its maximum capacity. This would be both unrealistic in operational terms and unattractive to users.
 - Adequately meeting unmet demand – the comfort factor is also used to increase the number of facilities needed to comfortably meet unmet demand. If this comfort factor is not applied, then any facilities provided will be operating at their maximum theoretical capacity, which is not desirable as noted previously.

9. Utilised Capacity (Used Capacity)

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

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

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

10. Travel Times Catchments

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

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

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

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

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

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

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

Facility Inclusion Criteria

Sports Halls

The following inclusion criteria were used for this analysis.

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

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

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

Model Parameters

Halls Parameters

At One Time Capacity	32 users per 4-court hall 15 users per 144 square meters of activity hall																					
Catchment Maps	Car: 20 minutes Walking: 1.6 km Public transport: 20 minutes at about half the speed of a car NOTE: Catchment times are indicative, within the context of a distance decay function of the model.																					
Duration	60 minutes																					
Percentage Participation	<table border="1"> <thead> <tr> <th>Age</th> <th>0-15</th> <th>16-24</th> <th>25-34</th> <th>35-44</th> <th>45-59</th> <th>60-79</th> </tr> </thead> <tbody> <tr> <td>Male</td> <td>20.4</td> <td>16.7</td> <td>13.9</td> <td>11.6</td> <td>10.2</td> <td>7.3</td> </tr> <tr> <td>Female</td> <td>24.5</td> <td>17.8</td> <td>17.1</td> <td>15.3</td> <td>15.1</td> <td>12.1</td> </tr> </tbody> </table>	Age	0-15	16-24	25-34	35-44	45-59	60-79	Male	20.4	16.7	13.9	11.6	10.2	7.3	Female	24.5	17.8	17.1	15.3	15.1	12.1
Age	0-15	16-24	25-34	35-44	45-59	60-79																
Male	20.4	16.7	13.9	11.6	10.2	7.3																
Female	24.5	17.8	17.1	15.3	15.1	12.1																
Frequency per Week	<table border="1"> <thead> <tr> <th>Age</th> <th>0-15</th> <th>16-24</th> <th>25-34</th> <th>35-44</th> <th>45-59</th> <th>60-79</th> </tr> </thead> <tbody> <tr> <td>Male</td> <td>0.65</td> <td>0.95</td> <td>0.93</td> <td>0.84</td> <td>1.00</td> <td>1.14</td> </tr> <tr> <td>Female</td> <td>0.74</td> <td>1.20</td> <td>1.21</td> <td>1.07</td> <td>1.18</td> <td>1.01</td> </tr> </tbody> </table>	Age	0-15	16-24	25-34	35-44	45-59	60-79	Male	0.65	0.95	0.93	0.84	1.00	1.14	Female	0.74	1.20	1.21	1.07	1.18	1.01
Age	0-15	16-24	25-34	35-44	45-59	60-79																
Male	0.65	0.95	0.93	0.84	1.00	1.14																
Female	0.74	1.20	1.21	1.07	1.18	1.01																
Peak Period	Weekday: 9:00 to 10:00, 17:00 to 22:00 Weekend: 08:00 to 16:00 Total: 46 hours																					
Proportion in Peak Period	62%																					