Facilities Planning Model Assessment of Swimming Pools Provision in Norwich City

Standard Report 2021

20 December 2021

Disclaimer

Accreditations

Other than data provided by Sport England, this report also contains data from the following sources:

Executive Summary

i. The key element to be taken from this report is that the majority of Norwich City demand can be met by the swimming pools in Norwich. However, the pool sites are very busy, especially Riverside Leisure Centre and University of East Anglia (UEA) Sportspark.

ii. Norwich has a very compact land area, therefore the catchment areas of the swimming pool sites overlap, making them very accessible to Norwich residents. The catchment areas also extend into Broadland and South Norfolk, making them accessible to residents there and resulting in high levels of imported demand to the Norwich pool sites.

iii. Five put of the six pool sites in Norwich have opened since 2000, with two of them having been modernised.

Key Findings

iv. The key findings from the supply, demand and access assessment are set out below and are described in full under each assessment heading:

1. There are seven individual swimming pools located at six sites in Norwich. Only one site is a public leisure centre, making the local authority a minority provider of pools in the city.
2. Total met demand for swimming by Norwich residents is 92%.
3. Of the satisfied demand, 94% is retained within the authority; this means that there is a high correlation between the locations of Norwich swimming pools and demand.
4. Unmet demand is only 8% of total demand, which equates to 120 sqm of water (less than half the size of a 25m x 10m four-lane swimming pool).
5. There is therefore not a sufficient cluster of unmet demand in any one location to consider increasing swimming pool provision in order to improve accessibility for residents.
6. As a Norwich average, the estimated used capacity of swimming pools is 85% in the weekly peak period.
7. Imported demand is a major contributory reason for the high used capacity of Norwich pools, accounting for 45% of capacity used in the weekly peak period.
8. Norwich is a net importer of 6,069 visits per week in the peak period.
9. Imported demand is more than one and a half times the capacity of Riverside Leisure Centre, which provides 4,073 visits in the weekly peak period.

Strategic Overview

v. Norwich meets its own residents' demand for swimming pools, and pool locations are very accessible to the Norwich population. Furthermore, unmet demand is low and there is no hotspot location of high unmet demand.

vi. Of concern is how full the swimming pools are, with most sites being above the Sport England comfort level for pools at 70% of capacity used in the weekly peak period.

vii. Of the seven swimming pool sites in Norwich, Riverside Leisure Centre is the only public leisure centre providing full access for residents for all the swimming activities of learn to swim, casual recreational swimming, lane and fitness swimming and swimming development by clubs. The 'draw effect' for all these types of use contributes to this pool site having an estimated 100% of capacity used in the weekly peak period.

viii. UEA Sportspark is not a local authority leisure centre, but does provide all the activities described above. Therefore it also has the 'draw effect', however, access is only through membership of the centre. Its estimated used capacity is 85% in the weekly peak period.

ix. The programme of use at the three other educational sites is a combination of learn to swim and swimming club use, the latter predominating at The Hewett Academy pool site where four clubs use the pool. This is possibly testament to the management of the pool, as it is the oldest site in the authority (opened in 1960 and modernised in 2006). It may also reflect a lack of available pool time at the other centres.

x. There is very limited scope to increase community use at the pool sites because four of the six sites have an estimated used capacity over 80% in the weekly peak period. Scope exists at Nuffield Health as only 57% of capacity is used here, but this site provides recreational swimming through centre membership only.

xi. The Hewett Academy has an estimated 55% of pool capacity used in the weekly peak period but, given the age and condition of the site, accommodating more use appears unlikely. Also, the activities provided are swimming club development and learn to swim, and not public recreational swimming.

xii. Broadland does not have any public leisure centres, and the two South Norfolk public swimming pool sites are not located close to the Norwich boundary. This creates another 'draw effect' for residents in these authorities who live within the drive time catchment of the Norwich pools. This is compounded by 92% of all visits to swimming pools by Broadland residents being by car; this figure is 90% for South Norfolk residents. Collectively this means that, at 45%, a high proportion of the used capacity of Norwich pools is imported.

Next Steps

xiii. The theme of the strategic overview is that there are few swimming pool sites accessible for all swimming activities, All pool sites, with the exception of The Hewett Academy, have very high estimated used capacity at peak times.

xiv. The recommendation is that the findings from this one-year assessment are reviewed with the site operators for verification. This may only be possible for Riverside Leisure Centre, UEA Sportspark and The Hewett Academy, as the other sites are either commercial centres or private schools. If the findings are verified, this leads to the question of whether more swimming pool sites in Norwich that provide for all swimming activities are required.

xv. This should be addressed through the strategic planning work the authority is undertaking across the Greater Norwich area because of the inter-related findings set out. Also, it should factor in the demand for swimming pools from population growth and residential development, and where this demand is located.

xvi. The one-year set of findings indicates a very low level of unmet demand, at less than half the size of a 25m x 10m four-lane pool, but this may change with future assessment.

xvii. Alongside these recommendations is the need to retain and, if possible, modernise The Hewett Academy pool, as it provides swimming club development and learn to swim activities. If this site were to close on grounds of age and condition, it would place more demand on the other pool sites for these programmes and, realistically, this is likely to be only Riverside Leisure Centre

xviii. Norwich City Council may wish to consider reviewing the findings of this report and applying the evidence base to ensure that the benefits from the strategic direction being set by Sport England are realised.

xix. It is important to set out that this is a one-year assessment and provides the evidence base as of now. The findings should be consulted on to provide a rounded evidence base and address the recommendations set out.

xx. Longer term local assessments can be undertaken to be applied as an evidence base in Local Plan policy and for securing investment.

Contents

1. Introduction

1.1 This assessment uses Sport England's Facilities Planning Model (FPM) together with data from Active Places Power (2021) and updates from the Council.

1.2 The supply assessment is based on swimming pools sites being open and accessible for community use. If there are temporary closures of swimming pool sites due to Covid-19 or for any other reasons, the local authority should inform Sport England Active Places Power by use of the contact us link https://www.activeplacespower.com.

1.3 This standard run provides an initial assessment of the current supply and demand for provision of swimming pools in Norwich City, East Anglia. The assessment does not include future population growth projections, but is a baseline evidence base for swimming pool provision.

1.4 To help with comparative analysis the data outputs for the neighbouring local authorities, together with regional and national findings, are included in the data tables.

Context

1.5 The report should form part of a wider assessment of provision at local level, which then provides a rounded assessment and evidence base report. This should include other available information and knowledge from (1) a sports perspective, such as national sports governing bodies and other sports organisations, and (2) a local perspective from the local authority, the facility operator, and local sports clubs.

1.6 The findings from this FPM standard report should be reviewed and applied with reference to the strategic direction being set by Sport England on:

- The policies, programmes and interventions proposed to increase sports participation and physical activity
- The application of the research applied by Sport England in determining the strategy and the evidence base
- The role sports facilities can play in increasing sports participation and physical activity

1.7 The strategy can be accessed at Uniting the Movement | Sport England.

Future Assessment

1.8 Longer term bespoke FPM local assessments for future provision can be undertaken based on:

- Review of these findings
- Projected population growth and inclusion of residential sites identified in the Local Plan

- Options for changes in supply – closure/new openings at the same or different locations and on different scales

1.9 The purpose is to identify how these changes impact on access to swimming pools for residents in future years and whether changes in supply meet future demand.

1.10 These can be applied as an evidence base in Local Plan policy and for securing developer contributions based on growth. The future assessments also provide a long-term evidence base for securing inward investment – grant aid applications, and prototype developments, for example, Sport England Leisure Local.

Report Structure, Content and Sequence

1.11 This report sets out the full findings under six assessment headings as follows:

- Supply – How many facilities are there and what is their capacity?
- Demand – Who wants to use facilities?
- Satisfied Demand – How many people use the facilities? Where do people use facilities (inside and outside the authority) and how do they travel there?
- Unmet Demand – Who is unable to use facilities and why? Is there not sufficient capacity or are people too far away from facilities?
- Used Capacity – How full are the facilities and where are people coming from (inside and outside the authority)?
- Local Share – Which areas have better or worse provision, considering the number of people who want to use them?

1.12 Each assessment heading has a table of main findings, followed by a full definition of these. Each key finding is numbered and in bold typeface. All tables include the findings for the neighbouring authorities, together with regional and England-wide findings. This is because the assessments are based on catchment areas, and catchments extend across local authority boundaries.

1.13 Where valid to do so, the findings for the neighbouring local authorities are compared with the core authority, for example, water space per 1,000 population.

1.14 Maps to support the findings on facility locations, demand, unmet demand, local share, and transport access to facilities are also included.

1.15 Appendix **1** lists the facilities excluded from the study with explanations, and Appendix **2** describes the facility planning inclusion criteria and model parameters.

2. Supply of Swimming Pools

Supply	Norwich	Broadland	South Norfolk	East Region	England
Number of pools	7	5	7	341	3,001
Number of pool sites	6	4	5	241	2,076
Supply of total water space in sqm of water	2,230	891	1,396	75,974	676,882
Supply of publicly available water space in sqm of water (scaled with hours available in the peak period)	1,957	809	1,111	63,125	578,976
Supply of total water space in visits per week in the peak period	17,120	7,080	9,721	552,348	5,066,040

Definition of supply – This is the supply or capacity of the swimming pools which are available for community and swimming club use in the weekly peak period. Supply is expressed in the number of visits that a pool can accommodate in the weekly peak period and in square metres of water.

Weekly peak period – This is when the majority of visits take place and when users have most flexibility to visit. The peak period for swimming pools is one hour on weekday mornings, one hour on weekday lunchtimes, five and a half hours on weekday evenings, and seven and a half hours on weekend days. This gives a total of 52.5 hours per week. The modelling and recommendations are based on the ability of the public to access facilities during this weekly peak period.

2.1 **Key finding 1** is that there are seven individual pools located at six sites in Norwich in 2020; one is a public leisure centre, four are educational and one is commercial. (Note: the University of East Anglia (UEA) Sportspark provides full community use through membership of the centre).

2.2 The water space available for community use is 1,957 sqm of water in the weekly peak period. (Note: for context, a 25m x 10m four-lane pool is 250 sqm of water).

2.3 The local authority public swimming pool site is Riverside Leisure Centre (opened in 2003), which has a 25m x 14m six-lane main pool and a teaching/learner pool of 15m x 8m.

2.4 UEA Sportspark swimming pool (opened in 2000 and modernised in 2008) is a 50m x 17m eight-lane pool.

2.5 The three other educational swimming pool sites are:

- Norwich High School for Girls (opened in 2000 and modernised in 2006) has a 25m x 10m four-lane pool. It provides a learn to swim school and is available for community hire.

- The Hewett Academy pool (opened in 1960 and modernised in 2006) is a 25m x 10m five-lane pool. The pool is used by four local swimming pool clubs and also operates a learn to swim school.

- Town Close School, which is the smallest swimming pool in Norwich (opened in 2000). It has a 20m x 8m four-lane pool and is available for hire.

2.6 There is one commercial swimming pool, Nuffield Health (Norwich) (opened in 2001). It operates a membership system for recreational swimming by local residents.

2.7 Riverside Leisure Centre, UEA Sportspark and Nuffield Health provide 52 hours of community use per week in the peak period. The hours available for community use at the other sites during the weekly peak period are:

- Town Close School – 33 hours

- The Hewett Academy – 21 hours

2.8 The average age of the swimming pool sites is 32 years, but this is somewhat skewed by The Hewett Academy which opened in 1960 as the four other pool sites have opened since 2000. Three of the pool sites have been modernised.

2.9 Details of the swimming pool sites in Norwich are set out in Table **2.1**.

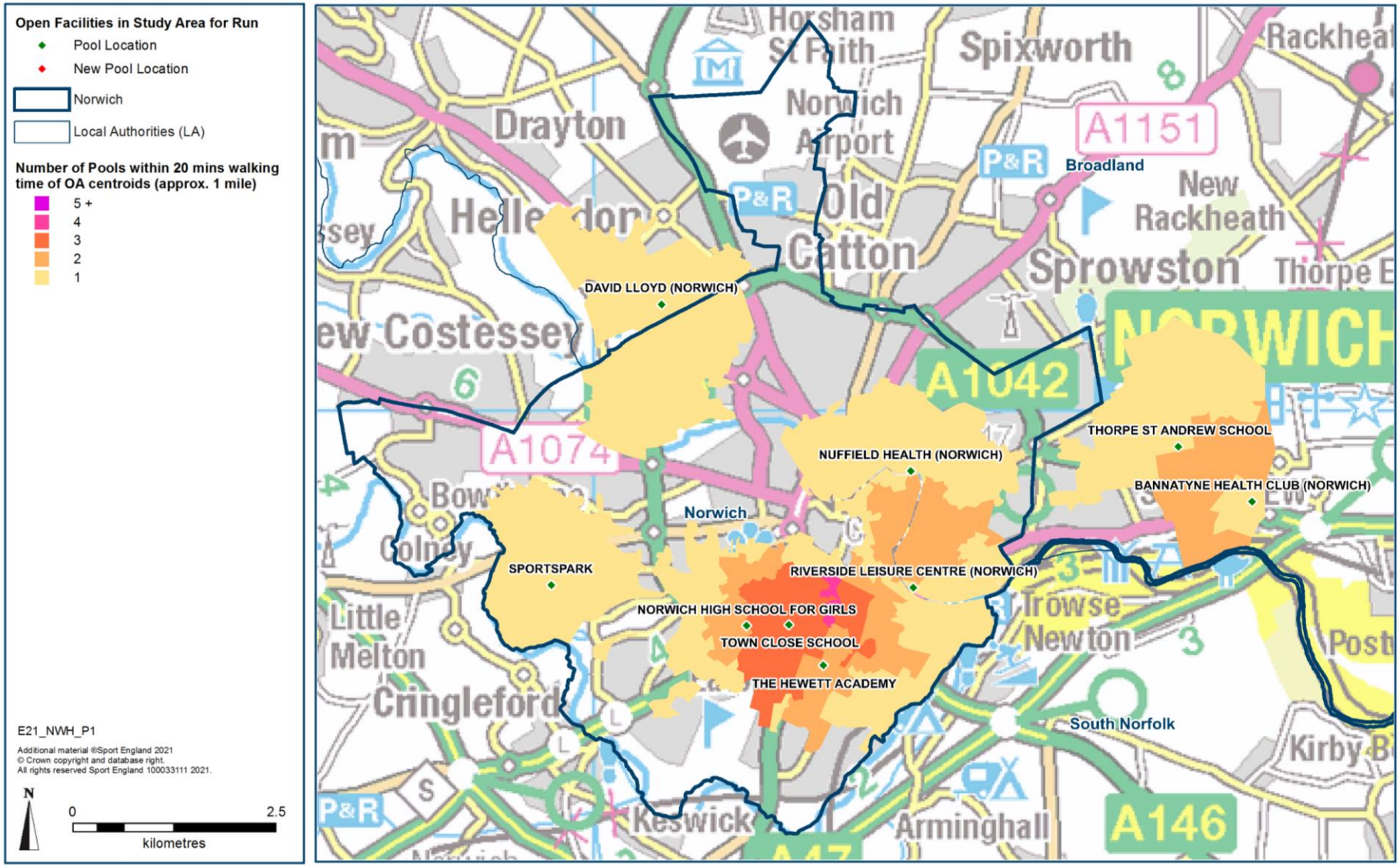
2.10 The location of the swimming pool sites in Norwich are shown in Map **2.1,** together with the 20-minute (1 mile) walking catchment of the pool sites. Residents living in the pale yellow areas have access to one swimming pool site, two sites in the amber areas and three sites in the orange area. This is a small area in Norwich where residents can walk to four swimming pool sites in 20 minutes.

Table 2.1: Swimming Pool Supply in Norwich City 2021

Name of Facility	Type of Pool	Dimensions in metres	Area sqm	Site Year Built	Site Year Refurbished	Weight Factor	Hours in Peak Period	Total Hours Available	Site Capacity - visits per week peak period
Norwich High School for Girls	Main/General	25 x 10	250	2000	2006	85%	40	53	1,667
Nuffield Health (Norwich)	Main/General	25 x 10	250	2001		84%	52.5	103.5	2,188
Riverside Leisure Centre (Norwich)	Main/General	25 x 14	350	2003		87%	52	96.5	4,073
	Learner/Teaching/Training	15 x 8	120				52	96.5	
UEA Sportspark	Main/General	50 x 17	850	2000	2008	87%	52.5	108.3	7,438
The Hewett Academy	Main/General	25 x 10	250	1960	2006	36%	21	31	875
Town Close School	Main/General	20 x 8	160	2000		82%	33	36	880

Map 2.1: Swimming Pool Sites in Norwich City District (2021)

Facility Planning Model catchments shown thematically (colours) at output are level expressed as the number of Pools within 20 minutes' travel time of output area centroid.



3. Demand for Swimming Pools

Demand	Norwich	Broadland	South Norfolk	East Region	England
Population	143,134	132,781	145,007	6,312,979	56,969,855
Swims demanded – visits per week peak period	9,254	8,404	9,368	415,240	3,752,103
Equivalent in water space – with comfort factor included	1,522	1,382	1,540	68,282	616,995

Definition of total demand – This represents the total demand for swimming by both genders and for seven five-year age bands from 0 to 65+ and is calculated as the percentage of each age band/gender that participates. This is added to the frequency of participation in each age band/gender to arrive at a total demand figure, which is expressed in visits in the weekly peak period and square 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**.

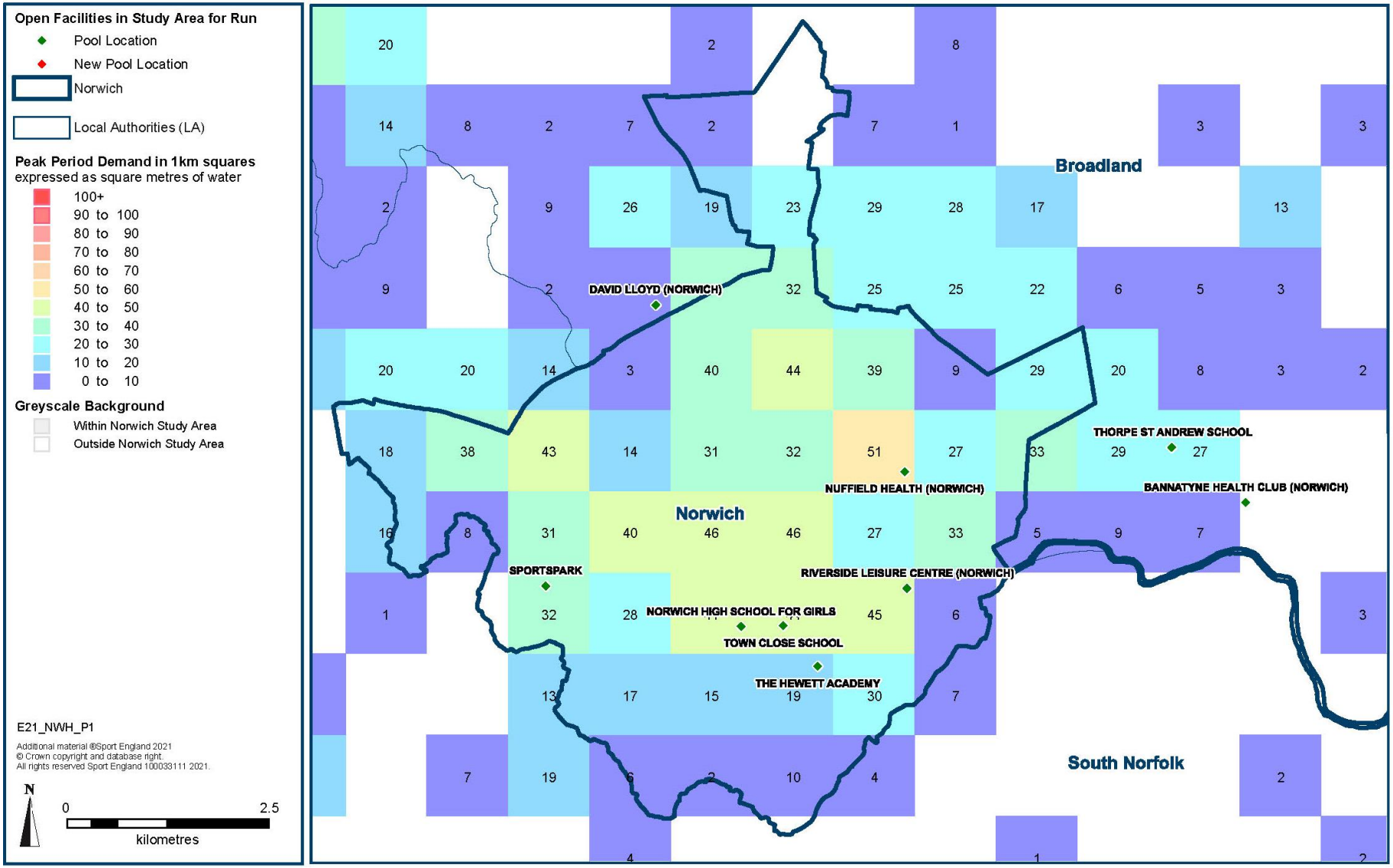
3.1 The total population of Norwich City in 2021 is 143,134 and this population generates a total demand for swimming of 9,254 visits in the weekly peak period (see Section 2 of this report for definition).

3.2 This equates to a total demand for 1,522 sqm of water. For context, the available supply of water space in the peak period in Norwich City is 1,957 sqm of water.

3.3 The location of the demand for swimming across Norwich is set out in Map **3.1**. Demand values are expressed in sqm of water in 1km grid squares. The lowest values are in the blue squares, starting at 2 sqm of water of demand. The highest value is 51 sqm of water, in the amber square to the east of the city.

Map 3.1: Demand for Swimming Pools in Norwich (2021)

Facility Planning Model 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 meters of water.



4. Satisfied Demand

Demand from Norwich City residents currently being met by supply

Satisfied Demand	Norwich	Broadland	South Norfolk	East Region	England
Total number of visits which are met	8,525	7,203	8,255	367,897	3,391,304
% of total demand satisfied	92.1	85.7	88.1	88.6	90.4
% of demand satisfied who travelled by:					
Car	65.0	92.2	90.4	81.2	73.1
Foot	17.0	3.7	5.9	10.7	14.4
Public transport	17.9	4.1	3.7	8.1	12.5
Demand retained:					
Number of visits retained	8,032	3,340	4,189	357,788	3,389,263
As a % of satisfied demand	94.2	46.4	50.7	97.3	99.9
Demand exported:					
Number of visits exported	493	3,863	4,067	10,108	2,041
As a % of satisfied demand	5.8	53.6	49.3	2.7	0.1

Definition of satisfied demand – This represents the proportion of total demand that is met by the capacity at the swimming pools from Norwich City residents who live within the driving, walking or public transport catchment area of a pool. This includes pools located both inside and outside Norwich City.

4.1 **Key finding 2** is that, in 2021, 92% of the total demand for swimming from Norwich residents is met.

4.2 Satisfied demand in Norwich is the highest in the study area, with 86% being met in Broadland and 88% in South Norfolk. The East Region and England-wide averages are 89% and 90% respectively.

Retained Demand

4.3 A subset of satisfied demand findings shows that much of Norwich's demand for swimming is retained at the pools located within Norwich. This assessment is based on the catchment area of the Norwich pools and residents located in Norwich, and is known as retained demand.

4.4 **Key finding 3** is that, of the total 92% Norwich demand for swimming which is met, 94% is retained within the authority. This is a very high level of retained demand and means that there is a high correlation between the location of the Norwich swimming pools and demand.

4.5 Over nine out of ten visits to a swimming pool by a Norwich resident is to a pool located in Norwich. Retained demand in Broadland and South Norfolk is 46% and 51% respectively.

4.6 The model iteratively allocates demand to facilities using a set of distance decay functions and choice parameters, which is supported by Sport England's research. Increasingly there are other factors that influence which pools residents chose to use, such as other facilities on the same site, for example, a gym or studio, or ease of parking.

Exported Demand

4.7 The residue of satisfied demand, after retained demand, is exported demand. The 2021 finding is that just 6% of the Norwich satisfied demand for swimming is met at a swimming pool outside Norwich; this equates to 493 visits in the weekly peak period. Based on Map **2.1** in Section 2 of this report, the nearest swimming pool site outside Norwich is David Lloyd in Broadland.

5. Unmet Demand

Demand from Norwich City residents not currently being met

Unmet Demand	Norwich	Broadland	South Norfolk	East Region	England
Total number of visits in the peak, not currently being met	729	1,201	1,112	47,344	360,798
Unmet demand as a % of total demand	7.9	14.3	11.9	11.4	9.6
Equivalent in sqm of water – with comfort factor	120	197	183	7,785	59,330
% of unmet demand due to:					
Outside catchment:	90.3	95.5	93.1	86.2	88.1
Without access to a car	86.4	43.8	47.1	56.8	68.8
With access to a car	4.0	51.7	46.0	29.4	19.3
Lack of capacity:	9.7	4.5	6.9	13.8	11.9
Without access to a car	8.9	0.6	0.7	5.3	8.6
With access to a car	0.8	3.9	6.2	8.5	3.3

The **unmet demand definition** has two parts to it: demand for swimming pools which cannot be met because (1) there is too much demand for any particular pool within its catchment area and there is a lack of capacity; or (2) the demand is located outside the catchment area of any swimming pool and is then classified as unmet demand.

5.1 **Key finding 4** is that Norwich's unmet demand is 7.9% of total demand; this equates to 120 sqm of water and is less than half the size of a 25m x 10m four-lane swimming pool. Of the total unmet demand, 90% is from unmet demand located outside the catchment area of a pool and 10% is from lack of swimming pool capacity.

5.2 Unmet demand outside a catchment will always exist because it is not possible to achieve complete spatial coverage whereby all areas of an authority are inside catchment for residents without access to a car, even in an authority such as Norwich with a small land area. Of the total unmet demand, 86% is from residents outside catchment who do not have access to a car and either walk or use public transport to access a swimming pool.

5.3 In terms of visits, the total unmet demand outside catchment is 658 visits per week in the peak period. This compares with the Norwich demand inside catchment which is being met of 8,525 visits per week in the peak period.

5.4 The most important point here is not that unmet demand outside a catchment exists, but the scale of that unmet demand. Also, if this unmet demand is clustered in one location, further pool provision should be considered in that area to improve accessibility for residents.

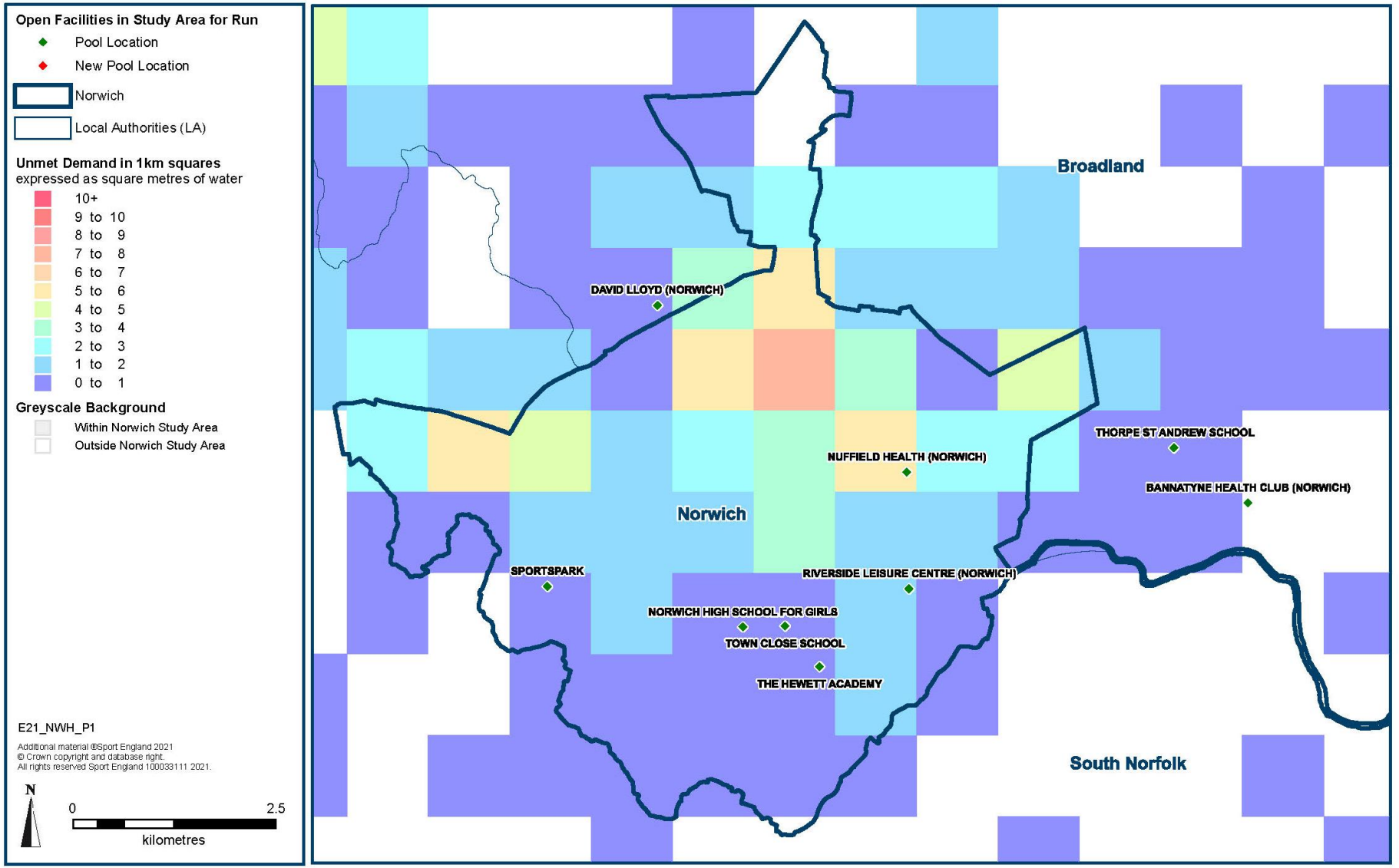
5.5 Map **5.1** shows the location and scale of total unmet demand for swimming across Norwich in colour-coded one kilometre grid squares, with the sqm of water of unmet demand shown in each square. The three shades of blue squares have values of between 0.1 sqm and 2.9 sqm of water, so are very low. The turquoise squares represent 3 sqm to 4 sqm of water, the pale green squares 4 sqm to 5 sqm of water, the yellow squares 5 sqm to 6 sqm of water, and the dark orange squares 7 sqm to 8 sqm of water.

5.6 Unmet demand is highest in the central north area of Norwich, where it totals 33 sqm of water and there are no public swimming pool sites.

5.7 **Key finding 5** is that, overall, there is not a sufficient cluster of unmet demand in any one location to consider increasing swimming pool provision in order to improve accessibility for residents. (Note: for context, a 25m x 10m four-lane swimming pool is 250 sqm of water).

Map 5.1: Unmet Demand for Swimming Pools in Norwich City District (2021)

Facility Planning Model unmet demand aggregated at 1km square grid (figure labels) and shown thematically (colours). Unmet demand at 1km square grid level expressed as square meters of water.



Population Without Access to a Car

Population No Car	Norwich	Broadland	South Norfolk	East Region	England
Population	143,134	132,781	145,007	6,312,979	56,969,855
% without access to a car	32.0	10.9	11.0	17.7	24.9

5.9 The percentage of the population without access to a car influences travel patterns to swimming pools. A low percentage means there is likely to be a larger number of visits to swimming pools by car. The drive time catchment is 30 minutes' travel; however, the FPM uses a distance decay function where the further a user is from a facility, the less likely they will travel (a description of the distance decay function is set out in Appendix **2**).

5.10 Based on the 2011 Census, 32% of Norwich City's resident population do not have access to a car. East Region and England-wide averages for population with no access to a car are 18% and 25% respectively.

5.11 If there is a high percentage of residents without access to a car (and who either walk or use public transport to access a pool), then a network of local swimming pool sites becomes more important to maintain access and encourage swimming participation. The public transport catchment area for pools is also 30 minutes' travel time (at half speed of car), and for walking it is 40 minutes (2 miles).

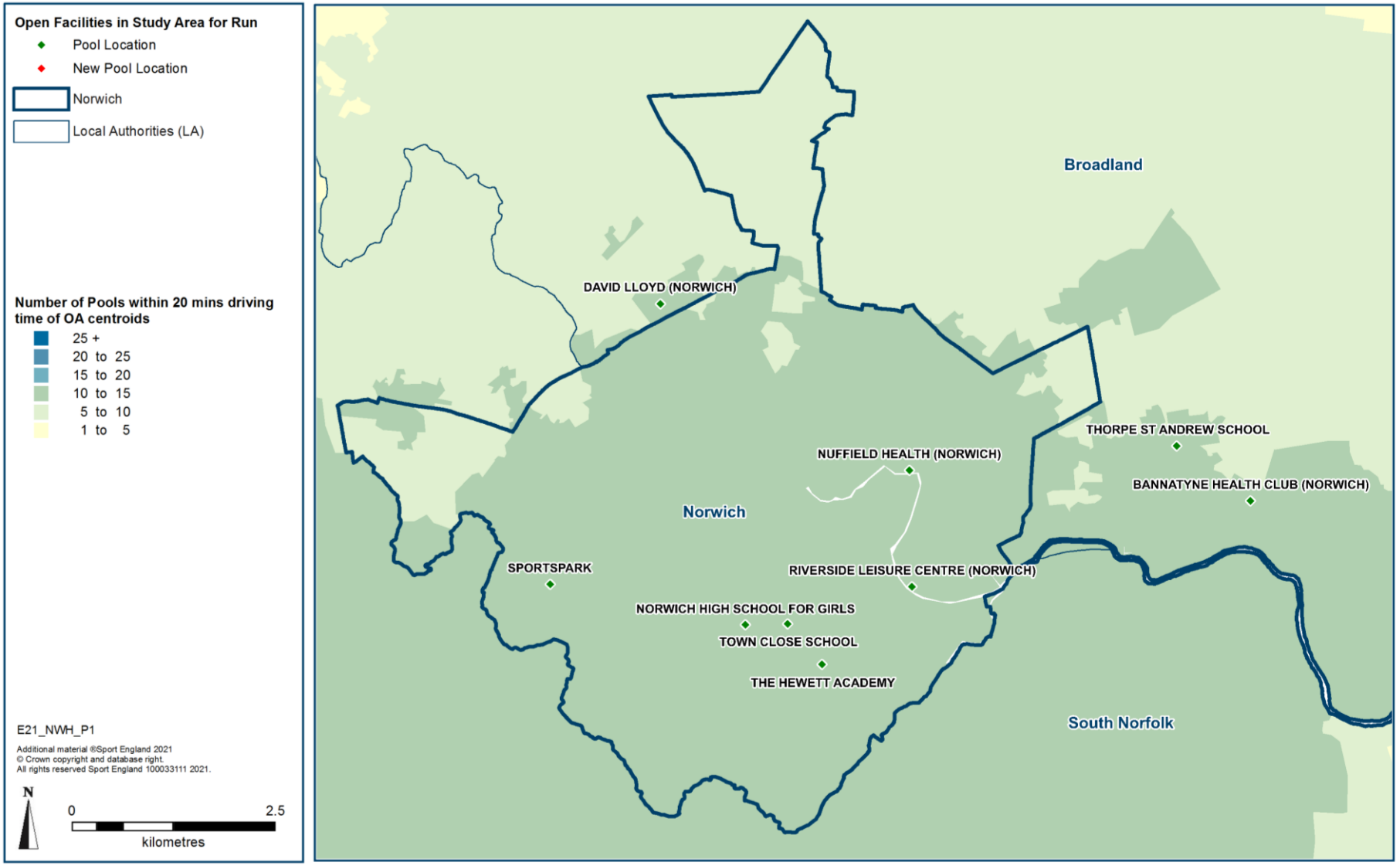
5.12 Map **5.1** shows the number of pools which can be accessed across Norwich based on the drive time catchments. For the majority of the Norwich land area, residents have access to between 10 and 15 swimming pools sites (dark green areas), and in small areas in the very north, east and west of the city, to between 5 and 10 swimming pool sites (light green areas).

5.13 To gain some understanding of how accessible the swimming pool sites are by public transport, Map **5.2** shows the locations of the swimming pool sites (purple diamonds) and areas of the authority that are within 0-5 minutes' walk of a bus stop (grey areas).

5.14 As the map illustrates, nearly all of the land area of Norwich is within 5 minutes' walk of a bus stop and, therefore, includes the swimming pool locations. The swimming pools should be very accessible by bus travel. The FPM finding is that 18% of all visits to swimming pools by Norwich residents are by public transport.

Map 5.1: Access to Pools Based on the Driving Catchment Area of Pools (2021)

Facility Planning Model catchments shown thematically (colours) at output are level expressed as the number of Pools within 20 minutes' travel time of output area centroid.



Map 5.2: Areas of Norwich City within 5 minutes' walk of a bus stop (2021)

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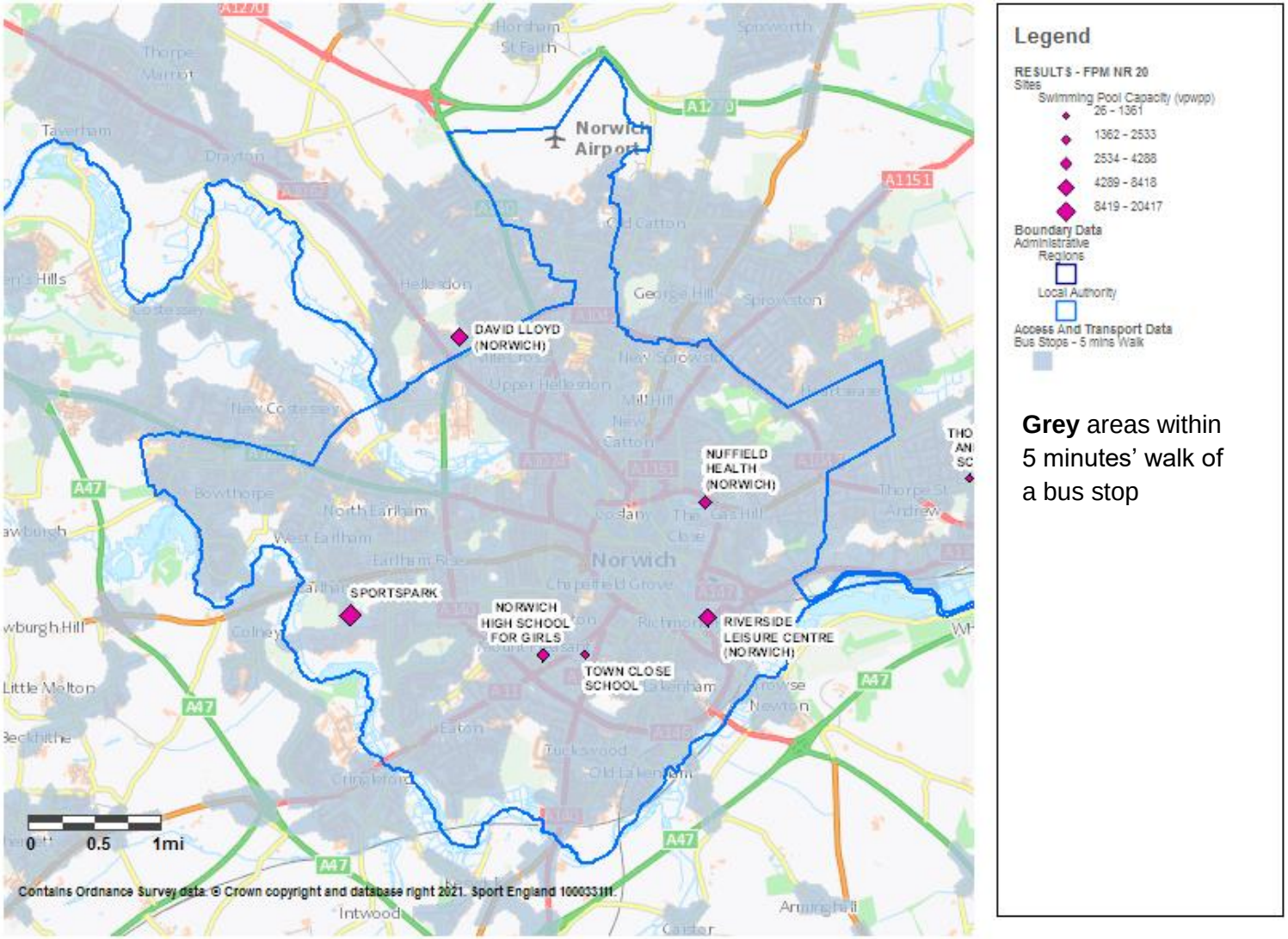


6. Used Capacity

How well used are the facilities?

Used Capacity	Norwich	Broadland	South Norfolk	East Region	England
Total number of visits used of current capacity	14,594	4,226	6,356	371,301	3,391,498
% of overall capacity of pools used	85.2	59.7	65.4	67.2	66.9
% of visits made to pools by					
Walkers	10.0	6.4	7.7	10.6	14.4
Road	90.0	93.6	92.3	89.4	85.6
Visits imported:					
Number of visits imported	6,562	886	2,167	13,513	2,235
As a % of used capacity	45.0	21.0	34.1	3.6	0.1
Visits retained:					
Number of visits retained	8,032	3,340	4,189	357,788	3,389,263
As a % of used capacity	55.0	79.0	65.9	96.4	99.9

Definition of used capacity – This is a measure of usage at swimming pools and estimates how well used or full facilities are. The FPM 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 congested. In the model Sport England assumes that usage over 70% of capacity is busy and that the swimming pool is operating at an uncomfortable level above that percentage.

6.1 **Key finding 5** is that the estimated used capacity of the swimming pools as a Norwich average is 85% in the weekly peak period. This is above the Sport England comfort level of 70%.

6.2 The findings on used capacity for the individual swimming pool sites does vary, and the findings are set out in Table **6.1**. Variation is caused by the interaction of the following factors:

- Management of a site

- Level of demand in the catchment area and the extent to which catchment areas overlap
- Hours available for community use
- Scale of the swimming pool and its percentage of used capacity
- Age of the pool and its 'attractiveness' weighting
- Imported demand

6.3 These factors are expanded on in the following paragraphs.

6.4 Public leisure centres provide all swimming activities and are the most accessible of the swimming pool sites. The activities are (1) learn to swim, (2) casual recreational swimming, (3) lane and fitness swimming, and (4) swimming development by clubs. The sites are accessible at all times of the day and the operator promotes swimming participation and physical activity. For all these reasons, there is a 'draw effect' to public leisure centres and they have a high estimated used capacity. Riverside Leisure Centre has a used capacity at peak times of 100% and UEA Sportspark of 84% (Note: UEA Sportspark is not a local authority leisure centre, but it does provide all the activities described, albeit by membership of the centre).

6.5 The Norwich swimming pool sites are located close to each other and within a small land area (see Map **2.1**.in Section 2), and therefore the demand will be shared between the pools.

6.6 As shown in Table **6.1**, the hours available for community use in the weekly peak period vary from 21 hours at The Hewett Academy to the maximum hours applied in the model of 52.5 hours at Riverside Leisure Centre, UEA Sportspark and Nuffield Health. The Hewett Academy has the lowest estimated used capacity.

6.7 Town Close School is the smallest pool site in Norwich. It has 33 hours available for community use in the weekly peak period and an estimated 100% of pool capacity used. This contrasts with UEA Sportspark which has the largest main pool in Norwich, 52.5 hours of community use a week, and an estimated 84% of pool capacity used. Town House School therefore has a higher percentage figure than UEA Sportspark, but UEA Sportspark has considerably more usage in terms of visits. It is important to consider the scale of the swimming pool when reviewing used capacity and not just the percentage figure alone.

6.8 All the swimming pool sites in the model are weighted to reflect their age, condition and whether they have been modernised in order to assess their comparative attraction to customers. Older and unmodernised pools have the lowest weighting, and more recent pools the highest weighting. Four out of the five Norwich sites have high weightings of over 80%; this reflects that they are more recently opened pools, with two having been modernised. The exception is The Hewett Academy which has a weighting of 36% because it opened in 1960 and was last modernised in 2006.

6.9 Imported demand is a major contributory reason for the estimated 85% used capacity of Norwich pools in the weekly peak period, and this is expanded on below.

6.10 The findings on estimated used capacity vary from the Norwich average for all the above inter-related reasons and should be reviewed with the facility operator.

Imported Demand

6.11 Imported demand is set out under Used Capacity because, if residents in neighbouring authorities swim at a centre in Norwich, their usage becomes part of the used capacity of Norwich's swimming pools.

6.12 **Key finding 6** is that 45% of the estimated used capacity of Norwich swimming pools is imported, which equates to 6,562 visits in the weekly peak period.

6.13 Norwich exports 493 visits in the weekly peak period (see Satisfied Demand table), therefore **Key finding 7** is that Norwich is a net importer of 6,069 visits per week in the peak period.

6.14 To put the imported demand into context, **Key finding 8** is that the site capacity of Riverside Leisure Centre is 4,073 visits in the weekly peak period. The imported demand is more than one and a half times the weekly peak period capacity of Riverside Leisure Centre.

Table 6.1: Percentage of Used Capacity of Norwich City Swimming Pools (2021)

Name of Facility	Type of Pool	Dimensions in metres	Area sqm	Site Year Built	Site Year Refurbished	Weight Factor	Hours in Peak Period	Total Hours Available	Site Capacity - visits per week peak period	% of Capacity Used
Norwich High School for Girls	Main/General	25 x 10	250	2000	2006	85%	40	53	1,667	100%
Nuffield Health (Norwich)	Main/General	25 x 10	250	2001		84%	52.5	103.5	2,188	57%
Riverside Leisure Centre (Norwich)	Main/General Learner/Teaching	25 x 14 15 x 8	350 120	2003		87%	52 52	96.5 96.5	4,073	100%
UEA Sportspark	Main/General	50 x 17	850	2000	2008	87%	52.5	108.3	7,438	84%
The Hewett Academy	Main/General	25 x 10	250	1960	2006	36%	21	31	875	55%
Town Close School	Main/General	20 x 8	160	2000		82%	33	36	880	100%

7. Local Share

Equity share of facilities

Local Share	Norwich	Broadland	South Norfolk	East Region	England
Local Share: <1 supply less than demand, 1> supply greater than demand	0.87	1.04	0.97	0.98	1.00

Definition of local share – This helps to show which areas have a better or worse share of facility provision. It considers the size, availability, and quality of facilities, as well as travel modes. Local share is the available capacity that people want to go to in an area, divided by the demand for that capacity in the area.

7.1 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. Local share is useful for looking at 'equity' of provision and to show how access and share of swimming pools differs across the authority.

7.2 The interventions are to try and increase access to swimming pools where residents have the lowest share of swimming pools.

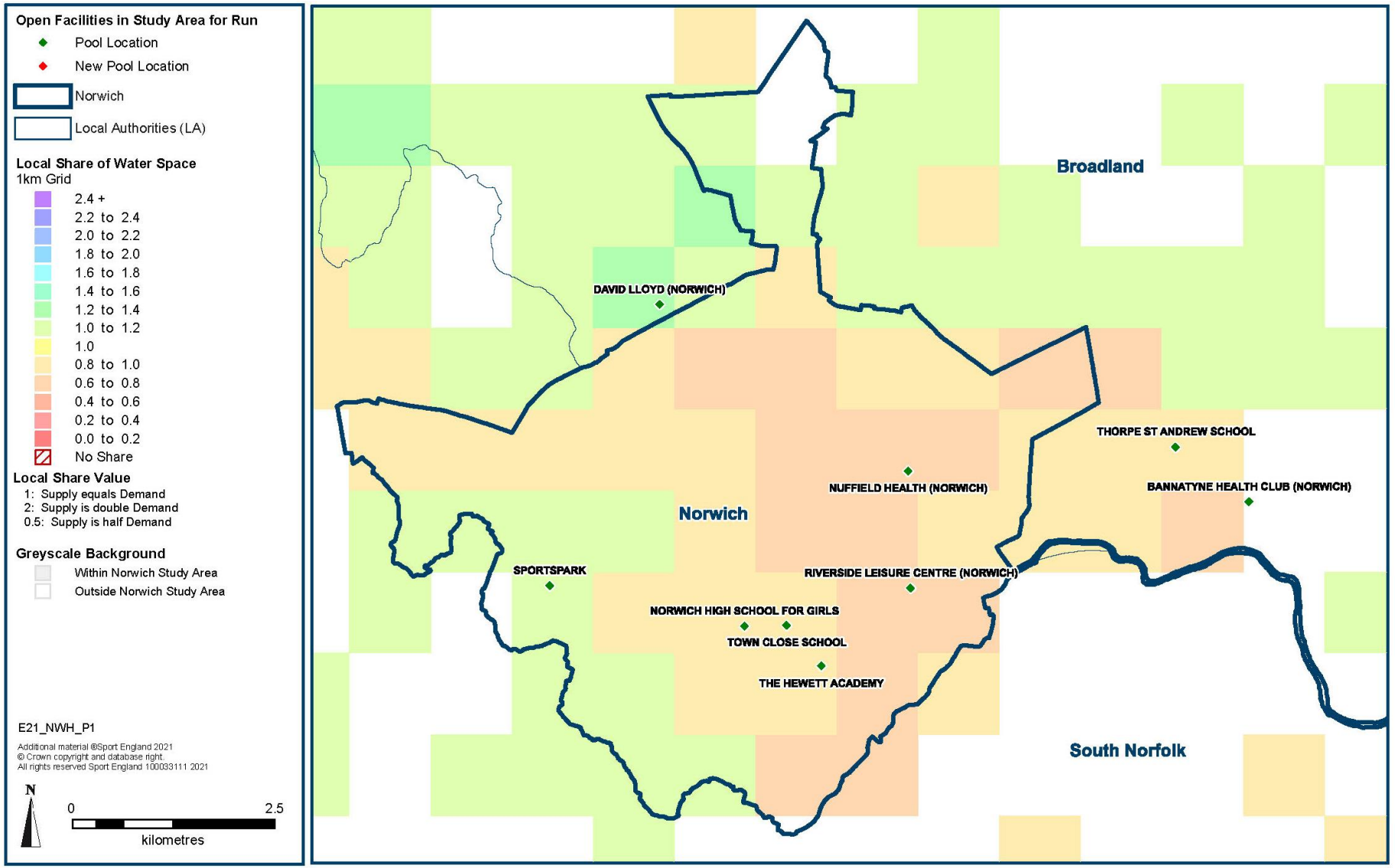
7.3 Norwich City has a local share of 0.87 and so supply is less than demand. Local share does vary across the city, and the findings are set out in Map **7.1**.

7.4 Local share is highest in the south-west of the city in the green squares with values of 1.0 to 1.2, so supply is greater than demand here. UEA Sportspark, the largest swimming pool site and the most recently refurbished, is located in this area.

7.5 Local share is lowest to the north of the centre and in the south-east of the city, and is shown in the orange squares with values of 0.8 to 0.6. While there are several swimming pool sites in this area, there is greater demand (see Map **3.1**) on the available supply.

Map 7.1: Local Share of Swimming Pools in Norwich City District (2021)

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



Water Space per 1,000 Population 2021

Share	Norwich	Broadland	South Norfolk	EAST TOTAL	ENGLAND TOTAL
Supply of total water space in sqm of water	2,230	891	1,396	75,974	676,882
Population	143,134	132,781	145,007	6,312,979	56,969,855
Water space per 1,000 population	16	7	10	12	12

7.6 Based on a measure of water space per 1,000 population, the Norwich City supply is 16 sqm of water space per 1,000 population in 2021. The East Region and England-wide averages are both 12 sqm of water per 1,000 population in 2021.

7.7 Norwich has a higher supply than either Broadland (7 sqm of water) and South Norfolk (10 sqm of water), and also the East Region and England-wide.

7.8 This is simply a measure which compares the Norwich City supply with those of the neighbouring local authorities, and the regional and national averages. It is reported because some local authorities like to understand how their provision compares with other authorities.

Appendix 1: Swimming Pools Excluded

The audit excludes facilities that are deemed to be either for private use, too small (below 160 sqm of water), closed or there is a lack of information, particularly relating to hours of use. The following facilities were deemed to fall under one or more of these categories and therefore excluded from the modelling:

Site Name	Facility Sub Type	Reason for Exclusion
City Academy Norwich	Main/General	Too Small
Feel Good Health Club (Mercure Norwich Hotel)	Learner/Teaching/Training	Too Small
Nelson Leisure Club (Closed)	Learner/Teaching/Training	Closed
The Brook Hotel (Closed)	Learner/Teaching/Training	Closed
YouFit (Norwich)	Learner/Teaching/Training	Too Small

Appendix 2: Model Description, Inclusion Criteria and Model Parameters

Included within this Appendix are the following:

- Model Description
- Facility Inclusion Criteria
- Model Parameters

Model Description

1. Background

1.1. The Facilities Planning Model (FPM) is a computer-based supply/demand model, which has been developed by Edinburgh University in conjunction with **sport**scotland and Sport England since the 1980s.

1.2. The model is a tool for helping to assess the strategic provision of community sports facilities in an area. It is currently applicable for use in assessing the provision of swimming pools, swimming pools, indoor bowls centres and artificial grass pitches.

2. Use of FPM

2.1. Sport England uses the FPM as one of its principal tools in helping to assess the strategic need for certain community sports facilities. The FPM has been developed as a means of:

- Assessing requirements for different types of community sports facilities on a local, regional, or national scale.
- Helping local authorities to determine an adequate level of sports facility provision to meet their local needs.
- Helping to identify strategic gaps in the provision of sports facilities.
- Comparing alternative options for planned provision, taking account of changes in demand and supply. This includes testing the impact of opening, relocating, and closing facilities, and the likely impact of population changes on the needs for sports facilities.

2.2. Its current use is limited to those sports facility types for which Sport England holds substantial demand data, i.e., swimming pools, swimming pools, indoor bowls, and artificial grass pitches (AGPs).

2.3. The FPM has been used in the assessment of Lottery funding bids for community facilities, and as a principal planning tool to assist local authorities in planning for the provision of community sports facilities.

3. How the Model Works

3.1. In its simplest form, the model seeks to assess whether the capacity of existing facilities for a particular sport is capable of meeting local demand for that sport, considering how far people are prepared to travel to such a facility.

3.2. In order to do this, the model compares the number of facilities (supply) within an area against the demand for that facility (demand) that the local population will produce, similar to other social gravity models.

3.3. To do this, the FPM works by converting both demand (in terms of people) and supply (facilities) into a single comparable unit. This unit is 'visits per week in the peak period' (VPWPP). Once converted, demand and supply can be compared.

3.4. The FPM uses a set of parameters to define how facilities are used and by whom. These parameters are primarily derived from a combination of data including actual user surveys from a range of sites across the country in areas of good supply, together with participation survey data. These surveys provide core information on the profile of users, such as, the age and gender of users, how often they visit, the distance travelled, duration of stay, and on the facilities themselves, such as, programming, peak times of use, and capacity of facilities.

3.5. This survey information is combined with other sources of data to provide a set of model parameters for each facility type. The original core user data for halls and pools comes from the National Halls and Pools survey undertaken in 1996. This data formed the basis for the National Benchmarking Service (NBS). For AGPs, the core data used comes from the user survey of AGPs carried out in 2005/06 jointly with sportscotland.

3.6. User survey data from the NBS and other appropriate sources are used to update the model's parameters on a regular basis. The parameters are set out at the end of the document, and the main data sources analysed are:

- Active Lives
    - For the adult survey, this data is collected by an online survey or paper questionnaire on behalf of Sport England. Each annual sample includes on the order of 175,000 people and covers the full age/gender range. Detailed questions are asked about 439 sports in terms of participation and frequency.
    - For the children and young people survey, this data is collected through schools with up to three mixed ability classes in up to three randomly chosen year groups completing an online survey.
- National Benchmarking Service
    - This is a centre-based survey whose primary purpose is to enable centres to benchmark themselves against other centres. Sample interviews are conducted on site. The number of people surveyed varies by year depending on how many centres take part. Approximately 10,000 swimmers

and 3,500 sports hall users are surveyed per year. This data is used for journey times, establishing proportions of particular activities in different hall types, the duration of activities and the time of activity (peak period).

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

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

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

4. Calculating Demand

4.1. Demand is calculated by applying the user information from the parameters, as referred to above, to the population[1]. This produces the number of visits for that facility that will be demanded by the population.

4.2. Depending on the age and gender make-up of the population, this will affect the number of visits an area will generate. In order to reflect the different population make-up of the country, the FPM calculates demand based on the smallest census groupings. These are Output Areas (OAs)[2].

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

5. Calculating Supply Capacity

5.1. A facility's capacity varies depending on its size (i.e., size of pool, hall, pitch number), and how many hours the facility is available for use by the community.

. The FPM calculates a facility's capacity by applying each of the capacity factors taken from the model parameters, such as the assumptions made as to how many 'visits' can be

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

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

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

5.3. Based on travel time information[3] taken from the user survey, the FPM then calculates how much demand would be met by the particular facility, having regard to its capacity and how much demand is within the facility's catchment. The FPM includes an important feature of spatial interaction. This feature takes account of the location and capacity of all the facilities, having regard to their location and the size of demand, and assesses whether the facilities are in the right place to meet the demand.

5.4. It is important to note that the FPM does not simply add up the total demand within an area and compare that to the total supply within the same area. This approach would not take account of the spatial aspect of supply against demand in a particular area. For example, if an area had a total demand for 5 facilities, and there were currently 6 facilities within the area, it would be too simplistic to conclude that there was an oversupply of 1 facility as this approach would not take account of whether the 5 facilities are in the correct location for local people to use them within that area. It might be that all the facilities were in one part of the borough, leaving other areas under-provided. An assessment of this kind would not reflect the true picture of provision. The FPM is able to assess supply and demand within an area based on the needs of the population within that area.

5.5. In making calculations as to supply and demand, visits made to sports facilities are not artificially restricted or calculated by reference to administrative boundaries, such as local authority areas. Users are generally expected to use their closest facility. The FPM reflects this through analysing the location of demand against the location of facilities, allowing for cross-boundary movement of visits. For example, if a facility is on the boundary of a local authority, users will generally be expected to come from the population living close to the facility, but who may be in an adjoining authority.

6. Calculating the Capacity of Swimming pools – Hall Space in Courts (HSC)

6.1. The capacity of swimming pools is calculated in the same way as described above, with each sports hall site having a capacity in VPWPP. In order for this capacity to be meaningful, these visits are converted into the equivalent of main hall courts and referred to as 'Hall Space in Courts' (HSC). This 'court' figure is often mistakenly read as being the same as the number of 'marked courts' at the swimming pools that are in the Active Places data, but it is not the same. There will usually be a difference between this figure and the number of 'marked courts' in Active Places.

6.2. The reason for this is that the HSC is the 'court' equivalent of all the main and activity halls capacities; this is calculated based on hall size (area) and whether it is the main hall or a

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

secondary (activity) hall. This gives a more accurate reflection of the overall capacity of the halls than simply using the 'marked courts' figure. This is due to two reasons:

- In calculating the capacity of halls, the model uses a different 'At-One-Time' (AOT) parameter for main halls and for activity halls. Activity halls have a greater AOT capacity than main halls – see below. Marked courts can sometimes not properly reflect the size of the actual main hall. For example, a hall may be marked out with 4 courts, when it has space for 5 courts. As the model uses the 'courts' as a unit of size, it is important that the hall's capacity is included as a 5 'court unit' rather than a 4 'court unit'.
- The model calculates the capacity of the sports hall as 'visits per week in the peak period' (VPWPP), and then uses this unit of capacity to compare with demand, which is also calculated as VPWPP. It is often difficult to visualise how much hall space there is when expressed as VPWPP. To make things more meaningful, this capacity in VPWPP is converted back into 'main hall court equivalents' and is noted in the output table as 'Hall Space in Courts'.

7. Facility Attractiveness – for Halls and Pools Only

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

7.2. Attractiveness weightings are based on the following:

- Age/refurbishment weighting – pools and halls: The older a facility is, the less attractive it will be to users. It is recognised that this is a general assumption and that there may be examples where older facilities are more attractive than newly built ones due to excellent local management, programming, and sports development. Additionally, the date of any significant refurbishment is also included within the weighting factor; however, the attractiveness is set lower than a new build of the same year. It is assumed that a refurbishment that is older than 20 years will have a minimal impact on the facility's attractiveness. The information on year built/refurbished is taken from Active Places. A graduated curve is used to allocate the attractiveness weighting by year. This curve levels off at around 1920 with a 20% weighting. The refurbishment weighting is slightly lower than the new built year equivalent.
- Management and ownership weighting – halls only: Due to the large number of halls being provided by the educational sector, an assumption is made that, in general, these halls will not provide as balanced a programme than halls run by local authorities, trusts, etc, with school halls more likely to be used by teams and groups through block booking. A less balanced programme is assumed to be less attractive to a general pay & play user than a standard local authority leisure centre sports hall with a wider range of activities on offer.

7.3. To reflect this, two weightings curves are used for educational and non- educational halls, a high weighted curve, and a lower weighted curve.

- High weighted curve – includes non-educational management and a better balanced programme, more attractive.
- Lower weighted curve – includes educational owned and managed halls, less attractive.

7.4. Commercial facilities – halls and pools: Whilst there are relatively few swimming pools provided by the commercial sector, an additional weighing factor is incorporated within the model to reflect the cost element often associated with commercial facilities. For each population output area the Indices of Multiple Deprivation (IMD) score is used to limit whether people will use commercial facilities. The assumption is that the higher the IMD score (less affluence), the less likely the population of the OA would choose to go to a commercial facility.

8. Comfort Factor – Halls and Pools

8.1. As part of the modelling process, each facility is given a maximum number of visits it can accommodate based on its size, the number of hours it is available for community use, and the 'at one time capacity' figure (pools = 1 user/6m^2, halls = 6 users/court). This gives each facility a 'theoretical capacity'.

8.2. If the facilities were full to their theoretical capacity, then there would simply not be the space to undertake the activity comfortably. In addition, there is a need to take account of a range of activities taking place which have different numbers of users; for example, aqua aerobics will have significantly more participants than lane swimming sessions. Additionally, there may be times and sessions that, while being within the peak period, are less busy and so will have fewer users.

8.3. To account for these factors the notion of a 'comfort factor' is applied within the model. For swimming pools, 70%, and for swimming pools, 80%, of their theoretical capacity is considered as being the limit where a facility starts to become uncomfortably busy. (Currently, the comfort factor is <u>not</u> applied to AGPs due to the fact they are predominantly used by teams which have a set number of players, therefore the notion of having a 'less busy' pitch is not applicable.)

8.4. The comfort factor is used in two ways:

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

- Adequately meeting unmet demand – the comfort factor is also used to increase the number of facilities needed to comfortably meet unmet demand. If this comfort factor is not applied, then any facilities provided will be operating at their maximum theoretical capacity, which is not desirable as noted previously.

9. Utilised Capacity (Used Capacity)

9.1. Following on from the comfort factor section, here is more guidance on utilised capacity.

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

9.3. For example, a 25m, four-lane pool has a theoretical capacity of 2,260 per week, during a 52.5-hour peak period.

9.4. As set out in the table below, usage of a pool will vary throughout the evening, with some sessions being busier than others through programming, such as an aqua-aerobics session between 7pm and 8pm and lane swimming between 8 and 9pm. Other sessions will be quieter, such as between 9 and 10pm. This pattern of use would mean a total of 143 swims taking place. However, the pool's maximum theoretical capacity is 264 visits throughout the evening. In this instance the pool's utilised capacity for the evening would be 54%.

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

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

10. Travel Times Catchments

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

10.2. The Ordnance Survey (OS) MasterMap Highways Network Roads has been used to calculate the off-peak drive times between facilities and the population, observing any one-way and turn restrictions which apply and taking account of delays at junctions and

car parking. Each street in the network is assigned a speed for car travel based on the attributes of the road, such as the width of the road, the geographical location of the road, and the density of properties along the street. These travel times have been derived through national survey work, and so are based on actual travel patterns of users. The road speeds used for inner and outer London boroughs have been further enhanced by data from the Department of Transport.

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

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

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

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

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

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

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

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

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

Facility Inclusion Criteria

Swimming Pools

The following inclusion criteria were used for this analysis:

- Include all operational indoor swimming pools available for community use, i.e., pay and play, membership, sports club/community association.
- Exclude all pools not available for community use, i.e., private use.
- Exclude all outdoor pools, i.e., lidos.
- Exclude all pools where the main pool is less than 20 metres in length, or the area is less than 160 square metres. If the principal pool is a leisure pool with an area less than 200 square metres, then all pools on the site should be excluded.
- Include all 'planned', 'under construction, and 'temporarily closed' facilities only where all data is available for inclusion.
- Where opening times are missing, availability has been included based on similar facility types.
- Where the year built is missing assume date 1975[4].

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

[4] Choosing a date in the mid 1970s ensures that the facility is included, while not overestimating its impact within the run.

Model Parameters

Pools Parameters

<table>
<tr><td>At One Time Capacity</td><td>0.16667 per square metre = 1 person per 6 square meters</td></tr>
<tr><td>Catchment Maps</td><td>Car: 20 minutes
Walking: 1.6 km
Public transport: 20 minutes at about half the speed of a car

NOTE: Catchment times are indicative, within the context of a distance decay function of the model.</td></tr>
<tr><td>Duration</td><td>60 minutes</td></tr>
<tr><td>Percentage Participation

Frequency per Week</td><td>
<table>
<tr><th>Age</th><th>0-15</th><th>16-24</th><th>25-34</th><th>35-44</th><th>45-59</th><th>60-79</th></tr>
<tr><td>Male</td><td>14.5</td><td>6.9</td><td>10.4</td><td>8.6</td><td>5.4</td><td>1.6</td></tr>
<tr><td>Female</td><td>16.2</td><td>10.2</td><td>13.8</td><td>11.8</td><td>7.7</td><td>1.5</td></tr>
</table>
<table>
<tr><th>Age</th><th>0-15</th><th>16-24</th><th>25-34</th><th>35-44</th><th>45-59</th><th>60-79</th></tr>
<tr><td>Male</td><td>1.09</td><td>1.03</td><td>0.86</td><td>1.01</td><td>1.30</td><td>1.73</td></tr>
<tr><td>Female</td><td>1.10</td><td>0.96</td><td>0.82</td><td>1.00</td><td>1.17</td><td>1.28</td></tr>
</table>
</td></tr>
<tr><td>Peak Period

Proportion in Peak Period</td><td>Weekday: 9:00 to 10:00, 12:00 to 13:30, 15:30 to 21:00
Weekend: 08:00 to 15:30
Total: 52.5 hours

63%</td></tr>
</table>