Facilities Planning Model Assessment of Sports Hall Provision for Southend-on-Sea City Council

Bespoke Report

9 June 2026

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Accreditations

Other than data provided by Southend-on-Sea City Council and Sport England, this report also contains data from the following sources:

EXECUTIVE SUMMARY

Introduction

0.1 Southend-on-Sea City Council (also referred to as Southend-on-Sea or the City) is reviewing its current provision of sports halls and assessing the future demand and level of provision required to 2045.

0.2 This report has been prepared based on an assessment using the Sport England Facilities Planning Model (FPM) spatial modelling tool. The FPM study is a quantitative, accessibility and spatial assessment of the supply, demand and access to sports halls.

0.3 The FPM modelling runs are to provide:

- Run 1 – baseline assessment of provision in 2026
- Run 2 – forward assessment of demand for sports halls and its distribution, based on the projected changes in population between 2026 and 2045 including 9,800 dwellings identified in the Local Plan to 2045 (low growth scenario)
- Run 3 – forward assessment of demand for sports halls and its distribution, based on the projected changes in population between 2026 and 2045 including a further 14,700 dwellings identified in the Local Plan to 2045 (high growth scenario)

0.4 The main report sets out the full set of findings under each of the seven assessment headings.

0.5 The next section of the report provides the headline strategic overview, and the key findings and interventions arising from the FPM study on supply, demand and accessibility.

Headline Strategic Overview

0.6 The headline strategic finding is that nearly all of Southend-on-Sea's demand for sports halls can be met by the available supply in all runs. Demand for sports halls is highest in Run 3 (high growth scenario). Most demand is met within the City, and unmet demand is low, in all runs.

0.7 The public leisure centre and two educational sports halls are uncomfortably full at peak times in all runs.

0.8 The sports hall stock is ageing, with the average age of all the sports hall sites being 25 years in Run 1, and 44 years in Runs 2 and 3. As such, there is an increasing need for modernisation.

Key Findings

0.9 The key findings that underpin the headline strategic overview are as follows:

1. In all three runs, the total supply in Southend-on-Sea in all runs is the equivalent of 69.6 badminton courts, of which 57.5 courts are available for community use in the weekly peak period. The unavailable supply equates to 17% of the total supply.
2. The 11 educational sports halls provide 72% of the available capacity in all runs. The public leisure centre provides 21%, and the commercial site the remaining 7% of the total capacity.
3. Southend-on Sea's population is projected to increase by 4% between Run 1 and Run 2 under the low growth scenario ,and by 10% between Run 1 and Run 3 under the high growth scenario. Demand is projected to decrease by 2% (0.8 courts) in Run 2 compared with Run 1. In Run 3, demand is projected to increase by 5% (2.2 courts) compared with Run 1.
4. Southend-on-Sea's demand is the equivalent of 63% of its available supply in Run 1, 62% in Run 2, and 66% in Run 3.
5. In all three runs, 96% of Southend-on-Sea's demand is met. The number of visits met in the weekly peak period is 12,799 in Run 1, 12,527 in Run 2, and 13,386 in Run 3. The increase in Run 3 is due to the increase in demand.
6. Nearly all of Southend-on-Sea's satisfied demand is met within the City, at 94% in all runs. In terms of visits 12,003 are retained in the weekly peak period in Run 1, 11,757 in Run 2, and 12,601 in Run 3 when demand is the highest.
7. Unmet demand in Southend-on-Sea equates to 4% of demand in all three runs. In terms of badminton courts, this is equivalent to 1.7 courts in Run 1 and 1.9 courts in Runs 2 and 3. All unmet demand in all runs is due to residents living too far from a facility.
8. The overall used capacity of Southend-on-Sea's sports halls in the weekly peak period is 67% in Run 1, 66% in Run 2, and 70% in Run 3. However, in Runs 1 and 3, Southend Leisure and Tennis Centre is uncomfortably full at peak times. Two educational sports halls are estimated to be uncomfortably full in all three runs.

Interventions and Next Steps

0.10 Southend-on-Sea has sufficient provision of sports halls to meet demand in all runs. The increase in demand in Run 3 can be accommodated by the current supply.

0.11 The strategic interventions are to:

- Increase usage at educational sports halls to provide a better overall balance between supply and demand
- Protect the educational supply for community use
- Modernise the stock

0.12 There is no scope to increase availability and reduce the proportion of capacity used at Southend Leisure and Tennis Centre. Both halls at this site are available for the maximum 46.0 hours in the weekly peak period.

0.13 Therefore, the intervention is to focus on the educational sites that are uncomfortably full at peak times but where there is scope to increase availability and reduce utilisation to a comfortable level.

0.14 It is suggested that Southend-on-Sea City Council investigates increasing community use at two sites.

- Southend High School for Boys
    - 81% utilised in Run 1, 87% in Run 2, and 89% in Run 3
    - Five-court hall, opened in 2005 and the second largest sports hall in the City
    - Demand is highest in Westcliff-on-Sea in all runs
    - Available for 32.0 hours in the weekly peak period, with scope to increase availability by up to nine hours at peak times to increase capacity and reduce utilisation
- Belfairs Academy
    - 88% utilised in Run 1, and 85% utilised in Runs 2 and 3
    - Only sports hall site in Leigh-on-Sea where demand is high
    - Opened in 2004 with a four-court hall suitable for club development
    - Accommodates the third lowest number of visits in Runs 1 and 2, and the second lowest in Run 3
    - Lowest availability of the educational sites at 20.0 hours in the weekly peak period, with extensive scope to increase availability and reduce utilisation

0.15 A Community Use Agreement (CUA) would provide the framework to protect the current supply and any new or replacement educational sports halls. If not already in place, a CUA should be negotiated and agreed.

0.16 Sport England will advise on the requirements as part of the planning process for any new or replacement sports hall. Once a CUA has been put in place, it is essential that Southend-on-Sea City Council monitors its actual delivery.

0.17 Sport England's website provides a free resource, Use our School, to support educational sites either opening up their facilities or increasing access for community use.

0.18 There is a good track record of modernisation of the oldest sports halls. Four sports hall sites opened before 2000, and three have been modernised. The unmodernised site is Chase High School which opened in 1994.

0.19 Seven of the City's 13 sports hall sites opened in the first decade of the 2000s. The six educational sports hall sites have not been refurbished. David Lloyd opened in 2005 and was refurbished in 2016.

0.20 The projected increase in demand in Run 3 will increase usage of the sports halls and their maintenance costs. To maintain the quality of the offer and retain demand in the City, these sports halls will require refurbishment.

0.21 Thorpe Hall School is the joint most recent sports hall to open in 2018 (along with Southchurch High School). It is located within the proposed Land North of Southend (LNOS) development which is the most extensive housing growth site in Run 3, and is the only sports hall in this area. Its projected utilisation increases from 59% in the weekly peak period in Run 2 to 72% in Run 3. In Runs 2 and 3 the sports hall will be 27 years old and in need of modernisation to maintain its attractiveness and offer.

0.22 Southend-on-Sea City Council may wish to consider investing in further modernisation of the educational stock in return for continuing committed community use.

0.23 These interventions and suggested next steps are based on the FPM findings and should be considered as a key part of the all-round evidence base for the provision of sports halls and the Council's strategy. Combining the FPM assessment with the wider review of provision will lead to well considered options on the best ways to meet the projected demand for sports halls up to 2045 and beyond.

Contents

1 INTRODUCTION

1.1 Southend-on-Sea City Council (also referred to as Southend-on-Sea or the City) is reviewing its current provision of sports halls and assessing the future provision required to 2045.

1.2 This report has been prepared based on an assessment using the Sport England Facilities Planning Model (FPM) spatial modelling tool. The FPM study is a quantitative, accessibility and spatial assessment of the supply, demand and access to sports halls.

1.3 The key drivers for Southend-on-Sea City Council are to understand the following:

- How well the supply of sports halls meets demand in 2026 and 2045
- The impacts that population change and residential development have in meeting the demand for sports halls and its distribution up to 2045

1.4 The outputs from the FPM assessment will:

- Inform Southend-on-Sea City Council's strategic planning review of sports halls provision and update the Council's Built Facilities Strategy
- Inform an evidence base that contributes to the development of planning policy for the provision of indoor sports facilities
- Provide an assessment of need that contributes to the inward investment strategy for provision of sports halls

1.5 The sequence of work is based on assessments known as runs, and these are set out in the Executive Summary.

The Study Area

1.6 The assessments include the sports halls and population in Southend-on-Sea and the neighbouring local authority areas, which comprise study area (see Map **1.1**).

1.7 A customer's choice of sports hall does not respect local authority boundaries. There may be management and possibly pricing incentives for customers to use sports facilities in their local authority area. Other factors that influence the choice of sports hall include:

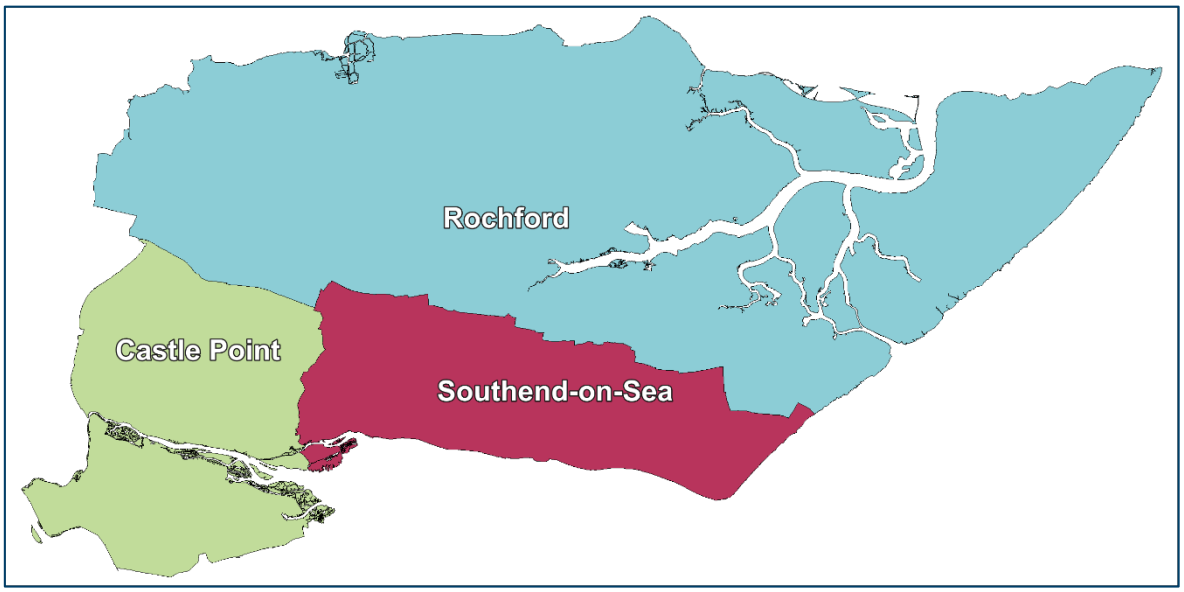
- How close the venue is to where residents live or work
- Other facilities at the same site, such as a gym or studio
- Programming of the hall with activities that appeal to residents and are available at times that fit with the lifestyle of residents
- Age and condition of the facility and inherently its attractiveness

1.8 Increasingly, the quality of sports halls and their offer are of more importance to residents in their choice of venues. New facilities will have a significant draw because of the enhanced quality of the venues.

1.9 In determining the position across Southend-on-Sea, it is important to take full account of the sports halls and population in neighbouring local authority areas. The most attractive facility for some Southend-on-Sea residents may be outside the City (known as exported demand). For residents of neighbouring authorities, their most attractive sports hall may be inside Southend-on-Sea (known as imported demand).

1.10 To take account of these factors, a study area is established that places Southend-on-Sea at its centre and includes the neighbouring local authority areas.

Map 1.1: Study Area for Southend-on-Sea Sports Halls Assessment



Report Structure, Content and Sequence

1.11 The findings for the Southend-on-Sea assessment are set out in a series of tables for all runs. This allows a 'read across' to see the specific impact of changes between Runs 1 and 3 and builds up the picture of change.

1.12 The headings for each table are:

- Supply
- Demand
- Accessibility
- Satisfied Demand
- Unmet Demand
- Used Capacity
- Local Share

1.13 The terms listed above are defined beneath the tables.

1.14 To support the findings, this report also includes maps that show sports hall locations, demand, deprivation, driving and walking coverage, public transport access, exported satisfied demand, unmet demand, imported used capacity and local share.

1.15 Where valid, the findings for neighbouring local authorities are set out. A commentary is provided on these comparable findings. For example, some local authorities like to know

how their findings on proportion of met demand compare with those of neighbouring local authorities.

1.16 The key findings in each of the sections are numbered and highlighted in bold typeface.

1.17 The facilities excluded from the study, with explanations, are listed in Appendix 1. Details of the sports halls in the neighbouring local authority areas included in the assessment are set out in Appendix 2. The FPM and its parameters are described in Appendix 3.

1.18 All maps for the study are provided in a separate document as layered PDFs.

2 SPORTS HALL SUPPLY

Southend-on-Sea has an extensive and fit-for-purpose supply of sports halls. There are ten four-court halls, of which eight have dimensions that are suitable for club development.

Southend Leisure and Tennis Centre is the only public leisure centre sports hall. It is the most extensive site and has the largest capacity, and is available for the maximum 46 hours in the weekly peak period.

The educational sector is the major provider, having 11 of the 13 sites. There is good commitment to community use, which needs to be protected.

The sports hall stock is ageing, with the average age of all the sports hall sites being 25 years in Run 1, and 44 years in Runs 2 and 3. Southend Leisure and Tennis Centre opened in 1996 and was modernised in 2005.

Table 2.1: Supply of Sports Halls in Southend-on-Sea by Run

Supply	Run 1	Run 2	Run 3
Southend-on-Sea	2026	2045	2045
Number of sports halls	17	17	17
Number of sports hall sites	13	13	13
Supply in badminton court equivalents	69.6	69.6	69.6
Supply in courts scaled with hours available in peak period	57.5	57.5	57.5
Unavailable supply in the weekly peak period	17%	17%	17%
Supply in visits per week in peak period	21,167	21,167	21,167
Average age of all sites	25	44	44
Average age of public leisure centres	30	49	49

Definition of supply – This is the supply or capacity of the sports halls 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 most 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 In all three modelling runs, there are 17 sports halls across 13 sites in Southend-on-Sea. The facilities excluded from the supply are listed in Appendix 1.

Table 2.2: Details of Sports Halls in Included in the Runs

Site	Provider	Facility Type	Dimensions (m)	Area (sqm)	Peak Hours	Total Hours	Capacity (visits)	Year Built	Year Refurb
Southend Leisure and Tennis Centre	Public	8-court	37 x 33	1221	46	85	4,410	1996	2005
		Activity	18 x 17	306	46	102			
Shoeburyness Leisure Centre	Educational (3rd party)	4-court	34.5 x 20	690	35	35	2,183	1997	2008
		Activity	17 x 15	255	40	85			
Belfairs Academy	Educational (in-house)	4-court	34.5 x 20	690	20	20	640	2004	
Chase High School	Educational (in-house)	4-court	34.5 x 20	690	41	41	2,619	1994	
		Activity	18 x 17	306	41	41			
Southend High School for Girls	Educational (in-house)	4-court	34.5 x 20	690	25	25	800	2008	
St Thomas More High School	Educational (in-house)	4-court	34.5 x 20	690	42	75	1,344	1970	2010
The St Christopher School	Educational (in-house)	3-court	30 x 19	570	24	24	576	2003	
Westcliff High School for Boys	Educational (in-house)	4-court	34.5 x 20	690	41	49	1,987	2002	
		Activity	18 x 10	180	36	46			
Westcliff High School for Girls	Educational (in-house)	4-court	34.5 x 20	690	34.5	34.5	1,104	2003	
Southchurch High School	Educational (in-house)	4-court	34.5 x 20	690	45	50	1,440	2018	
Southend High School for Boys	Educational (in-house)	5-court	40.6 x 21.35	867	32	32	1,280	2005	
Thorpe Hall School	Educational (in-house)	4-court	33 x 18	594	41	45	1,312	2018	
David Lloyd	Commercial	4-court	33 x 18	594	46	109.3	1,472	2005	2016

Providers

2.2 There is one public leisure centre in Southend-on-Sea, which is Southend Leisure and Tennis Centre. This site is available for use to all residents, and provides recreational pay-and-play, and organised team and individual sports activities.

2.3 There are 11 sports hall sites provided by the educational sector. Ten are managed in-house and, therefore, are responsible for promoting community use. Promotion may be passive, whereby the school responds to booking requests, or dynamic, with the school working alongside sports clubs to encourage community use.

2.4 Shoeburyness Leisure Centre is a dual-use facility attached to Shoeburyness High School. The site is managed by Freedom Leisure in partnership with Southend-on-Sea City Council.

2.5 Given that nearly all the sports hall stock is provided by the educational sector, this may restrict residents who require access during weekday daytimes, for example, stay-at-home parents, home workers, and the unemployed or retired. This places greater reliance on the more limited public leisure centre stock for these residents.

2.6 David Lloyd is the only commercial sports hall and provides access for its members only.

Scale

2.7 Key finding 1 is that, in all three runs, the total supply in Southend-on-Sea in 2026 is the equivalent of 69.6 badminton courts, of which 57.5 courts are available for community use in the weekly peak period. The unavailable supply equates to 17% of the total supply.

2.8 The largest sports hall is the main eight-court hall at Southend Leisure and Tennis Centre. Eight-court halls have the potential to provide a more extensive programme when operated as two four-court halls. An eight-court hall can provide a show court for events use with spectator seating.

2.9 There is one five-court hall at Southend High School for Boys. Five-court halls provide flexibility as they can accommodate more than one activity at a time.

2.10 There are ten four-court halls, of which:

- Eight have dimensions of 34.5m x 20m. This is the size that Sport England and the National Governing Bodies for hall sports recommend for a four-court hall. These dimensions can cater for all hall sports at the community level of participation and also meet the requirements for hall sports club development.
- Two have dimensions of 33m x 18m. This size of sports hall, while meeting the requirements for most indoor hall sports at the community level of participation, have less space between and behind individual courts. This may prohibit use of these sports halls if they do not meet the requirements for competition play.

2.11 There are four sites which have a main hall and an activity hall. An activity hall is a flexible space for multiple sports that is smaller than the equivalent of three badminton courts, and

may or may not have line markings. Two of the activity halls have dimensions of 18m x 17m, one has dimensions of 18m x 10m, and one has dimensions of 17m x 15m.

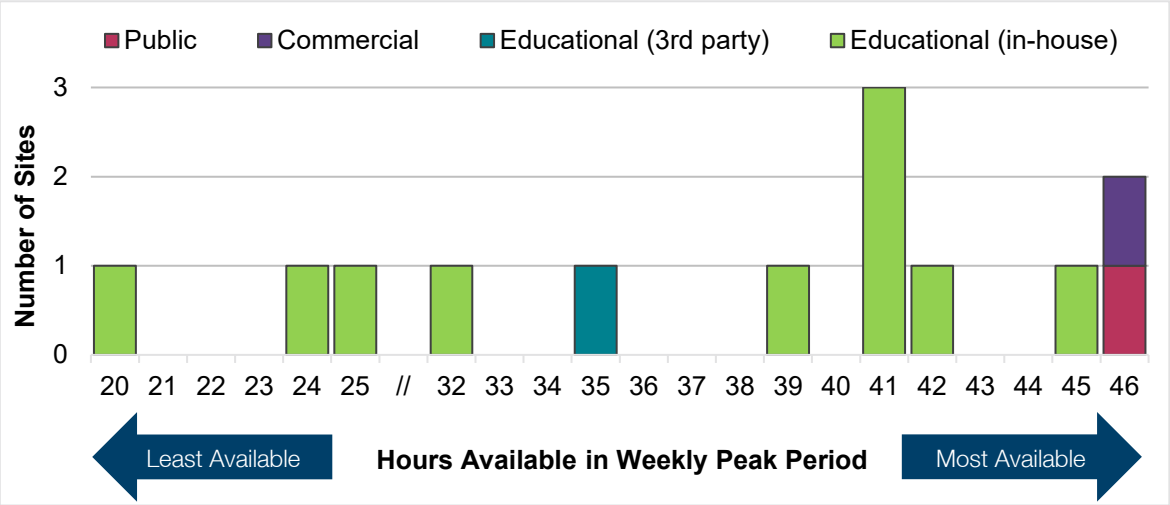
2.12 Where a sports hall site has a main hall and an activity hall, the activities for the two halls are programmed together. The main hall can accommodate big/high space activities such as basketball and badminton, which have low participant numbers at-one-time. The activity hall can accommodate smaller space activities such as martial arts, which have higher participant numbers.

2.13 The at-one-time capacity of a main hall with marked courts is eight people per badminton court (the equivalent area of a badminton court is 144 sqm). For an activity hall, this increases to 15 people per court. Therefore, an activity has almost double the capacity of a main hall with the same dimensions.

2.14 The St Christopher School is the only three-court hall. A three-court hall caters for most hall sports at a recreational level of play.

Availability

Chart 2.1: Availability of Southend-on-Sea Sports Halls by Provider



2.15 Both the main hall and activity hall at Southend Leisure and Tennis Centre and David Lloyd are available for the maximum 46.0 hours in the weekly peak period, with no scope to increase availability and capacity at peak times.

2.16 It is unusual for educational sports halls managed in-house to be available for more than 41.0 hours in the weekly peak period because they are not available for community use during weekday daytimes.

2.17 Overall, there is good commitment to community use at eight of the educational sites, with availability of between 32.0 hours and 45.0 hours in the weekly peak period. Availability in the weekly peak period is best at Southchurch High School.

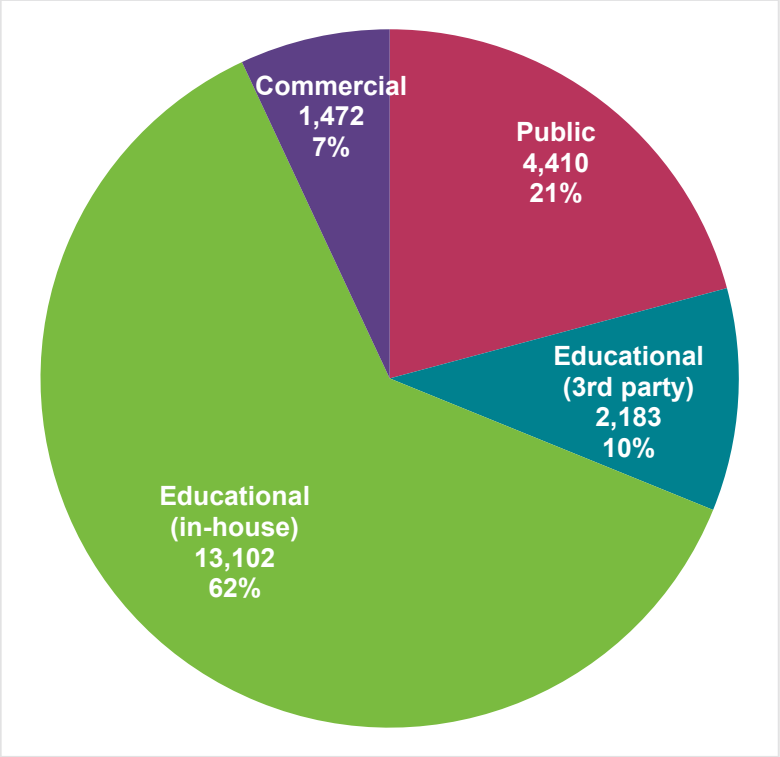
2.18 Belfairs Academy has the lowest availability at 20.0 hours in the weekly peak period.

2.19 Sport England has produced a resource to support schools in opening their facilities for community use during non-school hours. This resource covers how to get started, who can help, operating models, legal and governance, finance, marketing, operating safely and safeguarding, and can be found here: https://www.sportengland.org/funding-and-campaigns/use-our-school.

2.20 The resource can be used to support discussions with schools to open their sites for community use, either for the first time or to extend the available hours.

Capacity

Chart 2.2: Proportion of Available Hall Space by Provider (capacity in visits)



2.21 Key finding 2 is that the 11 educational sports halls provide 72% of the available capacity in all runs. The public leisure centre provides 21%, and the commercial site provides the remaining 7% of the total capacity

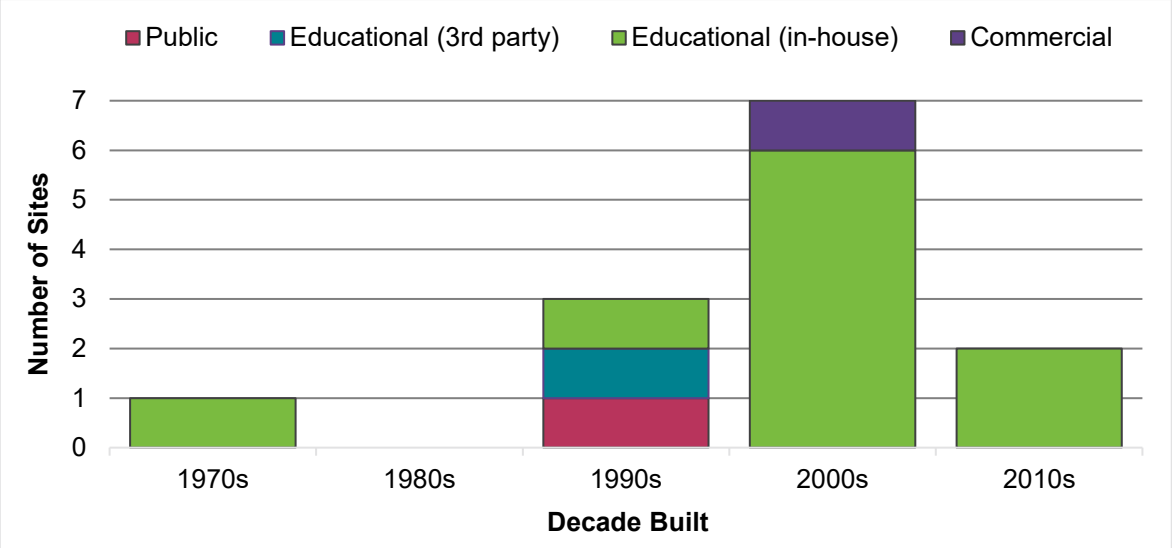
2.22 Southend Leisure and Tennis Centre has the largest capacity in Southend-on-Sea and can accommodate a total of 4,410 visits in the weekly peak period.

2.23 Shoeburyness Leisure Centre has the third largest capacity at 2,183 visits in the weekly peak period.

2.24 The St Christopher School has the smallest capacity at 576 visits in the weekly peak period. This site's three-court hall has the second lowest availability at 24.0 hours in the weekly peak period.

Age

Chart 2.3: Decade Built of Sports Halls in Southend-on-Sea by Provider



2.25 Seven of the 13 sports halls sites opened in the first decade of the 2000s. The oldest sport hall is St Thomas More High School which opened in 1970. The most recent sports halls to open are Southchurch High School and Thorpe Hall School, both in 2018.

2.26 The average age of all the sports hall sites is 25 years in Run 1, and 44 years in Runs 2 and 3.

2.27 Southend Leisure and Tennis Centre opened in 1996 and was modernised in 2005.

2.28 Four sports hall sites opened before 2000, of which three have been modernised. The unmodernised site is Chase High School which opened in 1994.

2.29 Modernisation is defined as one or more of the following:

- Upgrade of the sports hall floor to a sprung timber floor
- Upgrade of the lighting in the sports hall
- Modernisation of the changing accommodation

Sports Hall Locations

2.30 As 11 of the 13 sports hall sites are educational, it is not surprising that there are sports halls in all the main settlements.

2.31 There are no sports hall sites in Castle Point or Rochford that are close to the border with Southend-on-Sea (see Map 2.1).

Map 2.1: Location of Sports Halls Across All Runs (2026 and 2045)

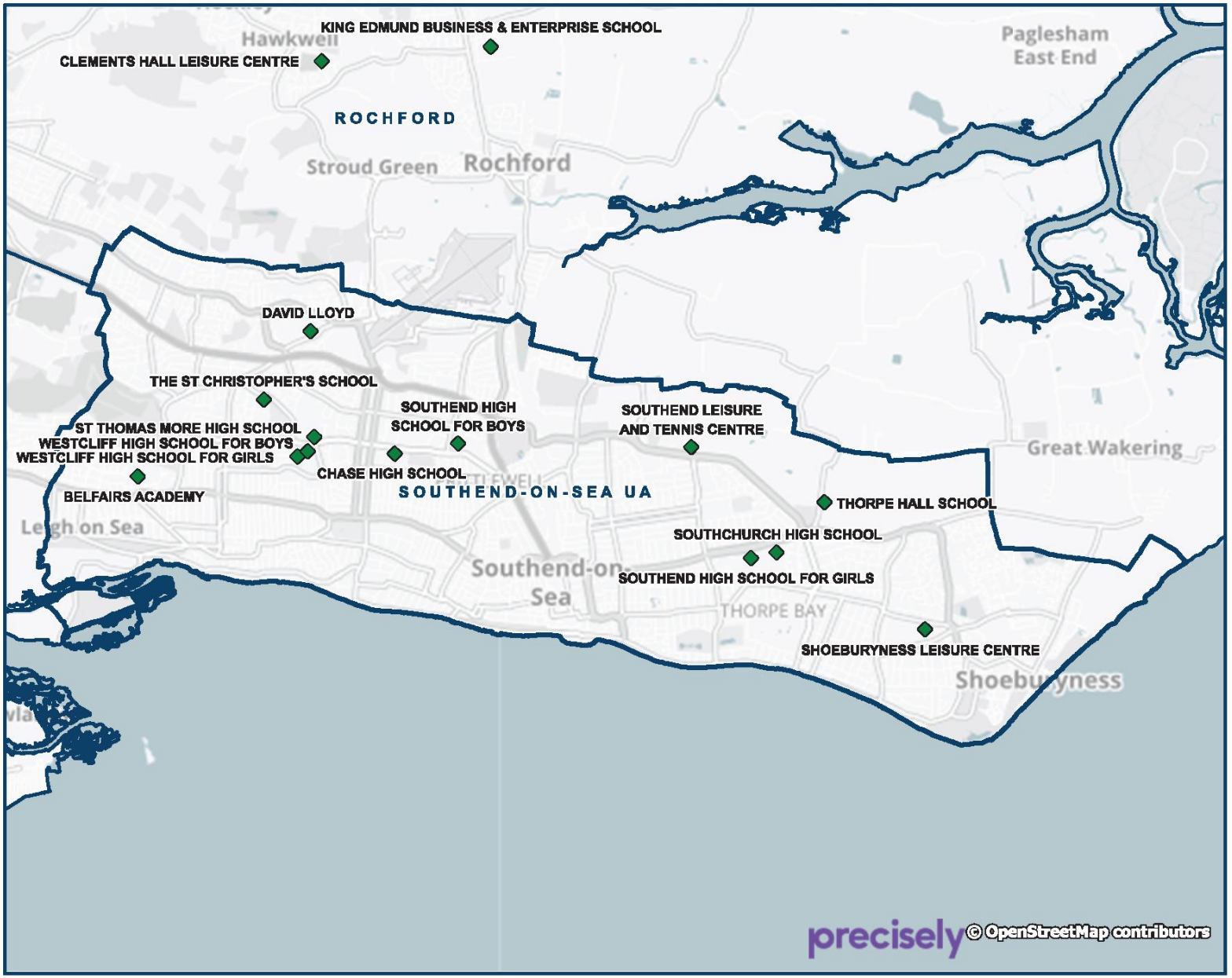
All facility locations used in the model across all runs.

Facilities Included in Runs

- Existing Sports Hall Location

Boundaries

- Southend-on-Sea
- Neighbouring Local Authorities



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3 DEMAND FOR SPORTS HALLS

Southend-on-Sea's population increases by 4% between Run 1 and Run 2, and by 10% between Run 1 and Run 3. There is a 7% increase in demand in Run 3 compared with Run 2.

Demand in Southend-on-Sea is less than its available supply in all runs.

Demand is greatest in Westcliff-on-Sea in all runs.

In Run 3 demand increases most in North Shoebury and Thorpe Bay.

Table 3.1: Demand for Sports Halls in Southend-on-Sea by Run

Demand	Run 1	Run 2	Run 3
Southend-on-Sea	2026	2045	2045
Population	183,181	190,528	202,020
Visits demanded in weekly peak period	13,300	13,072	13,954
Demand in courts with comfort factor included	45.2	44.4	47.4
% of demand in the 10% most deprived LSOAs nationally	10%	14%	13%

Definition of total demand – This represents the total demand for sports halls by gender and for six age bands from 0 to 79 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 number of badminton courts. The FPM parameters for the percentage of participation and frequency of participation, for gender and for different age bands, are calculated from Sport England's Active Lives survey up to November 2023 and are set out in Appendix 3.

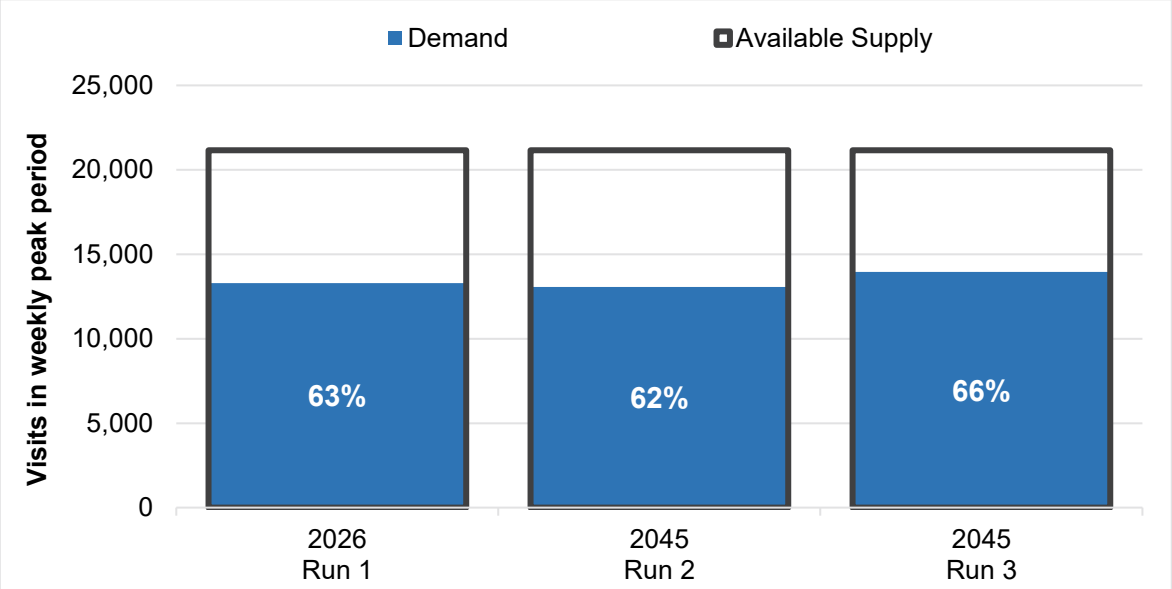
3.1 Demand is calculated from the resident population. Southend-on-Sea City Council provided its population forecasts for Runs 2 and 3. The geographical distribution of the population in the FPM for Runs 2 and 3 includes housing growth sites provided by the City Council, and are shown on Maps 3.1 and 3.2 respectively.

3.2 **Key finding 3** is that Southend-on Sea's population is projected to increase by 4% between Run 1 and Run 2 under the low growth scenario, and by 10% between Run 1 and Run 3 under the high growth scenario. Demand is projected to decrease by 2% (0.8 courts) in Run 2 compared with Run 1. In Run 3 demand is projected to increase by 5% (2.2 courts) compared with Run 1.

3.3 The very slight decrease in demand in Run 2 is due to the ageing of the population in Southend-on-Sea between 2026 and 2045. There will be fewer residents in the age bands with the highest sports hall participation (0-15 year olds and 16-24 year olds) in 2045 than in 2026. The rate and frequency of sports hall participation is assumed to be unchanged

between the two years (for participation rates and frequency, see Appendix 3: Sports Halls Parameters).

Chart 3.1: Demand as a Proportion of Available Supply in Southend-on-Sea by Run



3.4 Key finding 4 is that Southend-on-Sea's demand is the equivalent of 63% of its available supply in Run 1, 62% in Run 2, and 66% in Run 3.

Demand in the Study Area

Table 3.2: Demand for Sports Halls by Area and Run

Demand in Court Equivalents Considering a 'Comfort' Factor	Run 1	Run 2	Run 3	Difference Run 1 to Run 2		Difference Run 2 to Run 3	
Area	2026	2045	2045	Courts	%	Courts	%
Southend-on-Sea	**45.2**	**44.4**	**47.4**	**-0.8**	**-2%**	**3.0**	**7%**
Castle Point	21.4	21.6	21.6	0.2	1%	0.0	0%
Rochford	21.5	22.9	22.9	1.3	6%	0.0	0%

3.5 Southend-on-Sea has the highest demand in the study area. In all three runs, the City's demand is roughly equivalent to the combined demand of Castle Point and Rochford.

3.6 Based on the ONS projection, demand in Castle Point increases by 1% between Run 1 and Runs 2 and 3, while demand in Rochford increases by 6%.

Geographical Distribution of Demand

Run 1

3.7 Demand across four square kilometres is greatest in the following areas (see Map 3.3):

- Westcliff-on-Sea – 7.0 courts
- Southchurch – 6.5 courts
- Leigh-on-Sea – 4.8 courts (Belfairs Academy is located in this area)

3.8 There are also smaller areas of relatively high demand in Shoeburyness (2.8 courts across four square kilometres) and Eastwood (2.1 courts across three square kilometres).

3.9 Outside of these areas demand is 0.1 courts per square kilometre (purple squares) to 0.5 courts per square kilometre (mid blue squares).

3.10 Demand is lowest in the North Shoebury area at 0.3 courts across three square kilometres. Some of this demand is shared with Rochford.

Run 2

3.11 In Run 2 total demand across Southend-on-Sea decreases by 0.8 courts. The changes in the areas of highest demand are between 0.1 courts and 0.4 courts (see Map 3.4).

- Westcliff-on-Sea – unchanged at 7.0 courts
- Southchurch – increases by 0.3 courts to 6.8 courts
- Leigh-On-Sea – decreases by 0.4 courts to 4.4 courts

3.12 Demand in Shoeburyness decreases by 0.1 courts to 2.7 courts, while demand in Eastwood decreases by 0.1 courts to 2.0 courts.

3.13 Demand remains lowest in the North Shoebury area and is unchanged.

Run 3

3.14 In Run 3 demand across Southend-on-Sea increases by 3.0 courts when compared with Run 2. This run includes a further 4,900 dwellings when compared with Run 2.

3.15 Demand increases most in the North Shoebury and Thorpe Bay areas to 2.3 courts across four square kilometres (see Map 3.5). This is an increase from Run 2 of 1.7 courts from 0.6 courts across three square kilometres. Some of this demand is shared with Rochford. The largest housing growth sites in Southend-on-Sea are in this area.

3.16 Demand is unchanged in the areas with the highest levels of demand in Run 2, except for in Leigh-on-Sea where demand increases by 0.1 courts to 4.5 courts, and in Shoeburynes where demand decreases by 0.1 courts.

Deprivation

3.17 Of Southend-on-Sea's demand, 10% is in the 10% most-deprived lower super output areas (LSOAs) nationally in Run 1, increasing to 14% in Run 2 under population scenario 1, and 13% in Run 3 under population scenario 2.

3.18 There are no sports halls in the areas of highest deprivation (dark brown areas in Map 3.6), and these areas are:

- Southend Airport bordering Rochford
- North Shoebury south of Southend Sports and Tennis Centre
- Southchurch
- Shoeburyness, west and northeast of Shoeburyness Leisure Centre

3.19 The Index of Multiple Deprivation (IMD) score is used in the FPM to limit whether people will use commercial facilities (see Appendix 3 for definition of IMD). A weighting factor is incorporated to reflect the cost element often associated with commercial facilities. The assumption is that the higher the IMD score (less affluence), the less likely the population of the LSOA would choose to go to a commercial facility.

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Map 3.1: Housing Growth Areas in Southend-on-Sea to 2045 (Run 2 – Low Growth Scenario)

Housing sites and allocations supplied by Council.

Housing Allocations
(areas over 50 units)

- 1,000+
- 500 to 1000
- 200 to 500
- 50 to 200

Facilities Included in Runs

- Existing Sports Hall Location

Boundaries

- Southend-on-Sea
- Neighbouring Local Authorities

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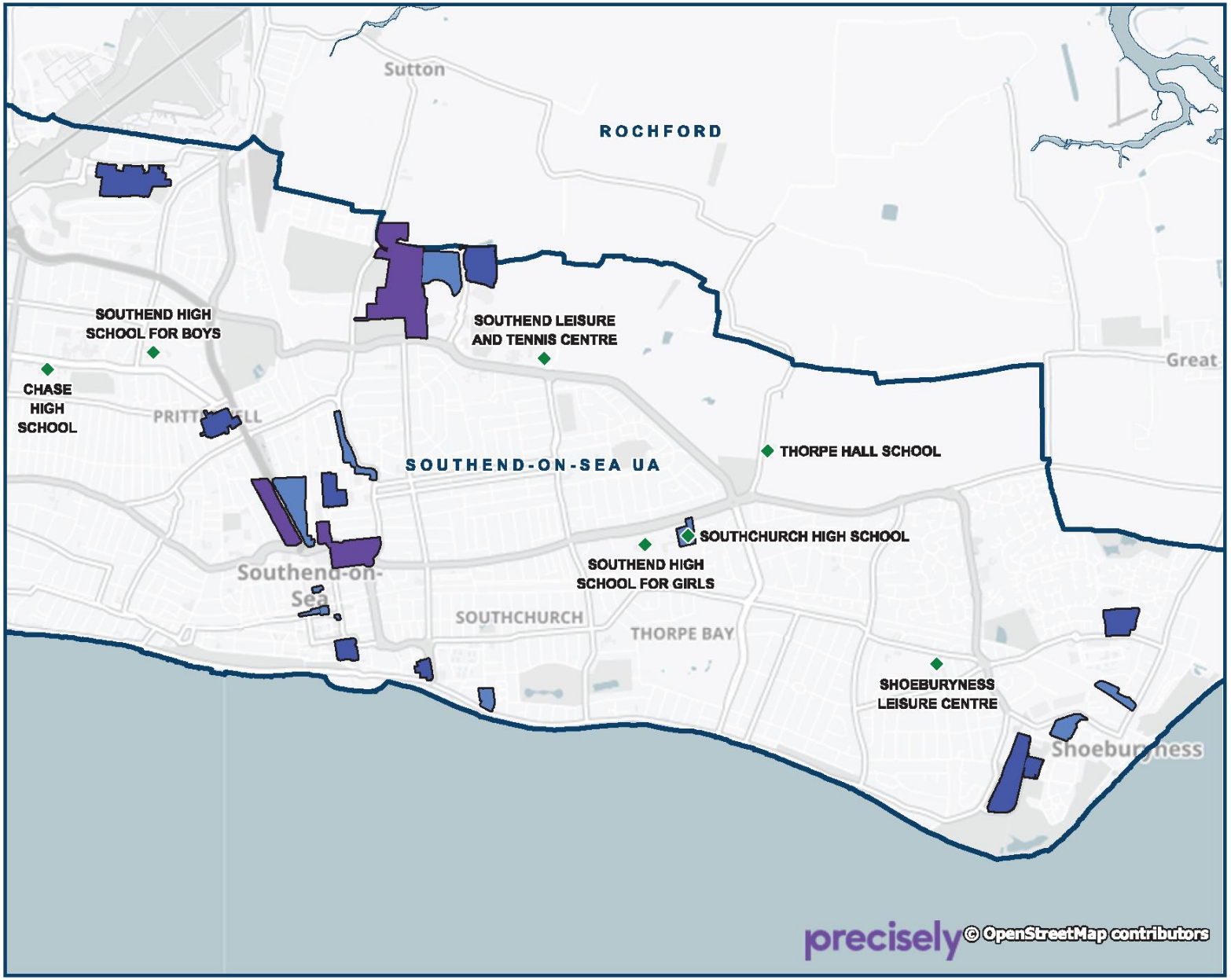

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Map 3.2: Housing Growth Areas in Southend-on-Sea to 2045 (Run 3 – High Growth Scenario)

Housing sites and allocations supplied by Council.

Housing Allocations
(areas over 50 units)

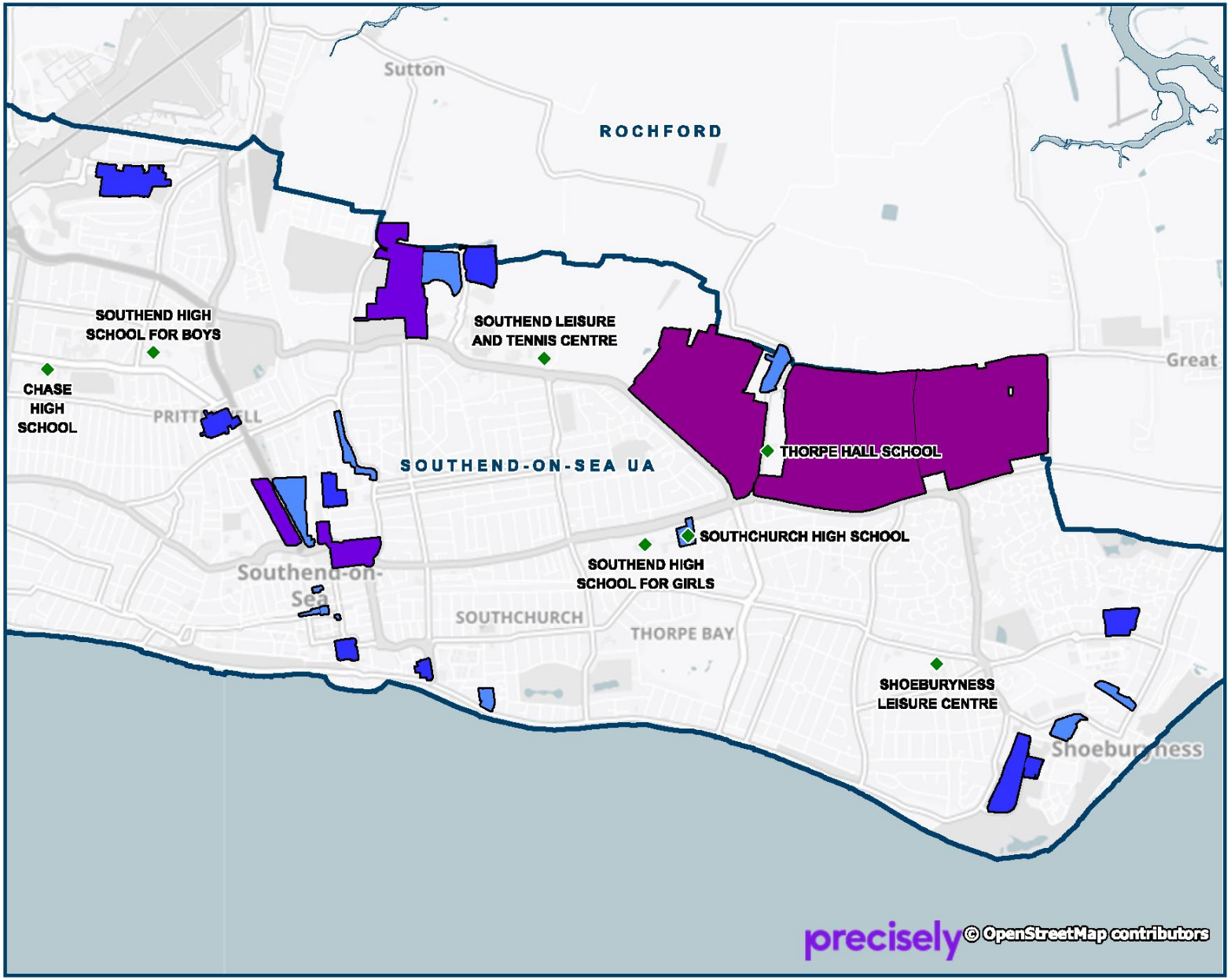
- 1,000+
- 500 to 1000
- 200 to 500
- 50 to 200

Facilities Included in Runs

- Existing Sports Hall Location

Boundaries

- Southend-on-Sea
- Neighbouring Local Authorities



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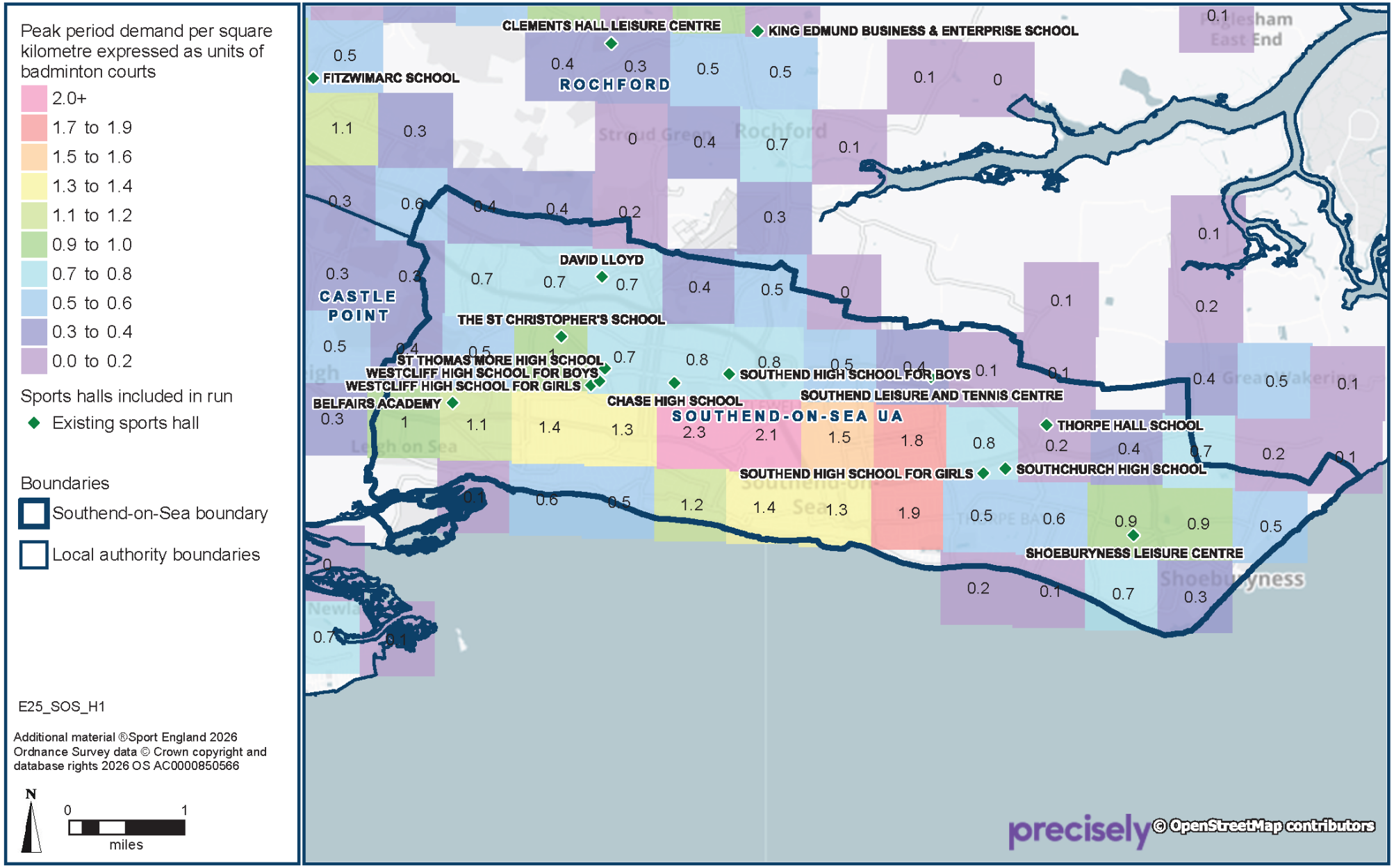
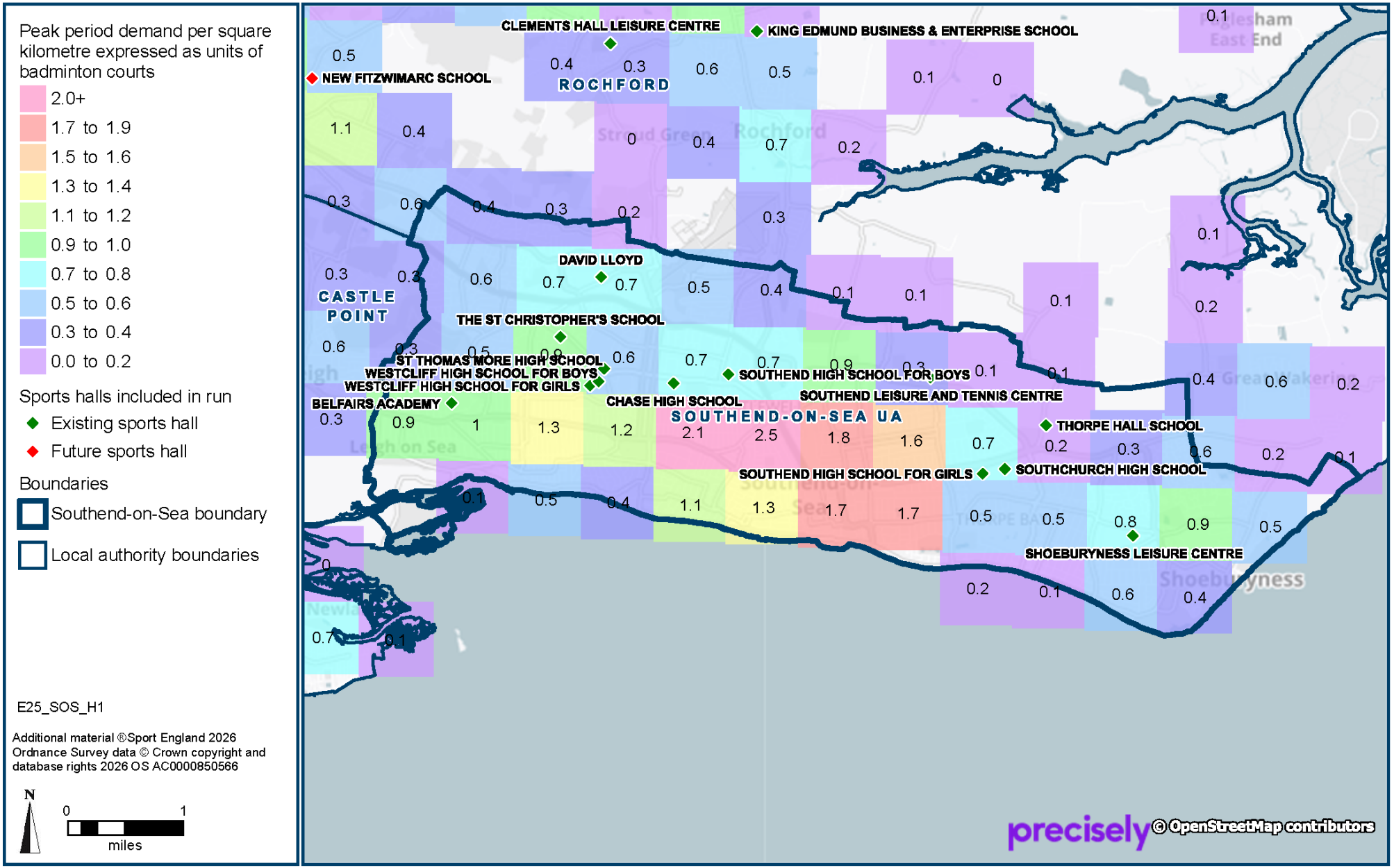
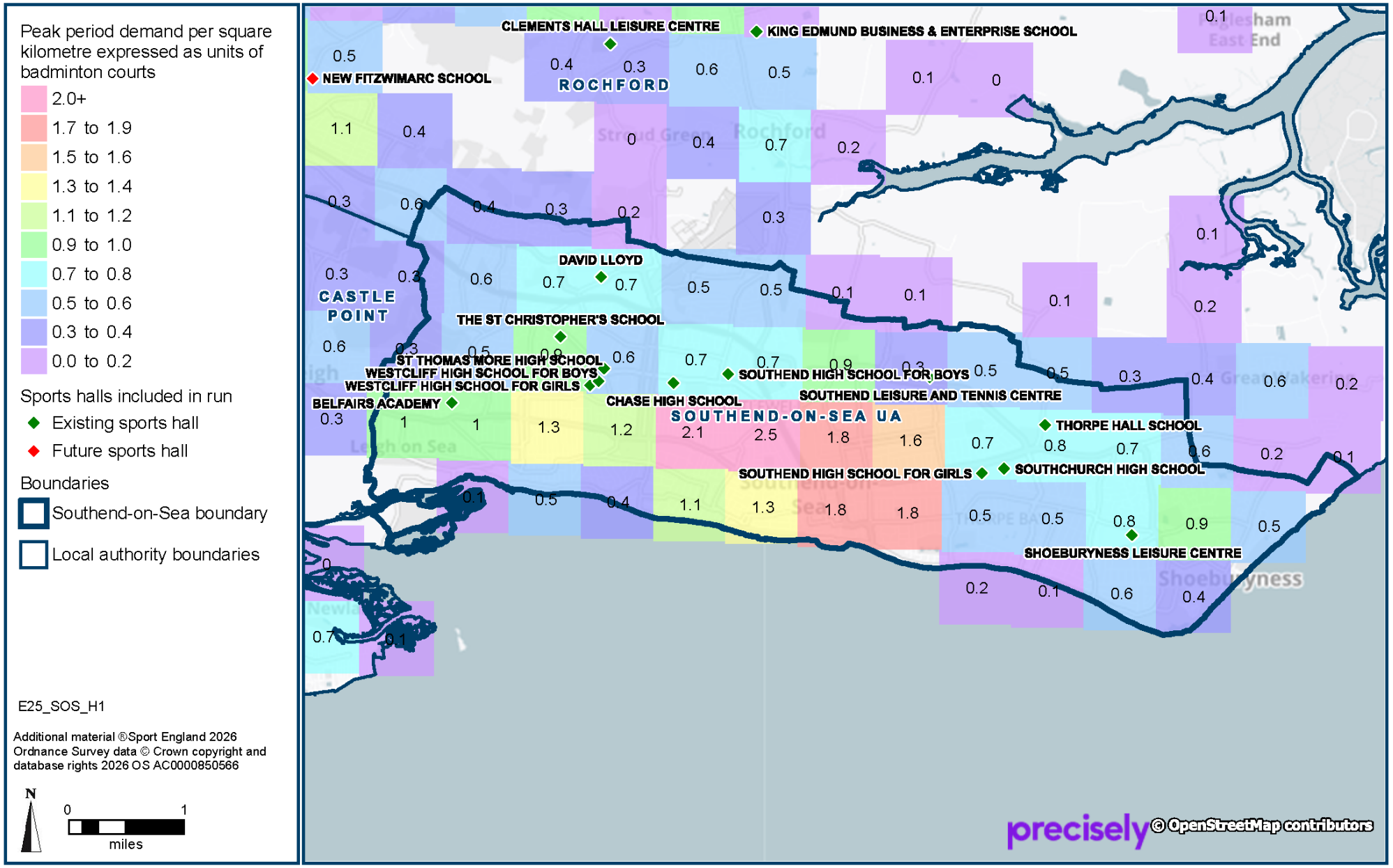
Map 3.3: Demand for Sports Halls in Run 1 (2026)



Map 3.4: Demand for Sports Halls in Run 2 (2045)



Map 3.5: Demand for Sports Halls in Run 3 (2045)



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Map 3.6: Deprivation in 2019 (Runs 1 to 3)

Deprivation shown thematically (colours) at lower super output area level by decile.

Index of Multiple Deprivation (2019)

10% most deprived

10% least deprived

Facilities Included in Runs

◆ Existing Sports Hall Location

Boundaries

Southend-on-Sea

Neighbouring Local Authorities

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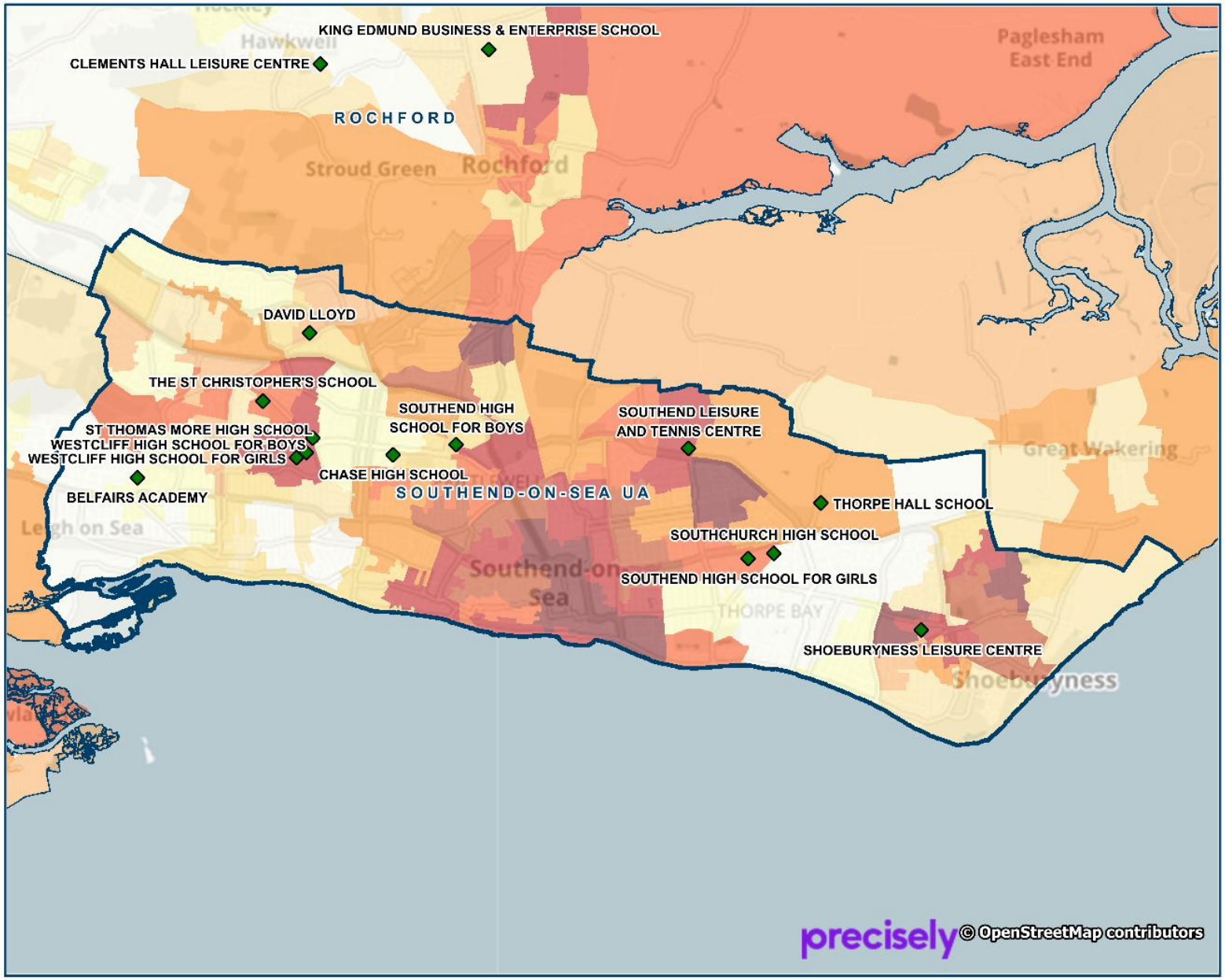


4 ACCESSIBILITY

In Run 1, 67% of Southend-on-Sea's residents are within a 20-minute walk of a sports hall. This decreases to 64% in Runs 2 and 3 when the supply is unchanged and the housing growth sites are included.

All the sports hall sites are within a five-minute walk of an existing bus stop.

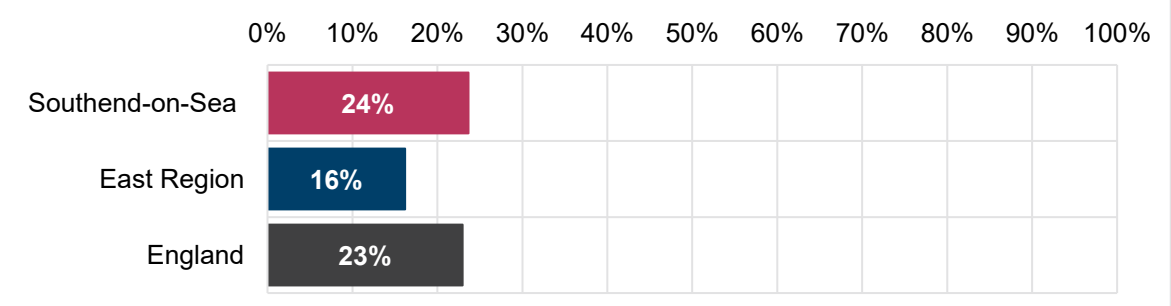
In all runs residents of Southend-on-Sea are within a 20-minute drive of at least ten sports hall sites. Access is best in the west of the City where residents can drive to up to 39 sites.

Table 4.1: Travel Mode of Southend-on-Sea Demand to Sports Halls by Run

Accessibility	Run 1	Run 2	Run 3
Southend-on-Sea	2026	2045	2045
% of total residents within a 20-minute walk of a sports hall	67%	64%	64%
% of 10% most deprived residents within a 20-minute walk of a hall	39%	34%	34%
% of demand satisfied when travelled:			
on foot	18%	17%	17%
by public transport or bicycle	11%	12%	12%
by car	71%	71%	71%

Definition of accessibility – 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 3. On average, a 20-minute travel time accounts for approximately 90% of visits to a sports hall.

Chart 4.1: Proportion of Residents Without Access to a Car



4.1 In Southend-on-Sea, 24% of residents do not have access to a car. This is above both the regional average of 16% and the national average of 23%.

Walking Access

4.2 Of Southend-on-Sea's residents, 67% are within a 20-minute walk of a sports hall in Run 1. This decreases to 64% in Runs 2 and 3 when the supply is unchanged and the housing growth sites are included.

4.3 Residents in the following areas are within a 20-minute walk of a sports hall (see Map **4.1**):

- In the Eastwood, Prittlewell and Westcliff-on-Sea areas residents can walk to between two sites (light orange area) and five sites (pink area) within 20 minutes
- In the Southchurch and North Shoebury areas residents can walk to between two sites (light orange area) and four sites (dark orange area) within 20 minutes
- In both Leigh-on-Sea and Shoeburyness, residents are within a 20-minute walk of a single sports hall

4.4 However, not all residents in these areas will walk to a sports hall and some will travel further. It is estimated that 18% of all journeys to sports halls are made on foot in Run 1, and 17% in Runs 2 and 3.

Public Transport Access

4.5 All the sports hall sites are within a five-minute walk of an existing bus stop (pink areas in Map **4.2**).

4.6 Four sports hall sites are on the edge of a 15-minute walk from a railway station (purple areas).

4.7 It should be noted that, while most Southend-on-Sea residents can access an existing public transport stop, it may not mean they can get to a sports hall within 20 minutes from home via a combination of walking and public transport. Also, in rural areas the service may be irregular.

4.8 It is estimated that 11% of all journeys to sports halls are made by public transport or bicycle in Run 1, increasing to 12% in Runs 2 and 3.

Driving Access

4.9 In all runs residents of Southend-on-Sea are within a 20-minute drive of between at least ten and 19 sports hall sites (green area in Map **4.3**).

4.10 Access is better in the western half of Southend-on-Sea where most residents can drive to between 20 and 29 sites within 20 minutes (light blue area).

4.11 Residents in the northwestern corner of the City have the best access and can drive to between 30 and 39 sites within 20 minutes.

4.12 It is estimated that 71% of journeys by Southend-on-Sea residents to sports halls are made by car in all three runs.

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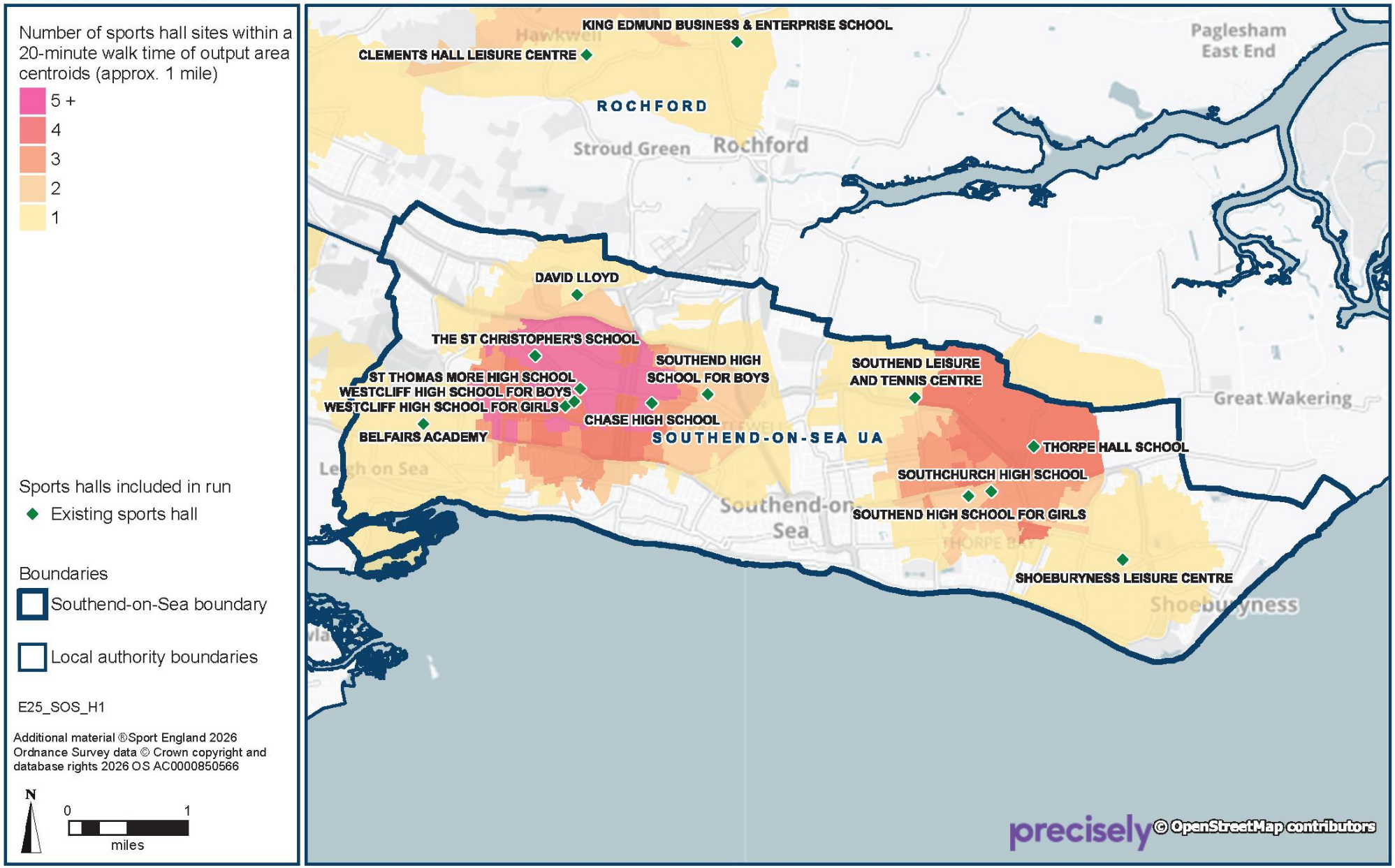
Map 4.1: Walking Access to Sports Halls in Runs 1 to 3 (2026 and 2045)



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Map 4.2: Walking Access to Public Transport in 2026 (Runs 1 to 3)

Areas within walking time shown thematically (colours) from bus, coach and tram stops, and railway, metro and underground stations.

Public Transport

- Railway/Metro/Underground Station

Walk Time from Station

- 5 minutes
- 10 minutes
- 15 minutes

Walk Time from Bus Stop

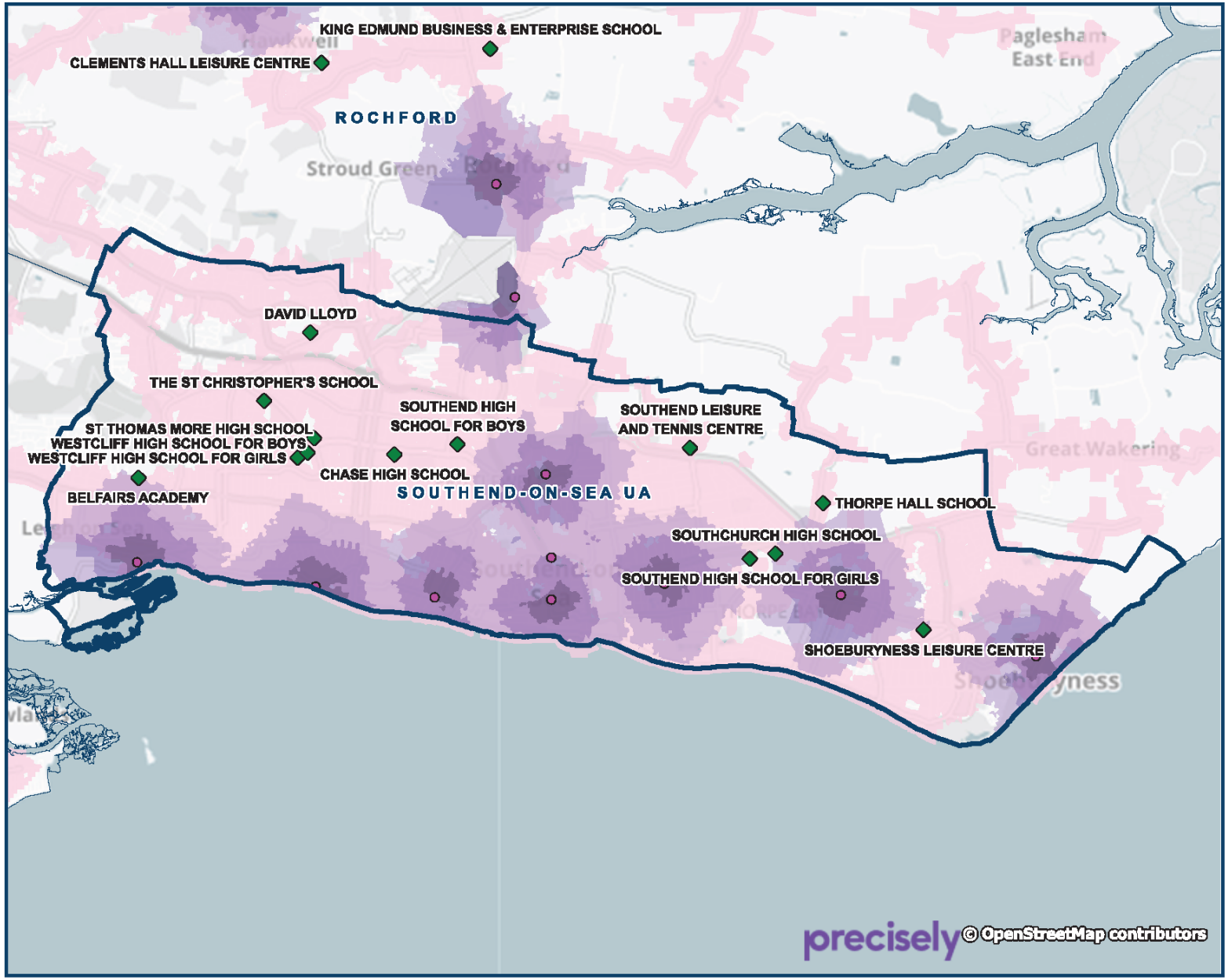
- 5 minutes

Facilities Included in Runs

- Existing Sports Hall Location

Boundaries

- Southend-on-Sea
- Neighbouring Local Authorities



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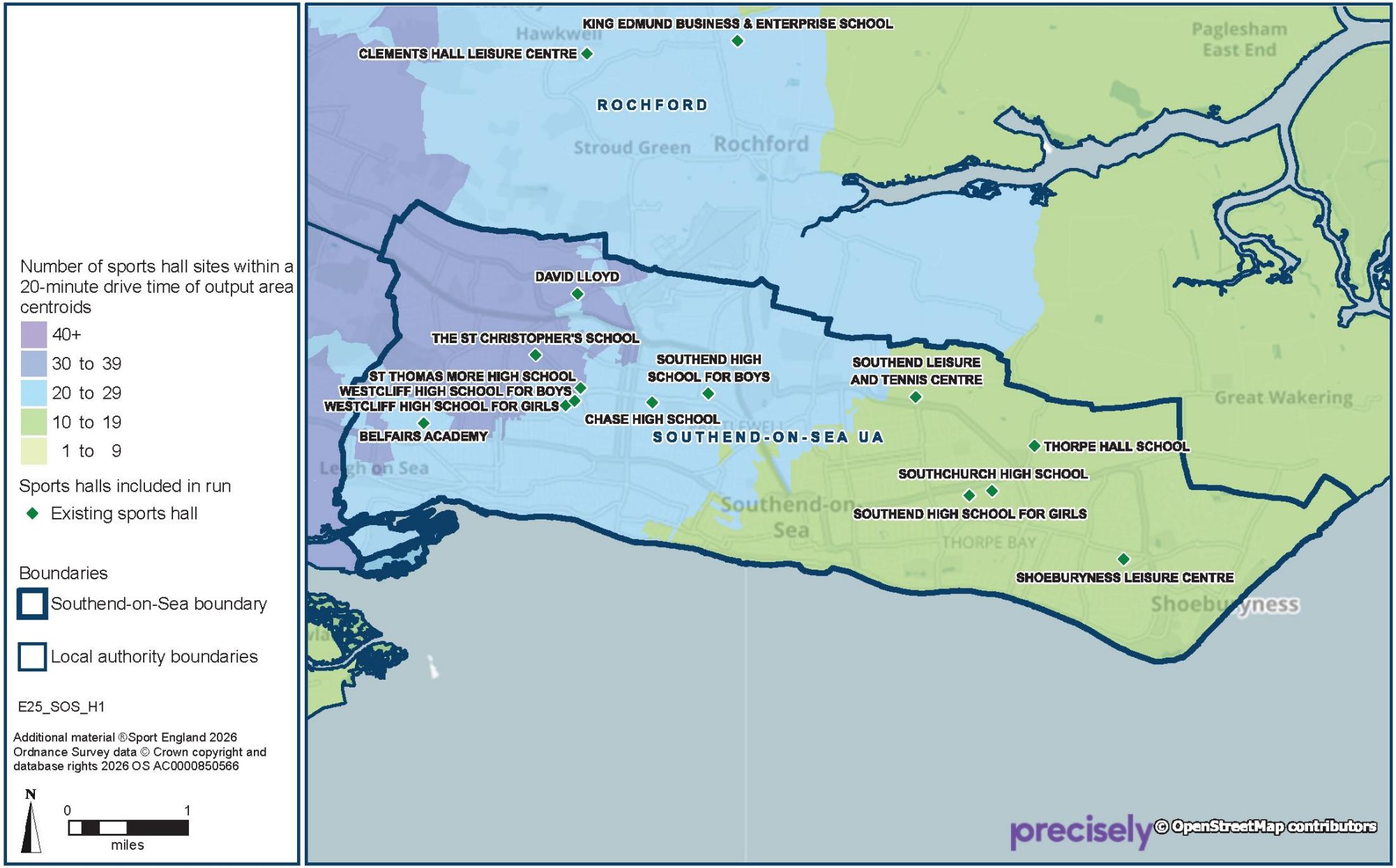
Map 4.3: Driving Access to Sports Halls in Runs 1 to 3 (2026 and 2045)



5 SATISFIED DEMAND FOR SPORTS HALLS

Almost all the demand in Southend-on-Sea is satisfied in all three runs, with a very large proportion being met within the City.

The proportion of exported demand is unchanged at 6% in all three runs.

The largest amount of exported demand goes to Rochford in all three runs.

Table 5.1: Satisfied Demand for Sports Halls in Southend-on-Sea by Run

Satisfied Demand	Run 1	Run 2	Run 3
Southend-on-Sea	2026	2045	2045
Number of visits which are met per week in peak period	12,799	12,527	13,386
% of total demand satisfied	96%	96%	96%
Number of visits retained per week in peak period	12,003	11,757	12,601
Demand retained as a % of satisfied demand	94%	94%	94%
Number of visits exported per week in peak period	796	770	784
Demand exported as a % of satisfied demand	6%	6%	6%

Definition of satisfied demand – This represents the proportion of total demand that is met by the capacity at the sports halls from Southend-on-Sea residents who live within the travel time of a sports hall. This includes sports halls located both within and outside Southend-on-Sea.

5.1 **Key finding 5** is that 96% of Southend-on-Sea's demand is met in all three runs. The number of visits met in the weekly peak period is 12,799 in Run 1, 12,527 in Run 2, and 13,386 in Run 3. The increase in Run 3 is due to the increase in demand.

Table 5.2: Proportion of Demand Met by Area and Run

Proportion of Demand Met	Run 1	Run 2	Run 3
Area	2026	2045	2045
Southend-on-Sea	**96%**	**96%**	**96%**
Castle Point	98%	98%	98%
Rochford	98%	98%	98%
East Region	96%	96%	96%
England	95%	94%	94%

5.2 Southend-on-Sea's proportion of met demand is equivalent to the regional average and above the national average in all three runs.

5.3 The proportion of met demand in Castle Point and Rochford is higher at 98% in all the runs.

5.4 Details of the sports halls in the neighbouring local authority areas are listed in Appendix 2.

Retained Demand

Definition of retained demand – A subset of the satisfied demand findings shows how much of Southend-on-Sea residents' demand for sports halls is met at sports halls located within the City. This assessment is based on the travel time from Southend-on-Sea's sports halls and residents in the City participating at these halls.

5.5 **Key finding 6** is that nearly all of Southend-on-Sea's satisfied demand is met within the City, at 94% in all runs. In terms of visits,12,003 are retained in the weekly peak period in Run 1, 11,757 in Run 2, and 12,601 in Run 3 when demand is greatest.

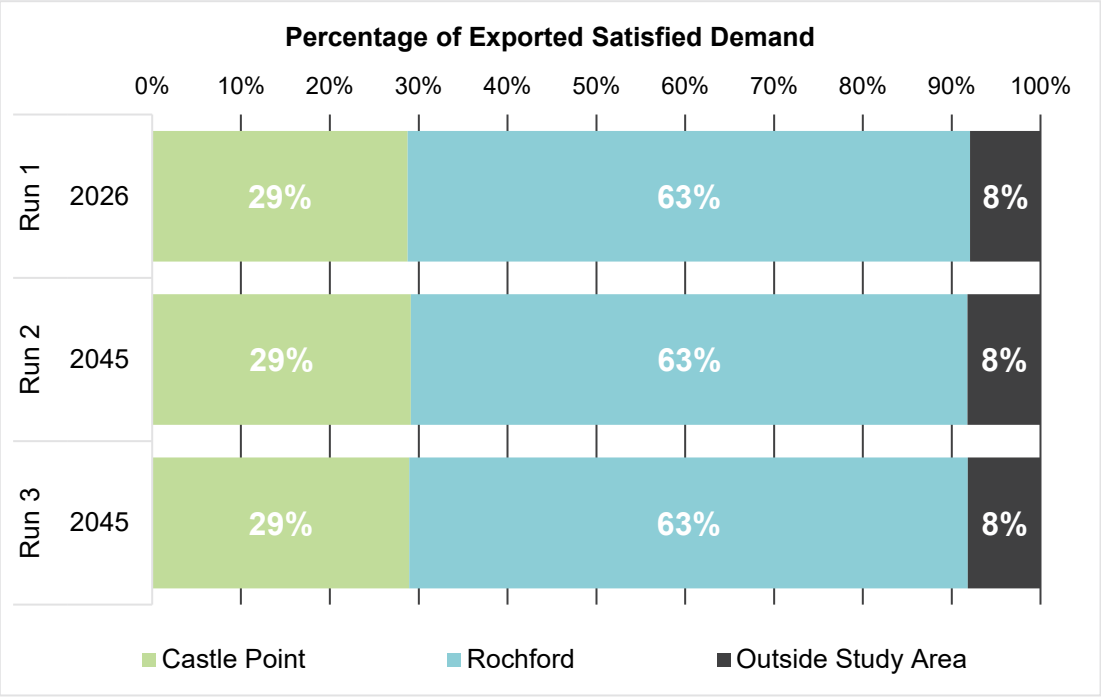
Exported Demand

Definition of exported demand – The residue of satisfied demand, after retained demand, is exported demand. This is based on Southend-on-Sea residents who live within the travel time of a sports hall located outside Southend-on-Sea and use that hall.

5.6 Of Southend-on-Sea's satisfied demand, 6% is met at sports halls in neighbouring local authorities in all runs.

5.7 Southend-on-Sea's exported demand decreases by 26 visits in the weekly peak period between Runs 1 and 2, and increases by 14 visits between Runs 2 and 3.

Chart 5.1: Percentage of Exported Satisfied Demand by Destination and Run



5.8 In Run 1 the largest amount of exported demand goes to Rochford, accounting for 63% of Southend-on-Sea's exported demand and 504 visits in the weekly peak period (see Map

5.1). David Lloyd is the northernmost sports hall site in Southend-on-Sea. For demand in the north of the City, the A127 provides access to sport halls in Rochford. Clements Hall Leisure Centre in Rochford is an extensive site with a six-court hall and an activity hall. The centre is available for 46 hours in the weekly peak period. It is, however, seven kilometres from Rochford's border with Southend-on-Sea.

5.9 Exported demand to Castle Point accounts for 29% of Southend-on-Sea's exported demand and 229 visits in the weekly peak period. Demand in Leigh-on-Sea and in the west of the City will be able to access sports halls in Castle Point.

5.10 In Run 2 the majority of exported demand goes to Rochford, accounting for 63% of the total exported demand. The number of visits exported to Rochford decreases by 23 to 481 visits in the weekly peak period (see Map 5.2). Southend-on-Sea's demand decreases very slightly between Run 1 and Run 2, when there are several housing growth sites in the north of the City and bordering Rochford.

5.11 Exported demand to Castle Point accounts for 29% of exported demand, and decreases by four visits to 225 visits in the weekly peak period.

5.12 In Run 3 Southend-on-Sea's exported demand increases by 14 visits to 784 visits in the weekly peak period.

5.13 Most exported demand still goes to Rochford at 63%, increasing by 11 visits from Run 2 to 493 visits in the weekly peak period (see Map 5.3). Exported demand to Castle Point is 29% and increases by just two visits to 227 visits in the weekly peak period.

5.14 The proportion of exported demand that is met outside the study area is 8% in all runs.

Map 5.1: Export of Southend-on-Sea Satisfied Demand for Sports Halls in Run 1 (2026)

The figure within each chevron is the number of visits in the weekly peak period from that local authority met at the other local authority.

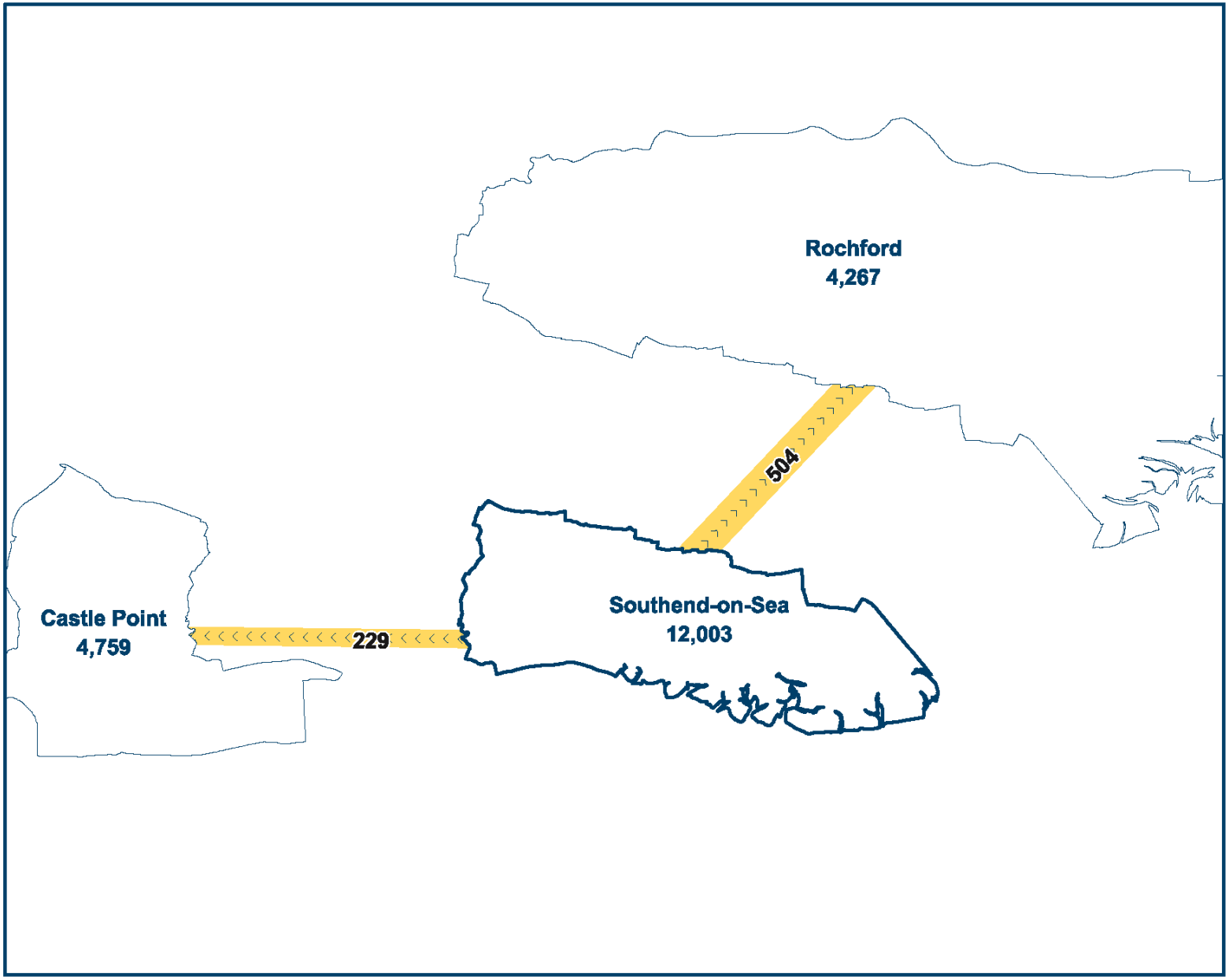
Direction of flow

Export

The figure within each boundary is the number of visits retained within the local authority area in the weekly peak period.

Southend-on-Sea

Neighbouring Local Authorities



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Map 5.2: Export of Southend-on-Sea Satisfied Demand for Sports Halls in Run 2 (2045)

The figure within each chevron is the number of visits in the weekly peak period from that local authority met at the other local authority.

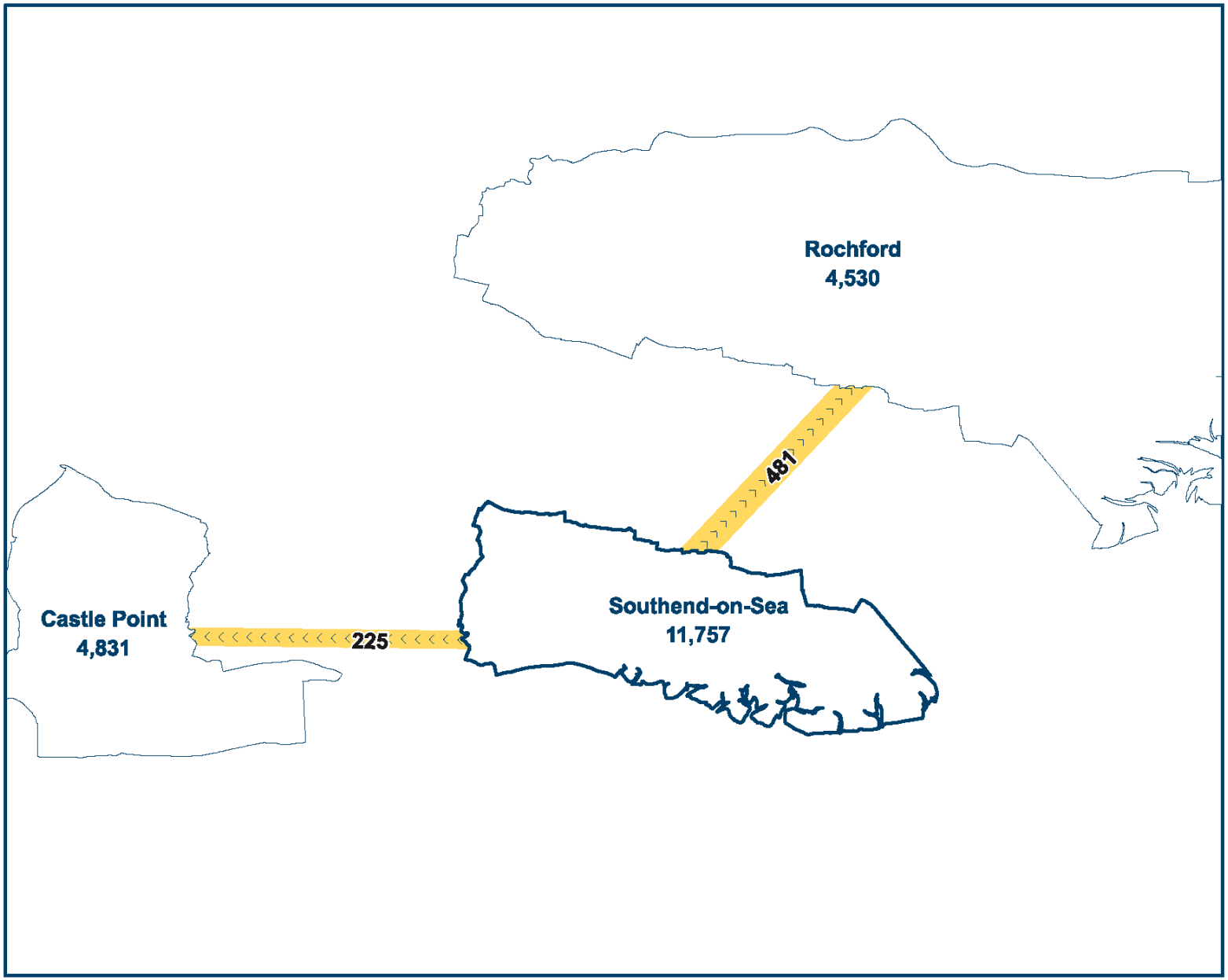
Direction of flow

Export

The figure within each boundary is the number of visits retained within the local authority area in the weekly peak period.

Southend-on-Sea

Neighbouring Local Authorities



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Map 5.3: Export of Southend-on-Sea Satisfied Demand for Sports Halls in Run 3 (2045)

The figure within each chevron is the number of visits in the weekly peak period from that local authority met at the other local authority.

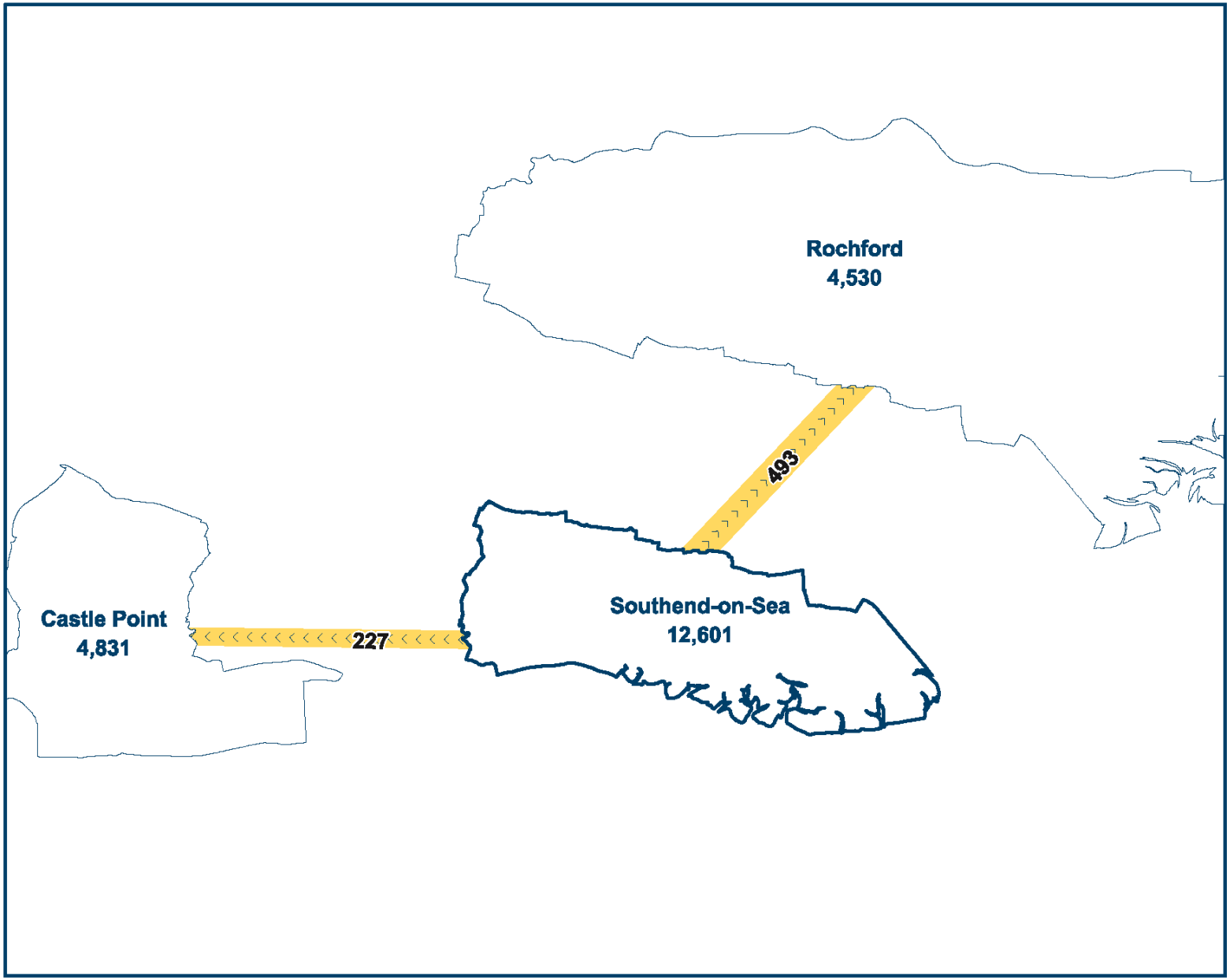
Direction of flow

Export

The figure within each boundary is the number of visits retained within the local authority area in the weekly peak period.

Southend-on-Sea

Neighbouring Local Authorities



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6 UNMET DEMAND FOR SPORTS HALLS

Unmet demand in Southend-on-Sea is very low at less than two courts in all three runs.

All unmet demand is that which is located too far from a facility.

Unmet demand is distributed in very low values per square kilometre across the City, the highest values being 0.2 courts in Run 1 and 0.3 courts in Runs 2 and 3.

Table 6.1: Unmet Demand for Sports Halls in Southend-on-Sea by Run

Unmet Demand	Run 1	Run 2	Run 3
Southend-on-Sea	2026	2045	2045
Number of visits unmet per week in peak period	502	545	568
Unmet demand as a % of total demand	4%	4%	4%
Equivalent in courts with comfort factor	1.7	1.9	1.9
% of 10% most deprived demand unmet	9%	10%	10%
% of unmet demand due to:			
Facility too far away:	100%	100%	100%
Without access to a car	98%	98%	98%
With access to a car	2%	2%	2%
Lack of facility capacity:	0%	0%	0%
Without access to a car	0%	0%	0%
With access to a car	0%	0%	0%

Definition of unmet demand – This has two parts; demand for sports halls that cannot be met because either:

1. There is too much demand for any particular sports hall within its travel time area and there is a lack of capacity.
2. The demand is located too far from any sports hall that it can use (taking into account deprivation) or reach (taking into account car access) and is then classified as unmet demand.

6.1 **Key finding 7** is that unmet demand in Southend-on-Sea equates to 4% of demand in all three runs. In terms of badminton courts, this is equivalent to 1.7 courts in Run 1 and 1.9 courts in Runs 2 and 3. All the unmet demand in all three runs is due to residents living too far from a facility.

6.2 Unmet demand too far from a sports hall will always exist because it is not possible to achieve complete spatial coverage whereby all areas of a local authority are within walking distance of a sports hall that is not commercial and not everyone will want, or is able, to drive the full distance.

6.3 The key point here is the scale of the unmet demand. Also, if it is clustered in one location, further provision should be considered to improve accessibility.

Location of Unmet Demand

Run 1

6.4 In Run 1 the highest density of unmet demand in Southend-on-Sea is 0.2 courts per square kilometre in two grid squares along Western Esplanade (medium blue squares in Map 6.1).

6.5 There is unmet demand of 0.1 courts in five grid squares in Chalkwell, Prittlewell, Southend city centre and along Eastern Esplanade (dark blue squares). All these areas are outside a 20-minute walk to a sports hall.

6.6 In all other areas of the City, unmet demand is less than 0.1 courts per square kilometre (purple squares).

Run 2

6.7 In Run 2 unmet demand remains highest in the same areas. The greatest density of unmet demand is 0.3 courts per square kilometre in one grid square along Western Esplanade (light blue square in Map 6.2). There is unmet demand of 0.2 courts in two grid squares in the south of Westcliff-on-Sea.

6.8 There is unmet demand of 0.1 courts per square kilometre in four grid squares covering Chalkwell, Prittlewell, Southend city centre and Eastern Esplanade.

6.9 In all other areas of the City, unmet demand remains at less than 0.1 courts per square kilometre.

Run 3

6.10 In Run 3 there is no change in the total unmet demand in Southend-on-Sea, and the distribution is unchanged from Run 2 (see Map 6.3).

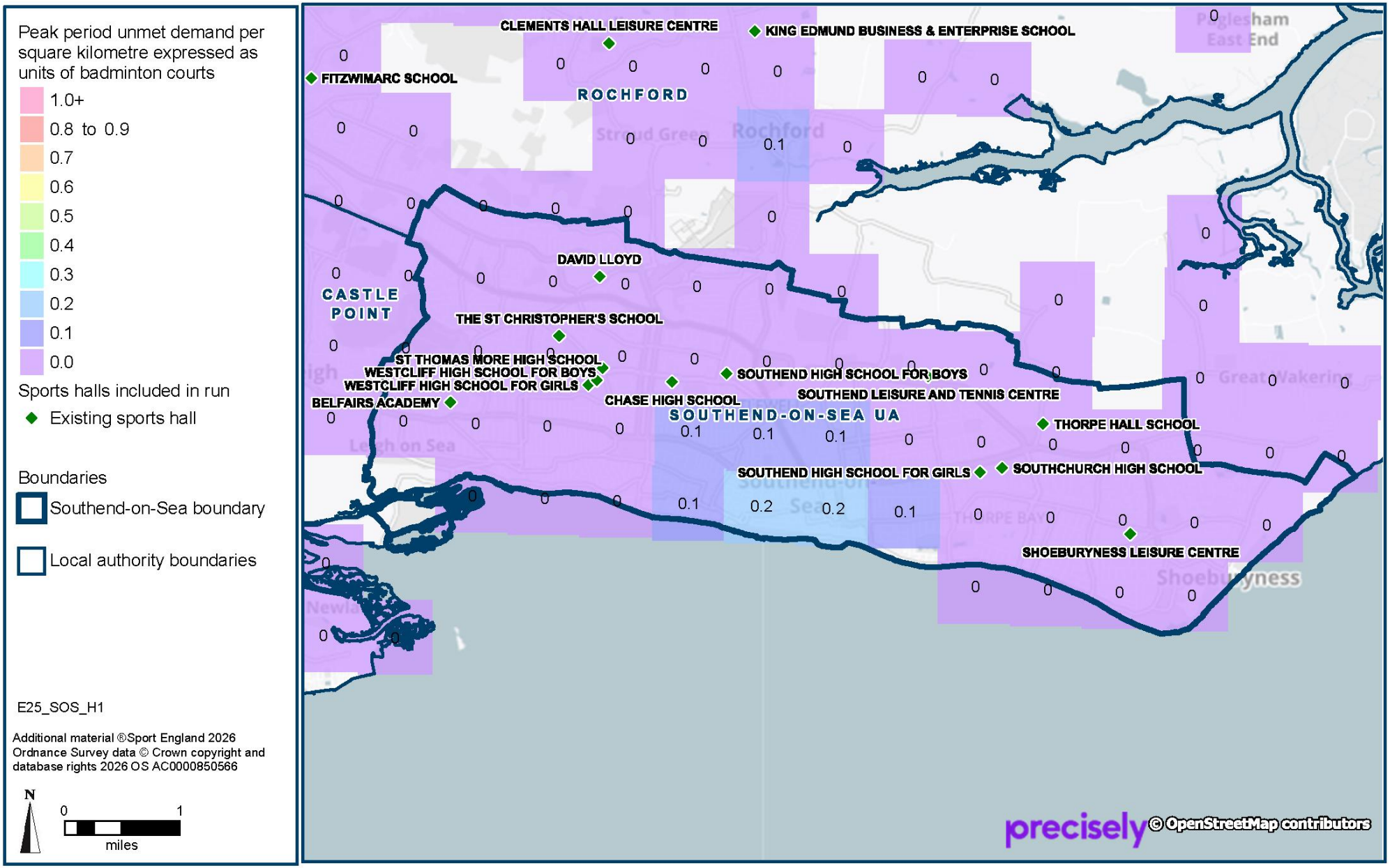
Meeting Unmet Demand

Definition of reachable unmet demand – Analysis of the spread of unmet demand shows the level 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 and figures are shown in the map.

6.11 In Runs 2 and 3 the locations in Southend-on-Sea where the most unmet demand can be met are in Prittlewell and along Marine Parade at 0.8 courts in each location (light blue squares in Maps 6.4 and 6.5). This is an insufficient amount to consider providing a new sports hall to meet unmet demand; however, this is where modern capacity needs to be increased.

For context, the minimum number of reachable courts required to justify a new sports hall would be three.

Map 6.1: Unmet Demand for Sports Halls in Run 1 (2026)



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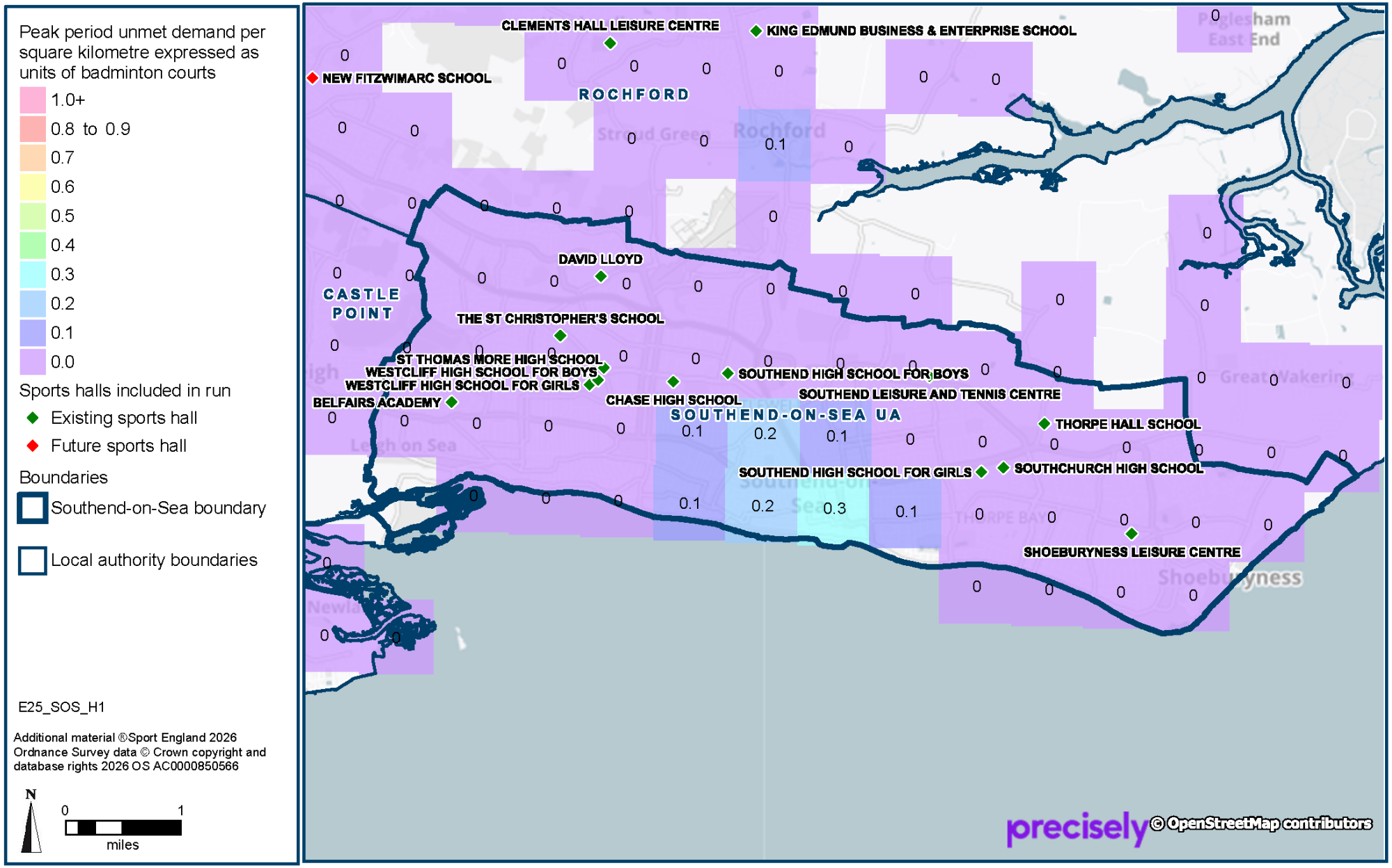
Map 6.2: Unmet Demand for Sports Halls in Run 2 (2045)



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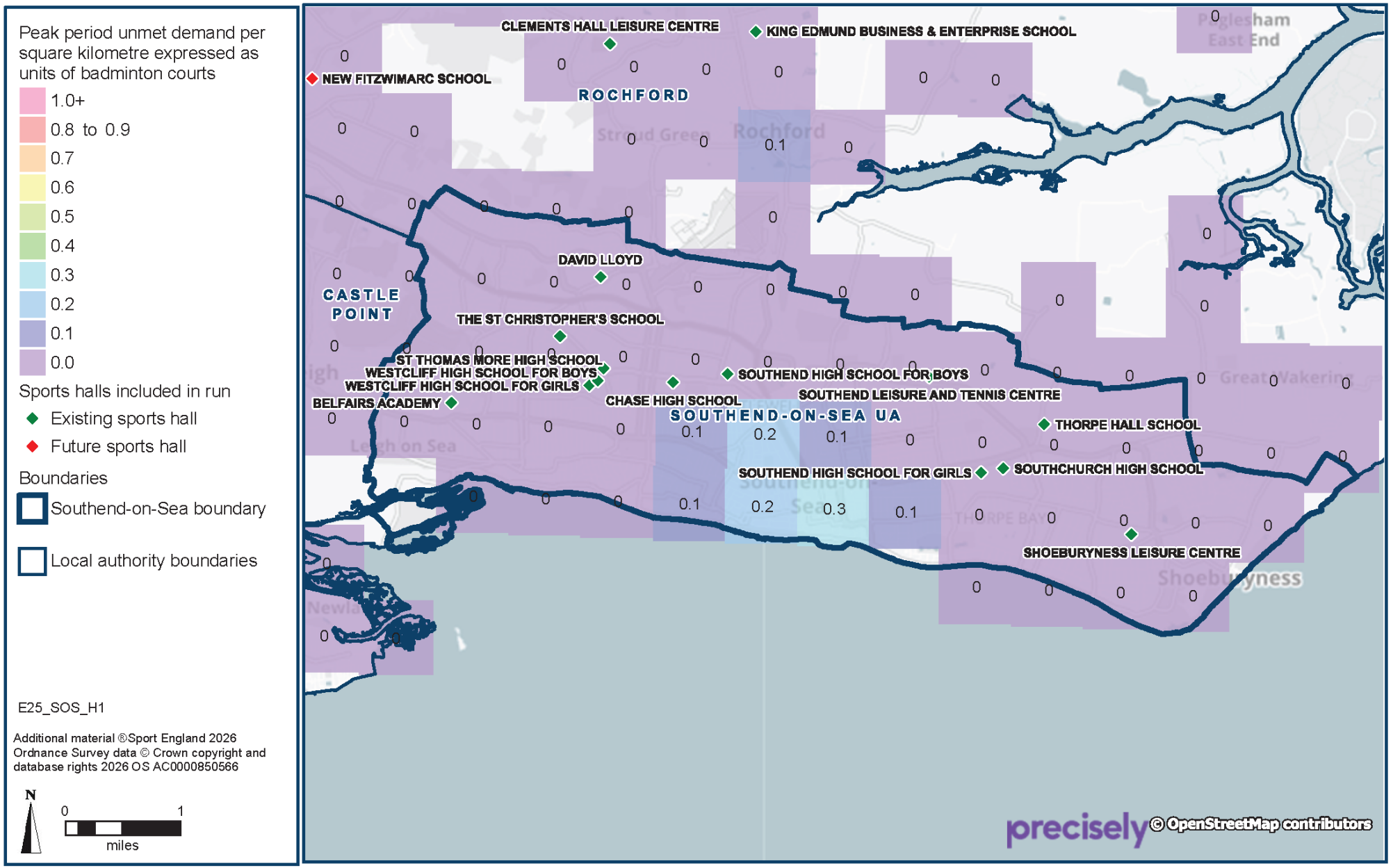
Map 6.3: Unmet Demand for Sports Halls in Run 3 (2045)



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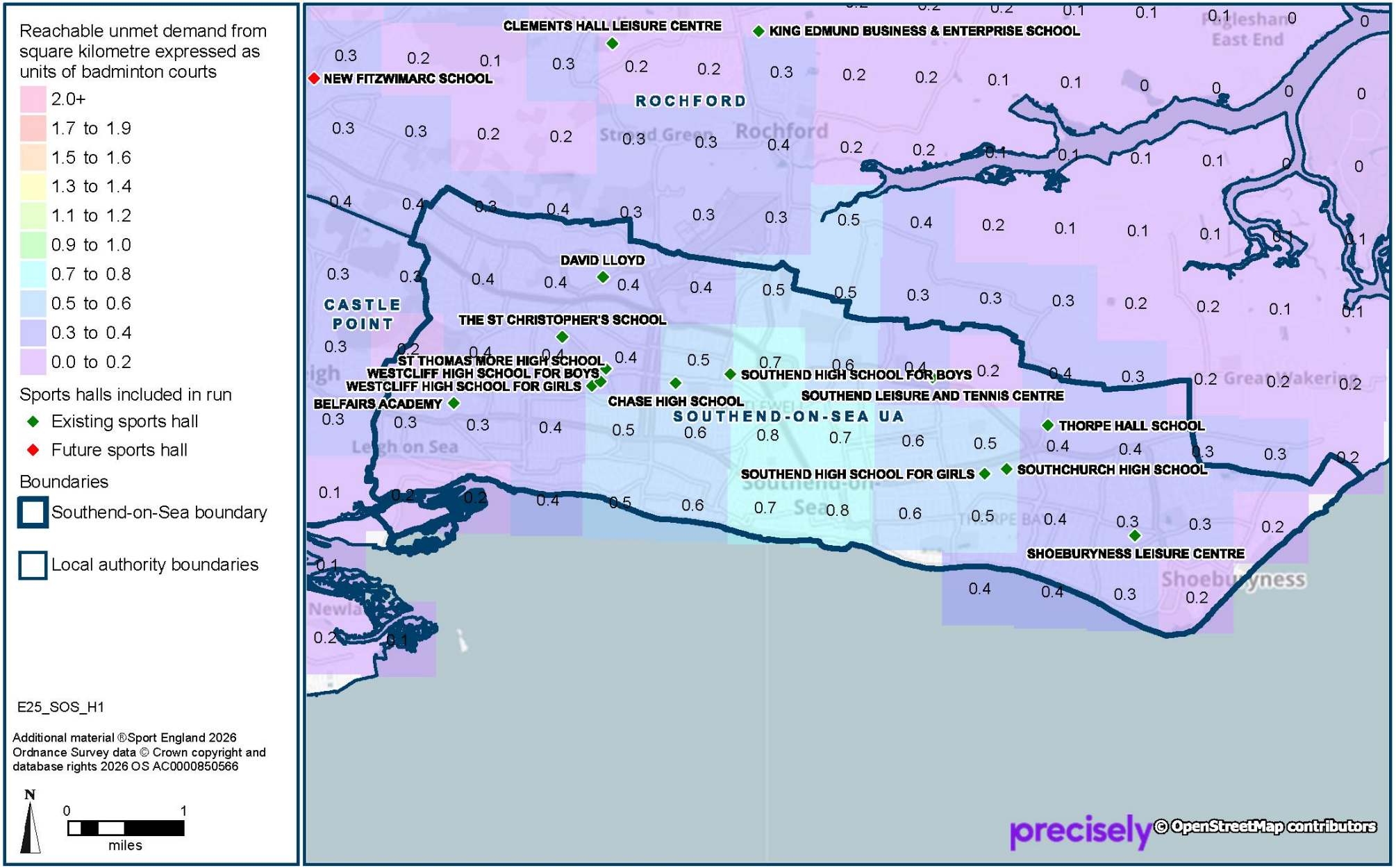
Map 6.4: Reachable Unmet Demand for Sports Halls in Run 2 (2045)



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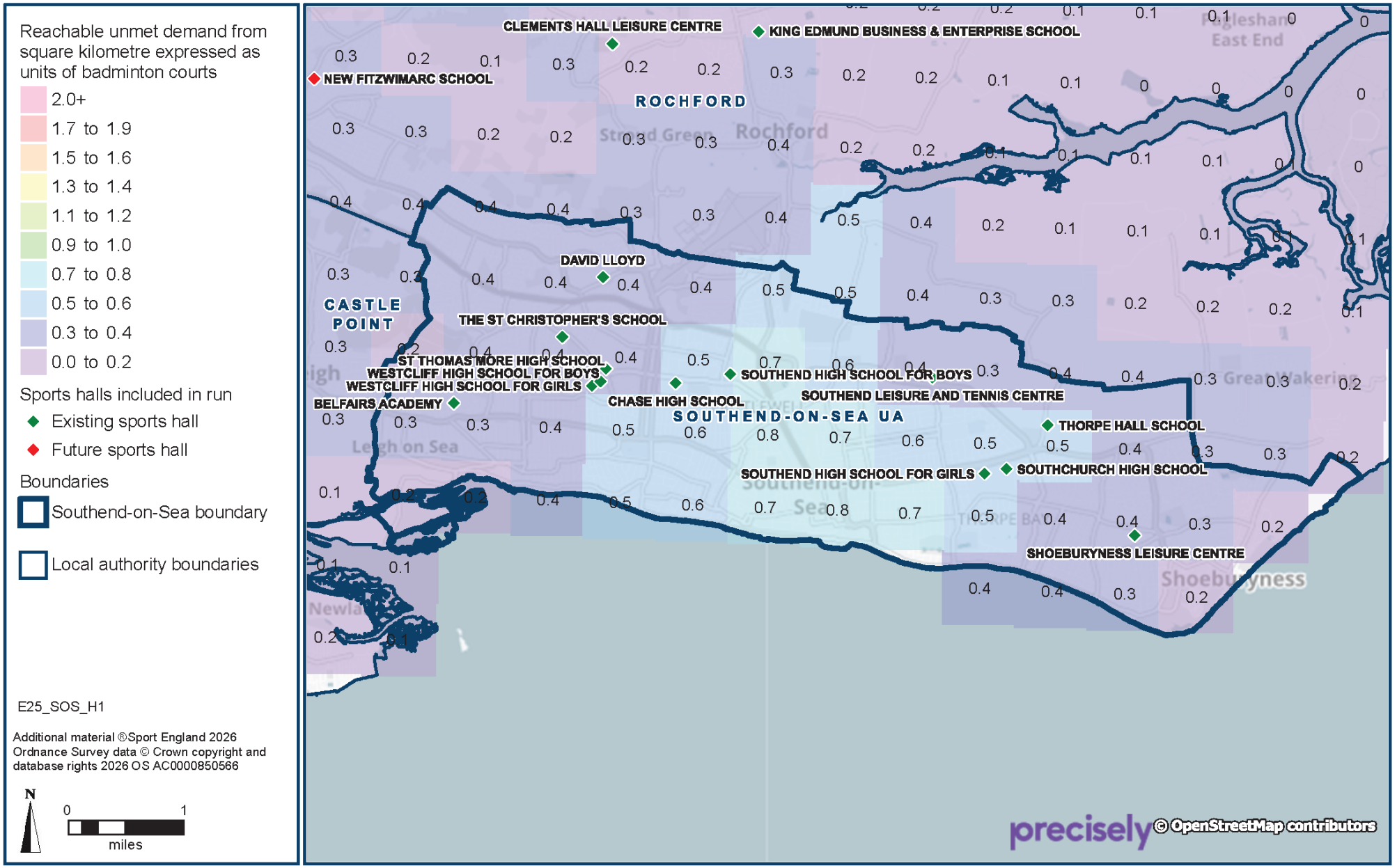
Map 6.5: Reachable Unmet Demand for Sports Halls in Run 3 (2045)



7 USED CAPACITY OF FACILITIES

Overall, there is sufficient sports hall to meet demand in Southend-on-Sea in all runs. However, Southend Tennis and Leisure Centre is uncomfortably full in Runs 1 and 3.

Imported demand equates to 15% of the used capacity of the City's sports halls at peak times in Runs 1 and 2, and 14% in Run 3.

Most imported demand to Southend-on-Sea is from Rochford in all runs.

Southend-on-Sea imports more visits in the weekly peak period than it exports in all runs.

Table 7.1: Used Capacity of Sports Halls in Southend-on-Sea by Run

Used Capacity	Run 1	Run 2	Run 3
Southend-on-Sea	2026	2045	2045
Number of visits used of capacity in weekly peak period	14,081	13,886	14,730
% of overall capacity of halls used	67%	66%	70%

Definition of used capacity – This is a measure of usage at sports halls and estimates how well used or how full facilities are. The FPM is designed to include a 'comfort factor', beyond which the venues are too full. When the venues are too full, the time taken to change the sports hall programme and equipment starts to impinge on the activity time itself and the changing and circulation areas become congested. In the model, Sport England assumes that usage above 80% of capacity is busy and that the sports hall is operating at an uncomfortable level.

7.1 In Run 1, 14,081 visits are met at Southend-on-Sea's sports halls in the weekly peak period. In Run 2, 13,886 visits are met, when demand decreases very slightly. In Run 3, 14,730 visits are met, when demand is greatest.

7.2 **Key finding 8** is that the overall used capacity of Southend-on-Sea's sports halls in the weekly peak period is 67% in Run 1, 66% in Run 2, and 70% in Run 3. However, in Runs 1 and 3, Southend Leisure and Tennis Centre is uncomfortably full at peak times. Two educational sports halls are estimated to be uncomfortably full in all three runs.

Table 7.2: Weekly Peak Period Used Capacity of Southend-on-Sea Sports Halls by Run

Used Capacity	Run 1		Run 2		Run 3		Provider	Peak Hours	Year Built	Year Refurb
Individual Sites	Proportion	Visits	Proportion	Visits	Proportion	Visits				
Southend Leisure and Tennis Centre	82%	3,602	74%	3,252	82%	3,595	Public	46	1996	2005
Shoeburyness Leisure Centre	73%	1,584	66%	1,430	70%	1,534	Educational (3rd party)	35	1997	2008
Belfairs Academy	88%	563	85%	542	85%	545	Educational (in-house)	20	2004	
Chase High School	65%	1,705	66%	1,718	67%	1,743	Educational (in-house)	41	1994	
Southend High School for Girls	56%	449	64%	515	70%	559	Educational (in-house)	25	2008	
St Thomas More High School	44%	588	46%	618	47%	625	Educational (in-house)	42	1970	2010
The St Christopher School	76%	440	75%	431	75%	435	Educational (in-house)	24	2003	
Westcliff High School for Boys	64%	1,273	62%	1,236	63%	1,249	Educational (in-house)	41	2002	
Westcliff High School for Girls	60%	661	58%	642	59%	649	Educational (in-house)	34.5	2003	
Southchurch High School	47%	679	60%	866	67%	965	Educational (in-house)	45	2018	
Southend High School for Boys	81%	1,034	87%	1,112	89%	1,133	Educational (in-house)	32	2005	
Thorpe Hall School	46%	599	59%	768	72%	942	Educational (in-house)	41	2018	
David Lloyd	62%	905	51%	755	52%	758	Commercial	46	2005	2016

Site Utilisation Factors

7.3 The estimated used capacity should be reviewed with the facility operator. There are several reasons for the variation in estimated used capacity by site. Often it is difficult to identify which of these reasons apply because several could be interacting simultaneously, but variation is generally caused by any of the following factors.

Type of site operator (public/educational/commercial)

- Public leisure centres have a 'draw effect' for the following reasons:
  - They have the greatest accessibility for both sports club and public use because they are available for daytime use, which is not possible at educational venues during term time
  - Public operators actively promote hall sports and physical activity participation, with a programme of use that reflects the activities customers wish to participate in and when they wish to participate
- Access to educational sports halls for community use will be determined by the policy of each educational provider and affects the hours available for community use:
  - Some schools and colleges actively promote community use, while others let their sports halls to sports clubs or community groups on a termly basis, or for shorter periods
  - At some venues there is little differentiation between educational and wider community use, with community access based on a membership system (classed as commercial)
- Commercial sports halls provide recreational use through membership. The centres are not available for public pay and play or for club development. Therefore, they offer a more limited programme of use than public leisure centres and are less utilised.

Age of the hall and its 'attractiveness'

- To assess their comparative attractiveness to customers, all sports halls in the model are weighted to reflect their age, whether they have been modernised, and how actively managed they are (educational sites managed in-house have a lower weighting).
- The effect of refurbishment at a site decreases as the site gets older, and it becomes less attractive than a site built in the same year as the refurbishment.
- The quality and range of the offer are considered by customers. These features are of increasing importance to customers and affect participation levels. Desirable features include a modern sports hall with a sprung timber floor, good-quality lighting, modern changing rooms, and other facilities on site such as a studio and/or a gym. Residents may travel further to use a sports hall with this all-round offer rather than participate at the sports hall closest to where they live.

Location of demand and competition from other sites

- Where sports halls are located close together, the demand for these sites is shared between the venues, and this contributes to the level of used capacity at each.
- Conversely, where a sports hall is remotely located, it benefits from having no competition for the local demand.

Capacity

- When reviewing the estimated used capacity, it is important to consider the capacity of the site and not just the proportion in isolation. Centres with the same or similar proportions of used capacity can accommodate very different levels of demand.
- The hours when a site is available for community use affects its capacity at peak times.

Imported demand

- If residents in neighbouring local authority areas participate at a site in Southend-on-Sea, their usage becomes part of the used capacity of the City's sports halls.

Highly Utilised Sites

7.4 In addition to the factors listed above, the reasons for the highly utilised sites are as follows:

- Southend Leisure and Tennis Centre
  - 82% utilised in Runs 1 and 3
  - Draw effect of being the only public leisure centre
  - Largest and only eight-court hall in the City and has the largest capacity, accommodating 3,602 visits in the weekly peak period in Run 1 and 3,595 visits in Run 3
  - Located in the area of greatest demand in all runs and close to the large housing growth sites in Run 3
  - No scope to increase availability to reduce the proportion of capacity used because both the main hall and activity hall are available for the maximum 46 hours in the weekly peak period
- Belfairs Academy
  - 88% utilised in Run 1 and 85% utilised in Runs 2 and 3
  - Only sports hall site in Leigh-on-Sea, and in an area of relatively high demand
  - Four-court hall suitable for club development
  - Accommodates the third lowest number of visits in Run 1 (563) and Run 2 (542), and the second lowest in Run 3 (545) in the weekly peak period
  - Lowest availability of the educational sites at 20 hours in the weekly peak period, with extensive scope to increase availability and capacity and reduce utilisation

- Southend High School for Boys
  - 81% utilised in Run 1, 87% in Run 2, and 89% in Run 3
  - Five-court hall, which is the second largest sports hall in the City and will appeal to clubs for development activities
  - Opened in 2005, the third most recent educational site to open
  - Located close to the area of highest demand in all runs
  - Available for 32 hours in the weekly peak period with scope to increase availability and capacity and reduce utilisation

Imported Demand

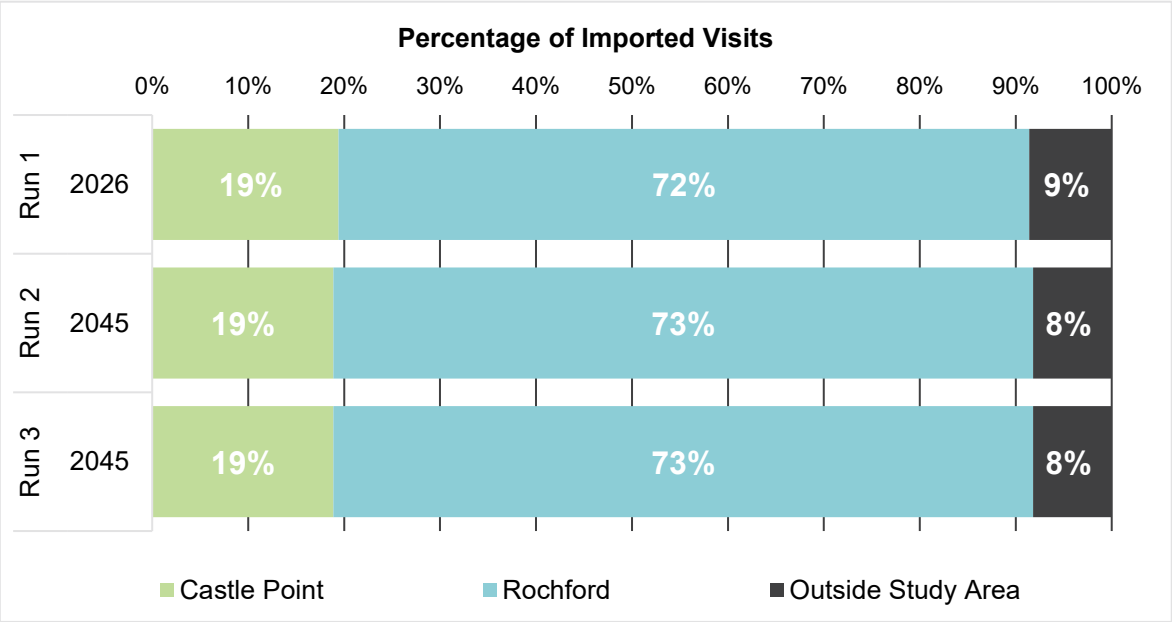
Table 7.3: Imported Demand for Sports Halls in Southend-on-Sea by Run

Imported Demand	Run 1	Run 2	Run 3
Southend-on-Sea	2026	2045	2045
Number of visits imported in weekly peak period	2,078	2,129	2,129
Visits imported as a % of used capacity	15%	15%	14%
Difference between visits imported and exported	1,283	1,359	1,344

7.5 Imported demand to Southend-on-Sea's sports halls in Run 1 totals 2,078 visits in the weekly peak period, increasing to 2,129 visits in Runs 2 and 3. Imported demand equates to 15% of the used capacity of the City's sports halls at peak times in Runs 1 and 2, and 14% in Run 3.

7.6 Southend-on-Sea is a net importer of visits, importing 1,283 more visits in the weekly peak period than it exports in Run 1. This increases to 1,359 visits in Run 2 and 1,344 in Run 3.

Chart 7.1: Proportion of Imported Visits by Origin and Run



7.7 In Run 1 most imported demand is from Rochford at 1,496 visits in the weekly peak period (see Map 7.1). This accounts for 72% of Southend-on-Sea's imported demand. While demand is quite low in the area of Rochford that borders Southend-on-Sea, there are no sports hall sites in that area. Clements Hall Leisure Centre in Rochford is seven kilometres from the border with Southend-on-Sea. Southend Leisure and Tennis Centre and Southend High School for Boys will be accessible to some Rochford residents, and are the two largest sports hall sites in the City.

7.8 Imported demand from Castle Point is 404 visits in the weekly peak period, accounting for 19% of Southend-on-Sea's imported demand. The A13 will provide access for some Castle Point residents to Belfairs Academy in Leigh-on-Sea and the educational sports hall sites in Westcliff-on-Sea.

7.9 There is little change in Run 2 from the source and level of imported demand in Run 1. The majority of imported demand is from Rochford at 1,560 visits in the weekly peak period (see Map 7.2). The proportion increases to 73% of Southend-on-Sea's imported demand.

7.10 Imported demand from Castle Point decreases by 11 visits to 393 visits in the weekly peak period, accounting for 19% of imported demand.

7.11 In Run 3 the number of visits imported is unchanged from Run 2. There is no change in the number of visits and the proportion of imported demand from Rochford and Castle Point (see Map 7.3).

7.12 In Run 1, 9% of imported demand is from outside the study area, decreasing to 8% in Runs 2 and 3.

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Map 7.1: Imported Demand for Sports Halls to Southend-on-Sea in Run 1 (2026)

The figure within each chevron is the number of visits in the weekly peak period from that local authority met at the other local authority.

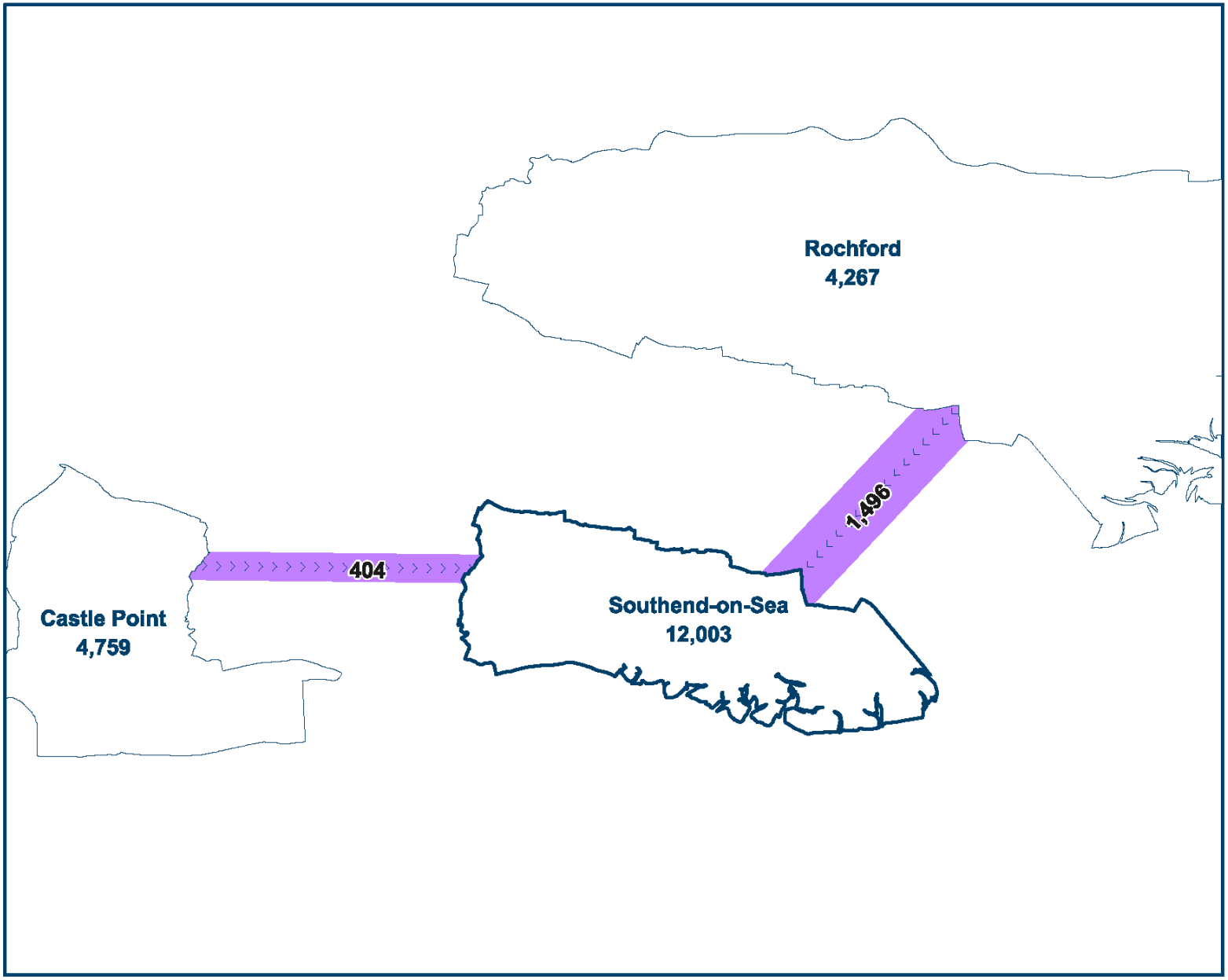
Direction of flow

Import

The figure within each boundary is the number of visits retained within the local authority area in the weekly peak period.

Southend-on-Sea

Neighbouring Local Authorities



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Map 7.2: Imported Demand for Sports Halls to Southend-on-Sea in Run 2 (2045)

The figure within each chevron is the number of visits in the weekly peak period from that local authority met at the other local authority.

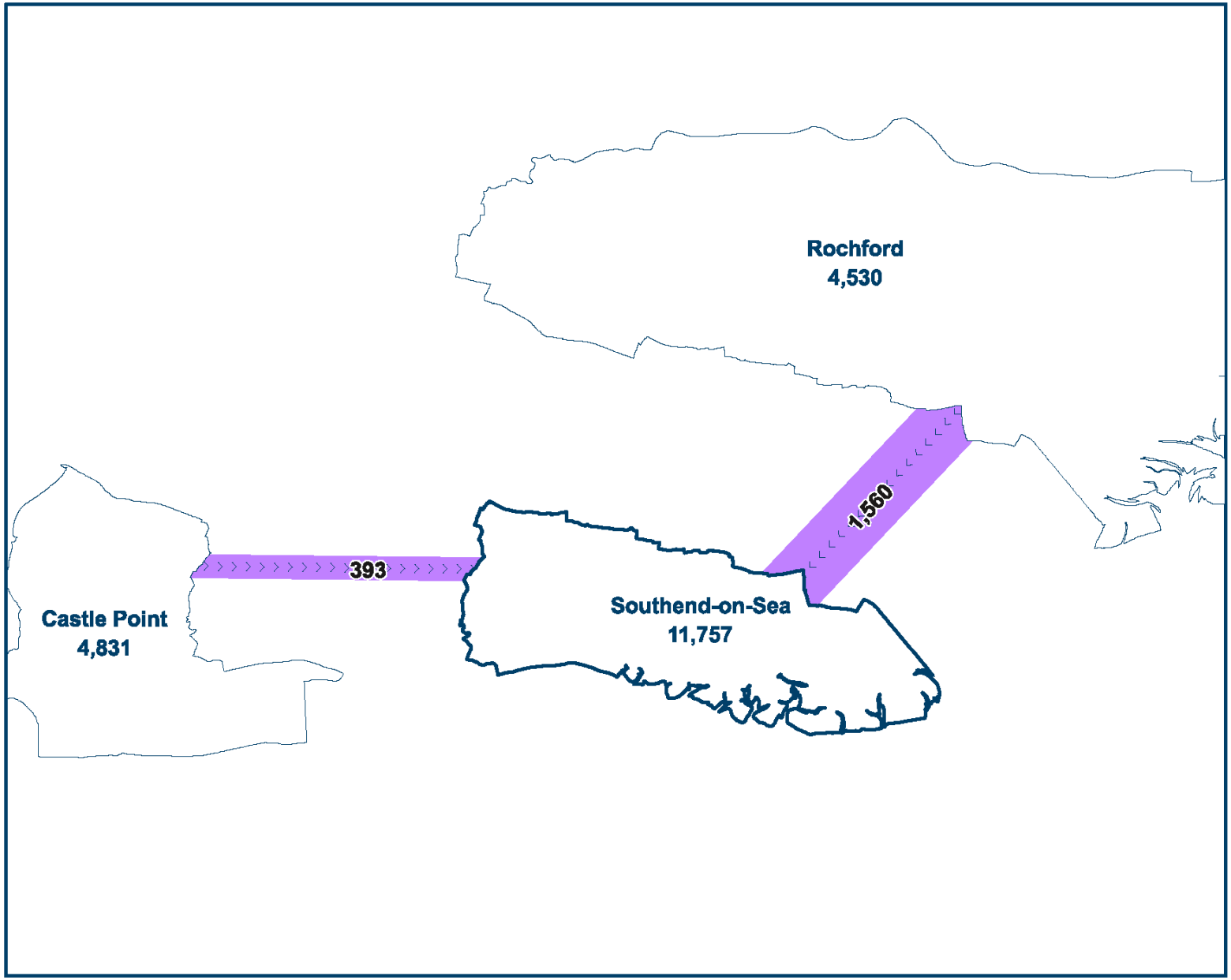
Direction of flow

Import

The figure within each boundary is the number of visits retained within the local authority area in the weekly peak period.

Southend-on-Sea

Neighbouring Local Authorities



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SPORT ENGLAND

Map 7.3: Imported Demand for Sports Halls to Southend-on-Sea in Run 3 (2045)

The figure within each chevron is the number of visits in the weekly peak period from that local authority met at the other local authority.

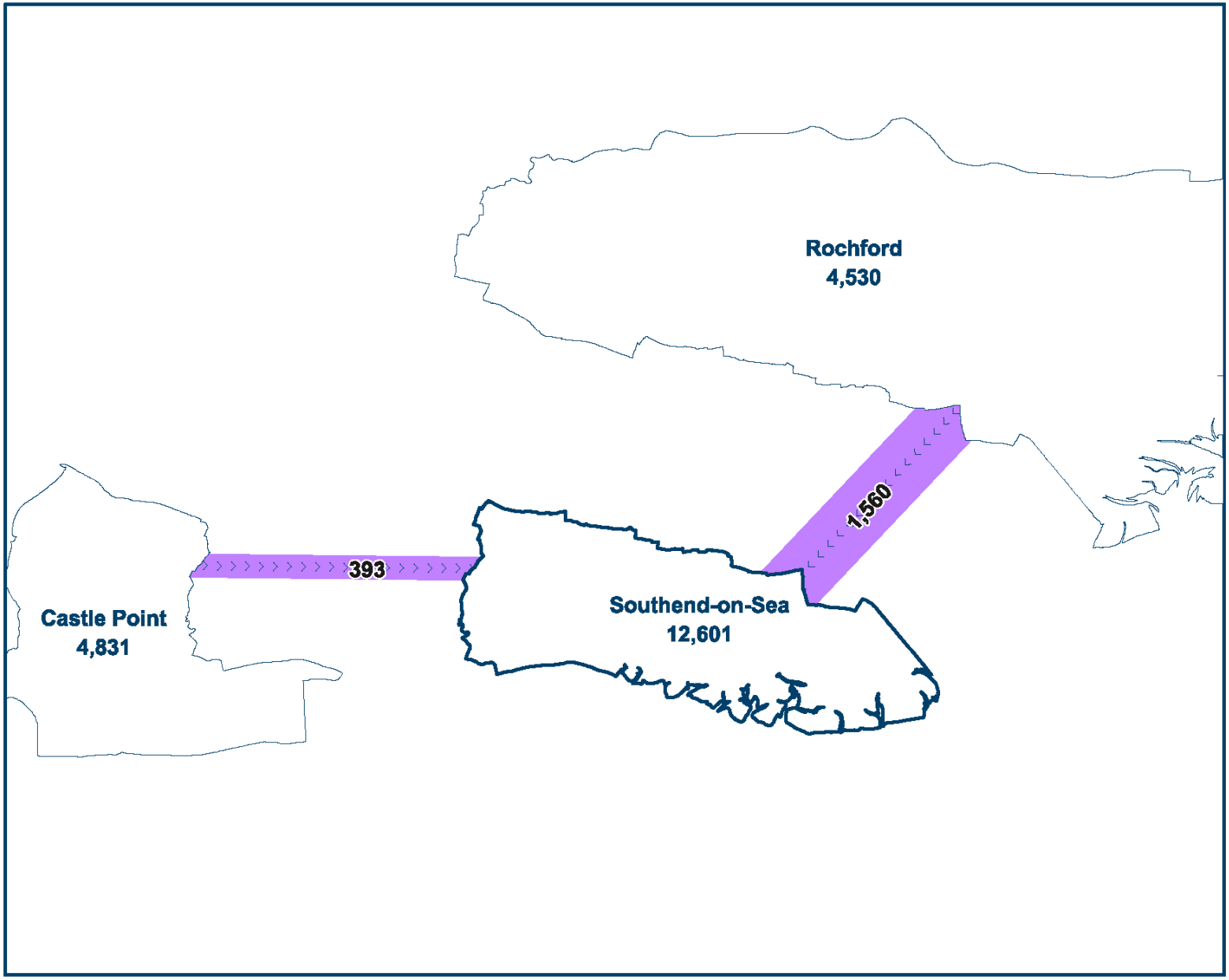
Direction of flow

Import

The figure within each boundary is the number of visits retained within the local authority area in the weekly peak period.

Southend-on-Sea

Neighbouring Local Authorities



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8 LOCAL SHARE OF FACILITIES

Local share in Southend-on-Sea is best in Run 1. Demand is the second lowest of the three runs and the sports halls are the most attractive to residents.

Southend-on-Sea's provision per 10,000 population is lower than both the regional and national averages in Runs 1 and 3, but higher in Run 2. The City has the lowest number of courts per 10,000 population in the study area.

Rochford has the best provision at 4.9 courts per 10,000 population in Run 1, and 3.8 courts in Runs 2 and 3. Rochford's s population is less than half of Southend-on-Sea's population in all runs. This district has seven fewer halls and six fewer sites than Southend-on-Sea.

Table 8.1: Local Share of Sports Halls in Southend-on-Sea by Run

Local Share	Run 1	Run 2	Run 3
Southend-on-Sea	2026	2045	2045
Local share of sports halls relative to demand in local area: <1 = poorer, >1 = better	0.79	0.52	0.49

Definition of local share – This helps show which areas have a better or worse share of facility provision. It considers the size, availability and quality of facilities, and travel modes. Local share is useful for looking at 'equity' of provision. Local share is the available capacity that people want to visit in an area (considering deprivation), divided by the demand for that capacity in the area. Local share decreases as facilities age.

8.1 Local share shows how the access and share of sports halls differs across the local authority area, as follows:

- A value of 1 means that there is sufficient suitable supply reachable by the demand
- A value of less than 1 indicates a shortage of suitable supply that can be reached by the demand
- A value greater than 1 indicates a surplus of suitable supply that can be reached by the demand

8.2 Overall, local share identifies the areas of the local authority where the share of sports halls is better and worse. The intervention is to try and increase access for residents in the areas with the poorest access to sports halls.

8.3 In Run 1 local share in Southend-on-Sea is 0.79 meaning that there is insufficient suitable provision that demand can access based on the age, used capacity and operation of the sports halls. Three sites are uncomfortably full at peak times.

8.4 In Run 2 local share is 0.52. Demand is slightly lower, there is no change in capacity, and the sports halls have aged and become less attractive to residents. Two sites are uncomfortably full at peak times.

8.5 In Run 3 local share is 0.49. Demand has increased significantly and there is no change in capacity. Three sites are uncomfortably full at peak times.

Geographical Distribution of Local Share

Run 1

8.6 In Run 1 local share is best in Shoeburyness at 1.0 (dark green squares in Map 8.1). Demand in Shoeburyness is relatively high and residents can access Shoeburyness Leisure Centre, which is a dual- use site actively promoted by Freedom Leisure. The centre has the third largest capacity in the City and good availability. Local share is 0.9 (light green squares) east and west of Shoeburyness, in Thorpe Bay and North Shoebury.

8.7 Local share is poorest in Leigh-on-Sea and Western Esplanade at 0.6 (yellow squares). It is 0.7 from the west of Southend-on-Sea city centre to the border with Castle Point. Demand is high in this area. There are seven educational sports hall sites that residents can access, one of which is uncomfortably full at peak times, and four have a high level of utilisation.

Run 2

8.8 In Run 2 Local share is best in Shoeburyness, Thorpe Bay, North Shoebury and Eastwood at between 0.6 and 0.7 (yellow squares in Map 8.2). Demand decreases very slightly compared with Run 1 while the supply remains unchanged, although the sports halls have aged and become less attractive to residents. Residents in the east of the City can access four sports hall sites, while in Eastwood residents can access David Lloyd. Eastwood is an area of low deprivation, meaning that the commercial site should be accessible to residents.

8.9 Local share is poorest in Westcliff-on-Sea at 0.4 (orange squares). Demand is high in this area. The nearest swimming pool is Chase High School, which is 51 years old in Runs 2 and 3 and unmodernised. Southend Leisure and Tennis Centre is also nearby but is quite highly utilised.

Run 3

8.10 In Run 3 the high growth scenario creates a large increase in demand that is concentrated in the northeast of the City. Local share is best in Eastwood and Shoeburyness at 0.6 (yellow squares in Map 8.3). Demand in these areas is unchanged from Run 2. There is no change in capacity, but David Lloyd has unused capacity at peak times which improves local share for residents who can access the site. Shoeburyness Leisure Centre is quite busy at peak times, but its refurbishment in 2008 ensures that it remains a relatively attractive site.

8.11 Local share is poorest in Westcliff-on-Sea and Leigh-on-Sea at 0.4. Local share in the northeast of Southend-on-Sea to the border with Rochford is 0.5, falling from 0.6 in Run 2. This is the location of the additional housing growth sites in Run 3.

Comparative Measure of Provision

8.12 A comparative measure of sports hall provision is the total number of badminton court equivalents per 10,000 population.

Table 8.2: Badminton Court Equivalents per 10,000 Population by Area and Run

Courts per 10,000 Population	Run 1	Run 2	Run 3
Area	2026	2045	2045
Southend-on-Sea	**3.8**	**3.7**	**3.4**
Castle Point	4.1	4.0	4.0
Rochford	4.9	3.8	3.8
East Region	**3.9**	**3.6**	**3.5**
England	**3.9**	**3.6**	**3.6**

8.13 Southend-on-Sea has the lowest provision in the study area at 3.8 courts per 10,000 population in Run 1, 3.7 courts in Run 2, and 3.4 courts in Run 3.

8.14 The City's provision is lower than both the regional and national averages in Runs 1 and 3, but higher in Run 2.

8.15 Rochford has the best provision at 4.9 courts per 10,000 population in Run 1, and 3.8 courts in Runs 2 and 3. Rochford's s population is less than half that of Southend-on-Sea in all runs. This district has seven fewer halls and six fewer sites than Southend-on-Sea.

8.16 **The findings on badminton courts per 10,000 population are set out because some local authorities like to compare their quantitative provision with that elsewhere; however, this does not set a standard of provision, and should not be used as such.**

8.17 The supply and demand assessment for sports halls in Southend-on-Sea is based on the findings from the previous six headings analysed in this report.

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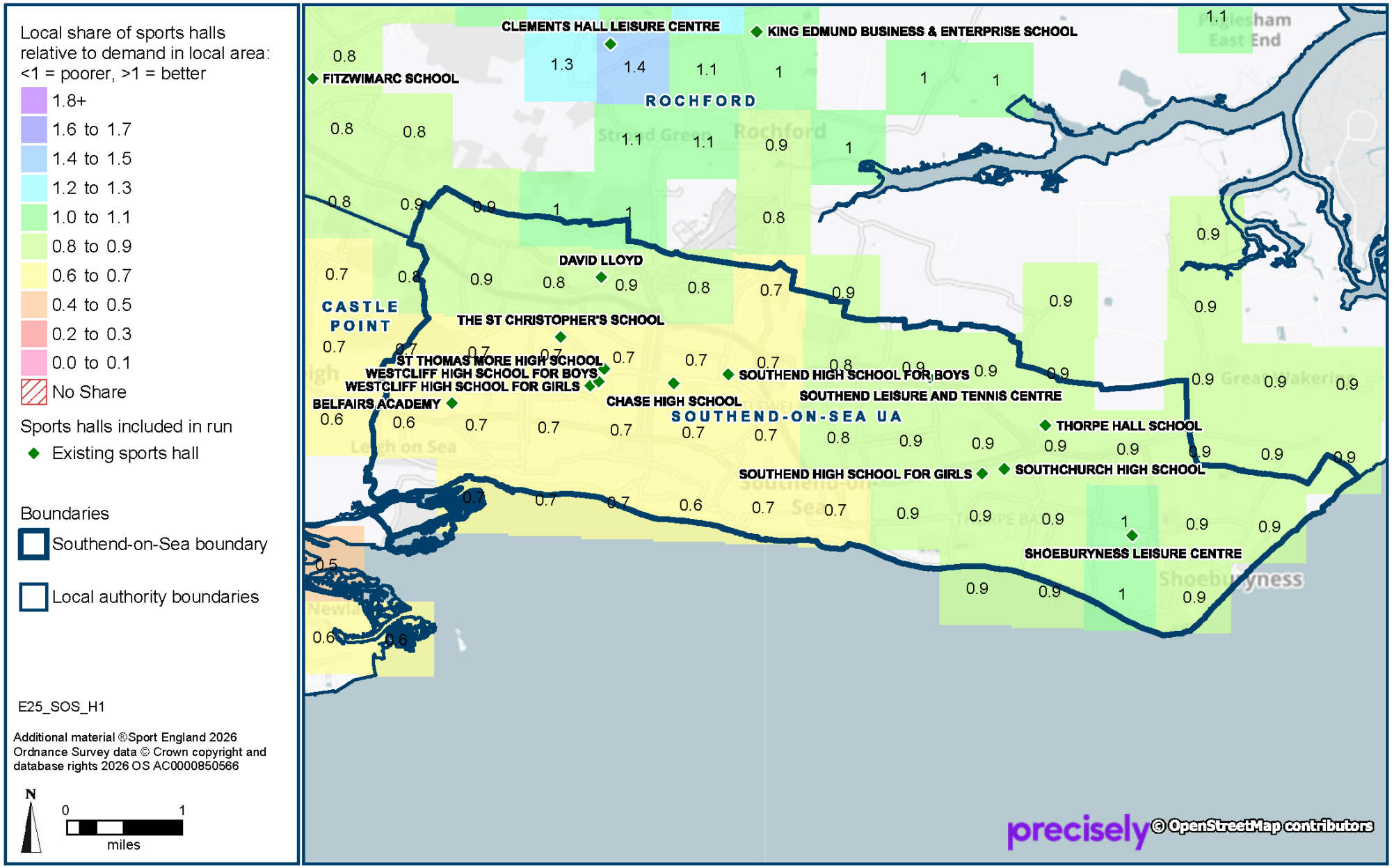
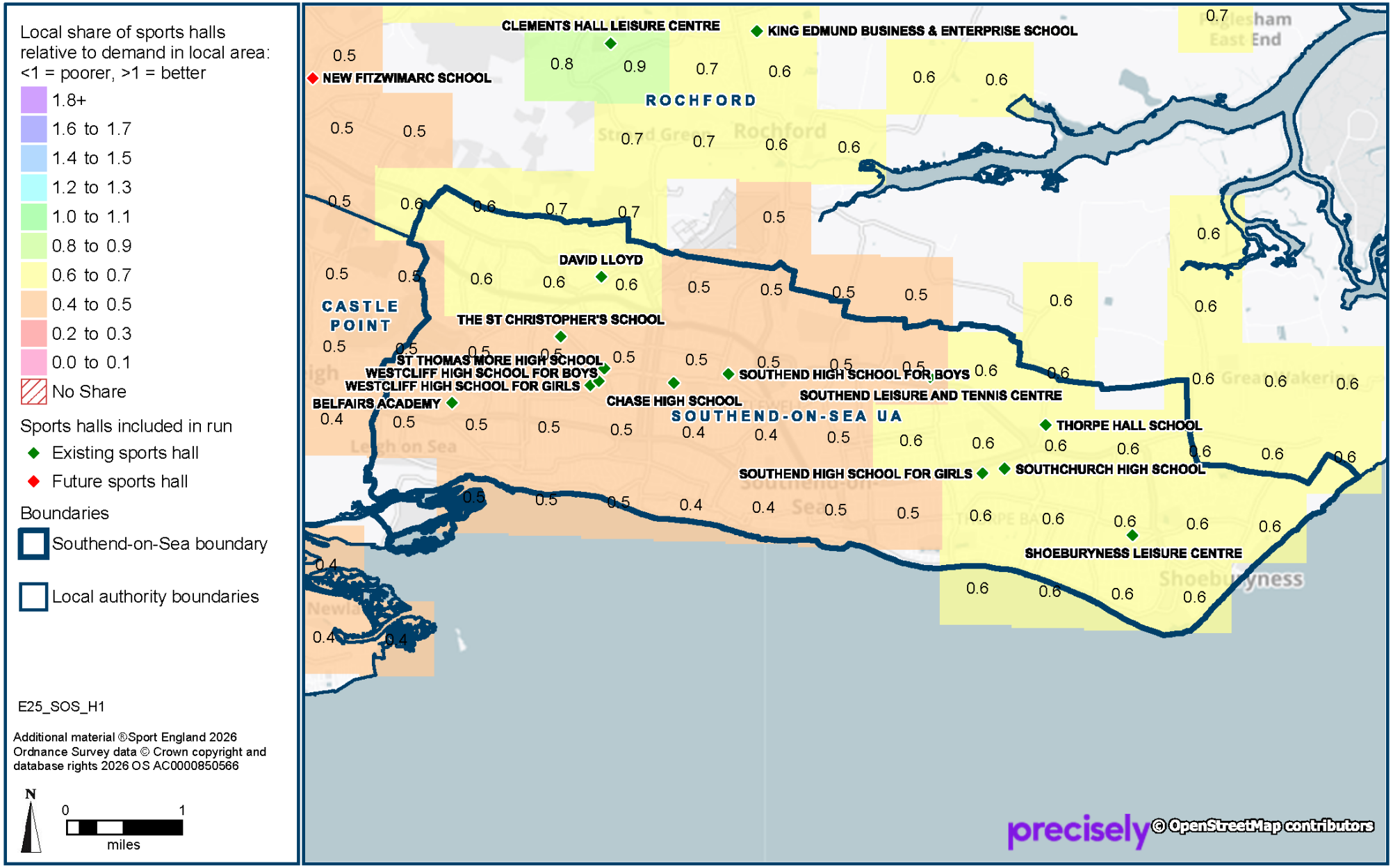
Map 8.1: Local Share of Sports Halls in Run 1 (2026)



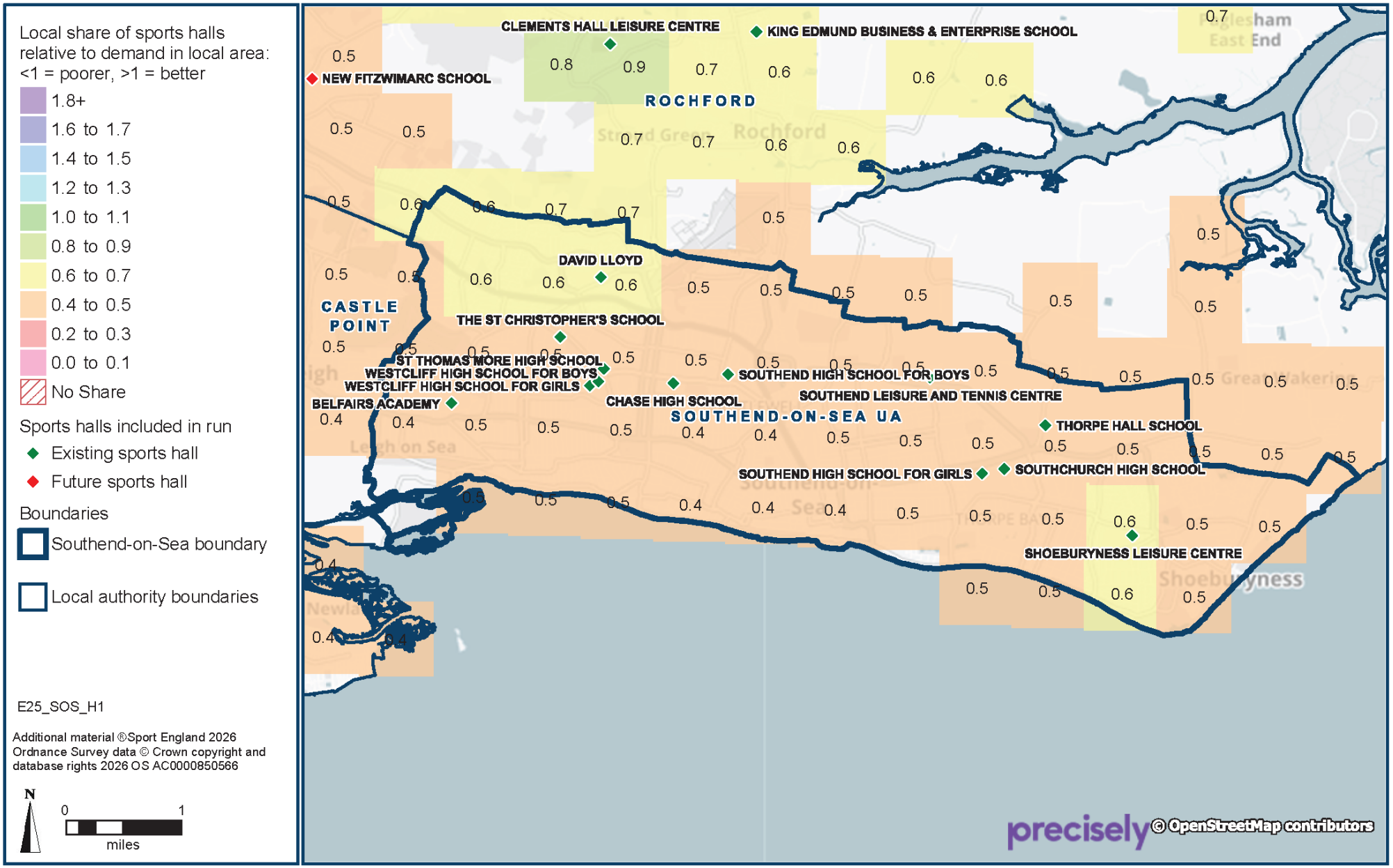
SPORT ENGLAND

Map 8.2: Local Share of Sports Halls in Run 2 (2045)



SPORT ENGLAND

Map 8.3: Local Share of Sports Halls in Run 3 (2045)



APPENDIX 1: FACILITIES 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	Facility Type	Reason for Exclusion
Alexander House	Activity	Closed
Alleyn Court School	Activity	Principal hall too small
Belfairs Academy	Activity x2	Private use
Cecil Jones Academy	Main	Private use
Cecil Jones Academy (Lower Site)	Activity x2	Closed
Hamstel Junior School	Activity	Principal hall too small
Invicta Tennis and Table Tennis Club	Activity	Principal hall too small
Shoeburyness High School	Activity	Principal hall too small
Southchurch High School	Activity	Closed
Southend High School for Girls	Activity	Closed
Southend Lawn Tennis Club	Activity	Principal hall too small
St Bernards High School	Main + Activity	Private use
St Nicholas School	Activity	Private use
St Saviours Church Hall	Activity	Principal hall too small
Temple Sutton Primary School	Activity	Private use
The Eastwood Academy	Main+ Activity	Private use

APPENDIX 2: FACILITIES IN NEIGHBOURING LOCAL AUTHORITY AREAS INCLUDED IN THE ASSESSMENT

Site	Provider	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb
Castle Point						
Castle View School	Educational (in-house)	4-court	34.5 x 20	690	2012	
Deanes School Sports Centre	Educational (in-house)	4-court	33 x 18	594	1997	2003
		Activity	18 x 10	180		
The Appleton School	Educational (in-house)	4-court	34.5 x 20	690	1960	
		Activity	18 x 10	180		
The Cornelius Vermuyden School	Educational (in-house)	4-court	33 x 18	594	1995	2012
The King John School	Educational (in-house)	4-court	34.5 x 20	690	1950	2012
		Activity	18 x 10	180		
USP College (Seevic Campus)	Educational (in-house)	4-court	34.5 x 20	690	1970	2004
Waterside Farm Leisure Centre	Public	6-court	34.5 x 27	932	1976	2008
Rochford						
Clements Hall Leisure Centre	Public	6-court	34.5 x 27	932	1979	
		Activity	18 x 17	306		
Fitzwimarc School	Educational (in-house)	5-court	40.6 x 21.35	867	1997	
		Activity	21 x 18	378		
		Activity	21 x 18	378		
New Fitzwimarc School	Educational (in-house)	4-court	34.5 x 20	690	2030	
		Activity	20 x 18	360		
King Edmund Business & Enterprise School	Educational (in-house)	4-court	33 x 18	594	1997	2005
		Activity	17 x 9	153		
Lift Greensward	Educational (in-house)	5-court	40.6 x 21.35	867	1999	
Rayleigh Leisure Centre	Public	4-court	33 x 18	594	2006	
Sweyne Park School	Educational (in-house)	4-court	34.5 x 20	690	1999	

APPENDIX 3: MODEL DESCRIPTION, INCLUSION CRITERIA AND MODEL PARAMETERS

Included within this Appendix are the following:

- Model Description
- Facility Inclusion Criteria
- Model Parameters

Model Description

1 Background

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

1.2 The model is a tool 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 the following facilities that Sport England holds substantial demand data for:

- sports halls
- swimming pools
- indoor bowls centres
- artificial grass pitches (AGPs)

2 Use of FPM

2.1 The FPM is one of Sport England's principal tools and has been developed as a means for:

- Assessing the requirements for different types of community sports facilities on a local, regional and 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 need for sports facilities.

2.2 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 capacity of facilities (supply) within an area against the demand for that facility from the local population, similar to other social gravity models.

3.3 To do this, the FPM converts both demand (in terms of people) and supply (facilities) into a single comparable unit. This unit is 'visits in the weekly peak period'. 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 their age and gender, how often they visit, the distance travelled, duration of stay, as well as information on the facilities themselves such as programming, peak times of use and capacity of facilities.

3.5 This survey information is combined with other data sources 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 previously formed the basis for the National Benchmarking Service. 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 National Benchmarking Service 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 approximately 175,000 people and covers the full age/gender range. Detailed questions are asked about over 200 separate sport categories 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 (now ceased):
    - This was a centre-based survey whose primary purpose was to enable centres to benchmark themselves against other centres. Sample interviews were conducted on site. The number of people surveyed varied by year depending on how many centres took part. Approximately 10,000 swimmers and 3,500 sports hall users were surveyed per year. This data was used for journey

times, establishing proportions of particular activities in different hall types, the duration of activities and the time of activity (peak period).

- Moving Communities Customer Experience Survey:
    - Annual online survey distributed by participating local authorities and operators via email. Email invites are sent to any member or customer on their database who has attended their leisure centre in the last 3 months. The results inform the travel mode that residents use to access facilities.
- Scottish Health:
    - Annual survey of approximately 6,600 people (just under 5,000 adults). This data is primarily used to assess participation, frequency and activity duration.

3.7 Other data is used where available. For example, the following data sources are among those that 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 and Social Care Information Centre, Lifestyle Statistics, 2012
- Young People and Sport, Sport England, 2002
- Data from Angus Council, 2013/14
- National Pools and Halls Survey, 1996
    - This survey was 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 composition of the population, this will affect the number of visits an area will generate. In order to reflect the different population profiles 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

[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 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 178,600 OAs in England. An OA has a target value of 125 households per OA.

information. Each OA used is given a demand value in visits in the weekly peak period by the FPM.

5 Calculating Supply Capacity

5.1 A facility's capacity varies depending on the following factors:

- Its size (area of pool or hall, number of pitches or rinks)
- How many hours the facility is available for use by the community in the weekly peak period
- How many visits can be accommodated by the facility at any one time (pools = 1 user/6 sqm, main halls/barns = 8 users/court, activity halls/studios = 15 users/court, AGPs = 28 users/pitch, indoor bowls = 6 users/rink)

5.2 The FPM calculates the maximum number of visits that a facility can accommodate, which gives it a theoretical capacity in visits in the weekly peak period.

5.3 Based on travel time information (see Travel Time section) taken from the user surveys, the FPM then calculates how much demand would be met by the facility, having regard to its capacity and how much demand can travel to the facility. 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 access 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 has a total demand for five facilities and there are currently six facilities within the area, it would be too simplistic to conclude that there is an over-supply of one facility as this approach would not take account of whether the five facilities are in the correct location for local people to use them within that area. It may be that all the facilities are in one part of the local authority area, 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 a neighbouring authority.

6 Calculating the Capacity of Sports Halls – Badminton Court Equivalents

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 visits in the weekly peak period. In order for this capacity to be meaningful, these visits are converted into the equivalent of main hall badminton

courts. This 'court' figure is often mistakenly read as being the same as the number of 'marked courts' at the sports halls 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 badminton court equivalents are of all the main and activity halls' capacities; this is calculated based on hall size (area) and whether it is a main hall or an activity hall. This gives a more accurate reflection of the overall capacity of the halls than simply using the 'marked courts' figure, for two reasons:

- In calculating the capacity of halls, the model uses a different at-one-time parameter for main halls and for activity halls. Activity halls have a greater at-one-time capacity than main halls. Marked courts can sometimes not properly reflect the size of the actual main hall. For example, a hall may be marked out with four courts, when it has space for three courts. As the model uses the 'courts' as a unit of size, it is important that the hall's capacity is included as a 'three-court unit' rather than a 'four-court unit'.
- It is often difficult to visualise how much hall space there is when expressed as visits in the weekly peak period. To make things more meaningful, this capacity is converted back into badminton court equivalents and is noted in the output tables 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 sports hall and swimming pool modelling.

7.2 Attractiveness weightings are based on the following:

- Age and 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, here 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 70 years old 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 these halls will generally not provide as balanced a programme as 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-and-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 weighting curves are used:

- High weighted curve – includes non-education management (third party) and a more balanced programme, therefore more attractive
- Lower weighted curve – includes educational halls managed in-house, therefore less attractive

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

7.5 The English Indices of Deprivation 2019, produced by the Ministry of Housing, Communities and Local Government, measure relative levels of deprivation in 32,844 lower super output areas in England. IMD is an overall relative measure of deprivation constructed by combining seven domains of deprivation according to their relative weights.

8 Used Capacity

8.1 Used capacity refers to how much of a facility's theoretical capacity is being used. At first this can appear to be unrealistically low, with local authority 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. In practice this 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.

8.2 For example, a 25m four-lane pool has a theoretical capacity of 2,260 visits per week during a 52.5-hour peak period. 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 19:00 and 20:00 and lane swimming between 20:00 and 21:00 (see table below). Other sessions will be quieter, such as between 21:00 and 22:00. 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 used capacity for the evening would be 54%.

Visits per hour	16:00-17:00	17:00-18:00	18:00-19:00	19:00-20:00	20:00-21:00	21:00-22:00	Total visits for the evening
Theoretical maximum capacity	44	44	44	44	44	44	264
Actual usage	8	30	35	50	15	5	143
% of capacity used	18%	68%	80%	114%	34%	11%	54%

9 Comfort Factor – Halls and Pools

9.1 If the facilities were full to their theoretical capacity, 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.

9.2 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 indicating where a facility starts to become uncomfortably busy. This should be seen only as a guide to help flag when facilities are becoming busier, rather than as a 'hard threshold'.

9.3 The comfort factor is also used to increase the capacity 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 previously noted.

9.4 The comfort factor is not applied to AGPs due to the fact they are predominantly used by teams that have a set number of players, therefore, the notion of having a 'less busy' pitch is not applicable.

10 Travel Times

10.1 The model includes three different modes of travel:

- driving
- walking and wheeling
- public transport and cycling

10.2 Car access is also considered. In areas where there is less access to a car, the model reduces the number of visits made by car and increases those made on foot for shorter journeys and public transport for longer journeys.

10.3 Overall, surveys have shown that most visits to swimming pools, sports halls and AGPs are made by driving, with a significant minority of visits to facilities being made on foot.

Facility	Driving	Walking	Public Transport	Cycling
Swimming Pool	74%	18%	4%	4%
Sports Hall	76%	19%	2%	3%
AGP Combined AGP Football AGP Hockey	79% 74% 97%	18% 22% 2%	3% 4% 1%	unknown

10.4 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 coverage for sports halls and swimming pools.

Minutes	Swimming Pools		Sport Halls	
	Drive	Walk	Drive	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%

10.5 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	AGP Combined		AGP Football		AGP Hockey	
	Drive	Walk	Drive	Walk	Drive	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

10.6 Ordnance Survey's Multi-Modal Network with average speed data is used to calculate the off-peak drive times between facilities and the population, observing any one-way and turn restrictions that apply. These travel times have been validated against national survey work, and therefore are based on the actual travel patterns of users.

10.7 The network is also used to calculate walk times along paths and roads, excluding motorways and trunk roads. A standard walking speed of 3 mph is used for all journeys.

10.8 Due to the complexity of public transport timetables, public transport travel times in the model are assumed to be twice as long as driving times.

10.9 A cycling speed of 12 mph is used for roads and shared use cycleways, which is approximately half the average speed of driving in urban areas. A speed of 7.5 mph is used for tracks and off-road travel.

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 is included based on similar facility types.
- Where the year built is missing, assume date 1975[3].

Facilities over the border in Wales and Scotland included, as supplied by sportscotland and Sport Wales.

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

Model Parameters

Sports Halls Parameters

<table>
<tr><td>At-one-time Capacity</td><td>32 users per 4-court hall
15 users per 144 square meters of activity hall</td></tr>
<tr><td>Coverage Maps</td><td>Car: 20 minutes
Walking: 1.6 km
Public transport: 20 minutes at about half the speed of a car

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

Frequency per Week</td><td>
<table>
<tr><th>Age</th><th>0-15</th><th>16-24</th><th>25-34</th><th>35-44</th><th>45-59</th><th>60-79</th></tr>
<tr><td>Male</td><td>21.7%</td><td>16.3%</td><td>12.9%</td><td>10.8%</td><td>9.2%</td><td>6.4%</td></tr>
<tr><td>Female</td><td>24.7%</td><td>16.8%</td><td>15.1%</td><td>13.6%</td><td>13.5%</td><td>10.7%</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>0.60</td><td>0.96</td><td>0.88</td><td>0.80</td><td>0.94</td><td>1.02</td></tr>
<tr><td>Female</td><td>0.65</td><td>1.20</td><td>1.14</td><td>1.01</td><td>1.11</td><td>0.96</td></tr>
</table>
</td></tr>
<tr><td>Peak Period

Proportion in Peak Period</td><td>Weekday: 9:00 to 10:00, 17:00 to 22:00
Weekend: 08:00 to 16:00
Total: 46 hours

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

SPORT ENGLAND