

Creating a sporting habit for life

# Strategic Assessment of Need for Sports Hall Provision in Shropshire

**Facility Planning Model** 

National Run Report 2016

5 May 2016

#### 1. Introduction

- This report and the accompanying maps provide a strategic assessment of the current level of provision for Sports Halls in Shropshire. This assessment uses Sport England's Facilities Planning Model and the data from National Facilities Audit run as of January 2016.
- The information contained within the report should be read alongside the two appendices. Appendix 1 sets out the facilities that have been included within this analysis together with those that have been excluded. Appendix 2 provides background to the Facilities Planning Model (FPM), facility inclusion criteria and the model parameters.
- The FPM modelling and dataset builds in a number of assumptions as set out in Appendix 2 regarding the supply and demand of provision. This report should not be considered in isolation and it is recommended that this analysis should form part of a wider assessment of provision at the local level, using other available information and knowledge.
- Data outputs have been presented for Shropshire Council area and for the three sub areas: Shropshire North, Shropshire Central and Shropshire South and where relevant comparisons have been made with regional averages.

### 2. Supply of Sports Halls

Table 1 - Supply	Shropshire UA	Shropshire North	Shropshire Central	Shropshire South
Number of halls	49	13	13	23
Number of hall sites	32	10	10	12
Supply of total hall space expressed as main court equivalents	272.8	60.2	48.5	164
Supply of publicly available hall space in 'main' courts (scaled with hrs avail in pp)	142.7	42.13	38.53	62.04
Supply of total hall space in VPWPP	38,956	11,500	10,518	16,938
Courts per 10,000	8.72	5.67	4.65	16.04

- There are 49 sports halls on 32 different sites in Shropshire with 13 halls in the northern sub area, 13 in the central and 23 in the south. The distribution of the sports hall network is shown in section 9.
- Overall provision equates to just under 39,000 vpwpp comprised on 11,500 vpwpp in the north, 10,500 vpwpp in central and 17,000 vpwpp in the south.
- There is an excellent level of supply with 8.8 courts per 10,000 population which is double the regional average of 4.3 courts/10,000. The supply varies from 4.6 courts/10,000 in the north sub area to 16 courts/10,000 in the south sub area. The figure for the Shropshire South sub area is very large and is due to the Location of the National Sports Centre at Lilleshall.

NOTE: "Supply of total hall space in courts" - this figure is NOT the count of 'marked courts' that will be found in Active Places. This figure is the 'equivalent in courts' to the total hall space that is used in the model to calculate the sites capacity. Hall capacity is calculated by the following:

### 3. Demand for Sports Halls

Table 2 - Demand	Shropshire UA	Shropshire North	Shropshire Central	Shropshire South
Population	312,813	106,189	104,410	102,214
Visits demanded –vpwpp	18,172	6,212	6,145	5,815
Equivalent in courts – with comfort factor included	83.21	28.45	28.14	26.63
% of population without access to a car	14.9	14	17.8	12.9

- The total population in Shropshire is 313,000 which is equivalent to 189,200 vpwpp. The population and demand is equally spread across the three sub areas.
- This level of demand is equivalent to just over 83 courts when the comfort factor is applied.
- Just under 15% of the population in Shropshire do not have access to a car which compares to a regional average of 24% meaning that residents in Shropshire are relatively more mobile.

### 4. Supply & Demand Balance

Table 3 - Supply/Demand Balance	Shropshire UA	Shropshire North	Shropshire Central	Shropshire South
Supply - Hall provision (courts) scaled to take account of hours available for community use	142.7	42.13	38.53	62.04
Demand - Hall provision (courts) taking into account a 'comfort' factor	83.21	28.45	28.14	26.63
Supply / Demand balance	59.49	13.68	10.39	35.41

- The resident population in Shropshire is estimated to generate a demand for a minimum of 83 courts. This compares to a current available supply of 143 courts giving a supply/demand balance of nearly 60 courts.
- Supply exceeds demand in all three sub areas while in the northern sub area supply exceeds demand by over 35 courts which indicates there is a very good level of supply in this sub area. As noted previously, this is due to the location of the National Sports Centre at Lilleshall which has a total of 37 courts.
- It should be noted that for realistic/ comfortable provision, supply needs to be greater than demand. If supply only matches demand, then all sports halls would need to be full all of the time in order to meet all demand.

**Note:** This section only provides a 'global' view of provision and does not take account of the location, nature and quality of facilities in relation to demand; how accessible facilities are to the resident population (by car and on foot); nor does it take account of facilities in adjoining boroughs. These are covered in the more detailed modelling set out in the following sections (Satisfied Demand, Unmet Demand and Relative Share).

### 5. Satisfied Demand- demand from Shropshire residents currently being met by supply

Table 4 - Satisfied Demand	Shropshire UA	Shropshire North	Shropshire Central	Shropshire South
Total number of visits which are met	16,623	5,690	5,706	5,227
% of total demand satisfied	91.5	91.6	92.9	89.9
% of demand satisfied who travelled by car	85.47	87.21	81.06	88.38
% of demand satisfied who travelled by foot	9.6	8.53	12.02	8.11
% of demand satisfied who travelled by public transport	4.94	4.26	6.92	3.51
Demand Retained	15,493	5,092	5,460	4,256
Demand Retained -as a % of Satisfied Demand	93.2	89.5	95.7	81.4
Demand Exported	1,130	598	246	972
Demand Exported -as a % of Satisfied Demand	6.8	10.5	4.3	18.6

- The model predicts that 91.5% of the demand generated by Shropshire residents is satisfied by the existing network which is just above the 91% regional average. Satisfied demand is highest in central at 93% and lowest in south at just under 90% which is surprising given the supply in this sub area. The concentrated supply (a large proportion is at Lilleshall) is not effective at meeting demand from residents due to the distance they have to travel.
- Not surprisingly the majority of visits are by car although the highest number by foot/on public transport is in the central sub area reflecting the accessibility of facilities and the public transport network.
- The majority of satisfied demand from Shropshire residents is met at sports halls in Shropshire although in Shropshire South nearly a fifth of demand is exported to neighbouring Local Authorities. This reflects the rural nature of the sub area and the distribution of sports halls with some halls in neighbouring LAs being more accessible to Shropshire residents.

### 6. Unmet Demand - demand from Shropshire residents not currently being met

Table 5 - Unmet Demand	Shropshire UA	Shropshire North	Shropshire Central	Shropshire South
Total number of visits in the peak, not currently being met	1549	523	438	588
Unmet demand as a % of total demand	8.5	8.4	7.1	10.1
Equivalent in Courts - with comfort factor	7.1	2.39	2.01	2.69
% of Unmet Demand due to;				
Lack of Capacity -	1.6	4.5	0.2	0
Outside Catchment -	98.42	95.52	99.79	99.97
Outside Catchment;	98.42	95.52	99.79	99.97
% Unmet demand who do not have access to a car	72.9	73.28	85	63.54
% of Unmet demand who have access to a car	25.53	22.25	14.8	36.44
Lack of Capacity;	1.6	4.5	0.2	0.0
% Unmet demand who do not have access to a car	0.96	2.82	0.03	0.01
% of Unmet demand who have access to a car	0.62	1.66	0.17	0.02

- Unmet demand is the amount of total demand in the peak period which cannot be met because either sports halls are at full capacity or demand is located at such a distance from the nearest sports hall that it is outside the catchment of any hall.
- Unmet is 1,550 vpwpp which amounts to 8.5% of total demand. Levels of unmet demand do vary depending on sub area with just over 8% in the north, 7% in the central sub area and 10% in the south.
- Almost all unmet demand is due to accessibility rather than a lack of capacity. It should be noted that a significant proportion is from
  residents who do not have access to a car reflecting the rural nature of the area and the distribution of halls. Unmet demand is
  spread relatively evenly and there are no high areas of unmet demand (see maps).

### 7. Used Capacity - How well used are the facilities?

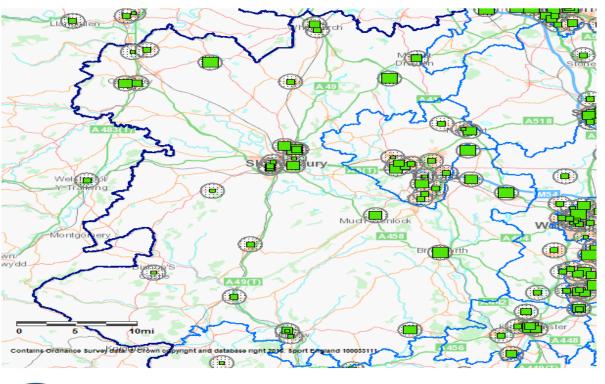
Table 6 - Used Capacity	Shropshire UA	Shropshire North	Shropshire Central	Shropshire South
Total number of visits used of current capacity	18,593	6,387	6,158	6,048
% of overall capacity of halls used	47.7	55.5	58.5	35.7
% of visits made to halls by walkers	8.6	7.6	11.1	7
% of visits made to halls by road	91.4	92.4	88.9	93
Visits Imported;				
Number of visits imported	3,100	1,296	698	1,793
As a % of used capacity	16.7	20.3	11.3	29.6
Visits Retained:				
Number of Visits retained	15,493	5,092	5,460	4,256
As a % of used capacity	83.3	79.7	88.7	70.4

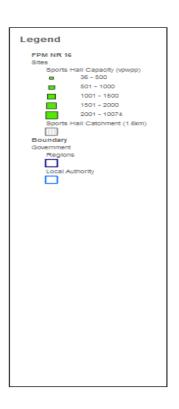
- Used capacity looks at how the network of sports halls is thought to be being utilised. The current stock of halls is thought to be operating at about 48% of total capacity in the peak period. This compares to a Sport England benchmark of 80% which is where a hall is considered to be comfortably full.
- However, some halls are being more fully used than others. For example, Oswestry Leisure Centre is estimated to be operating at full capacity. A number of facilities do appear to have spare capacity (see appendix 1).
- It should be noted that while there is 10% unmet demand in Shropshire South used capacity is 35% which reflects the rural nature of the area, the concentrated pattern of provision (Lilleshall) and the fact that many residents (particularly those without a car) live outside the catchment area of a hall.

### 8. Summary and Conclusions

- There is a very good supply of sports halls in Shropshire with the amount of courts per 10,000 being double the regional average.
- The population in Shropshire is also relatively mobile and able to express its demand at halls in the Local Authority and adjoining areas.
- As a result, there is a good level of satisfied demand with 91.5% visits demanded being satisfied. The majority of demand from Shropshire residents is met at halls in Shropshire (i.e. demand is retained) and the hall network has significant spare capacity to absorb future demand.
- There are some differences between the sub areas with the northern and central areas having a good level and distribution of provision which results in higher levels of satisfied demand (93%) and more effective use being made of the sports hall network (used capacity).
- In Shropshire South satisfied demand is lower than the Shropshire average although comparable with the regional average. This is due to the large rural nature of the sub area and the distribution of sports halls which is skewed towards particular locations (particularly the National Sports Centre at Lilleshall) with some residents (even those with access to a car) living outside the catchment area of a hall. As a result the sub area has very high levels of supply but with low levels of used capacity.

### 9. Maps – Location of sports halls



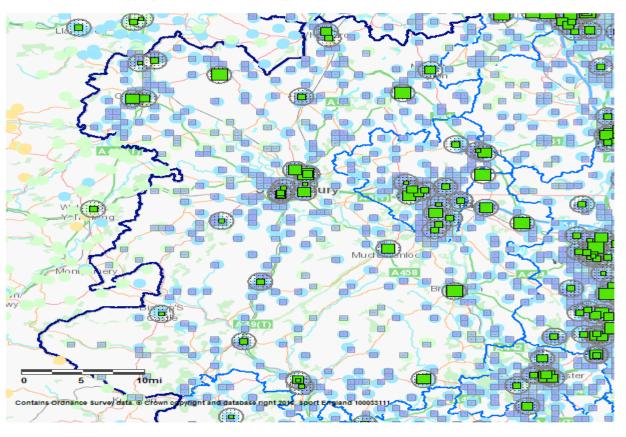


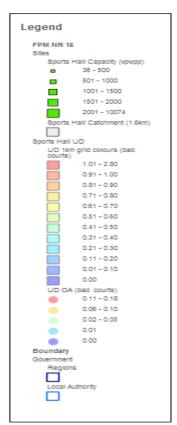


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### Facilities Planning Model - National Runs - Sports Halls 2016 Unmet Demand

Unmet Demand expressed as units of badminton courts (rounded to two decimal places). Data outputs shown thematically (colours) at either output area level or aggregated at 1km square (figure labels).







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### Appendix 1: Sports Halls Included/Excluded

#### Facilities Included:

Name of facility	Туре	Dimensions	AREA	YEAR BUILT	YEAR REFURB	WGT FACTOR	HRS in NPP	COMMNTY HRS AVAIL	Facility Capacity vpwpp	% of Capacity used
Shropshire North		1986		51%					11,500	56%
ELLESMERE COLLEGE	Main	2004		47%	Р	L	35.5	46	2,290	27%
ELLESMERE COLLEGE	Activity Hall	2004					35.5	46		
MARCHES SCHOOL	Main	2004		47%	Р	L	38	41	1,528	73%
MARCHES SCHOOL	Activity Hall	2004					38	41		
MAURICE CHANDLER SPORTS & LEISURE CENTRE	Main	1960		33%	Р	Н	29	44	2,088	22%
MORETON HALL SCHOOL	Main	1990		40%	Р	L	11.5	14	276	96%
OSWESTRY LEISURE CENTRE	Main	2011		99%	Р	Н	42	83	1,008	100%
SAINT MARTINS SPORTS CENTRE	Main	1991	2004	87%	Р	Н	23.75	26.25	570	100%
THE GROVE SCHOOL	Main	1973	2010	44%	Р	L	25	25	1,017	81%
THE GROVE SCHOOL	Activity Hall	1973	2010				25	25		
THOMAS ADAMS SPORTS CENTRE	Main	1975	2004	70%	Р	Н	35.5	38.5	852	67%
WHITCHURCH CIVIC CENTRE	Main	1960		33%	Р	Н	45.5	105	1,092	50%
WHITCHURCH SPORTS & LEISURE CENTRE	Main	1996		44%	P	L	32.5	33	780	50%
ELLESMERE COLLEGE	Main	2004		47%	Р	L	35.5	46	2,290	27%

Name of facility	Туре	Dimensions	AREA	YEAR BUILT	YEAR REFURB	WGT FACTOR	HRS in NPP	COMMNTY HRS AVAIL	Facility Capacity vpwpp	% of Capacity used
ELLESMERE COLLEGE	Activity Hall	2004					35.5	46		
MARCHES SCHOOL	Main	2004		47%	Р	L	38	41	1,528	73%
Shropshire Central		1991		68%					10,518	59%
BELVIDERE SCHOOL	Main	2006		48%	Р	L	15	15	270	61%
GRANGE SPORTS CENTRE (SHREWSBURY)	Main	1992	2005	45%	Р	L	39	44.5	1,821	32%
GRANGE SPORTS CENTRE (SHREWSBURY)	Activity Hall	1992	2005				39	44.5		
LONDON ROAD SPORTS CENTRE	Main	1987	2004	83%	Р	Н	39.5	47.5	1,908	64%
LONDON ROAD SPORTS CENTRE	Activity Hall	1987	2004				39.5	47.5		
MARY WEBB SCHOOL AND SCIENCE COLLEGE	Main	2004		47%	Р	L	25	25	450	82%
MEOLE BRACE SCHOOL	Main	1960	2010	42%	Р	L	38	41	1,300	42%
MEOLE BRACE SCHOOL	Activity Hall	1960	2010				38	41		
ROMAN ROAD SPORTS CENTRE	Main	1993	2010	94%	Р	Н	39	48	702	100%
SHREWSBURY SCHOOL	Main	1985	2008	45%	Р	L	10	10	180	89%
SHREWSBURY SPORTS VILLAGE	Main	2006		96%	Р	Н	45.5	91	2,184	68%
SUNDORNE GAMES HALL	Main	1973	2004	68%	Р	Н	45.5	91	1,092	55%
THE PRIORY SCHOOL	Main	1991		49%	Р	L	34	44	612	56%
Shropshire South		1989		64%					16,938	36%
COMMUNITY ARTS SPORTS CRAVEN ARMS (CASCA)	Main	1996	2001	45%	Р	L	30.5	66	549	47%

Name of facility	Туре	Dimensions	AREA	YEAR BUILT	YEAR REFURB	WGT FACTOR	HRS in NPP	COMMNTY HRS AVAIL	Facility Capacity - vpwpp	% of Capacity used
IDSALL SPORTS CENTRE	Main	1970	2007	76%	Р	Н	40.5	45	1,628	36%
IDSALL SPORTS CENTRE	Activity Hall	1970	2007				40.5	45		
LILLESHALL NATIONAL SPORTS & CONFERENCING CENTRE	Main	1989	2004	85%	Р	Н	18.5	28	2,615	30%
LILLESHALL NATIONAL SPORTS & CONFERENCING CENTRE	Main	1989	2004				18.5	28		
LILLESHALL NATIONAL SPORTS & CONFERENCING CENTRE	Main	1989	2004				18.5	28		
LILLESHALL NATIONAL SPORTS & CONFERENCING CENTRE	Activity Hall	1989	2004				18.5	28		
LUDLOW CHURCH OF ENGLAND SCHOOL	Main	1955	2007	39%	Р	L	20	20	360	30%
LUDLOW COLLEGE	Main	1991		41%	Р	L	20	20	360	44%
MUCH WENLOCK LEISURE CENTRE	Main	2010		99%	Р	Н	37.5	54.75	1,508	30%
MUCH WENLOCK LEISURE CENTRE	Activity Hall	2010					37.5	54.75		
OLDBURY WELLS SCHOOL	Main	2013		50%	Р	L	25	25	2,355	43%
OLDBURY WELLS SCHOOL	Activity Hall	2013					25	25		
OLDBURY WELLS SCHOOL	Activity Hall	2013					25	25		
OLDBURY WELLS SCHOOL	Activity Hall	2013					25	25		
RAF COSFORD SCHOOL OF PHYSICAL TRAINING	Main	1948		22%	Р	L	7.5	7.5	3,713	13%
RAF COSFORD SCHOOL OF PHYSICAL TRAINING	Activity Hall	1948					7.5	7.5		
RAF COSFORD SCHOOL OF PHYSICAL TRAINING	Activity Hall	1948					7.5	7.5		
TEME CHURCH STRETTON	Main	2010		99%	Р	Н	24.5	31.5	588	63%

Name of facility	Туре	Dimensions	AREA	YEAR BUILT	YEAR REFURB	WGT FACTOR	HRS in NPP	COMMNTY HRS AVAIL	Facility Capacity - vpwpp	% of Capacity used
TEME CLEOBURY	Main	1985	2007	87%	Р	Н	40.5	57	1,720	40%
TEME CLEOBURY	Activity Hall	1985	2007				34	40		
TEME LUDLOW	Main	1995		84%	Р	Н	37	40.5	1,110	64%
TEME SPARC	Main	2006		96%	Р	Н	24	29	432	95%

### **Facilities Excluded**

The audit excludes facilities that are deemed to be either for private use, too small 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:

Shropshire UA	
Shropshire North	
Private Use	CORBET SCHOOL
Too Small	CORBET SCHOOL
Too Small	CRIFTINS SOCIAL CLUB
Private Use	DERWEN COLLEGE
Too Small	DRAYTON SPORTS AND LEISURE CLUB
Area is missing	EX SERVICEMENS CLUB
Area is missing	KINNERLEY PARISH HALL
Too Small	LAKELANDS SPORTS CENTRE
Closed.	OSWESTRY LEISURE CENTRE (CLOSED)
Too Small	OSWESTRY SCHOOL
Too Small	PACKWOOD HAUGH SCHOOL
Too Small	PREES CRICKET AND RECREATION CLUB
Private Use	RAF SHAWBURY
Private Use	WOODLANDS SCHOOL
Shropshire Central	
No Hrs.	ADCOTE SCHOOL FOR GIRLS
Too Small.	ADCOTE SCHOOL FOR GIRLS
Too Small	CASTLE COUNTRY CLUB
Private Use	CONCORD COLLEGE
Closed.	GRANGE SPORTS CENTRE (SHREWSBURY)
Area is missing	IRONBRIDGE POWER STATION (CLOSED)
Private Use	SHREWSBURY HIGH PREP SCHOOL
Private Use	SHREWSBURY HIGH SCHOOL
Private Use	SHREWSBURY HIGH SCHOOL
Area is missing	SHREWSBURY SPORTS VILLAGE
Private Use	SUNDORNE SCHOOL AND SPORTS COLLEGE
	40

Shropshire UA	
Closed.	THE WAKEMAN SCHOOL & ARTS COLLEGE (CLOSED)
Shropshire South	
Area is missing	ALBRIGHTON TABLE TENNIS CLUB
Private Use	BEDSTONE COLLEGE
Too Small	BRIDGNORTH SPORTS & LEISURE CENTRE
Too Small	BRIDGNORTH SPORTS & LEISURE CENTRE
Too Small	CHURCH STRETTON SCHOOL
Closed.	CHURCH STRETTON SCHOOL
Area is missing	CLEOBURY MORTIMER PARISH HALL
Too Small	CLUN MEMORIAL HALL
Private Use	HIGFORD COLLEGE (CLOSED)
Area is missing	IDSALL SCHOOL
Too Small	MAYFAIR COMMUNITY CENTRE
Too Small	MOOR PARK SCHOOL
Closed.	MUCH WENLOCK LEISURE CENTRE (CLOSED)
Too Small	RUSHBURY VILLAGE HALL
Too Small	SEVERN CENTRE
Too Small	SEVERN CENTRE
Area is missing	TEME SPARC
Area is missing	TRINITY METHODIST CHURCH

### **Appendix 2 – Model description, Inclusion Criteria and Model Parameters**

Included within this appendix are the following:

- Model description
- Facility Inclusion Criteria
- Model Parameters

#### **Model Description**

#### 1. Background

- 1.1. The Facilities Planning Model (FPM) is a computer-based supply/demand model, which has been developed by Edinburgh University in conjunction with **sport**scotland and Sport England since the 1980s.
- 1.2. The model is a tool to help 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; and
  - 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.
- 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. For example, the FPM was used to help assess the impact of a 50m swimming pool development in the London Borough of Hillingdon. The Council invested £22 million in the sports and leisure complex around this pool and received funding of £2,025,000 from the London Development Agency and £1,500,000 from Sport England<sup>1.</sup>

<sup>&</sup>lt;sup>1</sup> Award made in 2007/08 year.

#### 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, taking into account 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 2005/6 jointly with Sportscotland.

- 3.6. User survey data from the NBS and other appropriate sources are used to update the models parameters on a regular basis. The parameters are set out at the end of the document, and the range of the main source data used by the model includes:
  - National Halls & Pools survey data -Sport England
  - Benchmarking Service User Survey data –Sport England
  - UK 2000 Time Use Survey ONS
  - General Household Survey ONS
  - Scottish Omnibus Surveys Sport Scotland
  - · Active People Survey Sport England
  - STP User Survey Sport England & Sportscotland
  - Football participation The FA
  - Young People & Sport in England Sport England
  - · Hockey Fixture data Fixtures Live
  - Taking Part Survey DCMS

#### 4. Calculating Demand

- 4.1. This is calculated by applying the user information from the parameters, as referred to above, to the population<sup>2</sup>. 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 (OA)<sup>3</sup>.

21

<sup>&</sup>lt;sup>2</sup> 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.

4.3. The use of OAs in the calculation of demand ensures that the FPM is able to reflect and portray differences in demand in areas at the most sensitive level based on available census information. Each OA used is given a demand value in VPWPP by the FPM.

#### 5. Calculating Supply Capacity

- 5.1. A facility's capacity varies depending on its size (i.e. size of pool, hall, pitch number), and how many hours the facility is available for use by the community.
- 5.2. The FPM calculates a facility's capacity by applying each of the capacity factors taken from the model parameters, such as the assumptions made as to how many 'visits' can be accommodated by the particular facility at any one time. Each facility is then given a capacity figure in VPWPP. (See parameters in Section C).
- 5.3. Based on travel time information4 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.

<sup>&</sup>lt;sup>3</sup> Census Output Areas (OA) are the smallest grouping of census population data, and provides 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.

<sup>&</sup>lt;sup>4</sup> 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.

- 5.5. 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.
- 5.6. 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.
- 5.7. 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 capacity of Sports Hall – 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' that is in Active Places.
- 6.2. The reason for this, is that the HSC is the 'court' equivalent of the all the main and ancillary halls capacities, this is calculated based on hall size (area), and whether it's the main hall, or a secondary (ancillary) hall. This gives a more accurate reflection of the overall capacity of the halls than simply using the 'marked court' figure. This is due to two reasons:

- 6.3. In calculating capacity of halls, the model uses a different 'At-One-Time' (AOT) parameter for main halls and for ancillary halls. Ancillary halls have a great 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 5 courts. As the model uses the 'courts' as a unit of size, it is important that the hall's capacity is included as a 5 'court unit' rather than a 4 'court unit'
- 6.4. The model calculates the capacity of the sports hall as 'visits per week in the peak period' (VPWPP), it then uses this unit of capacity to compare with the demand, which is also calculated as VPWPP. It is often difficult to visualise how much hall space is when expressed as vpwpp. To make things more meaningful this capacity in VPWPP is converted back into 'main hall court equivalents', and is called in the output table '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 effects the way visits are distributed between facilities. Attractiveness however, is very subjective. Currently weightings are only used for hall and pool modelling, with a similar approach for AGPs is being developed.

- 7.2. Attractiveness weightings are based on the following:
  - 7.2.1. Age/refurbishment weighting pools & 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 facilities 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.
  - 7.2.2. Management & 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 program than halls run by LAs, 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;
  - 7.3.1. High weighted curve includes Non education management better balanced programme, more attractive.
  - 7.3.2. Lower weighted curve includes Educational owned & 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.

#### 8. Comfort Factor - halls

- 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's available for community use and the 'at one time capacity' figure (pools =1 user /6m2, halls = 6 users /court). This is 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, whilst being within the peak period, are less busy and so will have fewer users.
- 8.3. To account of these factors the notion of a 'comfort factor' is applied within the model. For swimming pools 70%, and for sports halls 80%, of its theoretical capacity is considered as being the limit where the 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 and so the notion of having 'less busy' pitch is not applicable.)

- 8.4. The comfort factor is used in two ways;
  - 8.4.1. Utilised Capacity How well used is a facility? 'Utilised capacity' figures for facilities are often seen as being very low, 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.
  - 8.4.2. Adequately meeting Unmet Demand the comfort factor is also used to increase the amount of facilities that are needed to comfortably meet the unmet demand. If this comfort factor is not added, then any facilities provided will be operating at its maximum theoretical capacity, which is not desirable as a set out above.

#### 9. Utilised Capacity (used capacity)

- 9.1. Following on from Comfort Factor section, here is more guidance on Utilised Capacity.
- 9.2. Utilised capacity refers to how much of facilities 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 facilities theoretical maximum capacity (100%) as being an optimum position. This, in practise, would mean that a facility would need to be completely full every hour it was open in the peak period. This would be both unrealistic from an operational perspective and undesirable from a user's perspective, as the facility would completely full.

#### 9.3. For examples:

A 25m, 4 lane pool has Theoretical capacity of 2260 per week, during 52 hour peak period.

	4-5pm	5-6pm	6-7pm	7-8pm	8-9pm	9-10pm	Total Visits for the evening
Theoretical max capacity	44	44	44	44	44	44	264
Actual Usage	8	30	35	50	15	5	143

- 9.4. Usage of a pool will vary throughout the evening, with some sessions being busier than others though programming, such as, an aqua-aerobics session between 7-8pm, lane swimming between 8-9pm. Other sessions will be quieter, such as between 9-10pm. This pattern of use would give a total of 143 swims taking place. However, the pool's maximum capacity is 264 visits throughout the evening. In this instance the pools utilised capacity for the evening would be 54%.
- 9.5. As a guide, 70% utilised capacity is used to indicate that pools are becoming busy, and 80% for sports halls. This should be seen only as a guide to help flag up when facilities are becoming busier, rather than 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) Integrated Transport Network (ITN) for roads has been used to calculate the off-peak drive times between facilities and the population, observing one-way and turn restrictions which apply, and taking into account 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, and geographical location of the road, for example 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 & Outer London Boroughs have been further enhanced by data from the Department of Transport.
- 10.3. The walking catchment uses the OS Urban Path Network 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, by car, public transport & walking. Car access is also taken into account, 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	76%	15%	9%
Sports Hall	77%	15%	8%
AGP			
Combined	83%	14%	3%
Football	79%	17%	3%
Hockey	96%	2%	2%

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

	Sport halls		Swimming Pools		
Minutes	Car	Walk	Car	Walk	
0-10	62%	61%	58%	57%	
10-20	29%	26%	32%	31%	
20 -40	8%	11%	9%	11%	

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.

Artificial Grass Pitches						
	Combine	ed	Football		Hockey	
Minutes	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.

#### Inclusion Criteria used within analysis [DELETE FACILITY TYPES]

#### **Swimming Pools**

The following inclusion criteria were used for this analysis;

- Include all Operational Indoor 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 meters OR is less than 160 square meters.
- 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 1975<sup>5</sup>.

Facilities in Wales and the Scottish Borders included, as supplied by sportscotland and Sports Council for Wales.

[OR]

#### **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 1975<sup>6</sup>.

Facilities in Wales and the Scottish Borders included, as supplied by **sport**scotand and Sports Council for Wales.

<sup>&</sup>lt;sup>5</sup> Choosing a date in the mid '70s ensures that the facility is included, whilst not overestimating its impact within the run.

<sup>&</sup>lt;sup>6</sup> Choosing a date in the mid '70s ensures that the facility is included, whilst not overestimating its impact within the run.

[OR]

#### **Artificial Grass Pitch**

The following inclusion criteria were used for this analysis:

- Include all outdoor, full size AGPs with a surface type of sand based, sand dressed, water based or rubber crumb varied by sport specific runs.
- Include all Operational Pitches available for community use i.e. pay and play, membership, Sports Club/Community Association
- Exclude all Pitches not available for community use i.e. private use
- Include all 'planned', 'under construction, and 'temporarily closed' facilities only where all data is available for inclusion.
- Minimum pitch dimension taken from Active Places 75m x45m.
- Non floodlit pitches exclude from all runs after 1700 on any day.
- Excludes all indoor pitches.
- Excludes 5-a-side commercial football centres and small sided 'pens'.
- Excludes MUGA's, redgra, ash, marked out tarmac areas, etc.
- Carpet types included:
  - o Combined Run all carpet types, using the sport run criteria below.
  - o Hockey Run all water based weekend/weekday, all sand based/sand dresses weekend only.
  - o Football Run all rubber crumb weekend/weekday, sand based/sand dressed weekday.

Facilities in Wales and the Scottish Borders included, as supplied by **sport**scotland and Sports Council for Wales.

#### Model Parameters used in the Analysis [DELETE FACILITY TYPES]

#### Pool Parameters

At one Time Capacity	0.16667 per	0.16667 per square metre = 1 person per 6 square meters								
Catchment Maps  Duration	NOTE: Cato	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.								
	4 010	0 45	16 24	25 20	40 50	60.70	00.			
PercentageParticipation	Age Male	0 - 15 10.39	7.58	25 - 39 9.39	<i>40 - 59</i> 8.05	4.66	80+ 1.74	-		
	Female	13.78	14.42	16.04	12.50	7.52	1.56	_		
								<b>-</b>		
Frequencyper week	Age	0 - 15	16 - 24	25 - 39	40 - 59	60-79	80+			
	Male	1.11	1.06	0.96	1.03	1.26	1.49			
	Female	1.08	0.98	0.88	1.01	1.13	1.19			
Peak Period	Weekday:       12:00 to 13:30; 16:00 to 22.00         Saturday:       09:00 to 16:00         Sunday:       09:00 to 16:30         Total:       52 Hours									
Percentage in Peak Period	63%									

[OR]

### Halls parameters

At one Time Capacity		24 users per 4-court hall, 13 users per 144 square meters of ancillary hall.								
Catchment Maps										
Duration	60 minutes									
Percentage Participation	Age	0-15	16-24	25-34	35-44	45-59	60-79			
	Male	9.02	15.64	12.42	9.96	6.80	4.78			
	Female	8.36	14.10	13.38	13.51	11.73	9.80			
Frequency per week	Age	0-15	16-24	25-34	35-44	45-59	60-79			
	Male	1.17	1.00	0.94	0.99	1.04	1.18			
	Female	1.13	0.95	0.95	0.95	0.96	0.95			
Peak Period  Percentage in Peak Period	Weekday: 9:00 to 10:00; 17:00 to 22:00 Saturday: 09:30 to 17:00 Sunday: 09:00 to 14:30, 17:00 to 19:30 Total: 45.5 hours									
9		5 hours								

#### [OR]

#### AGP Parameters -Combined

At one Time Capacity	30 players	s per slot Mo	on to Fri: 30x	18 slots = 54	0 visits					
	25 players	s per slot Sa	it & Sun: 25x	8 slots = 200	) visits					
	Total = 740 visits per week in the peak period									
		•		•						
	{Saturday	and Sunda	y capacity to	reflect domi	nance of forn	nal 11-side n	natches i.e. lower capacity}			
Catchment Maps	Car	20	minutes							
·	Walking:		1.6 km							
	Public trar	nsport: 20	minutes at a	bout half the	speed of a	car				
	NOTE: Ca	atchment tim	nos are indica	ativo within t	he context o	f a distance	decay function of the model.			
	NOTE. Ca	alcinnent un	ies are indica	ative, within t	ile collext o	i a uistarice	decay function of the model.			
Duration	Monday -	Friday =	= 1 hr							
	Saturday	& Sunday =	2 hrs							
Participation Percentage	Age	0-15	16-24	25-34	35-44	45-54	55-64			
Farticipation Fercentage		L & RUGBY	1027	20 04	33 44	70 07	30 04			
	Male	2.25	7.00	4.73	2.53	1.13	0.13			
	Female	0.80	1.11	0.52	0.22	0.09	0.05			
	HOCKEY									
	Male	1.11	0.72	0.20	0.18	0.13	0.04			
	Female	2.74	1.59	0.41	0.24	0.09	0.02			
E	Age	0-15	16-24	25-34	35-44	45-54	55-64			
Frequency per week		L & RUGBY	1.05	1.06	1.05	1 04	1.00			
	Male Female	2.23 1.86	1.65 1.47	1.26 1.26	1.05 1.43	1.04 1.35	1.00			
	HOCKEY	1.00	1.47	1.20	1.43	1.55	1.40			
	Male	0.97	1.86	1.50	1.16	1.27	0.87			
	Female	0.63	1.44	1.45	1.20	1.07	1.03			
	{Usage sp	olit: Football	= 75.2%, Ho	ckey = 22.79	%, Rugby = 2	2.1%}				
			,	,	, ,	,				

Peak Period	Monday-Thursday : 17:00 to 21.00 Friday : 17:00 to 19:00 Saturday : 09:00 to 17:00 Sunday : 09:00 to 17:00 Total : 34 Hours Total number of slots = 26 slots {Mon-Friday = 1 hr slots to reflect mixed use of activities –training, 5/7 a side & Informal matches Weekend = 2 hrs slots to reflect formal matches.}
Percentage in Peak Period	85%