

Sport England's Facilities Planning Model (FPM)

Sports Hall Provision in Harlow

2012 Profile Report

This report and the accompanying maps present data from Sport England's National Facilities Audit Dataset as of January 2012. 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.

As presented in Appendix 2, the FPM modelling and dataset builds in a number of assumptions regarding the supply and demand of provision. It is therefore recommended that the information contained within this report should form part of a wider assessment of provision at the local level.

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1. Sports Hall Facilities included and those excluded in the assessment
2. FPM Model description, inclusion criteria and model parameters

1. Introduction

The purposes of this profile report are to:

- Provide an overview of sports halls in Harlow Council's area through an assessment of the Facilities Planning Model outputs derived from the National Facilities Audit dataset for 2012. This includes data for supply, demand, supply/demand balance, satisfied demand, unmet demand; used capacity and relative share. This will also highlight any issues in adjoining local authority areas which may affect facility provision in Harlow; and
- Identify the key issues arising from the outputs which may require further consideration and assessment. This is presented as a summary assessment of the findings and conclusions at the end of the report

The Study Area

The study area for this analysis is Harlow District Council's area. As part of the analysis, issues in adjoining local authority areas which may affect provision in Harlow are highlighted e.g. concentrations of unmet demand close to the boundary with Harlow. The data for Harlow is also compared to the data for the local authority comparator authorities to Harlow of Basildon, Chelmsford and Stevenage. It is also compared to findings for Essex County, East Region and England national averages, where appropriate for that measure.

2. Supply of Sports Halls

Table 1 - Supply	Harlow	Basildon	Chelmsford	Stevenage
Number of halls	9	19	24	6
Number of hall sites	5	13	13	4
Supply of total hall space in courts	37	72	88.1	24
Supply of publicly available hall space in courts (scaled with hrs avail in pp)	27.79	56.32	63.41	20.94
Supply of total hall space in VPWPP	5627	11405	12841	4241
Courts per 10,000	4.53	3.99	5.09	2.95

Commentary

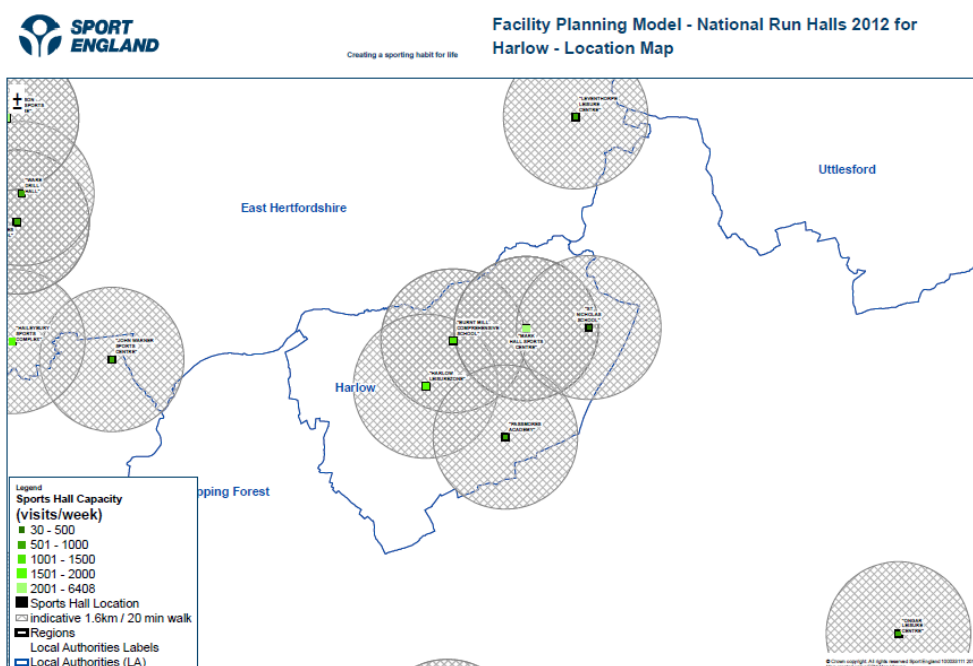
- There are 9 sports halls on 5 sites in Harlow. So, in effect there is an average of just under 2 sports halls per site (i.e. main hall and ancillary hall on the same site). It is a bit unusual to have an average this high as most local authorities have an average of 1 – 1.5 sports halls per site. In fact the distribution of the sports halls is very concentrated at two venues. The Mark Hall Sports Centre has four individual sports halls and the Burnt Mill School has two individual sports halls. Harlow Leisurezone, Passmores Academy and St Nicholas School each have 1 sports hall. Overall Harlow has an extensive range of sports hall provision.
- Regarding the sports hall sizes, the largest sports hall is at Harlow Leisurezone which has an 8 badminton court main hall. The next largest is at the community based Mark Hall Sports Centre which has a 6 badminton court main hall. This is followed by three sports halls of 4 badminton court size at Burnt Mill School, Passmores School and St Nicholas School. The remaining sports halls are ancillary halls ranging in size from 20m x 15m to 16m x 10m and two ancillary sports halls, one of 25m x 15m and one of 20m x 15m).
- The 4 badminton court size sports hall is until recently the recognised provision of sports hall to accommodate the full range of indoor hall sports at recreational level and Harlow has 3 sites with this size of sports halls. Whilst some of the ancillary halls are also close to this size.
- The 6 – 8 badminton court size sports hall is the recognised provision to be able to cater for district and up to county level competition for all the indoor hall sports, excepting handball, and with some spectator provision. Harlow has one sports hall of 8 badminton courts at the Harlow Leisurezone and one sports hall of 6 badminton courts at the Mark Hall Sports Centre. More importantly these sports halls also offer a size to be able to schedule and play several different sports at the same time.
- The supply of total hall space in badminton courts is 37 but when scaled to take into account the hours available to the community at peak times, this equates to just under 28 badminton courts. These have the capacity to accommodate 5,627 visits per week in the peak period. The sports hall sites with the highest capacity are: Mark Hall Sports Centre with a capacity of 2,006 visits in the weekly peak period distributed across its four halls; Harlow Leisurezone with a weekly peak period capacity of 1,620 visits; Burnt Mill School with 1,221 visits, Passmores Academy School with 580 visits per week in the weekly peak period and finally St Nicholas school with 200 visits per week in the weekly peak period.
- Halls are weighted in the model to reflect their attractiveness for use, in terms of age, whether they have been refurbished, type of sports use and management and

availability to the community. The higher the weighting the more attractive to customers a sports hall is considered to be. The weightings for each of the five sites are: Harlow Leisurezone 100%; Passmores Academy 50% Mark Hall Sports Centre 49%; St Nicholas School 47%; and Burnt Mill School 44%. The Harlow Leisurezone is weighted highly because of a combination of it being a modern sports hall, wide availability to the community in peak periods (40.5 hours of public use in the weekly peak period) whilst also offering a range of sports hall provision.

- On the age of the sports hall sites Harlow has a modern stock of provision with some major refurbishment of the older sites. Passmores Academy was opened in 2011, whilst the Harlow Leisurezone was opened in 2010, the Mark Hall Sports Centre was opened in 2006, St Nicholas School in 1999; and Burnt Mill School in 1968 but refurbished in 2007.
- So three of the five sites are post 2006. Given the overall age of the sports halls the next in line for a major refurbishment would be the St Nicholas School site but this is still only a 13 year old centre.
- Based on the standard of sports hall provision per 10,000 people then Harlow has a provision of 4.53 badminton courts per 10,000 people, this is the second highest of all the authorities used for comparator purposes. Chelmsford has the highest provision at 5.09 badminton courts per 10,000 people (13 sites and 24 individual sports halls). Whilst the lowest provision is in Stevenage at 2.95 badminton courts per 10,000 people (4 sites and 6 individual sports halls). Basildon has a provision of 3.99 badminton courts per 10,000 population (13 sites and 19 sports halls)
- Harlow has a higher provision of badminton courts per 10,000 population than Essex County, East Region or England wide. The figures are: Essex County 3.96 badminton courts per 10,000 population (95 sites and 154 individual sports halls); East Region provision is 4.03 badminton courts per 10,000 population (422 sites and 642 individual sports halls) and for England it is 4.01 badminton courts per 10,000 population (4,000 sites and 5,598 sports halls)
- Map 1 below shows the location and geographical spread of sports hall provision in Harlow and the surrounding areas. This map includes the walking catchment area of each sports hall although these should be treated with caution as these catchments are indicative and do not account for the local path network or include a distance decay factor as explained in the travel time catchments in Appendix 2. (Note: For technical reasons it is not possible for Sport England to map the 20 minute drive time catchment area)
- As with Harlow's swimming pools, there is virtually no extension of the 20 minutes walk to catchment into the local authorities which surround Harlow. Only the north side of the Burnt Mill School sports hall extends very slightly into East Hertfordshire and the East side of the St Nicholas School sports hall extends into Epping Forest District. None of the walking catchment for sports halls in the surrounding local authorities extends into Harlow. So there is no competing provision of sports halls in the walk to catchment area from outside the authority.
- As Map 1 also shows there are areas of Harlow which are outside the walk to catchment area of any sports hall and this is along the west side of the authority, extending from the boundary with East Hertfordshire in the north along the whole of the Epping Forest District boundary down the west side and along the first part of the southern boundary with this authority. There is also an area along the southern boundary with Epping Forest (north of junction 7 of the M10 motorway) which is outside the walk to catchment area of any sports hall.

- However, overall, the walk to catchment area for the five sports halls sites in Harlow does provide extensive geographical coverage of the authority. The walk to catchment area of the sites do overlap and this means the majority of the Harlow area has an overlap of between 2 and 3 sites for the centre/north eastern side of the authority.

Map 1 Location and walk to catchment area of sports hall in Harlow



- (Note: in terms of Basildon the Sport England national analysis supply data for sports halls compiled in January 2012 does take account of the closure of Markham Chase Leisure Centre and the opening of the Basildon Sporting Village which includes an 8 badminton court sports hall and 2 multi purpose studios for dance and exercise classes).

3. Demand for Sports Halls

Table 2 - Demand	Harlow	Basildon	Chelmsford	Stevenage
Population	81600	180500	173100	81300
Visits demanded -vpwpp	3798	8294	7889	3782
Equivalent in courts – with comfort factor included	23.45	51.2	48.7	23.35
% of population without access to a car	17.6	15.9	10	16.2

Commentary

- The demand generated for sports hall provision from the resident population of Harlow of 81,600 people in 2012 totals 3798 visits per week in the peak period, which equates to approximately 23 sports hall courts (this includes the application of a comfort factor - see appendix 2).

- Demand is also influenced by accessibility and the mobility of local residents. Car ownership or accessibility by local residents to a car is high and only 17.6% of Harlow residents do not have access to a car. This compares with an England national average of 19.5% of the population without access to a car. Whilst the East Region average is 13.1% of the population without access to a car and for Essex County the percentage is 12.4%.
- Harlow does however have the highest percentage of the population without access to a car across the comparator authorities. The lowest is in Chelmsford where 10% of the population do not have access to a car, the next lowest is in Basildon at 15.9%, whilst in Stevenage the percentage is 16.2%.
- The nature of car access by the population is important in terms of assessing residents' access to sports hall provision within an area and is used in the assessment of satisfied and unmet demand along with used capacity and relative share in Sections 4 to 7 of this report.

4. Supply / Demand Balance

Table 3 - Supply/Demand Balance	Harlow	Basildon	Chelmsford	Stevenage
Supply - Hall provision (courts) scaled to take account of hours available for community use	27.79	56.32	63.41	20.94
Demand - Hall provision (courts) taking into account a 'comfort' factor	23.45	51.2	48.7	23.35
Supply / Demand balance	4.34	5.12	14.71	-2.41

Commentary

- Note: the supply and demand balance section of the report only provides a 'global' view of provision – it compares sports hall demand generated **within Harlow** with the supply of sports halls **within Harlow** and therefore represents an assumption that ALL the demand for sports halls in Harlow is met by ALL the supply of sports halls in Harlow. In short, supply and demand balance is NOT based on where the sports halls are located and their catchment areas and if this extends into other authorities. Or, if the catchment areas of sports halls in neighbouring authorities extends into Harlow. Most importantly supply and demand balance does not take into account the propensity/reasons for residents using facilities outside their own District. All these topics are covered in the more detailed modelling set out in the following sections (Satisfied Demand, Unmet Demand and Relative Share).
- The reason for presenting the supply and demand balance is because some local authorities like to see how THEIR total supply of sports halls compares with THEIR total demand for sports halls. Supply and demand balance presents this somewhat crude comparison of supply and demand.
- The total supply of sports halls in Harlow scaled to take account of the community use hours across all sites is just under 28 badminton courts. The total demand for sports halls by Harlow residents is for just over 23 badminton courts. So there is surplus of supply over demand of just over 4 badminton courts (rounded).
- For the comparator authorities the situation varies. In Chelmsford which has a supply of just over 63 badminton courts scaled for public use and a demand of over 48 badminton courts. So there is a surplus of just fewer than 15 badminton courts. Whilst in Basildon there is a total supply of just over 56 badminton courts and a demand of 51

badminton courts, so there is a surplus of 5 badminton courts. Finally in Stevenage demand exceeds supply, with a demand of just over 23 badminton courts and a supply scaled for public use of just under 21 badminton courts, so a negative supply balance of 2 badminton courts.

5. Satisfied Demand

Table 4 - Satisfied Demand	Harlow	Basildon	Chelmsford	Stevenage
Total number of visits which are met	3491	7845	7581	3422
% of total demand satisfied	91.9	94.6	96.1	90.5
% of demand satisfied who travelled by car	79.4	78.1	83.6	84.1
% of demand satisfied who travelled by foot	12.8	14.5	12.2	8.7
% of demand satisfied who travelled by public transport	7.7	7.4	4.2	7.2
Demand Retained	3176	6472	6769	2971
Demand Retained -as a % of Satisfied Demand	91	82.5	89.3	86.8
Demand Exported	314	1373	812	451
Demand Exported -as a % of Satisfied Demand	9	17.5	10.7	13.2

Commentary

- Satisfied demand represents the proportion of total demand that is met by the capacity at the sports halls from residents who live within the driving, walking or public transport catchment area of a sports hall. The planning model calculates that 91.9% of the total demand for sports halls in Harlow is satisfied, which equates to 3,491 visits per week in the weekly peak period.
- The highest level of satisfied demand is in Chelmsford at 96.1% and perhaps this is not a surprise given it has 13 sports hall sites and 24 individual sports halls. This is the highest supply across the 4 authorities in the study. The lowest level of satisfied demand is in Stevenage but is still an impressive 90.5% of total demand which is satisfied demand. Satisfied demand in Basildon is 94.6% of total demand.
- The level of satisfied demand in Essex County is 93.2% of total demand, whilst in East Region it is 92.3% and England wide it is 91%. So Harlow has a rate of satisfied demand which is in line with East Region and England wide but below the Essex county figure.
- In Harlow 79.4% of the total satisfied demand is met by residents who travelled to sports halls by car. With 12.8% of the total satisfied demand travelling on foot and 7.7% travelling by public transport. The car travel percentage is lower than Chelmsford, Stevenage, Essex County and East Region but higher than Basildon and England wide – figures in the next bullet points.
- Chelmsford and Stevenage have a higher satisfied demand by car travel at 83.6% and 84.1% respectively. The walk to satisfied demand in Chelmsford is 12.2% and in Stevenage it is 8.7%. Whilst the public transport percentages for satisfied demand are 4.2% in Chelmsford and 7.2% in Stevenage. In Basildon the respective figures are: by car 78.1%, the lowest of the four authorities; by walking it is 14.5%; and by public transport it is 7.4%
- The satisfied demand figures for Essex County are: by car 84.1%; by walking 10.2%; and by public transport 5.5%. For East Region the figures are: by car 83.2%; by walking 11%; and by public transport 5.8%. For England the figures are: 75.4% which is a few

percentage points lower than all other geographical comparisons; by walking 15.8%, higher than all other geographical comparisons; and by public transport 8.8%, in line with the Essex authorities, excepting it is higher than in Chelmsford.

- Not all of the satisfied demand from residents of Harlow is met by sports hall provision within the authority. Approximately 91% of the Harlow satisfied demand is retained demand and this amounts to 3,176 visits per week in the weekly peak period. This is a very high level of retained demand and it is just a bit lower than the finding for swimming pools on retained demand in the 2011 study (which was 93.4% of the total satisfied demand). As with swimming pools the implication of this finding is that any marketing, pricing, changes in sports hall programming is going to impact on Harlow residents and not benefit/disbenefit residents from outside the authority.
- Of the satisfied demand that Harlow exports this is 9% of total satisfied demand and this represents 314 visits per week in the weekly peak period.
- The level of retained demand in the other authorities as a percentage of total satisfied demand is: Basildon 82.5%; Chelmsford 89.3% and Stevenage 86.8%. So Harlow has the highest level of retained demand of the four authorities. In large part this is because of the location of the Council's sports halls which is making them virtually self contained to Harlow's area. Also there is the lack of any sports hall in the surrounding authorities where the walk to catchment area extends into Harlow. If there were and for some Harlow residents this was their nearest sports hall then Harlow demand would be exported to the neighbouring authority/sports hall and lower the level of retained Harlow demand at Harlow's sports halls.

6. Unmet Demand

Table 5 - Unmet Demand	Harlow	Basildon	Chelmsford	Stevenage
Total number of visits in the peak, not currently being met	307	448	308	360
Unmet demand as a % of total demand	8.1	5.4	3.9	9.5
Equivalent in Courts - with comfort factor	1.9	2.76	1.9	2.23
% of Unmet Demand due to ;				
Lack of Capacity -	6.8	1.4	0.5	17.9
Outside Catchment -	93.2	98.6	99.5	82.1
Outside Catchment;	93.2	98.6	99.5	82.1
% Unmet demand who do not have access to a car	87.7	93.6	87.3	78.2
% of Unmet demand who have access to a car	5.5	5	12.2	3.9
Lack of Capacity;	6.8	1.4	0.5	17.9
% Unmet demand who do not have access to a car	6.1	1.3	0.4	15.9
% of Unmet demand who have access to a car	0.7	0.1	0.1	1.9

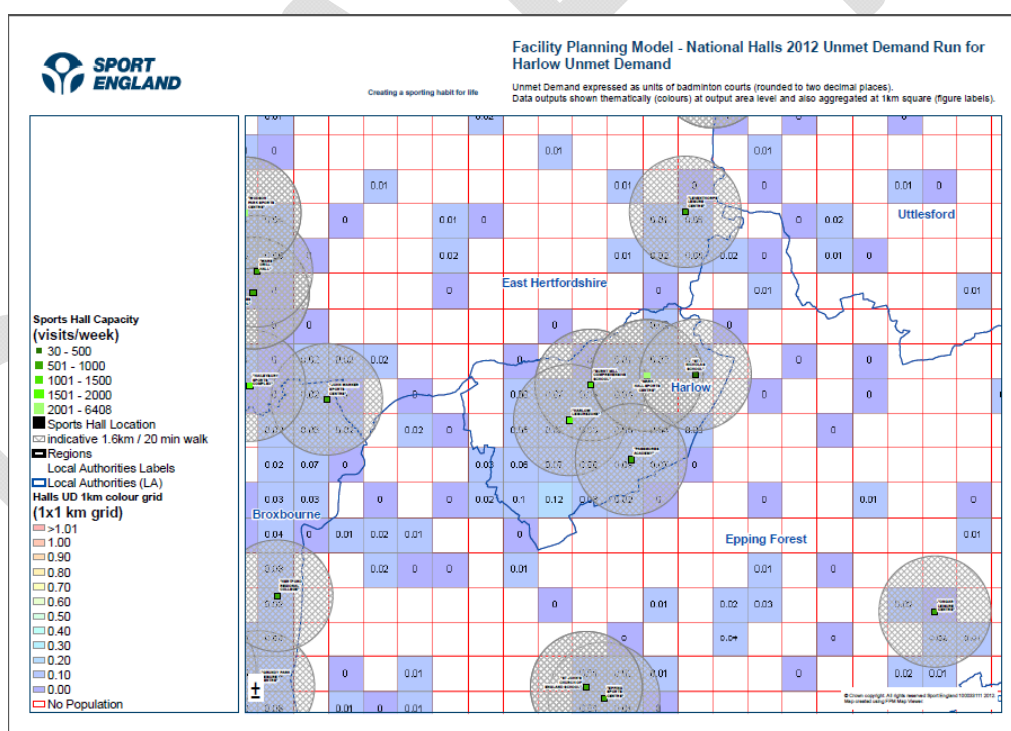
Commentary

- Unmet demand for sports halls is demand which cannot be met because (1) there is too much demand for the capacity of any particular sports hall within its catchment area to absorb, or (2) the demand is located outside the catchment area of any sports hall and it is then classified as unmet demand.
- Unmet demand for sports halls in Harlow is 307 visits per week in the weekly peak period, or put another way 8.1% of total demand. Harlow has both types of unmet

demand but the vast majority is from demand located outside the catchment area of any sports hall. This amounts to 93% of the total unmet demand. It is however in total just under 2 badminton courts and Harlow has 27 badminton courts in total (with the comfort factor applied). So the total amount of unmet demand is very low in terms of numbers of courts.

- Map 2 below sets out the location and scale of unmet demand in terms of the amount of unmet demand expressed in terms of number of courts contained in one kilometre grid squares. As can be seen from this map it is very small in all areas of the authority. The highest value 1kms square is in the SW of the authority at a value of 0.1 of a badminton court.
- As reported under the total supply findings, the area of Harlow which is outside the walk to catchment area of any sports hall is the west side of the authority, extending from the boundary with East Hertfordshire in the north along the whole of the Epping Forest District boundary down the west side and along the first part of the southern boundary with this authority. There is also an area along the southern boundary with Epping Forest (north of junction 7 of the M10 motorway) which is outside the walk to catchment area of any sports hall. Even in these areas the values of unmet demand are below 0.1 of a badminton court.

Map 2 Location and scale of unmet demand for sports hall in Harlow



- The reason that unmet demand is so low is because in 2012 Harlow has a total supply of 27 badminton courts based on the amount of public access in the weekly peak period and a total demand for 23 badminton courts (with the comfort factor). So there is sufficient provision and very good access across most of the authority to sports halls to meet demand. There are just a few areas of the authority which are outside the walk to catchment area of any sports hall and this is defined as unmet demand. However in these areas the total amount of unmet demand adds up to just under 2 badminton courts.

- The level of unmet demand in the comparator authorities is highest in percentage terms in Stevenage at 9.5% of the total demand in Stevenage. This is equivalent to just over 2 badminton courts (ALL reports with the comfort factor) and as with Harlow the vast majority, some 82%, is unmet demand outside the catchment area of a sports hall.
- In Basildon unmet demand is 5.4% of total demand. This adds up to 2.75 badminton courts and again it is the outside catchment which is the majority at 98% of the total unmet demand. In Chelmsford unmet demand is 3.9% of total demand and is just under 2 badminton courts. Over 99% of the unmet demand is outside the catchment area of a sports hall

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

Table 6 - Used Capacity	Harlow	Basildon	Chelmsford	Stevenage
Total number of visits used of current capacity	3949	7910	7379	4189
% of overall capacity of halls used	70.2	69.4	57.5	98.8
% of visits made to halls by walkers	11.4	14.4	12.5	7.1
% of visits made to halls by road	88.6	85.6	87.5	92.9
Visits Imported;				
Number of visits imported	773	1438	610	1218
As a % of used capacity	19.6	18.2	8.3	29.1
Visits Retained:				
Number of Visits retained	3176	6472	6769	2971
As a % of used capacity	80.4	81.8	91.7	70.9

Commentary

- Used capacity is a measure of usage and throughput (Note: throughout is the terms used to mean the number of visits to a sports hall and in this case it is the number of annual visits) at sports halls and estimates how well used/how full facilities are. The FPM is designed to include a 'comfort factor' beyond which, in the case of sports halls, the halls are too full. The fpm assumes that usage over 80% of capacity is busy and the sports hall is operating at an uncomfortable level.
- The total number of visits to halls in Harlow is 3,949 visits. This compares with a total capacity of 5,627 visits and this equates to 70.2% of total capacity being used. This percentage is well within the 'halls full comfort level' of 80% of total sports hall capacity being used.
- The range of sports hall capacity used across the five sites does however vary. The estimate is that at Harlow Leisurezone, the used capacity is 100% and at the new Passmores Academy it is 98% of capacity which is used. At Mark Hall Sports Centre the percentage of sports hall capacity used is 57%, whilst Burnt Mill School has 43% of sports hall capacity used and at St Nicholas School it is 49% of sports hall capacity which is being used.
- So, in effect, there are the two new sites at Harlow Leisurezone and Passmores Academy which are estimated to be full to their actual capacity, whilst at the other three sites there is considerable unused capacity. The scope to manage the demand so that there is a more even balance of used capacity across all five sites is the most significant finding under used capacity.
- The projected annual throughputs for each of the five sports hall sites in Harlow District is set out in the table below.

Name of Centre	Projected annual throughput (visits)
Burnt Mill Comprehensive School	27,400
Harlow Leisurezone	156,400
Mark Hall Sports Centre	60,800
Passmores Academy	30,800
St Nicholas School	4,900

- The level of used capacity in the comparator authorities is highest in Stevenage which has an authority wide level of 98.8% of sports hall capacity used. In Basildon sports hall capacity used is 69.4% and in Chelmsford it is 57.5% of sports hall capacity used.
- Across Essex County the level of used capacity is 63.4%, in East Region it is 63.2%. Whilst the level of used capacity for sports halls in England is 64.8% of total sports hall capacity used.
- So overall and with the exception of Stevenage all other geographical areas are operating within the halls full level of 80% of sports hall capacity being used.
- Of the visits to sports halls in Harlow under used capacity around 88.8% are made by road. This compares with 92.9% of visits to sports halls by car in Stevenage, with 87.5% in Chelmsford and 85.6% of visits to sports halls by car in Basildon.
- The percentage of visits to sports halls by car in Harlow is slightly lower than the Essex County and East Region percentages at 89.6 and 89.2% respectively and a bit higher than the England average which is 84.2% of visits to sports halls by car.

8. Personal/Relative Share - equity share of facilities

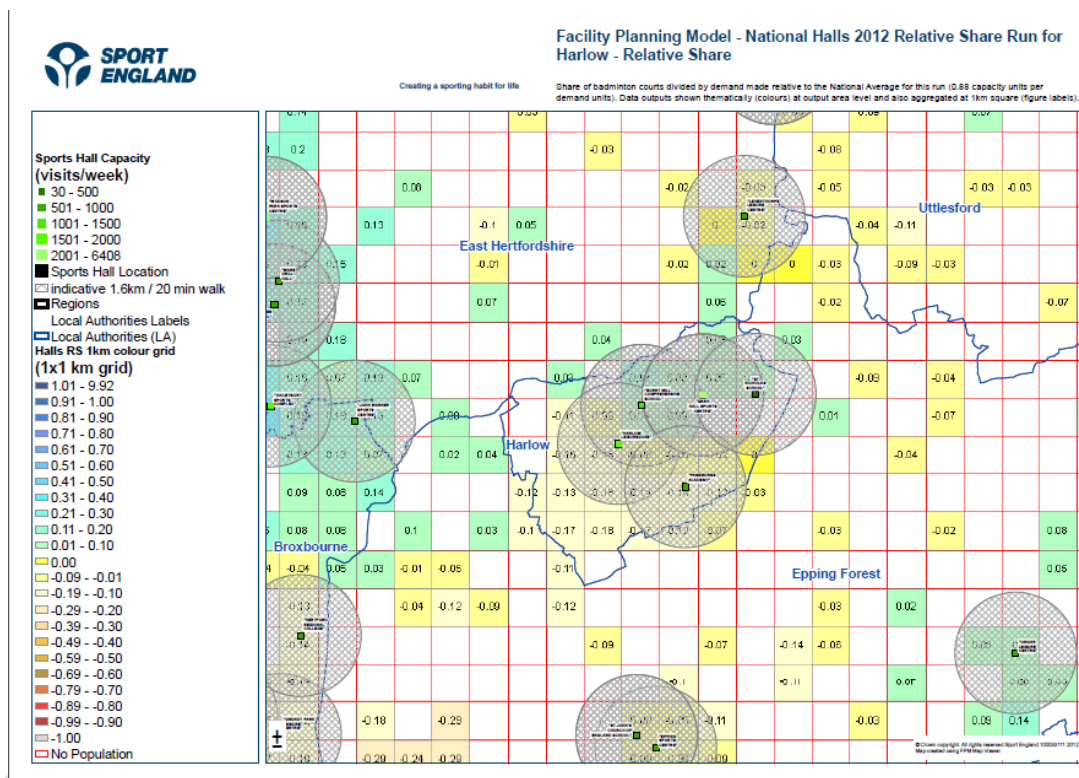
Table 7 - Relative Share	Harlow	Basildon	Chelmsford	Stevenage
Score - with 100 = national share	92	89	107	80
+/- from National share	-8	-11	7	-20

Commentary

- In addition to the supply and demand assessment above, the FPM also analyses the relative share of sports halls – i.e. it takes into account the size and availability of facilities and travel mode, and helps to establish whether residents in one area have a greater or lesser share of provision than other areas, when compared against a national average (100). A simple analogy is to consider sports hall provision as a cake, its size being proportional to the facility's catchment and its slices divided among the users within the catchment. Map 3 below shows the distribution of this relative share across Harlow.
- Harlow has a relative share of 92, which means that residents of the authority have an 8% less provision than the national average. Again and as with unmet demand it is the west side of the authority, extending from the boundary with East Hertfordshire in the north along the whole of the Epping Forest District boundary down the west side and along the first part of the southern boundary with this authority which has the lowest relative share.

- Chelmsford has the highest relative share at 107 which means its residents have 7% better access to sports halls than the national average. Whilst in Basildon and Stevenage there is a negative relative share to the national average. In Basildon the relative share is 89 which mean its residents have a 11% lower access to sports halls than the national average. Whilst in Stevenage the relative share is 80 which mean its residents have 20% lower access to the national average provision of sports halls. Both Essex County and East Region have a relative share figure of 99.

Map 3: Location and distribution of relative share Harlow District



9. Summary and Conclusions

Summary

There are 9 sports halls across 5 sites in Harlow and these are Passmores Academy (opened in 2011), the Harlow Leisurezone (opened in 2010), Mark Hall Sports Centre (opened in 2006), St Nicholas School (opened in 1999 and Burnt Mill School (opened in 1968 and refurbished in 2007).

So, in effect, Harlow has 3 relatively modern sports halls opened between 2006 – 2011 and 2 older sports halls, Burnt Mill School opened in 1968 but refurbished in 2007 and St Nicholas opened in 1999. In terms of age of sports halls the next site to be refurbished would appear to be St Nicholas School but this is still only a 13 year old centre.

Harlow has a very extensive range of sports hall sizes and these can provide for the full range of hall sports at the recreational level. The recognised size of sports halls for this full range of activities is the 4 badminton court size sports hall. Harlow has this size of sports hall at ALL 5 sports hall venues, so an excellent range of provision across the authority.

The larger size sports hall is the 6 – 8 badminton size sports hall and this can provide a competition size sports hall up to District and County level competition for all indoor hall

sports, excepting handball. More importantly this size of sports hall allows for flexible use because they are large enough to provide for several indoor hall sports to be played at the same time. Harlow has an 8 badminton court size sports hall at the Harlow Lesiurezone and a 6 badminton court size sports hall at the Mark Hall Sports Centre.

In addition to these main size sports halls Harlow has ancillary sports halls at most of the same venues (excepting St Nicholas School site which has a 4 badminton court size sports hall only). These ancillary halls range in size from 1 to 3 badminton courts and provide space for dance and aerobic exercise classes which can take place in smaller spaces but with more people doing the activity. This leaves the main sports halls for sports which require large areas, for example basketball but which cater for fewer participants.

So overall Harlow has an excellent supply of sports halls in terms of size, age and with 2 or more sports halls on most of the 5 sites. Harlow has the scope to provide for a full and extensive range of indoor sports hall activities at recreational level and through to county competition standard and beyond.

The one concern is that most of the sports halls are on school sites which may have different management arrangements and have fewer hours for public use than the Harlow Lesiurezone. These factors could mean it is not possible to provide a co-ordinated programming of activities across all the venues. So there may well be duplication of the same activities at different venues, for example five a side football because of individual site specific programming.

Harlow has a very good level of sports hall provision in comparison to the comparator authorities of Basildon, Chelmsford and Stevenage and when reviewed against Essex County, East Region and England wide. This is based on a standard of badminton courts per 10,000 population. Harlow has 4.5 badminton courts per 10,000 people, this is the second highest of all the authorities used for comparator purposes. Chelmsford has the highest provision at 5.1 badminton courts. Whilst Stevenage has 2.9 badminton courts per 10,000 people and Basildon has 3.9 badminton courts per 10,000 population.

Harlow has a higher provision of sports halls than Essex County, East Region or England wide on this standard. In Essex County has 3.9 badminton courts per 10,000 population, East Region's provision is 4 badminton courts and for England it is also 4 badminton courts per 10,000 population.

As with the findings from the Harlow swimming pools study, there is virtually no extension of the 20 minutes walk to catchment area for sports halls into the local authorities which surround Harlow. Only the north side of the Burnt Mill School sports hall extends very slightly into East Hertfordshire and the East side of the St Nicholas School sports hall extends into Epping Forest District. None of the walking catchment area for sports halls located in the surrounding local authorities extends into Harlow.

The supply of sports halls in Harlow is just under 28 badminton courts when assessed on the basis of hours available for public use. The demand for sports halls is just over 23 badminton courts. This supply and demand is based on the weekly peak period and applying a comfort factor (described in Appendix 2).

When all the factors are assessed, the estimate is that the used capacity of sports halls (how full the sports halls are) in Harlow is around 70% of total capacity is used capacity. Sport England consider sports halls are full when they reach 80% of their used capacity and anything above this level is regarded as being uncomfortably full. So the average for the Harlow centres is within the "halls full" level of 80% of sports hall capacity being used.

Of the total demand for Harlow's sports halls, some 92% of the satisfied demand at Harlow's sports halls is from Harlow residents. This is referred to as retained demand. The significance of this finding is that it means any marketing, pricing, changes in sports hall programming are

going to directly impact on Harlow residents because the analysis is that 92% of all the visits to Harlow sports halls are by Harlow residents.

It may seem contradictory to say there is estimated to be some unmet demand for sports halls. This comes about because of the way unmet demand is classified and if there is demand located outside the catchment area of a sports hall this is classified as unmet demand.

This occurs along a small part of the north boundary with East Hertfordshire and along the west side of the boundary with Epping Forest and the first part of the southern boundary with Epping Forest. Residents living in this part of the authority are outside the walking catchment of any of the Harlow sports halls. Demand for sports halls from residents in these areas is classified as unmet demand. It is not significant however and the total unmet demand equates to between 1 – 2 badminton courts and Harlow has a total supply of 28 badminton courts available for public use and 32 courts in total. So it is really about trying to create more access to the existing sports halls by residents of these areas and not provision of more sports halls.

Most people travel to Harlow's sports halls by car and the travel patterns are 79% of all visits by car, 8% by public transport and just under 13% by walking.

The one area of concern is the variation in the level of sports hall capacity used. The total capacity of sports halls being used across the 5 sites gives a Harlow average of 70% of total sports hall capacity being used, as mentioned already. This percentage is well within the Sport England 'halls full comfort level' of 80% of total sports hall capacity being used.

However, this Harlow average does vary across the sites. The estimate is that at Harlow Leisurezone, the used capacity is 100% and at the new Passmores Academy it is 98% of capacity which is used. In effect the estimate is that at both of these sports halls all the capacity is being used at peak times. The Harlow Leisurezone has 40.5 hours of community use per week in the weekly peak period. Whilst Passmores Academy has 29 hours of public use in the weekly peak period.

At Mark Hall Sports Centre the percentage of sports hall capacity used is 57%, whilst Burnt Mill School has 43% of sports hall capacity used and at St Nicholas school it is 49% of sports hall capacity which is being used.

The variation across the sites is, in part, due to the level of public access for public use in peak hours. At the Harlow Leisurezone it is highest at 40.5 hours a week. This site is also the largest centre and will provide for a more varied and extensive programme of use. High used capacity is also due in part to the Harlow Leisurezone and Passmores Academy being very modern facilities and therefore having a high attraction for customers, leading to a higher used capacity.

At the St Nicholas School site the hours of public use are 10 hours of community use a week, and this is reflected in the lower used capacity. Opening up more hours for public use of these sites would take the pressure off the Harlow Leisurezone and Passmores Academy and bring their used capacity percentage down.

This may seem more desirable in "spreading the community use around" the sports hall sites. However, it does have a cost implication and an important point to remember is that AVERAGED OUT across Harlow, the used capacity of the 5 sports hall sites is 70% of total sports hall capacity and well within the halls full level of 80% of sports hall capacity used.

Conclusion and Policy Issues

Harlow has an excellent number, size and range of different sports halls. The sports hall stock is modern with three of the sites built since 2006. The next oldest site is 1999 at St Nicholas School and the oldest centre at Burnt Mill School (1968) was refurbished in 2007. The location and

catchment area of the five sports hall sites mean they serve a Harlow market, so much so to the extent the estimate is that 92% of the demand met at Harlow's sports halls is from Harlow's residents.

In terms of overall supply and demand, the estimate is that 70% of the total Harlow sports hall capacity is being used which is within the Sport England estimate of "halls full" level of 80% of sports hall capacity used.

Harlow's level and type of sport shall provision compares very favourably with the comparator authorities and with Essex County, East Region and England wide. Harlow has a higher level of provision than all these comparators (excepting Chelmsford but it is very close to the Chelmsford standard as well) based on the number of badminton courts per 10,000 population.

The biggest policy issue concerns the management arrangements and that the majority of sports halls are on school sites and have varying levels of public access and different types of public access from club use and block bookings to some pay as you play. This may mean to meet and maintain the same level of sports hall supply requires negotiating with several individual schools, including the new Passmores Academy.

The analysis shows that is important to maintain this negotiation and retain at least this same level of sports hall supply as the "spare sports hall capacity" averaged across Harlow is 10% of total capacity. A reduction of (say) 10 hours of public use in peak hours a week at (say) two school sites will reduce this headroom of spare capacity very considerably.

The other policy issues and it is the same for the 2011 swimming pools assessment, is to review/keep a watching brief over the changes in the age structure of Harlow's population, alongside the growth in the Harlow population over the next 10 -15 years.

Sports hall participation is highest in the 16 – 39 age groups and the rate of participation does differ between men and women in this age range, with it being higher amongst men. Men's participation is more in hall sports whilst for women it is more in dance, fitness and exercise. If the Harlow population is going to increase significantly in this age range over the next 10 – 15 years this will impact on the demand for sports halls

Furthermore, if the Harlow population is projected to grow significantly over the next 10 – 15 years because of new residential development then the demand from these new residents will create additional demand for sports facilities. This will impact on sports halls demand and again reduce/eliminate the current 10% of unused sports hall capacity across Harlow.

The interaction of these factors of (1) the Harlow population in the 16 - 39 age range increasing in the next 10 – 15 years, compared to what it is now and (2) there is an increase in hall sports participation compared to what it is now and (3) there is an increase in the Harlow population from new residential development - then the level of sports hall capacity used could increase well above 80% and the need for provision of new sports halls becomes a policy consideration.

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Appendix 1: Sports Hall Facilities Included

Name of facility	Dimensions	No of courts	Year built	Year refurbished	Weighting	Public/Commercial	Hours in peak period	Community Hours Available	Facility Capacity - visits	% of Capacity used
BURNT MILL COMPREHENSIVE SCHOOL	34 x 18	4	1968	2007	44%	P	33	36	1,221	43%
BURNT MILL COMPREHENSIVE SCHOOL	18 x 17						33	36		
HARLOW LEISUREZONE		8	2010		100%	P	40.5	102	1,620	100%
MARK HALL SPORTS CENTRE		6	2006		49%	P	29.5	33	2,006	57%
MARK HALL SPORTS CENTRE	18 x 10						29.5	33		
MARK HALL SPORTS CENTRE	18 x 10						29.5	33		

MARK HALL SPORTS CENTRE											
PASSMORES ACADEMY											
		4	2011	50%		P		29	33	580	98%
ST NICHOLAS SCHOOL											
33 x 17		4	1999	47%		P		10	10	200	49%

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Appendix 1: Sports Hall Facilities Excluded

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

Name of Facility	Reason for Exclusion
Great Parndon Community Centre	too small
Harlow Sports Centre	closed
Norman Booth Leisure Centre	too small
Paringdon Sports Club	too small
Passmores School	closed
St Marks West Essex	private use
Stewards School	too small
Sumners Leisure Centre	too small

Appendix 2 – Model description, Inclusion Criteria and Model Parameters

Included within this appendix are the following:

- A. Model description
- B. Facility Inclusion Criteria
- C. Model Parameters

A. Model Description

Background

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. 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.

Use of FPM

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.

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.

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 England¹.

¹ Award made in 2007/08 year.

How the model works

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.

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.

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.

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.

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.

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

Calculating Demand

This is calculated by applying the user information from the parameters, as referred to above, to the population². This produces the number of visits for that facility that will be demanded by the population. 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)³. The use of OA's 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.

Calculating Supply Capacity

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 accommodated by the particular facility at any one time. Each facility is then given a capacity figure in VPWPP. (See parameters in Section C)

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.

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 over supply 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.

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,

² For example, it is estimated that 10.45% of 16-24 year old males will demand to use an AGP, 1.69 times a week. This calculation is done separately for the 12 age/gender groupings.

³ 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 175,400 OA's across England & Wales. An OA has a target value of 125 households (300 people) per OA.

⁴ 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.

users will generally be expected to come from the population living close to the facility, but who may be in an adjoining authority

Facility Attractiveness – for halls and pools only

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.

Attractiveness weightings are based on the following:

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
2. 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.
3. 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.

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 - better balanced programme, more attractive.
 - Lower weighted curve - includes Educational owned & managed halls, less attractive.
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.

Comfort Factor

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 = 5 users /court). This gives each facility a "theoretical capacity".

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.

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.)

The comfort factor is used in two ways;

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.
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 set out above.

Utilised Capacity (used capacity)

Following on from Comfort Factor section, here is more guidance on Utilised Capacity.

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. England figure for Feb 2008 Pools was only 57.6%.

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 practice, 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 be completely full.

Facility	Car	Walking	Public transport
Swimming Pool	70.0%	18.8%	11.2%
Sports Hall	74.6%	15.5%	10.0%
AGP			
Combined	89.0%	9.0%	2.0%
Football	87.1%	10.7%	2.1%
Hockey	95.4%	2.6%	1.9%

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

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%.

As a guide, 70% utilised capacity is used to indicate that pools are becoming busy, and 80% for sports halls.

Travel times Catchments

The model use travel times to define facility catchments. These travel times have been derived through national survey work, and so are based on actual travel patterns of users. With the exception of London where DoT travel speeds are used for Inner & Outer London Boroughs, these travel times are used across the country and so do not pick up on any regional differences, of example, longer travel times for remoter rural communities.

The model includes three different modes of travel, by car, public transport & walking. Car ownership levels are also taken into account, in areas of low car ownership, the model reduces the number of visits made by car, and increases those made on foot.

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.

The model includes a distance decay function; where the further a user is from a facility, the less likely they will travel. The survey data show 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 can be used as a rule of thumb for catchments for sports halls and pools.

	Sport halls		Swimming Pools	
Minutes	Car	Walk	Car	Walk
0-10	57%	55%	58%	56%
10-20	33%	30%	34%	30%
20 -40	9%	12%	7%	11%

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

B. Inclusion Criteria used within analysis

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.⁵
- Include all 'planned', 'under construction, and 'temporarily closed' facilities where identified.
- Where opening times are missing, availability has been included based on similar facility types.
- Where the year built is missing assume date 1976.

Facilities in Wales and the Scottish Borders included, as supplied by sportscotland and Sports Council for Wales. All facilities weighted 75% due to no data on age of facilities.

⁵ 160m is equivalent to a 20m x 8m pool. This assumption will exclude very small pools, such as plunge pools and hotel pools.

⁶ Choosing a date in the mid '70s ensures that the facility is included, whilst not overestimating its impact within the run.

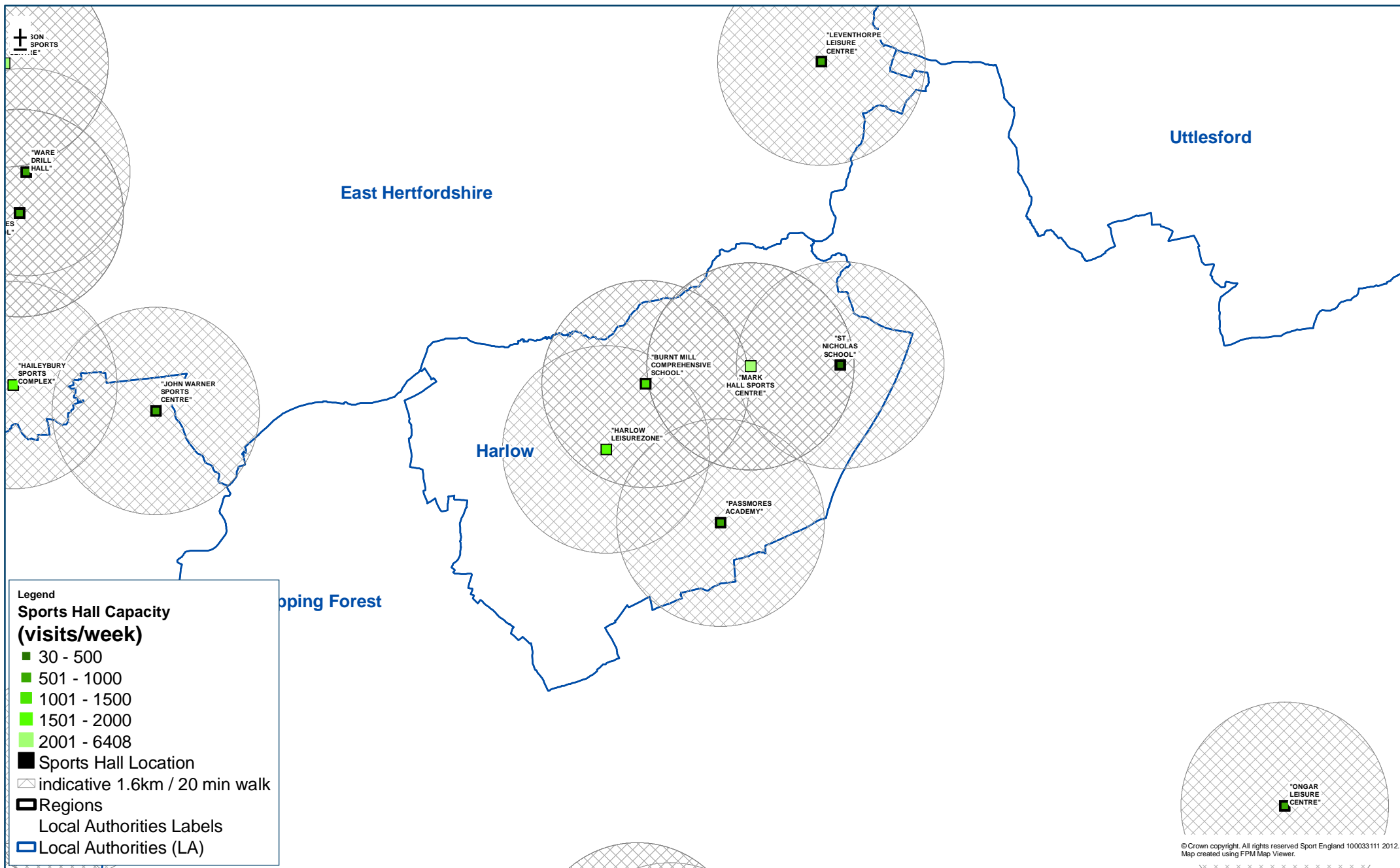
C. Model Parameters used in the Analysis

At one Time Capacity	0.16667 per square metre = 1 person per 6 square meters					
Catchments	<div> <div>Car: 15 minutes</div> <div>Walking: 1.6 km</div> <div>Public transport: 15 minutes at about half the speed of a car</div> </div> <div>NOTE; Catchments use a distance decay function. Times and distances above are indicative.</div>					
Duration	<div>64 minutes for tanks</div> <div>68 minutes for leisure pools</div>					
Participation -% of age band	0-15	16-24	25-39	40-59	60-79	
	M	13.23	10.86	13.73	8.13	3.93
	F	12.72	14.51	18.89	10.44	4.52
Frequency - VPWPP	M	0.92	0.84	0.71	0.94	1.18
	F	0.95	0.76	0.79	0.81	1.07
Peak Period	<div>Weekday: 12:00 to 13:30, 16:00 to 22.00</div> <div>Saturday: 09:00 to 16:00</div> <div>Sunday: 09:00 to 16:30</div> <div>Total: 52 Hours</div>					
Percentage of demand in Peak Period	63%					

Facility Planning Model - National Run Halls 2012 for Harlow - Location Map

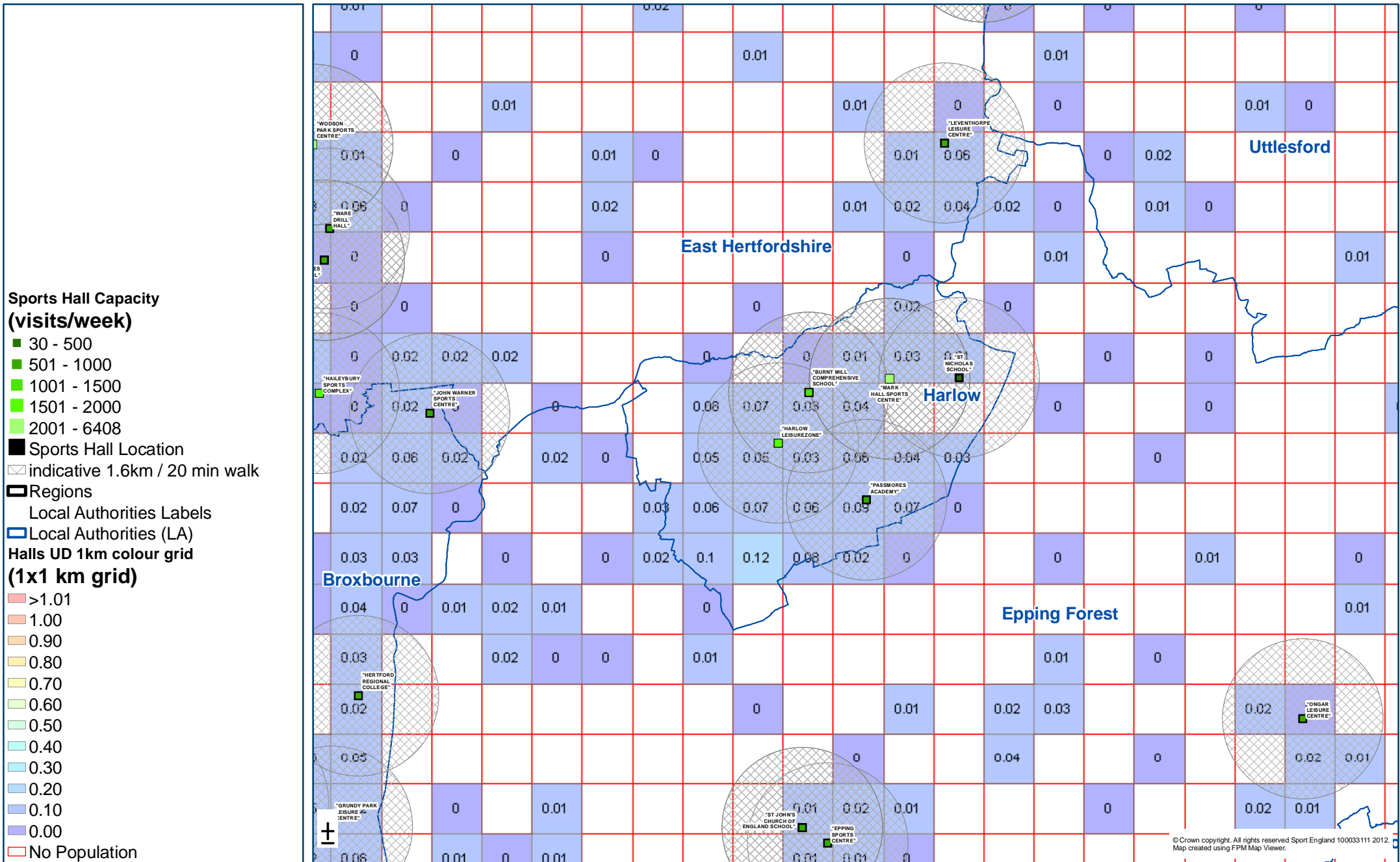


Facility Planning Model - National Run Halls 2012 for Harlow - Location Map



Facility Planning Model - National Halls 2012 Unmet Demand Run for Harlow Unmet Demand

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



Facility Planning Model - National Halls 2012 Aggregated Unmet Demand Run for Harlow - Aggregated Unmet Demand

Aggregated Unmet Demand shown thematically (colours) at output area level and also aggregated at 1km square grid (figure labels). AUD at both output area level and 1km square grid level are expressed as units of badminton courts (rounded to two decimal places).

