Facilities Planning Model Assessment of Sports Halls Provision in Norwich

Standard Report 2020

20 December 2021

Disclaimer

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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 vast majority of Norwich's demand for sports halls can be met by the accessible supply of sports halls. Unmet demand is low but, on average, the sports halls are busy at peak times.

ii. The sports hall supply is located at schools and colleges (there are no public leisure centres). Therefore, Norwich City Council does not control the hours, type of community use or the pricing. Fortunately, the data identifies a strong commitment to community use by the educational providers.

iii. The sports hall offer is very good in terms of scale but less so in terms of age.

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. The total supply of sports halls equates to 64 badminton courts, of which 56 are available for community use in the peak period. Aggregated across the 12 sites, there are eight badminton courts unavailable for community use, representing 12.5% of the total supply.
2. Of the 12 sports hall sites in Norwich, 11 are educational sites and one site is owned by a charitable association.
3. The average age of the sports hall sites is 35 years. The oldest venue is the City of Norwich School sports hall which opened in 1970, and the most recent is The Hewett Academy sports hall which opened in 2018.
4. Satisfied demand for sports halls by Norwich residents is 94%.
5. Of the satisfied demand, 85% is retained within Norwich.
6. Unmet demand is 6.4% of total demand, which equates to 2.8 badminton courts.
7. Unmet demand is dispersed in very low values across the city and there is not a location with high unmet demand.
8. As a Norwich average, the estimated used capacity of sports halls is 76% in the weekly peak period. This would increase to 89% if the 8-court hall at University of East Anglia (UEA) Sportspark is only used for gymnastics.
9. All 11 educational sports halls provide community use with at least 22 hours available in the weekly peak period, and six sites have over 30 hours available. This confirms that there is a commitment to community use across the educational sites.

Strategic Overview

v. Based on this one-year assessment, the Norwich demand for sports halls can be met by the accessible supply. However, this can change dependent on the policy of the

educational owners to community use. There is quite a close balance between demand and supply, with the accessible supply in Norwich being the equivalent of 56 badminton courts in the weekly peak period, and the actual demand being 43 badminton courts.

vi. A reduction in supply would create a much closer balance between supply and demand. If the 8-court hall at UEA Sportspark is excluded, then the supply is 48 badminton courts.

vii. While there are no local authority owned sports halls, UEA Sportspark is a very large centre with a 12-court hall and an eight-court hall. It provides all indoor hall sports at recreational level, sports club development and is also a competition venue. Therefore, there is the safeguard of one major centre providing extensive community use and access, which will not change. However, the centre does operate a membership system, and this could be a barrier for casual participation.

viii. The average estimated used capacity of the Norwich sports halls is high at 76% in the weekly peak period. This provides working headroom of four percentage points before the Sport England sports halls comfort level of 80% of capacity used in the weekly peak period is reached. Again, it illustrates that any reduction in capacity, such as excluding the UEA Sportspark eight-court hall, will push the average used capacity higher to 89% and this may discourage participation.

ix. Norwich has a compact land area and the sports hall catchments overlap. This makes the sites very accessible for Norwich residents, hence 85% of the 93% satisfied demand for Norwich being retained within the city.

x. The Norwich sports halls are also very accessible to residents in both Broadland and South Norfolk, and 36% of the used capacity of the Norwich sports halls is imported. This is a major reason why the sports halls have the estimated 76% of capacity used in the weekly peak period.

xi. The average age of the sports halls at 35 years is slightly misleading as eight of the sites have opened since 2000, with the most recent site being The Hewett Academy opened in 2018. Furthermore, three of the four sports hall sites which opened before 2000 have been modernised; the exception to this is the City of Norwich School sports hall which opened in 1970.

xii. There will be an increasing need to modernise the post-2000 sports halls as none of these have been modernised to date.

Next Steps

xiii. In looking to the future there are two recommendations: (1) the need to protect the existing supply to maintain the accessible supply for residents, and (2) to consider the projected population growth and the impact this could have on increasing the demand for sports halls.

xiv. If Norwich City Council does not currently have secure community use agreements with the educational providers, it should consider putting these in place so as to protect the supply for community use.

xv. It is difficult to identify the most important sites in terms of locations and meeting demand because the city is so compact, the catchment areas overlap, and demand is all within a small land area.

xvi. Therefore, in terms of the sites which have the best offer in terms of scale and therefore can provide for a wider programme of use, these are The Hewett Academy (also the most modern sports hall with three individual sports halls) and City Academy Norwich.

xvii. As the post-2000 stock of sports halls age and need updating, a partnership programme of investment in modernisation could be made in return for committed community access.

xviii. In terms of projected population growth, the major new residential sites will be located in Broadland and South Norfolk, given the compact land area of Norwich. However, as demonstrated by the imported demand levels, sports halls located in Norwich are also accessible to residents in these authorities. Therefore, the future strategic planning should be across boundaries to identify the most beneficial locations for the residents of Greater Norwich.

xix. 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.

xx. 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.

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

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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 Norwich City Council.

1.2 The supply assessment is based on sports halls sites being open and accessible for community use. If there are temporary closures of sports hall 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 sports halls in Norwich City, East Anglia. The assessment does not include future population growth projections, but is a baseline evidence base for sports hall provision.

1.4 To enable comparative analysis, 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 sports halls 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, badminton courts per 10,000 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 Sports Halls

Supply	Norwich	Broadland	South Norfolk	East Region	England
Number of halls	17	15	16	675	5964
Number of hall sites	12	7	10	439	4079
Supply of total hall space in badminton courts	64.0	33.0	42.0	1,975.0	18,584.0
Supply of publicly available hall space in courts scaled with hours in the peak period	56.3	33.4	38.6	1,907.6	16,787.1
Supply of total hall space in visits per week peak period	20,706	12,298	14,199	701,979	6,177,648

Definition of supply – This is the supply or capacity of the sports halls which are available for community and club use in the weekly peak period. Supply is expressed in the number of visits that a sports hall can accommodate in the weekly peak period and in the number of badminton courts.

Weekly peak period – This is when the majority of visits take place and when users have most flexibility to visit. The peak period for sports halls is one hour on weekday mornings, five hours on weekday evenings and eight hours on weekend days. This gives a total of 46 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. There are 17 individual sports halls located at 12 sites within Norwich in 2021. The total supply of sports halls is the equivalent of 64 badminton courts, of which 56.3 are available in the weekly peak period for community use (known as the effective supply).

2.2. **Key finding 1** is that there is the equivalent of eight badminton courts, out of the total supply of 64 courts in Norwich, which are unavailable for community use. This is the aggregated total of courts across the sites and represents 12.5% of the total supply.

2.3. Details of the sports halls in Norwich are provided in Table **2.1.**

2.4. **Key finding 2** is that there are no local authority owned sports halls; one site is owned by a charitable association, but the other 11 sites are all educational.

2.5. The educational providers will determine the policy, hours and types of use and pricing for community use. Use is most likely by sports clubs and community groups, with little recreational pay and play.

2.6. There are eight individual four-court halls, out of the total 17 halls. This size of sports hall can accommodate all indoor hall sports at the community level of participation.

There is also a five-court hall at Wensum Sports Centre, and an eight-court hall and 12-court hall at UEA Sportspark.

2.7. If the eight-court hall at UEA Sportspark is only used for gymnastics, then this would reduce the capacity across Norwich to the equivalent of 56 badminton courts, of which 48.3 would be available in the weekly peak period for community use.

2.8. There are four sites which have both a main hall and a smaller activity hall. This enables flexible programming and maximum use, with large space activities such as badminton being programmed in the main hall, and lesser space activities such as martial arts taking place in the smaller activity hall. The Hewett Academy has a four-court hall and two activity halls.

2.9. **Key finding 3** is that the average age of the sport hall sites is 35 years. The oldest venue is the City of Norwich School sports hall which opened in 1970, and the most recent is The Hewett Academy which opened in 2018.

2.10. Three of the four sports hall sites which opened before 2000 have been modernised, with the exception of City of Norwich School sports hall, therefore demonstrating a good track record of modernisation. Modernisation is defined as one or more of the sports hall floors being upgraded to a sprung timber floor, the sports hall lighting upgraded, or the changing accommodation modernised.

2.11. The locations of the sports halls are shown in Map **2.1**, together with the 20-minute (one mile) walking catchment of each. Residents living in the yellow area are within the walking catchment of one sports hall site, in the amber areas two sites, in the orange areas three sites, and in the pink areas four sites. There is a small dark magenta area in the south-east of the authority where residents are within a 20-minute walk of five sites.

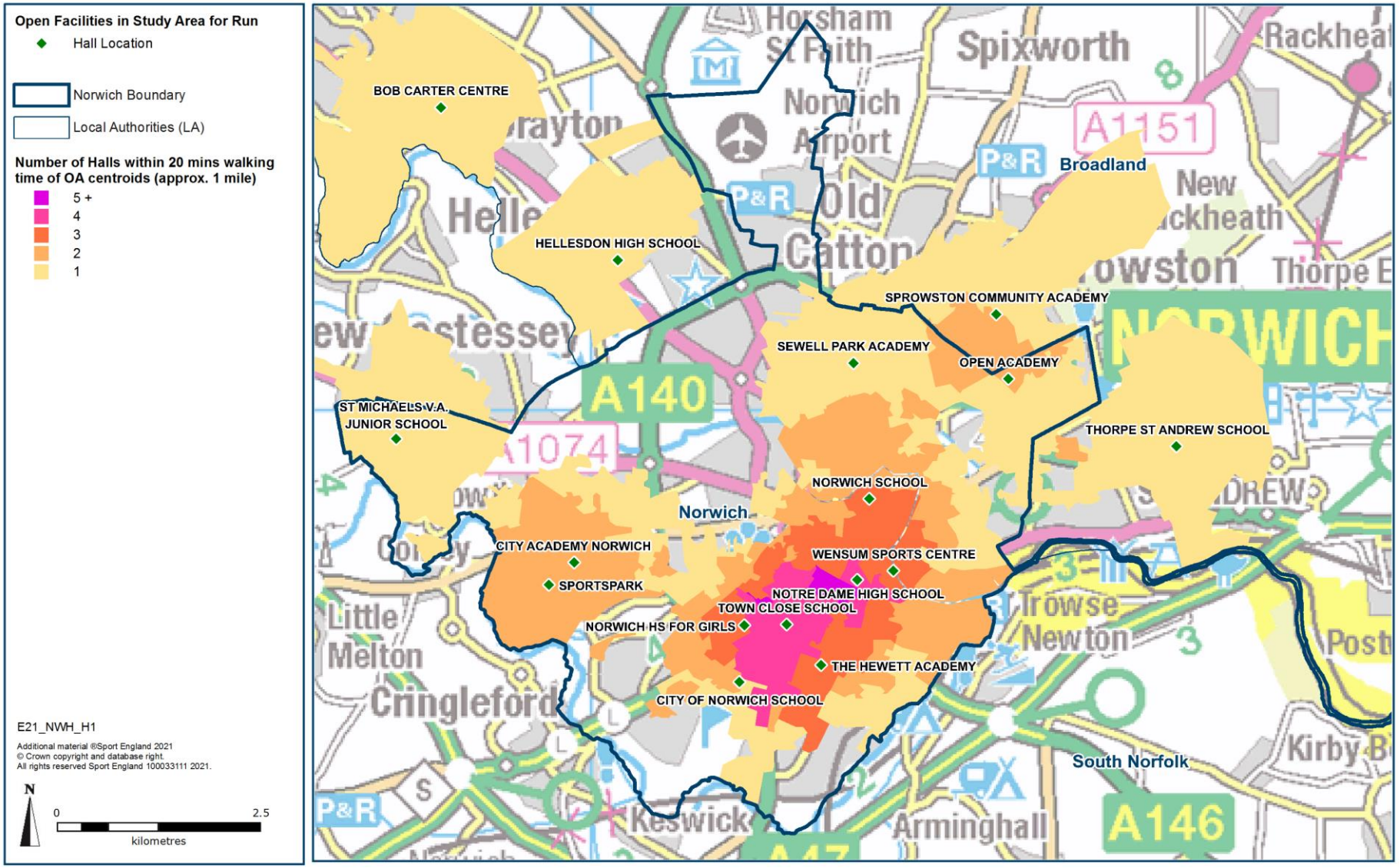
2.12. Most of the city land area is within the walking catchment of at least one sports hall site, providing good access for residents who walk to sports halls.

Table 2.1: Sports Hall Supply (Facilities Included)

Name of Facility	Type of Hall	Area sqm	Courts	Site Year Built	Site Year Refurb	Weight Factor	Hours in Peak Period	Total Hours Available	Site Capacity - visits per week peak period
City Academy Norwich	Main	690	4	2013		49%	39	43	1,248
City of Norwich School	Main	594	4	1970		26%	32	44	1,624
	Activity	180					32	44	
Norwich High School for Girls	Main	594	4	2000		43%	36	53	1,152
Norwich School	Main	690	4	2001		44%	25	25	800
Notre Dame High School	Main	690	4	1984	2013	33%	26	26	1,320
	Activity	180					26	26	
Open Academy	Main	690	4	2010		48%	22.5	25	720
Sewell Park Academy	Main	690	4	1996	2011	79%	37	56	1,878
	Activity	180					37	56	
UEA Sportspark	Main	2,070	12	2000		43%	46	107.3	Total: 7,360
	Main	1,280	8				46	107.3	Reduced: 4,416
St Michaels V.A. Junior School	Main	486	3	2000		43%	34	49	816
The Hewett Academy	Main	690	4	2018		50%	23	23	961
	Activity	180					12	12	
	Activity	180					0	0	
Town Close School	Main	594	4	2009		47%	34	36	1,088
Wensum Sports Centre charitable association	Main	867	5	1975	2012	76%	43.5	80	1,740

Map 2.1: Sports Halls in Norwich (2021)

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



3. Demand for Sports Halls

Demand	Norwich	Broadland	South Norfolk	East Region	England
Population	143,134	132,781	145,007	6,312,979	56,969,855
Visits demanded – visits per week peak period	12,684	10,602	11,731	526,299	4,814,492
Equivalent in courts – with comfort factor included	43.1	36.0	39.8	1,787.7	16,353.6

Definition of total demand – This represents the total demand for sports halls 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 (see Section 2 for definition) and number of badminton courts. 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**.

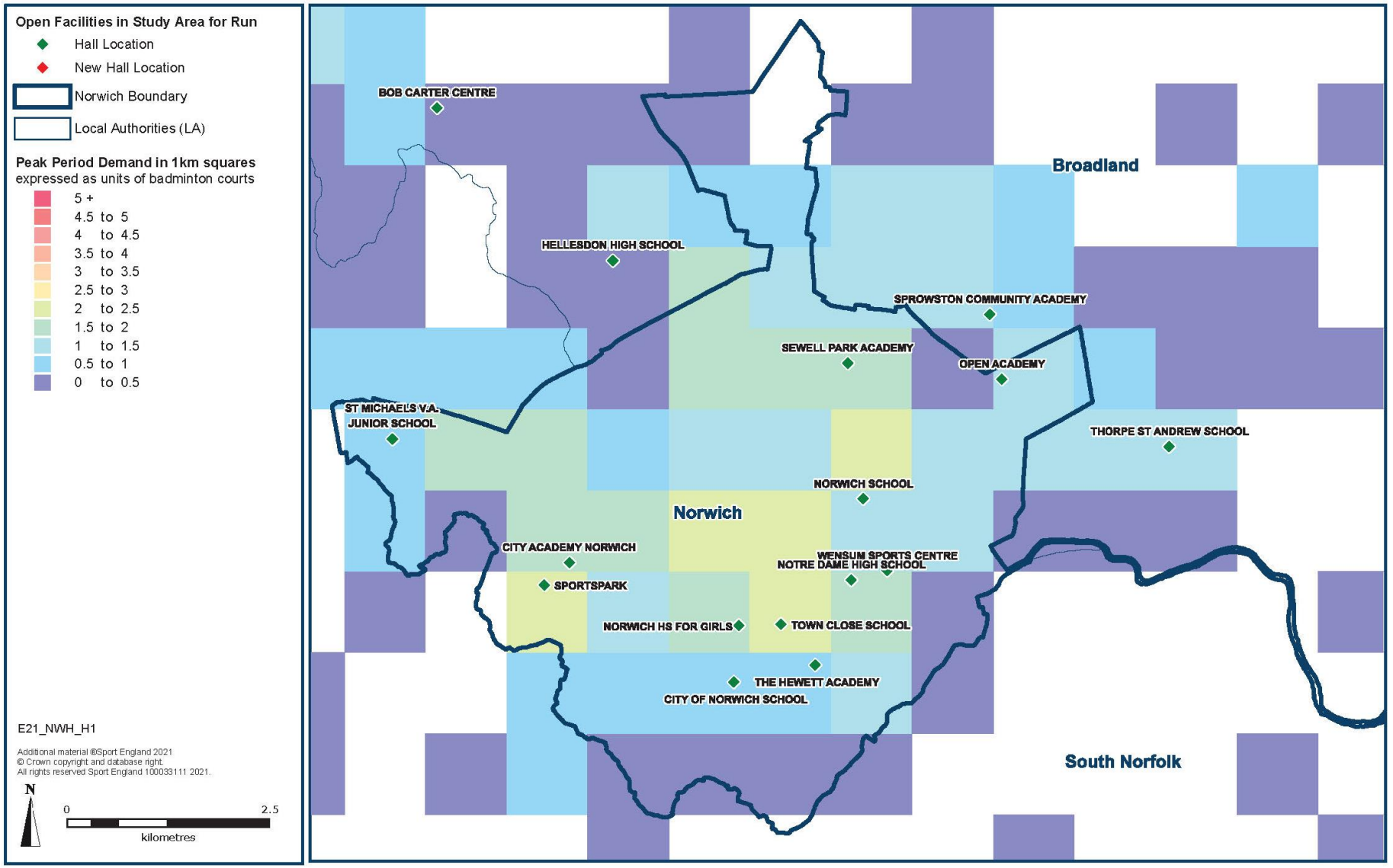
3.1. The total population of Norwich City in 2021 is 143,134, and this population generates a demand for 12,684 visits to sports halls in the weekly peak period (see Section 2 of this report for definition).

3.2. This equates to demand for 43 badminton courts in the weekly peak period. For context, the available supply of sports halls in the peak period in Norwich is 56 badminton courts.

3.3. The location of the total demand for sports halls in 2021 across Norwich is set out in Map **3.1**. Demand values are expressed in numbers of badminton courts in one-kilometre grid squares. The lowest values are in the purple squares, starting at less than half a badminton court of demand. The highest values are green-yellow, with a maximum of 2.2 badminton courts of demand in Norwich.

Map 3.1: Demand for Sports Halls 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 number of badminton courts.



4. Satisfied Demand

Demand from Norwich residents currently being met by supply

Satisfied Demand	Norwich	Broadland	South Norfolk	East Region	England
Total number of visits which are met	11,866	9,704	10,395	483,892	4,392,962
% of total demand satisfied	93.6	91.5	88.6	91.9	91.2
% of demand satisfied who travelled by:					
Car	64.7	88.6	92.3	80.9	74.3
Foot	19.6	7.5	4.7	11.4	14.6
Public transport	15.7	3.9	3.1	7.7	11.1
Number of visits retained	10,108	6,265	5,594	473,774	4,391,073
Demand retained - as a % of satisfied demand	85.2	64.6	53.8	97.9	100.0
Number of visits exported	1,758	3,439	4,801	10,118	1,890
Demand exported - as a % of satisfied demand	14.8	35.4	46.2	2.1	0.0

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

4.1. **Key finding 4** is that in 2021, 94% of the total demand for sports halls by Norwich residents is met. There is enough sports hall capacity at the sites inside and outside Norwich to meet its demand for sports halls.

4.2. Satisfied demand in the study area ranges from 89% in South Norfolk to 92% in Broadland. The East Region and England-wide averages are 92% and 91% respectively.

4.3. The findings for Norwich are that 65% of all visits to sports halls are by car, with 19% of visits made on foot and 16% of visits on public transport. This reflects the compact land area of the city and the ease of accessing sports halls.

Retained Demand

4.4. A subset of the satisfied demand findings shows that much of Norwich's demand for sports halls is retained at the sports halls sites located in Norwich. This assessment is based on the catchment area of Norwich sports halls and residents located in Norwich, and is known as retained demand.

4.5. **Key finding 5** is that, of the 93% Norwich satisfied demand for sports halls which is met, 85% is retained within the authority. This is a very high level of retained demand and reflects the compact nature of the Norwich City land area, the accessibility of the sports hall locations, and also that Norwich residents are choosing to participate at sports halls located within the authority.

4.6. To put the Norwich findings into context, retained demand in the neighbouring local authorities ranges from 54% in South Norfolk to 65% in Broadland.

4.7. The model iteratively allocates demand to facilities using a set of distance decay functions and choice parameters, and considers the quality of a site based on its age and management, as supported by Sport England's research. Increasingly there are other factors that influence which halls residents chose to use, such as ease of parking or other facilities being provided at the same site, for example, a gym or studio.

Exported Demand

4.8. The residue of satisfied demand, after retained demand, is exported demand. The 2021 finding is that 15% of Norwich's satisfied demand for sports halls is met at a site outside the authority. Again, this is based on the catchment area of sports halls outside Norwich and residents located in Norwich.

4.9. Norwich's exported demand is 1,758 visits compared to the retained demand, which is 10,108 visits per week in the peak period.

4.10. Over 85% of Norwich's exported demand goes to Broadland (1,505 visits) because there are three sports halls close to the border (see Map **2.1** in section on Supply).

5. Unmet Demand

Demand from Norwich 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	818	898	1,335	42,407	421,529
Unmet demand as a % of total demand	6.4	8.5	11.4	8.1	8.8
Equivalent in courts - with comfort factor	2.8	3.1	4.5	144.0	1431.8
% of unmet demand due to:					
Outside catchment:	87.5	93.5	82.7	83.4	73.6
Without access to a car	85.9	55.0	53.9	68.3	66.7
With access to a car	1.5	38.5	28.8	15.1	7.0
Lack of capacity:	12.5	6.5	17.3	16.6	26.4
Without access to a car	12.2	2.8	2.1	7.7	23.7
With access to a car	0.3	3.7	15.2	8.9	2.7

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

5.1. **Key finding 6** is that the Norwich unmet demand is 6.4% of total demand, and this equates to 2.8 badminton courts. This compares with an available supply of 56 badminton courts in the city.

5.2. Of the total unmet demand, 87.5% is from demand located outside the catchment area of a sports hall and 12.5% is from lack of sports hall capacity. 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.

5.3. The total unmet demand is 818 visits per week in the peak period. This compares with the demand inside catchment which is being met of 11,866 visits per week in the peak period.

5.4. The most important point here is not that unmet demand outside catchment exists, but the scale of the unmet demand. Also, if this unmet demand is clustered in one location,

further sports hall provision should be considered in that area to improve accessibility for residents.

5.5. Map **5.1** shows the location and scale of the total unmet demand for sports halls across Norwich, with the sports hall sites shown by the green diamonds.

5.6. The unmet demand is set out in units of badminton courts within one-kilometre grid squares which are colour coded. As the map shows, unmet demand is very low with values of 0.0-0.1 badminton courts in the purple squares, 0.1-0.2 badminton courts in the blue squares and 0.2-0.3 badminton courts in the cyan squares.

Meeting Unmet Demand

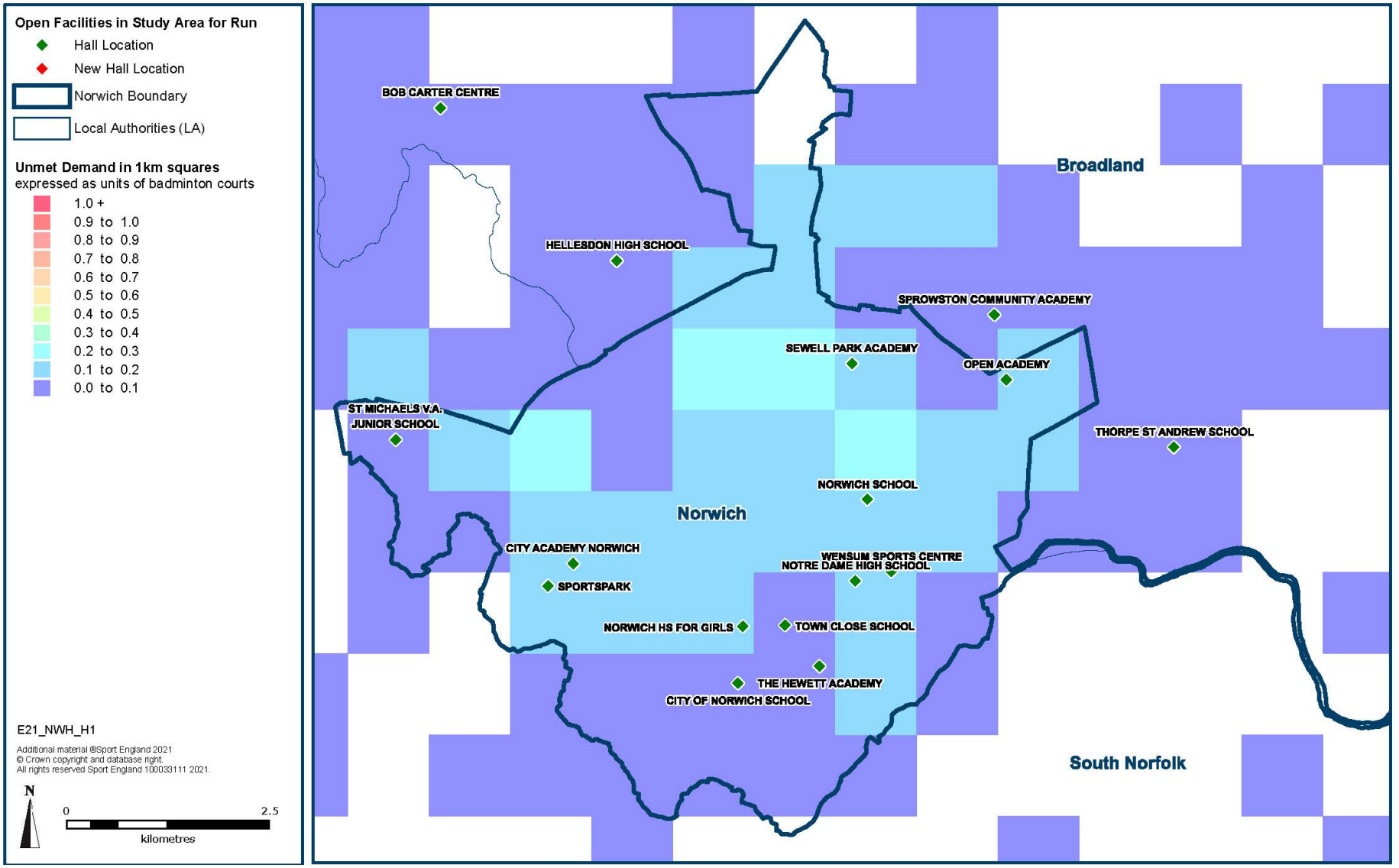
5.7. The spread of the unmet demand can be analysed to understand the amount of unmet demand that would be met by a potential new facility in any given location. This 'reachable unmet demand' is calculated for each one-kilometre grid square across the region to understand the possibility of addressing unmet demand through increased sports hall provision.

5.8. This shows that reachable unmet demand is highest in the central area of Norwich, but only totals 1.3 badminton courts; the findings are shown in Map **5.2**.

5.9. **Key finding 7** is that unmet demand is dispersed in very low values across the city and there is not a location with high unmet demand.

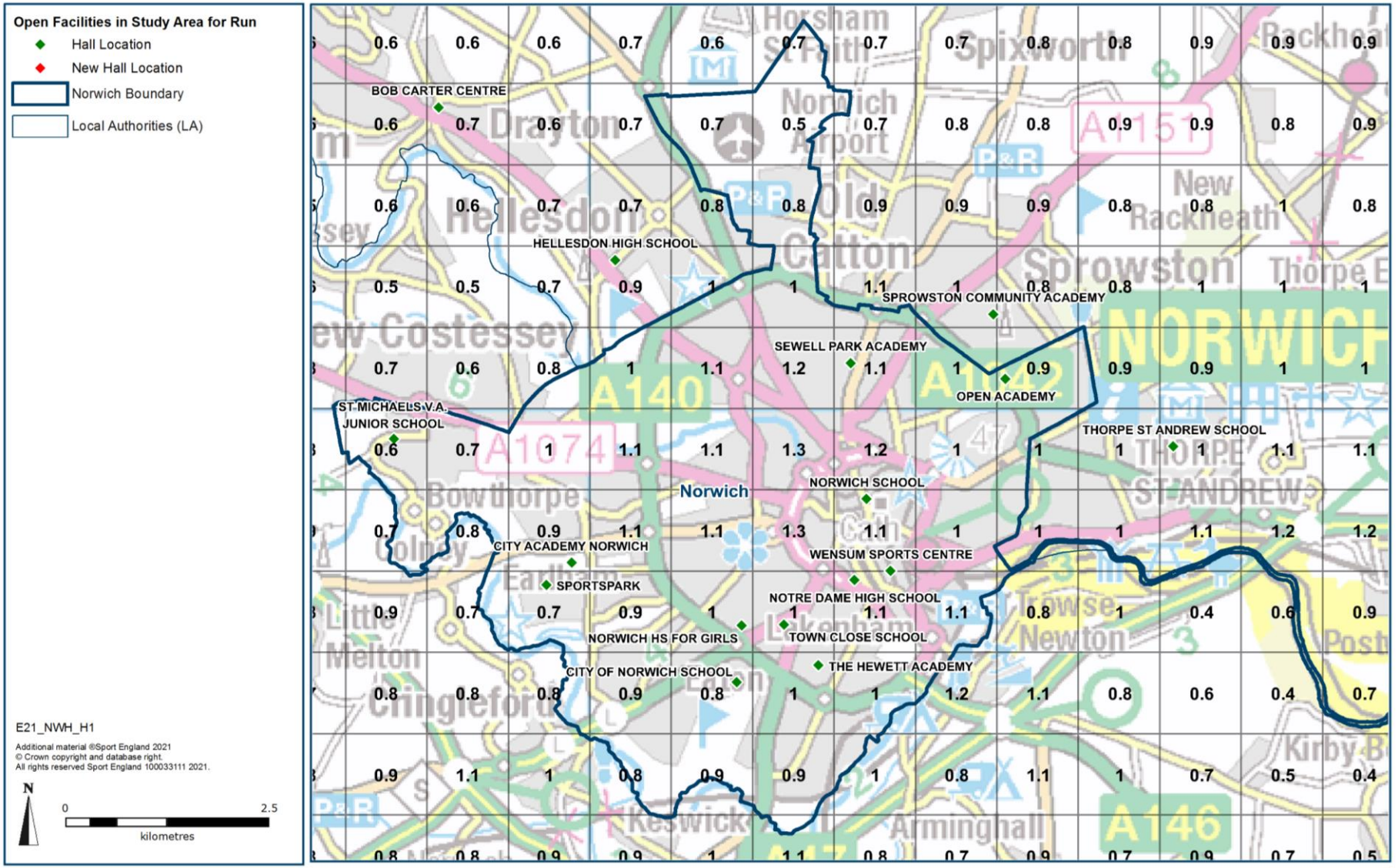
Map 5.1: Unmet Demand for Sports Halls in Norwich (2021)

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 badminton courts.



Map 5.2: Meeting Unmet Demand for Sports Halls in Norwich (2021)

Facility Planning Model reachable unmet demand aggregated at 1km square grid (figure labels) and expressed as badminton courts.



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
% of population without access to a car	32.0	10.9	11.0	17.7	24.9

5.10. The percentage of the population without access to a car influences travel patterns to sports halls. A low percentage means there is likely to be a larger number of visits to sports halls by car. The drive time catchment for a facility is 30 minutes' travel time; 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).

5.11. Map **5.3** shows the areas of Norwich within drive time catchments of sports halls. Residents in the teal areas can drive to between 15 and 20 sports halls in 20 minutes. The blue areas have access to between 20 and 25 sports halls, and the small dark blue area has access to over 25 sports halls within the drive time. Overall, Norwich has a high number of sports halls that are within the drive time catchment.

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

5.13. Based on the 2011 Census, 32% of Norwich's resident population do not have access to a car. The East Region and England-wide averages are 18% and 25% respectively.

5.14. The FPM finding is that 16% of all visits to sports halls by Norwich residents are made by public transport (see Satisfied Demand table).

5.15. To gain some understanding of how accessible the sports halls sites are by public transport, Map **5.4** shows the location of the sports hall sites (green squares) and the areas of the authority that are within 0-5 minutes' walk of a bus stop (grey areas).

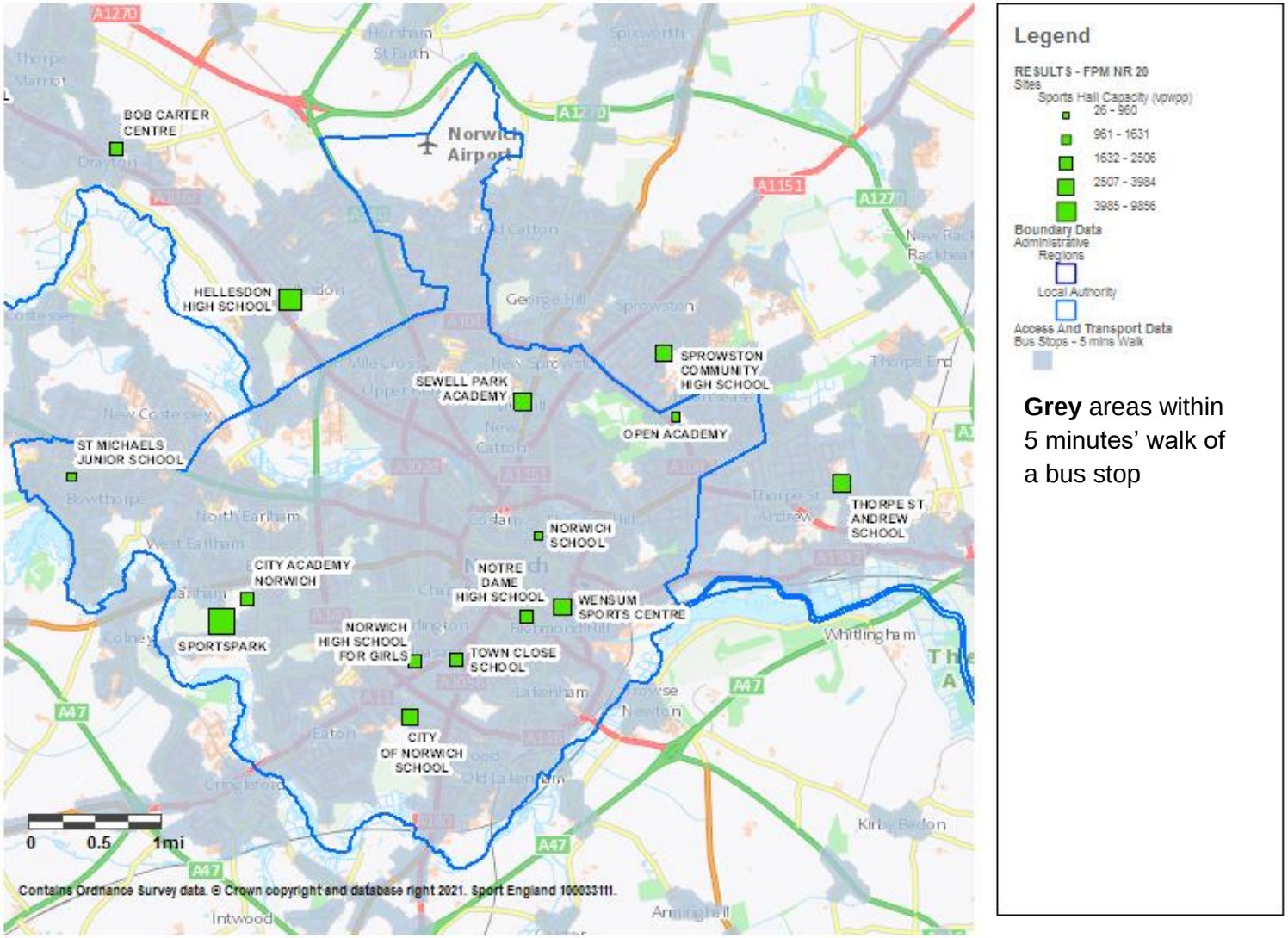
5.16. As expected in an urban authority with a small land area, nearly all the city is within 5 minutes' walk of a bus stop, apart from a small area close to UEA Sportspark and the City of Norwich School. Overall, accessing Norwich sports halls by bus travel is good.

Map 5.3: Access to Halls Based on the Driving Catchment Area of Halls (2021)

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

Map 5.4: Areas of Norwich within 5 minutes' walk of a bus stop (2020)

Sport England assumes no responsibility for the completeness, accuracy and currency of the information contained on this map. This information is taken from the Active Places Power website and its terms and conditions apply – 27/10/2021



Legend

RESULTS - FPM NR 20
Sites
Sports Hall Capacity (upwpp)
26 - 960
961 - 1631
1632 - 2506
2507 - 3984
3985 - 9856
Boundary Data
Administrative Regions
Local Authority
Access And Transport Data
Bus Stops - 5 mins Walk

Grey areas within 5 minutes' walk of a bus stop

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	15,723	8,950	7,140	490,624	4,399,869
% of overall capacity of halls used	75.9	72.8	50.3	69.9	71.2
% of visits made to halls by:					
Walkers	15.1	8.4	6.0	11.2	14.5
Road	84.9	91.6	94.0	88.8	85.5
Visits imported:					
Number of visits imported	5,614	2,685	1,546	16,850	8,796
As a % of used capacity	35.7	30.0	21.6	3.4	0.2
Visits retained:					
Number of visits retained	10,108	6,265	5,594	473,774	4,391,073
As a % of used capacity	64.3	70.0	78.4	96.6	99.8

Definition of used capacity – This is a measure of usage at sports halls 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 hall itself becomes too crowded to use comfortably, and the changing and circulation areas also become too congested. In the model Sport England assumes that usage over 80% of capacity is busy and that the hall is operating at an uncomfortable level above that percentage.

6.1. **Key finding 8** is that the estimated used capacity of the sports halls as a Norwich average is 76% in the weekly peak period. This is above the East Region average which is 70% of sports hall capacity used in the weekly peak period.

6.2. The Sport England comfort level for a sports hall is 80% full at peak times, leaving a working headroom of four percentage points before the sports halls comfort level is reached.

6.3. This finding is based on both halls at UEA Sportspark being used for a balanced programme of activities. If the eight-court hall at UEA Sportspark is only used for gymnastics, the average used capacity of sports halls in Norwich would increase to 89%.

6.4. The findings on used capacity for the individual sports hall sites vary and are set out in Table **6.1**. Variation is caused by several factors and it is difficult to distinguish which are the main factors, as some or all can interact. These factors are:

- Level of demand in the catchment area and the extent to which catchment areas overlap
- Hours available for community use
- Scale of the sports hall
- Age of the hall and its 'attractiveness' weighting
- Policy towards community use by each school or college and pricing
- Imported demand

6.5. These factors are expanded on in the following paragraphs.

6.6. As Map **2.1** in the Supply section shows, most of the Norwich sports hall locations are clustered close to each other. Their catchment areas will overlap, with the demand shared between venues and impacting the used capacity of each site.

6.7. As Table **6.1** shows, the hours available for community use at the sites varies from 22 hours at The Open Academy to 46 hours at UEA Sportspark. **Key finding 9** is that all 11 of the educational sports hall sites provide community use, as the lowest number of community hours (22 hours) is still quite high. This confirms that there is a commitment to community use across the educational sites.

6.8. The largest sports hall site in Norwich is UEA Sportspark, which has a 12-court hall and an eight-court hall, with an estimated site used capacity of 57% in the weekly peak period. Norwich School has a four-court hall available for 25 hours, with an estimated used capacity of 100% in the weekly peak period. This translates to a higher used capacity percentage for the site with smaller capacity and a lower used capacity percentage for the larger site as it can accommodate more usage. It is important to consider the scale of a sports hall site when looking at the estimated used capacity and not just the percentage figure alone. If the eight-court hall at UEA Sportspark is only used for gymnastics, the used capacity of the 12-court hall would increase to 95%.

6.9. All the sports hall 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. Three of the sports halls opened before 2000 have been modernised; the exception is City of Norwich School which opened in 1970. This site has the lowest weighting of any of the Norwich sports halls at 26%, and an estimated 39% of capacity used for the two sports halls available for 44 hours in the weekly peak period.

6.10. Some schools/colleges actively promote community use of their sports facilities, while other institutions take a more responsive approach to requests and let their sports halls on a term or shorter lettings basis. The different approaches will be reflected in the estimated used capacity of each site. As set out above, the fact that the lowest number of hours available for community use at the educational sites is 22 hours (the maximum is 46 hours), and that six sites have over 30 hours available, does show a commitment to community use.

6.11. The findings for each individual sports hall site vary from the Norwich average for all these inter-related reasons and should be reviewed with the facility operator.

Imported Demand

6.12. Imported demand is set out under Used Capacity because, if residents in neighbouring local authorities participate at a centre in Norwich, their usage becomes part of the used capacity of Norwich's sports halls.

6.13. Imported demand is 36% of the used capacity of the Norwich sports halls; the equivalent of over one in three visits to a sports hall. Therefore, imported demand is a major contributor to the high average used capacity of sports halls in Norwich.

6.14. Norwich imports 5,614 visits as part of the used capacity of its sports halls, compared to exporting 1,758 visits from its own residents to sports halls located in neighbouring local authorities. Therefore, Norwich is a net importer of 3,856 visits per week in the peak period.

Table 6.1: Percentage of Used Capacity of Norwich Sports Halls (2021)

Name of Facility	Type of Hall	Area sqm	Courts	Site Year Built	Site Year Refurb	Weight Factor	Hours in Peak Period	Total Hours Available	Site Capacity - visits per week peak period	**% of Capacity Used**
City Academy Norwich	Main	690	4	2013		49%	39	43	1,248	75%
City Of Norwich School	Main	594	4	1970		26%	32	44	1,624	39%
	Activity	180					32	44		
Norwich High School For Girls	Main	594	4	2000		43%	36	53	1,152	94%
Norwich School	Main	690	4	2001		44%	25	25	800	100%
Notre Dame High School	Main	690	4	1984	2013	33%	26	26	1,320	94%
	Activity	180					26	26		
Open Academy	Main	690	4	2010		48%	22.5	25	720	100%
Sewell Park Academy	Main	690	4	1996	2011	79%	37	56	1,878	100%
	Activity	180					37	56		
UEA Sportspark	Main	2,070	12	2000		43%	46	107.3	Total: 7,360	Total: 57%
	Main	1,280	8				46	107.3	Reduced: 4,416	Reduced: 95%
St Michaels V.A. Junior School	Main	486	3	2000		43%	34	49	816	71%
The Hewett Academy	Main	690	4	2018		50%	23	23	961	92%
	Activity	180					12	12		
	Activity	180					0	0		
Town Close School	Main	594	4	2009		47%	34	36	1,088	95%
Wensum Sports Centre	Main	867	5	1975	2012	76%	43.5	80	1,740	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	0.60	0.58	0.68	0.68	0.70

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 at looking at 'equity' of provision and to show how access and share of sports halls differs across the authority.

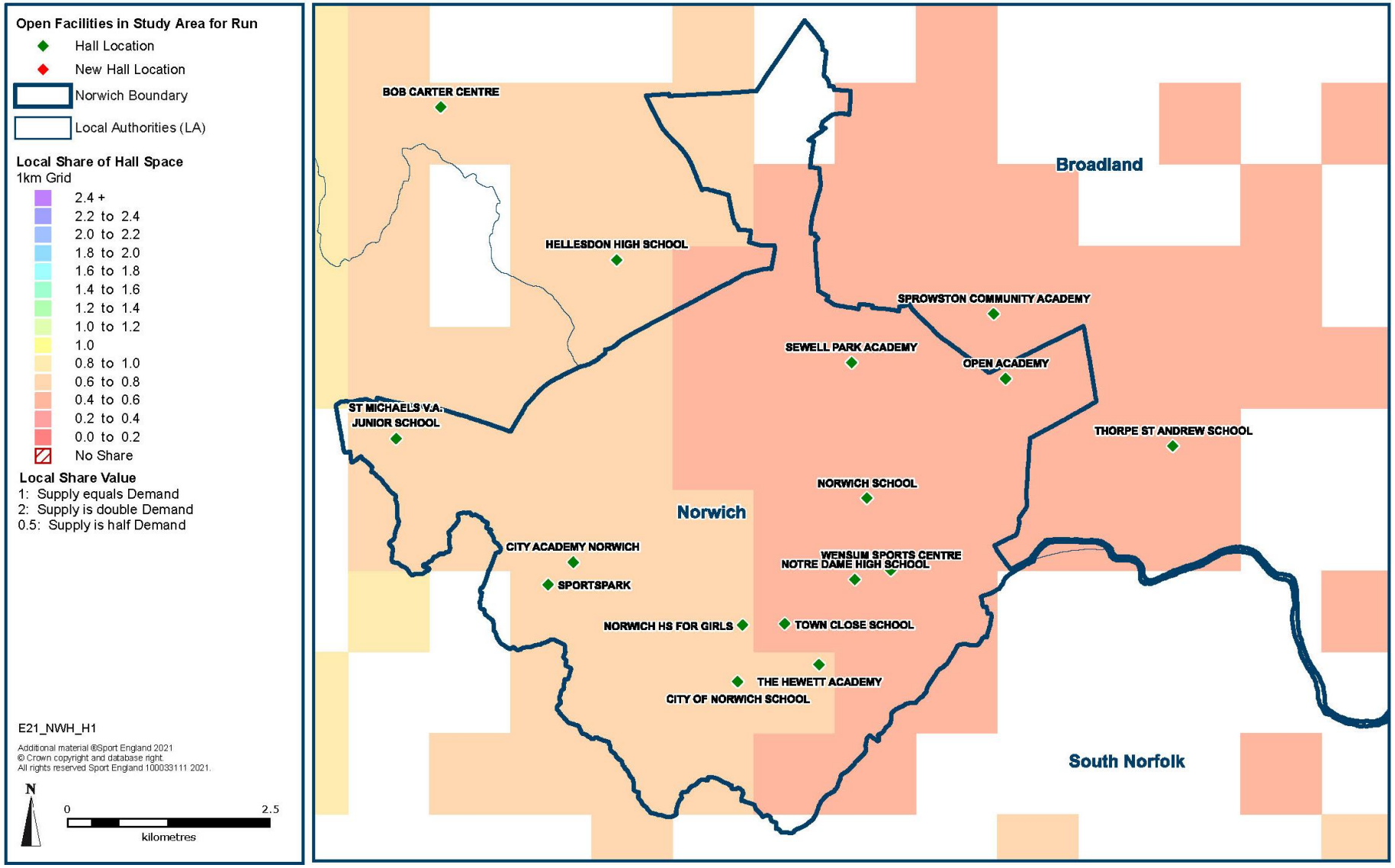
7.2. The intervention is to try and increase access to sports halls where residents have the lowest share of sports halls.

7.3. Norwich has an average local share of 0.6 in 2021, and so demand is greater than supply. Local share is below 1 in the neighbouring local authorities, in the East Region and for England-wide.

7.4. Within Norwich local share varies from the city-wide average, and these findings are shown in Map **7.1**. The green diamond shows the locations of the sports hall sites. Local share is worst in the eastern half of the city with values in the dark orange squares of between 0.4 and 0.6. In the western half of the city the values in the light orange squares are 0.6 to 0.8.

Map 7.1: Local Share of Sports Halls in Norwich (2021)

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



Badminton Courts per 10,000 Population 2021

Share	Norwich	Broadland	South Norfolk	East Region	England
Supply of total hall space in courts	64.0	33.0	42.0	1,975.0	18,584.0
Population	143,134	132,781	145,007	6,312,979	56,969,855
Courts per 10,000 population	4.5	2.5	2.9	3.1	3.3

7.5. Based on a measure of badminton courts per 10,000 population, the Norwich supply is 4.5 courts per 10,000 population in 2021.

7.6. Norwich has a higher supply than Broadland at 2.5 courts per 10,000 population, South Norfolk at 2.9 courts, East Region at 3.1 courts, and England-wide at 3.3 courts per 10,000 population.

7.7. The overall level of provision for Norwich is based on all the supply and demand findings, and not just on supply. This is simply a measure which compares the Norwich supply with that of neighbouring local authorities, and regional and national averages. It is reported because some local authorities like to understand how their provision compares with other authorities.

Appendix 1: Sports Halls Excluded

The audit excludes facilities that are deemed to be either for private use, too small (below 3 badminton courts and do not have a main hall on site), 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
Angel Road Junior School	Activity Hall	Too Small; No Main on Site
Angel Road Junior School	Activity Hall	Too Small; No Main on Site
Catton Grove Primary School	Activity Hall	Private Use
Catton Grove Primary School	Activity Hall	Private Use
City Academy Norwich	Activity Hall	Closed
City Academy Norwich	Activity Hall	Closed
Edith Cavell Academy	Activity Hall	Private Use
Lakenham Sports & Leisure Centre (Closed)	Activity Hall	Closed
Norman Centre	Activity Hall	Too Small; No Main on Site
Norman Centre	Activity Hall	Too Small; No Main on Site
Open Academy (Closed)	Main Hall	Closed
Open Academy (Closed)	Activity Hall	Closed
Recreation Road Sports Centre	Activity Hall	Too Small; No Main on Site
Valley Primary School	Activity Hall	Private Use
Ymca (Norwich) (Closed)	Barn	Closed

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

[1] 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 ·ately 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.

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

5.2. The FPM calculates a facility's capacity by applying each of the capacity factors taken from the model parameters, such as the assumptions made as to how many 'visits' can be accommodated by the particular facility at any one time. Each facility is then given a capacity figure in VPWPP.

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.

[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.

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:

- 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 education 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 education and non-education halls, a high weighted curve, and a lower weighted curve.

- High weighted curve – includes non-education 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 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

Sports Halls

The following inclusion criteria were used for this analysis.

- Include all operational sports halls available for community use i.e. pay and play, membership, sports club/community association.
- Exclude all halls not available for community use i.e. private use.
- Exclude all halls where the main hall is less than 3 Courts in size.
- 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 included, as supplied by **sport**scotland and Sport Wales.

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

Model Parameters

Halls Parameters

<table>
<tr><td>At One Time Capacity</td><td></td><td>32 users per 4-court hall

15 users per 144 square meters of activity hall</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>17.0</td><td>16.5</td><td>14.1</td><td>11.7</td><td>10.3</td><td>7.3</td></tr>
<tr><td>Female</td><td>18.3</td><td>18.2</td><td>16.7</td><td>15.3</td><td>15.2</td><td>12.0</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>0.86</td><td>0.92</td><td>0.64</td><td>0.84</td><td>0.97</td><td>1.12</td></tr>
<tr><td>Female</td><td>0.95</td><td>1.16</td><td>1.16</td><td>1.02</td><td>1.13</td><td>0.99</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, 17:00 to 22:00
Weekend: 08:00 to 16:00
Total: 46 hours

62%</td><td></td></tr>
</table>