Sport England's Facilities Planning Model (FPM)

Swimming Pool Provision in Harlow

2011 Profile Report

This report and the accompanying maps present data from Sport England's National Facilities Audit Dataset as of January 2011.   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 andd 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. Introduction

The purposes of the profile report are to:

- provide an overview of swimming pool provision in Harlow Council's area through an assessment of the Facilities Planning Model outputs derived from the Sport England National Facilities Audit dataset for 2011 which 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

- summarises the findings, conclusions and any policy issues which arise from the outputs which may require further consideration and assessment

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 will be highlighted e.g. concentrations of unmet demand close to the boundary with Harlow. The data for Harlow will also be compared to the England national, East of England regional and Essex County averages as well as the data for the local authority comparator authorities to Harlow of Basildon, Chelmsford and Stevenage.

2. Supply of Swimming Pools

Table 1 - Supply	Harlow	Basildon	Chelmsford	Stevenage
Number of pools	4	10	13	3
Number of pool sites	3	9	10	2
Supply of total water space in sqm	822	2189.17	2610.75	755
Supply of publicly available water space in sqm (scaled with hrs avail in pp)	698.63	1836.47	1848.26	728.81
Supply of total water space in VPWPP	5676	14921	15017	5922
Water space per 1000	10.14	12.26	15.26	9.31

Commentary

- There are 3 swimming pool sites in Harlow and 4 individual pools. Harlow Leisurezone has two pools one is a 25m x 12m main pool with 300 sq metres of water and the second pool is a 20m x 8m teaching pool with 160 sq metres of water.

- The Burnt Mill Comprehensive School pool which is an 18m x 9 m main pool was opened in 1962 and had a major refurbishment in 2003. The next swimming pool provision in Harlow was the Esporta Health and Fitness Centre which is a 20m x 10m main pool and was opened in 2003. The Harlow Leisurezone pool site, dimensions set out in the first bullet point was opened in 2010.

- Given the three pool sites were either opened or refurbished in the 2000 – 2010 period then there should not be requirements for major refurbishment/modernisation of pools for several years.

- Interestingly the size of the 4 individual pools is within a range of 160 – 300 sq metres of water, with two pools being 160 and 162 sq metres of water. So there is quite a narrow range of individual pool sizes. Most local authorities have a pool size range between 210 sq metres of water which is a 25m x 4 lane swimming pool and a 25m x 6 or eight lane swimming pool with a learner pool. This latter pool size can vary between 315 sq metres of water for the 6 lane pool and 420 sq metres of water for an 8 lane pool. The learner pool dimensions can vary but for example a 12m x 8m learner pool is a further 96 sq metres of water. These dimensions are set out to illustrate the comparative narrow range of pool sizes for the Harlow pools. Two pools are 160 or 162 sq metre and then a still quite small pool at 200 sq metres and then a comparatively large pool at 300 sq metres.

- The Burnt Mill School and Harlow Lesiurezone are public operated pools, albeit one is on a school site and the Esporta Health and Fitness Centre is a commercially operated pool for members.

- There is a contrasting range of number of pool sites/pool across the four authorities. Harlow has 3 sites and 4 pools and Stevenage has the least with 2 pool sites and 3 pools. Whilst by contrast Basildon has 9 pool sites and 10 pools and Chelmsford has the highest number of pool sites and pools with 10 sites and 13 individual pools.

- The total amount of water space from the Harlow pools is 822 sq metres of water but this is scaled down to 698 sq metres, to take account of hours actually available to the public. This water space is sufficient to accommodate 5,676 visits per week in the peak period.

- Pools are weighted in the planning model to reflect their attractiveness for use in terms of their age, whether they have been refurbished, type   of use,

management and the hours they are available for public use. Harlow Leisurezone has a 100% weighting. Esporta Health and Fitness centre has a 98% weighting and Burntwood School has a 73% weighting.

- Total swimming pool provision in Harlow equates to10.1 sq metres of water per 1,000 population. Stevenage has the lowest rate at 9.3 sq metres of water per 1,000 population. Basildon has a rate of 12. 2 sq metres of water per 1,000 population and Chelmsford has the highest at 15.2 sq metres of water per,100 population. (Note the Sport England projected population data for 2011 has the same total population for Harlow and Stevenage at 81,100 people and so based on meeting the same population needs, Harlow provides more pools per 1,000 population than Stevenage for the same population).

- By way of comparison Essex County has a rate of rate of 12.2 sq metres of water per 1,000 population. East Region has a rate of 12.7 sq metres of water per 1,000 population, whilst for England it is 12.9 sq metres of water per 1,000 population. So by any of these geographical comparisons Harlow has a lower rate of water per 1,000 population, apart from Stevenage.

- Map 1 illustrates the location, geographical spread and 20 minutes walking catchment area for the three swimming pool site located in Harlow. The walk to catchment areas 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 (Appendix 2 to this report). (Note: For technical reasons it is not possible for Sport England to map the 20 minute drive time catchment area)

- The Harlow pools are located close to each other in the left centre of the authority and presumably reflect the location and density of the population/housing settlements for the authority. There is virtually no overlap of the 20 minutes catchment area into the neighbouring authorities. The Burnt Mill school pool catchment area does extend very marginally into East Hertfordshire. None of the walk to catchment area for the pools in the surrounding local authorities extends into Harlow.

- Overall, the pool locations in Harlow and the pool locations in the neighbouring authorities make the Harlow pools an island in terms of the walk to catchment. This is important because it means Harlow is retaining this Harlow demand at Harlow's pools and not competing or importing/exporting walk to demand for swimming. (Considered under the satisfied demand heading).

- (Note: in terms of Basildon the Sport England supply data for swimming pools is compiled in January 2011 and this does not account for the major changes in the supply of pools provision in Basildon i.e. the closure of the Gloucester Park Swimming Pool and the opening of the Basildon Sporting Village which includes a 50m pool and a new learner pool. These changes in swimming pool provision in Basildon will have increased the supply of water space significantly and attractiveness weightings).

3. Demand for Swimming Pools

Table 2 - Demand	Harlow	Basildon	Chelmsford	Stevenage
Population	81100	178501	171101	81100
Swims demanded –vpwpp	4707	10197	9619	4680
Equivalent in water space – with comfort factor included	827.56	1792.93	1691.29	822.78
% of population without access to a car	17.6	15.9	10	16.2

Commentary

- The demand generated for swimming pool provision from the resident population of Harlow of 81,100 people is 4,707 visits per week in the peak period (vpwpp), the equivalent of 827m² of water space (this includes the application of a comfort factor (as described in 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 in Harlow; only 17.6% of residents do not have access to a car. This is higher than the Essex County average of 12% of the population not having access to a car and the East Region average of 13%. It is however lower than the England national average of 20% of the population not having access to a car.

- The relatively low figure in Harlow indicates a particularly mobile population which may increase the choice of swimming pool provision residents are able to access – based on the 20 minute drive time catchment area and assuming there are pools outside Harlow which are within a 20 minute drive time. The drive to catchment area is important in terms of assessing residents' access to swimming pools 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.

- Stevenage has a very similar number of visits per week in the weekly peak period as Harlow at 4,680 visits. This reflects that the populations are the same. Interestingly it also suggests that the age profiles of the populations in both authorities are similar. If one authority had, for example, a population concentrated in older age groups then there would be a lower rate of swimming participation than the authority with a more even spread of age ranges and this would be reflected in quite different total demand numbers for swimming.

- Basildon has the highest total demand for swimming at 10,197 visits per week in the weekly peak period and the highest population at 178,501 people. Total demand for swimming in Chelmsford is 9,619 visits per week in the weekly peak period which is over twice the Harlow total demand but Chelmsford also has over double the Harlow population at 171,101 people. Chelmsford has the lowest rate of the population without access to a car at 10% of the population.

4. Supply / Demand Balance

Table 3 - Supply/Demand Balance	Harlow	Basildon	Chelmsford	Stevenage
Supply - Swimming pool provision (sqm) scaled to take account of hours available for community use	698.63	1836.47	1848.26	728.81
Demand - Swimming pool provision (sqm) taking into account a 'comfort' factor	827.56	1792.93	1691.29	822.78
Supply / Demand balance - Variation in sqm of provision available compared to the minimum required to meet demand.	-128.93	43.54	156.97	-93.97

Commentary

Note: the supply and demand balance section of the report only provides a 'global' view of provision – it compares demand generated **within Harlow** with the supply of pools **within Harlow** and therefore represents an assumption that ALL the demand for swimming in Harlow is met by ALL the supply of swimming pools in Harlow. In short, supply and demand balance is NOT based on where the pools are located and their catchment area extension into other authorities. Or, the catchment areas of pools in neighbouring authorities extending into Harlow, which will be important when assessing the 20 minute drive to catchment. Most importantly supply and demand balance does not take into account the propensity/reasons for residents using facilities outside their own District. These factors 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 swimming pools compares with THEIR total demand for swimming. It presents this somewhat crude comparison of supply and demand.

- When comparing swimming pool total supply with total demand for pools (with a 'comfort' factor), there is a deficit of 129m^2 of water space – i.e. if all of Harlow's swimming demand was to be met within the authority, there is a deficit of 128 m^2 of water space. To provide a context for this figure a 25m x 4 lane swimming pool is 212m^2 of water space.

- Stevenage has a deficit of 94m^2 of water space, whilst Basildon has a surplus of 44m^2 of water space and Chelmsford has a surplus of 157m^2 of water space.

5. Satisfied Demand

Table 4 - Satisfied Demand	Harlow	Basildon	Chelmsford	Stevenage
Total number of visits which are met	4307	9802	9279	4261
% of total demand satisfied	91.5	96.1	96.5	91.1
% of demand satisfied who traveled by car	79	74.7	82	82.5
% of demand satisfied who traveled by foot	11.5	18.1	13.4	8.1
% of demand satisfied who travelled by public transport	9.5	7.2	4.6	9.5
Demand Retained	4024	8119	8407	3076
Demand Retained -as a % of Satisfied Demand	93.4	82.8	90.6	72.2
Demand Exported	283	1683	873	1186
Demand Exported -as a % of Satisfied Demand	6.6	17.2	9.4	27.8

Commentary

- Satisfied demand represents the proportion of total demand that is met by the capacity at the swimming pools from residents who live within the driving, walking or public transport catchment of a pool. The FPM calculates that 91.5% of the total demand for swimming pools in Harlow is satisfied, which equates to 4,307 visits per week.

- The percentage of satisfied demand being met in Harlow is just higher than Stevenage which is 91.1% or 4,261 visits per week of total demand being satisfied demand. The highest rate of satisfied demand is in Chelmsford at 96.5% or 9,279 of total demand being satisfied demand. Whilst in Basildon some 96.1%, or 9.802 visits of total demand are satisfied demand. Overall these are very very high levels of satisfied demand for all four authorities.

- By way of comparison, the level of satisfied demand in Essex County is 90.4% of total demand being satisfied demand. Whilst in East Region it is 89.6% of total demand being satisfied demand and for England it is 90.2% of total demand being satisfied demand. This shows that at all geographical levels there is a very very high level of demand for swimming pools which can be met by the existing supply of swimming pools.

- In Harlow 79% of the satisfied demand is met by local residents travelling by car, 11.5% on foot and 9.5% by public transport.

- Not all of the satisfied demand from residents of Harlow is met by provision within the authority. However it is still a very very impressive 93.4% of the total satisfied demand for swimming which is retained at Harlow's pools. This is much higher than Stevenage where some 72% of the total satisfied demand for swimming is retained at Stevenage's 2 swimming pool sites. Presumably it is lower in Stevenage because it has only 2 pool sites and in the drive to catchment area for its residents means they can access pools beyond Stevenage and reaches into the location/catchment area of pools located in other authorities. In short Stevenage is exporting around 28% of its demand for swimming to pools in neighbouring authorities. In Harlow this is not happening because the FPM estimates that 93.4% of the total satisfied demand for swimming met by Harlow's pools is from Harlow residents.

- To have this very high level of retained demand from Harlow residents travelling by all modes of car, public transport and walk to underlines the point made about the island nature of the Harlow pools catchment areas and travel patterns. To have a retained demand from Harlow residents which is 93.4% of satisfied demand means that it is known that any marketing, pricing, changes in pool programming etc are going to be contained

to users of the pools who live within Harlow – well to the extent of 93.4% of satisfied demand

- In Basildon the level of retained demand for swimming from Basildon residents and met by Basildon's swimming pool sites is 82.8%. Whilst in Chelmsford the level of retained demand is 90.6% of satisfied demand for swimming from Chelmsford residents being met by Chelmsford's pools. As already reported retained demand in Stevenage is 72%.

- The level of satisfied demand met by public transport is within a narrow range for three authorities. For Harlow it is 9.5% of total satisfied demand travelling by public transport, in Stevenage it is 9.5% and in Basildon it is 7.2%. The exception is in Chelmsford where only 4.6% of total satisfied demand for swimming is travelling by public transport.

6. Unmet Demand

Table 5 - Unmet Demand	Harlow	Basildon	Chelmsford	Stevenage
Total number of visits in the peak, not currently being met	400	396	340	418
Unmet demand as a % of total demand	8.5	3.9	3.5	8.9
Equivalent in Water space m2 - with comfort factor	70.28	69.54	59.74	73.52
% of Unmet Demand due to ;				
Lack of Capacity -	13.4	14.0	0.6	0.0
Outside Catchment -	86.6	86.0	99.4	100.0
Outside Catchment;	86.6	86.0	99.4	100.0
% Unmet demand who do not have access to a car	77.9	74.7	76.8	89
% of Unmet demand who have access to a car	8.7	11.3	22.6	11

Commentary

- Unmet demand is demand for swimming which cannot be met because (1) there is too much demand for any particular pool within its catchment area or (2) the demand is located outside the catchment area of any pool and is then classified as unmet demand.

- Unmet demand for pools in Harlow is for only 400 visits per week, or 8.5% of total demand. In total unmet demand represents the equivalent of only about 70.2m² of additional water (including a comfort factor) and this is spread thinly across the whole district. (Note - again for context a 25m x 4 lane swimming pool is 212m²).

- Map 2 shows the level and location of unmet demand in 1kms grid squares across Harlow. As can be seen the level of unmet demand in each square is extremely low and the highest value is 0.12 sq metres of water (shaded light blue) and is located on the southern boundary with Epping Forest District. All the other squares have a value which is within a range of 0.01 – 0.09 sq metres of water – so very low levels of unmet demand right across the authority and definitely not any one area of Harlow which has anything remotely an issue of unmet demand.

- Unmet demand in Stevenage is 418 visits which is 8.9% of total demand and represents 73m² of water space. Whilst in Chelmsford it is 340 visits, some 3.5% of total demand and 59.7m² of water space. In Basildon it is 396 visits, some 3.9% of total demand and 69.5m²

of water space. Overall the level of unmet demand is low across all authorities.

- In Essex County unmet demand is 9.4% of total demand, whilst for East Region it is 10.4% of total demand and for England wide it is 9.8% of total demand.

- Both types of unmet demand apply in Harlow. Some 86.6% of the total unmet demand is due to it being located outside the catchment area of any pool and 13.4% is due to lack of capacity at the existing pools. Of the 86.6% of unmet demand located outside the catchment area of a pool, some 77.9% is people who do not have access to a car and 8.7% is from people who do have access to a car. With all of these figures however it should be borne in mind that the total unmet demand for swimming across Harlow is only 70. $2m^2$ of water space and this is a third of the size of a 25m x 4 lane pool and so unmet demand is not an issue.

- Map 3 illustrates aggregated unmet demand within each 1km square – the figures indicate the total demand from that grid square and its catchment (the figures in each grid square should not be added together as this would result in duplication), and any hotspots can be identified. However aggregated, unmet demand never exceeds more than $1.4m^2$ of additional water. The highest 1 kilometre squares have a value of $1.31m^2$ and $1.34m^2$ of water and these are located in the SE of the authority on the Epping Forest Council boundary. These values represent no more than a very small fraction of one additional pool in any location, and there are therefore no hotspots justifying additional swimming pool provision.

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	4723	9510	9555	4169
% of overall capacity of pools used	83.2	63.7	63.6	70.4
% of visits made to pools by walkers	10.5	18.7	12.9	7.1
% of visits made to pools by road	89.5	81.3	87.1	92.9
Visits Imported; Number of visits imported	699	1391	1149	1094
As a % of used capacity	14.8	14.6	12	26.2
Visits Retained: Number of Visits retained	4024	8119	8407	3076
As a % of used capacity	85.2	85.4	88	73.8

Commentary

- Used capacity is a measure of usage and throughput at swimming pools and estimates how well used/how full facilities are. The FPM is designed to include a 'comfort factor', beyond which, in the case of swimming pools, the pools are too full. The FPM assumes that usage over 70% of capacity is busy and the pool is operating at an uncomfortable level.

- The total number of visits to pools in Harlow is 4,723 visits (compared with total capacity of 5,676 visits) and this equates to 83.2% of the total capacity of the Harlow pools being used. This is above the pools full 'comfort level'.

- This authority wide average does mask the variations in used capacity at the individual pool sites. The percentages for each site are, Burntmill School 100% of capacity used, Harlow Leisurezone 100% of capacity used and Esporta Health and Fitness Centre 41% of capacity used. So, in effect, the two public pool sites are operating at full capacity based on the FPM assessment and this is masked in the Harlow wide average for the

three pool sites because of the very low level of pool capacity used a the Esporta site.

- The used capacity figures for the comparable authorities are Stevenage 70.4%, Basildon 63.7% and Chelmsford 63.6%. So pools in these authorities are operating just or well within the pools full level of 70% of total swimming pool capacity being used.

- The Essex County average for used capacity is 61%, whilst the East Region average is 59% and the England figure is 58%.

- The reason for the big variation between the used capacity in Harlow and the other authorities is because of the bigger difference in total capacity (or supply the terminology is inter changeable) and total demand in Harlow compared to the other authorities. In the other authorities total supply is considerably greater than total demand, so their pools are less full than Harlow's.

- The table below shows the total supply and total demand in each authority in visits and as can be seen in Harlow there is a difference of 969 visits, whilst in the other authorities the difference in visits is greater. In Stevenage total supply exceeds total demand by 1,242 visits, in Basildon it is 4,724 and in Chelmsford it is 5,398 visits.

Table comparing total supply and total demand for swimming in each authority expressed as visits.

Comparison of Supply & Demand	Harlow	Basildon	Chelmsford	Stevenage
Total Supply	5,676	14,921	15,017	5,922
Total Demand	4,707	10,197	9.619	4,680
Difference between total supply and total demand	969	4,724	5,398	1,242

Note: all figures expressed as visits per week in the normal peak period

8. Personal/Relative Share

Table 7 - Relative Share	Harlow	Basildon	Chelmsford	Stevenage
Score - with 100 = national share	80	77	109	90
+/- from National share	-20	-23	9	-10

Commentary

- In addition to the supply and demand assessment above, the FPM also analyses the relative share of swimming pools – 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 swimming pool provision as a cake, its size being proportional to the facility's catchment and its slices divided among the users within the catchment.

- Harlow has a relative share of 80, which means that residents of the district have 20% worse access to pools than the national average. Basildon has a relative share of 77 which means Basildon residents have 23% worse access to pools than the national average. Whilst in Stevenage the relative share is 90 which means residents there have a 10% worse access to pools when compared with the national average. In Chelmsford is there a positive relative share, that means above the national average, and in Chelmsford the relative share is 109 which means residents there have 9% better access

to swimming pools compared with the national average.(Note; relative share is based on population not demand for swimming).

- Map 4 shows the distribution of this relative share over the whole district by 1km square.

9. Summary and Conclusions

Summary

There are 4 swimming pools in Harlow on 3 sites. Management and public use of the pools is mixed. The Harlow Lesiurezone offers full public access and swim as you pay. The Burnt Mill pool offers public use but is more restricted because it is on a school site. The Esporta Health and Fitness Centre operate a membership system and is therefore the most restricted in terms of public access.

The Burnt Mill Comprehensive School pool is an 18m x 9 m main pool and was opened in 1962 and it had a major refurbishment in 2003. The next swimming pool provision in Harlow was the Esporta Health and Fitness Centre which is a 20m x 10m pool and was opened in 2003. The Harlow Leisurezone has two pools, one is a 25m x 12m main pool and the second pool is a 20m x 8m teaching pool and this opened in 2010.

Given the pool sites were either opened or refurbished in the 2000 – 2010 period then there should not be requirements for major refurbishment/modernisation of pools for several years.

The total capacity of the 4 swimming pools at the 3 swimming pool sites in Harlow is greater than total demand for swimming but it is quite close. This means the level of swimming pool capacity used (how full the pools are) is over what Sport England consider to be the comfortable level for pools to be full. Sport England set this at 70% of the total swimming pool capacity and in Harlow the pool capacity used is 83%. However the two public pools are estimated to be operating at 100% and the Esporta site is only at 43% of capacity used. So the Harlow wide average does mask considerable variation across the sites.

This does not mean there is a need to consider additional swimming pool provision because there is still more swimming pool capacity than there is demand. It does mean however that the pools are very full and the opportunity to change pool programming to create more capacity, possibly by reducing the number of hours for a swimming use which does not attract a lot of users and increasing the number of hours for the most popular swimming activities. This is a way of increasing pool capacity by programming and reducing the pools full level.

Given supply and demand for swimming are very close it does mean that satisfied demand is also very high and the estimate is that some 91% of the total demand for swimming in Harlow is satisfied demand.

It may appear contradictory to say there is some unmet demand for swimming and this is because of the way unmet demand is defined. If there is demand for swimming but it is located in areas outside the 20 minutes drive or 20 minutes walking catchment area of a swimming pool then this is defined as unmet demand. Across Harlow unmet demand by this definition accounts for around 400 visits to swimming pools in the weekly peak period. To put this into context Harlow's pools have a capacity of 5,700 visits per week in the same weekly peak period. So the level of unmet demand is very very small.

Most people using swimming pools in Harlow travel by car with 79% of all visits by car, 11.5% on foot and 9.5% by public transport.

Harlow is almost an island in terms of where people live, where the pools are located and their catchment area. By this it is meant that the location of the Harlow pools means that the 20 minute walking catchment does not extend beyond Harlow, with the exception of a small area

on the north side of the Burnt Mill school pool. So people who walk to swimming pools in Harlow, use Harlow's pools.

Furthermore, if this finding is added to the location of the pools for the 20 minute drive time catchment area (and the assumption that people travel from home to use their nearest pool) then the estimate in this analysis is that some 93% of the total use of the Harlow pools is by Harlow residents. This is known as retained demand.

This level of retained demand finding is very important finding because it means that any marketing, pricing, changes in pool programming or use for particular groups is going to directly impact on Harlow residents because the analysis is that 93% of the visits to Harlow pools are by Harlow residents.

When looking at how Harlow's swimming pool provision compares with other local authorities, or, wider geographical areas it is important to compare like with like. So a standard of swimming pool provision of water space per 1,000 population is the standard applied.

Total swimming pool provision in Harlow equates to10.1 sq metres of water space per 1,000 population. Stevenage has 9.3 sq metres of water space per 1,000 population. Basildon has a rate of 12.2 sq metres of water space per 1,000 population and Chelmsford has 15.2 sq metres of water space per,100 population. (Note the Sport England projected population data for 2011 has the same total population for Harlow and Stevenage at 81,100 people and so based on meeting the same population needs, Harlow provides more pools per 1,000 population than Stevenage for the same population).

By way of comparison Essex County has a rate of 12.2 sq metres of water space per 1,000 population. East Region has a rate of 12.7 sq metres of water space per 1,000 population, whilst for England it is 12.9 sq metres of water space per 1,000 population.

Conclusions and Policy Issues

The supply and demand for swimming across Harlow are almost in balance, to the extent that satisfied demand for swimming is 93% of total demand. There is a very small amount of unmet demand located outside the catchment area of any swimming pool but this is very small. To absorb this unmet demand is about increasing the access to the existing pools it is definitely not about provision of new swimming pools.

Two of the three pools are modern (Esporta opened in 2003 and the Harlow Leisurezone opened in 2010). The oldest pool at Burnt Mill School was re-furbished in 2003. So there should not be the need for further pool refurbishment of the public pools for several years. An issue could be changing habits and use of pools and the need to maybe consider pool modernisation to maintain and increase their attractiveness. This will be for revenue as well as usage purposes and there maybe the need for capital investment for these reasons.

It will be worthwhile to review the changes in the age structure of Harlow population alongside the growth in Harlow population over the next 10 -15 years. Whilst swimming is genuinely one of the very few cradle to grave activities, it is highest in terms of participation in the 25 – 59 age groups, especially for women who have a higher rate of swimming participation than men. If the Harlow population is going to increase significantly in this age range over the next 15 – 20 years this will impact on the demand for swimming.

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 swimming pools because of the very wide are range of swimming participation compared to other sports and sports facilities.

Given the supply and demand for swimming are close now then any increase from this population growth and/or increases in the rate of swimming participation from what it is now will put added pressure on the capacity of the existing pools. Increases in demand from these two

drivers can be met by three options. Firstly and as already mentioned, change pool programming to increase time and thereby capacity for the most popular swimming activities. The second option would be to increase the number of hours available for public use at Burnt Mill School and thereby increase capacity. However if population growth is significant then the third option may have to be considered which is consider new swimming pool provision, either at the existing sites or at a new site.

10 Maps

The following maps accompany the report and have been provided separately

Map 1. Location of Facilities
Map 2. Unmet Demand
Map 3. Aggregated Unmet Demand
Map 4. Personal/Relative Share

Appendix 1: <u>Facilities Included</u>:

Name of facility	Type	Dimensions	Area Sqm	Year Built	Year refurbished	Weight Factor	Public/Commercial	Hours in normal peak period	Community Hours available	Facility Capacity visits	% of Capacity used
BURNT MILL COMPREHENSIVE SCHOOL	Main/General	18 x 9	162	1962	2003	73%	P	34.5	36	873	100%
ESPORTA HEALTH & FITNESS (HARLOW)	Main/General	20 x 10	200	2003		98%	C	52	10..5	1,625	41%
HARLOW LEISUREZONE	Main/General	25 x 12	300	2010		100%	P	47	94	3,178	100%
HARLOW LEISUREZONE	Main/General	20 x 8	160	2010				39	74.5		

Appendix 1: 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:

Name of Facility	Reason for Exclusion
Inn Action Health & Fitness Centre	Too small
St Nicholas School	Lido and private use
Stewards School	Too small
Swallow 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 England[1].

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[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 population[2]. 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 information[4] 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, users will generally be expected to come from the population living close to the facility, but who may be in an adjoining authority.

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[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.

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 /6m^2 , halls = 5 users /court). This is 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 a 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 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.

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

Minutes	Sport halls		Swimming Pools	
	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; and

- 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.

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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		Car: 15 minutes Walking: 1.6 km Public transport: 15 minutes at about half the speed of a car NOTE; Catchments use a distance decay function. Times and distances above are indicative.
Duration		64 minutes for tanks 68 minutes for leisure pools
Participation -% of age band Frequency - VPWPP		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 M 0.92 0.84 0.71 0.94 1.18 F 0.95 0.76 0.79 0.81 1.07
Peak Period Percentage of demand in 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 63%