

Technical Paper: Modelling the Demand for Post 16 Education in Cambridgeshire and Peterborough, Cambridgeshire County Council Research Team, March 2020

Introduction

Under the 'Apprenticeships, Skills, Children and Learning Act 2009 the Local Authority, Cambridgeshire County Council, has a statutory duty:

- 'to secure sufficient suitable education and training opportunities to meet the reasonable needs of all young people in their area, defined as over compulsory school age but under 19, or aged 19 to 25 and subject to a learning difficulty assessment'
- 'to secure sufficient suitable education and training for young people subject to youth detention'
- 'to secure sufficient education and training for young people who wish to travel into their area to learn'

In recent years the role of the Council¹ with regard to post-16 provision has moved away from being the commissioner of learner places, to working with schools and colleges in an influencing role. In order to maintain a strategic overview of provision and needs the County Council needs to regularly review current and planned future provision against forecast demand.

This technical paper underpins the forecasts of future demand created to support the 2019/20 review process.

Data Sources: Population Forecasts

Methodology

The County Council's current population model takes account of all relevant demographic trends (international and national migration, change in birth-rate). The model also includes all planned future housing development plans, based on each of the published District Council house building trajectories (note that the forecasts do not consider speculative housing development sites that are outside of published district local plans).

Outputs from the population forecasting model are available at small area level and for single year of age².

The 2015 mid-year based forecasting run of the population model has been used to provide the baseline numbers for young people aged 16+

Future trends

Cambridgeshire has been a rapidly growing County and many places are expected to experience continued high levels of housebuilding in the near future. Past growth, in the last ten years, and future growth serve to increase the post-16 population by a range of +14% (Fenland) and +40.5% (East Cambridgeshire) over the next 18 years.

There is expected to be a significant period of house-building in the Cambridge and South Cambridgeshire area during the period 2021 to 2031 on large sites such as Waterbeach, Northstowe

¹ See current 0-19 education Organisation Plan for further details
<https://ccc-live.storage.googleapis.com/upload/www.cambridgeshire.gov.uk/residents/working-together-children-families-and-adults/Cambridgeshire%27s%200-19%20Education%20Organisation%20Plan%202018-19.pdf?inline=true>

² See Cambridgeshire Insight
<https://cambridgeshireinsight.org.uk/population/population-forecasts/?geographyId=3f57b11095784e27969369a52f7854ef&featureId=E05002702>

and Cambourne West. Beyond 2031 development growth is assumed to return back to longer-term averages for the area.

Table 1: 2015 Based Population Forecast for 17 to 18 year olds, Cambridgeshire Research Group, 2017

	<i>Cambridge</i>	<i>East Cambridgeshire</i>	<i>Fenland</i>	<i>Huntingdonshire</i>	<i>South Cambridgeshire</i>	<i>Peterborough</i>
2018	3,075	1,742	2,266	4,004	3,516	4,912
2019	3,070	1,759	2,232	3,962	3,636	4,873
2020	3,029	1,902	2,163	3,868	3,724	4,809
2021	3,184	1,992	2,252	3,920	3,759	4,964
2022	3,301	2,079	2,246	4,102	3,871	5,132
2023	3,446	2,152	2,264	4,174	4,006	5,218
2024	3,653	2,232	2,377	4,251	4,096	5,509
2025	3,729	2,294	2,455	4,380	4,334	5,815
2026	3,835	2,405	2,480	4,460	4,488	6,019
2027	3,879	2,426	2,503	4,550	4,488	6,098
2028	3,925	2,499	2,584	4,582	4,531	6,199
2029	4,081	2,497	2,662	4,703	4,574	6,273
2030	4,083	2,406	2,649	4,746	4,574	6,226
2031	3,952	2,349	2,583	4,650	4,522	6,129
2032	3,884	2,356	2,566	4,631	4,472	6,066
2033	3,867	2,406	2,558	4,672	4,521	6,028
2034	3,894	2,408	2,562	4,717	4,602	5,983
2035	3,919	2,430	2,581	4,769	4,665	6,017
2036	3,936	2,447	2,593	4,804	4,724	6,076
Increase 2018 to 2036	861	705	327	800	1,208	1,164
% Increase 2018 to 2036	28.0%	40.5%	14.4%	20.0%	34.4%	23.7%

Data Sources: Current and Future Capacity

Methodology

The capacity figures used within the demand forecasting for school sixth forms and further education colleges were collated by the County Council and then checked with the institutions via an e-mail survey during the summer term of 2018/19. There were then further opportunities for the intuitions to comment on the figures during the consultation phase of the post-sixteen review. This included commenting on existing growth capacity growth plans.

Further desk based cross-checking of the supplied data were also carried out by the Council's Education Place Planning Team. This was due to some variation in capacity figures depending on the source used. This is not surprising given the notion of *capacity* in terms of buildings and staffing for sixth-form and colleges is open to interpretation and somewhat flexible compared to the measured capacity of school places.

Capacity

The capacity figures below were used within the initial consultation with institutions.

Table 2: Consultation Version of Post-16 Capacity Figures, Sixth Form, Year 12 only

District	Current Theoretical* Capacity (Summer 2019)	Planned change** to Future Capacity	Notes
Cambridge / South Cambridgeshire	3,905	+345	+ 175 at Cambourne in 2023/24. +200 Northstowe 2024/25, -30 places at Cottenham (2020/21)
East Cambridgeshire	150	-	No changes indicated
Fenland	345	-	No changes indicated
Huntingdonshire	1,013	+175	+175 at Alconbury in 2026.
Peterborough	1,755	+140	Planned growth to 2023 in Hampton Academies Trust schools. +140 places per year group.

** Theoretical capacity reflects the number of physical places that could be available without building ('bricks and mortar') additional spaces and includes, the flexible use of sites / facilities in the event of future demand where known. Figures shown are for single year group, year 12 only to align with forecasting model outputs.*

*** Planned Change to Future Capacity only includes fully committed projects to build ('bricks and mortar') additional capacity*

Table 3: Consultation Version of Post-16 Capacity Figures, FE College, Year 12 only.

District	Current Theoretical* Capacity (Summer 2019)	Planned Change** to Future Capacity	Notes
Cambridge / South Cambridgeshire	1,600	1,600	2019 includes +250 flex at CRC Cambridge site
East Cambridgeshire	0	0	There is no existing FE provision in East Cambridgeshire
Fenland	415	415	No change indicated
Huntingdonshire	700	700	2019 includes +425 flex at CRC Huntingdon site and 100 per year at IMET
Peterborough	1,300	1,300	PRC provided a note on uncapped admissions but no reference given for a maximum capacity figure

** Theoretical capacity reflects the number of physical places that could be available without building ('bricks and mortar') additional spaces and includes, the flexible use of sites / facilities in the event of future demand where known. Figures shown are for single year group, year 12 only to align with forecasting model outputs.*

*** Planned Change to Future Capacity only includes fully committed projects to build ('bricks and mortar') additional capacity*

Data Sources: Post-16 Options

Methodology

In order to satisfactorily understand demand for post-16 education, information is needed about the proportion of young people opting into different types of education or training settings as well as their geographical movement around the County (as well as possible movements in and out of County).

For this information the results of the annual post-16 options surveys (carried out by Cambridgeshire County Council and Peterborough City Council) for 2016, 2017 and 2018 were used. The surveys were conducted during the autumn, following-up with the previous summer's school leavers, and are used for performance monitoring on issues such as children being 'NEET' (Not in Education, Employment or Training).

The Cambridgeshire survey is more comprehensive than the Peterborough one, providing each school leaver's origin institution and post-16 destination by institution name, type and level of course. This allows for some detailed coding of movements between different geographical areas.

The Peterborough survey, whilst meeting performance management needs, is far less detailed with only the type of destination institution recorded not its name so nothing is known about movement to learning destinations outside of Peterborough.

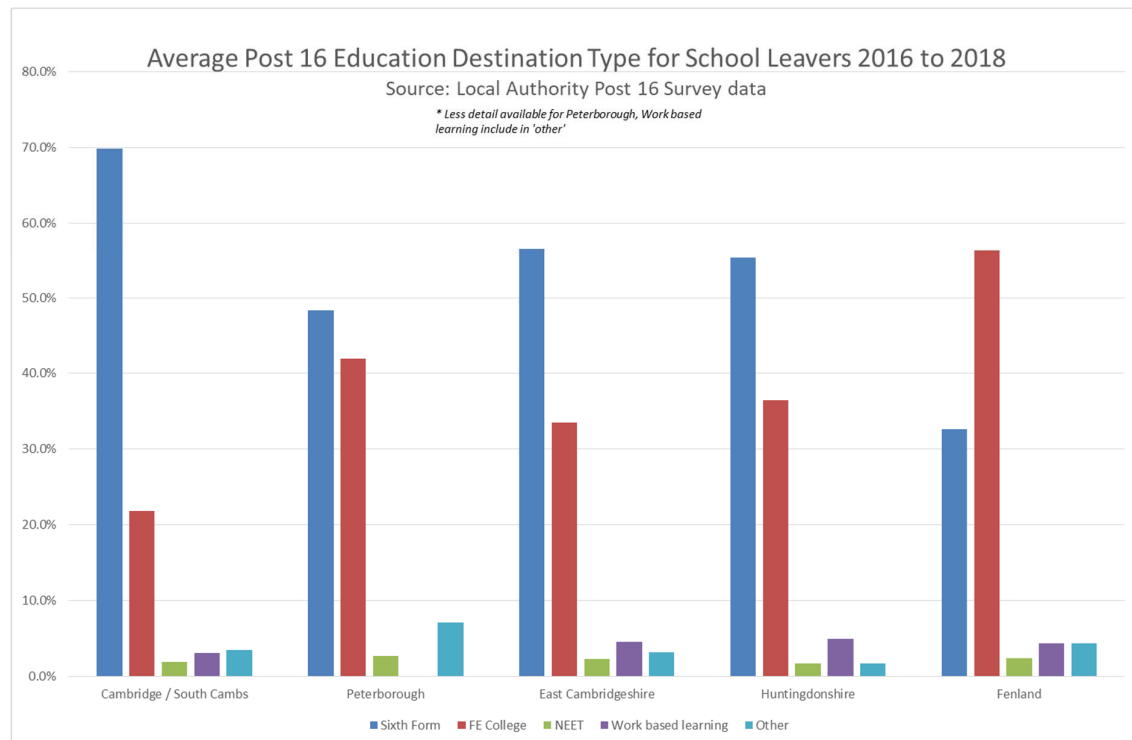
The data was analysed and in line with other modelling a standard three-year average was applied to options and movements as a default. There were two possible situations where an alternative method could have been applied; and this was discussed during consultation.

- Could a different assumption be used for young people opting to attend FE at the Cambridge Regional College site in Huntingdon (the former Huntingdon Regional College site)? Given the change in management during the three year period that data was drawn.
- Could a different assumption be used for the Ely Sixth patterns given the impact of Ofsted judgements during the period that data was drawn followed by much improved performance?

Post-16 Options

The data showed that the post-16 options for Fenland and for Cambridge / South Cambridgeshire were substantial different compared to other areas. Fenland was the only district where the majority of school leavers go on to FE College rather than sixth form. For Cambridge and South Cambridgeshire the opposite was true, with almost 70% of school leavers going on to Sixth form. All other areas have a broadly similar pattern with slightly more school leavers going to sixth form compared to FE College.

Figure 1. Post 16 Destinations by type



As per figure one above, for the consultation version of this report the average for the last three years for the option / movement of young people has been used as a constant in the demand

forecasting model. One of the consultation questions was *'is this a reasonable assumption and a fair reflection on how the future market for post 16 education will operate?'*.

Post 16 Flows

The Cambridgeshire³ Post-16 options survey data allowed for analysis of flows between different areas. Movement is based on the postcode of the origin institution (school) and the location postcode of the destination (post-16) institution. In all cases the % of movement accounted for in the forecasting model is based on three year averages 2016 to 2018 apart from allocation Huntingdon to Cambridge FE-college movement which is based on a 2016 to 2017 average due to 2018 survey not accurately recording the difference between the CRC Huntingdon (formally Huntingdon Regional College) and Cambridge sites.

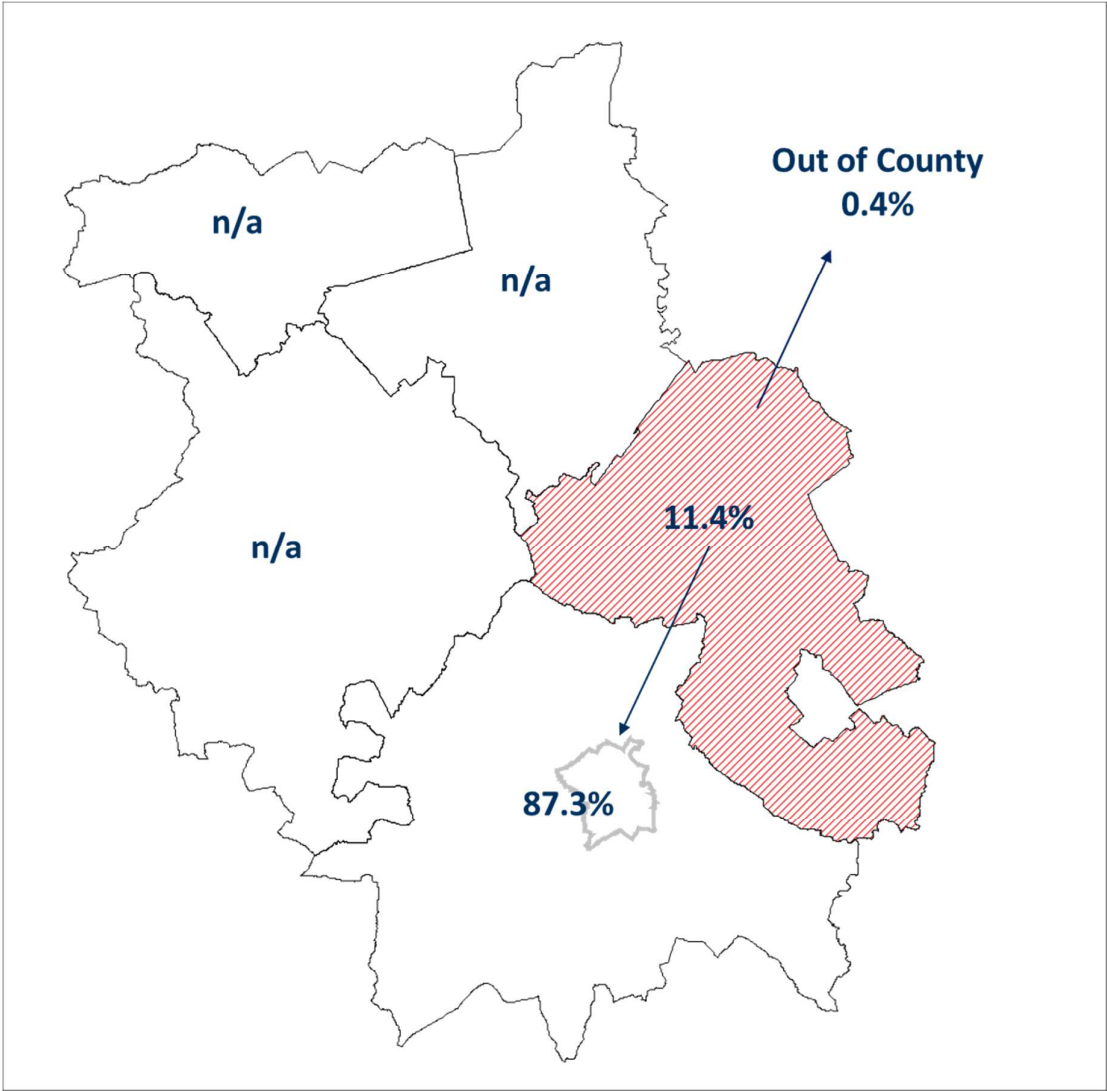
Movements were shown on 'map' diagrams. The average cohort size figure refers to the number of young people recorded in the survey as opting into either FE or Sixth-form.

This is the part of the future modelling that is most vulnerable to change overtime. Previous pupil forecasting experience has shown that over an extended period of time, (in the case of this modelling - fifteen years) there will be variation in the offer and popularity of different institutions.

³ Peterborough data doesn't allow for the same level of analysis.

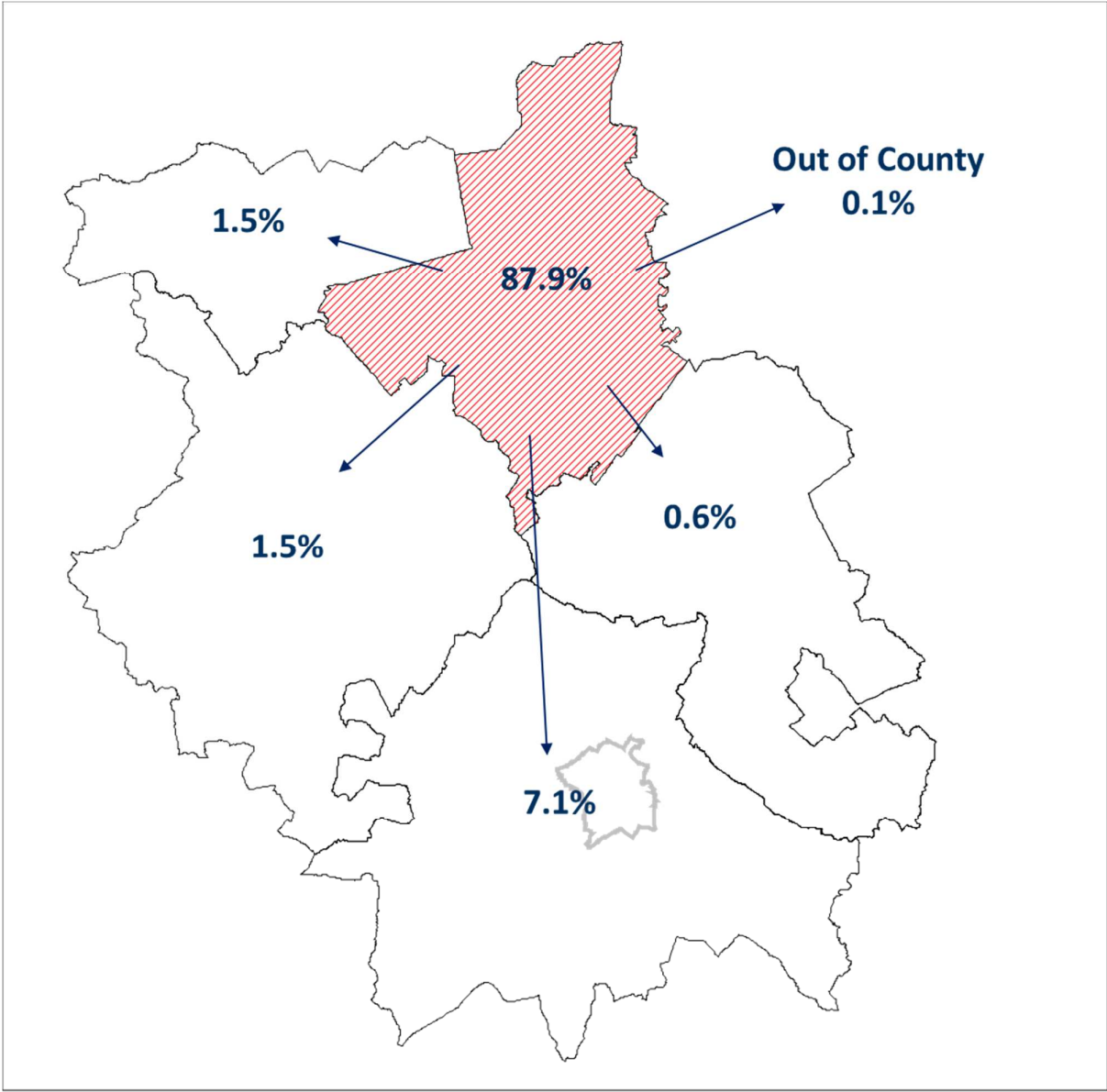
East Cambridgeshire Residents Attending Sixth Form

Average cohort size, 2016 – 2018 = 260



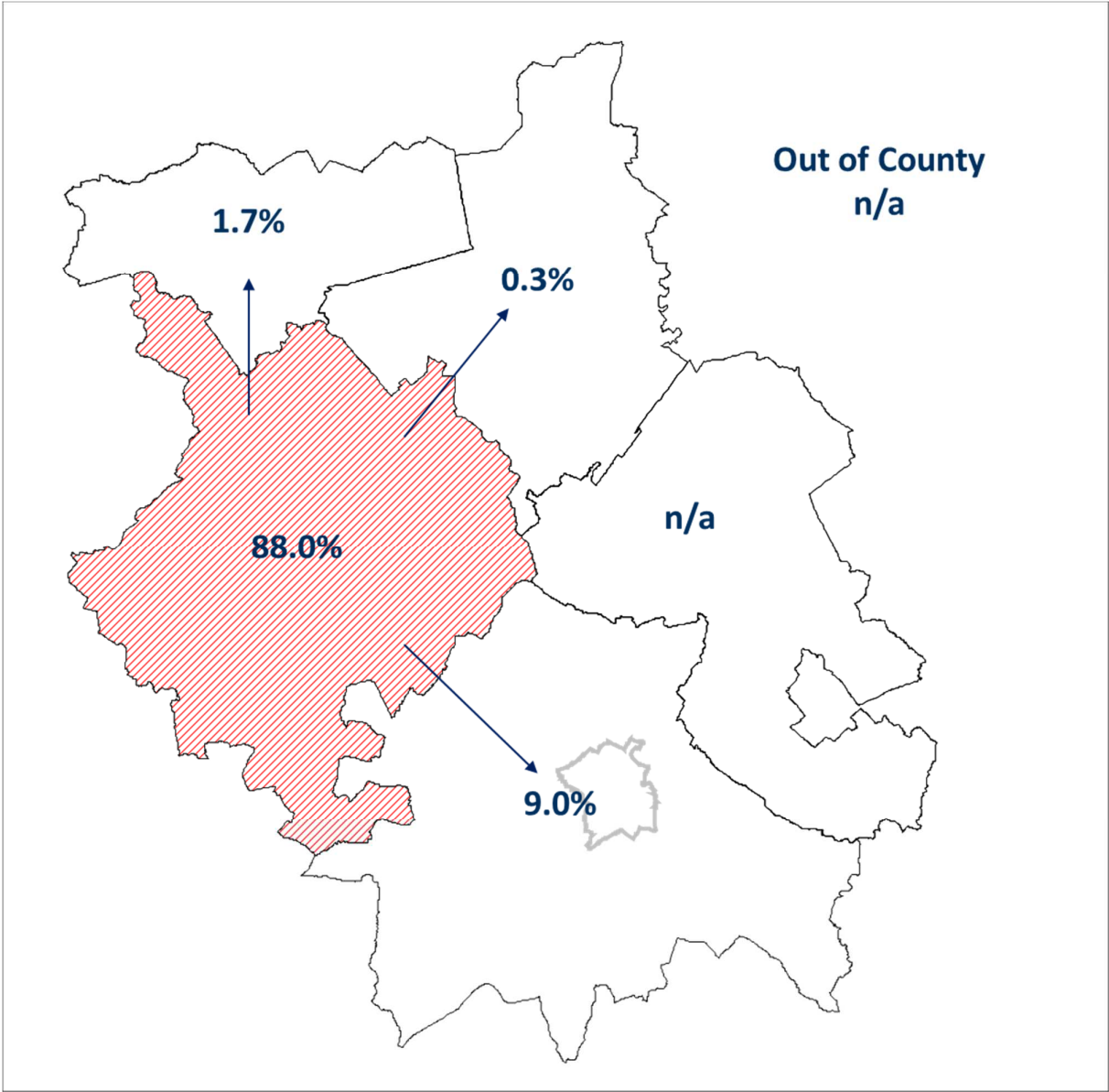
Fenland Residents Attending Sixth Form

Average cohort size, 2016 – 2018 = 290



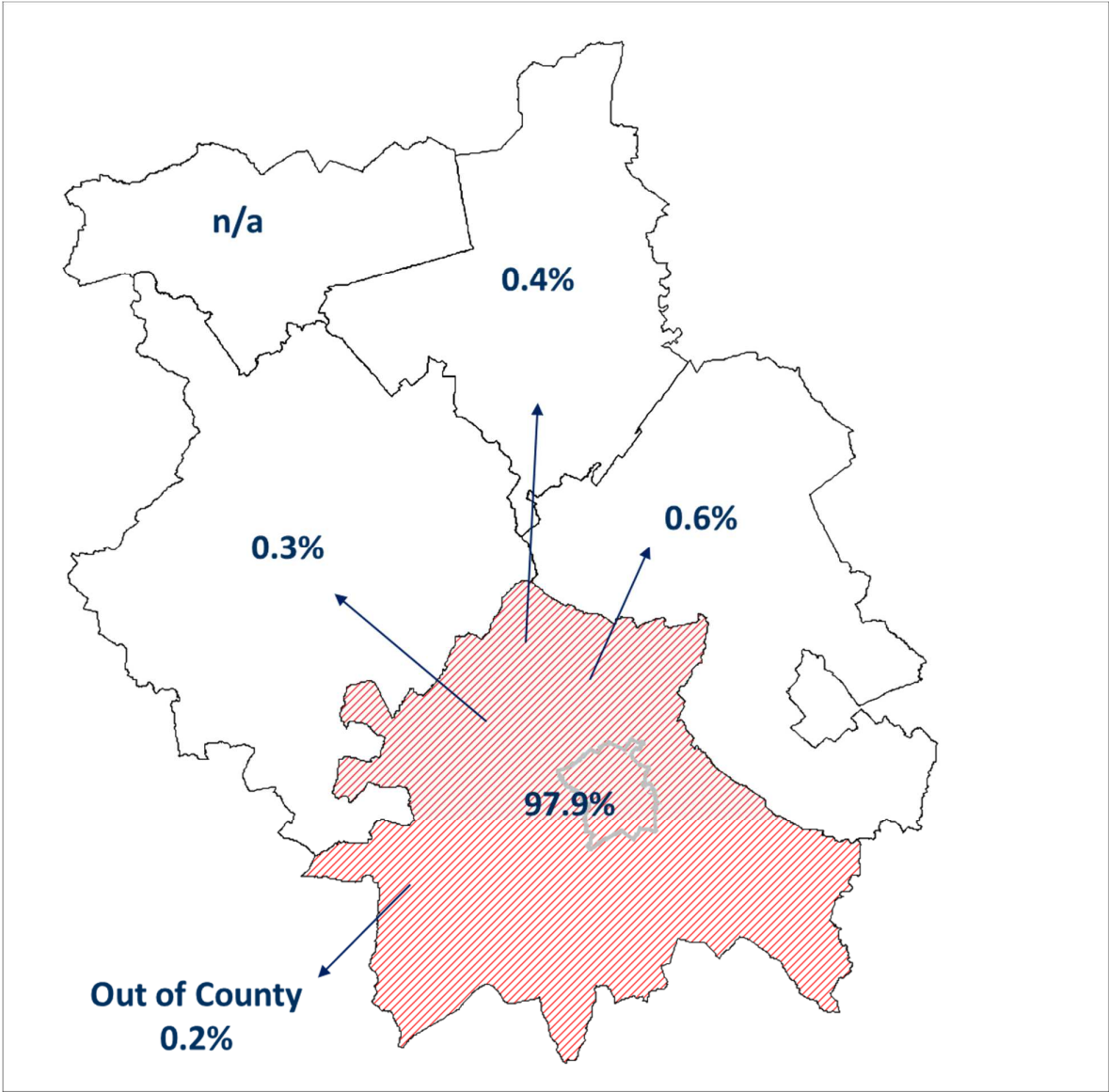
Huntingdonshire Residents Attending Sixth Form

Average cohort size, 2016 – 2018 = 860



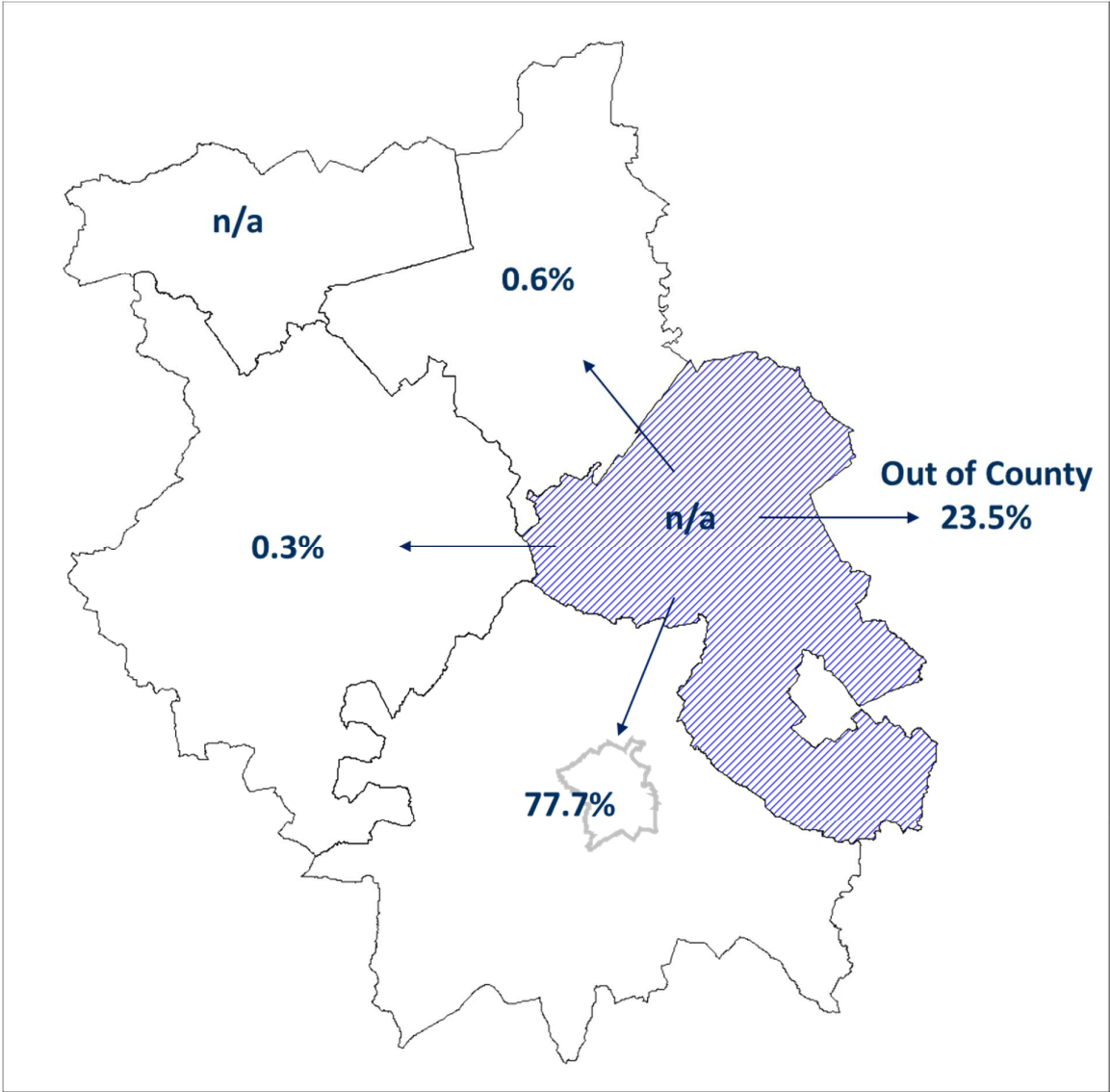
Cambridge and South Cambs Residents Attending Sixth Form

Average cohort size, 2016 – 2018 = 1,880



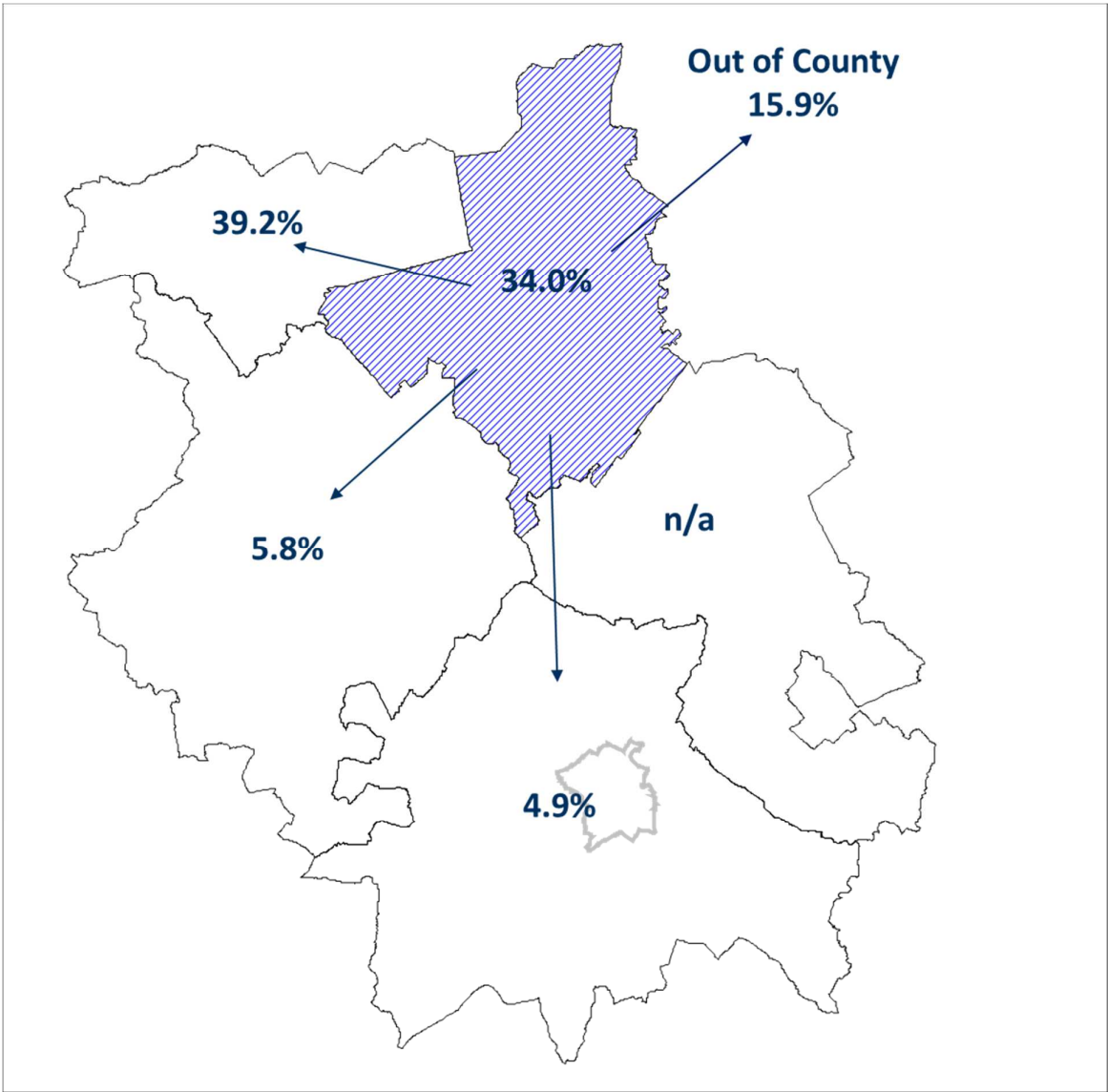
East Cambridgeshire Residents Attending FE College

Average cohort size, 2016 – 2018 = 160



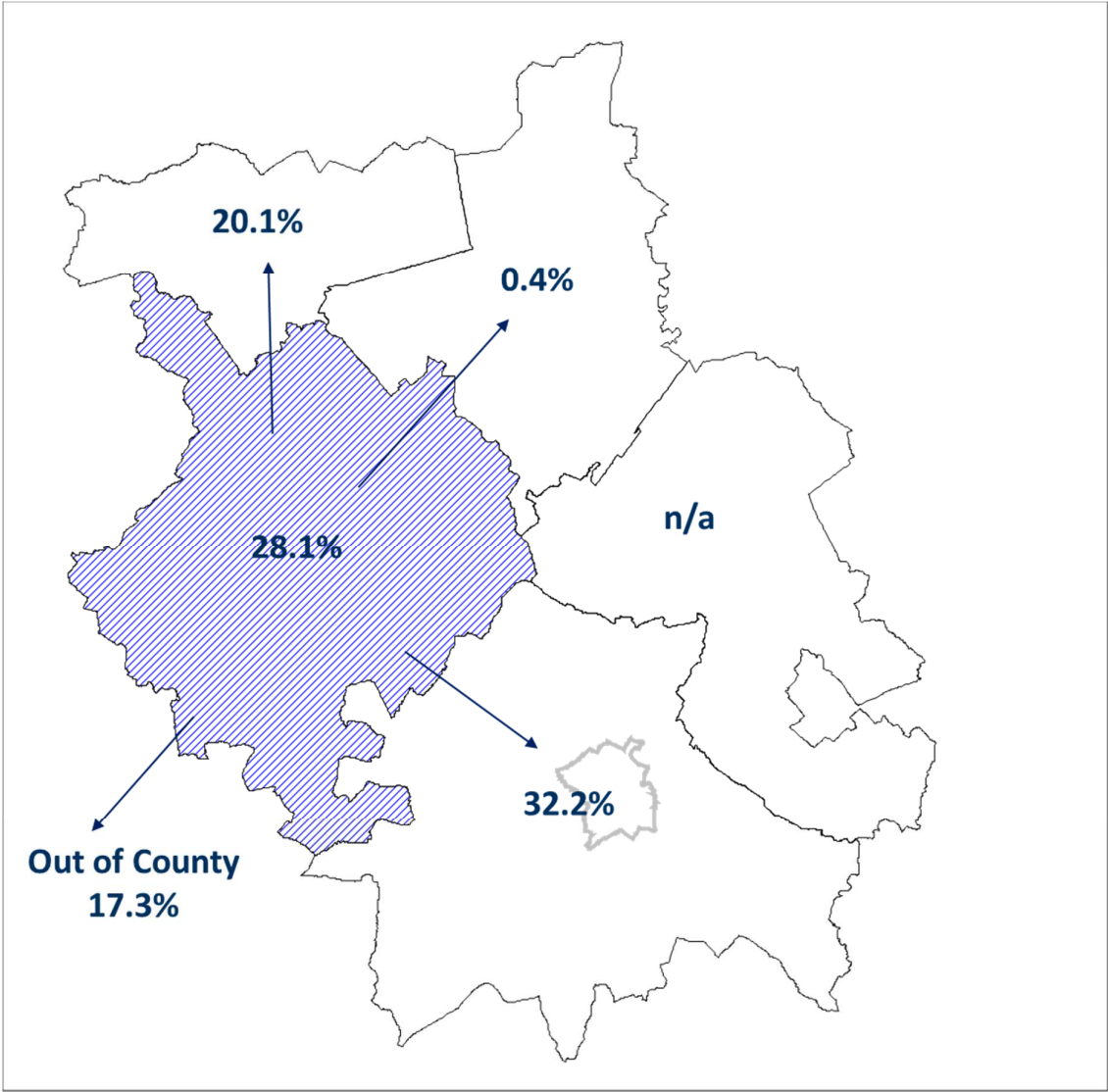
Fenland Residents Attending FE College

Average cohort size, 2016 – 2018 = 490



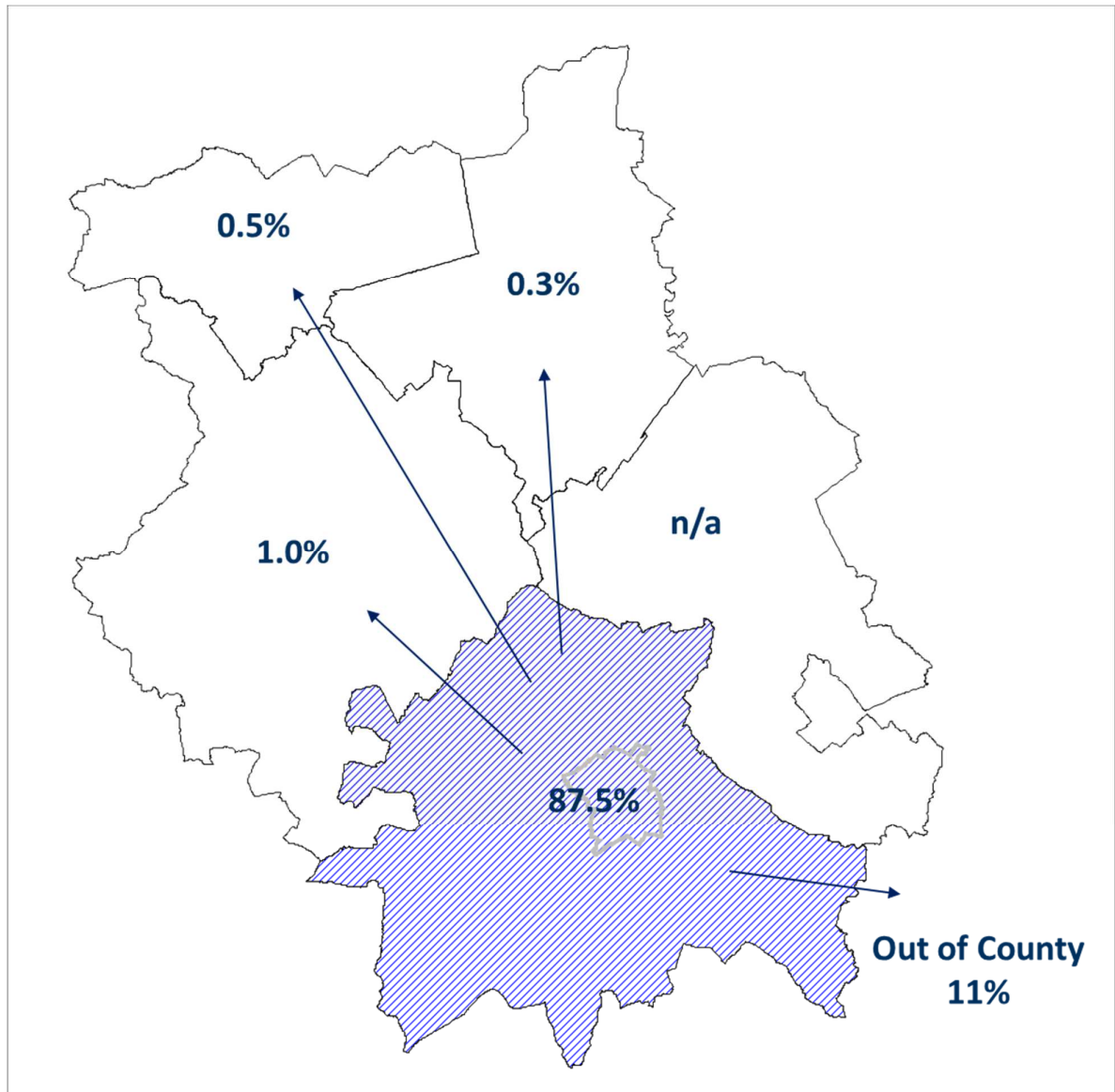
Huntingdonshire Residents Attending FE College

Average cohort size, 2016 – 2018 = 570



Cambridge and South Cambs Residents Attending FE College

Average cohort size, 2016 – 2018 = 590



Private education

Methodology

The report uses a whole population forecast and does not incorporate any assumptions regarding a proportion of young people in private education. The last comprehensive survey of independent schools in Cambridgeshire and Peterborough was carried out in 2014/15 by the County Council. This identified 836 Cambridgeshire children age 16+ in private education in Cambridgeshire (6% of the cohort) and just over 30 Peterborough children (1%).

The data does not allow for a disaggregation of these percentages to district level so this information was not incorporated into the modelling. Based on the location of private education institutions it should be expected however that the figure for those in private education in Cambridge & South Cambridgeshire will be higher than 6% and the figure for Fenland lower.

Forecasting Outputs Compared to Capacity

The following forecast graphs bring together the various information sources into a single view of the future for each district.

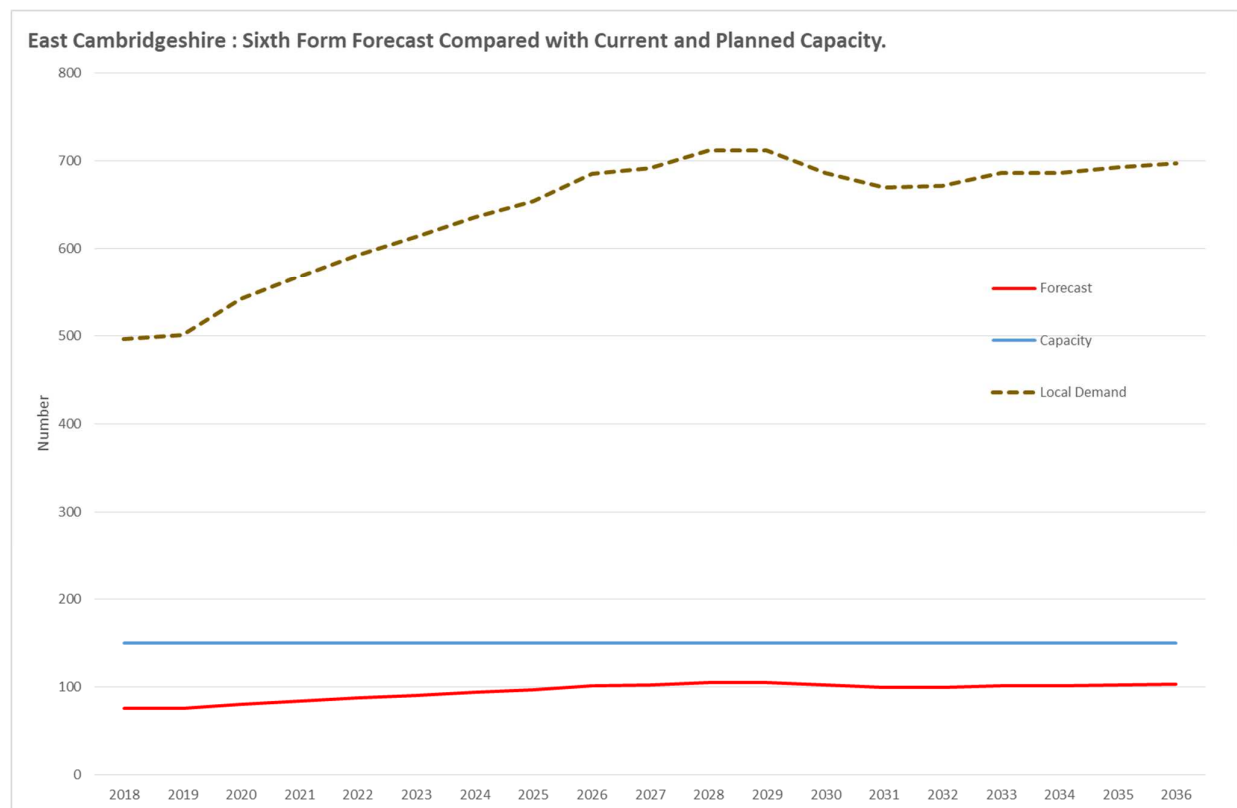
Alongside the district capacity figures two separate forecast lines are provided.

- **Local Demand.**
This is the figure for the total number of young people aged 17 expected to be seeking a place (in either sixth form or FE College, depending on the graph shown) resident in the area. This is based on the current (three year average) option patterns.
- **Forecast Demand.** This is the forecast demand of young people (for either sixth form or FE College, depending on the graph shown) wanting to attend any of the providers in the area.

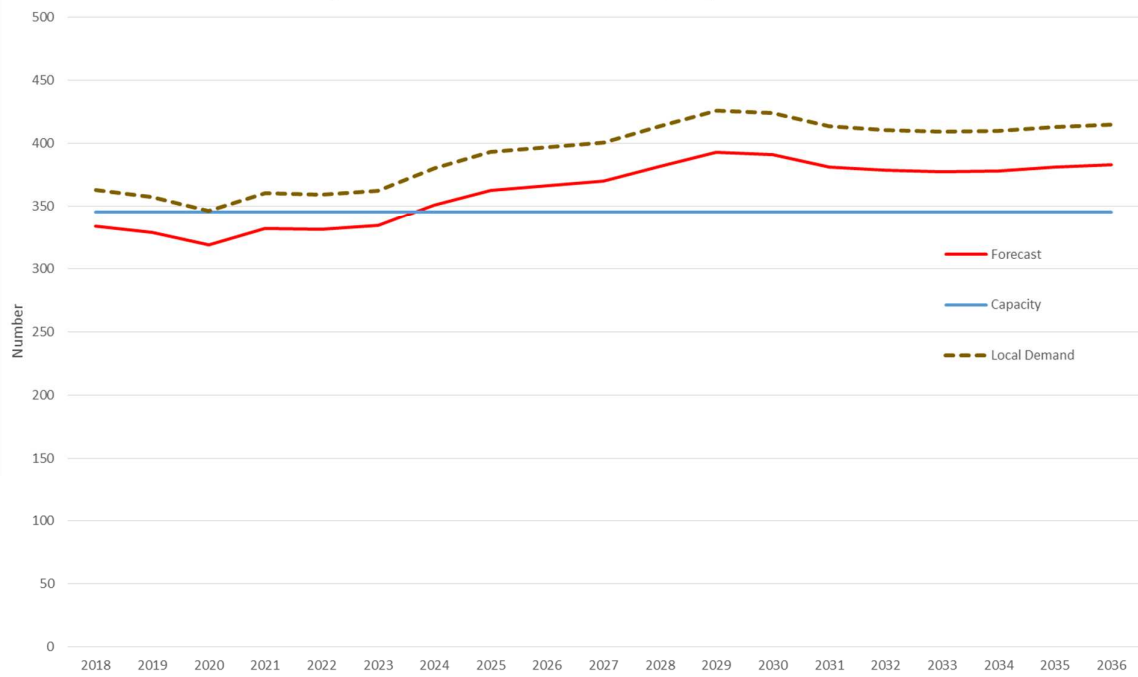
This could include young people coming in from other areas. This forecast takes into account the movement rates between districts. For areas that are a net 'exporter' of young people (such as East Cambridgeshire) the 'Forecast' line will be below the local demand line. For areas such as 'Cambridge and South Cambridgeshire' that are a net importer, the reverse is true.

For Cambridge and South Cambridgeshire we know that there is additional demand for Sixth-form places from young people outside the County (e.g. Haverhill, Saffron Walden, Royston), with not had access to data to calculate that precisely but have provided a line to show visually what 5% of out of County demand would look like on the graph.

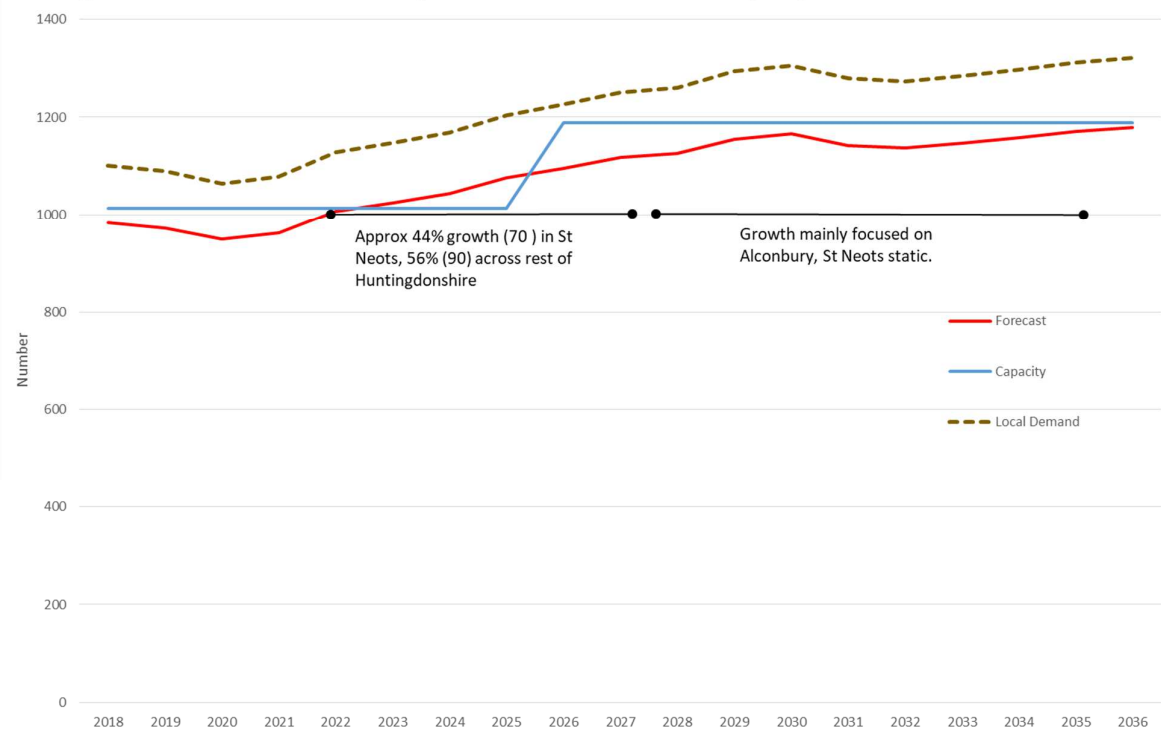
Sixth Form Forecasts



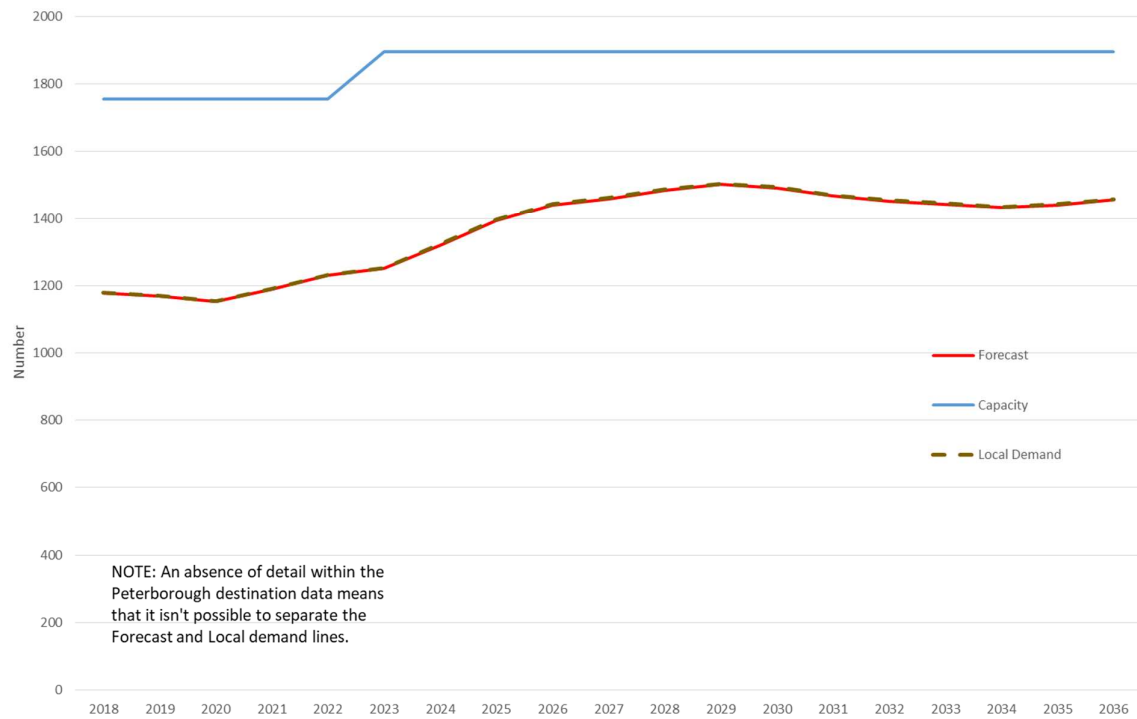
Fenland: Sixth Form Forecast Compared with Current and Planned Capacity.



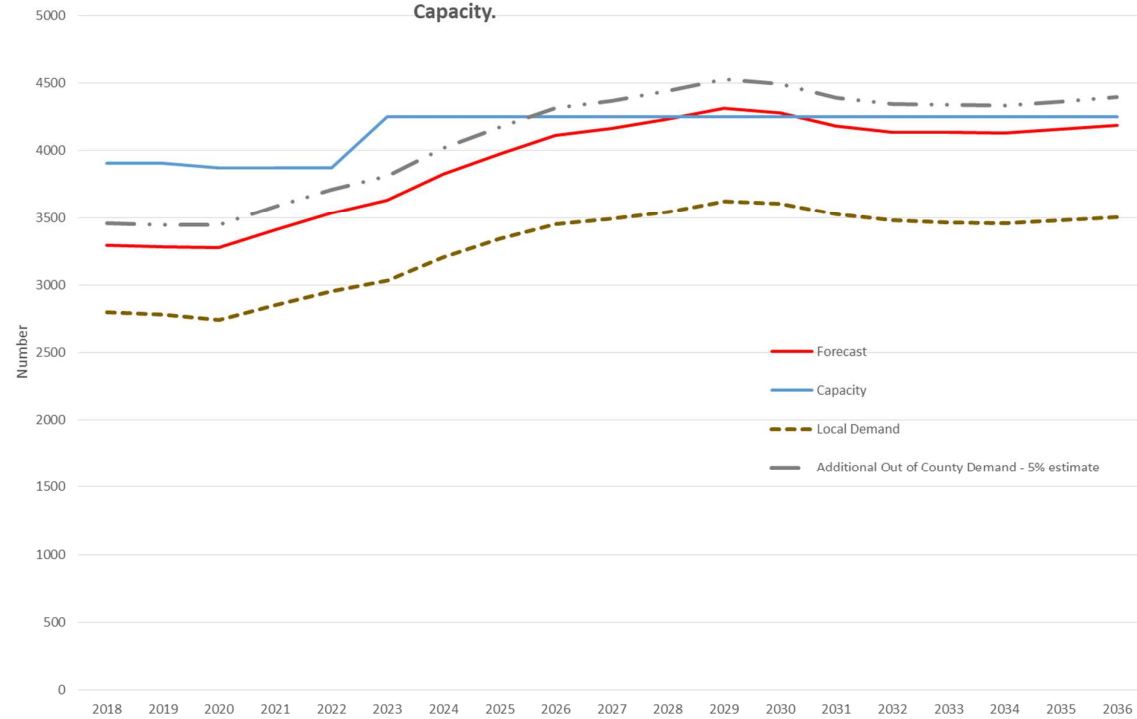
Huntingdonshire: Sixth Form Forecast Compared with Current and Planned Capacity.



Peterborough: Sixth Form Forecast Compared with Current and Planned Capacity.



Cambridge & South Cambridgeshire : Sixth Form Forecasts Compared with Current and Planned Capacity.



FE College Forecasts

