



**Strategic Assessment for Provision of
Swimming Pools North Lincolnshire Council**

Sport England Facilities Planning Model Local Report

February 2021

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1. Introduction

1.1 North Lincolnshire Council is reviewing the current provision of swimming pools and assessing the future need for swimming pools, up to 2038 and beyond. The Council has commissioned a Sport England facility planning model (fpm) local assessment to develop a swimming pools evidence base.

1.2 The overall aims of the fpm work are to:

- Assess the extent to which the existing supply of swimming pools meets current levels of demand (2020) across the Council area and a wider study area.
- Assess the extent to which the existing supply of swimming pools would meet future demand and its distribution, based on the population increases across the Council area and a wider study area up to 2038

1.3 This local fpm work has two assessments (known as runs) and these include the swimming pool provision and population in the neighbouring authorities to the North Lincolnshire Council area. This is because the assessments are based on the catchment area of the swimming pools and these overlap local authority boundaries.

1.4 This report set out the findings from the local fpm study, the fpm modelling runs are:

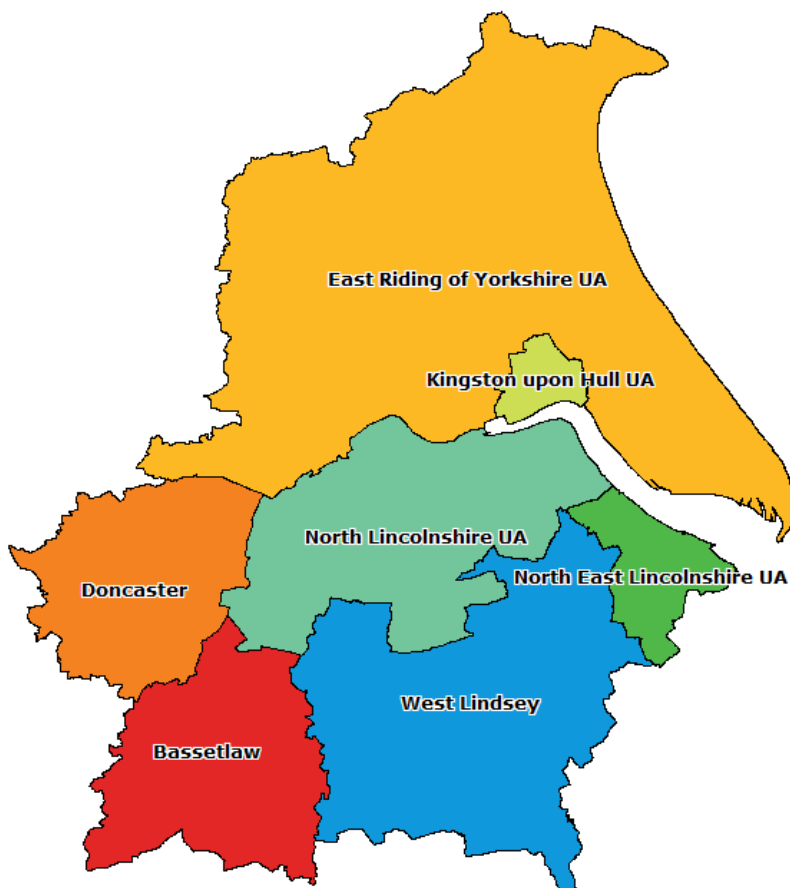
- **Run 1** – supply, demand, and access to swimming pools, in 2020. This run provides a baseline assessment of current provision and can be used to measure the extent of change
- **Run 2** – supply, demand, and access to swimming pools in 2038, based on the impact the projected growth in population 2020 – 2038 across the North Lincolnshire Council area and the neighbouring authorities, has on the demand for swimming and its distribution. In effect, this is the forward assessment of demand and evidence base and which can be compared with the baseline 2020 position.

The Study Area

1.5 Customers of swimming pools do not reflect local authority boundaries. Whilst there are management and pricing incentives for customers to use sports facilities located in the local authority area in which they live, there are some big influences on which swimming pools people will choose to use.

- 1.6 These are based on: how close the venue is to where people live; other facilities on the same site, such as a gym or studio, the programming of the pool with swimming activities that appeal and are available at times which fit with the lifestyle of residents; the age and condition of the facility and inherently its attractiveness. Increasingly, the quality of the swimming pools and the swimming offer are more important to residents.
- 1.7 Consequently, in determining the position across the North Lincolnshire Council area, it is important to take full account of the swimming pools in the neighbouring local authorities. In particular, to assess the impact of overlapping catchment areas from facilities located outside North Lincolnshire but where the catchment area extends into North Lincolnshire. The nearest swimming pool to where some North Lincolnshire residents live may be outside the authority (known as exported demand), whilst for residents of neighbouring authorities, their nearest swimming pool may be located inside North Lincolnshire (known as imported demand).
- 1.8 To take account of these impacts, a study area is established which places North Lincolnshire at the centre of the study and includes all the neighbouring local authorities. A map of the study area is set out below at Map 1.1.

Map 1.1: Study Area Map for the North Lincolnshire Swimming Pools Assessment



Report Structure, Content and Sequence

- 1.9 The findings for North Lincolnshire are set out in a series of tables for each of the two runs. This allows a “read across” to see the specific impact of changes between runs 1 - 2 and it builds up the picture of change.
- 1.10 The headings for each table are total supply; total demand; supply and demand balance; satisfied demand; unmet demand; used capacity (how full the facilities are); and local share. The definition of each heading is set out at the start of the report of findings.
- 1.11 Maps to support the findings, on swimming pool locations, total demand, unmet demand, the driving and walking catchment area of the swimming pools, local share of access to swimming pools and access to swimming pools by public transport are also included.
- 1.12 Where valid to do so, the findings for the neighbouring authorities to North Lincolnshire are also set out. A commentary is provided on these comparable findings. For example, some local authorities like to know how their findings on, water space per 1,000 population, compares with the neighbouring authorities.
- 1.13 A headline overview and executive summary of key findings is set out at the end of the full report.
- 1.14 Appendix 1 lists the swimming pools included in the assessment, whilst Appendix 2 is a description of the facility planning model and its parameters.

2. Swimming Pool Supply

Total Supply

Table 2.1: Swimming Pools Supply North Lincolnshire 2020 – 2038

North Lincolnshire	RUN 1	RUN 2
Total Supply	2020	2038
Number of pools	8.	8.
Number of pool sites	6.	6.
Supply of total water space in sq m of water	1,711.	1,711.
Supply of water space in sqm, scaled by hours available in the peak period	1,614.	1,614.
Supply of total water space in visits per week peak period	13,991.	13,991.
Water space per 1,000 population	10.	10.

- 2.1 **Definition of supply** – this is the supply or capacity of the swimming pools which are available for public, groups, and swimming club use in the weekly peak period. The supply is expressed in number of visits that a pool can accommodate in the weekly peak period and in sq. metres of water.
- 2.2 In runs 1 and 2 there are 6 swimming pool sites and 8 individual swimming pools located in North Lincolnshire.
- 2.3 The total amount of water space available for community use is 1,614 sq. metres of water in both runs. (For context, a 25m x 4 lane pool is between 210 and 250 sq. metres of water, depending on the width of each individual lane).
- 2.4 A summary description of the swimming pool sites in North Lincolnshire is set out in Table 2.2.

Table 2.2: Swimming Pool Supply North Lincolnshire Runs 1 and 2

Name of Site	Type	Dimensions	Area	Site Year Built	Site Year Refurb	Car % Demand	Public Transport % Demand	Walk % Demand
NORTH LINCOLNSHIRE								
ANCHOLME LEISURE CENTRE	Main/General	25 x 13	313	1975	2014	80%	8%	12%
ANCHOLME LEISURE CENTRE	Learner/Teaching/Training	10 x 5	50			90%	5%	5%
AXHOLME NORTH LEISURE CENTRE	Main/General	25 x 9	213	2018		86%	4%	10%
BAYSGARTH LEISURE CENTRE	Main/General	20 x 8	160	2008		80%	6%	14%
EPWORTH SWIMMING POOL	Main/General	20 x 8	160	1996		88%	3%	9%
RIDDINGS POOL	Main/General	25 x 13	313	1972	2008	71%	7%	22%
THE PODS	Main/General	25 x 17	425	2011		79%	11%	10%
THE PODS	Learner/Teaching/Training	10 x 8	80					

2.5 There are two sites which have both a main pool and a teaching learner pool:

- Ancholme Leisure Centre (opened in 1975 and modernised in 2014) has a 25m x 13m six lane main pool and a 10m x 5m teaching learner pool
- The Pods (opened in 2011) has a 25m x 17m eight lane main pool and a 10m x 8m teaching/learner pool.

2.6 The swimming offer at both these public leisure centre sites is very extensive, and they can provide for all swimming activities in dedicated pools, the activities being, learn to swim, casual recreational swimming, lane and fitness swimming activities and swimming development through swimming clubs.

2.7 The single pool public leisure centre sites are:

- Riddings Pool (opened in 1972 and modernised in 2008) has a 25m x 13m six lane main pool.
- Axholme North Leisure Centre (opened in 2018) has a 25m x 9m four lane main pool.
- Baysgarth Leisure Centre (opened in 2008) and Epworth Leisure Centre (opened in 1996) are the smallest swimming pools in North Lincolnshire and have a main pool of 20m x 8m and four lanes.

2.8 The Ridings main pool can accommodate all swimming activities, the size of the other pool sites may limit the activities that can take place at any one time.

2.9 The average age of all the pool sites in 2021 is 24 years, the oldest pool site is Riddings Pool (opened in 1972 and modernised in 2008). The most recent swimming pool site to open is Axholme Leisure Centre (opened in 2018).

2.10 The findings on water space per 1,000 population for all the local authorities in the study area are set out in Table 2.3. North Lincolnshire has 10 sq. metres of water per 1,000 population in both years (rounded). In comparison with the neighbouring authorities, North Lincolnshire has the second lowest provision based on this measure, after West Lindsey with 7.4 sq. metres of water per 1,000 population in 2020 and 7 sq metres of water per 1,000 population in 2038.

2.11 The highest provision is located in North East Lincolnshire with 13.7 sq. metres of water per 1,000 population in 2020 The Yorkshire Region average is 11 sq metres of water per 1,000 population and the England wide average is 12 sq. metres of water per 1,000 population.

2.12 The findings on water space per 1,000 population are set out because some local authorities like to know how their quantitative provision compares with elsewhere,

it is not setting a standard of provision. The supply and demand for swimming pools in North Lincolnshire is based on the findings from all seven headings analysed in the report.

Table 2.3: Water space per 1,000 population for all authorities 2020 – 2038

Water space per 1,000 population	RUN 1	RUN 2
	2020	2038
North Lincolnshire UA	9.9	9.6
West Lindsey	7.4	7.0
Bassetlaw	12.4	11.3
East Riding of Yorkshire UA	12.9	12.3
Kingston upon Hull UA	13.2	13.2
North East Lincolnshire UA	13.7	13.8
Doncaster	12.2	11.5

Pool locations

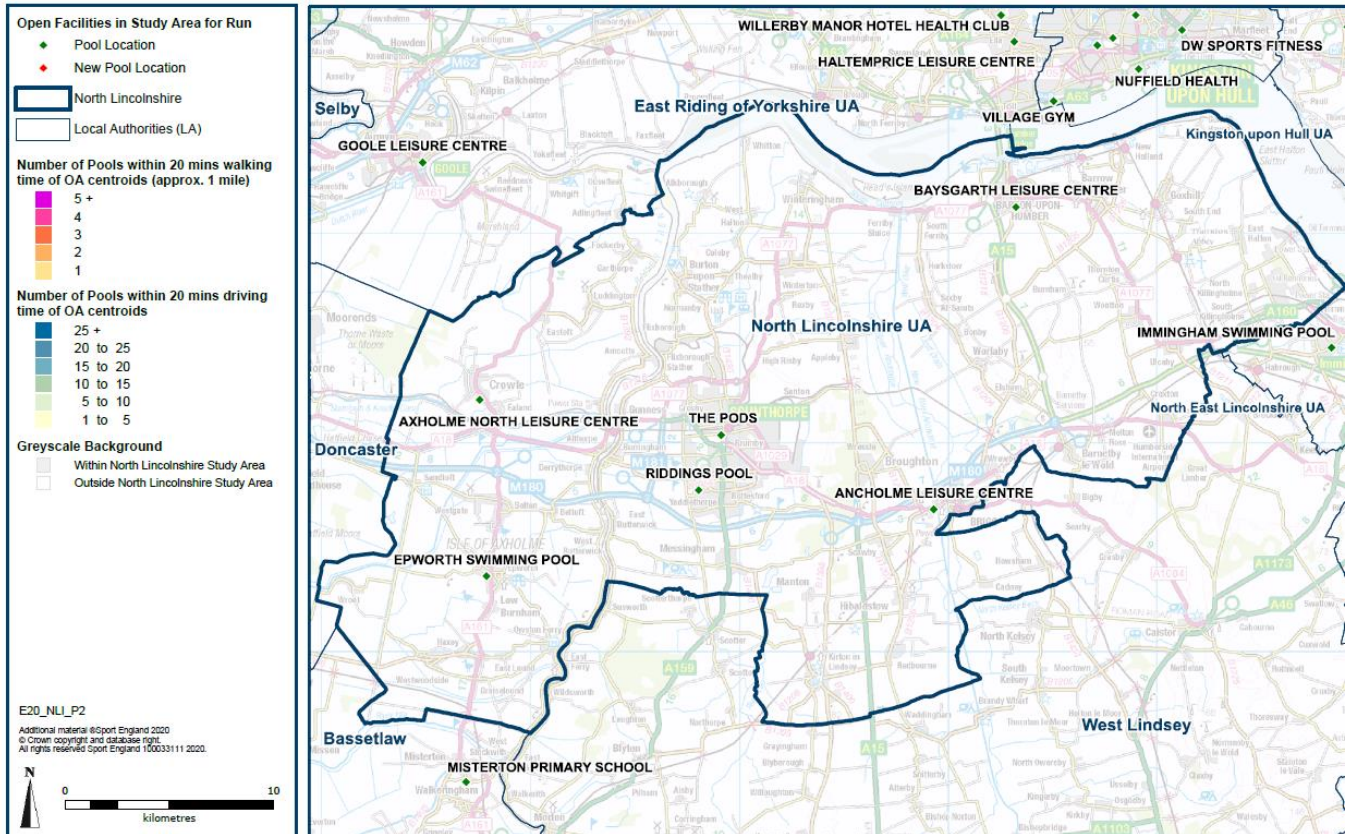
2.13 Map 2.1 overleaf, shows the location of the swimming pools across North Lincolnshire in 2020, there are no changes in the swimming pool supply to 2038.

2.14 The maps for the swimming pool catchment areas, total demand, unmet , local share, and public transport access to swimming pools are included in subsequent sections of the report.

Map 2.1: Run 1 Location of Swimming Pool Sites North Lincolnshire 2020

Facility Planning Model - Pools Catchments for North Lincolnshire
Run 1: Existing Position (2020)

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



3. Swimming Pools Total Demand

Table 3.1: Demand for Swimming Pools North Lincolnshire 2020 – 2038

North Lincolnshire	RUN 1	RUN 2
Total Demand	2020	2038
Population	173,143.	177,331.
Swims demanded – visits per week peak period	10,610.	10,393.
Equivalent in water space – with comfort factor included	1,761.	1,725.
% of population without access to a car	20.2	20.2

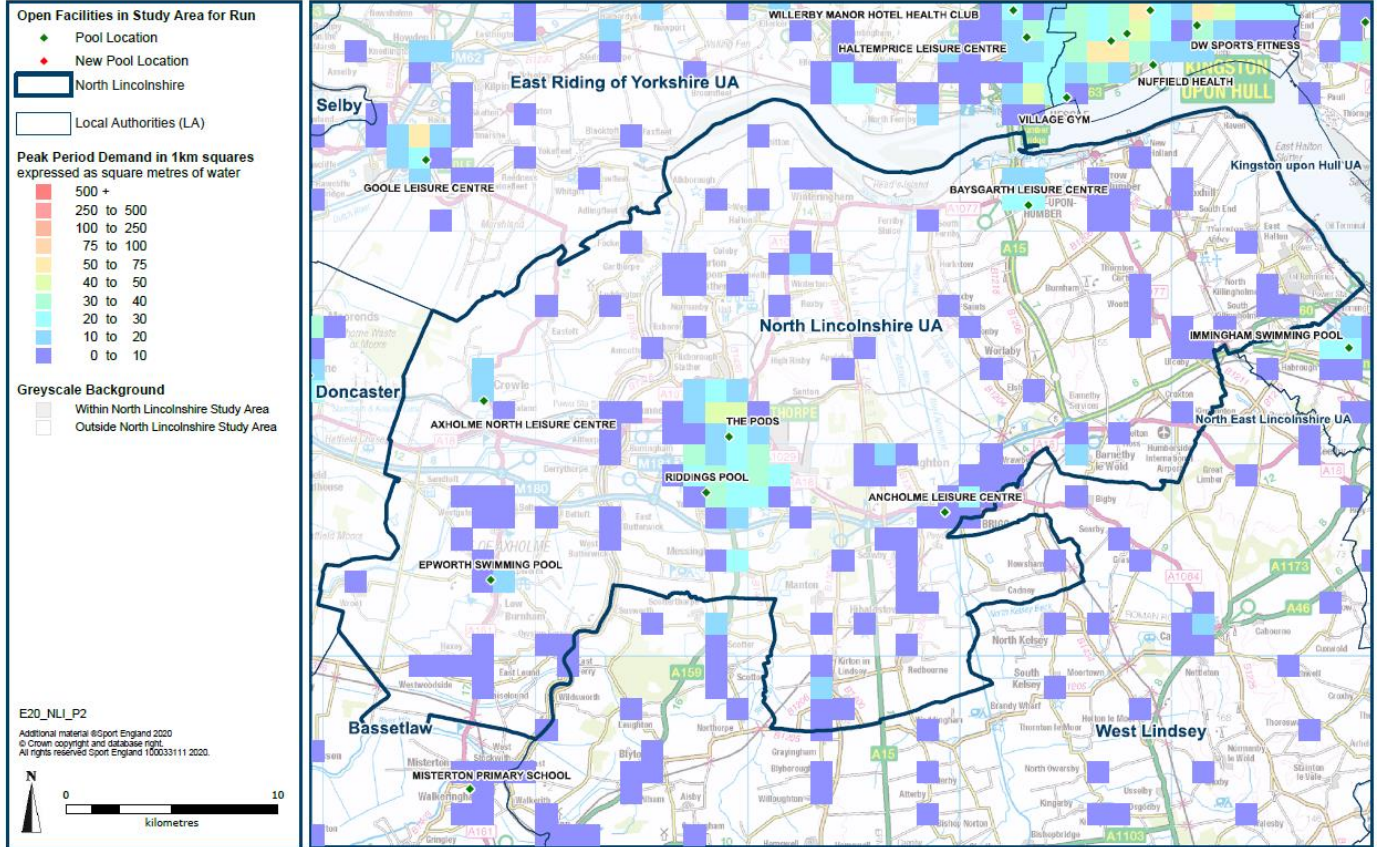
- 3.1 **Definition of total demand** – it represents the total demand for swimming by both genders and for 14 five-year age bands from 0 to 65+. This is calculated as the percentage of each age band/gender that participates. This is added to the frequency of participation in each age band/gender, so as to arrive at a total demand figure, which is expressed in visits in the weekly peak period and sq. metres of water. The fpm parameters for the percentage of participation and frequency of participation, for both genders and for different age bands are set out in Appendix 2.
- 3.2 The North Lincolnshire population in 2020 is 173,143 people and it is projected to increase to 177,331 people by 2038.
- 3.3 The North Lincolnshire total demand for swimming in 2020 is 10,610 visits per week in the weekly peak period and this equates to a total demand for 1,761 sq. metres of water. (Again, for context a 25m x 4 lane pool is between 210 – 250 sq. metres of water, depending on lane width). The total demand is projected to decrease very slightly, to 10,393 visits in the weekly peak period in 2038 and this equates to a demand for 1,725 sq. metres of water.
- 3.4 There is a projected 2.4% increase in the total population across North Lincolnshire between 2020 and 2038 and a projected 2% decrease in the total demand for swimming.
- 3.5 The most likely reason for the slightly lower total demand for swimming in 2038, is because the total demand for swimming is made up of (1) the resident population and (2) the growth in population between 2020 and 2038. The ageing of the resident population between 2020 and 2038 will influence the demand for swimming. It can mean, there are fewer people in the main age bands for swimming (14 – 54 and for both genders) in the second run year than the first run year.

- 3.6 So, the increase in demand for swimming from population growth, is offset by the ageing of the much larger resident population between 2020 and 2038. The total demand figure includes both parts and the modelling is based on the frequency of swimming participation being unchanged between both years (Appendix 2 sets out the swimming participation and frequency rates).
- 3.7 The location and scale of the total demand for swimming across North Lincolnshire in 2020 is shown in Map 3.1, and in Map 3.2 for 2038.
- 3.8 The demand values are expressed in sq. metres of water contained within 1km grid squares. The values in the purple squares are 1 – 10 sq. metres of water, then mid blue squares 10 – 20 sq. metres of water, turquoise squares 20 – 30 sq. metres of water, green squares with 30 – 40 sq. metres of water and sage green squares 40 – 50 sq. metres of water.
- 3.9 Given the very small change in total demand for swimming, there is virtually no change in the distribution of demand for swimming between 2020 and 2038. In both years, the highest demand is clustered in and around Scunthorpe, where it totals 633 sq metres of water in 2020 (36% of total demand) and 623 sq metres of water in 2038 (also 36% of the 2038 total demand).
- 3.10 The next area of highest demand for swimming, is in the Barton-upon-Humber area, where it totals 110 sq metres of water in 2020 and 104 sq metres of water in 2038. After that, the demand for swimming is distributed across the authority in quite small values mostly between 0 – 10 sq metres of water.

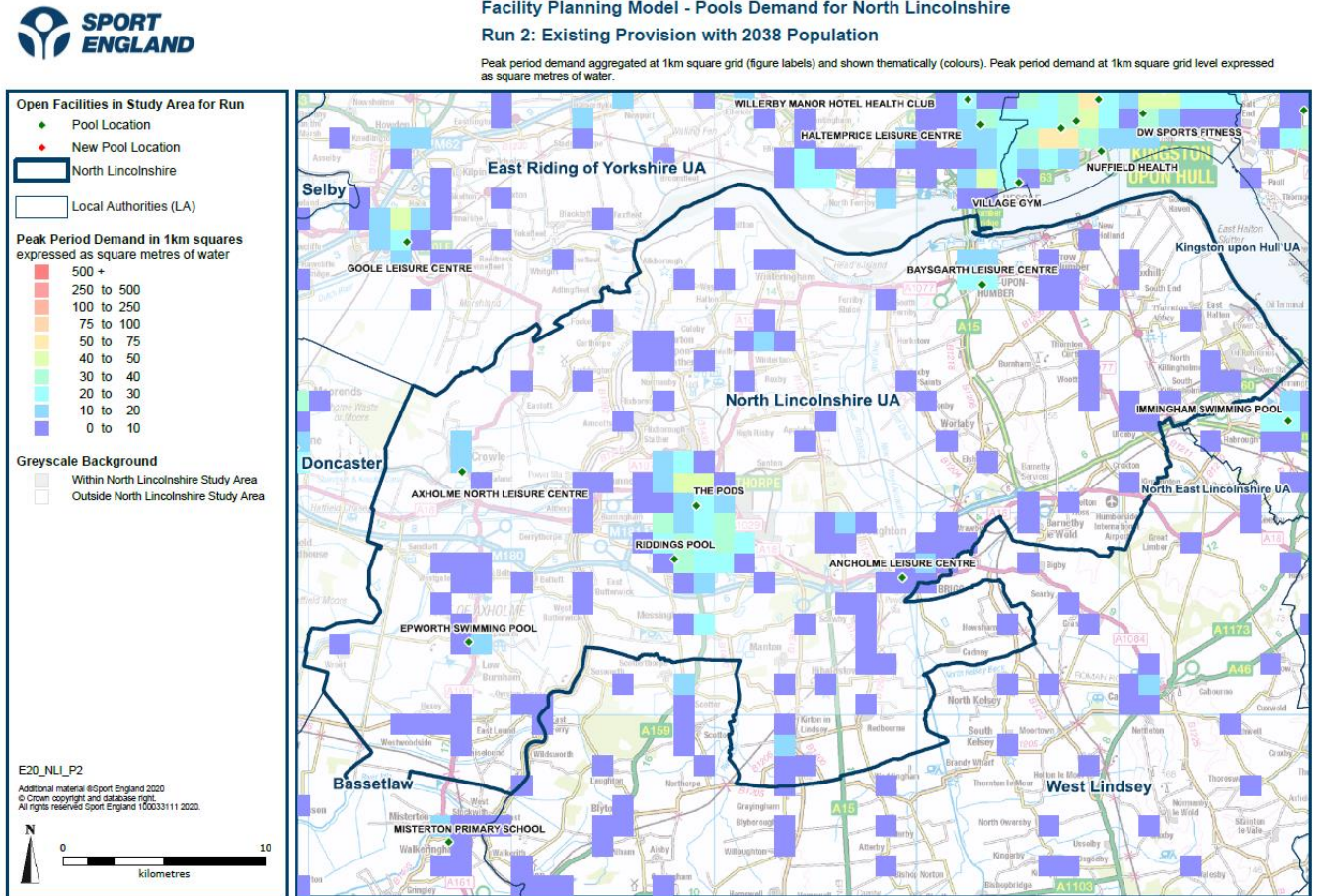
Map 3.1: Run 1 Total Demand for Swimming North Lincolnshire 2020

Facility Planning Model - Pools Demand for North Lincolnshire
Run 1: Existing Position (2020)

Peak period demand aggregated at 1km square grid (figure labels) and shown thematically (colours). Peak period demand at 1km square grid level expressed as square metres of water.



Map 3.2: Run 2 Total Demand for Swimming North Lincolnshire 2038

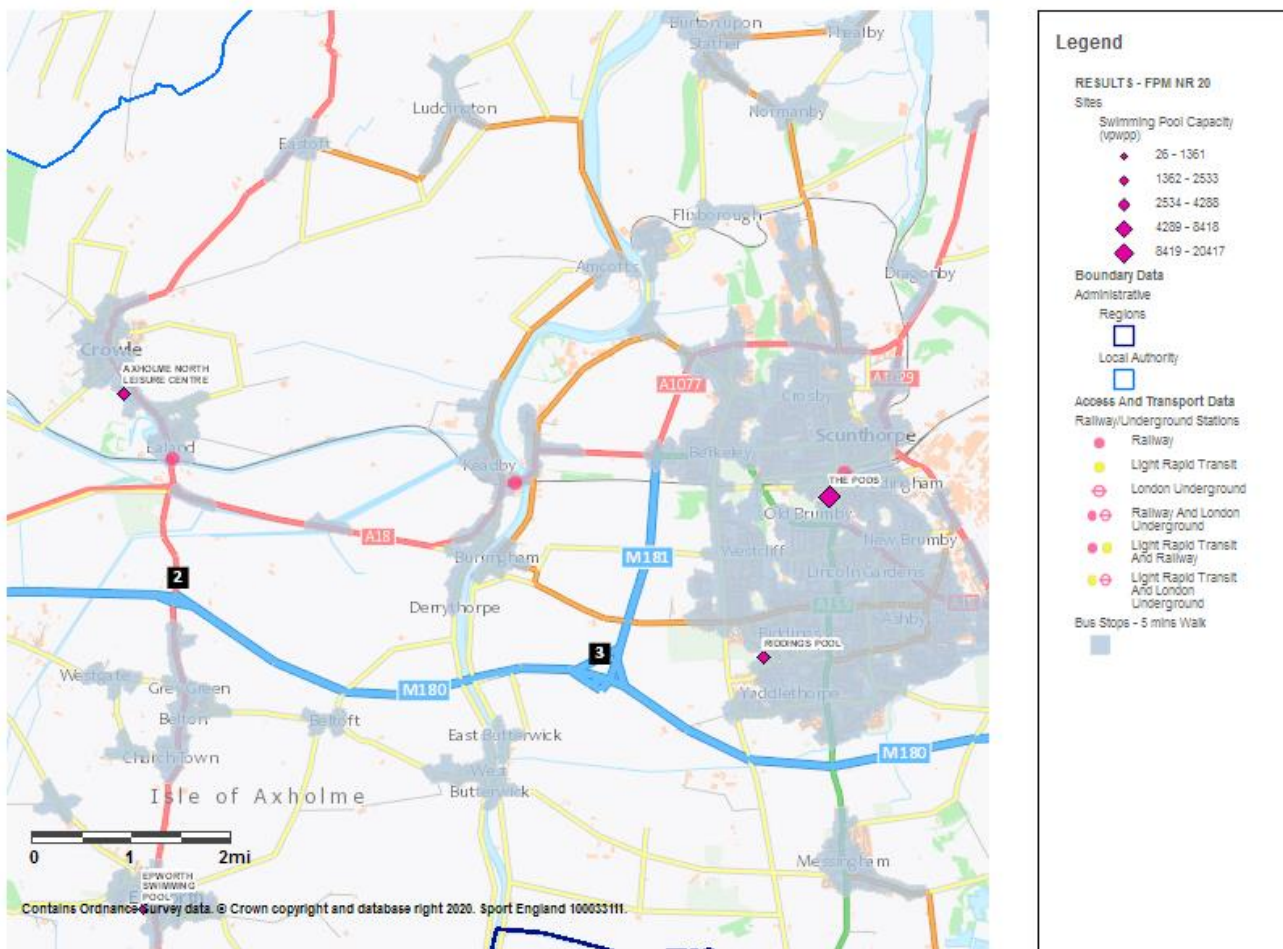


Access and travel patterns to swimming pools.

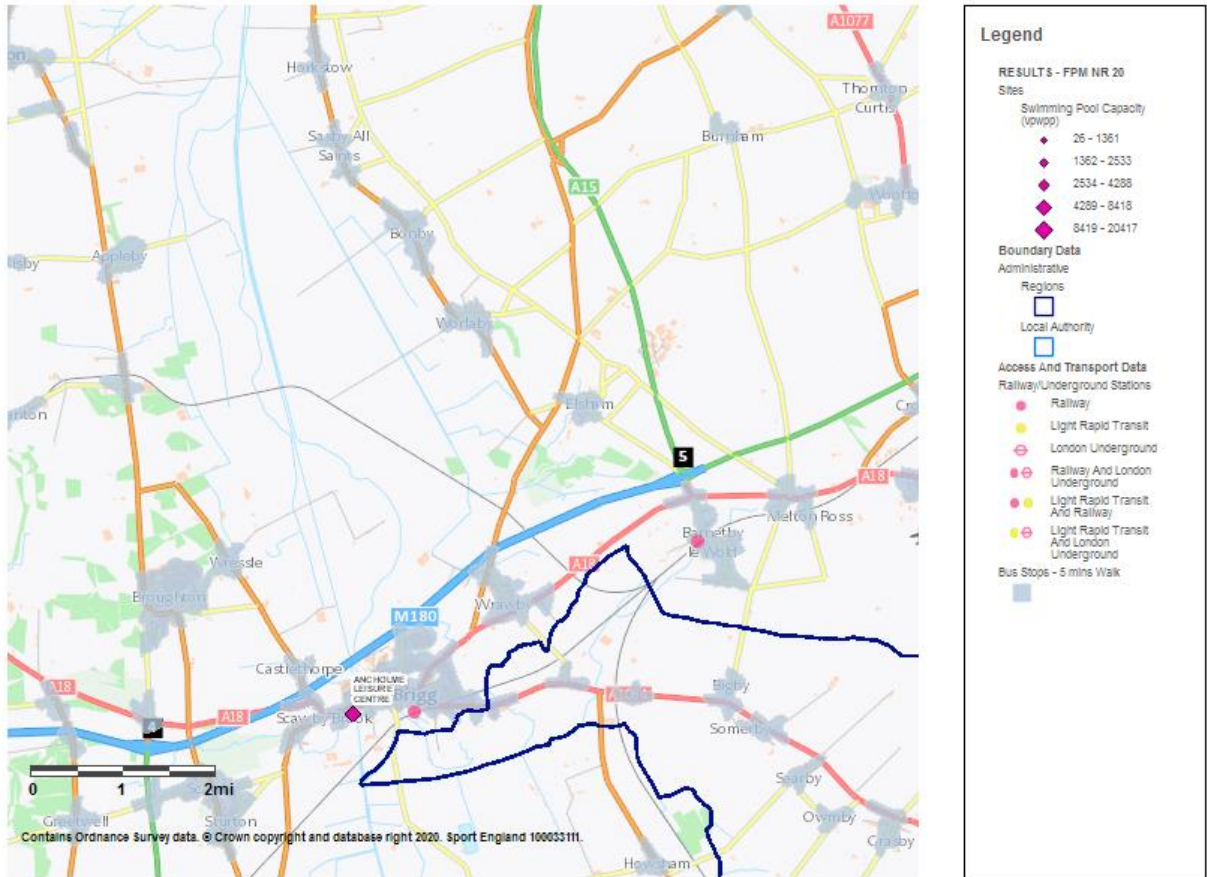
- 3.11 The percentage of residents without access to a car is recorded under total demand and in North Lincolnshire 20.2% of residents do not have access to a car, based on the 2011 Census. The findings for Yorkshire Region and England wide are 26.7% and 24.9% of residents who do not have access to a car, respectively.
- 3.12 Car access does influence travel patterns to swimming pools and the findings for North Lincolnshire are that 85.7% of visits are made by car (up to 20 minutes travel time catchment) with 7.6% by walking (up to 20 minutes/1 mile catchment area) and 6.7% are by public transport (again up to 20 minutes travel time).
- 3.13 So, just over 14% of visits to swimming pools, or, just under one in seven visits are by a combination of walking and public transport. To gain some understanding of how accessible the swimming pools are by public transport. Maps 3.3 – 3.5 show the swimming pool locations and the areas of North Lincolnshire that are within 5 minutes' walk of a bus stop (grey areas). Map 3.3 is for the western side of the authority, Map 3.4 for the centre and Map 3.5 for the eastern side of the authority.

3.14 Perhaps not surprisingly there is quite a large land area within 0 – 5 minutes’ walk of a bus stop in the Scunthorpe area and this includes the two swimming pools sites. After that, there are only very small areas of the authority that are within the bus catchment. Overall, there is not a large land area of the authority within 0 - 5 minutes’ walk of a bus stop and accessing swimming g pools by bus is only realistically possible in the Scunthorpe area.

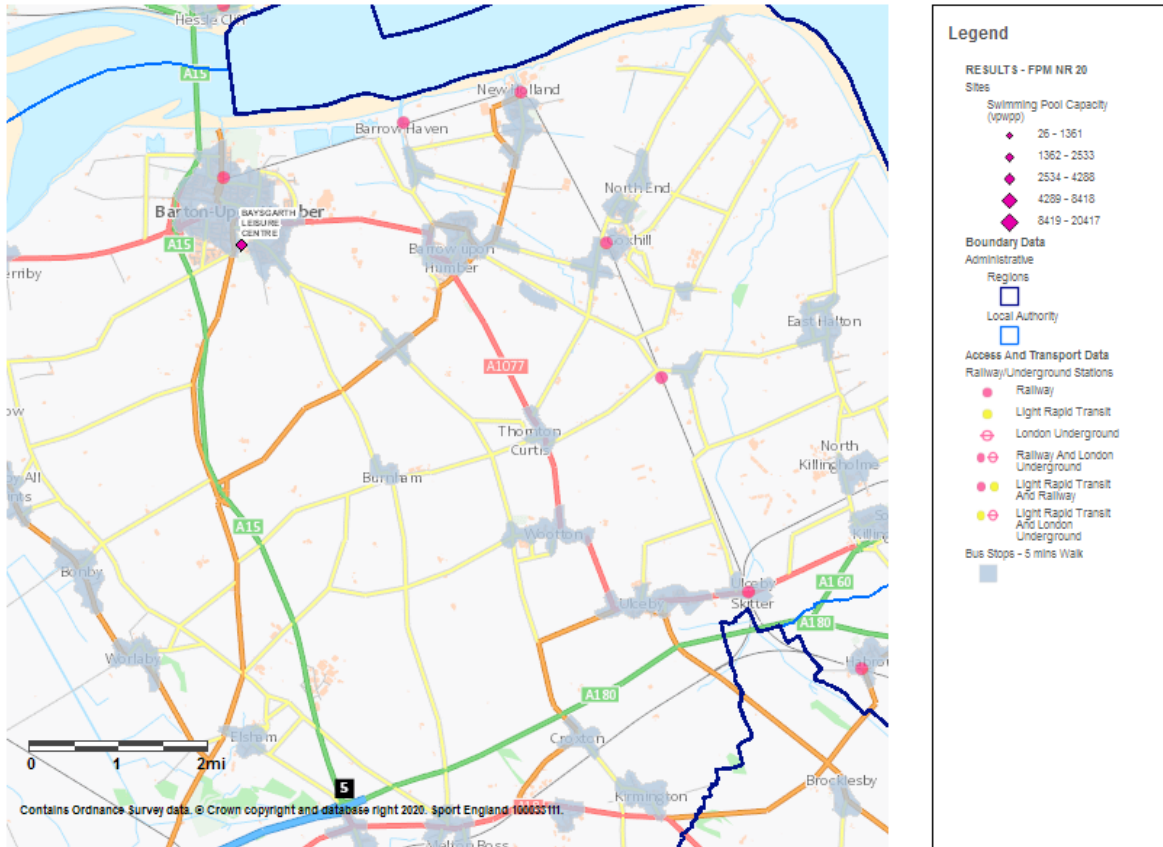
Map 3.3 Areas of North Lincolnshire (West) within 0 – 5 minutes’ walk of a bus stop (grey areas) 2020



Map 3.4 Areas of North Lincolnshire (Central) within 0 – 5 minutes’ walk of a bus stop (grey areas) 2020



Map 3.5 Areas of North Lincolnshire (East) within 0 – 5 minutes' walk of a bus stop (grey areas) 2020



3.15 Finally, under total demand Table 3.2 shows the level of total demand for swimming pools for all the authorities in the study area for 2020 and 2038. There are slight projected increases in the total demand for swimming pools in West Lindsey, Bassetlaw, and Doncaster.

3.16 As in North Lincolnshire the total demand for swimming is projected to decrease slightly in, East Riding of Yorkshire, Kingston-Upon-Hull, and North East Lincolnshire. So four of the seven authorities in the study area are projected to have a decrease in the demand for swimming up to 2038, based on the rates and frequency of swimming participation being unchanged.

Table 3.2: Total demand for swimming in sq metres of water for all authorities 2020 – 2038

Total Demand in water space – with comfort factor included	RUN 1	RUN 2
	2020	2038
North Lincolnshire UA	1760.7	1724.8
West Lindsey	958.4	971.1
Bassetlaw	1190.6	1259.3
East Riding of Yorkshire UA	3364.5	3337.9
Kingston upon Hull UA	2733.7	2674.6
North East Lincolnshire UA	1636.9	1554.5
Doncaster	3201.9	3279.0

4 Supply and Demand Balance

Table 4.1: Supply and Demand Balance North Lincolnshire 2020 – 2038

North Lincolnshire	RUN 1	RUN 2
Supply/Demand Balance	2020	2038
Supply - Swimming pool provision (sqm) based on hours available for community use	1,614.	1,614.
Demand - Swimming pool provision (sqm) considering a 'comfort' factor	1,761.	1,725.
Supply / Demand balance - Variation in sqm of provision available compared to the minimum required to meet demand.	-147.	-111.

- 4.1 **Definition of supply and demand balance** – supply and demand balance compares the total demand generated for swimming within North Lincolnshire with the total supply of swimming pools within North Lincolnshire. It therefore represents an assumption that ALL the demand for swimming in is met by ALL the supply of swimming pools within North Lincolnshire. (Note: it does exactly the same for the other local authorities in the study area).
- 4.2 In short, supply and demand balance is NOT based on where the pools are located and their catchment area extending into other authorities. Nor the catchment areas of pools in neighbouring authorities extending into North Lincolnshire. The more detailed modelling based on the CATCHMENT AREAS of pools is set out under Satisfied Demand, Unmet Demand and Used Capacity.
- 4.3 The reason for presenting the supply and demand balance is because some local authorities like to see how THEIR total supply of pools compares with THEIR total demand for pools.
- 4.4 When looking at this assessment, run 1 shows the North Lincolnshire demand for swimming pools in 2020 is for 1,761 sq. metres of water and 1,725 sq. metres of water in run 2.
- 4.5 The North Lincolnshire supply of swimming pools available for community use, equates to 1,614 sq. metres of water in both runs.
- 4.6 So in run 1 the North Lincolnshire demand for swimming pools exceeds the available supply by 147 sq. metres of water, then by 111 sq. metres of water in run 2.

- 4.7 To repeat, this is the closed quantified assessment and is simply comparing the North Lincolnshire demand for swimming with the North Lincolnshire supply. It is NOT based on catchment area of pools across local authority boundaries. How much of the North Lincolnshire demand for swimming can be met, based on the catchment area of pools, is set out under subsequent headings.

Supply and demand balance for all authorities

- 4.8 The supply and demand balance for all the authorities in the study area is set out in Table 4.2 below. In 2020 demand exceeds supply in two other authorities, by 238 sq. metres of water in West Lindsey and by just 14 sq. metres of water in Doncaster.
- 4.9 Supply exceeds demand in the other four authorities and the range is 33 sq metres of water in Bassetlaw, 332 sq metres of water in Kingston-Upon-Hull, 336 sq metres of water in North East Lincolnshire and by 565 sq metres of water in the East Riding of Yorkshire.
- 4.10 Overall, across the study area, supply exceeds demand by 882 sq. metres of water in 2020 and by 914 sq metres of water in 2038. These findings indicate that the level of demand for swimming which can be met, is likely to be quite high. Unmet demand will be quite low and the used capacity of the pools also quite high. These findings are examined under the next three set of headings.

Table 4.2: Supply and Demand Balance for Swimming Pools across the Study Area 2020 – 2038

Supply / Demand balance - Variation in sqm of provision available compared to the minimum required to meet demand.	RUN 1	RUN 2
	2020	2038
North Lincolnshire UA	-147.0	-111.1
West Lindsey	-238.8	-251.5
Bassetlaw	33.8	-35.0
East Riding of Yorkshire UA	565.6	592.2
Kingston upon Hull UA	332.8	391.9
North East Lincolnshire UA	336.5	418.9
Doncaster	-14.0	-91.1

5 Satisfied Demand for Swimming

Table 5.1: Satisfied Demand for Swimming North Lincolnshire 2020 – 2038

North Lincolnshire	RUN 1	RUN 2
Satisfied Demand	2020	2038
Total number of visits which are met visits per week peak period	9,497.	9,213.
% of total demand satisfied	89.5	88.6
% of demand satisfied who travelled by car	80.	80.9
% of demand satisfied who travelled by foot	11.9	11.3
% of demand satisfied who travelled by public transport	8.1	7.8
Demand Retained visits per week peak period	9,005.	8,765.
Demand Retained -as a % of Satisfied Demand	94.8	95.1
Demand Exported visits per week peak period	492.	448.
Demand Exported -as a % of Satisfied Demand	5.2	4.9

- 5.1 **Definition of satisfied demand** – it represents the proportion of total demand from North Lincolnshire residents that is met by the capacity at the swimming pools from residents who live within the driving, walking or public transport catchment area of a pool. This includes swimming pools located both inside and outside North Lincolnshire.
- 5.2 In both runs, the North Lincolnshire total demand for swimming which can be met is quite high, at 89.1% of total demand in 2020 and 88.6% of total demand in 2038. The findings for satisfied demand across the study area are set out in Table 5.2 below. The range is 91.2% of total demand met in North East Lincolnshire to 72.2% of total demand met in West Lindsey.
- 5.3 The range does reflect that supply and demand balance findings, insofar as there are four authorities in 2020 where supply is greater than demand and three in 2038.

Table 5.2 Percentage of Satisfied Demand for all Authorities 2020 and 2038

% of total demand satisfied	RUN 1	RUN 2
	2020	2038
North Lincolnshire UA	83.1	82.1
West Lindsey	72.2	72.1
Bassetlaw	89.3	89.3
East Riding of Yorkshire UA	89.5	89.5
Kingston upon Hull UA	90.7	90.4
North East Lincolnshire UA	91.2	91.2
Doncaster	90.5	90.4

Retained Demand.

- 5.4 A subset of the satisfied demand findings is retained demand, which measures how much of the North Lincolnshire demand for swimming is retained at the pools located within North Lincolnshire. This assessment is based on the catchment area of pools and residents using the nearest pool to where they live, and it is a pool located within North Lincolnshire.
- 5.5 The findings in Table 5.1 show that retained demand is a very high at 94.8% of total satisfied demand in 2020 and 95.1% in 2038. In summary, the nearest pool to where a North Lincolnshire resident lives for over nine out of ten visits to a pool, is a pool located within North Lincolnshire.
- 5.6 This is an extremely high level of retained demand and shows there is a very close correlation between the location and catchment area of the North Lincolnshire swimming pool sites and the location of the North Lincolnshire demand for swimming and in both years.

Exported Demand.

- 5.7 The residual of satisfied demand, after retained demand, is exported demand. Again, this assessment is based on North Lincolnshire residents using the nearest swimming pool to where they live, and this time it is a pool located outside the authority.
- 5.8 In run 1 the model’s findings are that just 5.2% of the North Lincolnshire satisfied demand for swimming is exported and met at pools in neighbouring local authorities in 2020 and 4.9% in 2038.
- 5.9 To repeat, the model distributes demand on the basis of residents using the nearest pool to where they live. If the demand in the catchment area of any one pool is higher than the supply, then the model will seek to re-distribute demand

to another pool that residents can access, based on residents living within the catchment area of another pool.

- 5.10 The scale and destination of the North Lincolnshire exported demand in visits per week in the weekly peak period for runs 1 and 2 is set out in Table 5.3.
- 5.11 As the table shows, the largest export in both years is to North East Lincolnshire but is very small with just 242 visits in 2020 and 228 visits in 2038, followed by 127 visits exported per week to the East Riding of Yorkshire in 2020 and 34 visits in 2038.
- 5.12 By way of context and comparison, the figures in the North Lincolnshire row show the demand retained with North Lincolnshire, with 9,005 visits per week in the weekly peak period in 2020 and 8,765 visits in 2038.

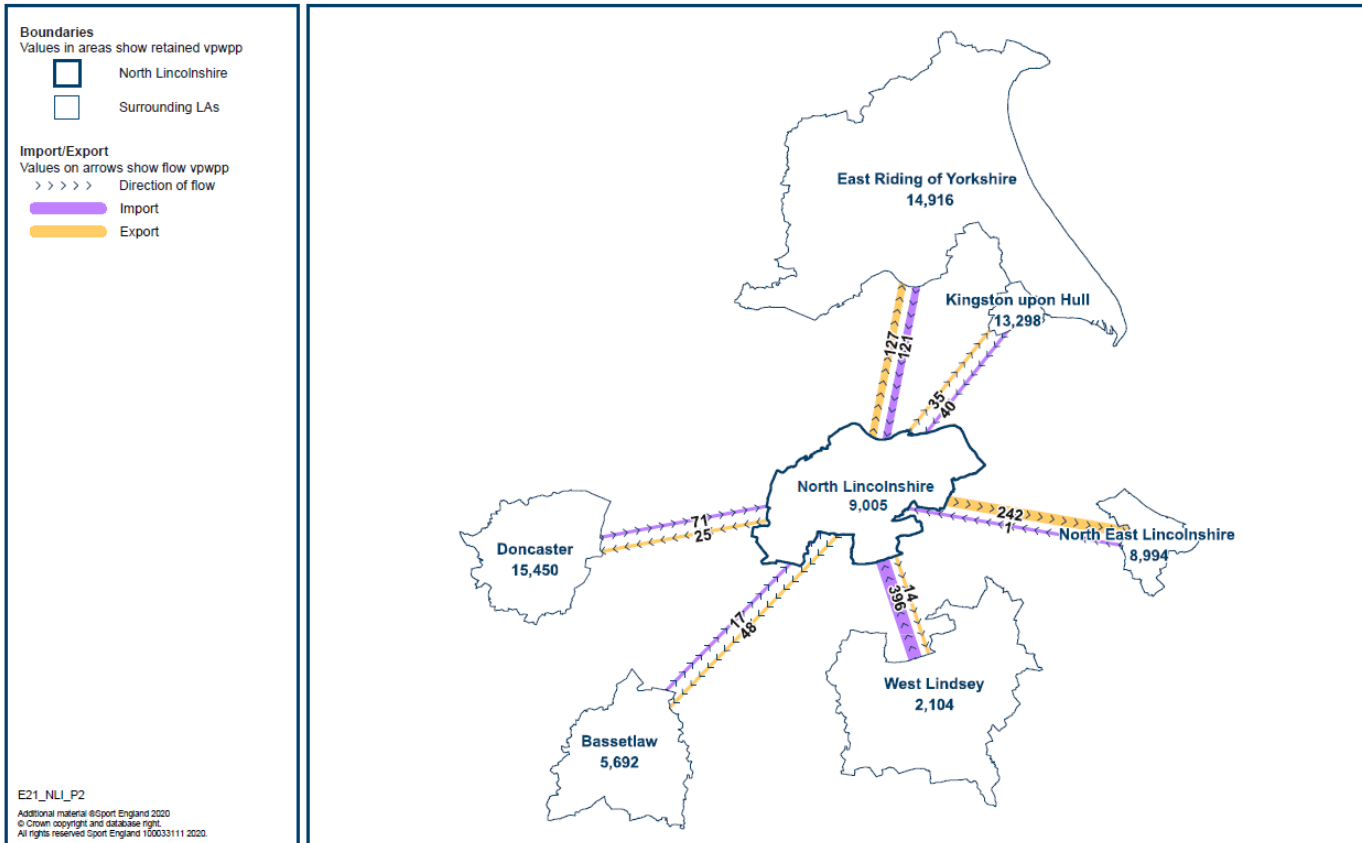
Table 5.3: Export of North Lincolnshire Satisfied Demand for Swimming 2020 and 2038

	Export (in visits)	
	Run 1	Run 2
North Lincolnshire	9,005	8,765
West Lindsey	14	14
Bassetlaw	48	50
East Riding of Yorkshire UA	127	84
Kingston upon Hull UA	35	46
North East Lincolnshire UA	242	228
Doncaster	25	26
OTHER		

- 5.13 The findings in Table 5.3 can also be presented in map form and these are set out in Maps 5.1 for 2020 and Map 5.2 for 2020. The figure in the yellow chevron shows the number of visits which are exported and met in each of the neighbouring authorities. The figure within each authority map is the number of visits retained within that authority.

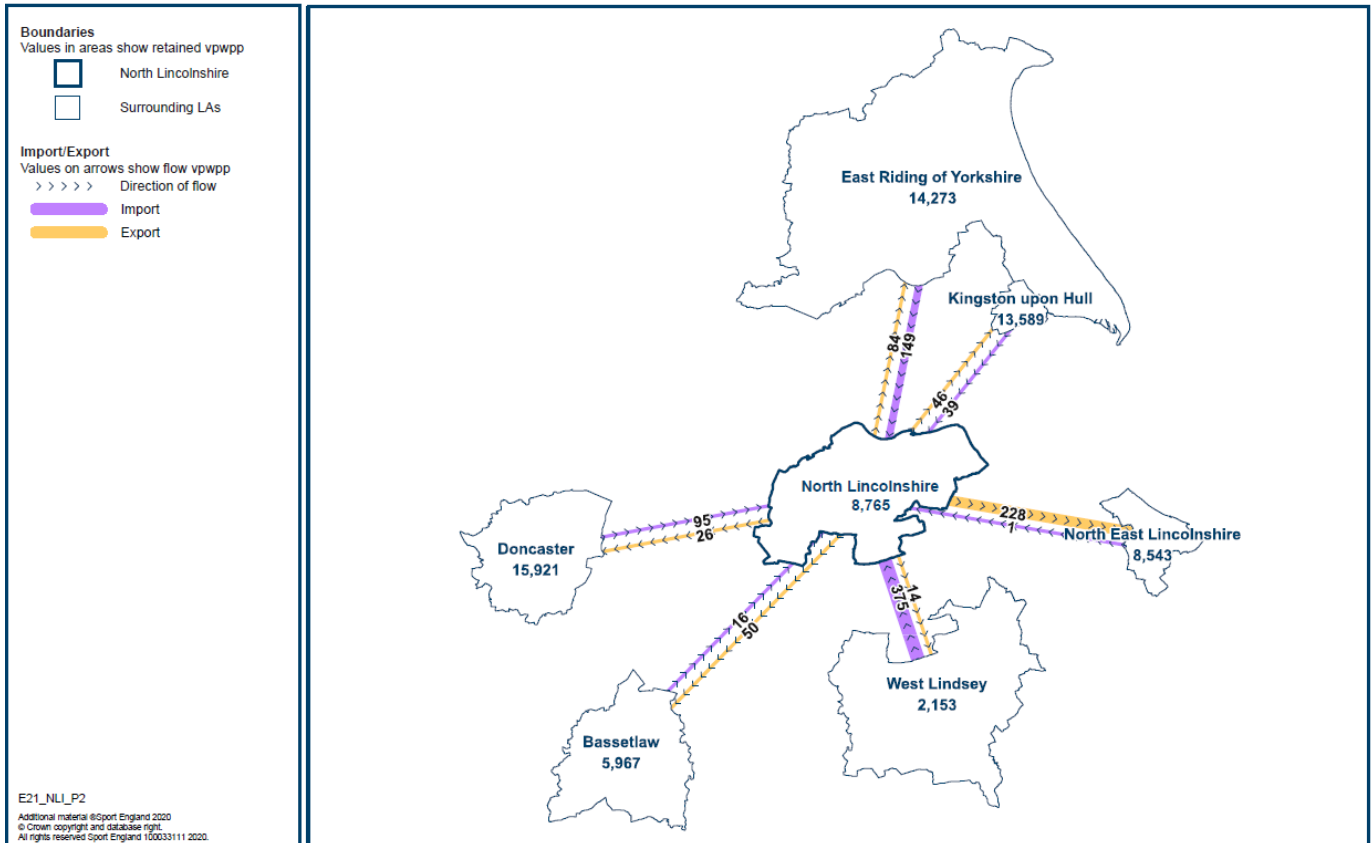
Map 5.1: Run 1 Export of North Lincolnshire Satisfied Demand for Swimming 2020

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



Map 5.2: Run 2 Export of North Lincolnshire Satisfied Demand for Swimming 2038

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



6. Unmet Demand for Swimming

Table 6.1: Unmet Demand for Swimming North Lincolnshire 2020 – 2038

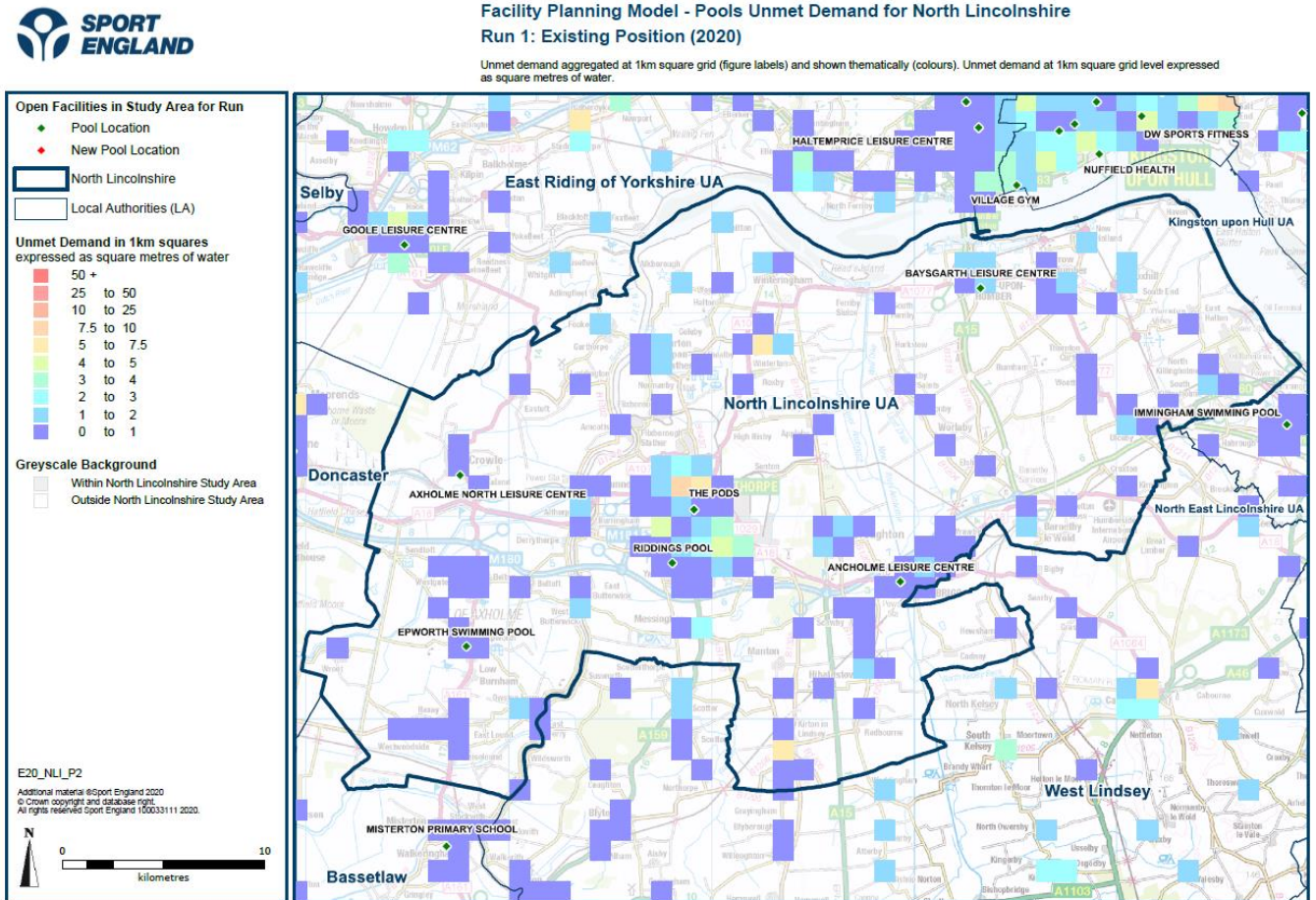
North Lincolnshire	RUN 1	RUN 2
Unmet Demand	2020	2038
Total number of visits in the peak, not currently being met visits per week peak period	1,113.	1,180.
Unmet demand as a % of total demand	10.5	11.4
Equivalent in Water space m ² - with comfort factor	185.	196.
% of Unmet Demand due to:		
Lack of Capacity -	0.8	8.5
Outside Catchment -	99.2	91.5
Outside Catchment:	99.2	91.5
% of Unmet demand who do not have access to a car	72.	66.3
% of Unmet demand who have access to a car	27.1	25.2

- 6.1 The **unmet demand definition** has two parts to it - demand for pools which cannot be met because (1) there is too much demand for any particular swimming pool within its catchment area and there is a lack of swimming pool capacity; or (2) the demand is located outside the catchment area of any pool and it is then classified as unmet demand.
- 6.2 The North Lincolnshire total unmet demand is 10.5% of total demand in run 1 and this equates to 185 sq. metres of water. In run 2 unmet demand is 11.4% of total demand and this equates to 196 sq. metres of water based on the total demand in 2038.
- 6.3 So despite the total demand for swimming across North Lincolnshire decreasing very slightly between 2020 and 2038 there is a slight increase in the level of unmet demand. This is explained by the shift in the amount of unmet demand from both sources.
- 6.4 In 2020 unmet demand located outside the catchment area of a swimming pool is 99.2% of total unmet demand (183 sq metres of water) and this decreases to 91.5% of total unmet demand in 2038 (179 sq metres of water).
- 6.5 Unmet demand from lack of swimming pool capacity increases between the two years. This is most likely caused by 1 or 2 pool sites being full and there is an increase in population/demand in the catchment area of these pools between 2020 and 2038. Plus, there are no other pools which share the catchment area and can absorb some of this demand (examined under the used capacity heading).

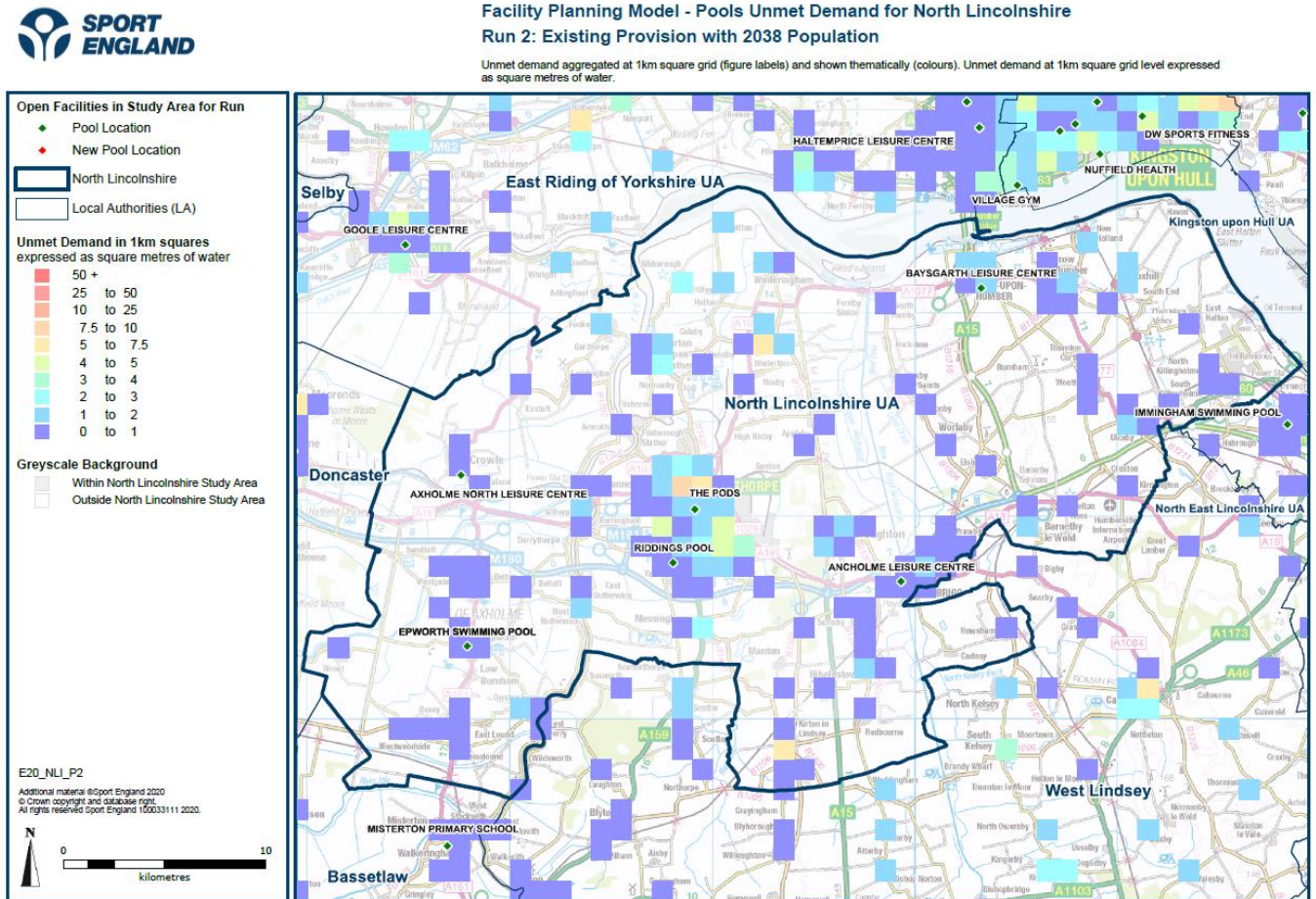
- 6.6 Unmet demand from lack of swimming pool capacity is 0.8% of total unmet demand in 2020 (2 sq metres of water) and it increases to 8.5% of total unmet demand in 2038 (17 sq metres of water).
- 6.7 Whilst there is an increase in unmet demand from lack of swimming pool capacity in terms of the actual water space it is very low.
- 6.8 Returning to unmet demand located outside catchment, this will always exist, because it is not possible to get complete spatial coverage, whereby all areas of an authority are inside the catchment area of a swimming pool.
- 6.9 This is especially true for the 20 minutes/1 mile walking catchment area, which by definition is quite a small catchment area. Also, some residents do not have access to a car and they either walk or use public transport to access a pool. Residents who do not have access to a car and live outside the catchment area of a swimming pool, accounts for between 72% and 66% of the total unmet demand (penultimate row in Table 6.1).
- 6.10 The key point is, not that unmet demand outside catchment exists but the SCALE, and it is 183 sq metres of water in 2020 and 179 sq metres of water in 2038, across all of North Lincolnshire. This compares with the North Lincolnshire available supply of water space of 1,614 sq. metres of water in both years.
- 6.11 The location and scale of the North Lincolnshire unmet demand from both sources is shown in Map 6.1 for 2020 and Map 2.2 for 2038.
- 6.12 The unmet demand is represented in colour coded one-kilometre grid squares, with the values shown in each square. The values are, purple (0 - 1 sq. metre of water), mid blue (1 – 2 sq. m), light blue (2 – 3 sq. m), turquoise (3 – 4 sq. metres of water), sage green (4 – 5 sq. metres of water), light beige 5 – 7.5 sq. metres of water), darker beige (7.5 – 10 sq metres of water and pink (10 – 25 sq metres of water).
- 6.13 Unmet demand in both years is highest in the Scunthorpe area where it totals between 50 - 55 sq metres of water in 2020 and 60 - 65 sq metres of water in 2038. It is most likely this area has the highest population density in North Lincolnshire and it does have the highest demand for swimming pool (Maps 3.1 and 3.2 in the demand section). If there is a lack of pool capacity at the pool sites in Scunthorpe, then this will contribute to the unmet demand (findings in the used capacity section).
- 6.14 Unmet demand is next highest in the Winterton and Barton-Upon-Humber areas, where it totals 10 sq metres of water in each area in both years Across the rest of the authority unmet demand has values of between 1 – 2 sq

metres of water and there is not an area which has a cluster of unmet demand. Unmet demand is highest in the Kingston-Upon-Hull area and there is very little unmet demand located in the other local authorities bordering North Lincolnshire.

Map 6.1: Run 1 Unmet Demand for Swimming Pools North Lincolnshire 2020



Map 6.2: Run 2 Unmet Demand for Swimming Pools North Lincolnshire 2038



Car Catchment Area for Swimming Pools

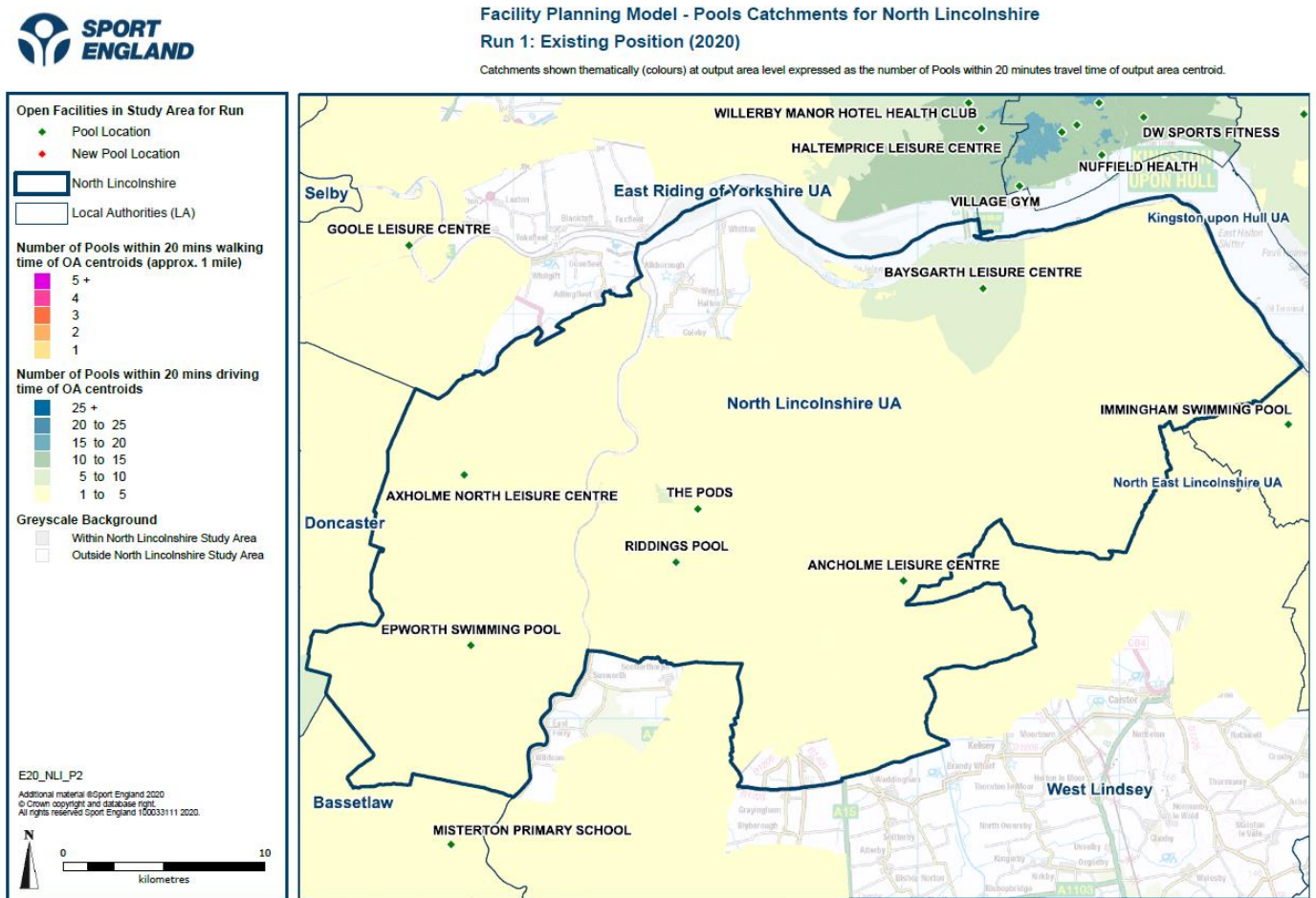
- 6.15 It is possible to set out how many swimming pools can be accessed by North Lincolnshire residents based on where they live and the 20 minute drive time catchment area of the swimming pool locations (including pools located in neighbouring authorities). These findings are set out in Map 6.3 for 2020, as there are no changes in the swimming pool locations to 2038, then the findings for 2038 are the same as for 2020.
- 6.16 Residents living in the small area which shows the base map, in and around Halton are outside the 20 minute drive time of any swimming pool location, demand for swimming in this area is between 5 – 10 sq metres of water.
- 6.17 Residents living in the cream areas have access to between 1 – 5 swimming pools, based on where they live and the 20 minute drive time catchment area of the pool locations.
- 6.18 Residents in the light green area have access to between 5 – 10 swimming pool sites, based on the same criteria of where they live, the pool site

locations and the car catchment area. This is in the Barton-Upon-Humber _ r area and residents in this area are within the 20 minute drive time catchment area of the cluster of the pools located in Kingston-Upon-Hull. The modelling is based on the actual 20 minute drive time and does include the time taken/distance for crossing the Humber Bridge.

6.19 Overall, the 20 minute drive time catchment area for the swimming pool locations does include nearly all of North Lincolnshire’s land area and residents who drive to swimming pools have access to between 1 - 5 swimming pool sites.

6.20 The 2011 Census finding is that 80% of North Lincolnshire residents DO have access to a car and the fpm findings are that 85% of all visits to swimming pools are by car.

Map 6.3: Run 1 Access to Swimming Pools Based on the Car Travel Catchment Area of Pools 2020

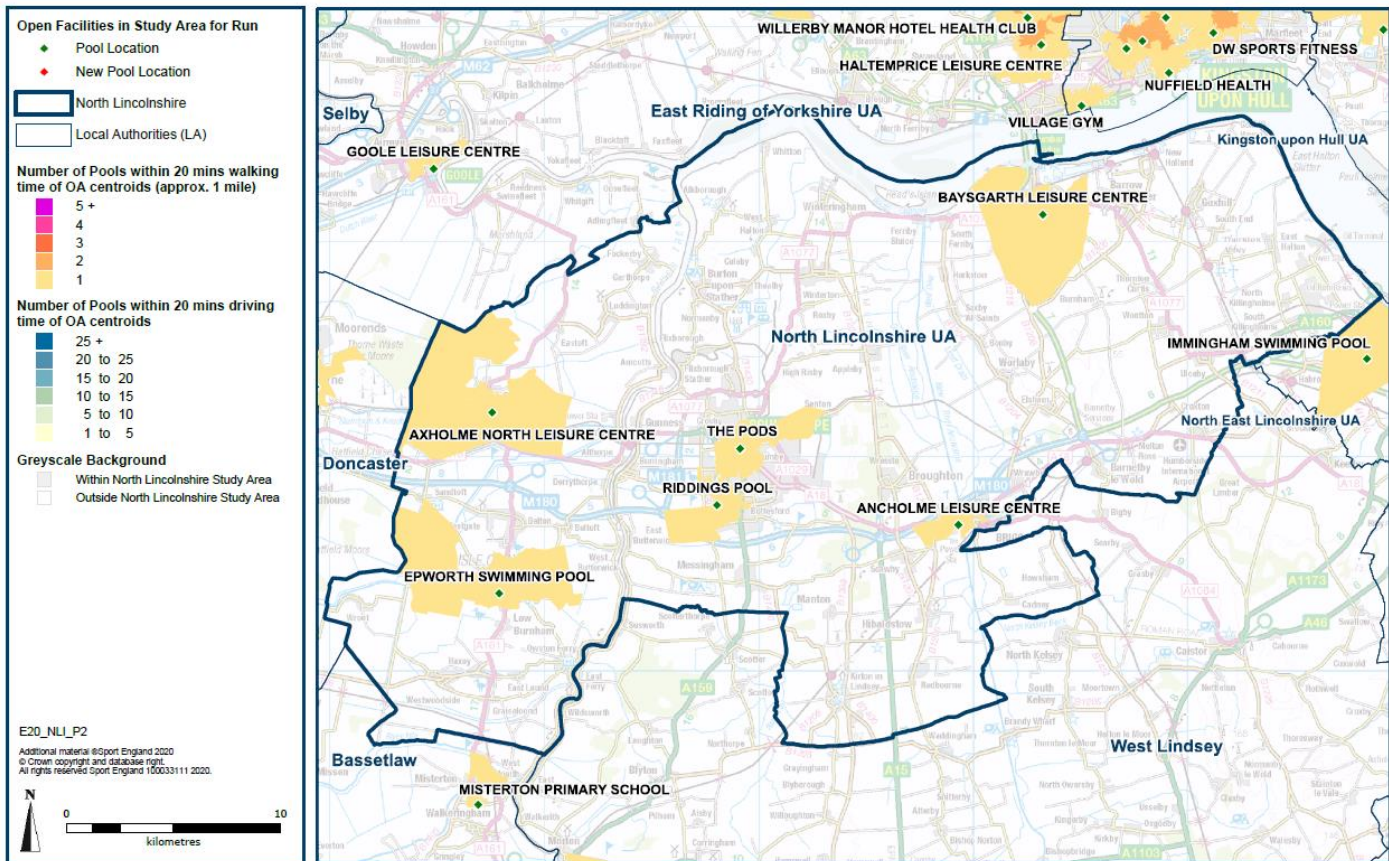


Walking Catchment Area for Swimming Pools

6.21 It is also possible to do the same mapping for the 20 minutes/1 mile walking catchment area of swimming pools and this is set out below in Map 6.4 for run 1 in 2020. Residents in the area shaded beige are inside the walking catchment area of 1 swimming pool site. Not surprisingly, given the small catchment area the walking catchment of the pool sites the only overlap is with The Pods and Riddings swimming pool sites.

Map 6.4: Run 1 Access to Swimming Pools Based on the Walking Catchment Area of Swimming Pools 2020

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



7. Used Capacity (how full are the pools?)

Table 7.1: Used Capacity of Swimming Pools North Lincolnshire 2020 - 2038

North Lincolnshire	RUN 1	RUN 2
Used Capacity	2020	2038
Total number of visits used of current capacity visits per week peak period	9,651.	9,441.
% of overall capacity of pools used	69.	67.5
Visits Imported;		
Number of visits imported visits per week peak period	646.	676.
As a % of used capacity	6.7	7.2

- 7.1 **Definition of used capacity** – it is a measure of usage at swimming pools and estimates how well used/how full facilities are. The facilities planning model is designed to include a ‘comfort factor’, beyond which the venues are too full. The pool itself becomes too crowded to swim comfortably and the changing and circulation areas also become too crowded. In the model Sport England assumes that usage over 70% of capacity is busy, and the swimming pool is operating at an uncomfortable level above that percentage.
- 7.2 In run 1 the swimming pools, as an authority wide average, are estimated to be 69.5% full at peak times and this decreases slightly to 67.5% in 2038, in line with the projected slight decrease in total demand for swimming between 2020 and 2038.
- 7.3 These are the authority wide average findings for pool capacity used, and the estimated used capacity for each pool site varies from the authority wide average. The findings for each pool site are set out in Table 7.2.
- 7.4 As the table shows, there are four sites which have an estimated used capacity below the Sport England pools full level of 70% of capacity used at peak times, Ancholme Leisure Centre (45% in 2020 and 39% in 2038), Axholme North Leisure Centre (44% and 52%), Epworth Swimming Pool (46% and 43%) and Riddings Pool (585 and 515).
- 7.5 The two sites above the 70% of pool capacity used at peak times are, Baysgarth Leisure Centre (94% and 100%) and The Pods (100% in both years). A detailed explanation of these findings is set out in the summary report.

Table 7.2: Runs 1 - 2 Used Capacity of the North Lincolnshire Swimming Pools 2020 – 2038

Individual Sites Utilised Capacity	RUN 1	RUN 2
	2020	2038
North Lincolnshire	69	67
ANCHOLME LEISURE CENTRE	45	39
AXHOLME NORTH LEISURE CENTRE	44	52
BAYSGARTH LEISURE CENTRE	94	100
EPWORTH SWIMMING POOL	46	43
RIDDINGS POOL	58	51
THE PODS	100	100

Imported Demand.

- 7.6 Imported demand is reported under used capacity, because it measures the demand from residents who live outside North Lincolnshire but the nearest pool to where they live is inside the authority. If these residents use the pool nearest to where they live, this becomes part of the used capacity of the North Lincolnshire pools.
- 7.7 In 2020 imported demand is 6.7% of the used capacity of the North Lincolnshire pools (646 visits in the weekly peak period) and it is 7.2% in 2038 (676 visits in the weekly peak period).(Table 7.3).
- 7.8 The main source of imported demand is from West Lindsey, with 396 visits in 2020 and 375 visits in 2038. The other main source of imported demand is from East Riding of Yorkshire with 121 visits in 2020 and 149 visits in 2038. The figures in the North Lincolnshire row represent the used capacity of the pools by North Lincolnshire residents.

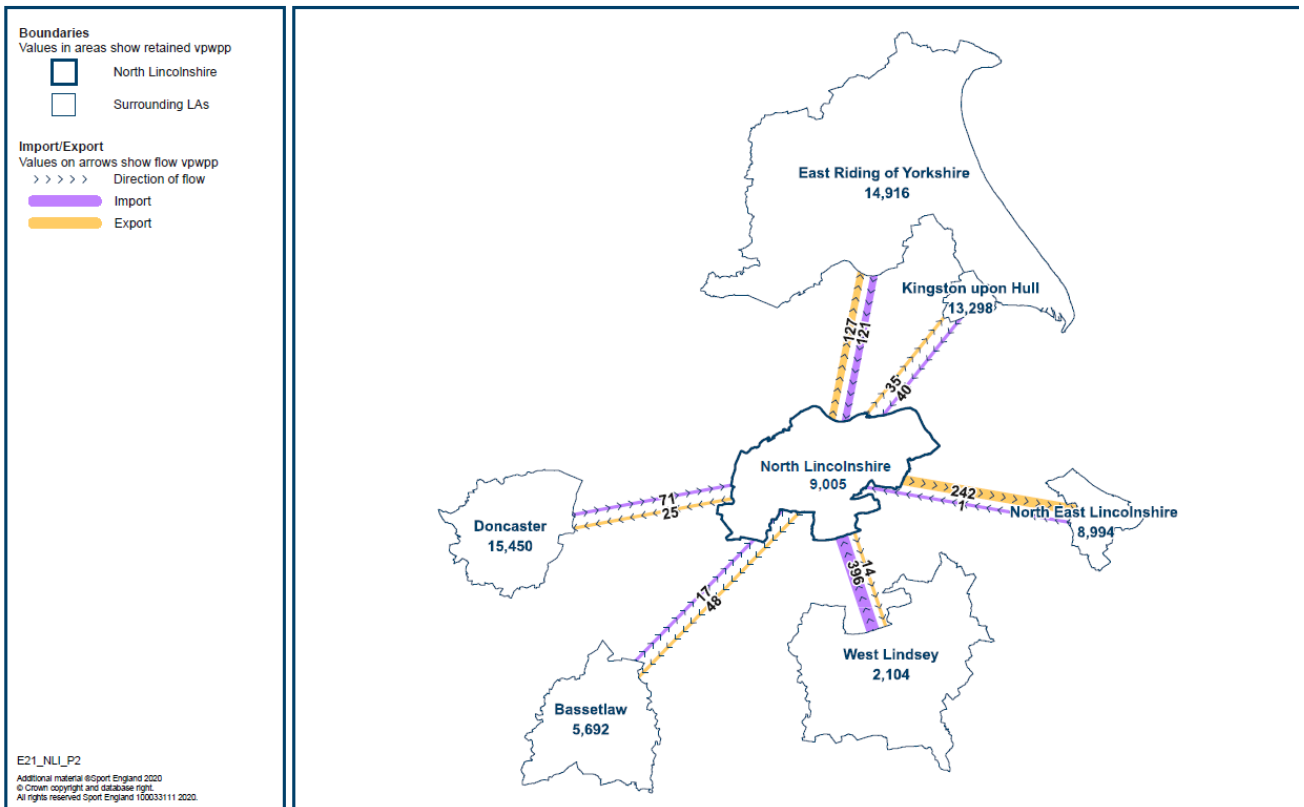
Table 7.3: Imported Demand (in visits) to North Lincolnshire Swimming Pools 2020 - 2038

	Import (in visits)	
	Run 1	Run 2
North Lincolnshire	9,005	8,765
West Lindsey	396	375
Bassetlaw	17	16
East Riding of Yorkshire UA	121	149
Kingston upon Hull UA	40	39
North East Lincolnshire UA	1	1
Doncaster	71	95
OTHER		

7.9 The same information in the tables can be presented in map form and this is set out in Maps 7.1 – 7.2. The figures in the purple chevron shows the number of visits imported from each authority in 2020 and then 2038.

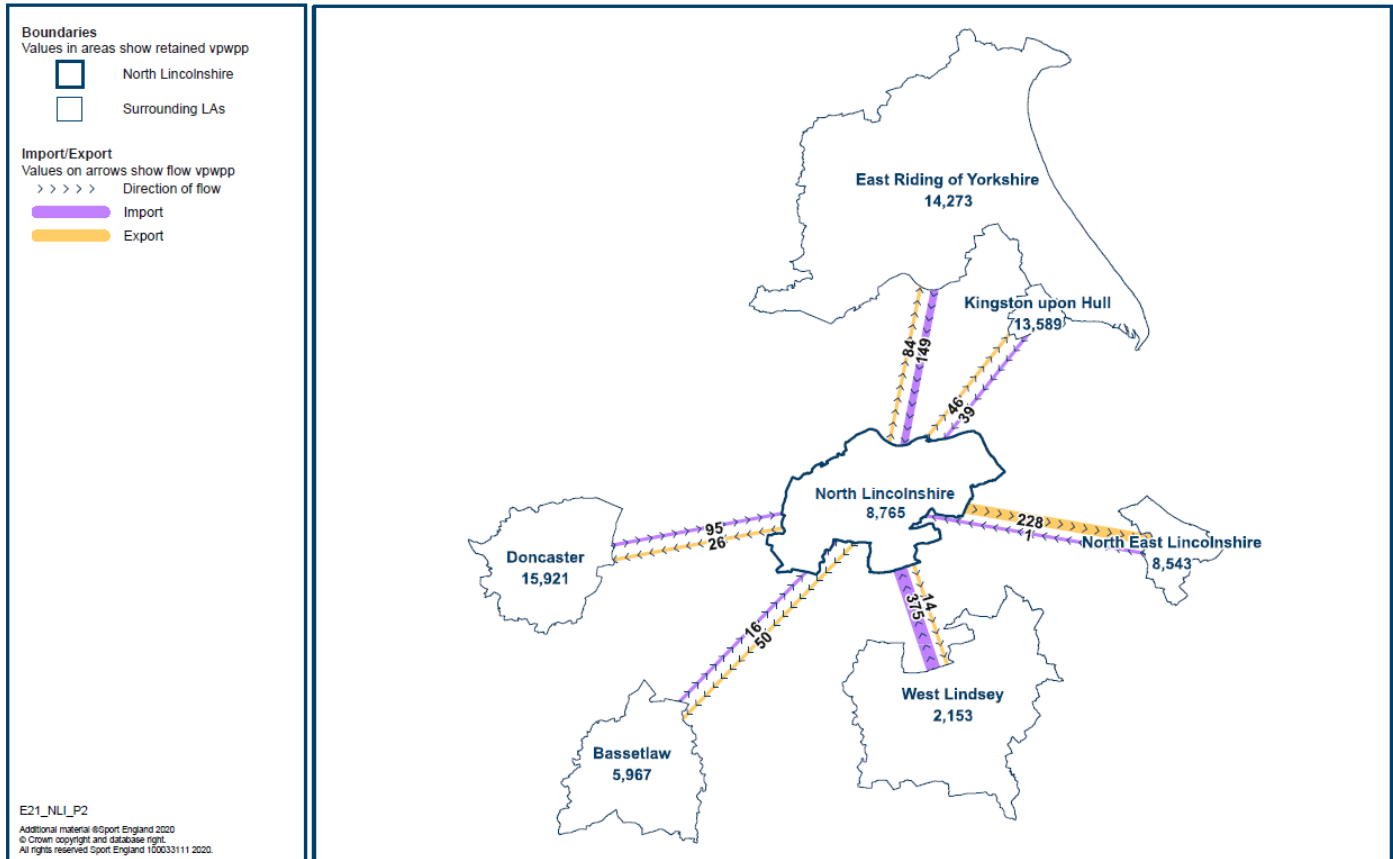
Map 7.1: Run 1 Source and Values for Imported Demand to North Lincolnshire (in visits) 2020

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



Map 7.2: Run 2 Source and Values for Imported Demand to North Lincolnshire (in visits) 2038

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



8. Local Share of Facilities

Table 8.1: Local Share of Swimming Pools North Lincolnshire 2020 – 2038

North Lincolnshire	RUN 1	RUN 2
Local Share	2020	2038
Local Share: <1 capacity less than demand, >1 capacity greater than demand	1.1	0.64

- 8.1 **Local share** has quite a complicated definition - it helps to show which areas have a better or worse share of facility provision. It considers the size and availability of facilities as well as travel modes. Local share is useful at looking at ‘equity’ of provision. Local Share is the available capacity that can be reached in an area divided by the demand for that capacity in the area.
- 8.2 A value of 1 means that the level of supply just matches demand, while a value of less than 1 indicates a shortage of supply and a value greater than 1 indicates a surplus.
- 8.3 In run 1 North Lincolnshire has a local share of 1.1 and so supply in terms of local share of facilities is greater than demand.
- 8.4 In 2038, local share as an authority wide average is 0.64, it decreases because of the projected population increase, so more people to share the supply of swimming pools, which is unchanged from 2020.
- 8.5 The distribution of local share and how it varies across North Lincolnshire is set out in Map 8.1 for 2020 and Map 8.2 for 2038. The local share is shown in colour coded squares with different values for each colour.
- 8.6 In 2020, local share is highest in the Crowle area, where the local share values are in blue and with values of 2. - 2.5, so supply is considerably greater than demand. This leads to a very high local share of swimming pools for residents in this area, residents do have access to Axholme North Leisure Centre.
- 8.7 Local share is within a range of 1.6 – 1.8 in the area south of Crowle and north of Epworth. Residents in this area will have access to Axholme North Leisure Centre and Epworth Leisure Centre.
- 8.8 Around the location of the Ancholme North Leisure Centre, the green/turquoise squares have values of 1.5 – 1.7. So supply is also greater than demand in terms of local share of swimming pools. Ancholme North Leisure Centre is an extensive swimming pool site, and it may also be that the population density in this part of

the authority is also lower. When these findings are combined there is a high supply for possibly a lower population, leading to a high local share of swimming pools.

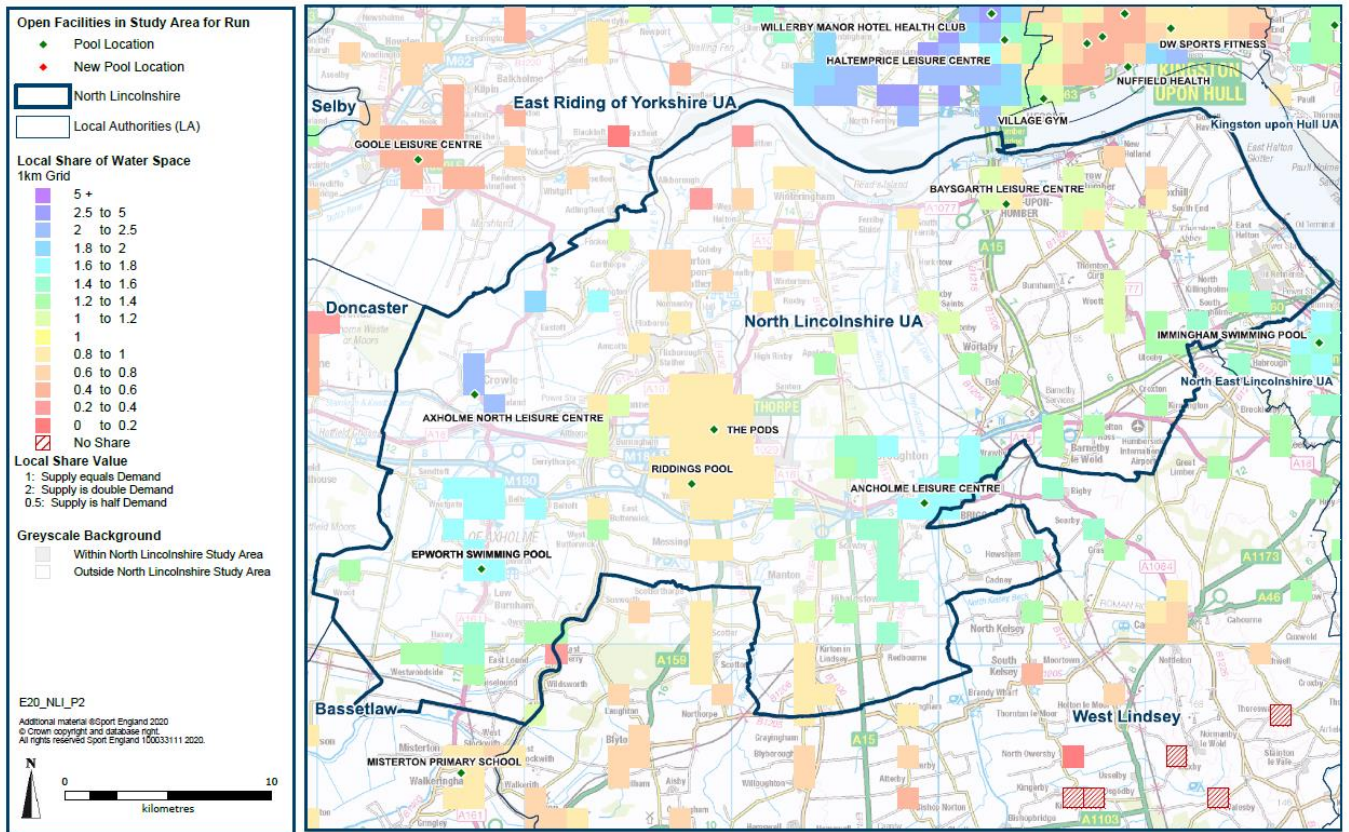
- 8.9 Local share is also above 1 in the in the north east and south west of the authority in the areas shaded lime green 1. – 1.2 and mid green 1.2 – 1.4. The north east areas are within the drive time catchment area of Baysgarth Leisure Centre and the south west area is within the drive time catchment for Epworth Leisure Centre. The local share findings suggest that again population density is also lower in these parts of the authority and this leads to a higher local share of swimming pools for residents.
- 8.10 Local share is lowest in the area around Scunthorpe town and in the area north of the town, then in the area north to the Humber river. The values in the two shades of beige squares are, 1 – 0.8, and 0.8 – 0.6, and in the red squares 0.6 – 0.4. Whilst there is access to The Pods and Riddings pool in this area, it maybe this is the area of the authority with higher population density, leading to a lower local share of swimming pools. Plus the area just south of the river Humber is outside the drive time catchment area of The Pods.(Map 6.3).
- 8.11 In 2038 local share is lower at 0.64 as the authority average and is created because of the projected increase in population, with no increase in swimming pool supply. So there is a higher population to share the same supply of swimming pools. There is a more uniform distribution of local share with the same high and low areas for local share. The range is 0.8 – 0.6 in the same high areas in 2020 and 0.6 – 0.4 in the same low areas in 2020.
- 8.12 The exception is in the area north of Epworth where supply is still greater than demand and with values of 1 – 1.2 and 1.2 – 1.4 (the two shades of green squares).
- 8.13 Local share identifies the areas of the authority where the share of swimming pools is lowest, and the interventions are about trying to increase access for residents in these areas to the existing supply of swimming pools.

Map 8.1: Run 1 Local Share of Swimming Pools North Lincolnshire 2020

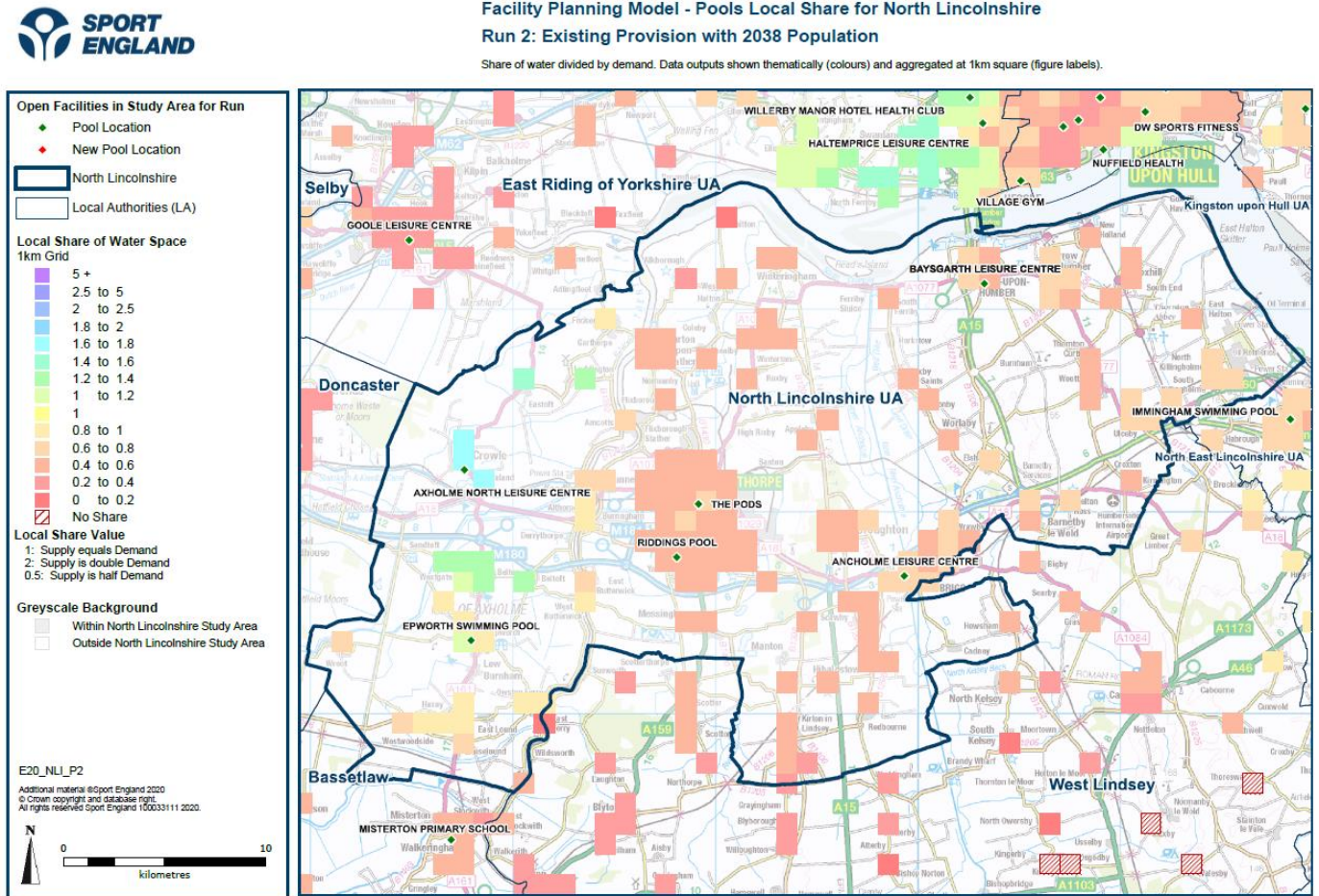


**Facility Planning Model - Pools Local Share for North Lincolnshire
Run 1: Existing Position (2020)**

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



Map 8.2: Run 2 Local Share of Swimming Pools North Lincolnshire 2038



8.14 This ends the reporting on swimming pools provision for North Lincolnshire under each of the two runs and for each of the seven headings. The executive summary of findings is set out next.

9. Executive Report

Context

- 9.1 North Lincolnshire Council is reviewing the provision of swimming pools and has commissioned a Sport England facility planning model (fpm) local assessment to develop a swimming pools evidence base.
- 9.2 The overall aims of the fpm work are to:
- Assess the extent to which the existing supply of swimming pools meets current levels of demand in 2020 across the Council area and a wider study area.
 - Assess the extent to which the existing supply of swimming pools would meet future demand and its distribution, based on the population change across the Council area and a wider study area up to 2038.
- 9.3 The evidence base developed will be applied by the Council in the strategic planning for swimming pool provision. It will also provide an evidence base for the North Lincolnshire Local Plan, which can be used in the development of planning policies for swimming pools, plus assessing planning application for swimming pools. for example, a project as part of a commercial leisure development.
- 9.4 Finally the evidence base can be applied to negotiate developer contributions towards the modernisation costs of public leisure centre swimming pools. this may be required to accommodate the demand for swimming pools, generated by new residential development.
- 9.5 The fpm study has two assessments (known as runs) and these include the swimming pool provision and population in the neighbouring authorities to the North Lincolnshire Council area. This is because the assessments are based on the catchment area of the swimming pools and these overlap local authority boundaries.
- 9.6 The fpm separate modelling runs are:
- **Run 1** – supply, demand, and access to swimming pools, in 2020. This run provides a baseline assessment of current provision.
 - **Run 2** – supply, demand, and access to swimming pools in 2038, based on the projected growth in population 2020 – 2038 across the North Lincolnshire Council area and the neighbouring authorities has on the demand for swimming and its distribution. In effect, this is the forward assessment of demand and evidence base and which can be

compared with the baseline 2020 position to establish the scale and extent of change.

- 9.7 This executive report provides a headline overview, followed by a summary of key findings under the assessment headings. These key findings are numbered and reported in the same sequence as the assessment itself. (Note: there are frequent references to swimming pool supply in sq. metres of water. For context, a 25m x 4 lane swimming pool is between 210 - 250 sq. metres of water, depending on the width of individual lanes).

Headline Strategic Findings

- 9.8 The headline strategic finding from the facility planning model study is that the North Lincolnshire demand for swimming pools, can be met by the supply of swimming pools accessible to North Lincolnshire residents in 2020 and projected forward to 2038.
- 9.9 89% (rounded) of the North Lincolnshire demand for swimming in both years can be met/satisfied by the swimming pool supply. Some demand is located outside the catchment area of a swimming pool and therefore cannot access a swimming pool. This source of unmet demand, along with unmet demand from lack of swimming pool capacity, is 11% (rounded) of total demand in both years.
- 9.10 Unmet demand outside catchment will always exist because it is not possible to achieve complete spatial coverage, whereby all areas of an authority are inside the catchment area of a swimming pool. This is especially true if an authority has several small, dispersed settlements.
- 9.11 The key point is, not that unmet demand outside catchment exists but the SCALE, and in North Lincolnshire it is within a range of 183 sq metres of water in 2020 and 179 sq metres of water, distributed across all of North Lincolnshire. There is no cluster location of high unmet demand that would warrant consideration of increasing swimming pool provision, so as to improve accessibility for residents.
- 9.12 The most important finding/theme from the assessment, is the North Lincolnshire total demand for swimming. In 2020, this equates to 1,761 sq. metres of water. The total demand is projected to decrease very slightly, to 1,725 sq. metres of water by 2038.
- 9.13 The most likely reason for the slightly lower total demand for swimming in 2038, is because demand for swimming pools is made up of (1) the resident population and (2) the growth in population between 2020 and 2038, which is from 173,143 residents in 2020 to 177,331 residents by 2038. The ageing of

the resident population between 2020 and 2038 will influence the demand for swimming. It can mean, there are fewer people in the main age bands for swimming (14 – 54 and for both genders) in the second run year than the first run year.

- 9.14 So, the increase in demand for swimming from population growth, is offset by the ageing of the much larger resident population between 2020 and 2038, the total demand figure includes both parts.
- 9.15 Based on North Lincolnshire residents using the nearest swimming pool to where they live, over 94% of satisfied demand in both years is retained at the North Lincolnshire swimming pool sites.
- 9.16 So there is a very close correlation between the location and catchment area of the North Lincolnshire swimming pool sites and the location of the North Lincolnshire demand for swimming, with almost all satisfied demand being retained within the authority.
- 9.17 Any consideration to change the swimming pool locations is not going to improve this relationship and is very unlikely to increase North Lincolnshire residents' access to swimming pools.
- 9.18 The swimming offer provided by the number and scale of the public leisure centre swimming pools in North Lincolnshire is extensive. There are two public leisure centre sites which have both a main pool and a separate teaching/learner pool, The Pods and Ancholme Leisure Centre.
- 9.19 These sites can provide for all swimming activities and which can take place in dedicated pools. There are four other public leisure centre single swimming pool sites which are smaller in scale, but they can accommodate most swimming activities, especially the Riddings Centre.
- 9.20 The average age of all the pool sites in 2021 is 24 years, the oldest pool site is Ancholme Leisure Centre (opened in 1975 and modernised in 2014). The most recent swimming pool site to open is Axholme North Leisure Centre, opened in 2018). By 2038 the average age of the pool sites will be 41 years and there will be a need to continue the current track record of modernisation, so as to maintain the quality of the swimming offer.
- 9.21 The oldest unmodernised pool site is Epworth Leisure Centre, which opened in 1996. Demand for swimming in Epworth is the lowest within the authority in both 2020 and 2038.(Maps 3.1 and 3.2).

Summary of key findings from the assessment

9.22 Set out next is the summary of findings under the assessment headings in the main report. The key findings are numbered and shown in bold typeface.

Swimming Pool Supply

9.23 The summary of key findings on swimming pool supply are:

- There are 6 swimming pool sites and 8 individual swimming pools located in North Lincolnshire in 2020. The total amount of water space available for community use is 1,614 sq. metres of water in both years.
- There are two sites which have both a main pool and a teaching learner pool:
 - Ancholme Leisure Centre (opened in 1975 and modernised in 2014) has a 25m x 13m six lane main pool and a 10m x 5m teaching learner pool,
 - The Pods (opened in 2011) has a 25m x 17m eight lane main pool and a 10m x 8m teaching/learner pool,
- The swimming offer at both these public leisure centre sites is very extensive, they can provide for all swimming activities in dedicated pools, the activities being, learn to swim, casual recreational swimming, lane and fitness swimming activities and swimming development through swimming clubs.
- The single swimming pool sites are.
 - Riddings Pool (opened in 1972 and modernised in 2008) has a 25m x 13m six lane main pool.
 - Axholme North Leisure Centre (opened in 2018) has a 25m x 9m four lane main pool.
 - Baysgarth Leisure Centre (opened in 2008) and Epworth Leisure Centre (opened in 1996) are the smallest swimming pools in North Lincolnshire, and both have a main pool of 20m x 8m and four lanes.

9.24 The Riddings main pool can accommodate all swimming activities, the size of the other pool sites may limit the activities that can take place at any one time.

9.25 The average age of all the pool sites in 2021 is 24 years, the oldest pool site is Riddings Pool (opened in 1972 and modernised in 2008). The most recent swimming pool site to open is Axholme Leisure Centre (opened in 2018).

- The oldest unmodernised pool is Epworth Leisure Centre opened in 1996. It will be important to monitor the condition of this pool and the need for modernisation to maintain the attractiveness of the pool to customers. Fortunately, the demand for swimming in Epworth is the lowest in the authority in both 2020 and projected forward to 2038.(Maps 3.1 and 3.2).
- Perhaps somewhat surprisingly, there are no commercial swimming pool sites in North Lincolnshire. Should a project be proposed in the future, this assessment and evidence base can be applied to determine the need for any project, and its impact on the re-distribution of demand from the public leisure centre swimming pools.

Measure of provision

9.26 North Lincolnshire has 10 sq. metres of water per 1,000 population in both years (rounded). In comparison with the neighbouring authorities, North Lincolnshire has the second lowest provision based on this measure, after West Lindsey with 7.4 sq. metres of water per 1,000 population in 2020 and 7 sq metres of water per 1,000 population in 2038 (Table 2.3).

9.27 The highest provision is located in North East Lincolnshire, with 13.7 sq. metres of water per 1,000 population in 2020 The Yorkshire Region average is 11 sq metres of water per 1,000 population and the England wide average is 12 sq. metres of water per 1,000 population.

9.28 The findings on water space per 1,000 population are set out because some local authorities like to know how their quantitative provision compares with elsewhere, it is not setting a standard of provision. The supply and demand for swimming pools in North Lincolnshire is based on the findings from all seven headings analysed in the report.

Demand for swimming

9.29 The **first key finding** is the North Lincolnshire total demand for swimming in 2020, equates to a total demand for 1,761 sq. metres of water. The total

demand is projected to decrease very slightly, to 1,725 sq. metres of water by 2038.

9.30 There is a projected 2.4% increase in the total population across North Lincolnshire between 2020 and 2038 and a projected 2% decrease in the total demand for swimming. (Table 3.1). Given the very small change in demand, there is virtually no change in the distribution of demand between 2020 and 2038. The highest demand is clustered in and around Scunthorpe, where it totals 36% of total demand in both years (Maps 3.1 and 3.2).

9.31 The **second set of key findings** relate to the impact of the demand assessment.

- Population change/growth is not a driver of an increase in demand for swimming pools and therefore there is no evidence base to consider increasing the provision of swimming pools based on population change/growth.
- Whilst demand is almost unchanged between 2020 and 2038, the finding is that some pools sites are near to full at peak times (set out under used capacity). There will be a need to continue to manage swimming demand and programmes across the six sites to try and even out the usage across the sites.
- There will be a need to continue to modernise the swimming pool sites to maintain the quality offer, and as set out under supply, the Epworth Leisure Centre is the oldest unmodernised site. By 2038 the average age of all the pool sites will be 41 years. Whilst the evidence base finding is that there is no need to increase swimming pool provision, developer contributions can still be negotiated for modernisation of the swimming pool stock.
- Also based on age and condition of the swimming pools there may be a cost/swimming case to replace swimming pools rather than modernise, this may also apply to Epworth Leisure Centre. If that is considered, then an options appraisal could be undertaken using this evidence base and modelling to assess the impact of changes in swimming pool provision.

9.32 The **third key finding** is that there are small projected increases in the total demand for swimming pools between 2020 – 2038 in three authorities, with a projected decrease in demand in the other authorities (Table 3.2).

9.33 Increases are projected in West Lindsey, Bassetlaw, and Doncaster, and total demand for swimming is projected to decrease slightly in, East Riding of

Yorkshire, Kingston-Upon-Hull, and North East Lincolnshire. So along with North Lincolnshire, four of the seven local authorities in the study area are projected to have a slight decrease in the demand for swimming up to 2038 based on the rates and frequency of swimming participation being unchanged.

Satisfied demand for swimming

9.34 Satisfied demand measures how much of the total demand for swimming from North Lincolnshire residents is met. This is from residents who live within the driving, walking or public transport catchment area of a swimming pool.

9.35 In 2020, the North Lincolnshire total demand for swimming which can be met is high, at 89% of total demand in both years. Across the study area the range is 91.2% of total demand met in North East Lincolnshire to 72.2% of total demand met in West Lindsey. (Table 5.2).

Retained demand.

9.36 A subset of the satisfied demand findings is retained demand, which measure how much of the North Lincolnshire demand for swimming is retained at the pools located within North Lincolnshire. This assessment is based on the catchment area of pools and residents using the nearest pool to where they live, and it is a pool located within North Lincolnshire.

9.37 The **fourth key finding** is that retained demand is very high at 95% of satisfied demand in both years. In summary, the nearest pool to where a North Lincolnshire resident lives for over nine out of ten visits, is a pool located within North Lincolnshire.

9.38 The **fifth key finding** is that there is a very close correlation between the location and catchment area of the North Lincolnshire swimming pool sites and the location of the North Lincolnshire demand for swimming, with almost all satisfied demand being retained within the authority.

9.39 The **sixth key finding** is that any consideration to change the swimming pool locations is not going to improve this relationship and is very unlikely to increase North Lincolnshire residents' access to swimming pools.

9.40 The only caveat to this finding is the location and scale of future residential development in the authority, which could change the distribution of demand for swimming pools. If residential growth are extensions to existing urban settlements, it is unlikely to change the current findings. It is only if there are large scale residential sites (upwards of 2,500 units in new growth areas) that

there could be a significant change in the distribution of demand for swimming.

Exported demand.

- 9.41 The residual of satisfied demand, after retained demand, is exported demand. Again, this is based on North Lincolnshire residents using the nearest swimming pool to where they live, and this time it is a pool located outside the authority.
- 9.42 In both years 5% (rounded) of the North Lincolnshire demand for swimming is exported and met at pools in neighbouring local authorities.
- 9.43 The largest export in both years is to North East Lincolnshire but with just 242 visits in 2020 and 228 visits in 2038. Some 127 visits are exported per week to the East Riding of Yorkshire in 2020 and 84 visits in 2038.
- 9.44 The **seventh key finding** and by way of context and comparison, the North Lincolnshire retained demand is 9,005 visits per week in the weekly peak period in 2020 and 8,785 visits in 2038. Whilst the total exported demand is 492 visits per week in the weekly peak period in 2020 and 448 visits in 2038. (Table 5.1).

Unmet demand for swimming pools

- 9.45 The unmet demand definition has two parts to it – demand for pools which cannot be met because (1) there is too much demand for any particular swimming 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.
- 9.46 The North Lincolnshire total unmet demand is 105% of total demand in 2020 and this equates to 185 sq. metres of water. In 2038, unmet demand is projected to increase to 11.4% of the 2038 demand and this equates to 196 sq. metres of water .
- 9.47 So despite the total demand for swimming across North Lincolnshire decreasing very slightly between 2020 and 2038, there is a slight increase in the level of unmet demand. This is explained by the shift in the amount of unmet demand from both sources.
- 9.48 In 2020 unmet demand located outside the catchment area of a swimming pool is 99.2% of total unmet demand (183 sq metres of water) and this decreases to 91.5% of total unmet demand in 2038 (179 sq metres of water).

- 9.49 Unmet demand from lack of swimming pool capacity increases between the two years. This is most likely caused by 1 or 2 pool sites being full and there is an increase in population/demand in the catchment area of these pools between 2020 and 2038. Plus, there are no other pools which share the catchment area and can absorb some of this demand (examined under the used capacity heading).
- 9.50 The **eighth key finding** is that whilst there is an increase in unmet demand from lack of swimming pool capacity, the actual water space is very low, it is 0.8% of total unmet demand in 2020 (2 sq metres of water) and it increases to 8.5% of total unmet demand in 2038 (17 sq metres of water).
- 9.51 Returning to unmet demand located outside catchment, this will always exist, because it is not possible to get complete spatial coverage, whereby all areas of an authority are inside the catchment area of a swimming pool. This is especially true if an authority has several small, dispersed settlements.
- 9.52 The key point is, not that unmet demand outside catchment exists but the SCALE, and it is within a range of 183 sq metres of water in 2020 and 179 sq metres of water, across all of North Lincolnshire.
- 9.53 Unmet demand in both years is highest in the Scunthorpe area where it totals between 50 - 55 sq metres of water in 2020 and 60- 65 sq metres of water in 2038. It is most likely this area has the highest population density in North Lincolnshire and it does have the highest demand for swimming pool (Maps 3.1 and 3.2 in the demand section). If there is a lack of pool capacity at the pool sites in Scunthorpe, then this will be contributing to the unmet demand.
- 9.54 Unmet demand is next highest in the Winterton and Barton-Upon-Humber areas, where it totals 10 sq metres of water in each area in both years Across the rest of the authority unmet demand has values of between 1 – 2 sq metres of water and there is not an area which has a cluster of unmet demand. (Maps 6.1 and 6.2).

Used capacity of swimming pools (how full are the pools?)

- 9.55 Sport England include within the facilities planning model a 'comfort factor', beyond which the swimming pool becomes too full. The pool itself becomes too crowded to swim comfortably and the changing and circulation areas also become too crowded. The model assumes that usage over 70% of capacity is busy and the swimming pool is operating at an uncomfortable level above that percentage.
- 9.56 The **ninth key finding** is that in 2020, the swimming pools, as an authority wide average, are estimated to be 69% full at peak times and this decreases

slightly to 67.5% in 2038, in line with the projected slight decrease in total demand for swimming.

9.57 The estimated used capacity for each pool site does vary from the authority wide average (Table 7.2). There are four sites which have an estimated used capacity below the Sport England pools benchmark of 70%, Ancholme Leisure Centre (45% in 2020 and 39% in 2038), Axholme North Leisure Centre (44% and 52%), Epworth Swimming Pool (46% and 43%) and Riddings Pool (585 and 515).

9.58 The two sites above the 70% of pool capacity used at peak times are, Baysgarth Leisure Centre (94% and 100%) and The Pods (100% in both years) .

9.59 The estimated used capacity of swimming pools can vary for several reasons:

- **Firstly** - it is important to consider the scale and capacity of a swimming pool site when looking at the estimated used capacity and not consider the percentage figure in isolation. The Pods is the largest swimming pool site in North Lincolnshire with a 25m x 17m eight lane main pool and a teaching learner pool of 10m x 8m (total area 505 sq metres of water). It can accommodate several activities at the same time in the two pools.
- The Pods has an estimated used capacity of 100% in the weekly peak period and can accommodate much more use than (say) the Baysgarth Leisure Centre, which has a 20m x 8m four lane main pool and an estimated used capacity of 96% in the weekly peak period in 2020. Whilst there is only a 4% difference in the estimated used capacity findings, The Pods usage and throughput will be very much higher than Baysgarth Leisure Centre. To repeat, it is important to consider the scale of a pool site when looking at used capacity and not just the percentage figure in isolation.
- **Secondly** - the age and condition of a pool will impact on its usage, all the pool sites are weighted in the model, to reflect their age and comparative attraction to swimmers. The second oldest swimming pool site in North Lincolnshire is Epworth Leisure Centre opened in 1996 and it has an estimated used capacity of 46% at peak times in 2020 and 43% in 2038. It is also a single pool site with a 20m x 8m four lane main pool.
- **Thirdly** - the used capacity of a pool does relate to the demand for swimming in its catchment area. Plus, if there are other pool sites that have overlapping catchment areas then the demand is shared between the sites.

- **Fourthly** - the balance between retained, exported, and imported demand for swimming pools will contribute to the estimated used capacity of pools. North Lincolnshire retains 95% of its own demand for swimming pools at the five pools sites in the authority in both years. It is a very high level and is making a major contribution to the used capacity findings for each pool site.
- North Lincolnshire imports marginally more demand than it exports, and in terms of visits 492 visits in the weekly peak period are exported in 2020 and 646 visits imported. In 2038 the findings are exported demand is 448 visits in the weekly peak period and imported visits are 676 visits.
- So North Lincolnshire is a very marginal importer of 154 visits in 2020 and 228 visits in 2038 – a very small difference. However the total imported demand is contributing 7% (rounded) to the used capacity of the North Lincolnshire pools in both years (final row of Table 7.1).

Demand re-distributed after initial allocation.

9.60 When the model finds a swimming pool is estimated to be at 100% of pool capacity used, it tries to re-allocate the demand, which cannot be met, to other pool sites in the same catchment area. This is an iterative process and carries on until no more demand can be met. The demand which is left is known as “demand re-distributed after initial allocation” and is expressed in visits per week in the weekly peak period.

9.61 The Pods swimming pool is estimated to be at 100% of pool capacity used in both years. There are 50 visits which would like to access The Pods in 2020 and 517 visits in 2038. Table 7.3). It is difficult to try and convert this finding into water area, because it does depend on the programme and the different capacity of the pools for different activities.

9.62 However, as a rule of thumb, the 50 visits represents around 1.5% of the capacity of The Pods swimming pools site capacity in 2020, and the 517 visits represents around 12% of The Pods capacity in visits per week in the weekly peak period in 2038.

9.63 There are also 18 visits which would like to access Baysgarth Leisure Centre in 2038 and this represents 1.5% of the Baysgarth Leisure Centre capacity.

9.64 The intervention is to review the fpm findings against the programming and usage of The Pods. If there is a correlation, then the intervention is to programme the pool site to try and maximise the time for the most popular activities, Plus consider if some activities could be transferred to other pool

sites. Riddings Pool is the nearest alternative swimming pool site, and it has an estimated used capacity of 58% in 2020 and 42% in 2038.

The facilities planning model study.

- 9.65 It is most important to set out that the fpm study is a quantitative, accessibility and spatial assessment of the supply, demand, and access to swimming pools. It assesses how this changes based on projected population growth across North Lincolnshire and the neighbouring authorities up to 2038.
- 9.66 The fpm study provides a hard evidence base that can inform consultations so as to then provide a rounded evidence base which can be used in the development of the Council's strategic planning for swimming pools provision.
- 9.67 Finally, the importance of swimming pools is difficult to overstate. Swimming pools offer more scope, than any other indoor sports facility type to contribute to an active and healthy lifestyle by residents. They provide for participation by all age groups from cradle to grave. Also, swimming is one of the few indoor activities where female participation is higher than male participation and it is also a family-based activity.

Appendix 1: Swimming pools in the Study Area Included in the Assessment. Runs 1 – 2.

Name of Site	Type	Dimensions	Area	Site Year Built	Site Year Refurb	Car % Demand	Public Transport % Demand	Walk % Demand
NORTH LINCOLNSHIRE						86%	7%	8%
ANCHOLME LEISURE CENTRE	Main/General	25 x 13	313	1975	2014	91%	5%	4%
ANCHOLME LEISURE CENTRE	Learner/Teaching/Training	10 x 5	50					
AXHOLME NORTH LEISURE CENTRE	Main/General	25 x 9	213	2018		87%	4%	8%
BAYSGARTH LEISURE CENTRE	Main/General	20 x 8	160	2008		81%	6%	13%
EPWORTH SWIMMING POOL	Main/General	20 x 8	160	1996		88%	3%	9%
RIDDINGS POOL	Main/General	25 x 13	313	1972	2008	71%	7%	22%
THE PODS	Main/General	25 x 17	425	2011		84%	9%	7%
THE PODS	Learner/Teaching/Training	10 x 8	80					
WEST LINDSEY						82%	7%	11%
DAVID LLOYD CLUB (LINCOLN)	Main/General	25 x 13	325	2000	2016	94%	6%	0%
DAVID LLOYD CLUB (LINCOLN)	Learner/Teaching/Training	7 x 3	21					
WEST LINDSEY LEISURE CENTRE	Main/General	25 x 13	313	1973	2006	77%	8%	15%
WEST LINDSEY LEISURE CENTRE	Learner/Teaching/Training	11 x 5	55					
BASSETLAW						82%	7%	11%
BANNATYNE HEALTH CLUB (WORKSOP)	Main/General	20 x 8	160	2006		94%	5%	1%
BIRCOTES LEISURE CENTRE	Main/General	20 x 8	160	1976	2010	78%	6%	16%
MISTERTON PRIMARY SCHOOL	Main/General	20 x 7	140	1975		86%	3%	11%
RETFORD LEISURE CENTRE	Main/General	25 x 13	313	2008		85%	6%	9%
RETFORD LEISURE CENTRE	Learner/Teaching/Training	13 x 6	75					
WORKSOP COLLEGE	Main/General	23 x 10	219	1970	2004	71%	8%	21%
WORKSOP LEISURE CENTRE	Main/General	25 x 13	313	2008		81%	9%	11%
WORKSOP LEISURE CENTRE	Learner/Teaching/Training	12 x 8	90					
EAST RIDING						80%	7%	13%
CAVE CASTLE HOTEL & COUNTRY CLUB	Main/General	20 x 9	180	1999	2004	93%	2%	5%
COTTINGHAM PARKS GOLF & LEISURE CLUB	Main/General	20 x 10	200	2001		93%	7%	0%
DRIFFIELD LEISURE CENTRE	Main/General	25 x 11	281	2009		83%	4%	12%
DRIFFIELD LEISURE CENTRE	Learner/Teaching/Training	11 x 7	78.8					
EAST RIDING LEISURE BEVERLEY	Main/General	25 x 17	425	2005		79%	6%	15%
EAST RIDING LEISURE BEVERLEY	Learner/Teaching/Training	13 x 7	91					
EAST RIDING LEISURE BRIDLINGTON	Main/General	25 x 13	325	2014		72%	10%	18%
EAST RIDING LEISURE BRIDLINGTON	Learner/Teaching/Training	13 x 7	91					
EAST RIDING LEISURE HORNSEA	Main/General	25 x 9	225	1995	2019	82%	4%	14%
EAST RIDING LEISURE HORNSEA	Learner/Teaching/Training	10 x 10	100					
EASTRIDING LEISURE (WITHERNSEA)	Main/General	25 x 10	250	1989	2014	74%	5%	21%
FRANCIS SCAIFE SPORTS CENTRE	Main/General	20 x 7	140	1963	2004	81%	2%	17%
GOOLE LEISURE CENTRE	Leisure Pool	25 x 13	313	1988	2004	74%	8%	18%
HALTEMPRICE LEISURE CENTRE	Main/General	25 x 12	300	1974	2014	77%	13%	10%
HALTEMPRICE LEISURE CENTRE	Learner/Teaching/Training	12 x 8	96					
POCKLINGTON SCHOOL	Main/General	23 x 12	276	1960	1974	79%	2%	19%
SKIPSEA SANDS HOLIDAY PARK & LEISURE COMPLEX	Main/General	20 x 8	160	1997		96%	2%	1%
SOUTH HOLDERNESS SPORTS CENTRE	Main/General	25 x 10	250	1985	2012	89%	7%	5%
TOTAL FITNESS (HULL)	Main/General	25 x 12	300	2003	2014	92%	6%	2%
TOTAL FITNESS (HULL)	Learner/Teaching/Training	13 x 12	150					
WILLERBY MANOR HOTEL HEALTH CLUB	Main/General	18 x 9	162	1996	2001	74%	5%	21%
WILLERBY MANOR HOTEL HEALTH CLUB	Leisure Pool	3 x 3	9					
KINGSTON-UPON-HULL						62%	16%	23%
ALBERT AVENUE POOLS	Main/General	31 x 11	323	1933	1996	50%	14%	35%
ALBERT AVENUE POOLS	Main/General	23 x 11	242					
BEVERLEY ROAD SWIMMING BATHS (HULL)	Main/General	25 x 11	263	1905	1990	38%	12%	50%

BEVERLEY ROAD SWIMMING BATHS (HULL)	Learner/Teaching/Training	10 x 4	40					
DAVID LLOYD CLUB (HULL)	Main/General	25 x 13	325	1999		80%	5%	14%
DAVID LLOYD CLUB (HULL)	Learner/Teaching/Training	8 x 4	32					
DW SPORTS FITNESS (HULL)	Main/General	20 x 9	180	2003		84%	7%	9%
ENNERDALE LEISURE CENTRE	Main/General	25 x 13	325	1985		67%	18%	15%
ENNERDALE LEISURE CENTRE	Learner/Teaching/Training	20 x 10	200					
HYMERS COLLEGE	Main/General	25 x 11	263	2004		45%	13%	42%
NUFFIELD HEALTH (HULL)	Main/General	17 x 10	170	1995	2006	90%	8%	2%
VILLAGE GYM (HULL)	Main/General	25 x 10	250	2006		86%	6%	8%
WINIFRED HOLTBY ACADEMY	Main/General	20 x 9	180	2011		46%	11%	42%
WOODFORD LEISURE CENTRE	Main/General	25 x 13	325	2018		67%	20%	13%
WOODFORD LEISURE CENTRE	Leisure Pool	20 x 13	260					
WOODFORD LEISURE CENTRE	Learner/Teaching/Training	10 x 7	70					
NORTH EAST LINCOLNSHIRE						73%	13%	15%
CLEETHORPES LEISURE CENTRE	Leisure Pool	33 x 25	825	1983	2014	80%	13%	7%
GRIMSBY LEISURE CENTRE	Main/General	25 x 18	438	2016		74%	15%	11%
GRIMSBY LEISURE CENTRE	Learner/Teaching/Training	18 x 7	123					
HAVELOCK ACADEMY	Main/General	25 x 10	250	1954	2006	42%	10%	48%
IMMINGHAM SWIMMING POOL	Main/General	25 x 10	250	1970	2015	72%	5%	24%
JOHN WHITGIFT ACADEMY	Main/General	25 x 8	200	1970	2010	75%	11%	14%
JOHN WHITGIFT ACADEMY	Main/General	18 x 6	108					
DONCASTER						73%	13%	14%
ADWICK LEISURE COMPLEX	Main/General	25 x 12	300	1973		72%	14%	14%
ADWICK LEISURE COMPLEX	Learner/Teaching/Training	12 x 10	120					
ARMTHORPE LEISURE CENTRE	Main/General	25 x 10	250	1974		72%	8%	20%
ARMTHORPE LEISURE CENTRE	Learner/Teaching/Training	6 x 4	24					
ASKERN LEISURE CENTRE	Main/General	25 x 10	250	1969	2005	80%	11%	10%
DEARNE VALLEY LEISURE CENTRE	Main/General	25 x 10	250	2002		74%	15%	11%
DEARNE VALLEY LEISURE CENTRE	Learner/Teaching/Training	13 x 9	117					
EDLINGTON LEISURE CENTRE	Main/General	25 x 10	250	1971		56%	10%	34%
HALL CROSS ACADEMY UPPER SITE	Main/General	23 x 8	184	1965		45%	11%	44%
NUFFIELD HEALTH (DONCASTER)	Main/General	20 x 8	160	2000	2006	93%	6%	1%
OWSTON HALL HOTEL GOLF COURSE	Main/General	20 x 6	120	2008		93%	6%	1%
ROSSINGTON COMMUNITY SWIMMING POOL	Main/General	25 x 10	250	1966		61%	7%	31%
THE DOME LEISURE COMPLEX	Leisure Pool	23 x 19	426	2000		77%	16%	7%
THE DOME LEISURE COMPLEX	Leisure Pool	21 x 14	285					
THE DOME LEISURE COMPLEX	Leisure Pool	25 x 11	278					
THE DOME LEISURE COMPLEX	Leisure Pool	17 x 14	228					
THE DOME LEISURE COMPLEX	Leisure Pool	8 x 6	47.1					
THE DOME LEISURE COMPLEX	Leisure Pool	6 x 6	39.7					
THORNE LEISURE CENTRE	Main/General	25 x 10	250	1967	2004	77%	8%	15%

Appendix 2: Model description, Inclusion Criteria and Model Parameters

Included within this appendix are the following:

- Model description
- Facility Inclusion Criteria
- Model Parameters

Model Description

1. Background

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

2. Use of FPM

- 2.1 Sport England uses the FPM as one of its principal tools in helping to assess the strategic need for certain community sports facilities. The FPM has been developed as a means of:
 - assessing requirements for different types of community sports facilities on a local, regional, or national scale.
 - helping local authorities to determine an adequate level of sports facility provision to meet their local needs.
 - helping to identify strategic gaps in the provision of sports facilities; and
 - comparing alternative options for planned provision, taking account of changes in demand and supply. This includes testing the impact of opening, relocating, and closing facilities, and the likely impact of population changes on the needs for sports facilities.
- 2.2 Its current use is limited to those sports' facility types for which Sport England holds substantial demand data, i.e. swimming pools, sports halls, indoor bowls, and artificial grass pitches.
- 2.3 The FPM has been used in the assessment of Lottery funding bids for community facilities, and as a principal planning tool to assist local authorities in planning for the provision of community sports facilities. For example, the FPM was used to help assess the impact of a 50m swimming pool development in the London Borough of Hillingdon. The Council invested £22 million in the sports and leisure

complex around this pool and received funding of £2,025,000 from the London Development Agency and £1,500,000 from Sport England¹.

3. How the model works

- 3.1 In its simplest form, the model seeks to assess whether the capacity of existing facilities for a particular sport is capable of meeting local demand for that sport, considering how far people are prepared to travel to such a facility.
- 3.2 In order to do this, the model compares the number of facilities (supply) within an area, against the demand for that facility (demand) that the local population will produce, similar to other social gravity models.
- 3.3 To do this, the FPM works by converting both demand (in terms of people), and supply (facilities), into a single comparable unit. This unit is 'visits per week in the peak period' (VPWPP). Once converted, demand and supply can be compared.
- 3.4 The FPM uses a set of parameters to define how facilities are used and by whom. These parameters are primarily derived from a combination of data including actual user surveys from a range of sites across the country in areas of good supply, together with participation survey data. These surveys provide core information on the profile of users, such as, the age and gender of users, how often they visit, the distance travelled, duration of stay, and on the facilities themselves, such as, programming, peak times of use, and capacity of facilities.
- 3.5 This survey information is combined with other sources of data to provide a set of model parameters for each facility type. The original core user data for halls and pools comes from the National Halls and Pools survey undertaken in 1996. This data formed the basis for the National Benchmarking Service (NBS). For AGPs, the core data used comes from the user survey of AGPs carried out in 2005/6 jointly with sportscotland.
- 3.6 User survey data from the NBS and other appropriate sources are used to update the model's parameters on a regular basis. The parameters are set out at the end of the document, and the 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

¹ Award made in 2007/08 year.

- Active People Survey - Sport England
- STP User Survey - Sport England & sportscotland
- Football participation - The FA
- Young People & Sport in England – Sport England
- Hockey Fixture data - Fixtures Live
- Taking Part Survey - DCMS

4. Calculating Demand

- 4.1 This is calculated by applying the user information from the parameters, as referred to above, to the population². This produces the number of visits for that facility that will be demanded by the population.
- 4.2 Depending on the age and gender make-up of the population, this will affect the number of visits an area will generate. In order to reflect the different population make-up of the country, the FPM calculates demand based on the smallest census groupings. These are Output Areas (OA)³.
- 4.3 The use of OAs in the calculation of demand ensures that the FPM is able to reflect and portray differences in demand in areas at the most sensitive level based on available census information. Each OA used is given a demand value in VPWPP by the FPM.

5. Calculating Supply Capacity

- 5.1 A facility's capacity varies depending on its size (i.e. size of pool, hall, pitch number), and how many hours the facility is available for use by the community.
- 5.2 The FPM calculates a facility's capacity by applying each of the capacity factors taken from the model parameters, such as the assumptions made as to how many 'visits' can be accommodated by the particular facility at any one time. Each facility is then given a capacity figure in VPWPP. (See parameters in Section C).
- 5.3 Based on travel time information⁴ taken from the user survey, the FPM then calculates how much demand would be met by the particular facility having regard to its capacity and how much demand is within the facility's catchment. The FPM includes an important feature of spatial interaction. This feature takes account of the location and capacity of all the facilities, having regard to their location and the

² For example, it is estimated that 7.72% of 16-24 year old males will demand to use an AGP, 1.67 times a week. This calculation is done separately for the 12 age/gender groupings.

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 171,300 OAs in England. An OA has a target value of 125 households 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.

size of demand and assesses whether the facilities are in the right place to meet the demand.

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

6. Facility Attractiveness – for halls and pools only

- 6.1 Not all facilities are the same and users will find certain facilities more attractive to use than others. The model attempts to reflect this by introducing an attractiveness weighting factor, which effects the way visits are distributed between facilities. Attractiveness, however, is very subjective. Currently weightings are only used for hall and pool modelling, with a similar approach for AGPs is being developed.
- 6.2 Attractiveness weightings are based on the following:
- 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, programmes, and sports development. Additionally, the date of any significant refurbishment is also included within the weighting factor; however, the attractiveness is set lower than a new build of the same year. It is assumed that a refurbishment that is older than 20 years will have a minimal impact on the facilities attractiveness. The information on year built/refurbished is taken from Active Places. A graduated curve is used to allocate the attractiveness weighting by year. This curve levels off at around 1920 with a 20% weighting. The refurbishment weighting is slightly lower than the new built year equivalent.

- 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.
- 6.3 To reflect this, two weightings curves are used for education and non-education halls, a high weighted curve, and a lower weighted curve.
- High weighted curve - includes Non-education management - better balanced programme, more attractive.
 - Lower weighted curve - includes Educational owned & managed halls, less attractive.
- 6.4 Commercial facilities – halls and pools - whilst there are relatively few sports halls provided by the commercial sector, an additional weighing factor is incorporated within the model to reflect the cost element often associated with commercial facilities. For each population output area, the Indices of Multiple Deprivation (IMD) score is used to limit whether people will use commercial facilities. The assumption is that the higher the IMD score (less affluence) the less likely the population of the OA would choose to go to a commercial facility.
- 7. Comfort Factor – halls and pools**
- 7.1 As part of the modelling process, each facility is given a maximum number of visits it can accommodate, based on its size, the number of hours it is available for community use and the ‘at one-time capacity’ figure (pools =1 user /6m², halls = 6 users /court). This gives each facility a “theoretical capacity”.
- 7.2 If the facilities were full to their theoretical capacity, then there would simply not be the space to undertake the activity comfortably. In addition, there is a need to take account of a range of activities taking place which have different numbers of users, for example, aqua aerobics will have significantly more participants, than lane swimming sessions. Additionally, there may be times and sessions that, whilst being within the peak period, are less busy and so will have fewer users.
- 7.3 To account of these factors the notion of a ‘comfort factor’ is applied within the model. For swimming pools 70%, and for sports halls 80%, of its theoretical capacity is considered as being the limit where the facility starts to become uncomfortably busy. (Currently, the comfort factor is NOT applied to AGPs due to the fact they are predominantly used by teams, which have a set number of players and so the notion of having ‘less busy’ pitch is not applicable).

7.4 The comfort factor is used in two ways.

- Utilised Capacity - How well used is a facility? 'Utilised capacity' figures for facilities are often seen as being very low, 50-60%, however, this needs to be put into context with 70-80% comfort factor levels for pools and halls. The closer utilised capacity gets to the comfort factor level, the busier the facilities are becoming. You should not aim to have facilities operating at 100% of their theoretical capacity, as this would mean that every session throughout the peak period would be being used to its maximum capacity. This would be both unrealistic in operational terms and unattractive to users.
- Adequately meeting Unmet Demand – the comfort factor is also used to increase the 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.

8. Utilised Capacity (used capacity)

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

8.2 Utilised capacity refers to how much of facilities theoretical capacity is being used. This can, at first, appear to be unrealistically low, with area figures being in the 50-60% region. Without any further explanation, it would appear that facilities are half empty. The key point is not to see a facilities theoretical maximum capacity (100%) as being an optimum position. This, in practise, would mean that a facility would need to be completely full every hour it was open in the peak period. This would be both unrealistic from an operational perspective and undesirable from a user's perspective, as the facility would completely full.

8.3 For example:

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

8.4 Usage of a pool will vary throughout the evening, with some sessions being busier than others though programming, such as, an aqua-aerobics session between 7-8pm, lane swimming between 8-9pm. Other sessions will be quieter, such as

between 9-10pm. This pattern of use would give a total of 143 swims taking place. However, the pool's maximum capacity is 264 visits throughout the evening. In this instance the pools utilised capacity for the evening would be 54%.

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

9. Travel times Catchments

9.1 The model uses travel times to define facility catchments in terms of driving and walking.

9.2 The Ordnance Survey (OS) Integrated Transport Network (ITN) for roads has been used to calculate the off-peak drive times between facilities and the population, observing one-way and turn restrictions which apply, and considering delays at junctions and car parking. Each street in the network is assigned a speed for car travel based on the attributes of the road, such as the width of the road, and geographical location of the road, for example the density of properties along the street. These travel times have been derived through national survey work, and so are based on actual travel patterns of users. The road speeds used for Inner & Outer London Boroughs have been further enhanced by data from the Department for Transport.

9.3 The walking catchment uses the OS Urban Path Network to calculate travel times along paths and roads, excluding motorways and trunk roads. A standard walking speed of 3 mph is used for all journeys.

9.4 The model includes three different modes of travel, by car, public transport & walking. Car access is also considered, in areas of lower access to a car, the model reduces the number of visits made by car and increases those made on foot.

9.5 Overall, surveys have shown that the majority of visits made to swimming pools, sports halls and AGPs are made by car, with a significant minority of visits to pools and sports halls being made on foot.

Facility	Car	Walking	Public transport
Swimming Pool	76%	15%	9%
Sports Hall	77%	15%	8%
AGP			
Combined	83%	14%	3%
Football	79%	17%	3%
Hockey	96%	2%	2%

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

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

