Facilities Planning Model Assessment of Swimming Pools Provision in South Norfolk

Standard Report 2020

20 December 2021

Disclaimer

The information in this report is presented in good faith using the information available to Sport England at the time of preparation. It is provided on the basis that the authors of the report are not liable to any person or organisation for any damage or loss which may occur in relation to taking, or not taking, action in respect of any information or advice within the document.

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 most of the South Norfolk demand can be met by the accessible supply of swimming pools, unmet demand is low, and the pool sites are busy.

ii. However, the District is exporting a lot of demand to pools sites outside the District, which is partially a reflection of the pool site locations, both inside and outside the District. Also, the average age of the South Norfolk swimming pool sites is 35 years, making them less attractive to residents, although three sites have been modernised.

Key Findings

iii. In 2020 there are seven individual pools located at five swimming pool sites in South Norfolk; two are local authority public leisure centres, two are educational pool sites and one is a commercial pool site.

iv. A total of 84% of swimming demand in South Norfolk is met.

v. Only 55% of the satisfied demand is retained within the authority (4,017 visits per week in the peak period) and 45% (3,275 visits) is met outside South Norfolk.

vi. South Norfolk's unmet demand is 15.5% of its demand, which equates to 224 sqm of water, less than the size of a 25m x 10m four-lane swimming pool. Only 14% of unmet demand is due to lack of capacity and 86% is demand located outside the catchment area of a pool.

vii. South Norfolk's average estimated used capacity of swimming pools is 63% in the weekly peak period. This provides some working headroom before the Sport England benchmark of 70% of pools being comfortably full at peak times is reached.

viii. Out of the 52.5 maximum available peak period hours Diss Leisure Centre has 51.5 available hours and Wymondham Leisure Centre has 46 hours The estimated used capacity is 70% at Diss Leisure Centre and 69% at Wymondham Leisure Centre, at or very close, to the Sport England comfort level above which pools are perceived as uncomfortably busy to use.

ix. The used capacity of the South Norfolk pools which is imported is 2,100 visits in the weekly peak period, while that exported is 3,275 visits, giving a net export of 1,175 visits in the weekly peak period.

Strategic Overview

x. Only two of the five swimming pool sites in South Norfolk, Diss Leisure Centre and Wymondham Leisure Centre, provide full accessibility for residents, with a full programme of swimming activities, learn to swim, recreational swimming, lane and fitness swimming and swimming development by clubs.

xi. At the two educational sites access is limited by the type of use, organised hire by clubs or groups. At Wymondham College community use is available outside of school hours for group hire. The Dunston Hall site is a commercial site and available for use by the centre membership for recreational swimming.

xii. A combination of (1) lack of access and availability at some sites, (2) the swimming pool site locations and catchment areas, (3) the age of the swimming pool sites, (4) sites in Norwich, notably UEA Sportspark (which is a modern and extensive swimming pool site with full community access) all contribute to the finding that 55% of the South Norfolk demand for swimming pools is met in the District and 45% is exported.

xiii. Unmet demand is low and the vast majority is demand located outside a catchment. Unmet demand is highest in the east of the authority in the Loddon area and east of Loddon. There are no swimming pool sites in this area, and unmet demand totals to between 40 and 50 sqm of water.

xiv. The reminder of unmet demand is dispersed across the District, with values of between 1 sqm and 2 sqm of water per one-kilometre grid square. Overall, there is not a sufficient cluster of unmet demand in any one location, to consider increasing swimming pool provision, to improve accessibility for residents.

xv. The public leisure centres are busy pool sites and there is little scope to increase the use of these pool sites without the pools becoming uncomfortably full. This can discourage participation, because the pool becomes too crowded (as do the changing and circulation areas).

xvi. There is scope to increase the hours for community use at Archbishop Sancroft High School, Wymondham College (available outside of school hours), and Dunston Hall. However, the District Council has no control over the community use at these sites and their programme of use is, as reported, limited by type of use and availability.

xvii. With very little scope to increase swimming pool capacity for the full range of swimming activities within South Norfolk, the intervention is to ensure the pool programmes at the two public leisure centres are providing for the most popular activities at peak times, thereby providing most opportunities.

xviii. This raises a related question: *is there a need to increase public swimming pool provision because the two public sites are busy sites?* Most of the findings within this report does not support the increase of public swimming pool provision. Unmet demand (at 224 sqm of water) is less than the size of a 25m x 10m four-lane swimming pool, and only 14% of this unmet demand is from lack of swimming pool capacity (the rest resides outside the catchment area of a pool). In terms of locating a new facility, the highest value of 'potential catchment unmet demand' identified was 151 sqm of water, which is insufficient to meet unmet demand from lack of pool capacity through increased provision.

xix. Therefore, while the public leisure centres are busy swimming pools, there is not a lot of unmet demand across the district from lack of capacity, based on these 2020 findings.

Next Steps

xx. The Council has modernised both its swimming pool sites, but the most recent pool site to open in South Norfolk is Wymondham Leisure Centre in 1999: no new pool sites have been built for 22 years. The stock is ageing and no doubt the Council has full condition surveys for the pool sites and is aware of the programme of works and costs to maintain the pool sites in the future.

xxi. Looking ahead population growth is likely to increase the demand for swimming and add to the costs of maintaining the swimming pools.

xxii. At present demand is being met but with an aging stock and more modern pool sites in neighbouring local authorities, the amount of demand being met by the District's pools could decrease as more demand is exported. It is recommended in the future strategic planning the Council is undertaking, that an assessment is made of the future demand for swimming and how this can be met by the current supply of pools.

xxiii. South Norfolk District 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.

xxiv. 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 findings set out.

xxv. 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 The assessment uses Sport England's Facilities Planning Model (FPM) and the data from the National Run using Active Places data as of 2020.

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 because of 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 assessment provides an initial assessment of the current supply and demand for provision of swimming pools in South Norfolk District East Anglia. This assessment does not include future population growth projections; it is a baseline evidence base for swimming pool provision.

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

Context

1.5 The report should form part of a wider assessment of provision at the 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 When reviewing the findings from this FPM standard report, the outcomes should be applied with reference to the evidence base benefits from 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 same or different locations and different scale

1.9 The purpose is to identify how these changes in supply will impact on access to swimming pools for residents in future years and whether they will 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, to find out:

- Supply - how many facilities are there and what is their capacity?
- Demand - who wants to use facilities?
- Satisfied Demand - how many people are using facilities? Where do people use facilities (inside and outside the authority) and how do they get there?
- Unmet Demand - who can't use facilities and why? Is there not enough 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 heading has a table of main findings, followed by a definition of the assessment heading and the findings. Any key findings are numbered and in bold typeface. Each table includes the findings for all the neighbouring authorities, along with the regional and England-wide findings. This is because the assessments are based on catchment areas which may 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, satisfied demand, unmet demand, and local share 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	South Norfolk	Breckland	Broadland	East Suffolk	Great Yarmouth	Mid Suffolk	Norwich	East Region	England
Number of pools	7	5	5	13	2	4	6	339	3,031
Number of pool sites	5	2	4	9	2	2	5	239	2,099
Supply of total water space in sqm of water	1,395	1,170	919	2,473	514	617	1,980	75,369	681,528
Supply of publicly available water space in sqm of water (scaled with hours available in the peak period)	1,120	1,044	845	2,141	400	615	1,874	63,554	588,927
Supply of total water space in visits per week in the peak period	9,712	9,051	7,325	18,566	3,468	5,332	16,245	551,016	5,105,997

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 five sites in South Norfolk in 2020. The water space available for community use is 1,120 sqm of water in the weekly peak period. (Note: for context, a 25m x 10m four-lane pool is 250 sqm of water).

2.2. There are two local authority public swimming pools sites in South Norfolk District. Diss Leisure Centre (opened in 1987 and modernised in 2004) has a 25m x 13m six-lane main pool and a teaching/learner pool of 13m x 3m. There is also the Wymondham Leisure Centre (opened in 1999) which has a 25m x 14m six-lane main pool and a 14m x 6m teaching/learner pool. It is the largest swimming pool site in the District.

2.3. The public leisure centres provide access for all swimming activities, learn to swim, recreational swimming, lane and fitness swimming activities and swimming development by clubs. Therefore, 40% of the swimming pool sites provide full public and swimming club access for residents' use.

2.4. There are two educational swimming pool sites. Archbishop Sancroft High School (opened in 1980 and modernised in 2007) has a single pool of 23m x 8m and four lanes. It provides a learn to swim school and is available for community hire. There is also Wymondham College pool (opened in 1970) which has an 18m x 11m four-lane pool, the pool is available for community hire outside of school hours.

2.5. There is one commercial swimming pool site at Dunston Hall (Norwich) (opened in 1996 and modernised in 2005). It operates a membership system for local residents to do recreational swimming.

2.6. The main pools at the Diss and Wymondham public leisure centre sites provide for 51.5 and 46 hours of community use a week respectively during the weekly peak period.

2.7. The hours available for community use at the other sites are during the weekly peak period are:

- Dunstan Hall – 52.5 hrs for membership use
- Archbishop Sancroft High School – 26 hours
- Wymondham College pool - 21 hours for community hire period outside of school hours

2.8. The average age of all the swimming pool sites is 35 years and three of the pool sites have been modernised.

2.9. Details of the swimming pool sites in South Norfolk District are set out in Table **2.1**.

2.10. The locations of the swimming pool sites in South Norfolk are shown in Map **2.1**. Purple diamonds represent pool site locations, and the size of the diamond is representative of the scale of the pool site capacity. Maps **2.2**, **2.3** and **2.4** show more detail for the west, north and south areas of the authority.

2.11. Of note is the pool sites in the north and south of South Norfolk are very close to the boundary with Norwich and Mid Suffolk respectively. This means these sites will be accessible by car to residents in these authorities. Also of note in Map **2.3** is the cluster of five swimming pools located in Norwich. The 30-minute drive time catchment area for these sites will extend into much of South Norfolk and provide access for South Norfolk residents who travel to swimming pools by car.

2.12. Not shown on the maps is Waveney Valley Leisure Centre, formerly known as Bungay Pool and Gym, which is over the border in East Suffolk. This site was closed for more than a year following an extensive renovation project before re-opening in October 2020.

Table 3.1 Swimming Pool Supply South Norfolk District 2020 (Facilities Included)

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
Archbishop Sancroft High School	Main/General	23 x 8	188	1980	2007	59%	26	36	815
Diss Leisure Centre	Main/General	25 x 13	313	1987	2004	61%	51.5	96.5	3,004
	Learner/Teaching/Training	13 x 3	38				51.5	96.5	
Dunston Hall Norwich	Main/General	15 x 15	225	1996	2015	93%	52.5	103.5	1,969
Wymondham College	Main/General	18 x 11	198	1970		28%	21	22	693
Wymondham Leisure Centre	Main/General	25 x 14	350	1999		82%	45.8	79.5	3,232
	Learner/Teaching/Training	14 x 6	84				40	55.5	

Map 2.1: Swimming Pool Sites in South Norfolk (2020)

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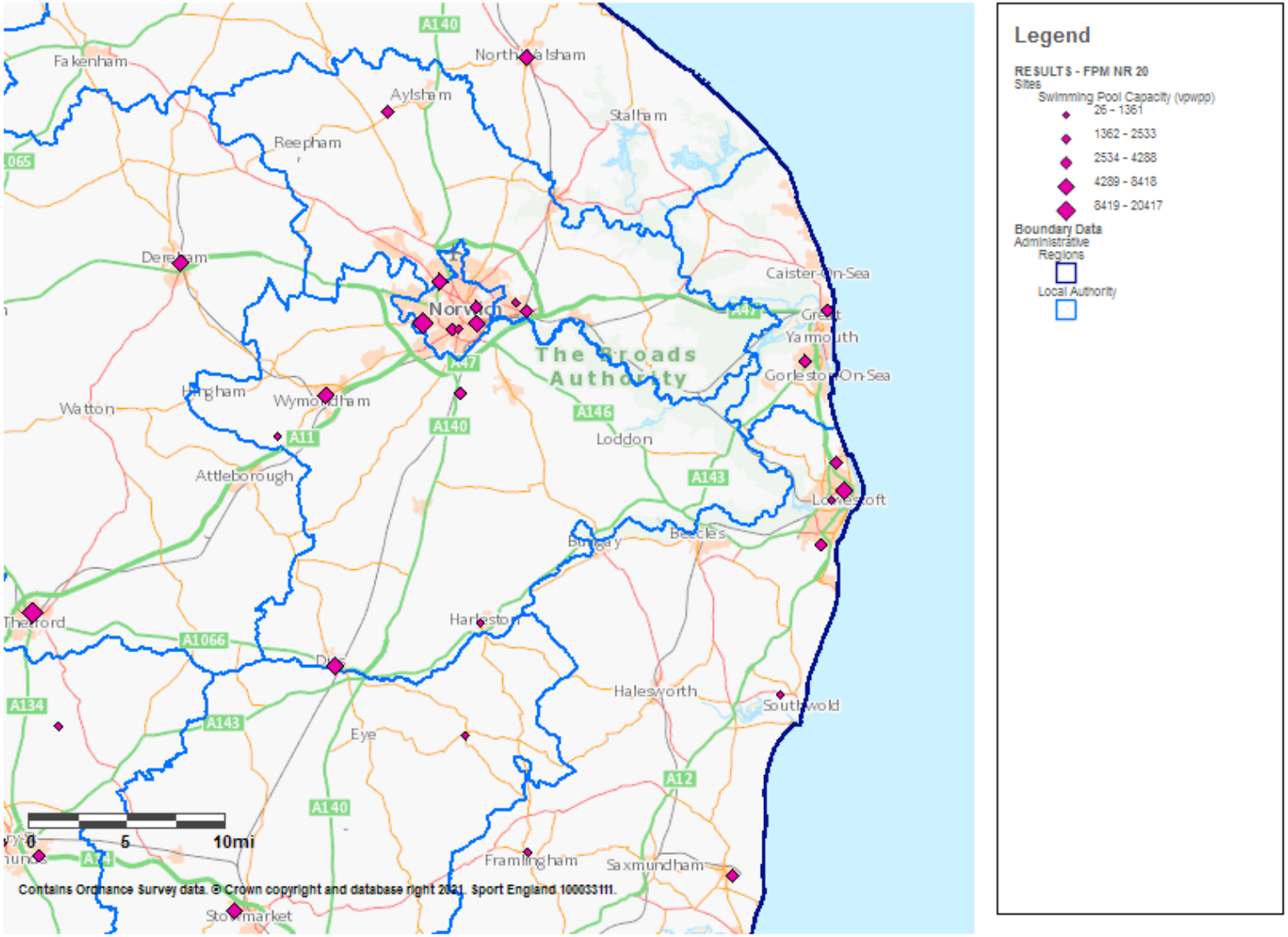

Map 2.2: Swimming Pool Sites in West South Norfolk (2020)

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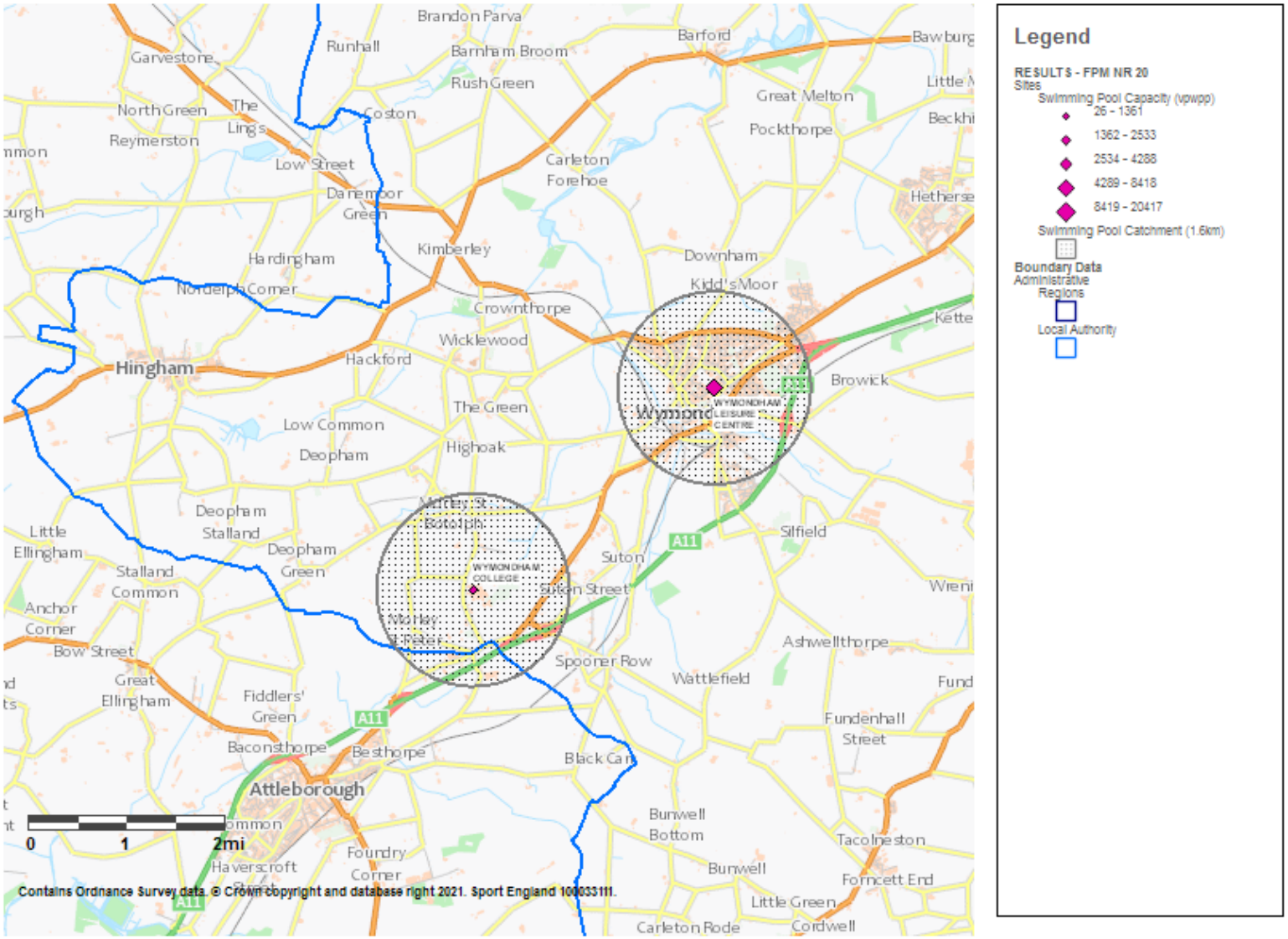

Map 2.3: Swimming Pool Sites in North South Norfolk (2020)

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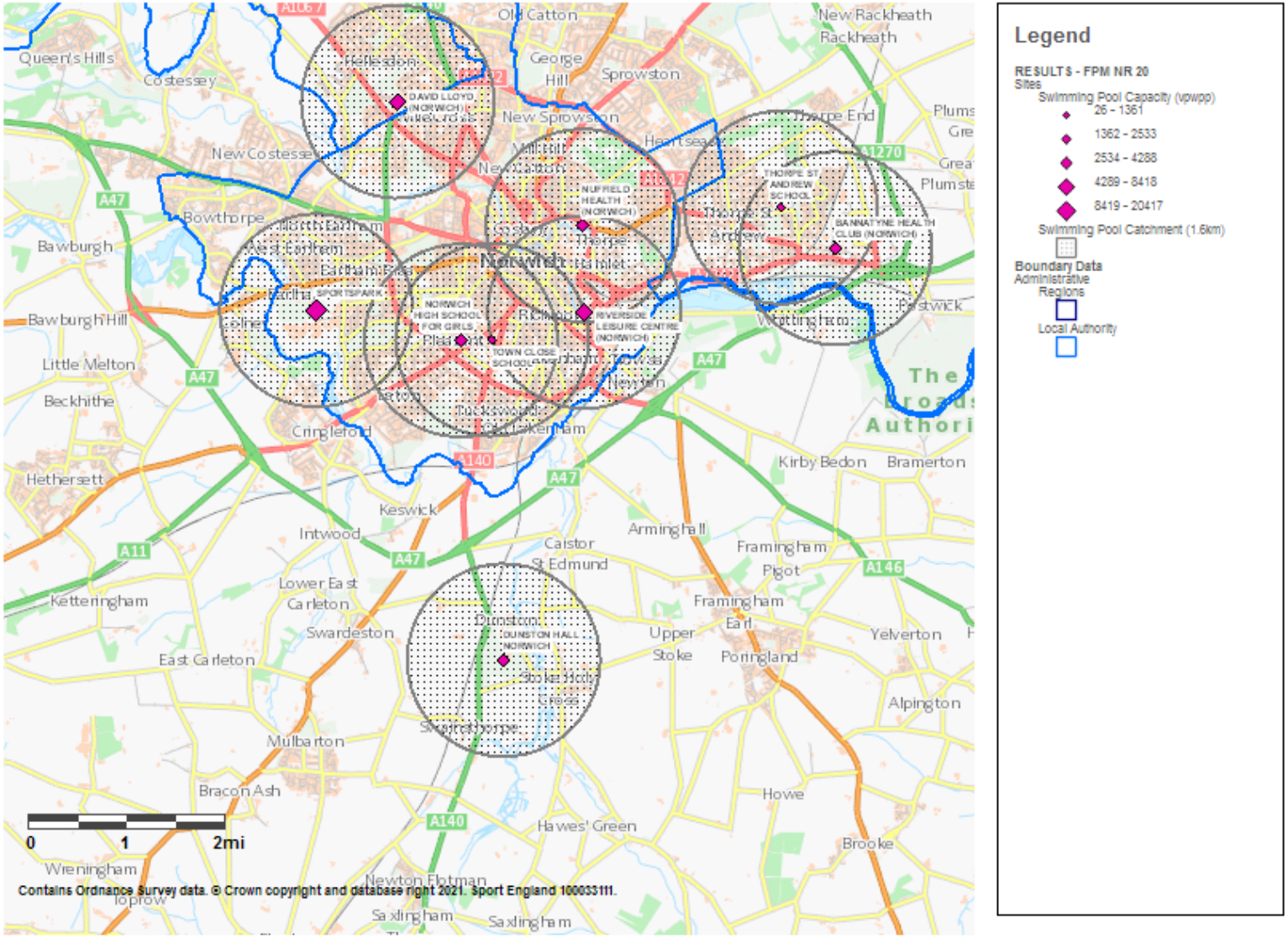

Map 2.4: Swimming Pool Sites in South South Norfolk (2020)

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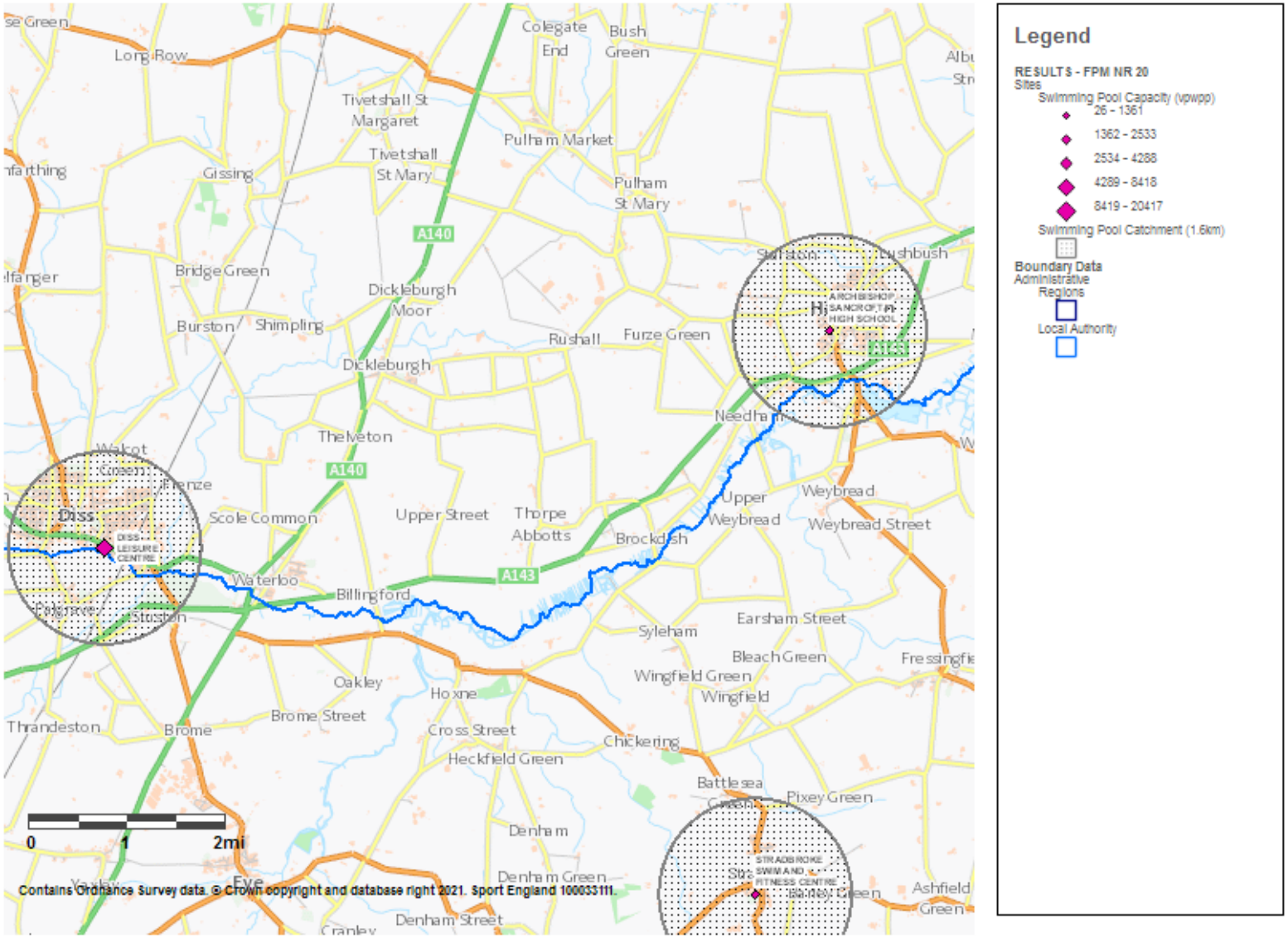


3. Demand for Swimming Pools

Demand	South Norfolk	Breckland	Broadland	East Suffolk	Great Yarmouth	Mid Suffolk	Norwich	East Region	England
Population	142,704	142,019	131,671	251,751	100,097	104,153	142,790	6,277,257	56,630,408
Swims demanded – visits per week peak period	8,642	8,462	7,851	14,832	6,021	6,239	8,877	388,000	3,519,309
Equivalent in water space – with comfort factor included	1,435	1,404	1,304	2,462	999	1,036	1,473	64,391	584,055

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 demand for swimming pools by South Norfolk residents is 8,642 visits per week in the peak period, which equates to a demand for 1,435 sqm of water. For context, the available supply of water space in the peak period in South Norfolk is 1,120 sqm of water.

4. Satisfied Demand

Demand from South Norfolk residents currently being met

Satisfied Demand	South Norfolk	Breckland	Broadland	East Suffolk	Great Yarmouth	Mid Suffolk	Norwich	East Region	England
Total number of visits which are met	7,292	5,969	6,736	12,145	4,191	5,207	8,205	346,833	3,225,075
% of total demand satisfied	84.4	70.5	85.8	81.9	69.6	83.5	92.4	89.4	91.6
% of demand satisfied who travelled by:									
Car	90.5	86.00	92	86.10	78.50	92.70	65.20	80.40	71.90
Foot	6.5	10.20	4.20	9.40	11.70	4.80	20.00	12.90	18.20
Public transport	3.0	3.80	3.80	4.50	9.80	2.50	14.80	6.80	9.90
Retained demand:									
Number of visits retained	4,017	4,780	3,200	10,274	3,421	2,982	7,723	337,209	3,223,156
As a % of satisfied demand	55.1	80.1	47.5	84.6	81.6	57.3	94.1	97.2	99.9
Exported demand:									
Number of visits exported	3,275	1,189	3,536	1,871	770	2,225	482	9,637	1,931
As a % of satisfied demand	44.9	19.90	52.50	15.40	18.40	42.70	5.90	2.80	0.10

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

4.1. **Key finding 2** is that in 2020, 84% of the total demand for swimming from South Norfolk residents is met.

4.2. Satisfied demand in South Norfolk is the third highest in the study area after Broadland (with 86% of its demand being satisfied) and Norwich (92% of demand satisfied). The East Region and England-wide averages are 89% and 92% respectively. Therefore, while the South Norfolk finding for satisfied demand is high at over eight out of ten desired visits

to a pool being met, it is lower than two neighbours and the regional and national averages.

Retained Demand

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

4.4. **Key finding 3** is that, of the total 84% South Norfolk demand for swimming which is met, 55% is retained within the authority. This is quite a low level of retained demand and it is only lower in Broadland at 47.5%. In three of the other neighbouring authorities, the retention rate is over 80% (in Norwich it is 94%).

4.5. 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

4.6. The residue of satisfied demand, after retained demand, is exported demand. The 2020 finding is that 45% of the South Norfolk satisfied demand for swimming is met at a swimming pool outside South Norfolk.

4.7. **Key finding 4** is that South Norfolk's retained demand is 4,017 visits per week in the peak period; its exported demand is 3,275 visits in the weekly peak period. The authority is quite dependent on access to these sites to meet its demand for swimming pools.

4.8. The data does not identify how much of South Norfolk's demand goes to which authority or pool site, but only provides the total figure for exported demand. However, based on Map **2.3** in Section 2 of this report, the cluster of four swimming pool sites in Norwich located close to the South Norfolk boundary, suggests that the majority of the exported demand goes to Norwich. The only South Norfolk site in this area is the Dunston Hall commercial swimming pool site.

5. Unmet Demand

Demand from South Norfolk residents not currently being met

Unmet Demand	South Norfolk	Breckland	Broadland	East Suffolk	Great Yarmouth	Mid Suffolk	Norwich	East Region	England
Total number of visits in the peak, not currently being met	1,350	2,493	1,116	2,687	1,830	1,032	672	41,167	294,234
Unmet demand as a % of total demand	15.6	29.5	14.2	18.1	30.4	16.5	7.6	10.6	8.4
Equivalent in water space sqm - with comfort factor	224	414	186	446	304	171	112	6,832	48,830
% of unmet demand due to:									
Outside catchment:	85.80	99.60	95.10	83.40	48.00	96.50	88.80	87.80	90.10
Who do not have access to a car	36.60	30.40	43.20	45.60	33.40	40.80	84.50	55.70	68.50
Who have access to a car	49.20	69.20	51.90	37.70	14.60	55.70	4.30	32.10	21.50
Lack of capacity:	14.20	0.40	4.90	16.60	52.00	3.50	11.20	12.20	9.90
Who do not have access to a car	1.00	0	0.60	4.80	18.10	0.30	10.20	4.70	7.30
Who have access to a car	13.20	0.40	4.30	11.80	33.90	3.20	1.00	7.50	2.60

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 5** is that South Norfolk's unmet demand is 15.6% of total demand, and this equates to 224 sqm of water, less than the size of a 25m x 10m four-lane swimming pool.

5.2. Of the total unmet demand, 86% is from unmet demand located outside the catchment area of a pool and 14% is from lack of swimming pool capacity.

5.3. 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 a catchment for residents without access to a car. This is particularly the case for rural authorities with a lot of small, dispersed settlements such as South Norfolk. Fortunately, there is not a great demand for swimming located in these areas. In terms of visits, the total unmet demand outside a catchment, is 1,158 visits per week in the peak period. This compares with the South Norfolk demand inside a catchment, and which is being met, of 7,292 visits per week in the peak period.

5.4. The overall key point 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 order to improve accessibility for residents.

5.5. Map **5.1** shows the location and scale of the total unmet demand for swimming across South Norfolk District. Maps **5.2, 5.3, 5.4** and **5.5** provide more detail for the west, north, south, and east areas of the authority.

5.6. Unmet demand is represented by colour-coded one kilometre grid squares, with the sqm of water of unmet demand shown in each square. The blue to green squares have values between 0.1 sqm and 0.7 sqm of water (i.e., very low). The yellow squares represent 0.8 sqm to 1.0 sqm of water, the light orange squares 1.0 sqm to 2.5 sqm of water, the medium orange squares 2.5 sqm to 5.0 sqm of water and the dark orange squares 5.0 sqm to 7.5 sqm of water.

5.7. There is no single area that has high unmet demand. Unmet Demand is highest in the east of the authority in the Loddon area and the east of Loddon. Here, there are no swimming pool sites and unmet demand totals between 40 sqm and 50 sqm of water.

5.8. The remainder of the unmet demand is distributed in values of between 1 sqm and 2 sqm of water in the one-kilometre grid squares across the District.

5.9. **Key finding 6** 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).

Meeting Unmet Demand

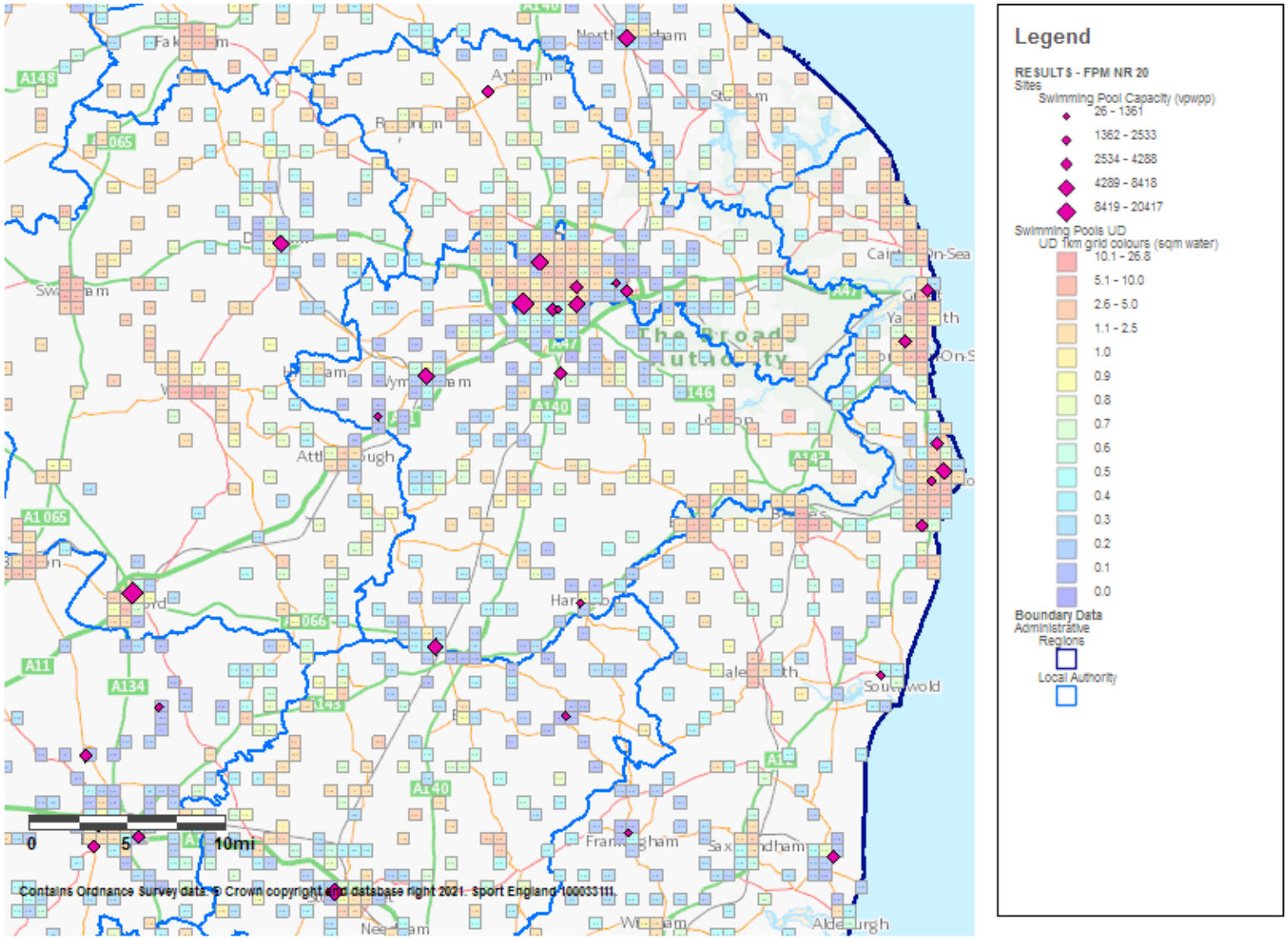
5.10. The spread of the unmet demand can by analysed to understand what unmet demand would lie within the catchment of any potential new facility in any given location. This ‘reachable unmet demand’ is calculated for each 1km grid square across the region to understand the possibility of addressing unmet demand through increased swimming pool provision.

5.11. The location with the highest value of ‘potential catchment unmet demand’ is in the far south-east of the authority, in the Gillingham area (to the south of Loddon). Here, the potential catchment unmet demand is 151 sqm of water.

5.12. There is not enough unmet demand in the area for a new pool on the grounds of lack of access. The nearest swimming pool site, not shown on the map, is Waveney Valley Leisure Centre, which is over the border in East Suffolk. There are also four swimming pool sites located in Lowestoft in East Suffolk. The potential catchment unmet demand map for the south-east of South Norfolk is shown in Map **5.6.**

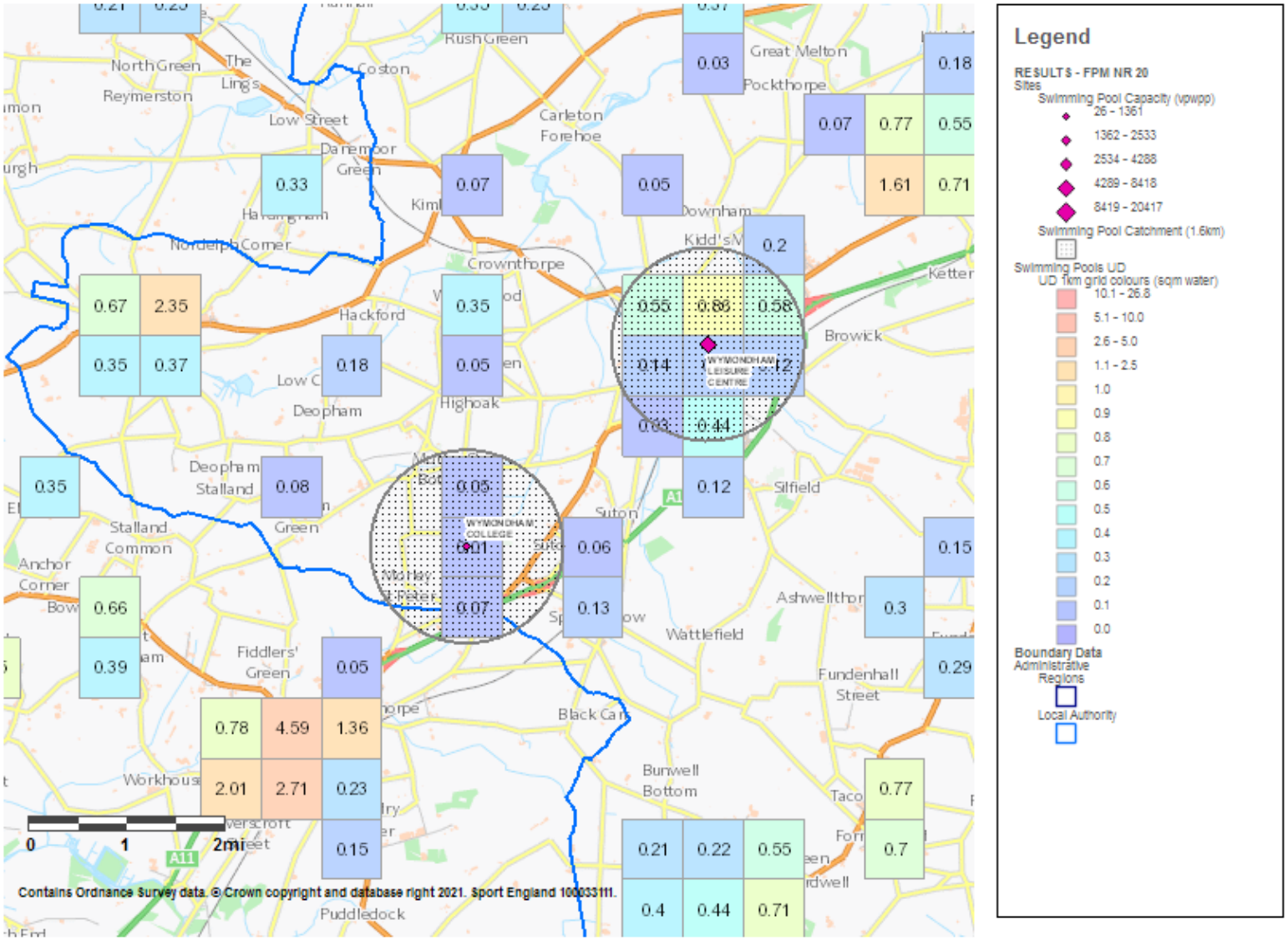
Map 5.1: Unmet Demand for Swimming Pools in South Norfolk (2020)

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.



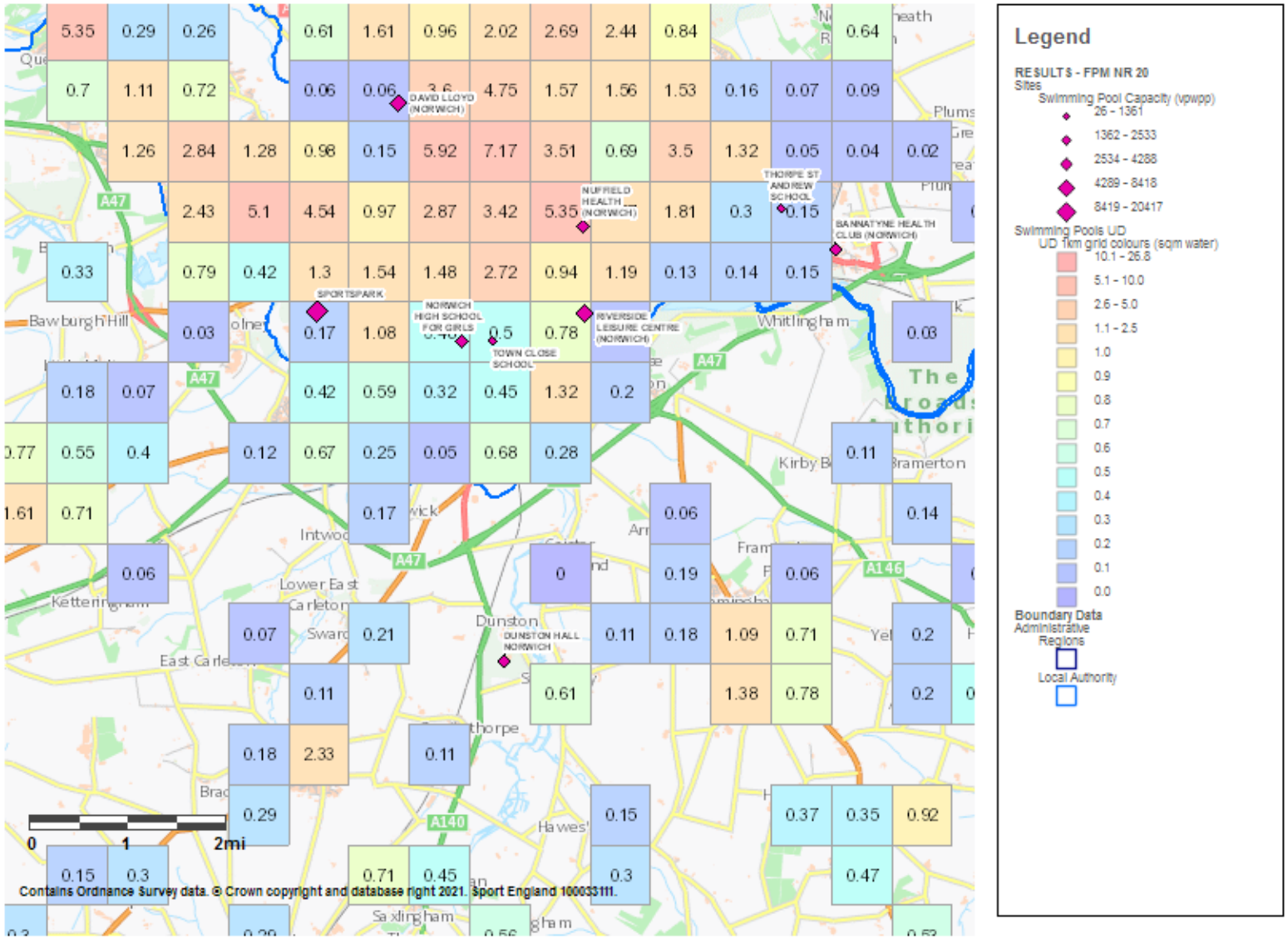
Map 5.2: Unmet Demand for Swimming Pools in West South Norfolk (2020)

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.



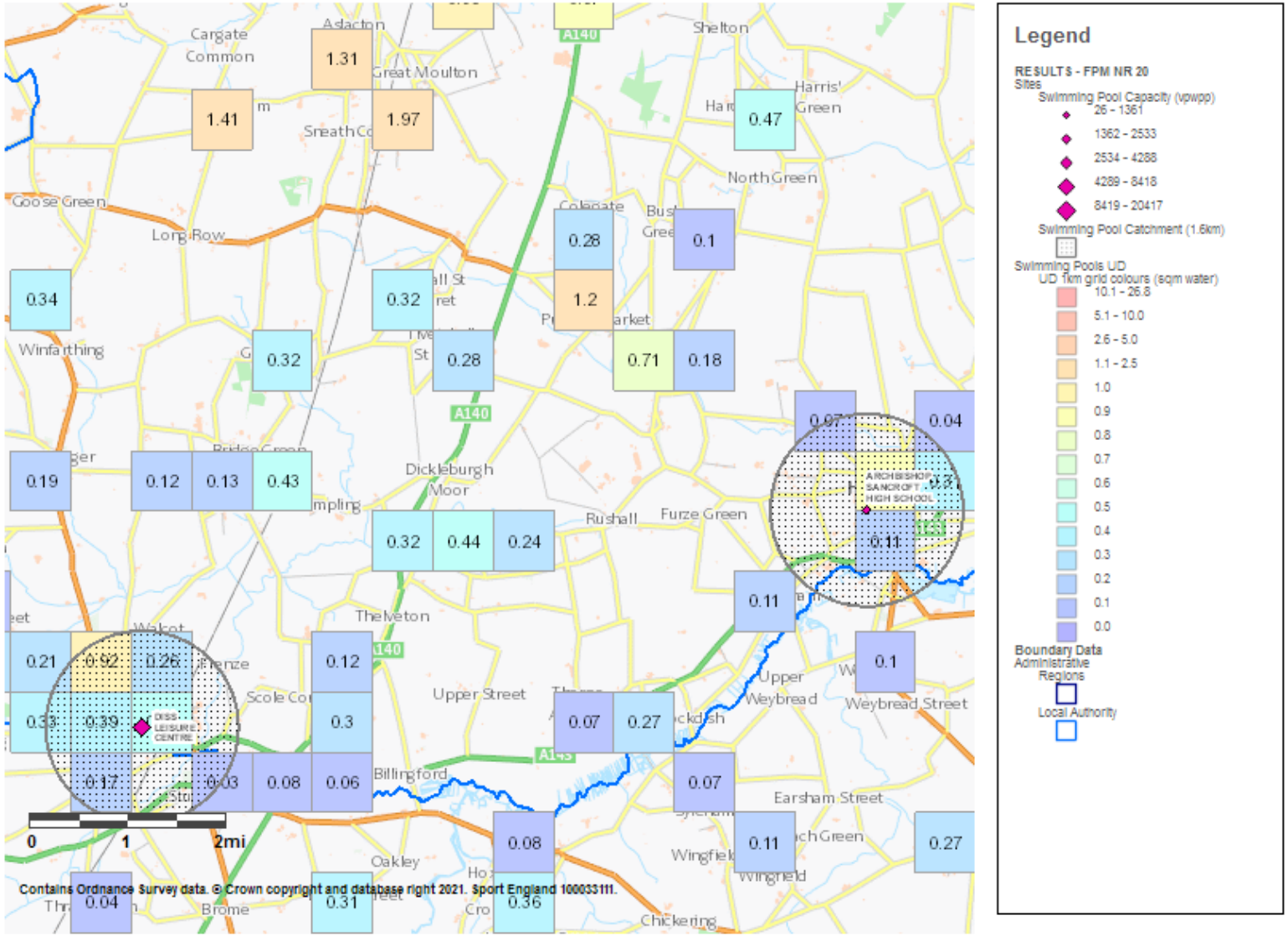
Map 5.3: Unmet Demand for Swimming Pools in North South Norfolk (2020)

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.



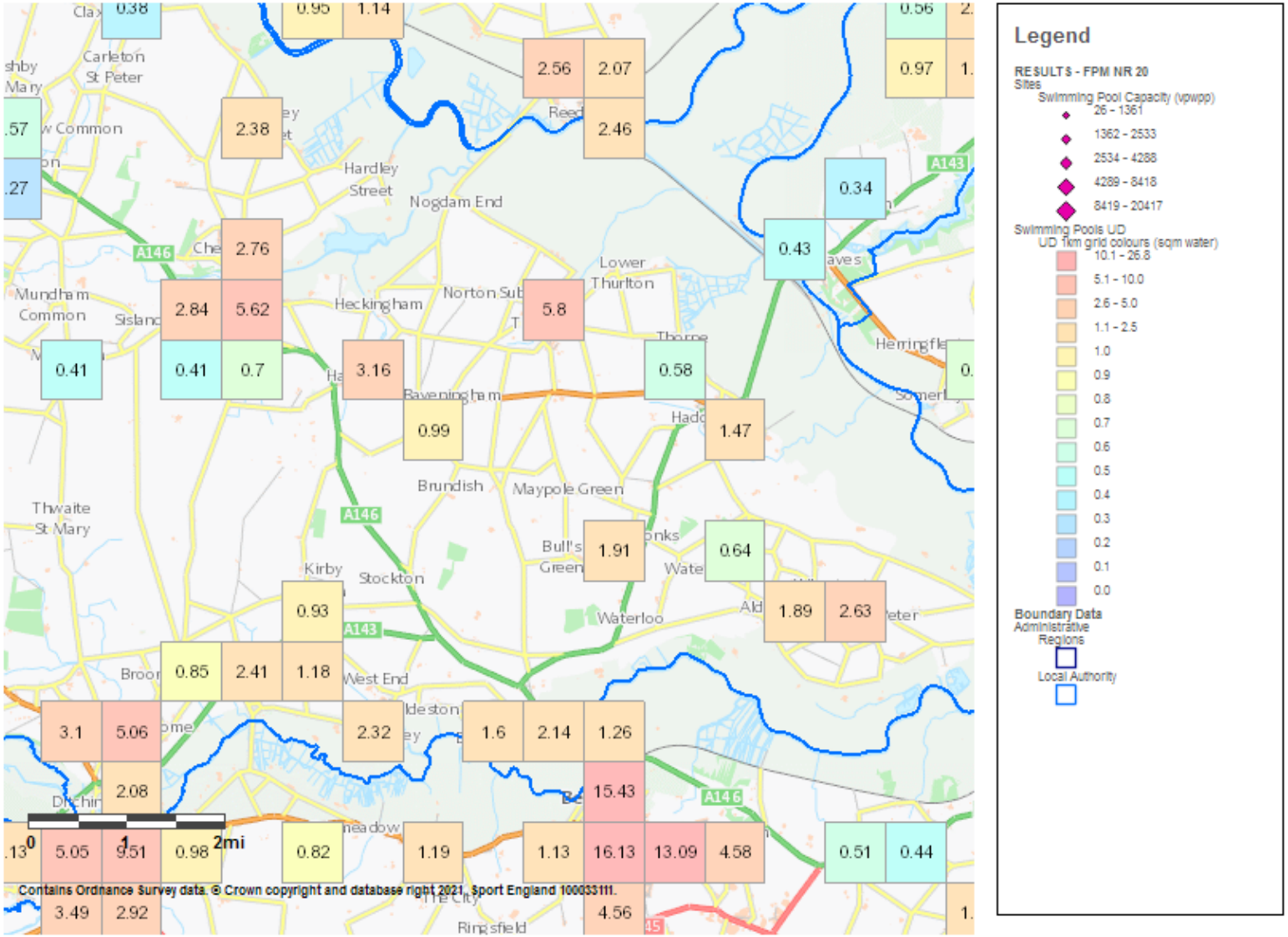
Map 5.4: Unmet Demand for Swimming Pools in South South Norfolk (2020)

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.



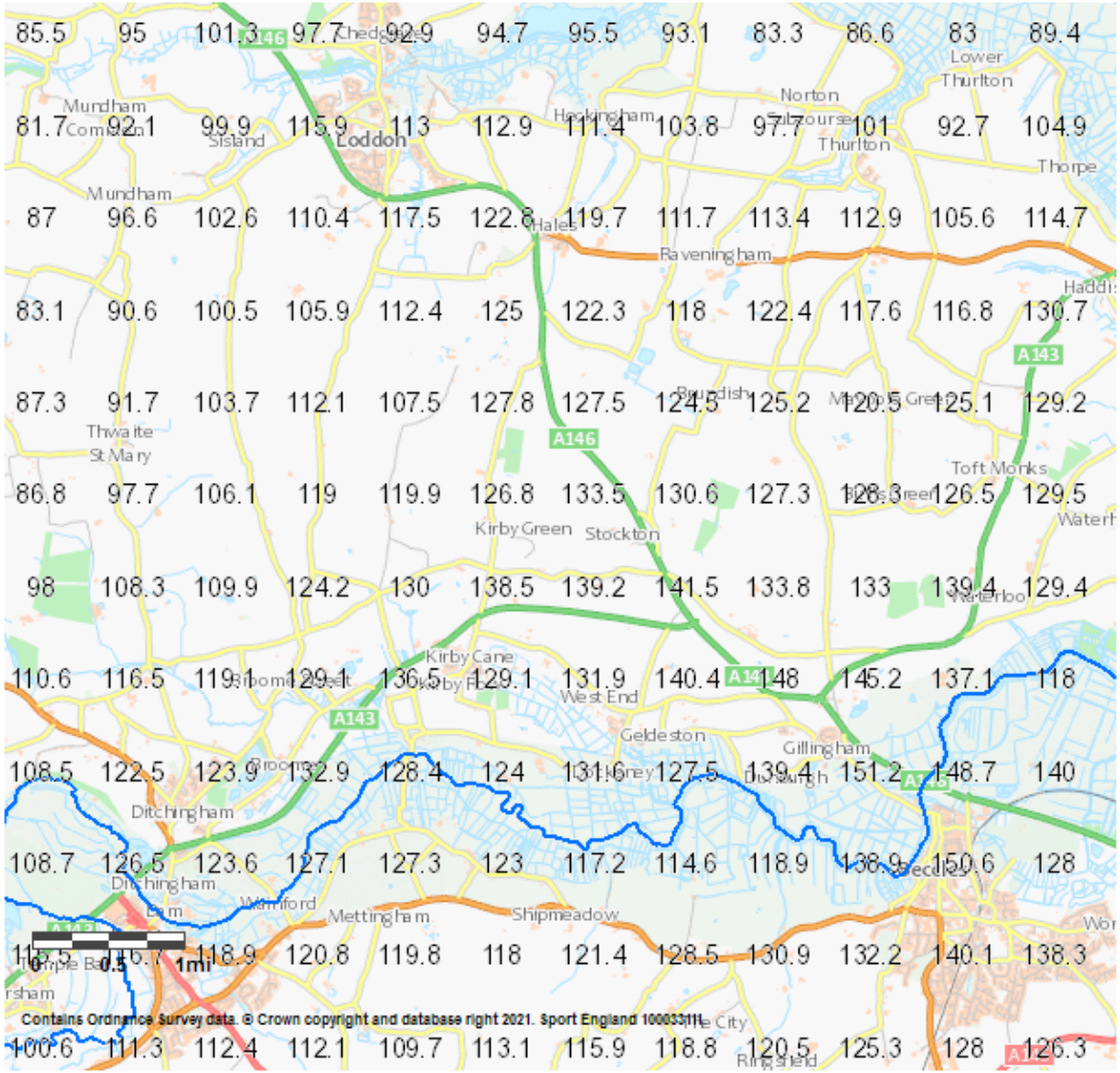
Map 5.5: Unmet Demand for Swimming Pools in East South Norfolk (2020)

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.



Map 5.6: Meeting Unmet Demand for Swimming Pools in South Norfolk (2020)

Facility Planning Model reachable unmet demand aggregated at 1km square grid (figure labels), expressed as square metres of water.



Legend

RESULTS - FPM NR 20
Sites
Swimming Pool Capacity (vpwpp)
- 26 - 1361
- 1362 - 2533
- 2534 - 4288
- 4289 - 8418
- 8419 - 20417

Boundary Data
Administrative Regions
Local Authority

Population Without Access to a Car

Population No Car	South Norfolk	Breckland	Broadland	East Suffolk	Great Yarmouth	Mid Suffolk	Norwich	East Region	England
Population	142,704	142,019	131,671	251,751	100,097	104,153	142,790	6,277,257	56,630,408
% of population with no access to a car	11.0	15.0	10.9	16.9	26.6	10.7	32.0	17.7	24.9

5.13. The percentage of the population with no access to a car influences travel patterns to swimming pools. A low percentage means there is likely to be a larger number of visits swimming pools by car.

5.14. The drive time catchment is 30 minutes travel; however, the FPM uses a distance decay function, whereby 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**).

5.15. 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).

5.16. Based on the 2011 Census, 11% of South Norfolk's resident population do not have access to a car and, together with Mid Suffolk and Broadland, this is the lowest percentage across the neighbouring region. East Region and England-wide averages for population with no access to a car are 18% and 25% respectively.

5.17. As expected given the very low percentage of the population with no access to a car, the findings for South Norfolk are that the vast majority of visits to pools are by car and only 9% by a combination of walking and public transport (see Satisfied Demand table).

6. Used Capacity

How well used are the facilities?

Used Capacity	South Norfolk	Breckland	Broadland	East Suffolk	Great Yarmouth	Mid Suffolk	Norwich	East Region	England
Total number of visits used of current capacity	6,117	5,566	4,068	11,216	3,468	3,189	13,753	348,537	3,225,120
% of overall capacity of pools used	63	61.50	55.50	60.40	100	59.80	84.70	63.30	63.20
% of visits made to pools by:									
Walkers	7.70	10.90	7.20	10.10	14.10	7.60	12	12.80	18.20
Road	92.30	89.10	92.80	89.90	85.90	92.40	88	87.20	81.80
Visits imported:									
Number of visits imported	2,100	786	868	942	47	208	6,031	11,328	1,964
As a % of used capacity	34.30	14.10	21.30	8.40	1.40	6.50	43.80	3.30	0.10
Visits retained:									
Number of visits retained	4,017	4,780	3,200	10,274	3,421	2,982	7,723	337,209	3,223,156
As a % of used capacity	65.70	85.90	78.70	91.60	98.60	93.50	56.20	96.70	99.90

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 6** is that the estimated used capacity of the swimming pools as a South Norfolk average is 63% in the weekly peak period. This provides some working headroom before the Sport England comfort level of 70% for pools is reached at peak times.

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**. The variation is primarily caused by the interaction of:

- The level of demand in the catchment area and the extent to which catchment areas overlap.
- The hours available for community use.
- The scale of the swimming pool.
- The age of the pool and its 'attractiveness' weighting.

6.3. These factors are expanded upon in the following paragraphs.

6.4. The South Norfolk pool sites are quite dispersed (Maps **2.1**-**2.4** in Section 2 of this report) and it is only the two pool sites in Wymondham which are located quite close to each other where catchments overlap. There is more scope for the three other pool sites to retain more of the demand located in their immediate catchment area.

6.5. The hours available for community use**,** as Table **6.1** shows, vary from 21 hours at Wymondham College (44% of capacity used) to 52 hours at Diss Leisure Centre main pool (70% of capacity used) and Dunston Hall (35% of capacity used).

6.6. There is more capacity that could be available at Wymondham College by increasing the hours, but the pool is only available for hire outside of school hours. Whilst there are only 26 hours available at Archbishop Sancroft High School, the estimated used capacity is at 100%.

6.7. Wymondham Leisure Centre is the largest pool site in the district with a 25m x 14m six-lane main pool and a 14m x 6m teaching/learner pool. It has an estimated used capacity of 69% in the weekly peak period. This compares with Archbishop Sancroft High School which has one main pool of 23m x 8m four-lane pool and an estimated used capacity of 100% in the weekly peak period. Therefore, a higher percentage figure at the educational site than at Wymondham Leisure Centre but the Wymondham site can accommodate significantly more use and for all swimming activities. It is important to consider the scale of a swimming pool site when looking at the estimated used capacity and not just consider the percentage figure alone.

6.8. All the swimming pool sites in the model are weighted in the model to reflect their age, condition and if they have been modernised so as to assess their comparative attraction to customers. Dunston Hall has the highest weighting at 93% because it opened in 1996 and was modernised in 2015. Wymondham Leisure Centre has the second highest weighting at 82% because it is the most recent swimming pool site to open in 1999. Diss Leisure Centre has the third highest weighting at 61% because it opened in 1987 and was modernised in 2004.

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

Capacity Findings

6.10. **Key finding 7** is that Diss Leisure Centre (51.5 hours) and Wymondham Leisure Centre (46 hours) are both close to the model's maximum peak period hours of 52.5 hours. Their

estimated used capacity is 70% at Diss and 69% at Wymondham and therefore, at the Sport England comfort level for pools at 70% of capacity used at peak times. There is little scope to increase the use of these pool sites without the pools becoming uncomfortably full. This can discourage participation, because the pool itself becomes too crowded, as do the changing and circulation areas.

6.11. The scope to increase swimming pool capacity exists at Archbishop Sancroft High School, Wymondham College and Dunston Hall. However, the District Council has no control over the community use at these sites and their programme of use is limited. At Dunston Hall it is recreational swimming by the membership at the commercial centre. At Wymondham College the pool is only available for hire and recreational use outside of school hours. Therefore, there is virtually no scope to increase swimming pool capacity for the full range of swimming activities within South Norfolk. The intervention is to ensure the pool programmes at the two public leisure centres are providing for the most popular activities at peak times and thereby providing most opportunities.

6.12. This raises a related question: *is there a need to increase public swimming pool provision because the two public sites are very busy sites?* Most of the findings within this report do not support the increase of public swimming pool provision:

- Unmet demand is low at 224 sqm of water (less than the size of a 25m x 10m four-lane swimming pool), and significantly, only 14% of unmet demand is from lack of swimming pool capacity. This is insufficient to increase provision to meet unmet demand from lack of pool capacity.

- Also, the area of highest unmet demand outside a catchment is in the Loddon area and east of Loddon where it totals between 40 sqm and 50 sqm of water. This is an insufficient total to increase provision to improve accessibility to swimming pools for residents.

- The highest potential catchment unmet demand for a possible new facility was 151 sqm (in the Gillingham area to the south of Loddon). There is not enough unmet demand in the area for a new pool here on the grounds of lack of access.

Imported Demand

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

6.14. **Key finding 8** is that the used capacity of the South Norfolk pools which is imported is 2,100 visits in the weekly peak period. The data does not identify where this demand comes from, however, Maps **2.1** and **2.2** in Section 2 of this report, show there are no pool sites in Breckland close to the South Norfolk boundary and it is likely that a lot of the imported demand is from Breckland.

6.15. For comparison, South Norfolk is exporting 3,275 visits in the weekly peak period which is met at pool sites in neighbouring local authorities.

Table 6.1: Percentage of Used Capacity of South Norfolk Swimming Pools (2020)

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
Archbishop Sancroft High School	Main/General	23 x 8	188	1980	2007	59%	26	36	815	100
Diss Leisure Centre	Main/General Learner/Teaching/Training	25 x 13 13 x 3	313 38	1987	2004	61%	51.5 51.5	96.5 96.5	3,004	70
Dunston Hall Norwich	Main/General	15 x 15	225	1996	2015	93%	52.5	103.5	1,969	35
Wymondham College	Main/General	18 x 11	198	1970		28%	21	22	693	44
Wymondham Leisure Centre	Main/General Learner/Teaching/Training	25 x 14 14 x 6	350 84	1999		82%	45.8 40	79.5 55.5	3,232	69

7. Local Share

Equity share of facilities

Local Share	South Norfolk	Breckland	Broadland	East Suffolk	Great Yarmouth	Mid Suffolk	Norwich	East Region	England
Local Share: <1 supply less than demand, 1> supply greater than demand	1.0	0.8	1.1	1.2	0.5	0.8	0.9	1.1	1.1

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 local share 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 at 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.

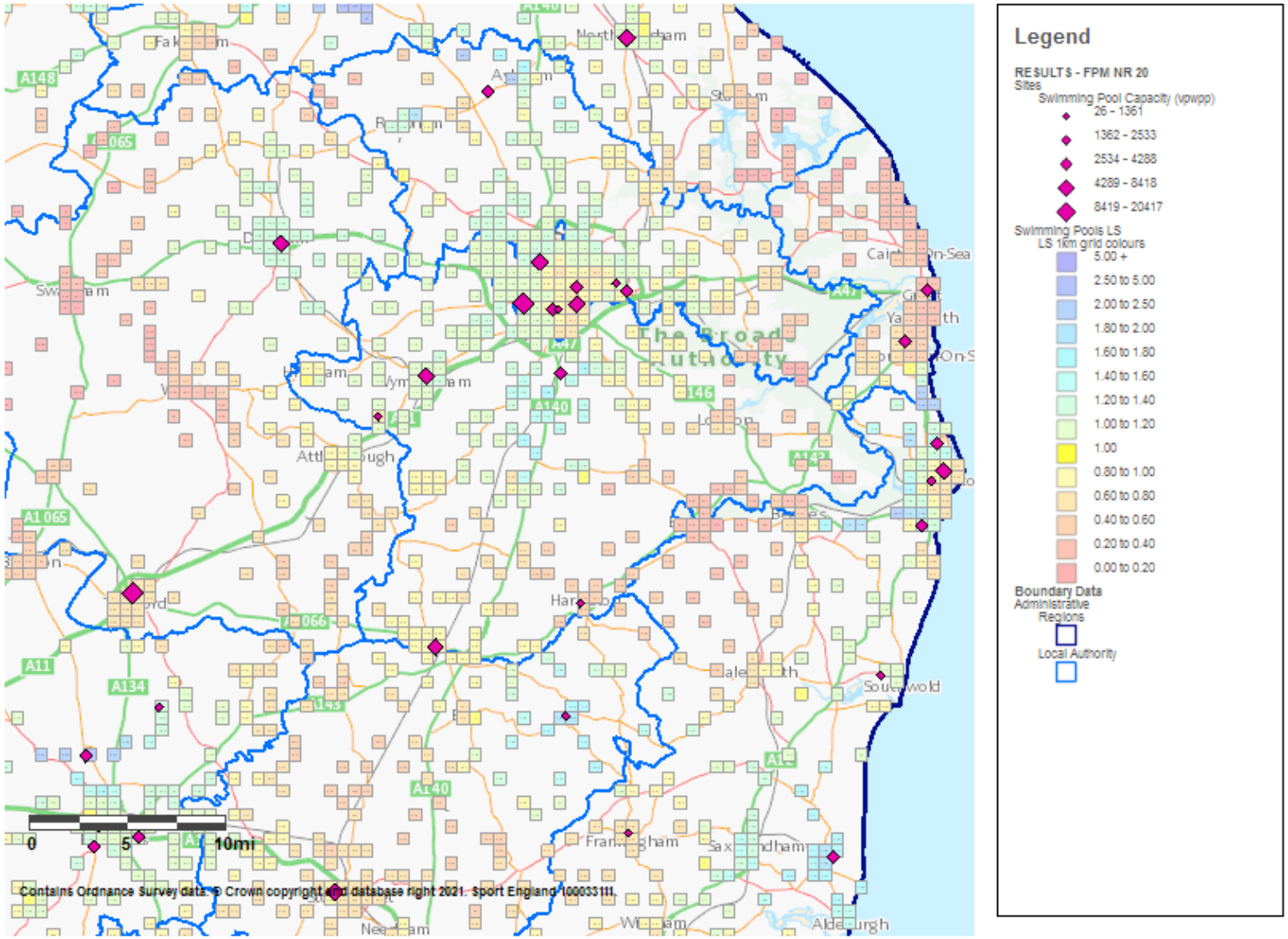
7.3. South Norfolk has a local share of 1.0 and so supply and demand are in balance in terms of local share. Local share does vary across the District and the findings are set out in Maps **7.1** for the District, and Maps **7.2**, **7.3** and **7.4** for the west, north and south of the authority.

7.4. Local share is highest in the north of South Norfolk (see Map **7.3**) in the areas shaded turquoise with values of 1.4 to 1.6. Here, supply exceeds demand in terms of local share in this area; this is likely because there is a lower population density.

7.5. Local share is lowest in the south-east of the District in the Harleston area (see Map **7.4**) with values in the pale orange squares of 0.4 to 0.6. However, this does not take into account the refurbished Waverley Valley Leisure Centre in Bungay, East Suffolk.

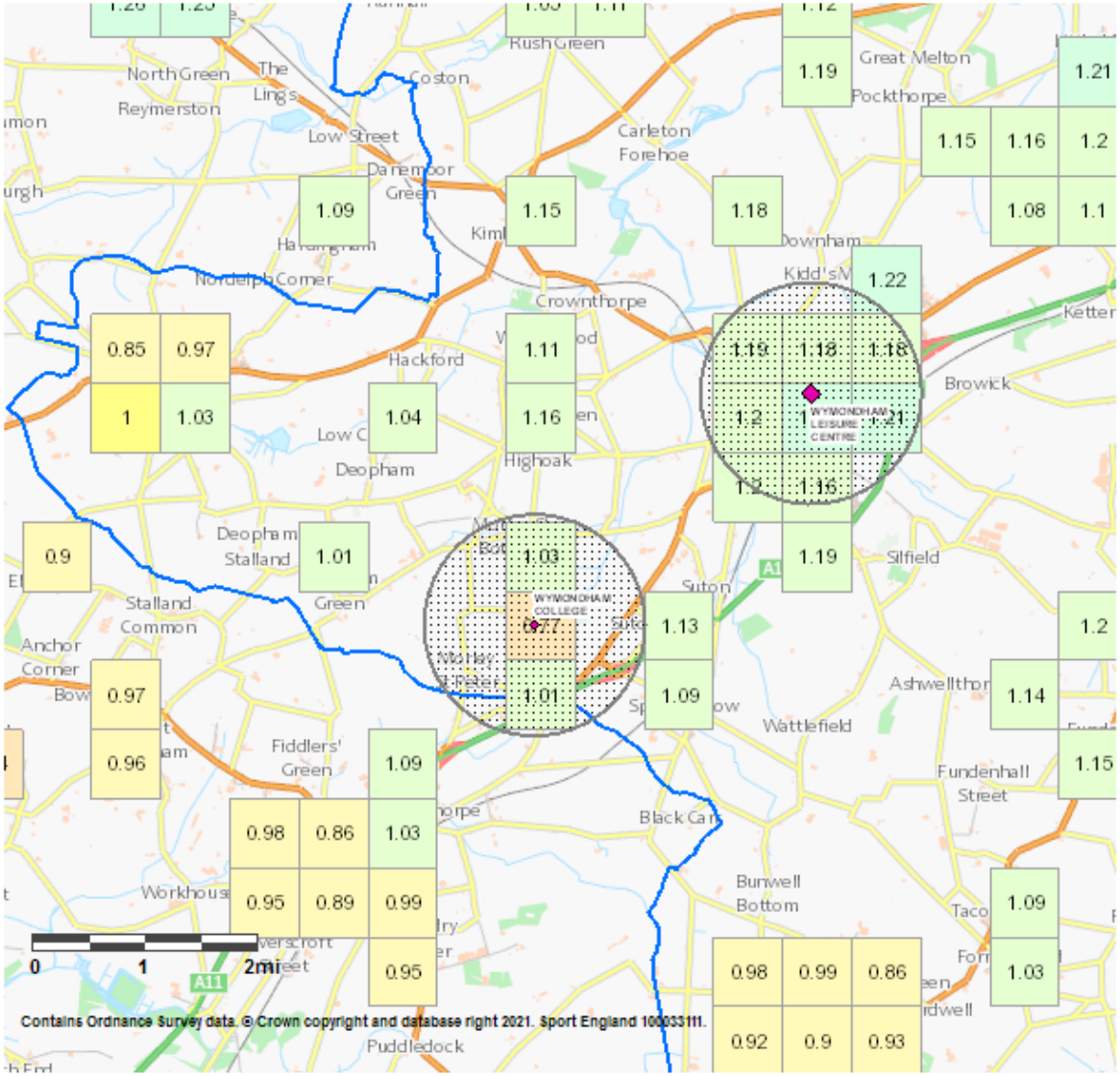
Map 7.1: Local Share in South Norfolk (2020)

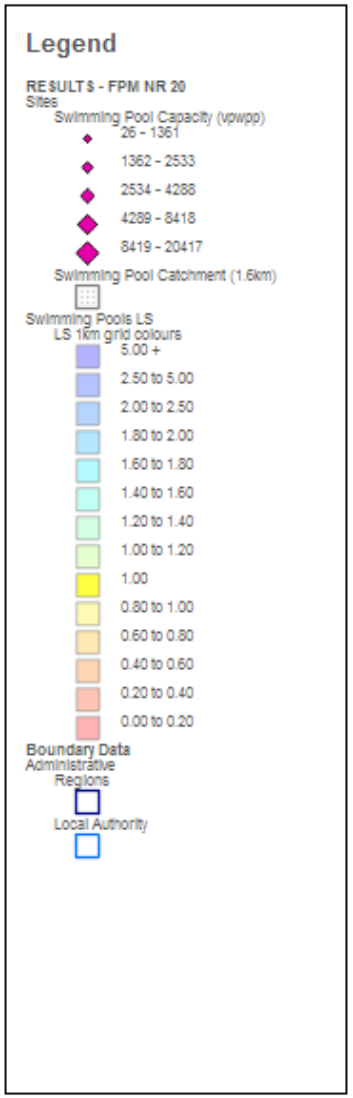
Facility Planning Model share of water divided by demand. Data outputs shown thematically (colours) and aggregated at 1km square (figure labels).



Map 7.2: Local Share in West South Norfolk (2020)

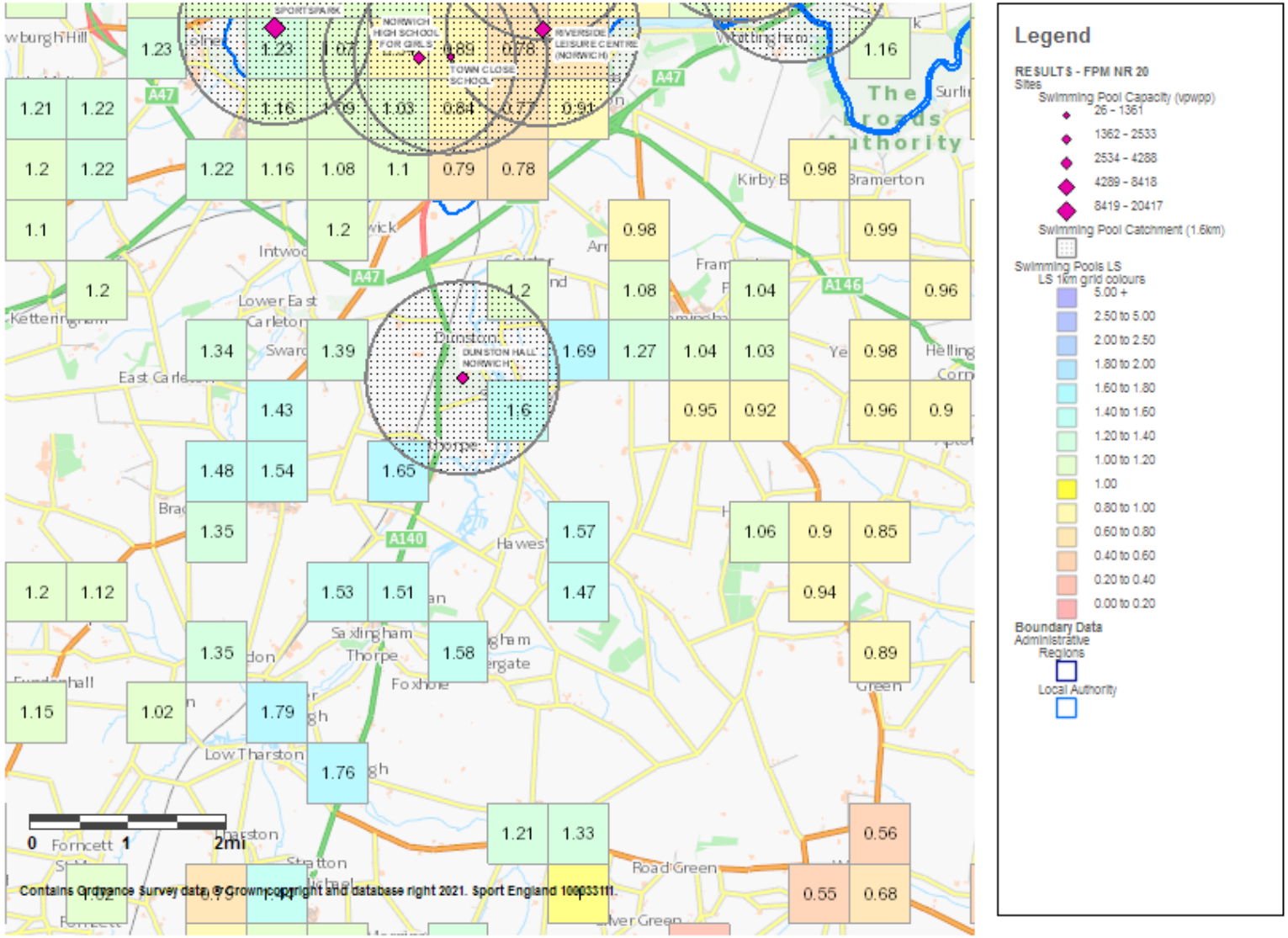
Facility Planning Model share of water divided by demand. Data outputs shown thematically (colours) and aggregated at 1km square (figure labels).





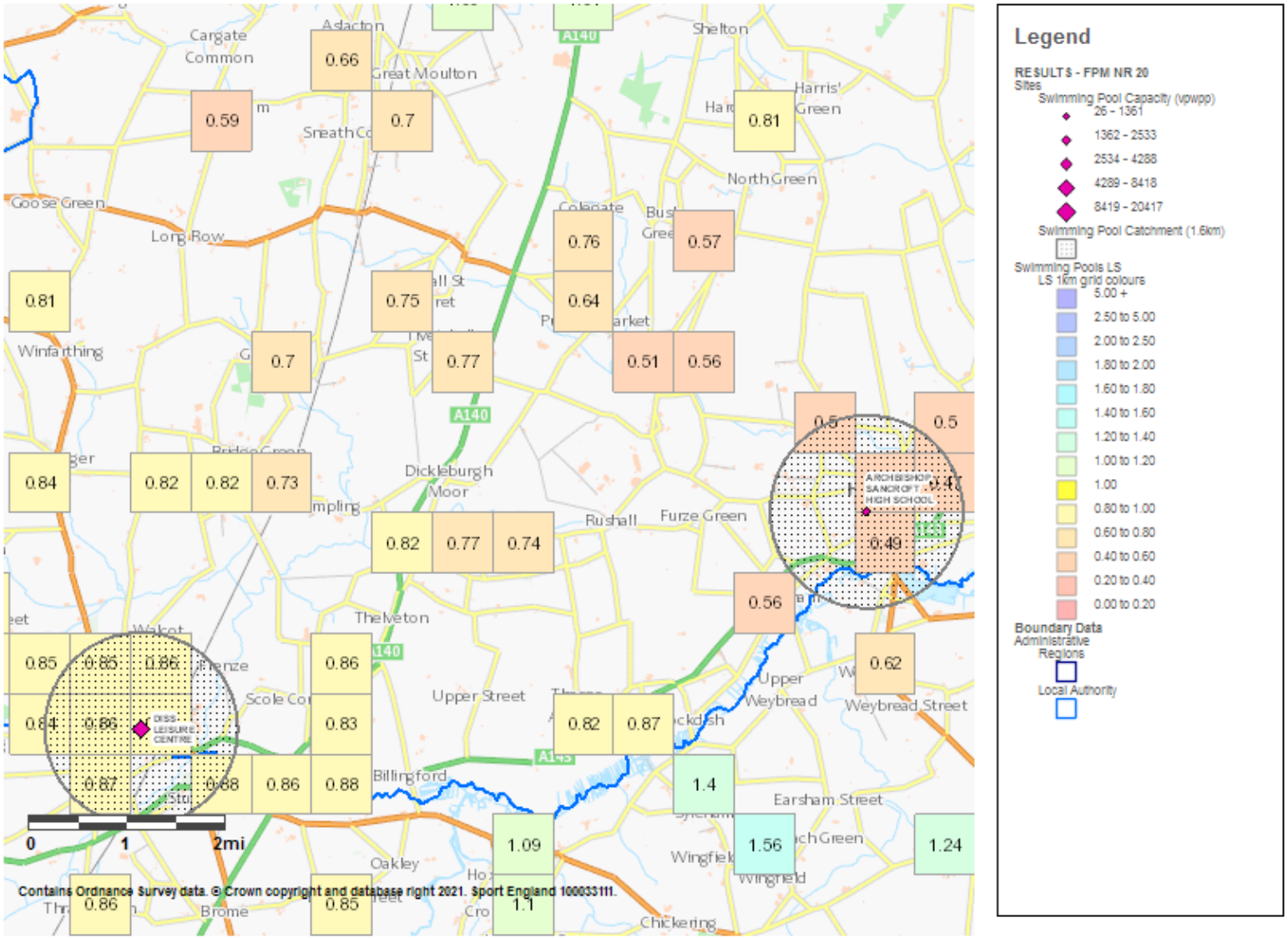
Map 7.3: Local Share in North South Norfolk (2020)

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



Map 7.4: Local Share in South South Norfolk (2020)

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 2020

Share	South Norfolk	Breckland	Broadland	East Suffolk	Great Yarmouth	Mid Suffolk	Norwich	East Region	England
Supply of total water space in sqm of water	1,395	1,170	919	2,473	514	617	1,980	75,369	681,528
Population	142,704	142,019	131,671	251,751	100,097	104,153	142,790	6,277,257	56,630,408
Water space per 1,000 population	10	8	7	10	5	6	14	12	12

7.6. Based on a measure of water space per 1,000 population, the South Norfolk supply is 10 sqm of water space per 1,000 population in 2020. South Norfolk has the joint second highest supply with East Suffolk, after Norwich with 14 sqm of water per 1,000 population. East Region and England-wide average are both 12 sqm of water per 1,000 population in 2020.

7.7. The provision in South Norfolk is above that of most of its neighbours, but lower than the East Region and England-average. The overall level of provision and findings for South Norfolk are based on all the supply and demand findings, and not just supply. This is simply a measure which compares the South Norfolk supply, with that of the neighbouring local authorities, regional and national averages. It is set out 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, 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
Bannatyne Health Club (Norwich West)	Main/General	Too Small
Fitness Express at Park Farm Hotel	Main/General	Too Small
Hethersett Old Hall School	Main/General	Too Small
Hobart High School	Main/General	Too Small
Long Stratton High School	Leisure Pool	Too Small
Nordic Leisure Centre @ The Waveney River Centre	Leisure Pool	Too Small
Ormiston Victory Academy (Closed)	Main/General	Closed
The Edge Health & Fitness Club at Barnham Broom Hotel	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 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.
- 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 (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 Sports Halls – Hall Space in Courts (HSC)

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

[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.

- 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 educationalal owned and managed halls, less attractive.

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

8. Comfort Factor – Halls 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 sports halls, 80%, of their theoretical capacity is considered as being the limit where a 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, 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 sports halls. 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, 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	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 sports halls 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></td><td>0.167 per square metre = 1 person per 6 square meters</td><td></td></tr>
<tr><td>Catchment Maps</td><td></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><td></td></tr>
<tr><td>Duration</td><td></td><td>60 minutes</td><td></td></tr>
<tr><td>Percentage Participation

Frequency per Week</td><td></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><td></td></tr>
<tr><td>Peak Period

Proportion in Peak Period</td><td></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><td></td></tr>
</table>