

Facilities Planning Model Assessment of
Swimming Pool Provision for
Exeter City Council

Bespoke Report

26 June 2024

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EXECUTIVE SUMMARY

Introduction

- 0.1 Exeter City Council (also referred to as Exeter or the Council area) is reviewing the current provision of swimming pools and assessing future demand and level of provision required to 2034.
- 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 swimming pools.
- 0.3 The FPM modelling runs are to provide:
- Run 1 – a baseline assessment of existing provision in 2023
 - Run 2 – a forward assessment of demand for swimming pools and its distribution, based on the projected changes in population between 2023 and 2034, and closure of Northbrook Swimming Pool in 2026
 - Run 3 – an assessment of the impact of the modelled option of Cranbrook Swimming Pool East Devon opening in 2028 and with closure of Northbrook Swimming Pool in 2026, has in meeting the demand for swimming pools and its distribution up to 2034
- 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 the vast majority of the current and future demand for swimming pools in Exeter can be met by the available existing supply and reduced supply, following closure of Northbrook Swimming Pool.
- 0.7 Demand for swimming pools increases between 2023 and 2034 by 3% but a high proportion of this increased demand can be captured through the existing supply and reduced supply considered in Runs 2 and 3. The percentage increase in demand is higher in the neighbouring local authorities.
- 0.8 A very high level of the demand for swimming pools is met in all three runs. Almost all of the satisfied demand is met within Exeter. Unmet demand is low, with nearly all unmet demand resulting from being located too far from a facility and not due to lack of swimming pool capacity.
- 0.9 In all three runs the public leisure centres are estimated to be uncomfortably full at peak times (more than 70% of capacity used).

- 0.10 Closure of Northbrook Swimming Pool does not change the strategic overview. It is the smallest and oldest swimming pool in Exeter. Demand is quite high to the south of the centre but there is no demand north of it to the border with East Devon. It is the only swimming pool site in the north of Exeter and its closure will reduce accessibility for residents in the area.
- 0.11 Closure of the pool has a very small overall impact in increasing a very low level of unmet demand in the area. Utilisation at most other swimming pools does increase after its closure in Run 2 but this is also due to the increase in demand between 2023 and 2034. Utilisation decreases at some sites when Cranbrook Swimming Pool in East Devon is open in Run 3.

Key Findings

- 0.12 The key findings that underpin the headline strategic overview are as follows:
1. In Run 1 the three public leisure centres have a total capacity for 8,835 visits in the weekly peak period, based on their availability, which is 61% of the available capacity. Closure of Northbrook Swimming Pool in Runs 2 and 3 means that the two remaining centres can accommodate 8,448 visits, which is 60% of the available capacity.
 2. Exeter's population is projected to increase by 6% between 2023 and 2034, which produces a 3% increase in demand for swimming pools. The increase in demand is greater in all three neighbouring local authorities, at between 5% and 7%.
 3. A very high proportion of Exeter's demand is met, at 96% in Run 1 and 95% in Runs 2 and 3. The number of visits met in the weekly peak period increases from 8,222 in Run 1, to 8,343 in Run 2 and 8,361 in Run 3.
 4. Of Exeter's satisfied demand, 99% is met within the Council area in Runs 1 and 2, and 96% in Run 3.
 5. Exeter's unmet demand is very low at 53 sqm of water in Run 1. It is greatest in Run 2 at 75 sqm and slightly lower in Run 3 at 72 sqm, which is the equivalent of just over one lane of a 25m pool. Almost all the unmet demand is caused by residents being too far from a facility. Lack of capacity accounts for between 1 sqm and 7 sqm of water across the runs.
 6. Exeter's swimming pool supply is estimated to be highly utilised in the weekly peak period in all three runs. The overall proportion of capacity used is:
 - o Run 1 – 80%
 - o Run 2 – 85%
 - o Run 3 – 76%
 7. St Sidwell's Point Leisure Centre is estimated to be 100% full at peak times in all three runs. Riverside Leisure Centre is between 80% and 91% utilised across the runs and Northbrook Swimming Pool is 76% utilised in Run 1.
 8. Northbrook Swimming Pool provides 3% of the available capacity in Run 1. This is the scale of displacement from its possible closure. Most of the demand displaced can be met elsewhere.

Intervention

- 0.13 The quantitative and spatial findings interact to identify that:
- Demand for swimming can be met, but the public leisure centres are uncomfortably full in all three runs.
 - There is insufficient unmet demand to justify further provision. However, there is very limited scope to increase availability and capacity at the current sites to reduce the proportion of utilisation to a comfortable level at peak times.
- 0.14 The intervention is about trying to achieve this better balance. That said, the scope is very limited because the only main swimming pool not already available for the maximum 52.5 hours in the weekly peak period in Runs 2 and 3 is St Luke's Sports Centre. Increasing availability will have a very limited impact in achieving the purpose of the intervention.
- The key findings for St Luke's Sports Centre are:
 - Estimated utilisation of 77% in Run 1, 67% in Run 2 and 54% in Run 3
 - Located in Exeter city centre in an area of high demand in 2023 and 2034
 - Second oldest swimming pool in Exeter, opened in 1984 and modernised in 2011
 - Second smallest non-commercial pool with dimensions of 23m x 9m
 - Despite its size, the University operates a varied programme with learn to swim, lane swimming, casual swims and family swimming, and it is available on a pay and swim basis
 - Availability can be extended by 13 hours, which would increase capacity by 449 visits at peak times, the equivalent of 51 sqm of water
 - The increase in capacity is very limited, especially in the context of the capacity of the two remaining public leisure centres
 - Possibly the University limits the current hours available because of University use in part of the peak period, therefore, any increase may be more limited
- 0.15 However, overall and on balance the intervention should be progressed.
- 0.16 There is no scope or need to replace or modernise the two remaining public leisure centres and thereby increase capacity. St Sidwell's Point Leisure Centre is the most recent pool to open in 2022 and Riverside Leisure Centre was modernised in 2020.
- 0.17 In some ways, Exeter City Council is a victim of its own achievements and provision. By providing a new and modernised stock of swimming pools in the area of highest demand, it is not only meeting demand but attracting more demand resulting in the pools being uncomfortably or completely full at peak times.
- 0.18 When a pool site is uncomfortably full the pool itself becomes too crowded and limits the pleasure of the activity. Also, the changing areas and circulation areas are busier and can

result in delays to change or enter the building. However, there are obvious financial advantages from having more people using the swimming facilities.

0.19 Given this overall assessment, the question arises, should further provision be considered to achieve a much more significant balance between supply and demand? Possibly by re-provision of a small community swimming pool in the north of Exeter. The benefits are:

- Replaces Northbrook Swimming Pool and retains access to a swimming pool for residents in the north of Exeter
- Provides a vastly improved swimming offer with a new pool replacing the oldest and smallest swimming pool in Exeter
- Provides for residents in a deprived area northwest of the current site
- Demand is quite high in the area
- Provides access for residents in the north and northwest of East Devon

0.20 Should this option be progressed the scale of a pool based on the FPM findings could be a 20m x 8m four-lane pool (160 sqm of water). However, this option is not supported because:

- It will have a very limited impact in achieving the main intervention of reducing the utilisation of the two public leisure centres in Exeter city centre.
- There are no housing growth areas in the north of Exeter.
- While demand is comparatively high in the north of Exeter, it is 35 sqm of water per square kilometre at the site of Northbrook Swimming Pool in 2023 and is almost unchanged in 2034.
- Both met demand and retained demand increase in Exeter in Runs 2 and 3. The Exeter pools can meet both the increase in demand and most of the demand displaced by closure of Northbrook Swimming Pool.
- Exeter's exported demand increases by 20 visits to 97 visits at peak times in Run 2 following closure of Northbrook Swimming Pool. Exported demand is 343 visits in Run 3 but the increase is because of Cranbrook Swimming Pool opening not closure of Northbrook Swimming Pool.
- Unmet demand is low and increases to 4 sqm of water at the site of Northbrook Swimming Pool following its closure.
- Reachable unmet demand is 42 sqm of water at the site of Northbrook Swimming Pool in Run 3. The definition of reachable unmet demand is set out in paragraph 6.18.
- East Devon District Council is planning on opening Cranbrook Swimming Pool in 2028, which is the nearest swimming pool to the north of Exeter that is outside the Council area, albeit a considerable distance away.

0.21 There is insufficient unmet demand to consider provision elsewhere, so as to re-distribute where demand is met and achieve a better balance between supply and demand.

Next Steps

- 0.22 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. 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 swimming pools up to 2034 and beyond.

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1. INTRODUCTION

- 1.1 Exeter City Council (also referred to as Exeter or the Council area) is reviewing the current provision of swimming pools and assessing the future provision required to 2034.
- 1.2 The strategic drivers for the Council are to understand:
- How the supply of swimming pools is meeting the 2023 and 2034 demand
 - The impact population change and residential development has on the scale of demand for swimming pools and its distribution up to 2034
 - The impact modelled changes in the supply that the swimming pools have in meeting the demand for swimming pools and its distribution up to 2034
- 1.3 The outputs from the FPM assessment will inform:
- Exeter City Council's strategic planning review of swimming pools provision and future strategy
 - Exeter City Council's inward investment strategy for swimming pool provision, including developer contributions towards the cost of further provision
 - An evidence base that contributes to development of planning policy for the provision of indoor sports facilities
- 1.4 The sequence of work is based on assessments known as runs, and these are set out in the Executive Summary.

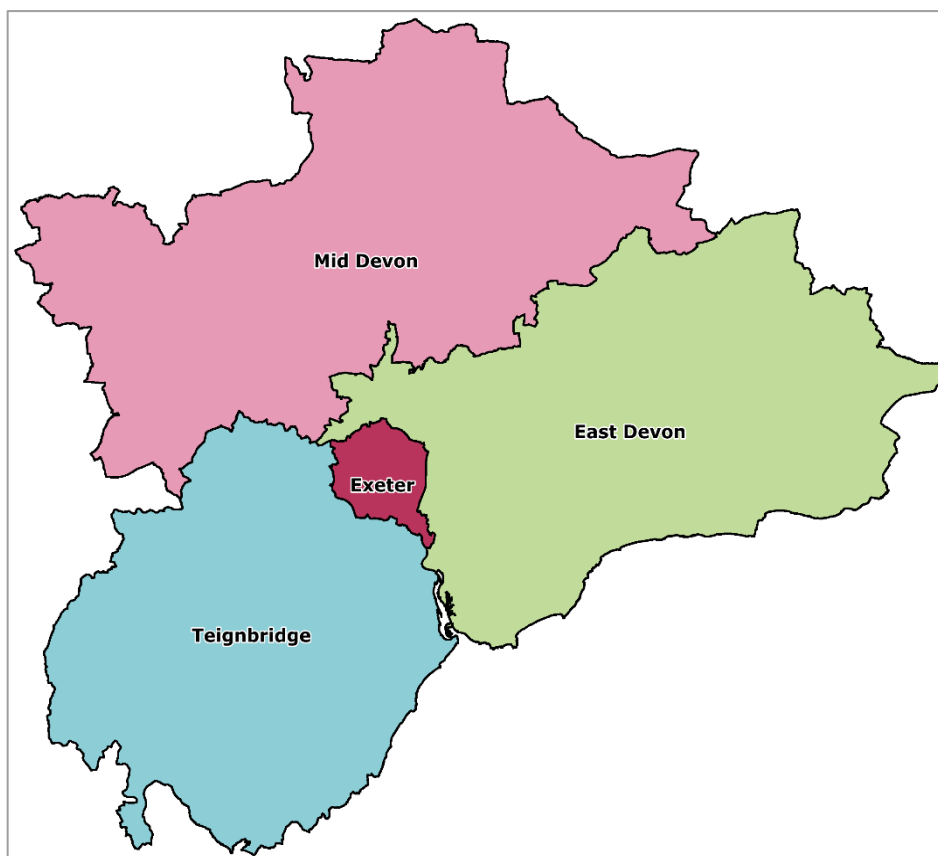
The Study Area

- 1.5 The assessments include the swimming pools and population in Exeter and the neighbouring local authority areas, which comprises study area (see Map 1.1).
- 1.6 A customer's choice of swimming pool 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 choice of swimming pool include:
- How close the venue is to where residents live or work
 - Other facilities at the same site, such as a gym or studio
 - The programming of the pool with swimming activities that appeal to residents and are available at times that fit with the lifestyle of residents
 - The age and condition of the facility and inherently its attractiveness
- 1.7 Increasingly, the quality of swimming pools and their offer are of more importance to residents in their choice of venues. New facilities will have a significant draw because of the quality of the venues.
- 1.8 In determining the position across Exeter, it is important to take full account of the swimming pools and population in neighbouring local authority areas. The most attractive facility for some Exeter residents may be outside the Council area (known as exported demand). For

residents of neighbouring authorities, their most attractive swimming pool may be inside Exeter (known as imported demand).

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

Map 1.1: Study Area for Exeter Swimming Pools Assessment



Report Structure, Content and Sequence

- 1.10 The findings for the Exeter assessment are set out in a series of tables for all three 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.
- 1.11 The headings for each table are:
- Supply
 - Demand
 - Accessibility
 - Satisfied Demand
 - Unmet Demand
 - Used Capacity
 - Local Share
- 1.12 The terms listed above are defined beneath the tables.

- 1.13 To support the findings, this report also includes maps that show swimming pool locations, demand, deprivation, driving and walking coverage, public transport access, exported satisfied demand, unmet demand, imported used capacity and local share.
- 1.14 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.
- 1.15 The key findings in each of the sections are numbered and highlighted in bold typeface.
- 1.16 The facilities excluded from the study, with explanations, are listed in Appendix **1**. Details of the swimming pools 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**.
- 1.17 All maps for the study are provided in a separate document as layered PDFs.

2. SWIMMING POOL SUPPLY

Swimming pool provision across Exeter consists of three public leisure centres in Run 1 and two in Runs 2 and 3. There is one educational site and two commercial sites in all three runs.

In Run 1, 11% of the total water space is unavailable at peak times, in Runs 2 and 3 it is 5%.

The average age of all the sites in 2023 is 28 years, and 29 years for the public leisure centres. The public sites include the oldest and most recent swimming pools to open.

The average age of all the sites in 2034 is 35 years, and 30 years for the public leisure centres. Closure of Northbrook Swimming Pool impacts on the average age of the remaining two public sites.

All four pool sites opened before 2000 have been modernised.

Table 2.1: Supply of Swimming Pools in Exeter by Run

Supply	Run 1	Run 2	Run 3
Exeter	2023	2034	2034
Number of swimming pools	8	7	7
Number of swimming pool sites	6	5	5
Supply in sqm of water	1,861	1,695	1,695
Supply in sqm of water scaled with hours available in peak period	1,652	1,608	1,608
Supply unavailable in the weekly peak period in sqm of water	209	87	87
Proportion of supply unavailable in the weekly peak period	11%	5%	5%
Supply in visits per week in peak period	14,459	14,072	14,072

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

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

2.1 Run 1 models eight swimming pools across six sites in Exeter.

2.2 In Runs 2 and 3 there are seven swimming pools across five sites because Northbrook Swimming Pool is modelled to close in 2026.

2.3 Also in Run 3, an option is to include a new swimming pool at Cranbrook in the East Devon District Council area, modelled to open in 2028.

2.4 The facilities excluded from the study, with explanations, are listed in Appendix 1.

Council-wide Capacity

2.5 The total water space in Exeter decreases from 1,861 sqm in Run 1 to 1,695 sqm in Runs 2 and 3, which equates to a decrease of circa 9% between Run 1 and Runs 2 and 3. When scaled against the amount available for community use during the weekly peak period, this reduces to 1,652 sqm in Run 1 and 1,608 sqm in Runs 2 and 3; a decrease of less than 3% between Run 1 and Runs 2 and 3. The water space unavailable equates to:

- Run 1 – 209 sqm of water (11% of total supply)
- Runs 2 and 3 – 87 sqm of water (5% of total supply)

2.6 In Run 1 the swimming pools can accommodate a total of 14,459 visits per week in the peak period. This decreases to 14,072 visits in Runs 2 and 3, with Northbrook Swimming Pool excluded.

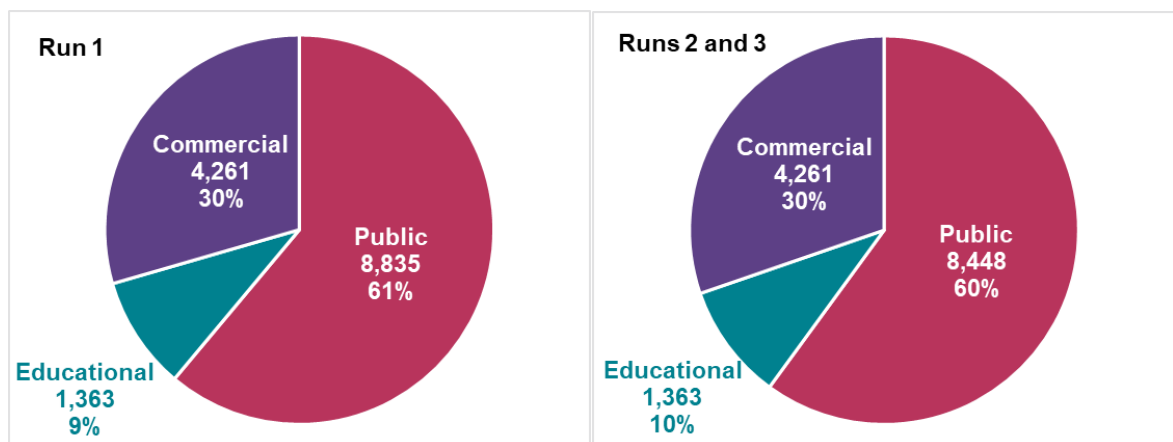
Table 2.2: Details of Swimming Pools in Exeter included in the Runs

Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Peak Hours	Total Hours	Capacity (visits)	Year Built	Year Refurb
David Lloyd Club	Commercial	5-lane	25 x 12	300	52.5	109.5	2,625	2010	
Exeter Golf and Country Club	Commercial	5-lane	17.5 x 10.7	187	52.5	112	1,636	1995	2003
Northbrook Swimming Pool (Run 1 only)	Public	5-lane	18.2 x 9.1	166	14	41.5	387	1975	1997
Riverside Leisure Centre	Public	6-lane	25 x 13	325	52.5	95.25	3,382	1986	2020
		Teaching	13 x 7	91	35.5	61.5			
St Luke's Sports Centre	Educational	3-lane	23 x 9	207	39.5	52	1,363	1984	2011
St Sidwell's Point Leisure Centre	Public	8-lane	25 x 17	425	52.5	102.25	5,065	2022	
		Teaching	20 x 8	160	50.5	85.25			

Providers

- 2.7 There are three public leisure centres in Run 1 and two in Runs 2 and 3. There are two commercial sites and one educational site in all three runs.

Chart 2.1: Exeter Swimming Pools Capacity in Visits by Operation Type



- 2.8 **Key finding 1** is that in Run 1 the three public leisure centres have a total capacity for 8,835 visits based on their availability in the weekly peak period, which is 61% of the available capacity. Closure of Northbrook Swimming Pool in Runs 2 and 3 means the two remaining centres can accommodate 8,448 visits, which is 60% of the available capacity.

Public Leisure Centres

- 2.9 The public leisure centres are available for use by all residents and provide all swimming activities of:

- Learn to swim
- Casual recreational swimming
- Lane and fitness swimming activities
- Swimming development through clubs

- 2.10 There is a stark contrast in the scale and capacity in the weekly peak period of the largest and smallest public leisure centres in Run 1:

- St Sidwell's Point Leisure Centre:
 - 25m x 17m pool available for 52.5 hours
 - 20m x 8m pool available for 50.5 hours
 - Capacity for 5,065 visits, which is 35% of the available capacity in Run 1
- Northbrook Swimming Pool:
 - 18.2m x 9.1m pool available for 14 hours
 - Capacity for 387 visits, which is 3% of the available capacity in Run 1

2.11 The scale and capacity in the weekly peak period of the other public leisure centre is:

- Riverside Leisure Centre:
 - 25m x 13m pool available for 52.5 hours
 - 13m x 7m pool available for 35.5 hours
 - Capacity for 3,382 visits, which is 23% of the available capacity in Run 1

2.12 St Sidwell's Point Leisure Centre and Riverside Leisure Centre have an extensive offer that can be programmed for different activities at the same time.

Commercial Sites

2.13 The two commercial sites in the Council area are David Lloyd Club and Exeter Golf and Country Club, access is by membership. Both sites have a 20m outdoor heated pool, which are not included in the modelling because they do not provide a balanced programme of use throughout the whole year.

2.14 David Lloyd Club provides for recreational swimming and operates a learn to swim school.

2.15 Exeter Golf and Country Club, despite being the second smallest pool in the Council area, has an extensive programme of use for its membership:

- Adult swim sessions
- Learn to swim programme
- Family swimming
- Lifeguard training

2.16 Both pools are available for the maximum 52.5 hours in the weekly peak period. David Lloyd Club has capacity for 2,625 visits in the weekly peak period and Exeter Golf and Country Club has capacity for 1,636 visits.

Educational Site

2.17 Access for community use at St Luke's Sports Centre is proactively managed by the University of Exeter and is available on a pay and swim basis. The programme of use includes:

- Lane swimming for fitness
- Recreational swimming
- Family swimming sessions
- Learn to swim school

2.18 The scale of the pool, 23m x 9m, limits its use for swimming development by clubs.

2.19 The pool is available for 39.5 hours in the weekly peak period and has capacity for 1,363 visits.

Age

Table 2.3: Average Age of Swimming Pools in Exeter

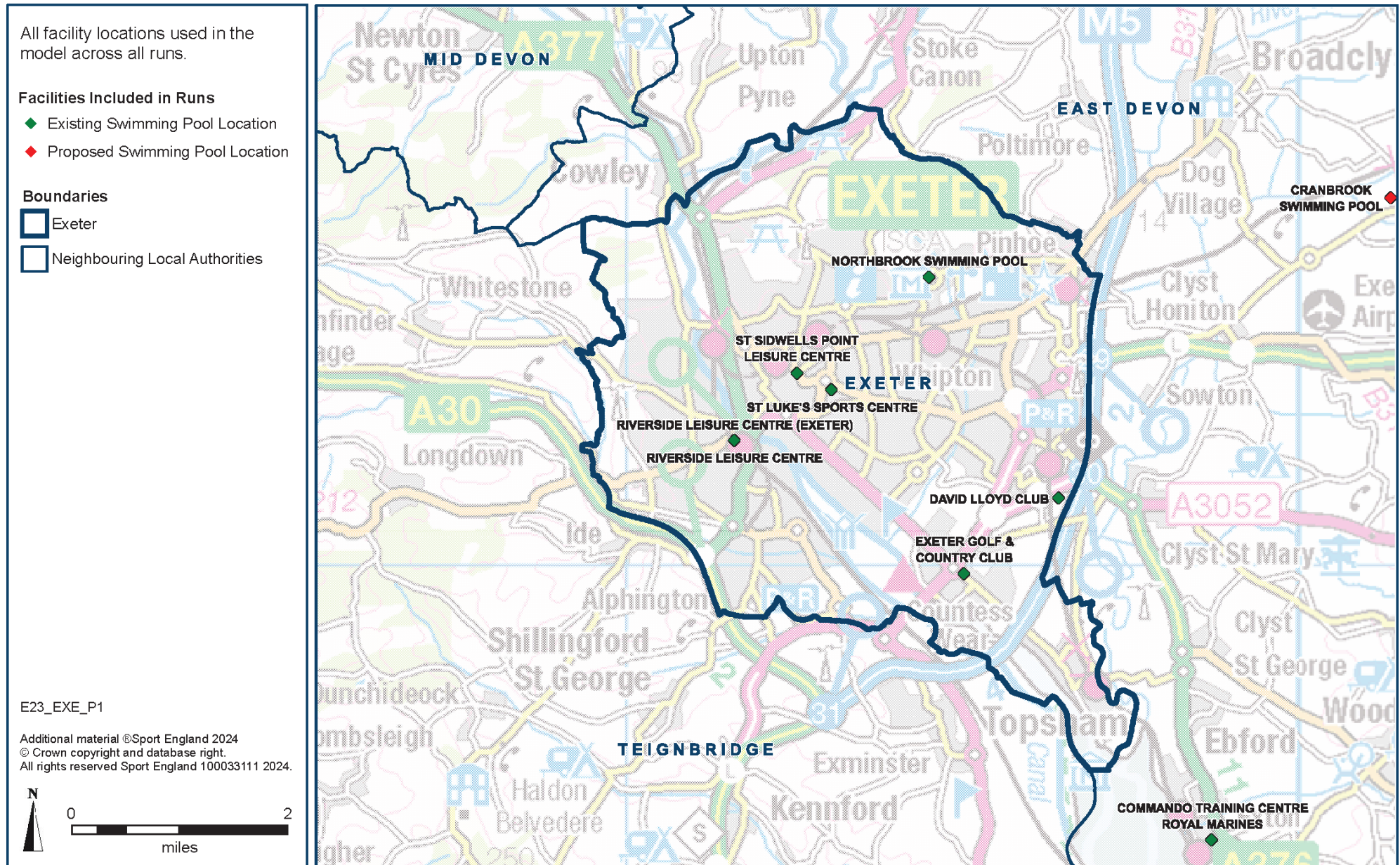
Average Age of Swimming Pools	Run 1	Run 2	Run 3
Exeter	2023	2034	2034
Average age of all sites	28	35	35
Average age of public sites	29	30	30

- 2.20 The oldest swimming pool site is Northbrook Swimming Pool, which opened in 1975 and was modernised in 1997.
- 2.21 The most recent swimming pool site to open is St Sidwell's Point Leisure Centre, in 2022. David Lloyd Club opened in 2010 and is the only other pool to have opened since 2000.
- 2.22 All four pool sites opened before 2000 have been modernised.
- 2.23 In 2023, the average age of all the sites is 28 years, and 29 years for the public leisure centres. The public sites include the oldest and most recent sites to open.
- 2.24 In 2034, the average age of all the sites is 35 years, and 30 years for the public leisure centres. Closure of Northbrook Swimming Pool has a big impact on the average age of the remaining two public sites. The need for further modernisation will however be increasing.

Swimming Pool Locations

- 2.25 There is a reasonably good geographic distribution of the swimming pools sites, except for a large area in the east of the Council area and the northeast when Northbrook Swimming Pool is excluded (see Map 2.1).
- 2.26 Commando Training Centre for Royal Marines is the nearest swimming pool site in a neighbouring local authority area to Exeter. Cranbrook Swimming Pool in East Devon, included in Run 3, is the nearest public swimming pool but it is some distance from Exeter's border.

Map 2.1: Location of Swimming Pools in Runs 1 to 3 (2023 and 2034)



3. DEMAND FOR SWIMMING POOLS

Exeter has the smallest percentage increase in demand for swimming pools from 2023 to 2034 in the study area.

Within Exeter the highest density of demand is in the Exeter city centre area in both years.

Riverside Leisure Centre is the nearest site to the largest housing growth area.

Demand is quite high at the Northbrook Swimming Pool location but there is no demand north of the site to the border with East Devon.

Table 3.1: Demand for Swimming Pools in Exeter by Run

Demand	Run 1	Run 2	Run 3
Exeter	2023	2034	2034
Population	134,254	142,431	142,431
Visits demanded in weekly peak period	8,543	8,799	8,799
Demand in sqm of water with comfort factor included	1,405	1,447	1,447

Definition of total demand – This represents the total demand for swimming by gender and for six age bands from 0 to 80+ and is calculated as the percentage of each age band/gender that participates. This is added to the frequency of participation in each age band/gender to arrive at a total demand figure, which is expressed in visits in the weekly peak period and square metres of water. The FPM parameters for the percentage of participation and frequency of participation, for gender and for different age bands, are calculated from Sport England's Active Lives survey up to March 2020 and are set out in Appendix 3.

- 3.1 The geographical distribution of the population in the FPM for 2034 includes housing growth sites in Exeter, East Devon and Teignbridge. The housing development areas in Exeter are shown on Map 3.1.
- 3.2 Riverside Leisure Centre is very close to the largest housing growth area, Water Lane, and St Sidwell's Point Leisure Centre is next to the second largest, East Gate.
- 3.3 **Key finding 2** is that Exeter's population is projected to increase by 6% between 2023 and 2034, which produces a 3% increase in demand for swimming pools. The increase in demand is greater in all three neighbouring local authorities, at between 5% and 7%. East Devon has the largest increase, and Mid Devon and Teignbridge both have an increase of 5%.

Table 3.2: Demand for Swimming Pools by Area and Run

Demand in sqm of Water Considering a 'Comfort' Factor	Run 1	Runs 2 and 3	% Change
Area	2023	2034	2023–2034
Exeter	1,405	1,447	3%
East Devon	1,569	1,683	7%
Mid Devon	915	963	5%
Teignbridge	1,437	1,514	5%

Geographical Distribution of Demand

2023

- 3.4 In 2023 demand is highest in the central area of Exeter, totalling 264 sqm of water, which is 19% of Exeter's demand, across five square kilometres (see Map 3.2). This amount of demand is broken down as follows:
- St James Park, immediately north of St Sidwell's Point Leisure Centre, at 83 sqm of water (red square)
 - Northeast of St Luke's Sports Centre, at 61 sqm of water (yellow square)
 - East of St Luke's Sports Centre, at 47 sqm of water (green square)
 - South of St Sidwell's Point Leisure Centre, at 38 sqm of water (light blue square)
 - Around Wyvern Barracks, at 35 sqm of water (light blue square)
- 3.5 Demand is next highest in the west of Exeter, totalling 207 sqm of water, which is 15% of Exeter's demand, across five square kilometres:
- Exwick, at 41 sqm and 45 sqm of water (green squares)
 - St Thomas, south and south west of Riverside Leisure Centre, at 47 sqm and 38 sqm of water (green and light blue square)
 - North of Riverside Leisure Centre, at 36 sqm of water (light blue square)
- 3.6 In the northeast of Exeter demand totals 170 sqm of water, which is 12% of Exeter's demand, across five square kilometres from Beacon Heath, where Northbrook Swimming Pool is, to Middlemoor (light blue squares).
- 3.7 Demand in the remainder of Exeter is less than 30 sqm of water per square kilometre.
- 3.8 Demand is lowest on the northern border of Exeter, where there is minimal demand and a total of 6 sqm of water across two square kilometres (purple squares). There is also no demand in the industrial estates of Marsh Barton in the south of Exeter and Sowton in the east.

2034

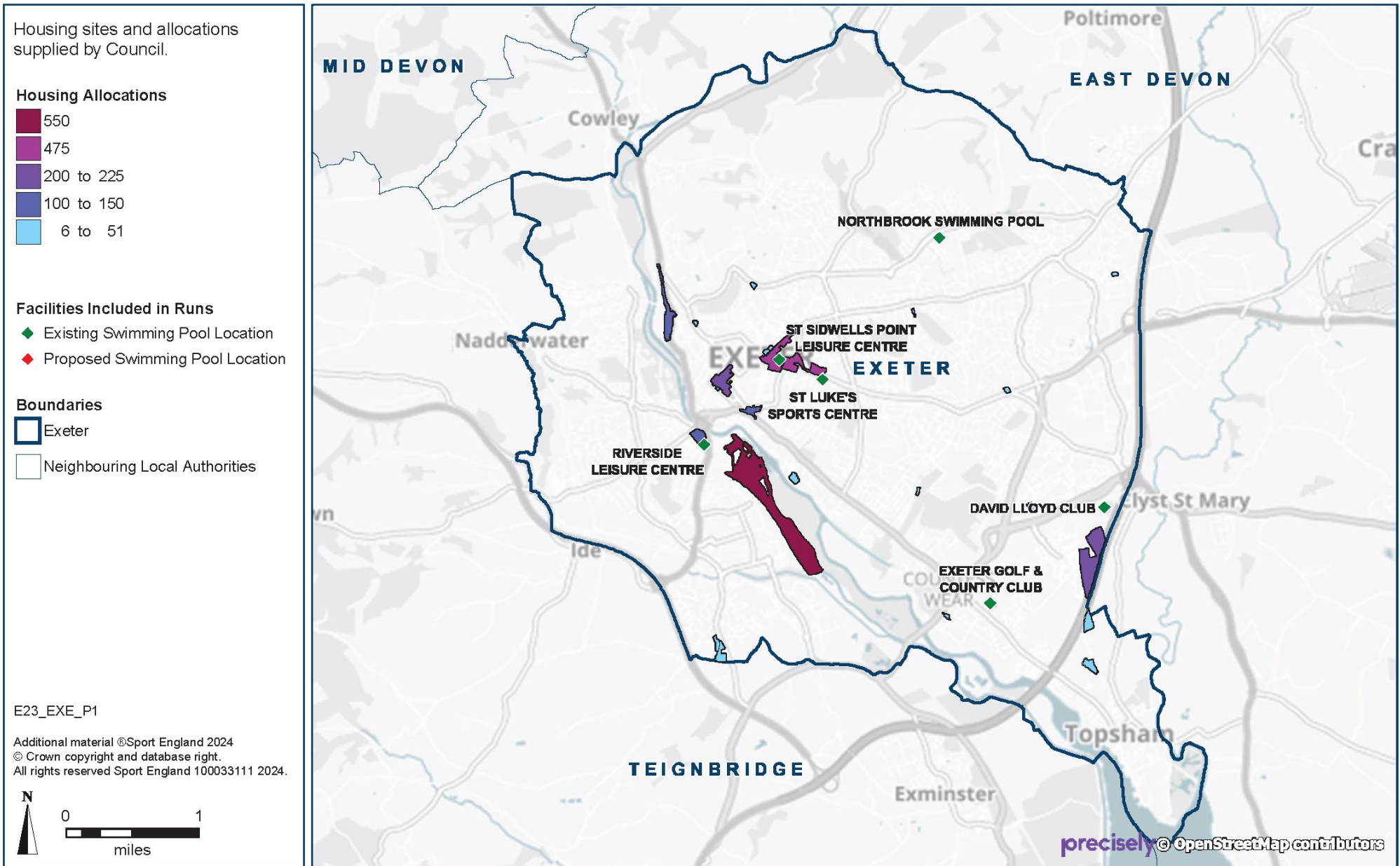
- 3.9 In 2034 demand is highest in the same areas of Exeter (see Map **3.3**):
- Central Exeter increases to 277 sqm of water across five square kilometres (red, yellow, green and light blue squares)
 - West Exeter increases slightly to 209 sqm of water across five square kilometres (green and light blue squares)
 - Northeast Exeter decreases slightly to 167 sqm of water across five square kilometres (light blue squares)
- 3.10 The largest increases in demand per square kilometre from 2023 to 2034 are:
- East Gate, south of St Sidwell's Point Leisure Centre, at 10 sqm of water
 - Old Rydon Lane, on the border with East Devon, at 8 sqm of water
 - North Water Lane, at 6 sqm of water
 - St James Park, at 5 sqm of water
 - South Water Lane, at 4 sqm of water
- 3.11 There is very little change in demand in the rest of Exeter.

Deprivation

- 3.12 None of Exeter's demand is in the 10% most-deprived lower super output areas (LSOAs) nationally.
- 3.13 The areas of highest deprivation in Exeter are (dark red areas in Map **3.4** with the scale and graduation for areas of Exeter shown in the map key):
- Exeter city centre (St Sidwell's Point Leisure Centre is in this area)
 - Northwest of Northbrook swimming pool
 - Barton Hill in the east of the Council area
 - Wonford
- 3.14 The Index of Multiple Deprivation (IMD) score is used in the FPM to limit whether people will use commercial facilities such as David Lloyd Club and Exeter Golf and Country Club (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.

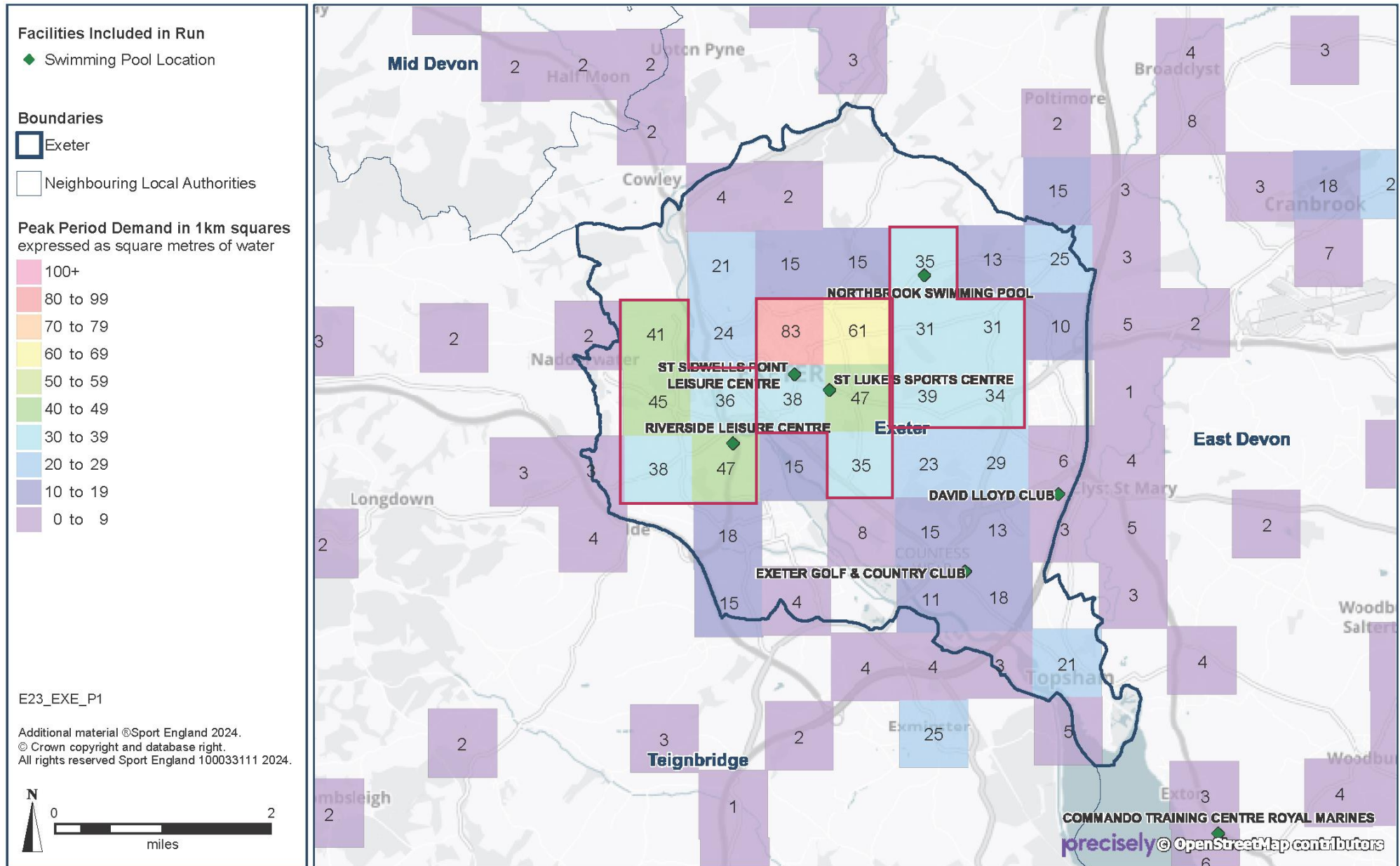
Map 3.1: Housing Growth Areas in Exeter to 2034 (Runs 2 and 3)

Sites and allocations supplied by Exeter City Council.



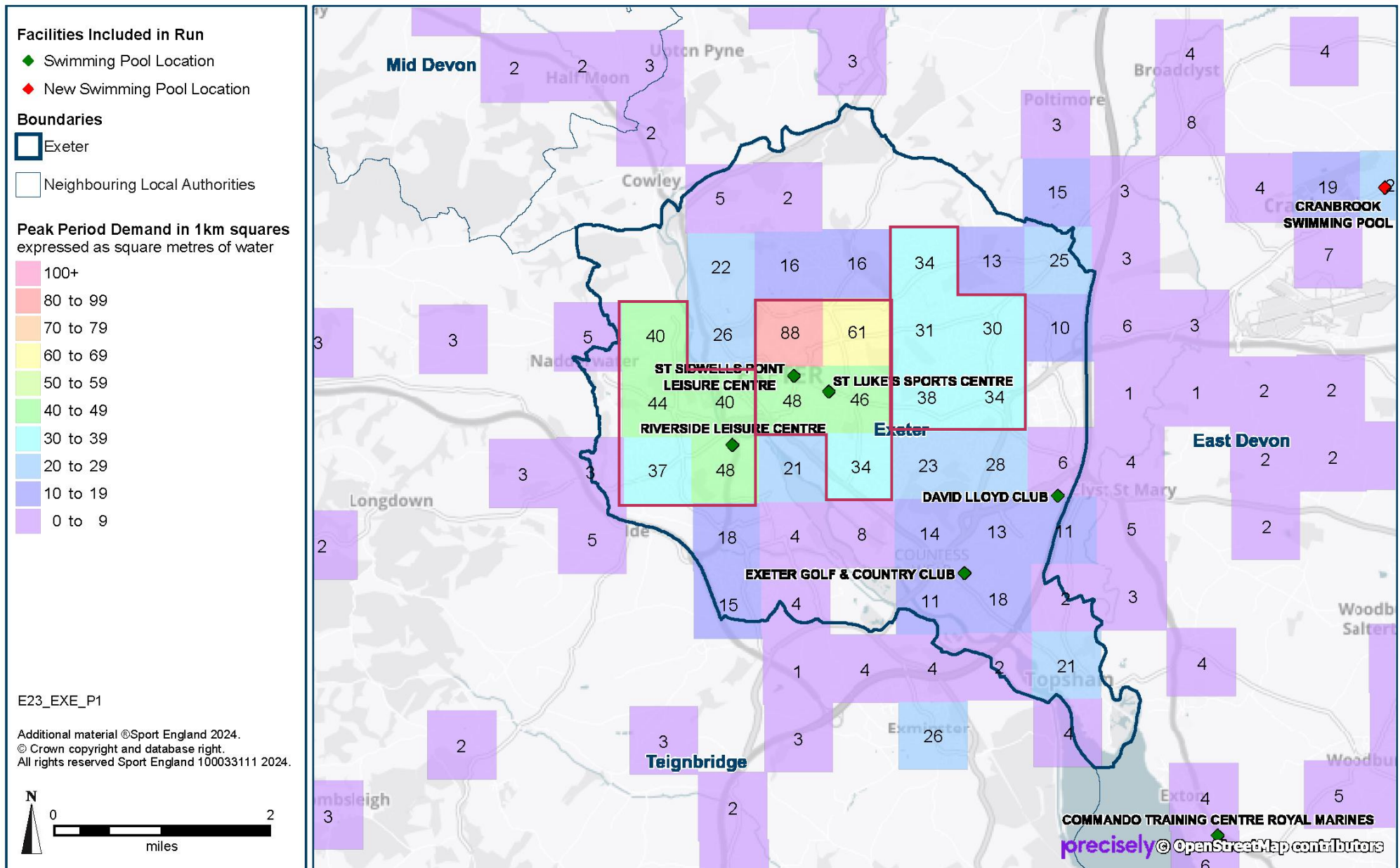
Map 3.2: Demand for Swimming Pools in 2023 (Run 1)

FPM peak period demand aggregated at 1km square grid expressed as square metres of water and shown thematically (colours).



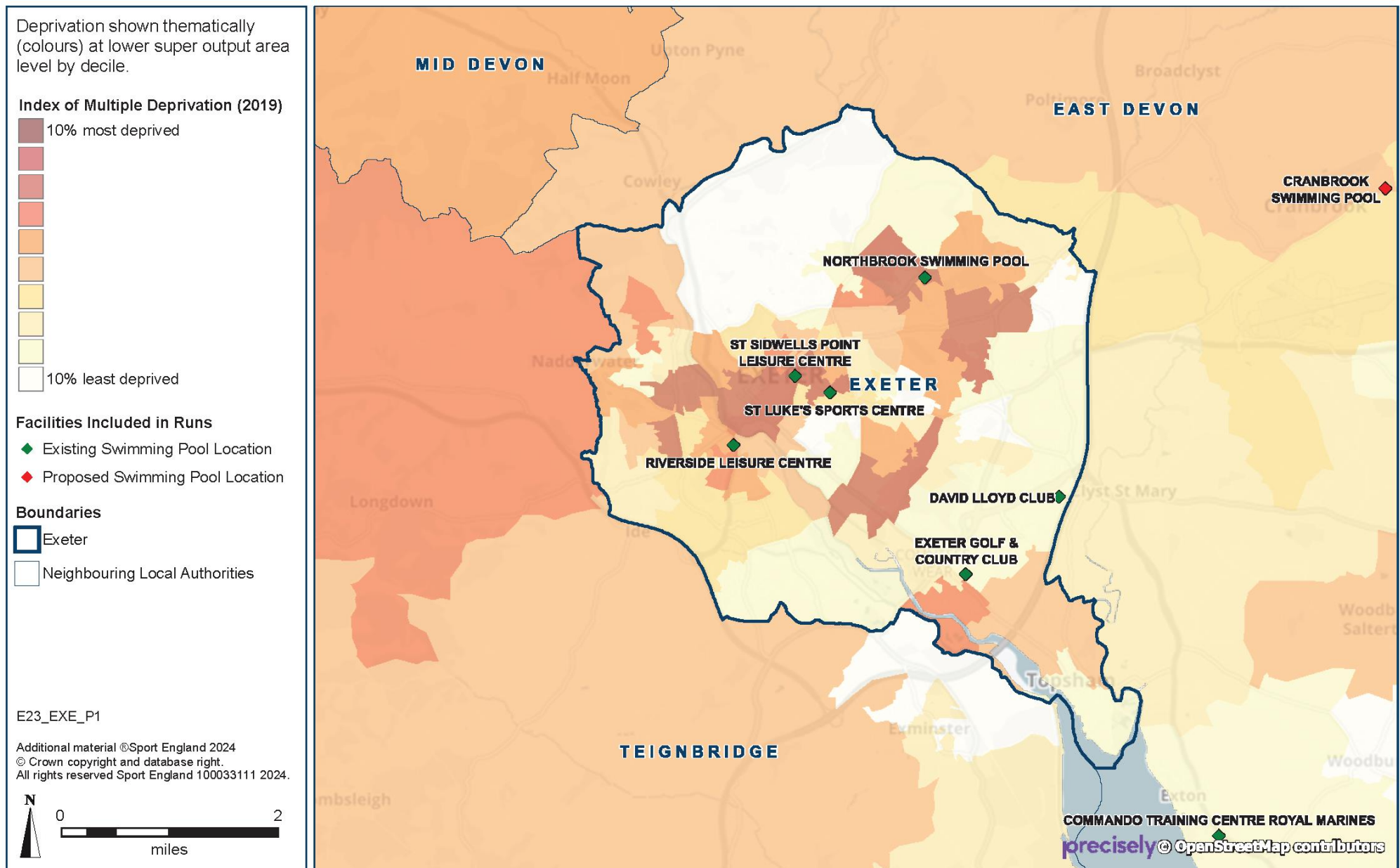
Map 3.3: Demand for Swimming Pools in 2034 (Run 3)

FPM peak period demand aggregated at 1km square grid expressed as square metres of water and shown thematically (colours).



Map 3.4: Deprivation in 2019 (Runs 1 to 3)

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



4. ACCESSIBILITY

A quarter of Exeter's residents do not have access to a car, which is higher than the regional average but similar to the national average.

Nearly 60% of the population are within a 20-minute walk of a swimming pool in Run 1, but this falls to exactly half in Runs 2 and 3 due to the exclusion of Northbrook Swimming Pool and the location of the housing growth in relation to the pools.

All the swimming pools are within a five-minute walk of a bus stop.

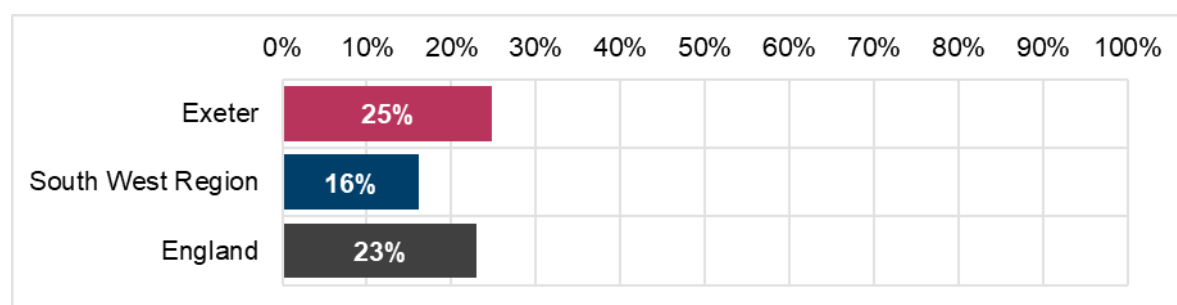
Most journeys to swimming pools are by car, at 66% in Run 1 and 69% in Runs 2 and 3.

Table 4.1: Travel Mode of Exeter Demand to Swimming Pools by Run

Accessibility	Run 1	Run 2	Run 3
Exeter	2023	2034	2034
% of population within a 20-minute walk of a swimming pool	59%	50%	50%
% of demand satisfied when travelled:			
on foot	22%	19%	19%
by public transport or bicycle	11%	12%	12%
by car	66%	69%	69%

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 swimming pool.

Chart 4.1: Proportion of Residents Without Access to a Car



- 4.1 In Exeter, 25% of residents do not have access to a car. This is slightly higher than the national average of 23% but much higher than the regional average of 16%.
- 4.2 For these residents, a network of accessible swimming pools is important in order to encourage swimming participation.

Walking Access

- 4.3 In Run 1, 59% of Exeter's residents are within a 20-minute walk (approximately one mile) of a swimming pool (yellow and orange areas in Map 4.1). In Exeter city centre residents can walk to three swimming pool sites within 20 minutes (dark orange areas).
- 4.4 In Runs 2 and 3, 50% of residents are within a 20-minute walk of a swimming pool. Northbrook Swimming Pool is closed and this reduces access for residents in the northeast of Exeter (see Map 4.2). Some of the housing growth sites in Exeter city centre are within a 20-minute walk of two or three swimming pool sites, but some housing growth sites are more than a 20-minute walk of a swimming pool.
- 4.5 However, not all residents in these areas will walk to a swimming pool and some will travel further. Travel to swimming pools on foot is estimated to account for 22% of all journeys in Run 1 and 19% in Runs 2 and 3.

Public Transport Access

- 4.6 All the swimming pools are within a five-minute walk of an existing bus stop (pink areas in Map 4.3). Travel to all swimming pools by bus should be possible.
- 4.7 Riverside Leisure Centre is within a five-minute walk of a railway station and St Sidwell's Point Leisure Centre is within a 15-minute walk of two railway stations (purple areas).
- 4.8 It should be noted that, while most Exeter residents can access a public transport stop, it may not mean they can get to a swimming pool within 20 minutes from home via a combination of walking and public transport. Also, in rural areas the service may not be regular. Travel to swimming pools by public transport or bicycle is estimated to be 11% of all journeys in Run 1 and 12% in Runs 2 and 3.

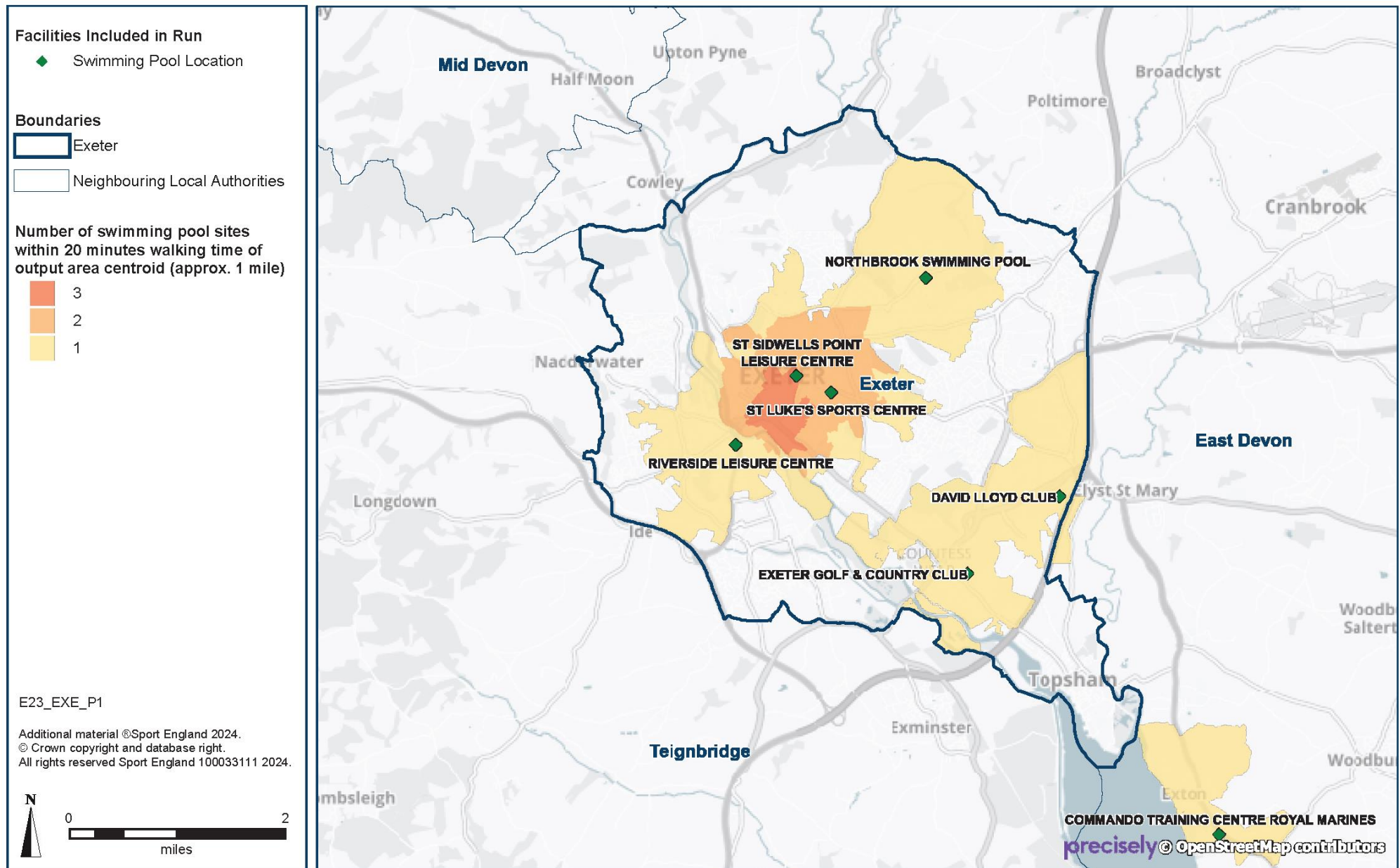
Driving Access

- 4.9 In Run 1 residents in all areas of Exeter can access at least seven swimming pool sites within a 20-minute drive (blue areas in Map 4.4). Access is highest in the southeast of Exeter, where residents can access between nine and 11 sites (dark blue areas) because they are close to Junction 30 of the M5.
- 4.10 In Run 2, closure of Northbrook Swimming Pool and the location of the growth areas reduces access for residents in the northeast and southwest of Exeter to between four and six swimming pool sites within a 20-minute drive (dark green areas in Map 4.5). Residents in all other areas of Exeter can access between seven and nine sites within a 20-minute drive (light blue area).
- 4.11 In Run 3, inclusion of Cranbrook Swimming Pool in East Devon restores the access to between seven to nine sites within a 20-minute drive in the northeast of Exeter (light blue area in Map 4.6) and to between nine and 11 sites in the southeast of Exeter (dark blue areas). Access in the southwest of Exeter remains lowest at between four and six sites within a 20-minute drive (dark green areas).

- 4.12 Travel to swimming pools by car is estimated to account for 66% of all journeys in Run 1 and 69% in Runs 2 and 3.

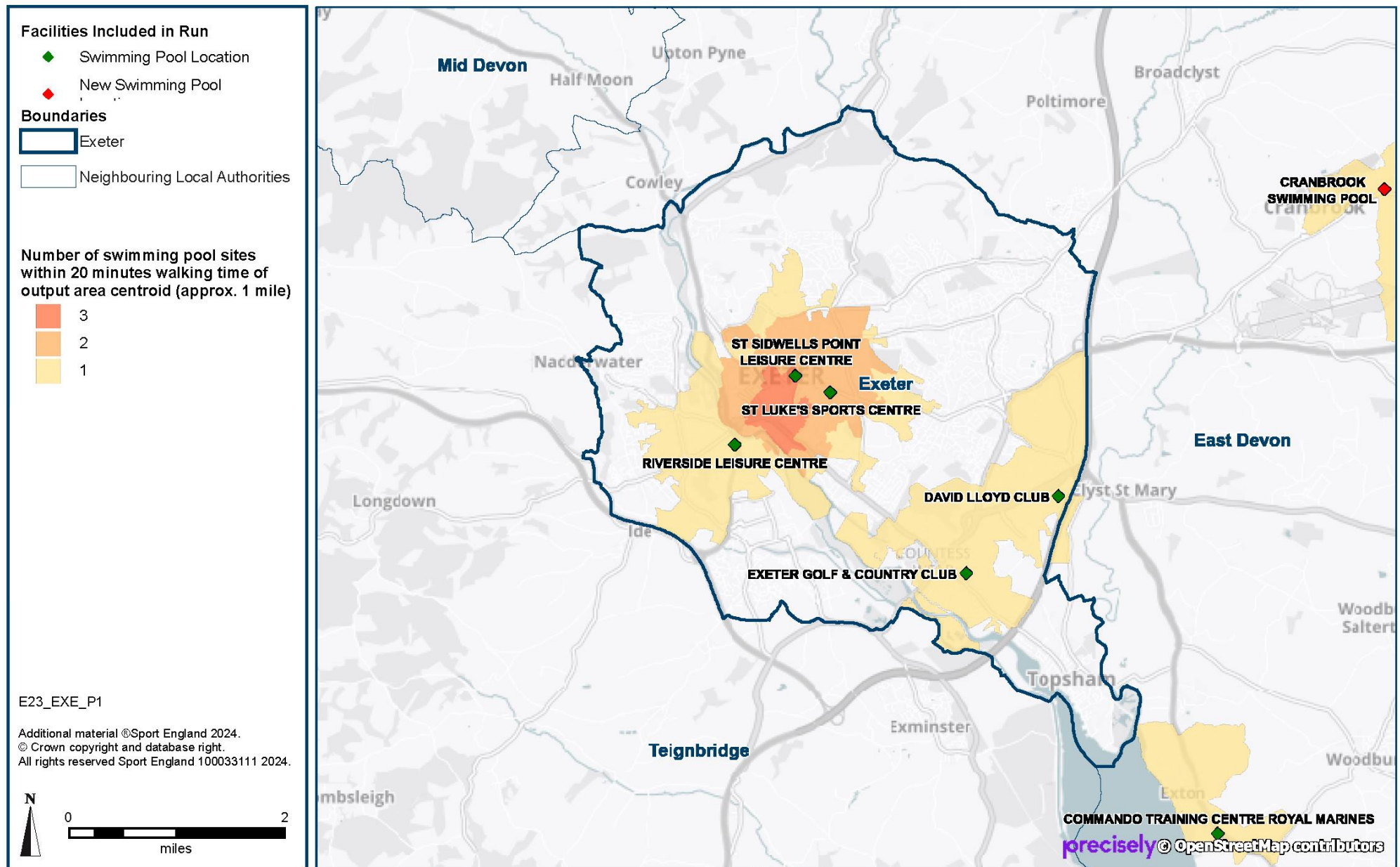
Map 4.1: Walking Access to Swimming Pools in Run 1 (2023)

FPM coverage shown thematically (colours) at output area level expressed as the number of pool sites within 20 minutes' walk of output area centroid.



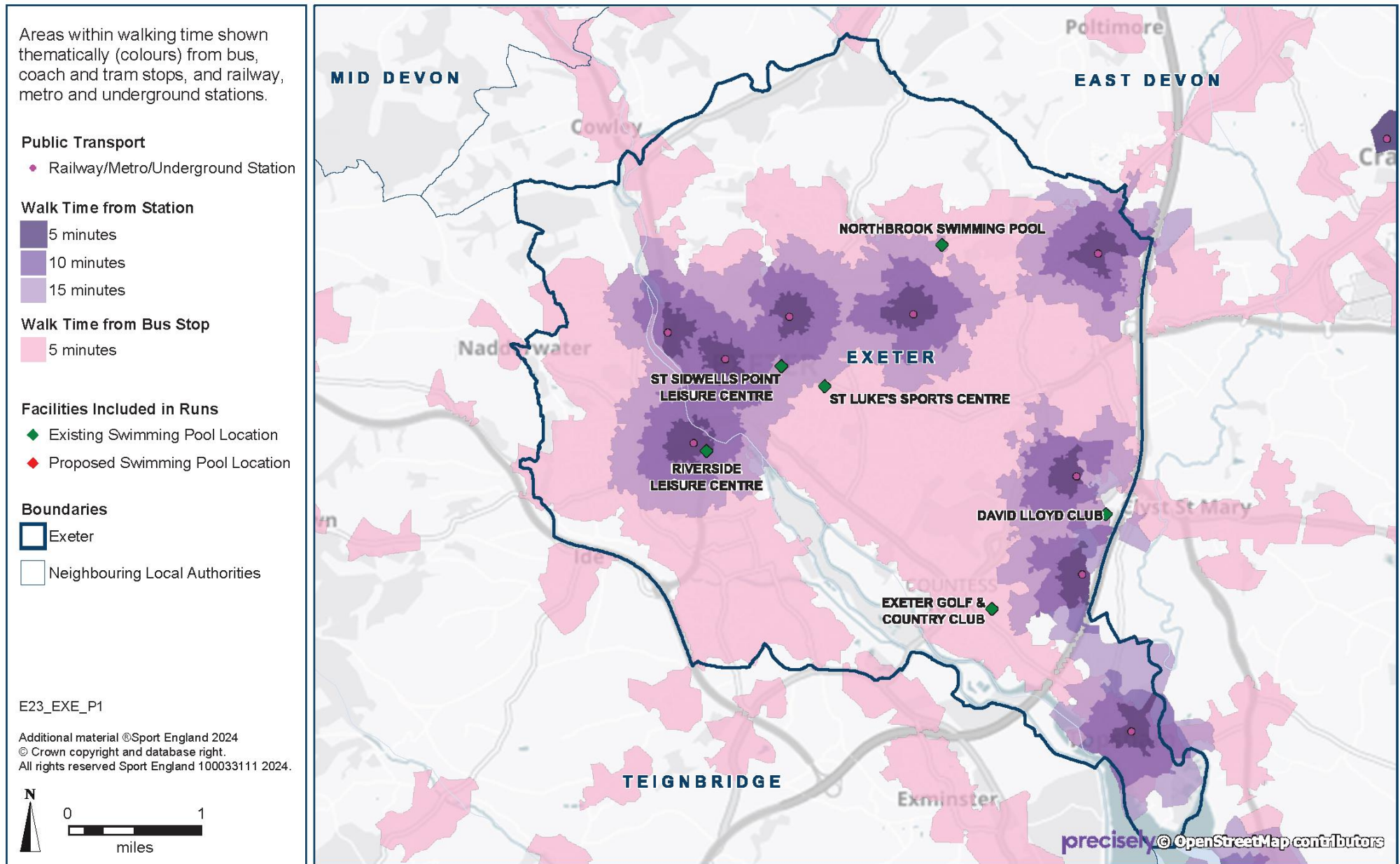
Map 4.2: Walking Access to Swimming Pools in Run 3 (2034)

FPM coverage shown thematically (colours) at output area level expressed as the number of pool sites within 20 minutes' walk of output area centroid.



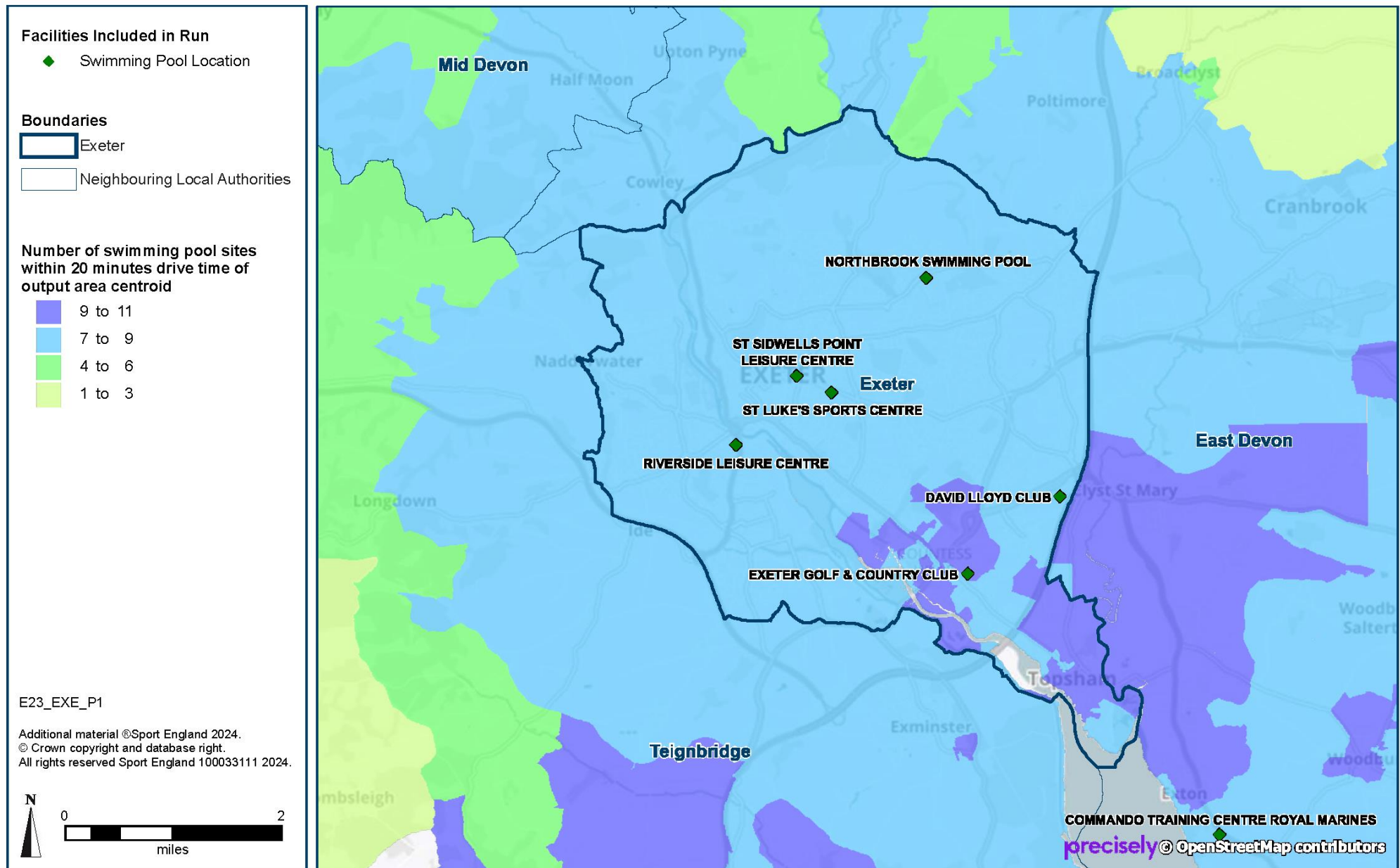
Map 4.3: Walking Access to Public Transport in Runs 1 to 3 (2023 and 2034)

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



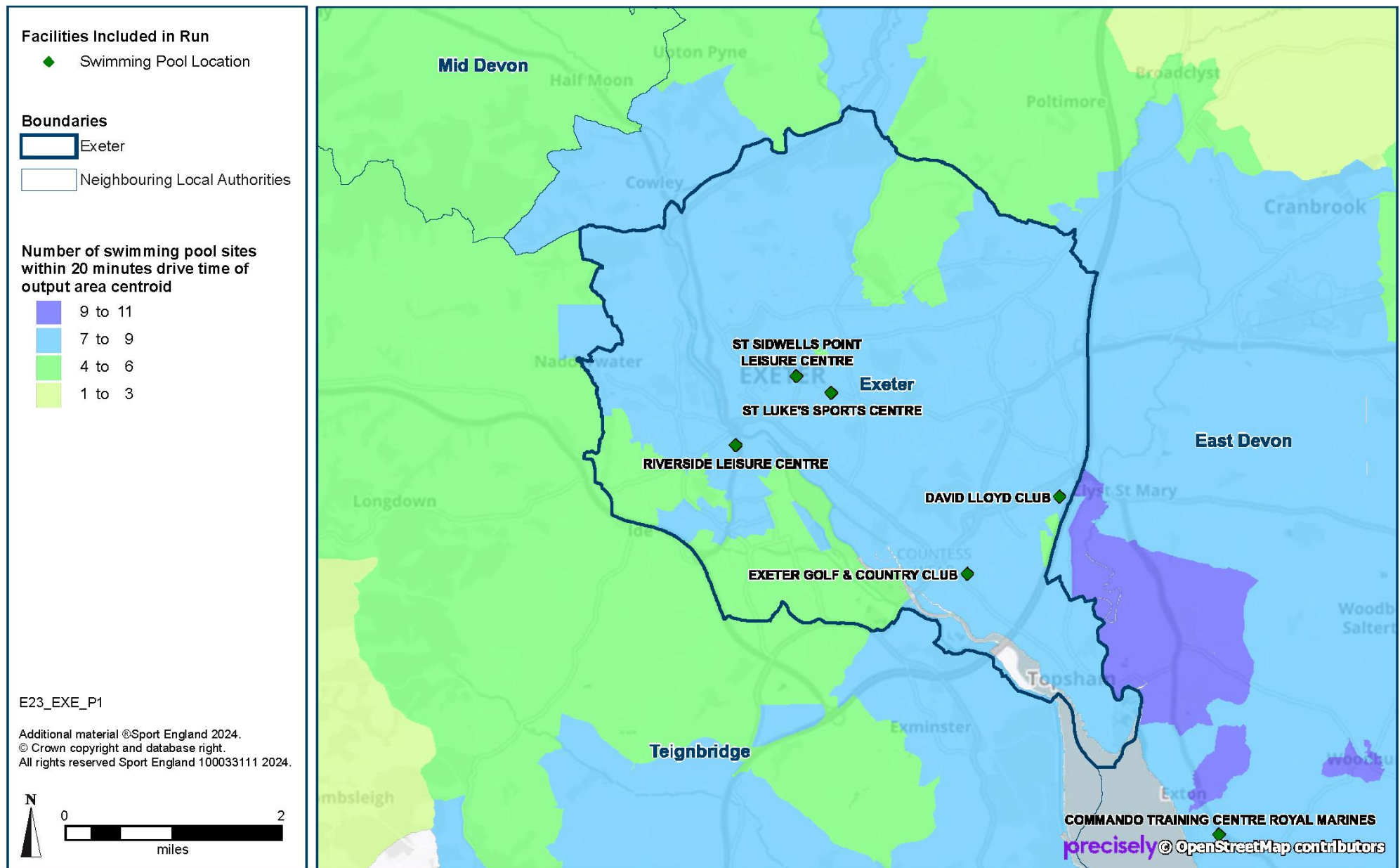
Map 4.4: Driving Access to Swimming Pools in Run 1 (2023)

FPM coverage shown thematically (colours) at output area level expressed as the number of pool sites within 20 minutes' drive of output area centroid.



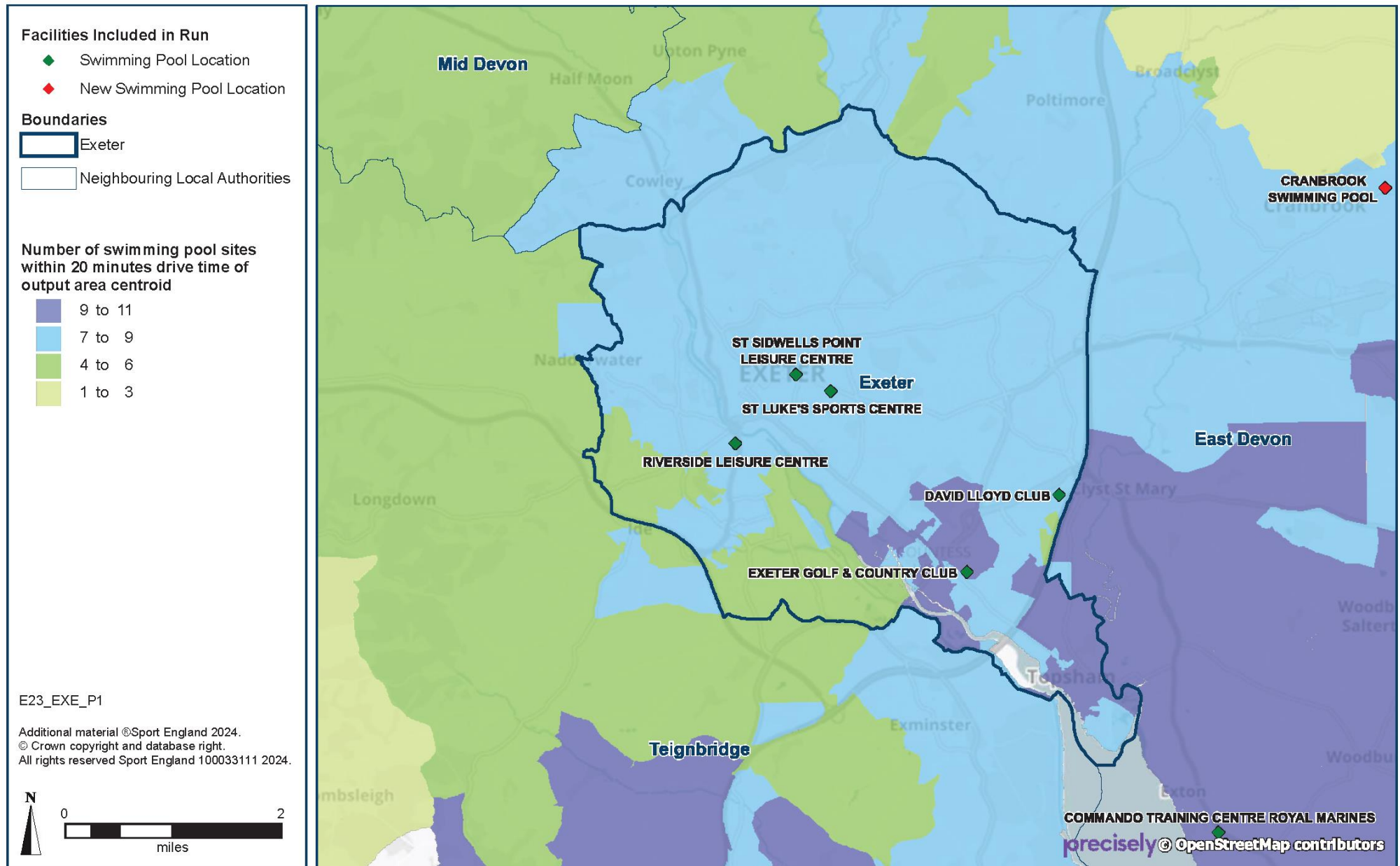
Map 4.5: Driving Access to Swimming Pools in Run 2 (2034)

FPM coverage shown thematically (colours) at output area level expressed as the number of pool sites within 20 minutes' drive of output area centroid.



Map 4.5: Driving Access to Swimming Pools in Run 3 (2034)

FPM coverage shown thematically (colours) at output area level expressed as the number of pool sites within 20 minutes' drive of output area centroid.



5. SATISFIED DEMAND FOR SWIMMING POOLS

A very high level of demand is satisfied in all three runs, with nearly all of the met demand being met within Exeter.

Exeter has the highest proportion of met demand across the study area and is higher than the regional and national averages in all three runs.

Only 1% of Exeter's satisfied demand is met at swimming pools in neighbouring local authority areas in Runs 1 and 2. The inclusion of Cranbrook Swimming Pool in East Devon in Run 3 leads to 4% of Exeter's met demand being exported.

Table 5.1: Satisfied Demand for Swimming Pools in Exeter by Run

Satisfied Demand	Run 1	Run 2	Run 3
Exeter	2023	2034	2034
Number of visits which are met per week in peak period	8,222	8,343	8,361
% of total demand satisfied	96%	95%	95%
Number of visits retained per week in peak period	8,145	8,246	8,018
Demand retained as a % of satisfied demand	99%	99%	96%
Number of visits exported per week in peak period	77	97	343
Demand exported as a % of satisfied demand	1%	1%	4%

Definition of satisfied demand – This represents the proportion of total demand that is met by the capacity at the swimming pools from Exeter residents who live within the travel time of a pool. This includes pools located both within and outside Exeter.

- 5.1 **Key finding 3** is that a very high proportion of Exeter's demand is met, at 96% in Run 1 and 95% in Runs 2 and 3. The number of visits met in the weekly peak period increases from 8,222 in Run 1, to 8,343 in Run 2 and 8,361 in Run 3.

Table 5.2: Proportion of Demand Met by Area and Run

Proportion of Demand Met	Run 1	Run 2	Run 3
Area	2023	2034	2034
Exeter	96%	95%	95%
East Devon	90%	90%	91%
Mid Devon	81%	81%	82%
Teignbridge	86%	86%	86%
South West Region	90%	90%	90%
England	91%	91%	91%

- 5.2 Exeter has the highest proportion of met demand across the study area and is higher than the South West Region and England averages in all three runs.

5.3 Details of the swimming pools in the neighbouring local authorities are listed in Appendix 2.

Retained Demand

Definition of retained demand – A subset of the satisfied demand findings shows how much of Exeter residents' demand for swimming pools is met at pools located within the Council area. This assessment is based on the travel time from Exeter's swimming pools and residents in the Council area participating at these pools.

5.4 The increase in demand between 2023 and 2034 means that the number of visits retained in the weekly peak period in Exeter increases from 8,145 visits in Run 1 to 8,246 visits in Run 2 despite the closure of the Northbrook site. In Run 3, inclusion of Cranbrook Swimming Pool in East Devon leads to a slight decrease in Exeter's retained demand, to 8,018 visits.

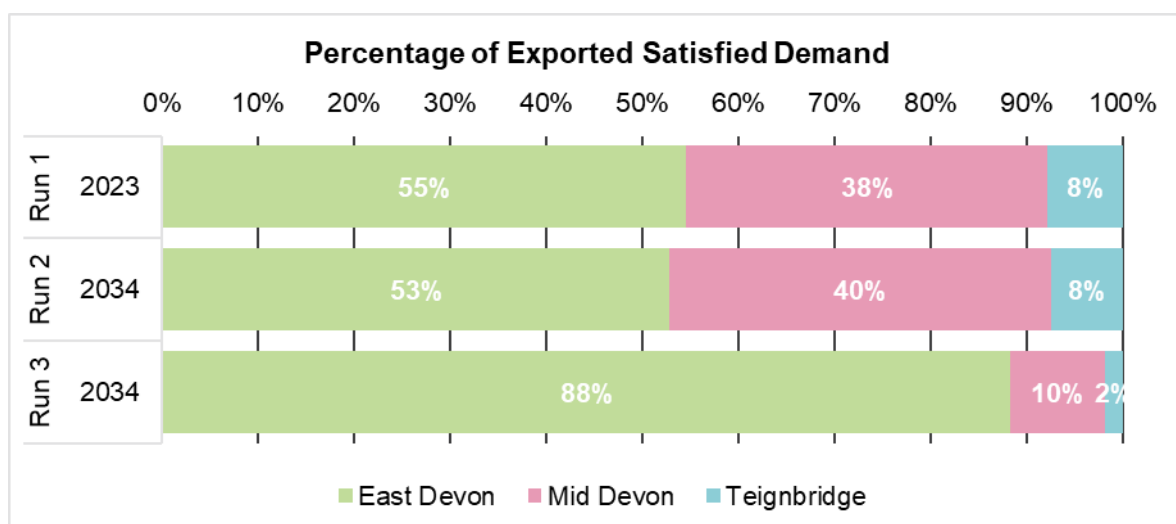
5.5 **Key finding 4** is that of Exeter's satisfied demand, 99% is met within the Council area in Runs 1 and 2, and 96% in Run 3.

Exported Demand

Definition of exported demand – The residue of satisfied demand, after retained demand, is exported demand. This is based on Exeter residents who live within the travel time of a swimming pool located outside Exeter and use that pool.

5.6 In Runs 1 and 2, 1% of Exeter's satisfied demand is met at swimming pools in neighbouring local authority areas. In Run 3, the inclusion of Cranbrook Swimming Pool in East Devon, leads to 4% of Exeter's met demand being exported.

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

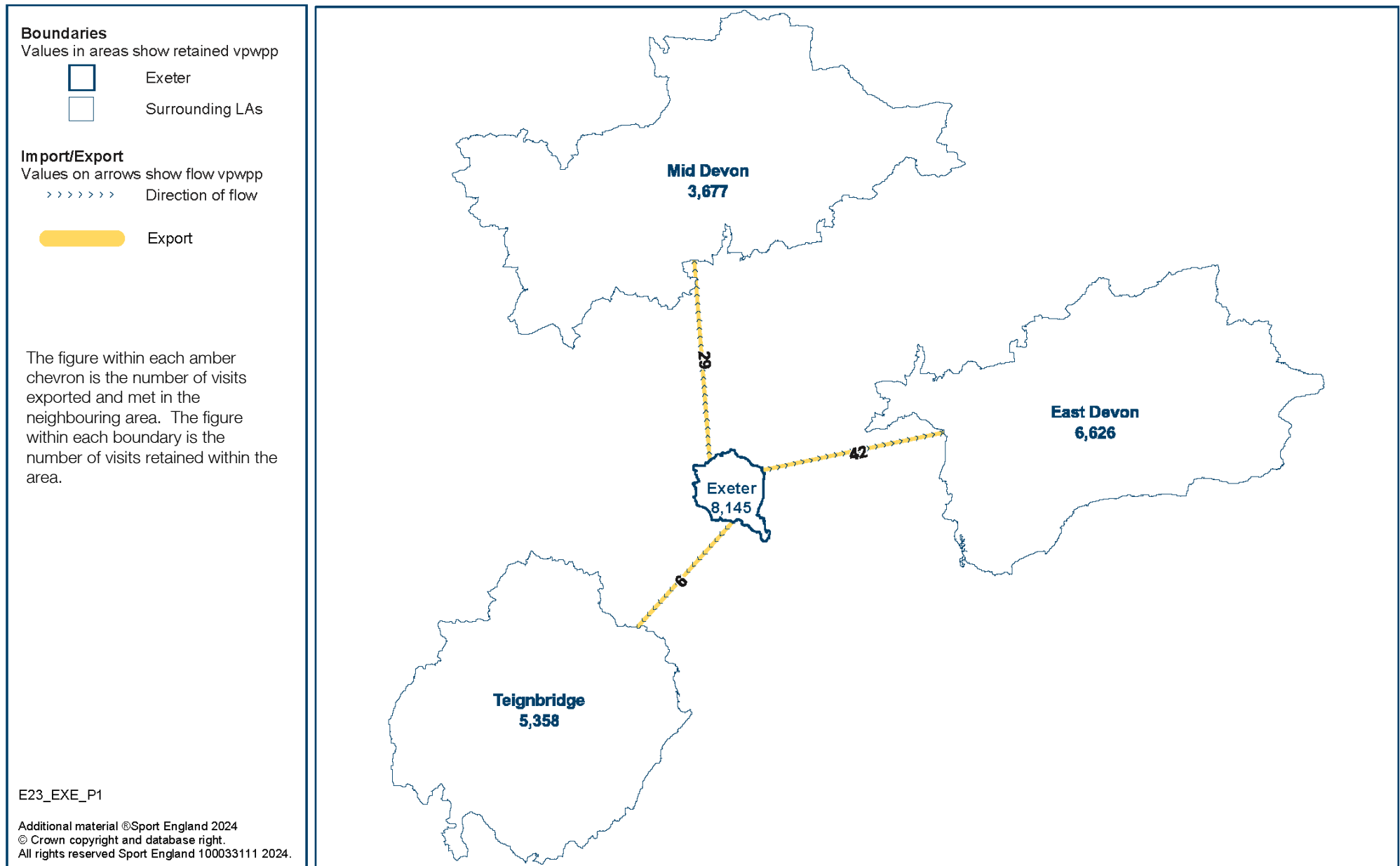


5.7 In all runs, the largest amount of exported demand is to East Devon at 55% in Run 1, 53% in Run 2 and 88% in Run 3, when Cranbrook Swimming Pool is included.

- 5.8 The number of visits in the weekly peak period exported to East Devon is small, at 42 visits in Run 1 (see Map **5.1**) and 51 visits in Run 2 (see Map **5.2**). It increases to 303 visits in the weekly peak period in Run 3 (see Map **5.3**).

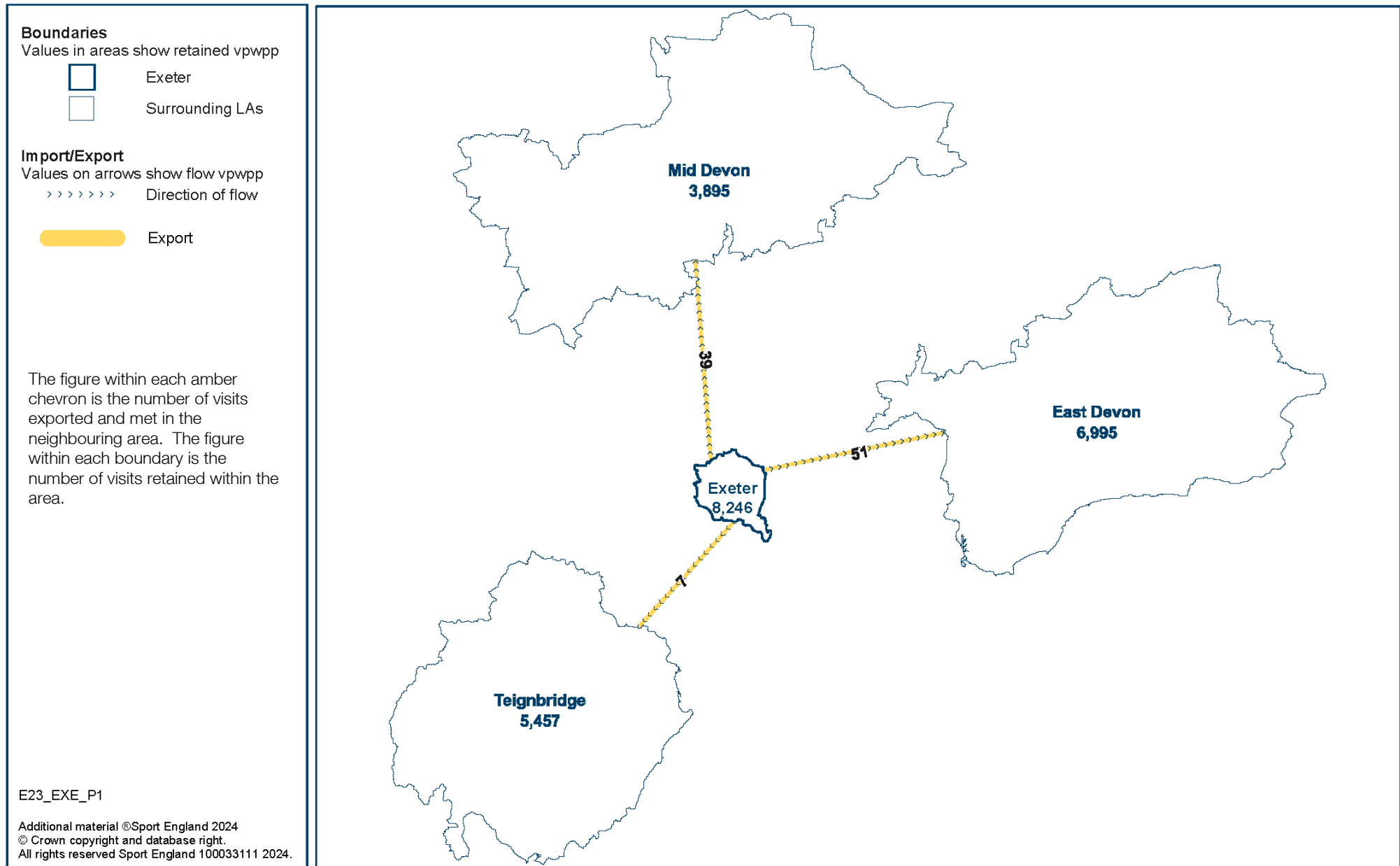
Map 5.1: Export of Exeter Satisfied Demand for Swimming Pools in Run 1 (2023)

FPM exported demand between Exeter and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).



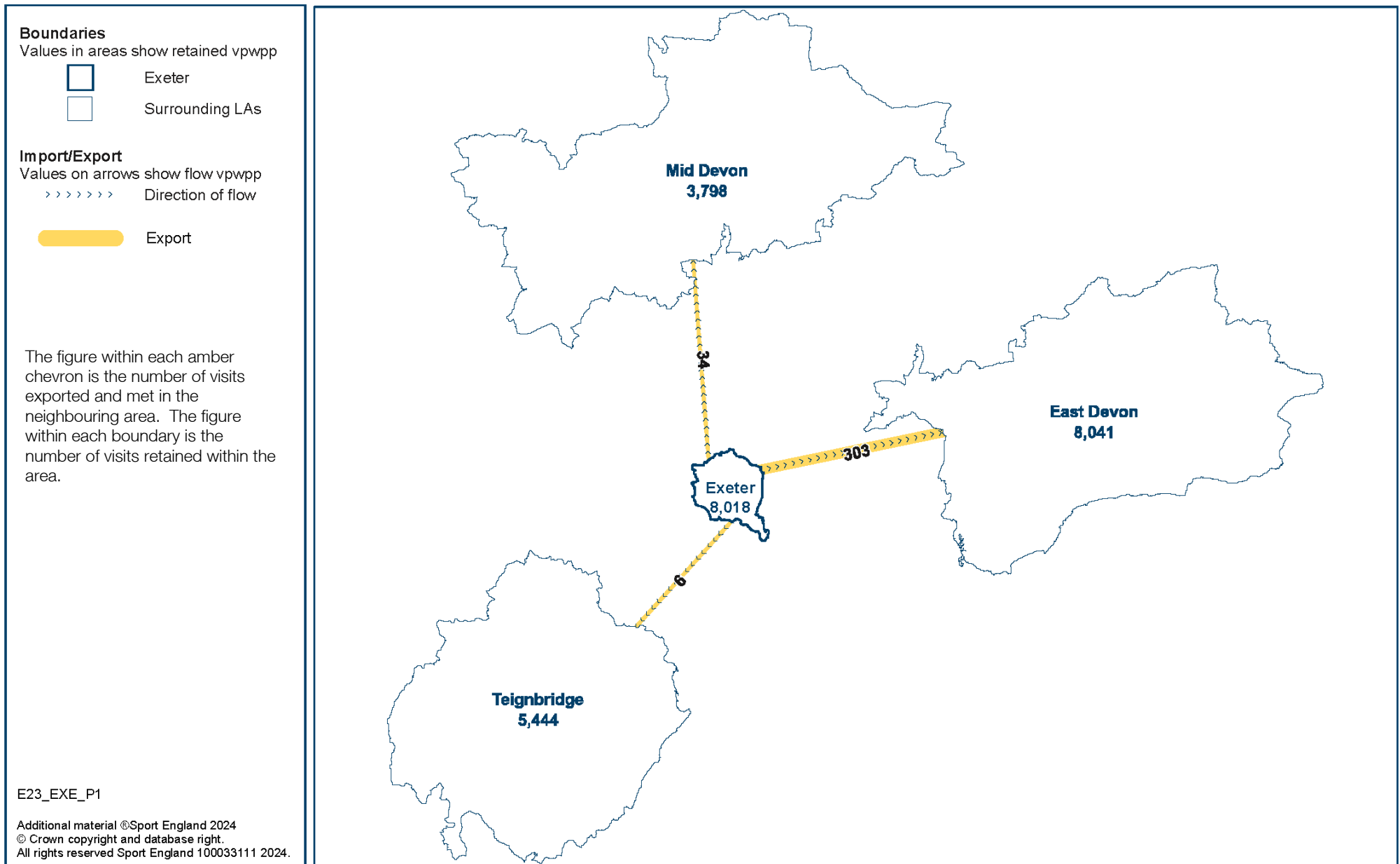
Map 5.2: Export of Exeter Satisfied Demand for Swimming Pools in Run 2 (2034)

FPM exported demand between Exeter and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).



Map 5.3: Export of Exeter Satisfied Demand for Swimming Pools in Run 3 (2034)

FPM exported demand between Exeter and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).



6. UNMET DEMAND FOR SWIMMING POOLS

Unmet demand in Exeter is very low in all three runs.

Nearly all the unmet demand is too far from a facility.

There is insufficient reachable unmet demand in Run 3 to support further swimming pool provision in Exeter to improve accessibility for residents. (Reachable unmet demand shows the level of unmet demand that would be met by a potential new facility in any given location).

Table 6.1: Unmet Demand for Swimming in Exeter by Run

Unmet Demand	Run 1	Run 2	Run 3
Exeter	2023	2034	2034
Number of visits unmet per week in peak period	321	456	438
Unmet demand as a % of total demand	4%	5%	5%
Equivalent in sqm of water with comfort factor	53	75	72
Sqm of water of unmet demand due to:			
Facility too far away, of which:	52	68	67
Without access to a car	93%	93%	93%
With access to a car	7%	7%	7%
Lack of facility capacity, of which:	1	7	5
Without access to a car	93%	87%	87%
With access to a car	13%	13%	13%

Definition of unmet demand – This has two parts; demand for swimming pools that cannot be met because:

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

- 6.1 Exeter's unmet demand is 4% of demand in Run 1, and 5% in Runs 2 and 3.
- 6.2 **Key finding 5** is that Exeter's unmet demand is very low at 53 sqm of water in Run 1. It is greatest in Run 2 at 75 sqm and slightly lower in Run 3 at 72 sqm, which is the equivalent of just over one lane of a 25m pool. Almost all of the unmet demand results from residents being too far from a facility. Lack of capacity accounts for between 1 sqm and 7 sqm of water across the runs.
- 6.3 Residents without access to a car account for 93% of the unmet demand that is too far from a facility in all three runs.
- 6.4 Demand too far from a swimming pool 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 swimming pool (that is not commercial) and not everyone will want, or is able, to drive the full distance.

- 6.5 The overall key point is not that unmet demand too far from a facility exists, but the scale of that unmet demand. Also, if this unmet demand is clustered in one location, further provision should be considered in order to improve accessibility for residents.

Location of Unmet Demand

Run 1

- 6.6 In Run 1 unmet demand per square kilometre is distributed in very low values across Exeter (see Map **6.1**). Unmet demand is highest in north Exwick, at 3 sqm of water (light blue square).
- 6.7 There is unmet demand of 2 sqm of water per square kilometre (medium blue squares) in:
- South Exwick
 - St James Park
 - Pilton
 - Wonford
 - Wyvern Barracks
 - Topsham

- 6.8 In the remainder of Exeter there is either no unmet demand (purple squares) or unmet demand of only 1 sqm of water per square kilometre (dark blue squares).

Run 2

- 6.9 In Run 2 closure of Northbrook Swimming Pool results in unmet demand increasing most in Beacon Heath and Pilton to 4 sqm of water per square kilometre (green squares in Map **6.2**).
- 6.10 Unmet demand in Whipton, south of Northbrook Swimming Pool, increases to 3 sqm of water (light blue square).
- 6.11 Unmet demand in northeast Exeter across four square kilometres increases in total from 4 sqm of water in Run 1 to 12 sqm in Run 2.
- 6.12 There is unmet demand of 3 sqm of water per square kilometre (light blue squares) in:
- St James Park, increase of 1 sqm of water from Run 1
 - North Exwick, no change
- 6.13 Unmet demand of 2 sqm of water per square kilometre (medium blue squares) remains the same as in Run 1 in:
- South Exwick

- Wonford
- Wyvern Barracks
- Topsham

6.14 Unmet demand increases to 2 sqm of water per square kilometre (medium blue squares) from 1 sqm in Run 1 in:

- University of Exeter halls of residence in northwest Exeter
- Polsloe
- Pinhoe
- Exeter city centre north of Riverside Leisure Centre
- Birchy Barton
- Middlemoor

6.15 In the remainder of Exeter there is either no unmet demand or demand of only 1 sqm of water per square kilometre.

Run 3

6.16 In Run 3, the opening of Cranbrook Swimming Pool in East Devon results in unmet demand decreasing in Beacon Heath and Pilton to 3 sqm of water (light blue squares in Map 6.3) and in Whipton to 2 sqm (medium blue square).

6.17 Unmet demand also decreases in University of Exeter halls of residence in northwest Exeter to 1 sqm of water and in Monkerton, on the border with East Devon, to 0 sqm.

6.18 Unmet demand in the rest of Exeter is unchanged from Run 2.

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.

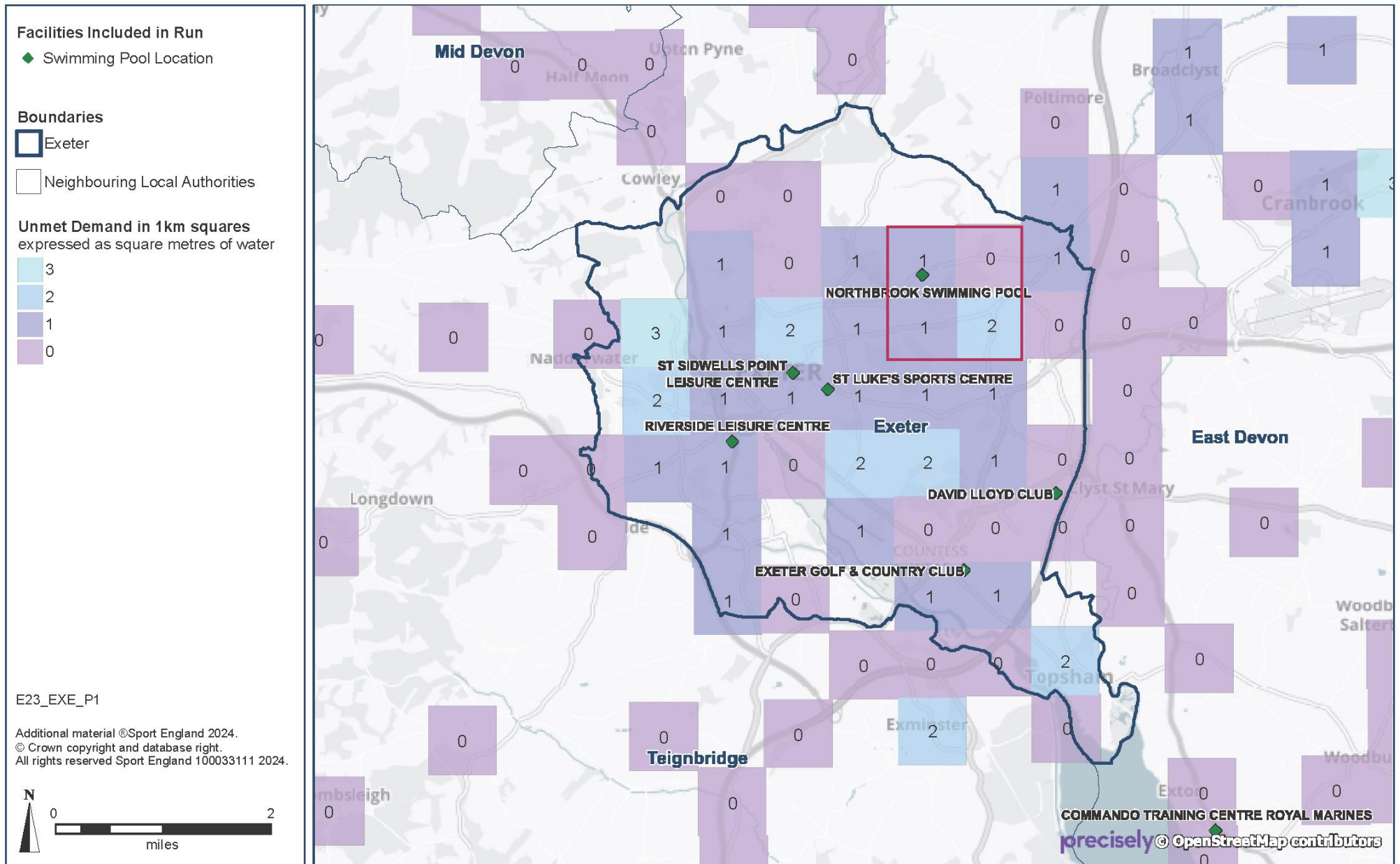
6.19 In Run 3 the location where the most unmet demand can be met is Middlemoor or Sowton industrial estate, southwest of Junction 29 of the M5, at 65 sqm of water (yellow squares in Map 6.4). This will include unmet demand from neighbouring local authorities. The amount of reachable unmet demand is insufficient to consider the provision of a swimming pool to improve access to swimming pools for residents.

6.20 At the location of Northbrook Swimming Pool reachable unmet demand is 42 sqm of water.

For context, the minimum amount of reachable water space required to justify a new pool would be 160 sqm, which is a 20m x 8m four-lane pool.

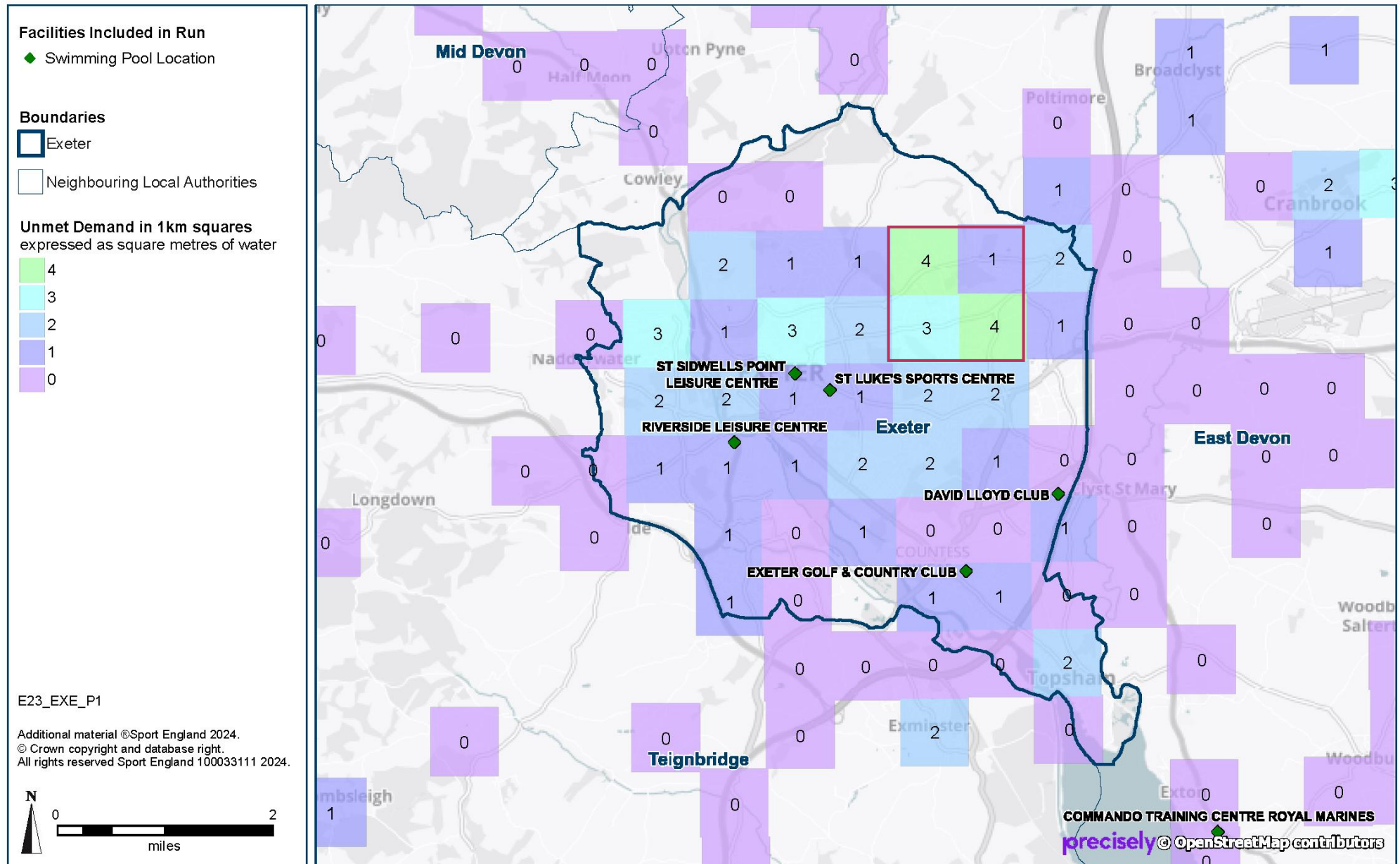
Map 6.1: Unmet Demand for Swimming Pools in Run 1 (2023)

FPM unmet demand aggregated at 1km square grid expressed as square metres of water and shown thematically (colours).



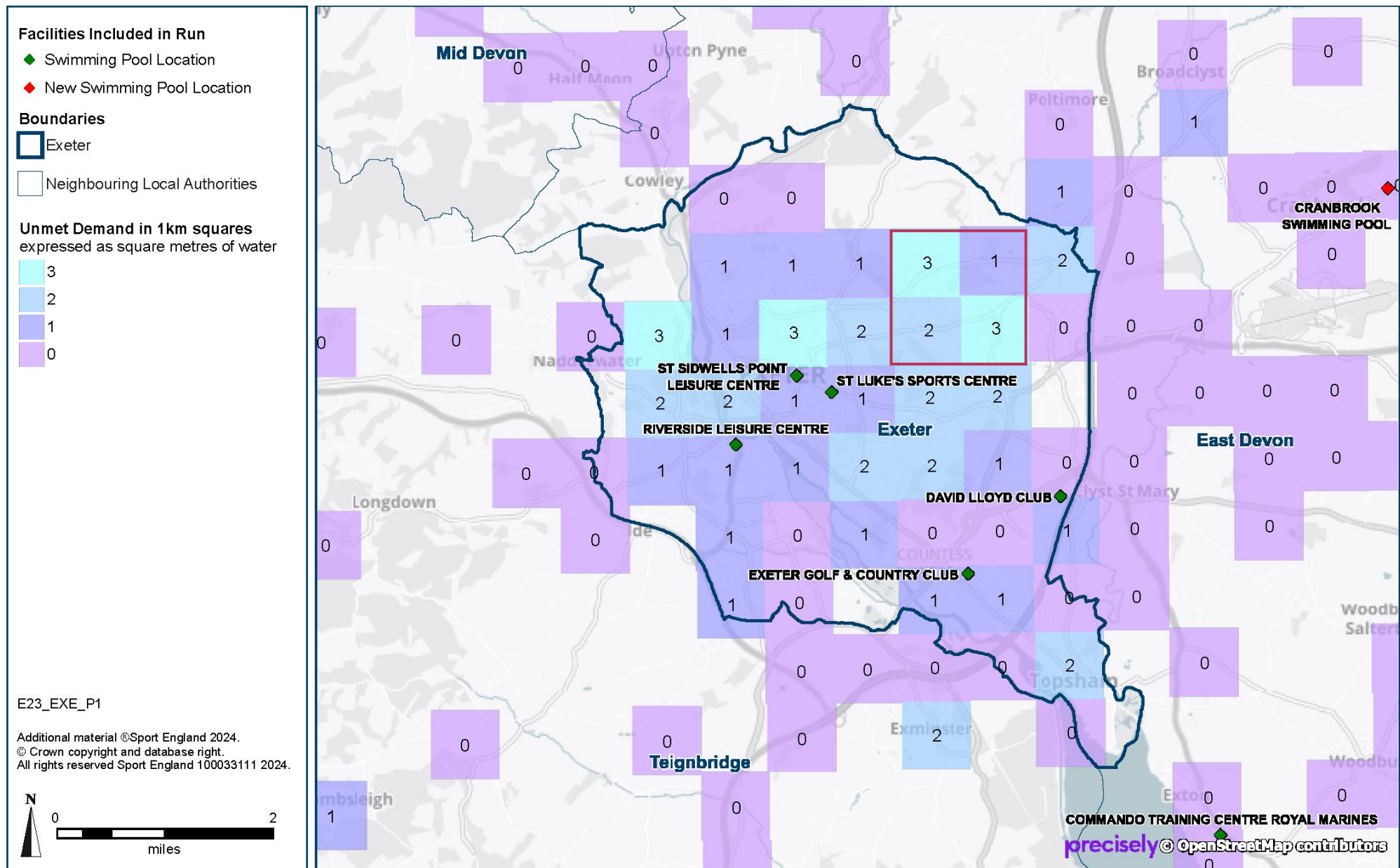
Map 6.2: Unmet Demand for Swimming Pools in Run 2 (2034)

FPM unmet demand aggregated at 1km square grid expressed as square metres of water and shown thematically (colours).



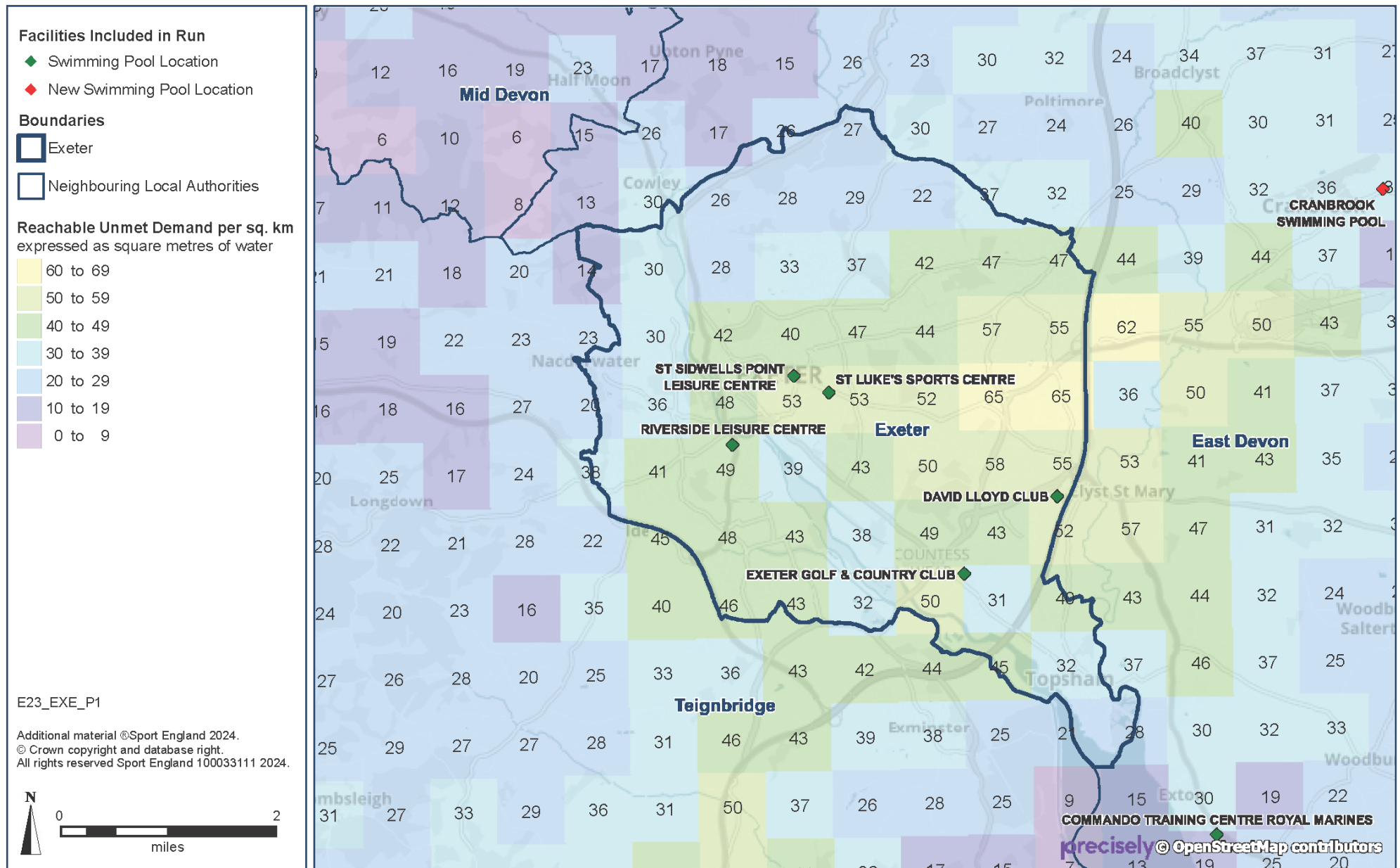
Map 6.3: Unmet Demand for Swimming Pools in Run 3 (2034)

FPM unmet demand aggregated at 1km square grid expressed as square metres of water and shown thematically (colours).



Map 6.4: Reachable Unmet Demand for Swimming Pools in Run 3 (2034)

FPM reachable unmet demand aggregated at 1km square grid expressed as square metres of water (figure labels) and shown thematically (colours).



7. USED CAPACITY OF FACILITIES

The public leisure centre swimming pools are estimated to be uncomfortably full in all three runs, with St Sidwell's Point Leisure Centre completely full in all three runs.

There is no scope to increase availability and capacity of the main pools at the two public leisure centres open in Runs 2 and 3.

Imported demand is 30% of the used capacity of Exeter's swimming pools in Run 1 and 31% in Run 2. It decreases to 25% in Run 3 when Cranbrook Swimming Pool is included in East Devon.

Table 7.1: Used Capacity of Swimming Pools in Exeter by Run

Used Capacity	Run 1	Run 2	Run 3
Exeter	2023	2034	2034
Number of visits used of capacity in weekly peak period	11,578	11,928	10,708
% of overall capacity of pools used	80%	85%	76%
Number of visits imported in weekly peak period	3,433	3,682	2,690
Visits imported as a % of used capacity	30%	31%	25%
Difference between visits imported and exported	3,356	3,585	2,347

Definition of used capacity – This is a measure of usage at swimming pools 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. The pool itself becomes too crowded to swim comfortably, and the changing and circulation areas also become too congested. In the model, Sport England assumes that usage above 70% of capacity is busy and that the swimming pool is operating at an uncomfortable level.

- 7.1 **Key finding 6** is that Exeter's swimming pool supply is estimated to be highly utilised in the weekly peak period in all three runs. The overall proportion of capacity used is:
- Run 1 – 80%
 - Run 2 – 85%
 - Run 3 – 76%
- 7.2 Utilisation is high in Run 1 because 30% of Exeter's used capacity is imported and the number of visits is much greater than those exported from Exeter. Used capacity increases in Run 2 because demand has increased, and capacity has decreased due to the closure of Northbrook Swimming Pool. In Run 3, used capacity decreases because of the attraction of the new swimming pool in Cranbrook, which causes exported demand from Exeter to increase and imported demand to decrease.

Table 7.2: Weekly Peak Period Used Capacity of Exeter Swimming Pools by Run

Used Capacity	Operation	Peak Hours	Year Built	Year Refurb	Run 1		Run 2		Run 3	
Individual Sites					Proportion	Visits	Proportion	Visits	Proportion	Visits
David Lloyd Club	Commercial	52.5	2010		62%	1,628	83%	2,179	62%	1,628
Exeter Golf and Country Club	Commercial	52.5	1995	2003	39%	638	42%	687	35%	573
Northbrook Swimming Pool	Public	14	1975	1997	76%	294	-	-	-	-
Riverside Leisure Centre	Public	52.5/35.5	1986	2020	86%	2,909	91%	3,078	80%	2,706
St Luke's Sports Centre	Educational	39.5	1984	2011	77%	1,049	67%	913	54%	736
St Sidwell's Point Leisure Centre	Public	52.5/50.5	2022		100%	5,065	100%	5,065	100%	5,065

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' because they:
 - Are accessible for public and swimming club use
 - Have extensive opening hours and are proactively managed to encourage and support swimming participation and physical activity
 - Unlike commercial swimming pools, do not require payment of a monthly membership fee
 - Provide for all activities
- Access to swimming pools at educational sites for community use will be determined by the policy of each educational provider and affects the hours available for community use.
- Commercial swimming pools offer a more limited programme of use for recreational swimming for their membership and, may operate learn to swim schools.

Age of the pool and its 'attractiveness'

- To assess their comparative attractiveness to customers, all swimming pools in the model are weighted to reflect their age and whether they have been modernised.
- 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.

Location of demand and competition from other sites

- Where swimming pools 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 swimming pool is remotely located, it benefits from 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 Exeter, their usage becomes part of the used capacity of the Council area's swimming pools.

Public Leisure Centres

- 7.4 **Key finding 7** is that St Sidwell's Point Leisure Centre is estimated to be 100% full at peak times in all three runs. Riverside Leisure Centre is between 80% and 91% utilised across the runs and Northbrook Swimming Pool is 76% utilised in Run 1.
- 7.5 **Key finding 8** is that Northbrook Swimming Pool provides 3% of the available capacity in Run 1. This is the scale of displacement from its possible closure. Most of the demand displaced can be met elsewhere.
- 7.6 St Sidwell's Point Leisure Centre's high utilisation is due to the following reasons:
- Large public leisure centre 'draw effect'
 - Highest attractiveness as the most recent swimming pool to open in 2022
 - Located in the area of highest demand in 2023 and 2034
- 7.7 Riverside Leisure Centre is estimated to be uncomfortably full in all three runs. Its variation in utilisation is due to the following reasons:
- Large public leisure centre 'draw effect'
 - Relatively attractive in 2023 as opened in 1986 and modernised in 2020, but comparatively less attractive in 2034
 - Located in the area of second highest demand in 2023 and 2034
 - Closest public swimming pool to Teignbridge
- 7.8 The main pools at St Sidwell's Point Leisure Centre and Riverside Leisure Centre are available for the maximum 52.5 hours in the weekly peak period. Therefore, there is no scope to increase their availability and capacity to reduce their proportion of capacity used at peak times to a comfortable level.
- 7.9 Northbrook Swimming Pool meets the fewest visits of only 294 in the weekly peak period. Its level of used capacity is because of the following reasons:
- Lowest attractiveness as the oldest swimming pool opened in 1975 and the oldest refurbishment in 1997
 - Area of third highest demand is to the south of the site but there is no demand to the north of the site
 - No competition from other sites for the low local demand to the north and east but competition to the southwest where demand is highest
 - Smallest swimming pool that is available for the fewest hours means that it has the smallest capacity in the weekly peak period
 - Closest public swimming pool to East Devon

Educational Site

- 7.10 St Luke's Sports Centre is estimated to be uncomfortably full in Run 1 at 77% utilisation but this decreases to 67% in Run 2 and further decreases in Run 3 to 54%. Its reduction in utilisation is due to the following reasons:
- Much lower attractiveness in 2034 compared to 2023 because was built in 1984 and refurbished in 2011
 - Located in the area of highest demand in 2023 and 2034. It is close to St Sidwell's Point Leisure Centre, which is much more attractive and, therefore, has competition for demand.
 - Closest non-commercial swimming pool to East Devon in Run 3 and Cranbrook Swimming Pool opens in Run 3
- 7.11 There is scope to increase availability in the weekly peak period at St Luke's Sports Centre by 13 hours, which would increase its capacity by 449 visits at peak times, the equivalent of 51 sqm of water. However, this would be for the same programme of activities.

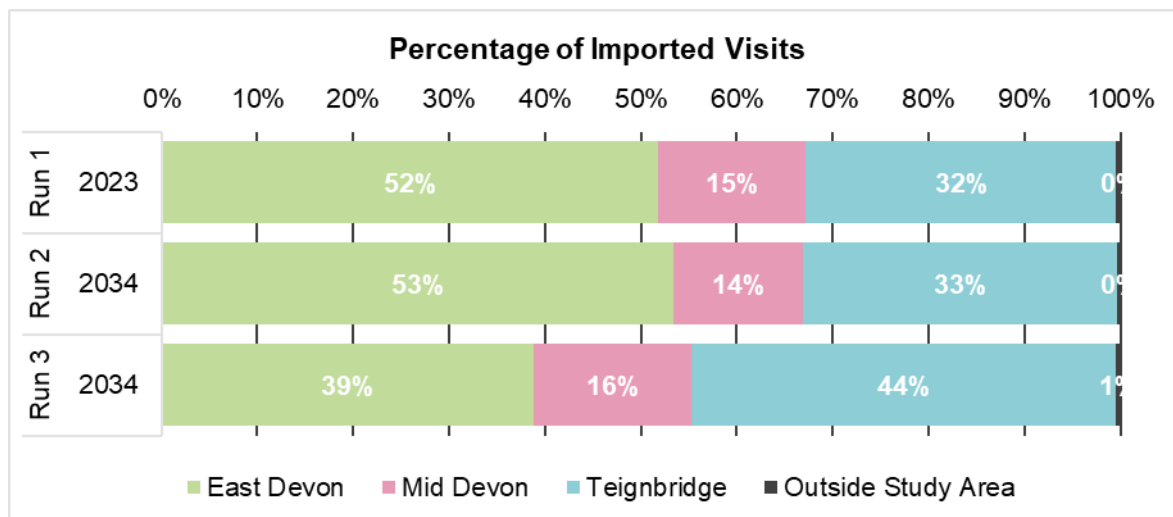
Commercial Clubs

- 7.12 David Lloyd Club is estimated to be 62% utilised at peak times in Runs 1 and 3, but uncomfortably full at 83% utilisation in Run 2. Cost element of membership limits demand to those who can afford it. The variation in used capacity across the Runs is due to the following reasons:
- Second most attractive swimming pool and remains highly attractive in 2034 because it was built in 2010
 - No competition to the north or east in Run 2
 - Closest swimming pool to East Devon and demand exported to East Devon increases in Run 3
- 7.13 Exeter Golf and Country Club has the smallest estimated proportion of capacity used in all three runs, at between 35% in Run 3 and 42% in Run 2. It meets the fewest visits in the weekly peak period in Runs 2 and 3. Its low utilisation is due the following factors:
- Cost element of membership limits demand to those who can afford it
 - Second least attractive swimming pool in Runs 2 and 3
 - Located in an area of low demand in 2023 and 2034
 - Close to David Lloyd Club, which is considered much more attractive and, therefore, has competition for demand

Imported Demand

- 7.14 Imported demand to Exeter's swimming pools increases from 3,433 visits in the weekly peak period in Run 1 to 3,682 visits in Run 2. It accounts for 30% of the used capacity of Exeter's pools in Run 1 and 31% in Run 2. Imported visits decreases to 2,690 in Run 3 and accounts for 25% of the used capacity.

Chart 7.1: Proportion of Imported Visits by Origin and Run



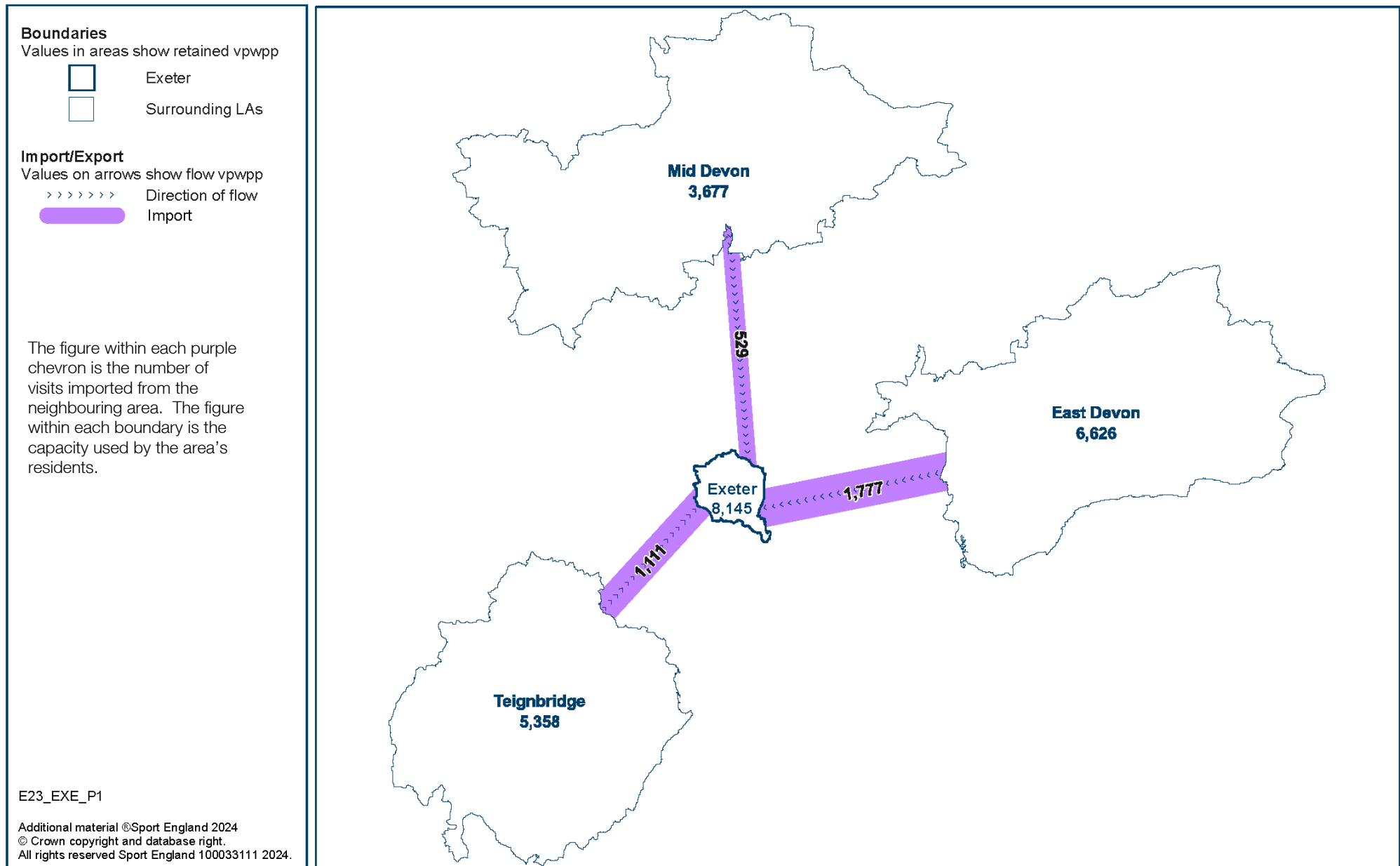
- 7.15 In Runs 1 and 2 the largest amount of imported demand is from East Devon. It accounts for 52% of the total imported demand in Run 1 and 53% in Run 2. The number of visits imported from East Devon in the weekly peak period increases from 1,777 in Run 1 (see Map 7.1) to 1,963 in Run 2 due to the increase in population size (see Map 7.2).
- 7.16 In Run 3 the largest amount of imported demand is from Teignbridge, accounting for 44% of the total imported demand. The number of visits imported from Teignbridge in the weekly period decreases from 1,206 in Run 2 to 1,189 in Run 3 (see Map 7.3). (Total imported demand decreases from 3,628 visits in Run 2 to 2,690 visits in Run 3).
- 7.17 Imported visits from East Devon is lowest in Run 3 at 1,043 in the weekly peak period, accounting for 39% of all imported demand.

Import/Export Balance

- 7.18 In all runs Exeter imports more visits in the weekly peak period than it exports:
- Run 1 – 3,356 more visits
 - Run 2 – 3,585 more visits
 - Run 3 – 2,347 more visits

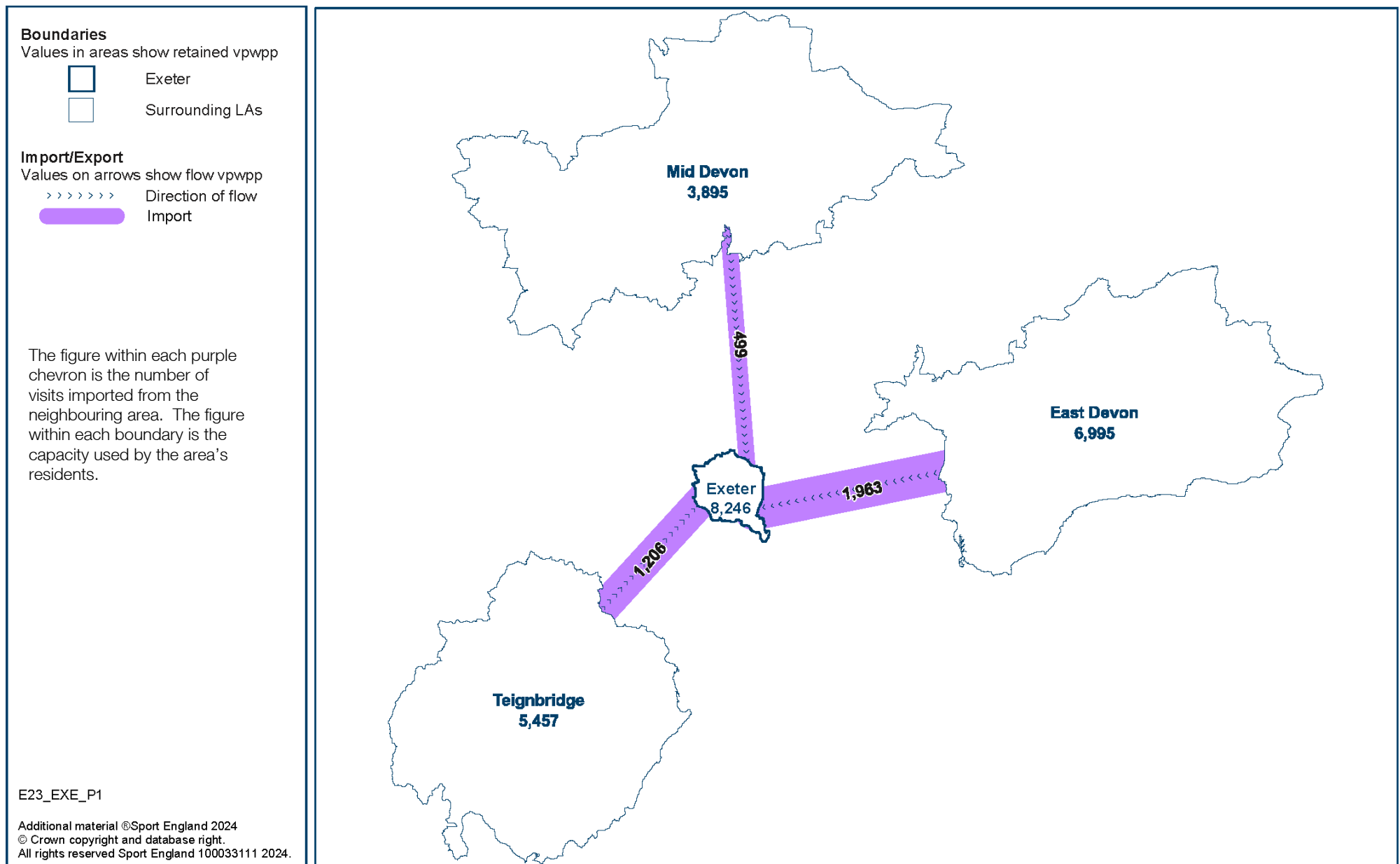
Map 7.1: Imported Demand for Swimming Pools to Exeter in Run 1 (2023)

FPM imported demand between Exeter and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).



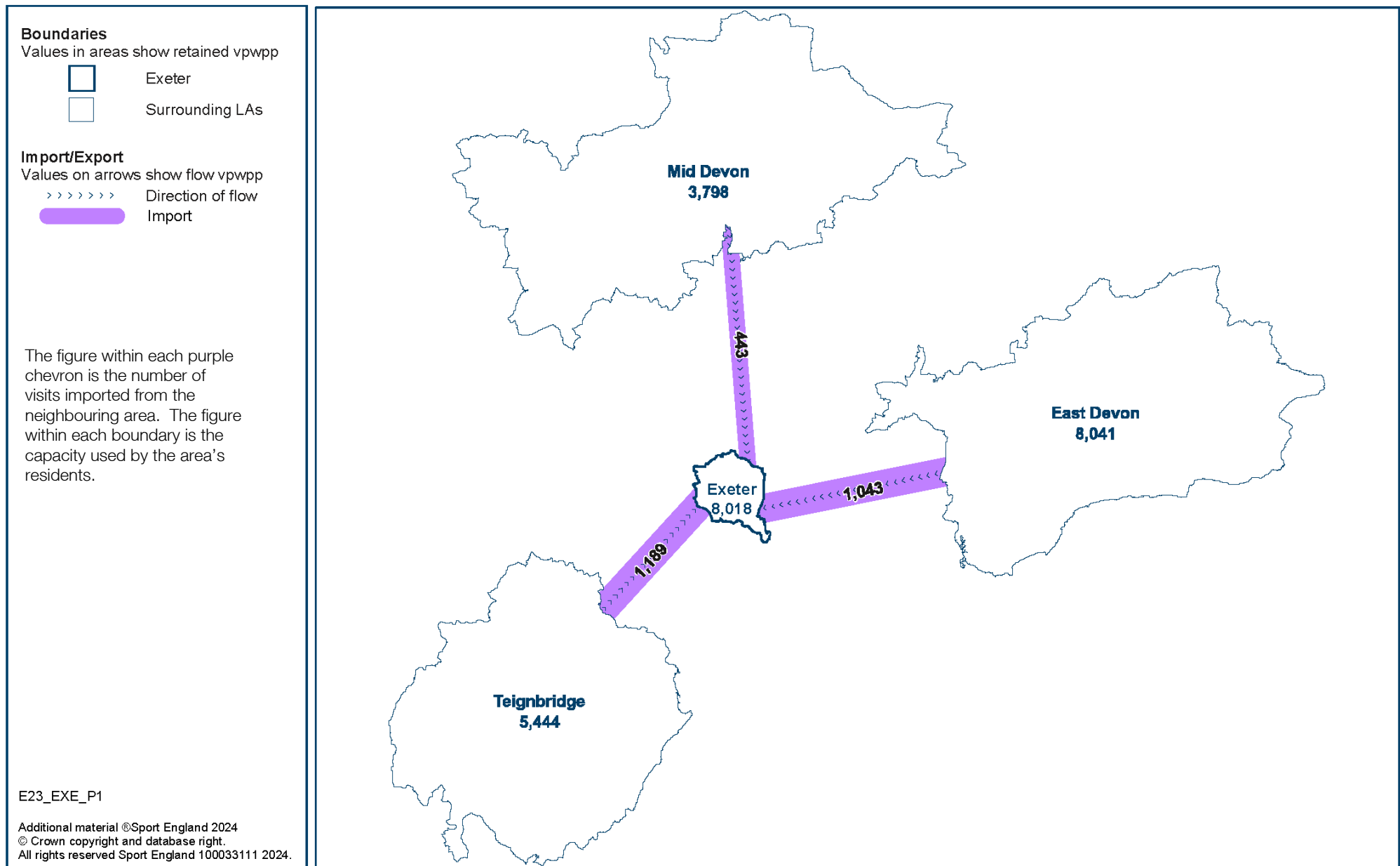
Map 7.2: Imported Demand for Swimming Pools to Exeter in Run 2 (2034)

FPM imported demand between Exeter and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).



Map 7.3: Imported Demand for Swimming Pools to Exeter in Run 3 (2034)

FPM imported demand between Exeter and surrounding areas shown thematically (size of lines) as visits per week in the peak period (vpwpp).



8. LOCAL SHARE OF FACILITIES

Local share indicates that there is just enough suitable provision that Exeter's residents can access in Run 1 but not enough in Runs 2 and 3, although the level varies across the Council area.

Local share is best in the southeast of Exeter in all three runs.

Exeter's provision per head of population is the highest in the study area in Run 1, the joint highest with East Devon in Run 2 and the second highest after East Devon in Run 3.

Table 8.1: Local Share of Swimming Pools in Exeter by Run

Local Share	Run 1	Run 2	Run 3
Exeter	2023	2034	2034
Local share of swimming pools relative to demand in local area: <1 = poorer, >1 = better	1.00	0.71	0.79

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 access and share of swimming pools 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 swimming pools is better and worse. The intervention is to try and increase access for residents in the areas with the poorest access to swimming pools. Local share is not comparable with the previous assessment sections as it is based on the quality and share of swimming pools by the population across Exeter. The assessment and findings set out in the preceding sections are the most important in determining provision of swimming pools in Exeter.
- 8.3 In Run 1 local share is 1.00. There is just enough suitable provision that Exeter's demand can access when there is the least demand in 2023 and the most supply.
- 8.4 In Run 2 local share decreases to 0.71 because demand has increased in 2034, Northbrook Swimming Pool is closed and the other swimming pools have aged, which decreases their attractiveness. Therefore, Exeter's demand cannot access enough suitable provision.

- 8.5 In Run 3 local share improves slightly to 0.79. The demand and age of the swimming pools is unchanged from Run 2, but Cranbrook Swimming Pool is added to the supply in East Devon, which the demand from Exeter can reach.

Geographical Distribution of Local Share

Run 1

- 8.6 In Run 1 local share is best in the southeast of Exeter, at the intersection of the M5 Junction 30 with the A379 and Newcourt, at 1.4 (medium blue squares in Map 8.1). The population in these areas can access more than enough suitable provision. Demand is very low and there are two commercial swimming pools in this area.
- 8.7 Local share is poorest in Beacon Heath, at 0.7 (yellow square). Demand is quite high and Northbrook Swimming Pool is the only site in the area, which is old and unattractive and has a very small capacity.

Run 2

- 8.8 In Run 2 local share is highest in the same areas as in Run 1 but lower at 1.0 (dark green squares in Map 8.2). Demand increases at the Old Rydon Lane housing growth site.
- 8.9 Local share is poorest in the same area of Beacon Heath, and also in Whipton and Pilton, at 0.6 (yellow squares). Northbrook Swimming Pool is excluded and there are no other swimming pools in the area.
- 8.10 Local share is also 0.6 at Riverside Valley Park. There are no public swimming pools in this area and demand has increased nearby, therefore, there is not enough suitable provision that all the demand can access.

Run 3

- 8.11 In Run 3 local share improves in the east and south of Exeter. Local share is highest in the same areas as Runs 1 and 2 and increases to 1.2 (light blue squares in Map 8.3). Cranbrook Swimming Pool in East Devon is open in this run and demand is unchanged from Run 2. Local share in East Devon also improves in this run and can access sufficient suitable supply.
- 8.12 Local share is poorest at 0.7 in the west and north of Exeter and at Riverside Valley Park and at Wyvern Barracks (yellow squares). Most of these areas had a value of 0.7 in Run 2.

Comparative Measure of Provision

- 8.13 A comparative measure of swimming pool provision is water space per 1,000 population.

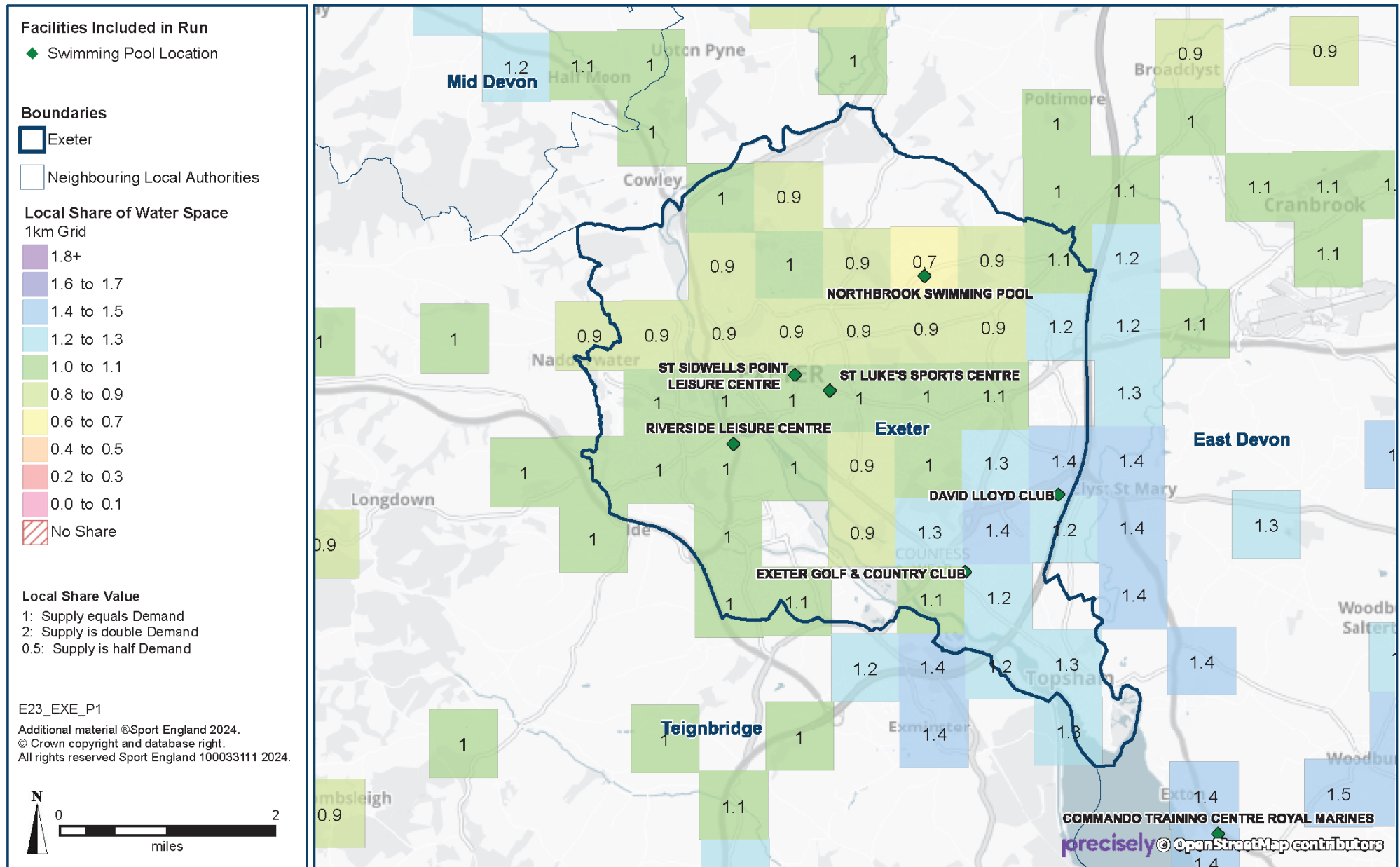
Table 8.2: Water Space in sqm per 1,000 Population by Area and Run

Water Space in sqm per 1,000 Population	Run 1	Run 2	Run 3
Area	2023	2034	2034
Exeter	14	12	12
East Devon	13	12	13
Mid Devon	8	8	8
Teignbridge	7	6	6
South West Region	13	12	12
England	12	11	11

- 8.14 Exeter has 14 sqm of water per 1,000 population in Run 1 (2023) and 12 sqm in Runs 2 and 3 (2034).
- 8.15 Exeter's provision is the highest in the study area in Run 1, the joint highest with East Devon in Run 2 and the second highest after East Devon in Run 3.
- 8.16 The findings on water space per 1,000 population are reported because some local authorities like to compare their quantitative provision with others; however, it does not set a standard of provision, and should not be used as such.
- 8.17 The supply and demand assessment for swimming pools in Exeter is based on the findings from the previous six headings analysed in this report.

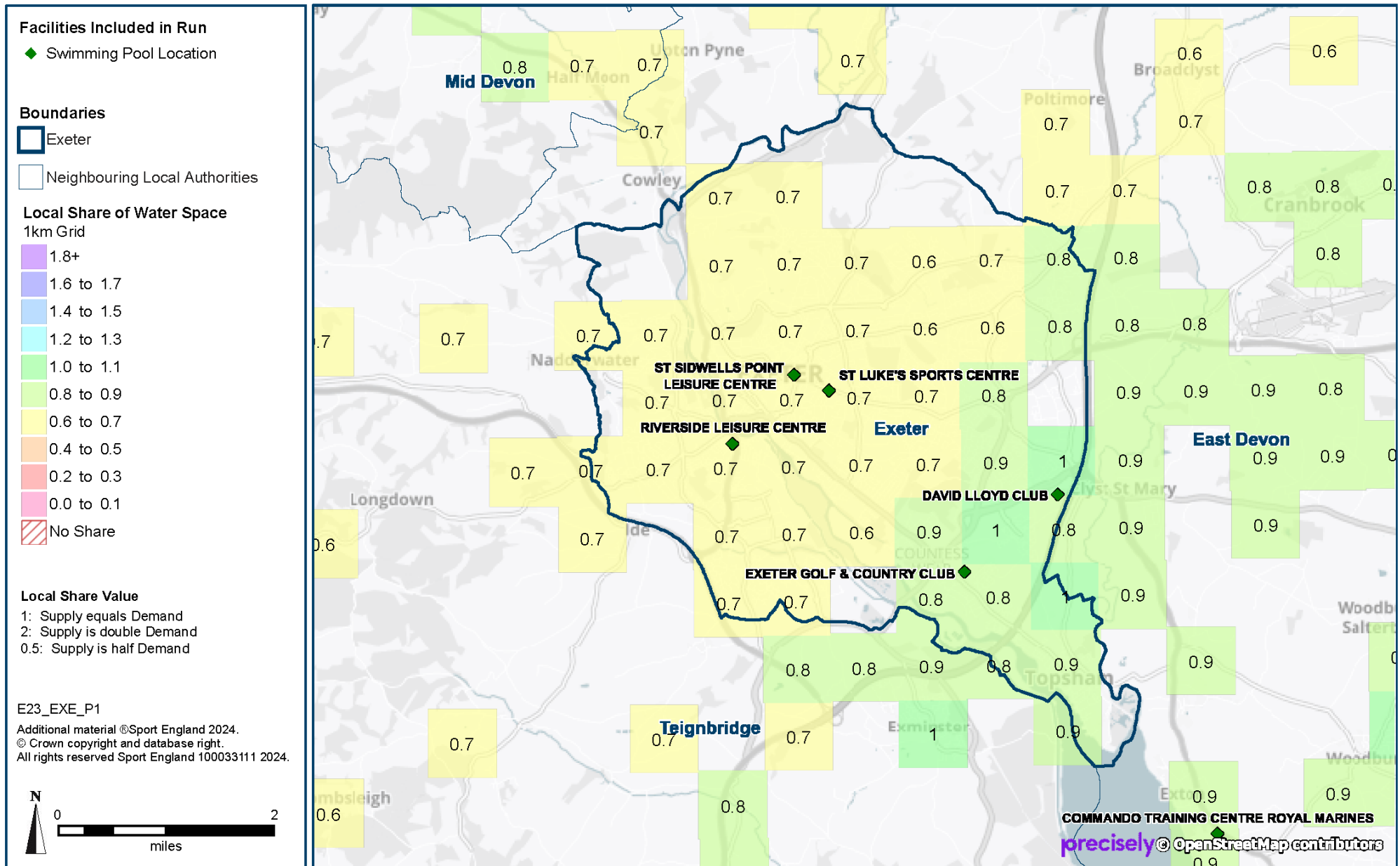
Map 8.1: Local Share of Swimming Pools in Run 1 (2023)

FPM share of water divided by demand aggregated at 1km square and shown thematically (colours).



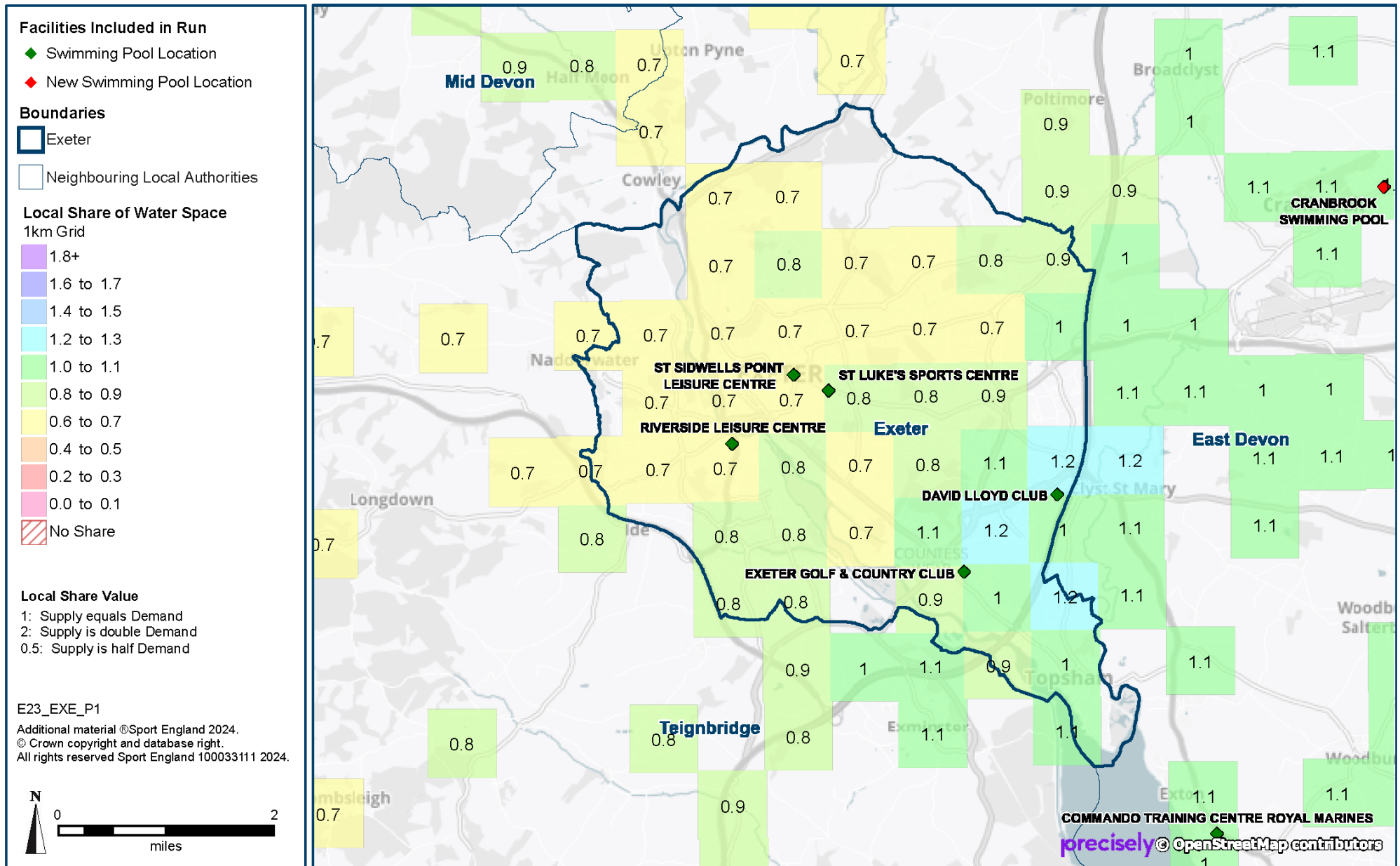
Map 8.2: Local Share of Swimming Pools in Run 2 (2034)

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



Map 8.3: Local Share of Swimming Pools in Run 3 (2034)

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



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
Alphington Primary School	Learner/Teaching/Training	Private use
David Lloyd Club	Lido	Lido
Exeter Golf & Country Club	Lido	Lido
Exeter Royal Academy for Deaf Education (Closed)	Main/General	Closed
Exeter School	Main/General	Private use
Exeter School	Lido	Closed
Middlemoor Police Headquarters	Main/General	Private use
Pyramids Swimming & Leisure Centre (Closed)	Main/General	Closed
Pyramids Swimming & Leisure Centre (Closed)	Main/General	Closed
Spa Naturel (Mercure Exeter Southgate Hotel)	Main/General	Principal pool too small
Topsham Swimming Pool	Lido	Lido
University of Exeter Sports Park	Lido	Lido
Woodwater Academy	Learner/Teaching/Training	Private use

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

Site	Operation	Facility Type	Dimensions (m)	Area (sqm)	Year Built	Year Refurb
East Devon						
Bicton College	Educational	4-lane	18 x 9	162	1975	2013
Commando Training Centre Royal Marines	Other	7-lane	33 x 15	500	1973	
Cranbrook Swimming Pool	Public	4-lane	25 x 10	250	2028	
Exmouth Leisure Centre	Public	6-lane Teaching	25 x 13 12 x 7	325 84	1982	2008
Flamingo Pool	Other	5-lane Leisure	25 x 11 6 x 6	263 36	1998	
Honiton Leisure Centre	Public	5-lane	25 x 11	263	1986	
Sidmouth Swimming Pool	Public	5-lane	25 x 11	263	1991	
Woodbury Park Hotel and Golf Club	Commercial	3-lane	20 x 7	140	1995	2005
Mid Devon						
Exe Valley Leisure Centre	Public	6-lane Teaching	25 x 13 13 x 8	325 104	2003	
Lords Meadow Leisure Centre	Public	4-lane Teaching	25 x 9 9 x 8	225 72	1998	
Teignbridge						
Cofton Country Holidays	Commercial	Leisure	24 x 11	259	2000	
Dawlish Leisure Centre	Public	5-lane	25 x 12	295	1994	2013
Newton Abbot Leisure Centre	Public	6-lane Teaching	25 x 13 13 x 7	325 91	1975	2005

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 swimming pools, sports halls, indoor bowls centres and artificial grass pitches.

2. Use of FPM

- 2.1. Sport England uses the FPM as one of its principal tools in helping to assess the strategic need for certain community sports facilities. The FPM has been developed as a means of:
 - Assessing requirements for different types of community sports facilities on a local, regional, or national scale.
 - Helping local authorities to determine an adequate level of sports facility provision to meet their local needs.
 - Helping to identify strategic gaps in the provision of sports facilities.
 - Comparing alternative options for planned provision, taking account of changes in demand and supply. This includes testing the impact of opening, relocating, and closing facilities, and the impact of population changes on the needs for sports facilities.
- 2.2. Its current use is limited to those sports facility types for which Sport England holds substantial demand data, i.e., swimming pools, sports halls, indoor bowls, and artificial grass pitches (AGPs).
- 2.3. The FPM has been used in the assessment of Lottery funding bids for community facilities, and as a principal planning tool to assist local authorities in planning for the provision of community sports facilities.

3. How the Model Works

- 3.1. In its simplest form, the model seeks to assess whether the capacity of existing facilities for a particular sport is capable of meeting local demand for that sport, considering how far people are prepared to travel to such a facility.
- 3.2. In order to do this, the model compares the number of facilities (supply) within an area against the demand for that facility (demand) that the local population will produce, similar to other social gravity models.
- 3.3. To do this, the FPM works by converting both demand (in terms of people) and supply (facilities) into a single comparable unit. This unit is 'visits per week in the peak period' (VPWPP). Once converted, demand and supply can be compared.
- 3.4. The FPM uses a set of parameters to define how facilities are used and by whom. These parameters are primarily derived from a combination of data including actual user surveys from a range of sites across the country in areas of good supply, together with participation survey data. These surveys provide core information on the profile of users, such as, the age and gender of users, how often they visit, the distance travelled, duration of stay, and on the facilities themselves, such as, programming, peak times of use, and capacity of facilities.
- 3.5. This survey information is combined with other sources of data to provide a set of model parameters for each facility type. The original core user data for halls and pools comes from the National Halls and Pools survey undertaken in 1996. This data formed the basis for the National Benchmarking Service (NBS). For AGPs, the core data used comes from the user survey of AGPs conducted in 2005/06 jointly with **sportscotland**.
- 3.6. User survey data from the NBS and other appropriate sources are used to update the model's parameters on a regular basis. The parameters are set out at the end of the document, and the main data sources analysed are:
 - Active Lives
 - For the adult survey, this data is collected by an online survey or paper questionnaire on behalf of Sport England. Each annual sample includes about 175,000 people and covers the full age/gender range. Detailed questions are asked about over 200 separate sports 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
 - This is a centre-based survey whose primary purpose is to enable centres to benchmark themselves against other centres. Sample interviews are conducted on site. The number of people surveyed varies by year depending on how many centres take part. Approximately 10,000 swimmers and 3,500 sports hall users are surveyed per year. This data is used for journey

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

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

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

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

4. Calculating Demand

- 4.1. Demand is calculated by applying the user information from the parameters, as referred to above, to the population¹. This produces the number of visits for that facility that will be demanded by the population.
- 4.2. Depending on the age and gender make-up of the population, this will affect the number of visits an area will generate. In order to reflect the different population make-up of the country, the FPM calculates demand based on the smallest census groupings. These are Output Areas (OAs)².
- 4.3. The use of OAs in the calculation of demand ensures that the FPM is able to reflect and portray differences in demand in areas at the most sensitive level based on available census information. Each OA used is given a demand value in VPWPP by the FPM.

5. Calculating Supply Capacity

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

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

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

- 5.2. The FPM calculates a facility's capacity by applying each of the capacity factors taken from the model parameters, such as the assumptions made as to how many 'visits' can be accommodated by the particular facility at any one time. Each facility is then given a capacity figure in VPWPP.
- 5.3. Based on travel time information³ taken from the user survey, the FPM then calculates how much demand would be met by the particular facility, having regard to its capacity and how much demand is within the facility's catchment. The FPM includes an important feature of spatial interaction. This feature takes account of the location and capacity of all the facilities, having regard to their location and the size of demand, and assesses whether the facilities are in the right place to meet the demand.
- 5.4. It is important to note that the FPM does not simply add up the total demand within an area and compare that to the total supply within the same area. This approach would not take account of the spatial aspect of supply against demand in a particular area. For example, if an area had a total demand for 5 facilities, and there were currently 6 facilities within the area, it would be too simplistic to conclude that there was an oversupply of 1 facility as this approach would not take account of whether the 5 facilities are in the correct location for local people to use them within that area. It might be that all the facilities were in one part of the authority, 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 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 be expected to come from the population living close to the facility, but who may be in an adjoining authority.

6. Calculating the Capacity of Sports Halls – Hall Space in Courts (HSC)

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

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

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

- In calculating the capacity of halls, the model uses a different 'At-One-Time' (AOT) parameter for main halls and for activity halls. Activity halls have a greater AOT capacity than main halls – see below. Marked courts can sometimes not properly reflect the size of the actual main hall. For example, a hall may be marked out with 4 courts, when it has space for 3 courts. As the model uses the 'courts' as a unit of size, it is important that the hall's capacity is included as a 3 'court unit' rather than a 4 'court unit'.
- The model calculates the capacity of the sports hall as 'visits per week in the peak period' (VPWPP), and then uses this unit of capacity to compare with demand, which is also calculated as VPWPP. It is often difficult to visualise how much hall space there is when expressed as VPWPP. To make things more meaningful, this capacity in VPWPP is converted back into 'main hall court equivalents' and is noted in the output table as 'Hall Space in Courts'.

7. Facility Attractiveness – for Halls and Pools Only

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

7.2. Attractiveness weightings are based on the following:

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

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

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

- 7.4. Commercial facilities – halls and pools: 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 output area the Indices of Multiple Deprivation (IMD) score is used to limit whether people will use commercial facilities. The assumption is that the higher the IMD score (less affluence), the less likely the population of the OA would choose to go to a commercial facility.
- 7.5. 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 (LSOAs) in England. Deciles are calculated by ranking the LSOAs from most deprived to least deprived and dividing them into ten groups. IMD is an overall relative measure of deprivation constructed by combining seven domains of deprivation according to their relative weights.

8. Comfort Factor – Halls and Pools

- 8.1. As part of the modelling process, each facility is given a maximum number of visits it can accommodate based on its size, the number of hours it is available for community use, and the 'at one time capacity' figure (pools = 1 user/6sqm, halls = 6 users/court). This gives each facility a 'theoretical capacity.'
- 8.2. If the facilities were full to their theoretical capacity, then there would simply not be the space to undertake the activity comfortably. In addition, there is a need to take account of a range of activities taking place which have different numbers of users; for example, aqua aerobics will have significantly more participants than lane swimming sessions. Additionally, there may be times and sessions that, while being within the peak period, are less busy and so will have fewer users.
- 8.3. To account for these factors the notion of a 'comfort factor' is applied within the model. For swimming pools, 70%, and for sports halls, 80%, of their theoretical capacity is considered as being the limit where a facility starts to become uncomfortably busy. (Currently, the comfort factor is not applied to AGPs due to the fact they are used by teams which have a set number of players, therefore, the notion of having a 'less busy' pitch is not applicable.)
- 8.4. The comfort factor is used in two ways:
- Utilised capacity – How well used is a facility? 'Utilised capacity' figures for facilities are often seen as being very low at 50-60%; however, this needs to be put into context with 70-80% comfort factor levels for pools and halls. The closer utilised capacity gets to the comfort factor level, the busier the facilities are becoming. You should not aim to have facilities operating at 100% of their theoretical capacity, as this would mean that every session throughout the peak period would be being used to its

maximum capacity. This would be both unrealistic in operational terms and unattractive to users.

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

9. Utilised Capacity (Used Capacity)

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

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

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

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

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

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

10. Travel Times

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

10.2. The Ordnance Survey (OS) MasterMap Highways Network Roads has been used to calculate the off-peak drive times between facilities and the population, observing any one-way and turn restrictions which apply and taking account of delays at junctions and car parking. Each street in the network is assigned a speed for car travel based on the attributes of the road,

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

- 10.3. OS MasterMap Highways Network Paths is used to calculate walking times along paths and roads, excluding motorways and trunk roads. A standard walking speed of 3 mph is used for all journeys.
- 10.4. The model includes three different modes of travel – car, public transport, and walking. Car access is also considered in areas of lower access to a car, where the model reduces the number of visits made by car and increases those made on foot.
- 10.5. Overall, surveys have shown that the majority of visits made to swimming pools, sports halls and AGPs are made by car, with a significant minority of visits to pools and halls being made on foot.

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

- 10.6. The model includes a distance decay function, where the further a user is from a facility, the less likely they will travel. Set out below is the survey data with the percentage of visits made within each of the travel times. This shows that 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 swimming pools and sports halls.

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

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

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

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

Facility Inclusion Criteria

Swimming Pools

The following inclusion criteria were used for this analysis:

- Include all operational indoor swimming pools available for community use, i.e., pay and play, membership, sports club/community association.
- Exclude all pools not available for community use, i.e., private use.
- Exclude all outdoor pools, i.e., lidos.
- Exclude all pools where the main pool is less than 20 metres in length, or the area is less than 160 square metres. If the principal pool is a leisure pool with an area less than 200 square metres, then all pools on the site should be excluded.
- For leisure pools, only the area of the water that is swimmable should be included. Water play or splash areas should be excluded from the useable space.
- Include all 'planned', 'under construction' and 'temporarily closed' facilities only where all data is available for inclusion.
- Where opening times are missing, availability has been included based on similar facility types.
- Where the year built is missing assume date 1975⁴.

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

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

Model Parameters

Swimming Pools Parameters

At One Time Capacity	0.16667 per square metre = 1 person per 6 square meters																											
Catchment Maps	Car: 20 minutes Walking: 1.6 km Public transport: 20 minutes at about half the speed of a car NOTE: Catchment times are indicative, within the context of a distance decay function of the model.																											
Duration	60 minutes																											
Percentage Participation	<table><tr><td>Age</td><td>0-15</td><td>16-24</td><td>25-39</td><td>40-59</td><td>60-79</td><td>80+</td></tr><tr><td>Male</td><td>14.5</td><td>6.9</td><td>10.4</td><td>8.6</td><td>5.4</td><td>1.6</td></tr><tr><td>Female</td><td>16.2</td><td>10.2</td><td>13.8</td><td>11.8</td><td>7.7</td><td>1.5</td></tr></table>							Age	0-15	16-24	25-39	40-59	60-79	80+	Male	14.5	6.9	10.4	8.6	5.4	1.6	Female	16.2	10.2	13.8	11.8	7.7	1.5
Age	0-15	16-24	25-39	40-59	60-79	80+																						
Male	14.5	6.9	10.4	8.6	5.4	1.6																						
Female	16.2	10.2	13.8	11.8	7.7	1.5																						
Frequency per Week	<table><tr><td>Age</td><td>0-15</td><td>16-24</td><td>25-39</td><td>40-59</td><td>60-79</td><td>80+</td></tr><tr><td>Male</td><td>1.09</td><td>1.03</td><td>0.86</td><td>1.01</td><td>1.30</td><td>1.73</td></tr><tr><td>Female</td><td>1.10</td><td>0.96</td><td>0.82</td><td>1.00</td><td>1.17</td><td>1.28</td></tr></table>							Age	0-15	16-24	25-39	40-59	60-79	80+	Male	1.09	1.03	0.86	1.01	1.30	1.73	Female	1.10	0.96	0.82	1.00	1.17	1.28
Age	0-15	16-24	25-39	40-59	60-79	80+																						
Male	1.09	1.03	0.86	1.01	1.30	1.73																						
Female	1.10	0.96	0.82	1.00	1.17	1.28																						
Peak Period	Weekday: 9:00 to 10:00, 12:00 to 13:00, 15:30 to 21:00 Weekend: 08:00 to 15:30 Total: 52.5 hours																											
Proportion in Peak Period	63%																											